

# Revised Corrective Action Remedy Completion Report

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Phibro-Tech, Inc. Facility, Santa Fe Springs, California

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## Acronyms and Abbreviations

µg/L	micrograms per liter
1995 Permit Modification	<i>Modified Part V – Corrective Action State Hazardous Waste Management Facility Permit</i>
bgs	below ground surface
CalEPA	California Environmental Protection Agency
Cascade	Cascade Environmental
CDM	Camp Dresser & McKee Inc.
cm/s	centimeters per second
cm <sup>3</sup> /cm <sup>3</sup>	cubic centimeters per cubic centimeter
CMS	<i>Corrective Measures Study Report</i>
COC	contaminants of concern
Consent Order	<i>Corrective Action Consent Order</i>
CPS	calcium polysulfide
DTSC	Department of Toxic Substances Control
Facility	Phibro-Tech, Inc. facility located in Santa Fe Springs, California
gpm	gallons per minute
HERO	Human and Ecological Risk Office
IRM	interim remedial measure
IRM Report	<i>Interim Remedial Measures Results Report</i>
LACDPH	Los Angeles County Department of Public Health
LCS	laboratory control spike
LCSD	laboratory control spike duplicate
MCL	maximum contaminant level
mg/kg	milligrams per kilogram
MS	matrix spike
MSD	matrix spike duplicate
OU	Operable Unit
P1CR	<i>Pond 1 Closure Report, Phibro-Tech, Inc.</i>
PCB	polychlorinated biphenyl
psi	pounds per square inch
PTI	Phibro-Tech, Inc.
RCRA	Resource Conservation and Recovery Act
Report	<i>Groundwater Remedy Completion Report</i>
RPD	relative percent difference
RWQCB	Regional Water Quality Control Board



Site	Phibro-Tech, Inc. facility located in Santa Fe Springs, California
TCL	target cleanup level
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound
WDR	Waste Discharge Requirements
WQSAP	Water Quality Sampling and Analysis Plan



## Certification

We certify that the information contained in or accompanying this submittal is true, accurate, and complete. As to those portions of this submittal for which we cannot personally verify the accuracy, we certify that this submittal and all attachments were prepared at our direction in accordance with procedures designed to assure that qualified personnel properly gathered and evaluated the information submitted.

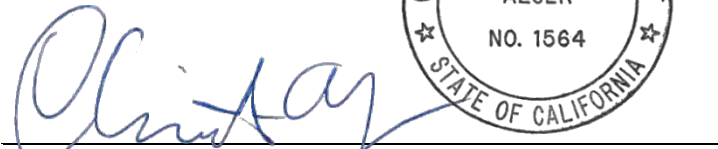


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October 8, 2021

Date



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October 8, 2021

Date

# 1 Introduction

This *Revised Corrective Action Remedy Completion Report* (Report) has been prepared by Terraphase Engineering, Inc. (Terraphase) on behalf of Phibro-Tech, Inc. (PTI) to present the results of almost 10 years of remedial activities conducted at the PTI facility in Santa Fe Springs, California (Facility or Site; Figure 1).

The remedial activities at the Site have been conducted to meet the requirements of the *Modified Part V – Corrective Action State Hazardous Waste Management Facility Permit* (1995 Permit Modification; California Environmental Protection Agency [CalEPA] 1995) and the *Corrective Action Consent Order* dated February 22, 2012 (Consent Order; CalEPA 2012). The remediation activities discussed herein were conducted pursuant to part V, section E.13.b of the 1995 Permit Modification and section 10.1.6 of the Consent Order. The Consent Order implements the 1995 Permit Modification remedy selection.

The corrective measure selected by CalEPA Department of Toxic Substances Control (DTSC) in the 1995 Permit Modification was the pumping and treatment of groundwater contaminated with metals, primarily hexavalent chromium, and volatile organic compounds (VOCs) because alternative remedial methods were not considered viable at the time. Monitoring wells MW-4 and MW-9 were established as compliance points, and MW-1S was established as an upgradient background monitoring point. Cleanup standards for metals, limited to cadmium, total chromium, and hexavalent chromium, were established only for well MW-4. The 1995 Permit Modification specified that the groundwater concentrations of cadmium, total chromium, and hexavalent chromium in MW-4 should be less than 5, 50, and 50 micrograms per liter (µg/L), respectively.

The Consent Order implemented the remedy selected and approved by the 1995 Permit Modification. As an alternative remedy to treat hexavalent chromium, PTI proposed the injection of calcium polysulfide (CPS)-containing solutions to convert hexavalent chromium to a fixated trivalent state. The Consent Order required that an in-situ soil and groundwater treatment pilot test be implemented to study the effectiveness of the in-situ treatment. The Consent Order specified that following DTSC approval of a report documenting the pilot test, a Corrective Measures Study be submitted for DTSC review and public comment. PTI's successful CPS pilot testing in 2012 demonstrated the technology was a viable and a preferable alternative to the original remedy because it treats hexavalent chromium in the vadose zone soil. In a letter dated March 24, 2014, DTSC acknowledged the success in using CPS to stabilize hexavalent chromium, and a draft *Corrective Measures Study Report* (CMS) prepared by Iris Environmental was submitted to DTSC on December 13, 2013, recommending in-situ injection of CPS be selected as the alternative corrective measure for the Site.

The Consent Order (Section 10.1.5.3) also required that a revised Water Quality Sampling Analysis Plan (WQSAP) be prepared for the Facility. The WQSAP was prepared to comply with Title 22, Chapter 14, Article 6, Sections 66264.97 and 66264.100 because the Facility contains a former hazardous waste surface impoundment (Pond 1), which is regulated by an Interim Status Document as a surface impoundment. Iris Environmental submitted the revised WQSAP to DTSC on March 31, 2014, and included a method to statistically evaluate background concentrations of metals and select VOCs in groundwater using eight background wells. The 2014 WQSAP was approved by DTSC on April 14, 2014.



The 1995 Permit Modification had established that cleanup standards for select halogenated VOCs for both MW-4 and MW-9 would be either the compound-specific maximum contaminant levels (MCLs), or concentrations statistically at or below the concentrations observed over four quarters in background monitoring well MW-1S (or a suitable replacement well as specified in a DTSC-approved corrective action groundwater monitoring plan). As discussed above, the presentation of statistically derived background concentrations of metals in groundwater was included in the DTSC-approved 2014 WQSAP. DTSC further acknowledged the background concentration cleanup level in a September 4, 2014, comment letter on the 2013 CMS and stated that the groundwater cleanup standard will not be lower than the background concentration of hexavalent chromium.

Statistical comparisons of concentrations of hexavalent chromium in groundwater to regional background concentrations are presented routinely in the quarterly groundwater monitoring reports submitted for the Facility. These comparisons to the 95 percent upper confidence limit on the arithmetic mean of detections (95UCL) and 95th percentile of hexavalent chromium concentrations in Facility background monitoring wells indicate that hexavalent chromium concentrations in groundwater monitoring wells on the downgradient side of the Facility are statistically at or below concentrations in off-site upgradient wells.

Since 1995 PTI has successfully remediated VOCs with a soil vapor extraction system that removed vapors from the vadose zone (Iris Environmental 2015b). DTSC concurred that the soil vapor extraction and bioventing system met the 1995 Permit Modification objectives of groundwater protection and the protection of human health and the environment by lowering concentrations of chlorinated VOCs and petroleum hydrocarbons below their associated risk levels (DTSC 2017).

On-site remedial activities related to metals in soil performed over the past 10 years are the focus of this Report. These activities have successfully remediated chemicals of concern at the Facility. Over 10 years of monitoring document that PTI has completed the corrective action requirements in the 1995 Permit Modification and Consent Order.

The Facility is located within the horizontal boundaries of Operable Unit (OU) 2 of the Omega Superfund site, which encompasses contaminated regional groundwater. The United States Environmental Protection Agency (USEPA) does not define OU2 to include the vadose zone. This report does not address remedial activities that may be associated with OU2.

The previous version of this Report was submitted to DTSC on July 1, 2021. DTSC reviewed the Report and provided comments in a letter dated September 9, 2021. Revisions to this Report address the comments noted in the September 9, 2021, letter. The revisions include calculating an alternative target cleanup level (TCL) for hexavalent chromium in soil based on leaching to groundwater and the addition of maps and cross sections illustrating the distribution of hexavalent chromium in soil both before and after remediation.

## 1.1 Chemicals of Concern

The 1995 Permit Modification identified specific chemicals or chemical groups present in soil and groundwater at elevated levels. Contaminants of concern (COCs) in Facility groundwater specified by the 1995 Permit Modification include heavy metals, including chromium and cadmium, halogenated VOCs, aromatic VOCs, and chlorides. COCs in Facility soils specified by the 1995 Permit Modification include heavy metals (including lead, cadmium, chromium, copper, and zinc), halogenated and aromatic VOCs, polychlorinated biphenyls (PCBs), petroleum hydrocarbons, and chlorides.

Halogenated and aromatic VOCs in Facility soils were treated through soil vapor extraction (Iris Environmental 2015b). Regional background concentrations of VOCs in groundwater have been identified in upgradient groundwater monitoring wells. VOCs detected in groundwater under the Site correlate with those compounds reported in the regional background groundwater plume, and on-site concentrations are within the range of regional background concentrations. Therefore, VOCs in soil and groundwater are not discussed further in this Report.

Chloride in groundwater is monitored quarterly as part of the Waste Discharge Requirements (WDR) Permit obtained from the Los Angeles Regional Water Quality Control Board (RWQCB) to complete the alternative groundwater remedy presented in this Report. Chloride concentrations in groundwater are generally within or occasionally slightly exceed the Water Quality Objective of the Central Sub-basin of the Coastal Plain of the Los Angeles Groundwater Basin and are not discussed further in this Report.

PCBs in Facility soils are generally confined to the top 10 feet of soil and are not considered mobile or a potential impact to groundwater. When encountered during Facility construction or redevelopment activities, soils containing PCBs are excavated and disposed off-site under proper manifest. The remaining areas of the Facility are capped and the PCBs do not pose an exposure risk to human health or the environment.

Elevated concentrations of heavy metals, including cadmium, copper, lead, and zinc, in Facility soils are generally confined to the top 10 feet of soil, the only exception being two detections of lead at boring locations B-13 and P1-SW09. Both were collected from 20 feet below ground surface (bgs), reported at concentrations ranging from 347 to 356 milligrams per kilogram (mg/kg), and are slightly over the screening level of 320 mg/kg for commercial use (DTSC 2020). Therefore, cadmium, copper, lead, and zinc in soil are not discussed further in this Report.

Concentrations of petroleum hydrocarbons in soil in the vicinity of a former underground storage tank are discussed extensively in the *Request to Modify the 1995 Permit Modification for Corrective Action* prepared by Terraphase (in progress, 2021) and are therefore not considered further in this Report.

Cleanup or containment of chlorides in soil are not addressed in the 1995 Permit Modification and are therefore not considered further in this Report.

The remaining COC specified in the 1995 Permit Modification is hexavalent chromium. Concentrations of hexavalent chromium in Facility vadose zone soils have been documented at various depths, and remedial measures to address hexavalent chromium are the focus of this Report.



## 1.2 Background

In 1995, DTSC selected a groundwater extraction and treatment remedy to address hazardous substances in groundwater (i.e., 1995 Permit Modification). Since that time, PTI, through its consultants, and DTSC have developed substantial data concerning the fate and transport of chemicals of concern in the groundwater, vadose zone, and soil at the Facility. In addition, there is substantial evidence that off-site sources have contributed to the presence of contamination at the Facility. To better evaluate the available data, a detailed Site conceptual model was prepared and approved in 2005 (Camp Dresser & McKee Inc. [CDM] 2005).

Iris Environmental submitted an *Alternative Groundwater Remedy Program* document to DTSC on September 25, 2006, which outlined an alternative approach to the corrective action for groundwater that also included vadose zone remediation components. The alternative approach was mineral stabilization using calcium polysulfide for reduction and fixation of hexavalent chromium in soils and groundwater.

PTI implemented a CPS solution interim pilot test in 2012 to treat impacted vadose zone soils and dissolved hexavalent chromium in groundwater. The pilot test was successful in reducing hexavalent chromium to trivalent chromium in source soils, and completely mitigated all chromium in groundwater to below drinking water standards (Iris Environmental 2012, 2013a). Because of the pilot test's success, DTSC indicated it would consider a permit modification to change the treatment technology from groundwater extraction and treatment, as reflected in the Facility's 1995 Permit Modification.

From 2012 to the present, PTI implemented multiple rounds of remedial injections of CPS solution to treat hexavalent chromium in vadose zone soils across the areas shown on Figure 2. The injections were performed as interim measures and were implemented during Site redevelopment as access opportunities arose. These interim measure activities were implemented while DTSC was completing its evaluation of long-term corrective action. DTSC reviewed the draft CMS (Iris Environmental 2013b) and provided comments. The CMS evaluated alternative remedies and recommended the selection of CPS solution injection as the corrective measure to be taken at the Facility to address hexavalent chromium in the subsurface. In 2015, while the CMS was being reviewed, DTSC requested an interim remedial measure (IRM), consisting of CPS solution injection, be conducted in an accessible location. This location is shown on Figure 2, labeled "2017 IRM Area." The *Interim Remedial Measure Work Plan* for these activities was submitted to DTSC on June 1, 2015 (Iris Environmental) and approved on June 13, 2016.

The IRM activities were conducted in 2017 and expanded upon the pilot test injection area. The IRM implementation achieved the goals set for the program and resulted in reductions of hexavalent chromium in vadose zone soils overlaying the Hollydale Aquifer. The program also validated the design criteria established during the 2012 CPS solution injection pilot test. The IRM activities are further discussed in Section 6 and were documented in the *Interim Remedial Measures Results Report* (IRM Report) prepared by Terraphase on November 8, 2017.

Additional injection activities were performed during infrastructure improvement reconstruction in 2019. The activities were conducted voluntarily, pursuant to the DTSC Class 2 Permit Modification for Wastewater Tank Replacements (December 18, 2015) of the Hazardous Waste Facility Permit No. 91-3-



TS-002 (Yorke Engineering LLC 2015). Hazardous Waste Facility Permit No. 91-3-TS-002 Modification No. 03 became effective July 12, 2016. Injections were performed in the area shown on Figure 2 labeled as “2019 W-7/W-8 Treatment Area.” These activities are further discussed in Section 7 and were documented in *Investigation, Treatment and Excavation Report for Class II Permit Modification - Wastewater Tank Replacements* prepared by Terraphase on August 31, 2020.

Injection activities were also performed during the closure of the former hazardous waste surface impoundment Pond 1. Closure activities, including subsurface remediation, were performed in accordance with PTI’s *Pond 1 Closure Plan* dated December 3, 2015, and the DTSC correspondence entitled *Pond 1 Closure Activities Required at Phibro-Tech, Inc., 8851 Dice Road, Santa Fe Springs, California*, dated March 12, 2018, and *Former Pond 1 Closure Workplan Update, Phibro-Tech, Inc., 8851 Dice Road, Santa Fe Springs, California*, dated August 15, 2019. Injections were performed in the areas shown on Figure 2 labeled as “Former Pond 1 Treatment Area” and “2019 and 2020 Roadway Treatment Areas.” Activities performed at the former Pond 1 are further discussed in Section 8 and were documented in *Pond 1 Closure Report, Phibro-Tech, Inc. (P1CR)* prepared by Terraphase on February 12, 2020. Activities performed south and west of Pond 1 in the roadway are discussed further in Section 9.

Soil investigations performed in 2019 in the southwest portion of the Facility encountered yellow discolored soils beneath an upper fill layer below current pavement (Figures 2 and 7). At the request of DTSC, an *Interim Measure Work Plan* dated June 23, 2020 (Terraphase 2020b) was prepared to address hexavalent chromium concentrations identified in subsurface soils in the southwest portion of the Facility. Final injection activities were performed in 2020 in the southwest portion of the Facility, and in the roadway between Pond 1 and the F-area. Injections were performed in the areas shown on Figure 2 labeled “2019 and 2020 Roadway Treatment Area” and “2020 IRM Area.” These activities are further discussed in Sections 9 (roadway areas) and 10 (IRM area).

A TCL for hexavalent chromium was established for the clean closure of the Resource Conservation and Recovery Act (RCRA) regulated unit Pond 1 in the PTI *Pond 1 Closure Plan* (2015), as modified in 2019 (DTSC 2019). The TCL was obtained from USEPA Regional Screening Levels (RSLs) as modified by DTSC Human and Ecological Risk Office (HERO) Note 3, which are based on direct exposure to soil. Hexavalent chromium detections in soils are compared to the 6.2 mg/kg value for informational purposes. DTSC commented in a letter dated September 9, 2021, that a direct soil exposure TCL should not be relied upon, but verbally suggested that a TCL for protecting groundwater should be calculated. Therefore, alternative hexavalent chromium in soil TCLs based on leaching to groundwater have been derived and are presented in Section 3.2 and documented in Appendix A. Groundwater concentrations are compared to the MCL for total chromium of 50 µg/L, as specified in the 1995 Permit Modification, and to the statistically derived 95UCL and 95th percentile of hexavalent chromium concentrations in Facility background monitoring wells, as routinely presented to DTSC in quarterly groundwater monitoring reports.



## 1.3 Objectives

The following remedial measure goals are documented in this Report:

- Refine the Site conceptual model with updated geology;
- Identify areas at the Facility where hexavalent chromium in vadose zone soil were elevated;
- Fixate vadose zone hexavalent chromium by converting it to insoluble trivalent chromium hydroxide, through the injection of CPS;
- Confirm performance of remedial injections and evaluate chromium reduction in the vadose zone; and
- Assess the long-term effectiveness of the remedy in the event groundwater levels rise.

## 1.4 Hexavalent Chromium TCLs for Soil

The existing TCL was established for the Pond 1 closure program. An alternative TCL for hexavalent chromium was thus developed in this Report to be protective of groundwater.

### 1.4.1 Direct Exposure-Based TCL

Soil TCLs were established in the *Pond 1 Closure Plan* (PTI 2015) based on commercial/industrial USEPA RSLs, as modified by DTSC HERO Note 3. USEPA RSLs and HERO Note 3 soil concentrations are based on direct exposures to soil. Shallow soil was removed during the closure of Pond 1 based on a cleanup value for direct exposure to soil. The *Pond 1 Closure Plan* also specified that the most current values for hexavalent chromium would be used to calculate the TCL.

The screening level proposed in the 2015 *Pond 1 Closure Plan* was 5.6 mg/kg, which was current as of 2015. At the time of closure in 2019, the HERO Note 3 screening level and RSL for hexavalent chromium were 6.2 and 6.3 mg/kg, respectively. In a May 29, 2019, letter to DTSC, Terraphase proposed that the TCL for hexavalent chromium for Pond 1 closure activities be modified to the current screening levels. DTSC approved the modification of the TCL to 6.2 mg/kg in a response letter dated August 15, 2019. Remedial activities performed at the Site since 2017 have thus used the value of 6.2 mg/kg as the screening level for hexavalent chromium in soil.

### 1.4.2 Alternative Leaching-Based TCL

The goal of the site-wide corrective action remedy is to be protective of groundwater. Soils targeted in this program are in the subsurface and do not pose a direct exposure risk. The proposed TCL in soil to protect groundwater is presented in Tables 1 and 3. The derivation of the TCL is documented in Appendix A.

The proposed leaching to groundwater TCL is based on the hexavalent chromium groundwater cleanup goal of 50 µg/L in the 95 Permit Mod, which is the total chromium MCL. The leaching-based TCL for hexavalent chromium was calculated using a “leach test” methodology. The leach test method simulation assumes a worst-case scenario that the entire mass of the chemical stored in soil is extracted



into the leaching fluid. The soil leachate chemical concentration is then assumed to attenuate over the size of the area of impact. For PTI, the area of impact was assumed to encompass the western half of the Site where hexavalent chromium has been detected in subsurface soils—an area of approximately 2 acres. Using the groundwater cleanup goal of 50 µg/L, and an area of 2 acres, the leaching-based TCL for hexavalent chromium in soil is 30 mg/kg.

Alternative TCLs for soil have also been calculated for select possible future hexavalent chromium MCL values in the event a hexavalent chromium-specific MCL is promulgated in the future (presented in Table 3 of Appendix A). Data presented in tables and figures of this Report are compared to both the direct soil exposure-based TCL of 6.2 mg/kg to close Pond 1 and the proposed leaching to groundwater-based TCL of 30 mg/kg to protect groundwater.

## 2 Site Description and Setting

This section provides a brief description of the Site layout and other physical features in addition to a brief discussion of the historical operations that have occurred at the Site.

### 2.1 Site Description

The on-site facility is a hazardous waste treatment, storage, and transfer facility that accepts off-site generated inorganic hazardous waste (e.g., spent copper-bearing etchants used for printed circuit board manufacturing) for the purpose of reclaiming metals.

Waste management areas at the Facility include five current distinct waste treatment areas with associated storage and process tanks, two drum storage areas, and rail car and tanker truck loading and unloading areas. Additional tanks are proposed to be installed in or added to the existing process areas, and up to five additional container storage areas are planned. A laboratory is located on the western portion of the property. Other features include a production warehouse, an administration and maintenance building, and parking area. The Site layout as of 2017 is shown on Figure 2.

#### 2.1.1 General Layout

A Site location map is included in this Report as Figure 1. The 4.8-acre Facility is in an industrial area in Santa Fe Springs, Los Angeles County, California. The Facility is located along Dice Road between Slauson Avenue to the north and Los Nietos Avenue to the south. The nearest residential development is located approximately 500 feet north of the Facility and is separated by a large warehouse structure. The Facility is entirely paved or covered with coated or uncoated concrete except for the railroad tracks.

#### 2.1.2 Historical Operations

Records indicate that the earliest use of this land for industrial purposes was by Pacific Electric Railway Company as a railroad switching station. From the late 1940s to the early 1950s, a foundry casting facility operated on the land. Pacific Western Chemical Company leased the Site in 1957 and began



inorganic metals recovery. Ferric chloride production commenced on Site in 1958. Operations were added for copper recovery, copper oxide manufacturing, etchant processing, and other inorganic processes in the 1960s. A predecessor to PTI assumed operations of the Facility in 1984. PTI leases the property from First Dice Road Company, a California Limited Partnership.

## 2.2 Topography and Surface Water Hydrology

The Facility is in the Santa Fe Springs portion of the coastal plain of the Los Angeles basin. Regional topography slopes gently to the northeast, towards the city of Whittier. The Facility itself is located on moderately flat land that slopes northeast–southwest. Elevations on the Site range from 148 to 154 feet (relative to the North American Vertical Datum of 1988).

The Facility is located approximately 1 mile east of the southwesterly flowing San Gabriel River. The regional surface drainage in the area is towards the San Gabriel River. Local drainage is discharged into the Sorenson Avenue drain approximately 0.25 miles northeast of the Facility. This drain feeds into La Canada Leffingwell Creek and forms La Canada Verde Creek. La Canada Verde Creek flows into Coyote Creek, which flows into the San Gabriel River.

The Facility is within the Santa Fe Springs Alluvial Plain. This plain is a continuation of the Coyote Hills Uplift to the southeast. It consists of stream and flood plain deposits. The plain is underlain by an elongated anticlinal dome known as the Santa Fe Springs anticline. The anticline trends northwest and is symmetrical with gently dipping flanks. Several miles to the northeast, the Whittier Fault Zone, the primary regional structure, trends southeast along the southern flanks of Puente Hills. It extends from the Whittier Narrows into Orange County.

## 2.3 Subsurface Hydrogeology

The regional stratigraphy consists of interbedded fine-grained materials and sands. During the RCRA Facility investigation in 1991, CDM identified the uppermost hydrostratigraphic units under the Facility (CDM 1992). Based on recent soil investigations conducted in 2019 and 2020, Terraphase reached a deeper understanding of how hydrostratigraphic units vary across the Facility as described below. Descriptions of each hydrogeologic unit derived from Site investigations are also presented in the subsections below.

The uppermost lithologic unit is the Bellflower aquiclude of the Upper Pleistocene Lakewood Formation. It consists of clays to sandy clays and is estimated as 10 to 15 feet thick. The Bellflower aquiclude is occasionally intruded with minor fill materials and excavation backfill. The underlying Gage Aquifer, also of the Upper Pleistocene Lakewood Formation, is first encountered at 15 to approximately 25 feet bgs. The Gage Aquifer consists primarily of sandy materials and has not been saturated for at least the last 35 years. Below the Gage Aquifer there is a fine-grained unit from approximately 25 to 55 feet bgs, which is referred to as the unnamed aquitard since the clays and other fine-grained materials are known to serve as an aquitard. The lower portion of the unnamed aquitard is composed of a buried soil horizon (“paleosol”), a dense sandy clay material found at depths of approximately 35 to 50 feet bgs. In the southwest area of the Facility, the unnamed aquitard is bifurcated by an intermediate primarily sandy unit.



The underlying Hollydale Aquifer of the Lower Pleistocene Upper San Pedro Formation starts at about 55 feet bgs and is approximately 100 feet thick. The Hollydale Aquifer is saturated except for the upper 10 to 20 feet at present. During high head conditions, the Hollydale Aquifer is at least partially confined. The general groundwater gradient under the Site is to the southwest. The surface trace and associated conceptual cross section of the subsurface hydrogeologic units are shown on Figure 3.

Continuous soil cores have been collected and described to gather a complete record of soil types within the corrective action implementation area. Up to seven discrete hydrogeologic units were identified which are generally consistent with the Site conceptual model: artificial fill, an upper silty sand unit, a sand unit of the Gage Aquifer, upper predominantly clay/silt portion of the unnamed aquitard, an intermediate sand unit that bifurcates the unnamed aquitard in the southwest area of the Facility, a lower sandy clay paleosol and/or silt portion of the unnamed aquitard, and an upper portion of the Hollydale Aquifer. Each hydrogeologic unit is described below.

### 2.3.1 Artificial Fill

The artificial fill material generally consists of a black or dark brown silty sand unit with metal slag, brick, and wood fragments. The unit has occasional clay and gravel lenses. Metal slag fragments up to 1 foot diameter are encountered in some borings. The base of the artificial fill is approximately 3.5 feet bgs but ranges from approximately 3 to 5 feet bgs. In the southwest area of the Site, west of the F-area, lime powder indicating mixing is observed at depths ranging from the surface to 8 to 10 feet bgs.

### 2.3.2 Upper Silty Sand Unit

This unit was referred to as the Bellflower aquiclude by CDM in the Site conceptual model. Borings drilled through this unit encounter mostly dark brown silty sand with fine to medium sand and a trace of clay. Color changes to dark red and greenish gray in some areas suggest historical variations in oxidation and wetting. The unit is generally poorly graded and quite dense. Based on field observations, grain size distribution ranges from approximately 50 percent sand and 50 percent silt and clay to approximately 75 percent sand and 25 percent silt and clay. This unit is not found to be saturated and is considered dry. The upper silty sand unit is up to approximately 12 feet thick with the base at approximately 15 feet bgs.

### 2.3.3 Gage Aquifer

This unit consists of light yellowish brown to light olive brown fine- to coarse-grained sand, and some very coarse sand and fine gravel lenses. Sand size generally increases downward with a 4-inch thick gravely sand layer at the base of the sand in some areas of the Facility. The gravely sand layer at the base is indicative of an unconformity with the underlying aquitard. Sand in this unit is poorly graded and dry. Results of the geotechnical analyses of eight samples from this unit characterize the Gage Aquifer sediments as mostly fine to coarse sand with some silt and a trace of clay. These sediments have high permeability to air (approximate 3,000 to 25,000 millidarcy range [dry conditions] with an outlier low result of 8.7 millidarcy not included), high porosity (approximately 0.34 to 0.49 cubic centimeter per cubic centimeter [ $\text{cm}^3/\text{cm}^3$ ] range), and low moisture content (approximate 8 to 26 percent range; Iris Environmental 2007). The Gage Aquifer is up to approximately 16 feet thick with the base occurring at

approximately 31 feet bgs in the northcentral portion of the Facility and approximately 25 feet bgs in the central and southwestern portions of the Facility.

### 2.3.4 Upper Unnamed Aquitard

This unit consists primarily of a mixture of silts, clays, and fine sand with occasional silty sand and sandy silt lenses. Occasional 1- to 2-foot lenses of multi-foot thick zones of precipitated gypsum crystals are observed at permeability boundaries, suggesting historical moisture migration through the unit. Colors for this unit vary and include strong brown, olive brown, yellowish brown, dark reddish brown, and olive gray. Some intervals have gray/brown/black mottling. Results of the geotechnical analyses of three samples from this unit characterize the upper unnamed aquitard as mostly consisting of silt with some fine sand and clay. These sediments have low hydraulic conductivity (approximate  $3.5 \times 10^{-7}$  to  $1.0 \times 10^{-5}$  centimeter per second [cm/s] range), low permeability to air (approximate 0.3 to 125 millidarcy range), high porosity (approximate 0.41 to 0.49  $\text{cm}^3/\text{cm}^3$  range), and moderate moisture content (approximate 0.32 to 0.44  $\text{cm}^3/\text{cm}^3$  range). Most of this unit is hard and dense and appears to be dry in the field indicating that the clay minerals are not fully hydrated. Consistent with many overconsolidated fine-grained sediments, the majority of the pore space contained pore fluids approaching saturation by volume. Total pore fluid saturation values for this unit ranged from 79 to 88 percent with an average of 84 percent by volume. The total pore fluid saturation parameter is the proportion of the porosity filled with water (Iris Environmental 2007).

### 2.3.5 Intermediate Sand

The lithology of the unnamed aquitard and the underlying Hollydale Aquifer, and the nature of their contact, are relatively consistent across the central area of the Site in the vicinity of a former spent chromic acid underground storage tank and Pond 1. However, this consistency changes in the southwest portion of the Site in the general proximity of well MW-14D. Previous investigations described a lithologic facies change of the unnamed aquitard toward the southwestern portion of the Site. Continuous soil cores collected at PZ-01 in 2007 and MW-24D in 2013 exhibited interbedded sand and silty sand/sandy silt units from 25 to 40 feet bgs and 30 to 45 feet bgs, respectively, indicating that some of the silty units of the unnamed aquitard are interbedded with sandy units toward the southwest. Downhole geophysical logging in MW-14D and MW-15D performed in 2007 indicated that the aquitard bifurcates into two silt-clay units separated by a sand lens that thickens toward the southwest.

The facies change noted above was further defined by the advancement of multiple borings in the southwest portion of the Facility in 2019 and 2020. The shallow geology, including the artificial fill, upper silty sand unit, and Gage Aquifer, is similar to the rest of the Site. The contact depth of the Gage Aquifer and upper unnamed aquitard varies between 24 and 26 feet bgs. However, down section at approximately 31 to 33 feet bgs, the unnamed aquitard is split by a coarse sand layer that increases in thickness from interbeds to the northeast near monitoring well MW-24S/D to over 25 feet thick to the southwest at soil boring SW30. This layer is first observed to be competent at borings SW13 and SW10 in the roadway northwest of the F-area (3 feet thick), thickens along a southwest trend to boring SW15 near well MW-14S/D (17 feet thick), then continues to thicken by boring SW30 along the rail line (approximately 28 feet thick). This layer appears to be exclusive to the southwest portion of the Site.



The intermediate sand unit consists generally of medium to coarse-grained sand with few fines. Colors observed include gray, yellowish brown, and gray brown, and red oxidation banding is commonly observed. The sands are currently dry.

### 2.3.6 Lower Unnamed Aquitard (Paleosol)

The lower portion of the unnamed aquitard is frequently marked by a distinct, very hard and cemented clay member generally described as a buried soil or “paleosol,” and is typically present across the Site around 45 feet bgs. Colors from this unit vary and include strong brown, olive brown, and dark reddish brown, and often have gray/brown/black mottling. The lowest portion of the unnamed aquitard, below the paleosol, is a silty layer similar in composition to the silts of the upper unnamed aquitard.

Results of geotechnical analyses of four samples from this unit characterize the lower unnamed aquitard/paleosol as consisting of approximately half silt with the remaining material being a mix of fine sand and clay. These sediments have low hydraulic conductivity (approximate  $1.6 \times 10^{-7}$  to  $3.4 \times 10^{-6}$  cm/s range), low permeability to air (approximate 0.7 to 6 millidarcy range), moderate porosity (approximate 0.30 to 0.36 cm<sup>3</sup>/cm<sup>3</sup> range), and moderate moisture content (approximate 0.23 to 0.32 cm<sup>3</sup>/cm<sup>3</sup> range). Most of this unit is hard and dense and appears to be dry in the field indicating that the clay minerals are not fully hydrated. As with the upper unnamed aquitard, the majority of the pore space contained pore fluids approaching saturation by volume. Total pore fluid saturation values for this unit ranged from 62 to 98 percent with an average of 85 percent by volume (Iris Environmental 2007).

In the central portion of the Facility, this lower unnamed aquitard/paleosol is overlain by the upper unnamed aquitard. In the southwest area of the Facility, a relatively thin section of the lower unnamed aquitard ranging from 1 to 15 feet thick is observed below the intermediate sand layer. This lower fine-grained layer (15 feet thick at SW13, 13 feet thick at SW15, and 1 foot thick at SW30) is continuous across the southwest portion of the Site but is occasionally interbedded with thin sand layers to the south. The paleosol thins along with the rest of the typical fine-grained silts of the lower unnamed aquitard. The paleosol was not observed at borings SW21 and SW30 and the silts of the unnamed aquitard were between 1 and 4 feet thick, respectively.

### 2.3.7 Hollydale Aquifer

Underlying the unnamed aquitard is the Hollydale Aquifer. The top of the Hollydale Aquifer ranges in depth below the ground surface across the Facility from approximately 50 feet bgs in the central area of the facility to 63 feet bgs in the southwest area of the Facility. This unit was historically saturated, but the top 12 to 25 feet of the aquifer have been unsaturated (i.e., from approximately 50 or 63 feet bgs to 75 feet bgs) for the past 6 years. The upper portion of the Hollydale Aquifer unit consists of medium sand with some fine- and coarse-grained sand, some silt, and trace amounts of gravel and clay. The sand fraction generally increases downward from fine- and medium-grained sand to medium- and coarse-grained sand. Thin 6-inch-thick lenses of fine sand, sandy silt, and coarse sand are observed in the upper 10 feet of the aquifer. Overall, this unit is considered poorly graded. Colors for this unit are generally dark yellowish brown to olive brown to dark greenish gray. Results of the geotechnical analyses of three samples from this unit show the upper portion of the Hollydale Aquifer as mostly consisting of fine- to medium-grained sand with some silt and clay. These sediments have high hydraulic conductivity



(approximate  $2.56 \times 10^{-4}$  to  $1.9 \times 10^{-3}$  cm/s range), and high porosity (approximate 34 to 40 percent range). The base of the Hollydale Aquifer is approximately 150 feet bgs in the southwest area of the Site. The upper portion of the Hollydale Aquifer is considered lithologically similar across the Site (Iris Environmental 2007).

## 2.4 Groundwater Elevations

Monitoring performed since 1986 has indicated a consistent southwesterly groundwater flow direction in the Hollydale Aquifer wells at an average gradient of 0.5 feet per 100 feet in the western portion of the Facility.

Beginning in 1991, groundwater elevation at PTI rose in response to abnormally large amounts of precipitation due to the 1991/1992, and larger 1997/1998, El Niño events. After average precipitation rates returned in 1998, water levels returned to pre-1991 levels by about 1999. Between October 1999 and April 2005, a decline in groundwater elevation was observed. Groundwater elevation rose between July 2005 and July 2007, after which a subsequent decline in groundwater elevation was observed between October 2007 and January 2010. Groundwater elevation increased between January 2010 and July 2011 but has decreased since then and has remained between 10 to 20 feet lower than the 2010-2011 peak. Overall groundwater elevation trends over 25 years show a steady decrease of groundwater elevation with occasional variation related to El Niño events or other large-scale precipitation events. Hydrographs indicate up to a 3-month lag between high precipitation events and the highest groundwater levels. Although the lag between the occurrence of precipitation and the corresponding response in the Hollydale Aquifer at the Site can be shorter, observable 3-month lags suggest that recharge to the Hollydale Aquifer occurs upgradient. Significant recharge of the aquifer likely does not occur on the Site given the concrete and asphalt-paved surfaces.

## 2.5 Regional Background Groundwater Concentrations

The most recent hexavalent chromium in groundwater analytical data available for the regional Omega Superfund site OU2 Plume monitoring wells were collected by contractors in the *Draft 2018 Work Area Monitoring Report* for USEPA in 2018 (Geosyntec Consultants 2019). Based on Table C-1, the arithmetic mean since 2013 of all OU2 Plume wells that are upgradient of the Facility is 15 µg/L. The 95th percentile concentration of this data set is 43 µg/L.

The data demonstrate the average hexavalent chromium plume concentration upgradient of the Facility is comparable to the average background concentration observed in PTI wells installed on the upgradient portion of the Facility or just off Site along Dice Road. Hexavalent chromium detected in these wells range between 8.5 and 28.1 µg/L. The arithmetic mean of all detections since 2010 is 17 µg/L. The 95th percentile concentration of this data is 27 µg/L.

Concentrations of hexavalent chromium in groundwater in on-site, downgradient boundary wells are lower than the regional background concentrations observed in the OU2 Plume and immediately upgradient of the Facility. The arithmetic mean of all detections in on-site downgradient boundary wells since 1989 is 10.6 µg/L. The 95th percentile concentration of this data is 20 µg/L.





## 3 Site Conceptual Model

The nature and extent of heavy metals, specifically hexavalent chromium, in vadose zone soil and groundwater prior to remedial activities are discussed below. Historical boring locations with samples deeper than 10 feet that were analyzed for hexavalent chromium are shown on Figure 4.

### 3.1 Transport Mechanisms

Upgradient groundwater monitoring wells document that hexavalent chromium in groundwater migrates on Site. The regional ambient concentrations of hexavalent chromium, discussed in Section 2.5, are on the order of 20 µg/L. This section discusses the potential migration of hexavalent chromium in the overlying unnamed aquitard into the Hollydale Aquifer. On-site groundwater monitoring wells are shown on Figure 2.

As discussed in Section 2.5, concentrations of hexavalent chromium detected in downgradient boundary wells at the Facility are comparable to concentrations in upgradient regional groundwater.

The highest hexavalent chromium concentrations at the Facility have historically been reported in non-boundary wells MW-04 and MW-09. These wells were constructed in 1985 to outdated design standards. The well screens and filter pack materials are approximately 30 feet long and cross geologic units, extending as much as 15 or more feet into the overlying aquitard. This design is contrary to state-recommended well construction standards (California Department of Water Resources 1991; CalEPA 1995) because it can create a pathway between geologic units and provide results that are not representative of conditions in either geologic unit. At the Facility, these wells allow Hollydale groundwater under pressure to enter the well and the filter pack and interact with the lower section of the unnamed aquitard. This can transport chromate precipitates and dissolved hexavalent chromium in the aquitard sediments into the flooded upper well casings.

To confirm this condition is present at wells MW-04 and MW-09, monitoring wells MW-17S and MW-18S, which are screened within the upper portion of the Hollydale Aquifer but not the lower portion of the aquitard, were constructed adjacent to MW-04 and MW-09, respectively, in 2007. Comparative sampling of both sets of paired wells demonstrates that hexavalent chromium concentrations in MW-04 and MW-09 are much higher than in MW-17S and MW-18S. These results support the conclusion that concentrations of hexavalent chromium detected in MW-04 and MW-09 are not representative of conditions in the upper Hollydale Aquifer. Consultants for PTI have repeatedly recommended the proper destruction of these wells.

Hexavalent chromium is a potent oxidant that can reduce to trivalent chromium if the redox environment allows. The pH of groundwater influences a redox environment. If pH is stable, hexavalent chromium predominates under high Eh (oxidizing) conditions; trivalent chromium predominates under low Eh (reducing) conditions (Palmer and Wittbrodt 1991). Reduction rates decrease with increasing pH; no reduction of hexavalent to trivalent chromium is generally observed over a pH of 8.6. On-site groundwater pH values generally range from 6.5 to 8. This redox condition suggests hexavalent chromium may reduce to trivalent chromium in groundwater at the Site.



Oxidation reduction potential values, expressed as Eh, also indicate hexavalent chromium redox potential in groundwater at the Site. As shown on figures prepared for the January 2013 and June 2020 sampling events in Appendix B, oxidation reduction potential was converted to Eh values and plotted against reported pH units. Each well sample plots in the trivalent chromium portion of the chromium stability field diagram. This pattern indicates that hexavalent chromium in groundwater is inherently unstable. As shown on the figures in Appendix B, chromium will preferentially stabilize in the trivalent form as chromium hydroxide  $[\text{Cr}(\text{OH})_3]$ , an amorphous precipitate (USEPA 2000), under the existing pH and Eh conditions at the Site. This relationship is consistent with the observations and conceptual model for the Site.

Site investigations and over 30 years of groundwater monitoring demonstrate that concentrations of hexavalent chromium in groundwater monitoring wells at the Site have only exceeded background conditions consistently at monitoring wells MW-04 and MW-09. These are interior on-site wells that do not produce sampling results that represent groundwater conditions in the upper Hollydale Aquifer because they are improperly screened. If the concentrations of hexavalent chromium in these wells were representative of actual groundwater conditions, then elevated concentrations would regularly be detected in adjacent wells MW-17S and MW-18S, which are properly screened, in downgradient boundary wells, or at off-site sampling locations. However, there are no such detections.

## 3.2 Hexavalent Chromium Distribution in Soils

Site investigations between 1985 to present were performed across the Site. Historical boring locations with hexavalent chromium sample results from deeper than 10 feet bgs are shown on Figure 4, and pre-treatment metals concentrations, including hexavalent chromium, are presented in Table 1. Visual representations of the lateral and vertical distribution of hexavalent chromium in soil are included in Appendix C. The investigations identified areas where hexavalent chromium was present in soil, which are discussed in further detail below. These areas were subsequently targeted for remediation as discussed in Sections 5 through 10.

### 3.2.1 MW-09 Area

Several borings and wells were installed in the vicinity of MW-09 by CDM and Iris Environmental prior to any remedial activities. Elevated total chromium, hexavalent chromium, and copper concentrations were detected in all soil samples collected from 1990 CDM boring SB-7 at depths ranging from 3 to 40.5 feet bgs. Hexavalent chromium concentrations ranged from 73.2 mg/kg at 3 feet bgs to 1,180 mg/kg at 40.5 feet bgs. In addition, low pH values (less than 4.2) were reported for all samples with the exception of the shallowest (3 feet bgs) and deepest (40.5 feet bgs) samples. In Iris Environmental's more recent borings MW-18S, VZ-BS-1, and VZ-BS-2 (2006 to 2012), hexavalent chromium, total chromium, and copper concentrations were also reported throughout the soil column, with concentrations of hexavalent chromium up to 3,400 mg/kg. The concentrations are generally higher in samples collected from finer grained material, and lower in samples collected from coarser grained material. At MW-18S, yellow-green precipitates interpreted as chromate salts were observed in cored soil from 37 feet bgs. These precipitates were not observed or noted in other borings drilled on Site by Iris Environmental or Terraphase between 2006 and the present other than in 2017 at nearby boring IM-

PI-04 between depths of 40.5 and 45 feet bgs. Elevated concentrations in soil are not observed in borings advanced south of SB-7 or MW-18S, such as SVE01B or BL-01.

### 3.2.2 Former Pond 1

Shallow soil samples collected from the top 5 feet below the base of the Pond 1 containment had concentrations of hexavalent chromium ranging between non-detect to 550 mg/kg. Hexavalent chromium was reported in many samples collected between 10 and 20 feet bgs; however, detections generally decreased with depth. Only pre-remediation borings P1-D1, P1-D2, P1-D3, and P1-D4, all located along the eastern edge of Pond 1, had hexavalent chromium detected along the permeability boundary at the contact between the overlying Gage Aquifer and the unnamed aquitard; these detections did not exceed 50 mg/kg.

Below 15 feet bgs, the majority of hexavalent chromium detections in the subsurface at Pond 1 were reported in the lower unnamed aquitard, at depths ranging between approximately 40 and 55 feet bgs. Given the lack of continuous hexavalent chromium concentrations in overlying samples in most borings, the source of these concentrations may be related to diffusion from above or diffusion from groundwater during historical periods of high groundwater elevations, when the aquitard was pressurized and the potentiometric surface of groundwater extended up into the overlying aquitard.

### 3.2.3 MW-14S/D Area

Based on results from the 2019 and 2020 investigation in the southwest portion of the Facility, elevated concentrations of hexavalent chromium were observed in the subsurface over an area of approximately 30 feet in diameter. Below about 10 feet bgs, hexavalent chromium was observed in the vadose zone soil column from the near surface to the contact between the Gage Aquifer and the unnamed aquitard. Hexavalent chromium was detected at various depths, mostly in the upper few feet of the aquitard.

### 3.2.4 Other Areas of the Site

Hexavalent chromium was detected at concentrations above the Pond 1 TCL of 6.2 mg/kg in the southern portion of the new W-7 and W-8 containment area only, at borings W7/8-01, W7/8-07, and W7/8-09, with depths ranging from 30 to 64 feet bgs at W7/8-01 and 15 to at least 40 feet bgs at W7/8-07. Three of the soil samples collected from borings W7/8-07 and W7/8-09 are above the proposed leaching to groundwater TCL of 30 mg/kg at depths of 33 and 40 feet bgs. Hexavalent chromium concentrations above the Pond 1 TCL at depth were not reported north or west of boring location W7/8-09.

Hexavalent chromium concentrations observed along the main roadway at the Site are also limited to specific depths that correlate with Site geology. Soil samples collected from MW-24 at the time of drilling contained hexavalent chromium at the contact between the Gage Aquifer sands and the unnamed aquitard. To the north and east of MW-24, hexavalent chromium in soil is generally limited to the lower portion of the unnamed aquitard.

In the southwest portion of the Facility outside the immediate vicinity of wells MW-14S/D, detections of hexavalent chromium are again limited to specific depths that generally correlate with Site geologic units. South of wells MW-14S/D, hexavalent chromium is observed at the transition between the Gage Aquifer sands and the upper portion of the unnamed aquitard. To the southwest, hexavalent chromium concentrations are not observed deeper than 10 feet bgs at P1-SW20, P1-SW21, and SW31. To the west, hexavalent chromium is limited to just the upper portion of the unnamed aquitard (SW32, SW33, and P1-SW11). To the north of wells MW-14S/D, in the vicinity of P1-SW16 and P1-SW5, concentrations of hexavalent chromium are generally observed at the upper surface of the unnamed aquitard.

### 3.3 Hexavalent Chromium Detections in Hollydale Aquifer Groundwater

This section presents a discussion of the detections of hexavalent chromium in groundwater collected during recent groundwater monitoring events since January 2019.

Shallow groundwater elevations have been decreasing across the Facility since 2013 and 2014. As a result, many shallow groundwater wells constructed in the upper portion of the Hollydale Aquifer, at or immediately below the contact with the overlying unnamed aquitard, have been dry for multiple years. Currently, only shallow wells MW-21S, MW-22S, MW-23S, MW-24S, and MW-26S are regularly able to be sampled—all other shallow wells are dry. Concentrations of hexavalent chromium have recently been detected in most of these wells ranging from non-detect (less than 1 µg/L) to 28 µg/L, which are within the range of regional background concentrations. The only detections outside of this range were two detections at MW-24S, in June and August 2019, of 1,000 and 575 µg/L, respectively. The following quarter, in December 2019, concentrations of hexavalent chromium returned to below background levels and have remained below background every quarter since.

After the 2013–2014 decrease of groundwater elevations across the Site, groundwater elevations in the Hollydale Aquifer have remained relatively stable and several feet below the contact with the overlying unnamed aquitard.

Hexavalent chromium is consistently detected in upgradient Facility monitoring wells at concentrations ranging from 12 (MW-01D) to 25 µg/L (off-site upgradient well MW-23D). The highest concentrations of hexavalent chromium since early 2019 were reported in upgradient monitoring wells located off Site (MW-22S at 23 µg/L, MW-22D at 21 µg/L, MW-23S at 21 µg/L, and MW-23D at 25 µg/L) and on the upgradient property boundaries (MW-21S at 24 µg/L, MW-21D at 17 µg/L, and MW-01D at 20 µg/L).

Monitoring wells MW-04, MW-17S, and MW-04A were installed along the southwest side of the former Pond 1. Well MW-04 has remained dry since January 2014, and as a result has not been sampled since then. Just prior to being dry, hexavalent chromium was detected in groundwater at levels up to 18,000 µg/L (July 2012). This concentration is most likely related to the improper construction of well MW-04, as the concentration in the adjacent, properly screened MW-17S was 5.8 µg/L during the same monitoring event. Well MW-17S has historically had low detections to non-detect results for hexavalent chromium. Hexavalent chromium was non-detect during its last sampling event (June 2019) before it also went dry. Well MW-04A is screened in the middle portion of the Hollydale Aquifer and low levels of

hexavalent chromium consistent with regional background concentrations up to 17 µg/L had been detected in groundwater until December 2019. Since December 2019, hexavalent chromium has been non-detect in quarterly groundwater sampling of MW-04A.

Well MW-14S has been dry since June 2014, and hexavalent chromium was reported as non-detect during its last sampling event (July 2013). Hexavalent chromium has consistently been detected in well MW-14D, which is screened in the mid- to lower Hollydale Aquifer. Recent detections for hexavalent chromium have ranged from 7.8 (December 2019) to 23 µg/L (June 2019), consistent with regional background concentrations.

Hexavalent chromium is only occasionally detected in downgradient Facility groundwater monitoring wells. Detections are consistently at concentrations at or below regional background concentrations. Wells MW-07 and MW-15S have both been dry from the reporting period of January 2019 to recent, but historically have had low levels of hexavalent chromium or have been non-detect. Concentrations of downgradient monitoring wells MW-15D, since 2019, and MW-07D, MW-27, and MW-28, since installation in May 2020, have ranged from 1.6 to 21 µg/L. The detections in the recently installed downgradient well MW-29 may be related to variability common in initial sampling events. The three groundwater samples collected to date show a consistent decrease in concentrations. The last sample collected prior to the submittal of this Report detected hexavalent chromium at 32 µg/L, which is similar to regional background concentrations.

Hexavalent chromium concentrations in Site groundwater over the past several years, during periods of low groundwater elevation, are at or below regional background concentrations. Soil remedial efforts documented in this Report have also fixated hexavalent chromium into trivalent chromium, mitigating the potential for Hollydale groundwater to interact with hexavalent chromium in soils should the groundwater table rise.

## 4 CPS Method Description

In-situ reduction of hexavalent chromium to the less toxic trivalent chromium was recommended as an alternative remedy by Iris Environmental in 2006. A reductant such as calcium polysulfide is one chemical commonly used to treat hexavalent chromium in situ. Calcium polysulfide is also called lime sulfur and is commonly sold in a solution of 29 percent calcium polysulfide with a pH range of 11.3 to 11.5. When injected into the subsurface under pressure in liquid form, it can fixate hexavalent chromium to trivalent chromium.

As described in the 2008 *Pilot Test Work Plan* (Iris Environmental), in-situ stabilization of hexavalent chromium uses chemical reduction or fixation. Chemical reduction or fixation of hexavalent chromium reduces it to the more thermodynamically stable trivalent chromium, which then precipitates or adsorbs to the soil matrix material in the aquifer. A reductant such as CPS can ultimately convert the toxic and soluble hexavalent form of chromium into an insoluble non-toxic hydroxide compound. The following reaction describes the reaction of chromate with calcium polysulfide (Spectrum Analytical 2007):



The final product of the reaction is the insoluble non-toxic hydroxide compound, sulfur, calcium, and water.

## 4.1 Injection Methods

Prior to each round of injection activities, a WDR permit to inject CPS into the subsurface was obtained from or updated by the RWQCB. As part of the WDR permit requirements, baseline and periodic post-injection groundwater sampling is required at select wells within the injection area and upgradient, crossgradient, and downgradient to the injection zone. The groundwater samples are analyzed for VOCs, metals, hexavalent chromium, chloride, sulfate, boron, total organic carbon, and total dissolved solids. Quarterly reports documenting this sampling are uploaded to the State Water Resources Control Board's GeoTracker website.

Injection of CPS was performed using direct push temporary injection point methods during all injection events except for the groundwater injection portion of the pilot test, when permanent injection wells were used, which is described in Section 5.1.3. All other injection events followed the general methods outlined below, though the size of mix tanks, CPS concentration volumes, and various tooling or drill rigs may have been modified slightly as needed to achieve the injection goals.

All drilling was performed using either a Geoprobe 6600-series drill rig (pilot test soil injection) or a Geoprobe 8040DT drill rig (all injection events after the pilot test) operated by Vironex, which became Cascade Environmental (Cascade) in 2015. A CPS solution was injected into the vadose zone through the direct-push drill rig's injection tooling. Following injection, all borings were grouted with neat cement and bentonite and the surface was patched to match the existing grade. Drilling was performed under permit from the Los Angeles County Department of Public Health when required.

For the pilot test, a 6,500-gallon-capacity Baker poly tank and containment berm were rented to store the CPS used in the injection test. The CPS solution was delivered in batches of 29 percent by weight and during injection activities the CPS solution was pumped into two 300-gallon tanks located on the Vironex injection vehicle and mixed to the pre-determined concentration prior to injection. The mixed solution was pumped through a manifold to up to four different hoses at once, which were connected to the injection tooling. Vironex used a customized injection rod capable of delivering CPS solution in a 360-degree radius through a 1- or 5-foot section of rod drilled to the injection depth.

For all subsequent injection events, two 8,400-gallon capacity tanks and containment berms were rented to store the CPS used in the injections. The CPS solution was delivered in batches of 29 percent by weight into one tank, while the other was regularly refilled with water from an on-site source. During the 2017 IRM injection activities, the 29 percent CPS solution and water were in-line mixed to a solution of 5 percent CPS. During 2019 and 2020 injection activities, the 29 percent CPS solution and water were mixed in 300- to 1,000-gallon tanks prior to injection. Two pumps were used individually or in tandem to pump CPS through a manifold to a hose connected to the injection tooling. Cascade used injection tooling capable of delivering CPS solution in a 360-degree radius through a 1- or 5-foot section of rod drilled to the injection depth.

Confirmation samples were generally collected mid-way between injection points or as directed by DTSC. Confirmation sample locations are shown on Figure 8. Confirmation sample borings were advanced using direct-push technology during all events between 2012 and 2019, and hollow stem auger methods were utilized beginning in 2020. For all events, continuous core samples were recovered from the borings to visually assess the injection markers and collect confirmation soil samples. In general, confirmation soil samples were collected approximately every 5 feet adjacent to and within the zones of injection, and above and below lithological contacts.

## 4.2 Overview of Remedial Events

As briefly described in Section 1, CPS injection remedial events were performed over several phases since 2012. Each event is summarized below and discussed in more detail in the remaining Report sections noted. Historical soil samples with analytical results for hexavalent chromium from deeper than 10 feet bgs are listed in Table 1. An overview of the volumes injected during each injection event are shown in Table 2. Confirmation soil boring results collected after final injection activities are listed in Table 3. Intermediate soil boring results collected after initial remedial activities that were later treated through further remediation are also listed in Table 1. Visual representations of the lateral and vertical distribution of hexavalent chromium in soil, both prior to and after remediation, are included in Appendix C.

- **Pilot Test (Section 5).** The 2012 pilot test was performed to pilot test the viability of using CPS to fixate hexavalent chromium in soil and groundwater under the Site.
- **2017 IRM Program (Section 6).** The 2017 IRM event was performed as an interim measure to treat the remaining impacted area in the vicinity of MW-09. Follow up injection activities were performed to complete the remediation in 2019.
- **W-7/W-8 Redevelopment Area (Section 7).** In 2019, wastewater plant redevelopment activities, including the construction of a containment for new tanks W-7 and W-8, were implemented. CPS injections were performed within the footprint of the containment prior to construction, and touchup injection activities were performed after construction. The injection activities were performed adjacent to Pond 1 to the north and west.
- **Pond 1 (Section 8).** The 2019 Pond 1 remedial activities were performed during the closure of Pond 1.
- **Roadway Injections - 2019 and 2020 (Section 9).** Injection activities were performed in 2019 and 2020 in the area immediately southwest of Pond 1, mostly along or adjacent to the main Facility driveway, as shown on Figure 6.
- **2020 IRM Program (Section 10).** Additional interim measures were performed in 2020 to remediate additional hexavalent chromium in vadose zone soils in the southwest area of the Facility shown on Figure 7. Injection activities and confirmation sample results are discussed in this Report.



## 5 Pilot Test

Soil and alternative groundwater corrective action was first conducted at the Facility during the April 2012 pilot test, which is documented in the *Interim Soil Corrective Action Pilot Test Report* (Iris Environmental 2012) and the *Groundwater Corrective Action Pilot Test Report* (Iris Environmental 2013). The activities were conducted pursuant to the May 29, 2008, *Revised Groundwater Corrective Action Pilot Test Work Plan* (Iris Environmental) which was approved by DTSC on June 27, 2008. Start of the pilot test was delayed until early 2012 due to drought-related lowering of groundwater levels.

The pilot test was conducted in the center of the Site in the vicinity of monitoring well MW-09. In 2012, the vadose zone in this area was approximately 50 feet thick and composed of three stratigraphic layers: fill/sandy silt, the Gage Aquifer, and the unnamed aquitard. At the time of the pilot test, groundwater was first encountered in the Hollydale Aquifer in this area at approximately 50 feet bgs. To pilot test remediating the hexavalent chromium in the vadose zone, CPS solution was injected into four soil injection locations near the source area (Figure 5). To pilot test remediating the hexavalent chromium in groundwater, CPS solution was injected into six permanent wells near the source area (Figure 5). Soil test borings were advanced both before and after the injection and soil samples were collected to evaluate the success of the injection, and groundwater monitoring and sampling was conducted before, during, and after the injection to evaluate the success of the injection.

### 5.1 Pilot Test Injection Activities

The pilot test injection activities followed the general injection methods outlined in Section 4.1, unless otherwise noted. Injection was split into three efforts, vadose zone injections into the Gage Aquifer and the unnamed aquitard, and groundwater injections into the saturated Hollydale Aquifer. Injection and sampling activities were conducted by Vironex of Santa Ana, California. Detailed pressure readings, gallons injected, and flow rates for each injection point are found in Appendix D (Vironex field report).

#### 5.1.1 Gage Aquifer

Injection activities for the Gage Aquifer were conducted from April 3 through April 6, 2012. Four injection points spaced 5 feet apart were installed in a square pattern (Figure 5). The injection points were advanced in 5-foot intervals across the Gage Aquifer sands from 20 to 30 feet bgs, based on geology in the closest well, MW-18S, and baseline soil sampling at VZ-BS-1. Though not proposed in the *Revised Groundwater Corrective Action Pilot Test Work Plan* (Iris Environmental 2008), a smaller volume of CPS was injected into all four injection locations from 15 to 20 feet bgs based on observations of yellow-colored soil observed during the drilling of the baseline soil samples.

Starting at 15 feet bgs, the CPS solution was injected into the treatment zone for the Gage Aquifer. All CPS solution injected into the Gage Aquifer was mixed to the design dosage concentration of 10 percent by weight, and a small amount of Rhodamine WT tracer dye was added to the solution (between 4 and 7 ounces per 300-gallon batch of CPS) to aid in visual identification of the injection radius area. The CPS solution was injected using a progressive cavity pump with a flow rate capacity of up to 10.8 gallons per minute (gpm) and pressure up to approximately 200 pounds per square inch (psi). A high flow rate and

high volume of CPS solution under a relatively low pressure was expected because of the comparatively high porosity and high hydraulic conductivity of the Gage Aquifer. However, pressures of at least 80 psi were required to sustain flow rates between 2 and 6 gpm into the Gage Aquifer.

Based on average laboratory-measured porosity values for the Gage Aquifer, an estimated volume of 2,400 gallons was calculated to saturate a radial zone of 5 feet per injection point in a 10-foot-thick zone. At each of the four Gage Aquifer injection points, a total of 2,400 gallons of 10 percent CPS was injected into the formation between 20 and 30 feet bgs. At three of the injection points, this volume was split evenly between the 20- to 25-foot and the 25- to 30-foot injection zones (i.e., a 5-foot injection tool was used). At one location (GA-Inj-2) flow could not be induced in the 25- to 30-foot-deep injection zone, so the entire 2,400-gallon volume was injected into the 20- to 25-foot injection zone. Additionally, 200 gallons of 10 percent CPS solution was injected into all four injection points in the 15 to 20 feet bgs interval. The volumes injected into each point are listed in Table 3 of the *Interim Soil Corrective Action Pilot Test Report* (Iris Environmental 2012).

### 5.1.2 Unnamed Aquitard

Injection activities into the unnamed aquitard were conducted between April 10 and April 18, 2012. Based on average laboratory-measured porosity values for the unnamed aquitard, an estimated 4,800 gallons of the CPS solution would be required to fully saturate a radial zone of 5 feet per injection well in a 20-foot-thick zone. During the pilot test, the full volume was unable to be injected into the unnamed aquitard for the reasons described below.

The CPS solution was mixed to a dosage concentration of 7 percent by weight and a small amount of Rhodamine WT tracer dye was added to the solution (approximately 8 ounces of dye per 300 gallons of 7 percent CPS solution). A maximum of 240 gallons of CPS was injected into each 1-foot interval. Due to the low permeability conditions encountered during injection, the target volume was not achieved at all depths. A total of 8,821 gallons of the proposed 19,200 gallons of 7 percent CPS solution were injected into the unnamed aquitard. Pressures and flow rates of injection into the unnamed aquitard ranged from 60 to over 300 psi and 1 to 6 gpm, respectively.

For the unnamed aquitard, four injection points spaced 5 feet apart were installed in a square pattern located immediately adjacent to the Gage Aquifer injection points. The injection points were planned to be advanced down to the base of the aquitard at approximately 49 feet bgs with a target treatment zone of 30-49 feet, and then retracted upwards as injection proceeded. Though direct-push drilling had been conducted successfully at the Site in the past to depths of 50 feet, refusal was encountered at multiple injection locations at depths of 37 to 38 feet bgs. Three of the four direct-push rod runs became damaged during initial installation and retraction while using a bottom-up procedure; thus, the injection was switched to a top-down procedure for all remaining borings. The rods were drilled to the upper-most injection zone and then pushed further down once the target volume was injected into each injection zone. The volumes injected into each point are listed in Table 3 of the *Interim Soil Corrective Action Pilot Test Report* (Iris Environmental 2012).



### 5.1.3 Hollydale Aquifer

Injection into the Hollydale Aquifer was performed using dedicated injection and pilot test monitoring wells, rather than direct-push borings. In 2008, Gregg Drilling of Signal Hill, California, installed the injection and pilot test monitoring wells. Boreholes were drilled to depths between 63.5 and 65 feet bgs and the wells were screened from 53 to 63 feet bgs with 1-inch-diameter 304 stainless steel 0.020-inch screen. Filter pack in all wells extended up to 51 feet bgs. The screened intervals of the wells were all placed within the sands of the Hollydale Aquifer. Additional details about the pilot test wells can be found in the *Groundwater Corrective Action Pilot Test Report* (Iris Environmental 2013b).

The CPS solution was injected into the saturated Hollydale Aquifer in two phases. Figure 5 shows the pilot test area and the injection and pilot test monitoring wells. Two phases of injection were performed—a single-well phase and three-well phase. A summary of total injection volumes is presented in Table 3 of the *Groundwater Corrective Action Pilot Test Report*.

Phase I injection was conducted on April 12 and April 13, 2012. During Phase I of groundwater injection, the tracer dye Rhodamine WT and the CPS solution were mixed together and injected only into the center injection well (UHA-Inj-2), followed by process and performance monitoring in the two adjacent injection wells (UHA-Inj-1 and UHA-Inj-3), six down-gradient pilot test monitoring wells, down-gradient groundwater monitoring well MW-9, and up-gradient groundwater monitoring well MW-18S. CPS solution was injected into UHA-Inj-2 at a concentration of 7 percent at flow rates generally between 10 and 12 gpm and pressures ranging from 25 to 40 psi. A total of 6,416 gallons of 7 percent CPS solution was injected into UHA-Inj-2 during the Phase I injection. This Phase I injection was used to determine (1) the radial zone of a single injection point as the groundwater transports and disperses the dye and CPS solution, and (2) the effectiveness of the CPS solution under real world conditions.

Phase II injection was conducted between April 24 and April 27, 2012, following the last Phase I process monitoring event. This second phase was used to determine the radial zone and effectiveness of the CPS solution when injected into multiple wells which would likely be more representative of conditions expected during full implementation.

For the Phase II injection, the dye and CPS solution was initially injected simultaneously into all three injection wells through a manifold while conducting process and performance monitoring in the six downgradient pilot test monitoring wells and wells MW-18S and MW-9.

During the Phase II injection, injection well screens slowly clogged, which necessitated changes to the injection program. Though approximately 7,000 gallons of CPS had previously been injected in UHA-Inj-2 with no problems, shortly after beginning the Phase II injection, UHA-Inj-2 became clogged and was deemed unsuitable for injection at pressures below 25 psi, the highest pressure the injection contractor was comfortable injecting into the permanent wells. Injection continued at UHA-Inj-1 and UHA-Inj-3 at concentrations of both 10 and 15 percent CPS solution before these two wells clogged as well. The total amounts of CPS injected into UHA-Inj-1 through UHA-Inj-3 are listed in Table 3 of the *Groundwater Corrective Action Pilot Test Report*.

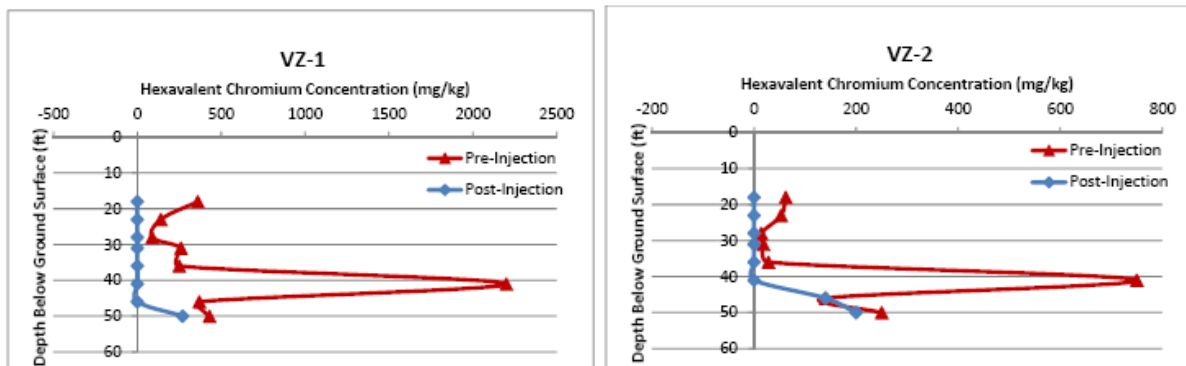
Because injection wells UHA-Inj-1 through UHA-Inj-3 clogged midway through Phase II, the first row of pilot test monitoring wells (UHA-PM-1 through UHA-PM-3) were converted to injection wells starting on April 26, 2012. Approximately 2,200 gallons of 10 percent CPS solution were injected into each of these wells on April 26. On the last day of injection, April 27, a test of variable injection concentrations of CPS solution was performed to assess potential clogging of injection wells at different concentrations. Beginning with one tank (300 gallons) of 10 percent CPS solution, the concentration of CPS was increased by 5 percent every 1,500 gallons (five tanks) of injection. The final 1,400 gallons injected was a 29 percent solution. UHA-PM-1 clogged during the transition from 10 to 15 percent, but no other clogging issues were observed with the increase in CPS concentration.

## 5.2 Pilot Test Results

Baseline analytical hexavalent chromium in soil results are included in the pre-remediation soil results Table 1. Post-remediation hexavalent chromium in soil results are presented in Table 3. Analytical groundwater results associated with the pilot test are included in Table 6 of the *Groundwater Corrective Action Pilot Test Report* (Iris Environmental 2013b).

### 5.2.1 Gage Aquifer

All baseline samples contained concentrations of hexavalent chromium ranging from 14 mg/kg in VZ-BS-2 to 360 mg/kg in VZ-BS-1. All VZ-PM-1 and VZ-PM-2 confirmation soil samples collected from the Gage Aquifer following injection within the injection area (Figure 5) were non-detect for hexavalent chromium above the reporting limit of 2.1 to 2.5 mg/kg. Hexavalent chromium was detected in samples from distal confirmation boring VZ-PM-3 at values ranging from 210 to 1,300 mg/kg. The pre- and post-injection hexavalent chromium concentrations by depth for the two boring pairs VZ-1 and VZ-2 are displayed graphically below.



## 5.2.2 Unnamed Aquitard

All baseline samples contained concentrations of hexavalent chromium ranging from 28 mg/kg in VZ-BS-2 to 2,200 mg/kg in VZ-BS-1. All but three VZ-PM-1 or VZ-PM-2 confirmation soil samples collected from the unnamed aquitard following injection were non-detect for hexavalent chromium above the reporting limit of 2.2 to 2.4 mg/kg. Two samples collected from VZ-PM-2 at 46 and 49.5 feet bgs, and the sample collected from VZ-PM-1 at 49.5 feet bgs, contained hexavalent chromium ranging from 140 to 270 mg/kg. Hexavalent chromium was detected in samples from distal confirmation boring VZ-PM-3 (which did not have a corresponding baseline boring) at values ranging from 61 to 2,100 mg/kg, except at 36 feet bgs where hexavalent chromium was not detected.

Though the direct-push injection method was able to distribute CPS over at least a 3.5-foot radius at many depths, problems with the tooling and difficulty injecting into the unnamed aquitard indicate that the Geoprobe 6600 direct-push drill rig used for injection was not powerful enough to reach the depths required. All injection activities performed after the 2012 pilot test utilized a Geoprobe 8040 drill rig and did not encounter the same refusal and tooling issues.

## 5.2.3 Hollydale Aquifer

Groundwater sampling was conducted prior to injection in March 2012, then monthly for 3 months, and quarterly thereafter. In wells within the pilot test area, the baseline March 2012 hexavalent chromium concentrations ranged from below reporting limits to 34 milligrams per liter sampled at injection monitoring well UHA-PM-4. During the January 2013 sampling event, 9 months after injection activities, hexavalent chromium concentrations in the pilot test area were between below reporting limits. Immediately downgradient of the injection zone, hexavalent chromium was not detected in wells MW-04, MW-04A, MW-09, MW-17S, MW-19S, and MW-20S (shown on Figure 2) during the January 2013 sampling event. Detected hexavalent chromium concentrations outside of the pilot test area generally remained stable at or below baseline concentrations.

In cross-gradient wells MW-08 and MW-10, hexavalent chromium was not detected during the January 2013 sampling event. The baseline concentration in these wells ranged from below reporting limits to 2,200 µg/L.

As depicted on Figure 9 of the *Groundwater Corrective Action Pilot Test Report* (Iris Environmental 2013b), a zone of remediated groundwater migrated from the pilot test area and across the Site towards MW-14S. This zone is interpreted as treated groundwater that resulted in the reduction or elimination of hexavalent chromium within the zone.

Based on real-time monitoring during injection, it was concluded that the CPS solution reached a point over 10 feet downgradient from the single injection well within a few hours following the start of injection.

The area of the Site treated with CPS solution is assumed to be approximately represented by the zone of wells in which hexavalent chromium concentrations were reduced to below the laboratory detection limit. As shown on Figure 9 of the *Groundwater Corrective Action Pilot Test Report*, the absence of hexavalent chromium in groundwater 9 months after injections extended approximately 150 feet downgradient beyond the injection zone.



## 5.3 Contaminant Reductions

The pilot test injection of CPS was successful and proved to be an effective remedial method to stabilize hexavalent chromium in vadose zone soil and groundwater.

In areas where CPS came into contact with hexavalent chromium in the vadose zone soils, the injection successfully converted the hexavalent chromium to trivalent chromium and reduced concentrations to less than 3 mg/kg without adversely altering the fabric and permeability of sediments in the Gage Aquifer and unnamed aquitard. Chemical analysis of pre- and post-injection samples indicates that no adverse reactions occurred due to chemical reactions.

The soil chemistry confirms the results of the bench test, that CPS was effective in stabilizing/fixating the hexavalent chromium in soil. Neither the 10 percent by weight CPS solution injected into the Gage Aquifer nor the 7 percent by weight CPS solution injected into the unnamed aquitard caused a permeability change that impeded injection, and both concentrations were successful at fixating hexavalent chromium. Therefore, vadose zone injection activities performed after the 2012 pilot test have injected CPS solutions between 5 and 7 percent by weight with successful results.

In areas where CPS came into contact with hexavalent chromium in the Hollydale Aquifer, the injection successfully stabilized the hexavalent and trivalent chromium and reduced concentrations of both to below analytical reporting limits without adversely altering the water quality of the Hollydale Aquifer. Pilot test injection volumes and durations were capable of emplacing CPS solution into the aquifer across a zone at least 20 feet across, using a single injection point. Changes in groundwater pH were a good field indicator of CPS solution arrival at a monitoring point. The injection process is applicable both through permanent wells and direct-push rods. Direct-push technology is considered more appropriate for full-scale implementation, if needed.

## 6 2017 IRM Program

The 2017 IRM expanded upon the pilot test injection area. The activities are documented in the IRM Report (Terraphase Engineering 2017) and the *Additional Interim Remedial Measures Injection* (Terraphase 2020e). The IRM activities targeted unsaturated soil where hexavalent chromium was known to be present. The 45-foot-thick target injection zone extended from approximately 10 to 55 feet bgs and was composed of the three stratigraphic layers described in Section 5 and the upper unsaturated portion of the Hollydale Aquifer. To remediate the hexavalent chromium in the vadose zone, CPS solution was injected into 24 soil injection locations (Figure 5). Soil test borings were advanced before, during, and after the IRM activities and soil samples were collected to evaluate the success of the injection.

The depth to first encountered groundwater in this area at the time of injection (June 2017) was approximately 65 feet bgs. Four stratigraphic layers are present between ground surface and the top of the water table: fill 15 to 20 bgs, the Gage Aquifer to approximately 30 feet bgs, the unnamed aquitard of silt and clay to 50 feet bgs, and the upper Hollydale Aquifer, which extends between approximately 50 and 150 feet bgs. While it has often historically been a fully saturated aquifer, the upper portion of

the Hollydale Aquifer sediments were unsaturated from the bottom of the unnamed aquitard to a depth of approximately 65 feet bgs due to drought conditions at the time of injection. The top 5 to 10 feet of the unsaturated Hollydale Aquifer were included in the target injection zone.

## 6.1 IRM Injection Activities

IRM injection procedures generally followed the approved *Interim Measure Work Plan* (Iris Environmental 2015), approved by DTSC on June 13, 2016, with the exceptions noted in Section 1.4 of the IRM Report (Terraphase 2017).

Injection activities took place from June 6 to June 28, 2017. Twenty-four injection points spaced 15 feet apart were installed in diagonal lines across the injection area (Figure 5). Injection points were advanced in 5-foot intervals from 10 to 55 or 60 feet bgs. Injection volumes, given in Table 7 of the IRM Report, were adjusted from those in the work plan based on the results of process monitoring. A total volume of 140,000 gallons of CPS solution was injected over the course of the injection program. Detailed pressure readings, gallons injected, and flow rates for each injection point are found in Appendix D (Cascade field report).

Injection pressures up to 550 psi were observed, though injection pressures averaged around 180–250 psi. Compared to the pilot test, a larger diameter rod was used during IRM injection activities, and flow rates ranged between 10 to 50 gpm depending on the porosity and geologic composition of the sediments. Five-foot-long injection tooling was used successfully at all injection locations in a top-down method.

Process monitoring boring IM-TB-01 was drilled following the completion of the first two injection borings, Inj-09 and Inj-10, and was located approximately halfway between the two injection points (Figure 2). The boring was logged visually, and chemical samples were collected to assess the radius of influence of the injection volumes and pressures. The results led to increasing the target injection volume in the lower Gage and Hollydale aquifers.

Post-injection performance monitoring borings IM-PI-01 through IM-PI-04 (Figure 5) were drilled June 29–30, 2017. The borings were logged visually, and chemical samples were collected to assess the impacts of the injections. Five to 12 soil samples were collected from each boring and analyzed for the following: Title 22 metals using USEPA Method 6010B/7471A, hexavalent chromium using USEPA Method 7196A, and pH using USEPA Method 9045C pH. Post-remediation hexavalent chromium in soil analytical results are presented in Table 3.

Additional injection activities were performed in October 2019 adjacent to one post-injection boring location, IM-PI-04, where elevated concentrations of hexavalent chromium were reported at 40.5 feet bgs. A total of 5,000 gallons of 5 percent CPS solution was injected into injection point INJS-05 in 5-foot intervals between 35 and 55 feet bgs. Further post-remediation soil samples were collected from soil boring INJ04C-CONF advanced in September 2020 at depths between 35 and 45 feet bgs.

## 6.2 IRM Results

Soil and groundwater analytical results are discussed below.

### 6.2.1 Soil

Soil baseline samples were collected from three borings (IM-BL-01 through IM-BL-03). Process monitoring samples were collected from a single boring (IM-TB-01). Confirmation soil samples were collected from four borings (IM-PI-01 through IM-PI-04). Boring locations are shown on Figure 5. The number and depths of soil samples varied for each boring and were chosen to provide data about each geologic unit and its contacts.

Pre-remediation soil hexavalent chromium results are presented in Table 1 and post-remediation soil results are presented in Table 3.

Hexavalent chromium was detected in 2 of 31 baseline soil samples at a maximum concentration of 1.8 mg/kg at 21 feet bgs, indicating that hexavalent chromium was not widespread in the subsurface in the southern portion of the IRM injection area.

Hexavalent chromium was detected in 4 of the 50 process or performance monitoring soil samples. Three of the concentrations were above the 6.2 mg/kg Pond 1 TCL for hexavalent chromium. One sample, collected from IM-PI-01 at 5 feet bgs, was shallower than the zone of injection; thus, the CPS solution was not expected to benefit this soil. The other two detections, both from IM-PI-04, at concentrations of 490 and 12 mg/kg, were detected in soil samples collected from 40.5 and 53 feet bgs, respectively. The sample collected from IM-PI-04 at 40.5 feet bgs is above the proposed leaching to groundwater TCL of 30 mg/kg and correlates with the green staining observed in the soil logged at this depth. This area was targeted for additional injection in October 2019. Hexavalent chromium was not detected in additional confirmation samples collected in September 2020 after the additional injection activities were completed.

The soil data were reviewed for usability and quality issues. Select soil samples were flagged by the laboratory for matrix spike (MS) and matrix spike duplicate (MSD) recoveries outside acceptable limits, or for an MS/MSD relative percent difference (RPD) that exceeded the control limits. In all cases, the lab control sample (LCS) and lab control sample duplicate (LCSD) recoveries and RPD were within control limits. Therefore, the data were considered acceptable for their intended use.

### 6.2.2 Groundwater

Baseline groundwater samples were collected in late May and early June 2017 and post-injection samples were collected in late July 2017. Wells MW-03, MW-07, MW-08, MW-09, MW-11, MW-13D, MW-17S, MW-19S, MW-20S, and MW-24S were included in both sampling events. Well locations are shown on Figure 2.

At groundwater monitoring wells that were sampled both before and after injection, concentrations of hexavalent chromium in groundwater mostly remained stable or dropped. Decreases could be related to either the IRM injections or a decrease in groundwater elevations.



## 6.3 Post-Remediation Conditions

Hexavalent chromium concentrations in soil in the vicinity of MW-09 were treated during the 2012 pilot test, the 2017 IRM program, and one follow-up injection point in 2019. Post-treatment soil confirmation sample results indicate that known concentrations of hexavalent chromium in vadose zone soils upgradient of MW-09 have been successfully remediated.

# 7 W-7/W-8 Redevelopment Area

The 2019 injection activities in the planned W-7/W-8 tank containment area were conducted west of the IRM area treated in 2017 and west/northwest of Pond 1. The activities are documented in the *Investigation, Treatment, and Excavation Report for Class II Permit Modification – Wastewater Tanks Replacements* (Terraphase Engineering 2020c). The W-7/W-8 activities targeted unsaturated soil where hexavalent chromium was known to be present in soil. The 48-foot-thick target injection zone extended from approximately 15 to 63 feet bgs and was composed of four stratigraphic layers, as described in Section 6. To remediate the hexavalent chromium in the vadose zone, CPS solution was injected into 13 soil injection locations within and south of the planned W-7/W-8 containment footprint where hexavalent chromium in soil had been identified above the Pond 1 TCL (Figure 6). Soil test borings were advanced both before and after the injection activities and soil samples were collected to evaluate the success of the injection.

## 7.1 Injection Activities

Injection procedures generally followed methods outlined in the approved *Interim Measure Work Plan* (Iris Environmental 2015c). All drilling and injection were performed by Cascade using a Geoprobe 8040DT. CPS solution was injected into the vadose zone through the direct-push drill rig's injection tooling. Following injection, all borings were grouted with neat cement and bentonite and the surface was patched to match the existing grade.

Injection activities took place from January 28 to February 8, 2019. Thirteen injection points spaced nominally 10 feet apart were installed in diagonal lines across the injection area. Figure 6 shows the location of the injection points. Injection points were advanced in 5-foot intervals from either 15 to 63 feet bgs or 30 to 60 feet bgs. Injection volumes were adjusted from those in the work plan based on daylighting or surfacing. The approximate volume of injection solution was 70,210 gallons of 7 percent CPS solution. The amount injected per injection point ranged between 4,600 and 10,200 gallons. Detailed pressure readings, gallons injected, and flow rates for each injection point are found in the *Remediation Field Services Report* prepared by Cascade, dated February 11, 2019 (Appendix D).

Average injection pressures into the unnamed aquitard ranged from 50 to over 313 psi. The highest pressures typically correlated with deeper depth intervals in aquitard materials, ranging between 150 and 313 psi for the zones between 30 and 63 feet bgs. Pressure generally was increased to achieve targeted flow rates. While higher pressures were required at deeper depths and where geologic



formations were finer grained, the flow rate generally remained steady at 40 gpm on average and ranged from 25 to 46 gpm throughout whole event.

Confirmation soil sampling was performed on March 5–6, 2019, after remediation injection activities. The three confirmation boring locations (W7-8CONF01 through W7-8CONF03) are shown on Figure 6. In general, soil samples were collected approximately every 5 feet between the top and bottom of the injection zone. Boring W7-8CONF01 encountered refusal at 33 feet (possibly due to hard and/or expanding fine-grained soils) and samples from the deeper part of the injection zone (35 to 60 feet bgs) were unable to be collected.

To address residual hexavalent chromium concentrations above the screening criterion in post-injection confirmation samples, additional injection activities were performed September 17–18, 2019. Two angled injection borings, INJS-03 and INJS-04, were advanced to target select depths in the vicinity of confirmation borings W7-8CONF01 and W7-8CONF03, respectively.

Injection points were advanced in 5-foot intervals from either 25 to 30 feet bgs (INJS-03) or 45 to 60 feet bgs (INJS-04). Total injection volumes per borehole ranged from 4,750 gallons at INJS 03 to 5,250 gallons at INJS-04. Detailed pressure readings, gallons injected, and flow rates for each injection point are found in the *Remediation Field Services Report* prepared by Cascade, dated September 23, 2019 (Appendix D).

Additional confirmation soil samples were collected on October 5, 2020. Soil samples were collected every 5 feet between depths of 40 and 65 feet bgs at boring INJS-4C-CONF, adjacent to previous soil boring location W7-8CONF03, and from 30.0, 30.5, and 35.0 feet bgs at boring INJS-3C-CONF, adjacent to previous soil boring location W7-8CONF01. Boring logs for these two borings are included in Appendix E.

## 7.2 Results

Post-remediation hexavalent chromium in soil analytical results are shown in Table 3. A total of 19 soil confirmation samples were collected in 2019 from three borings, W7-8CONF01 through W7-8CONF03. Hexavalent chromium was detected at concentrations above the screening criterion of 6.2 mg/kg in four samples from two boring locations at concentrations ranging from 8.8 to 14 mg/kg (W7-8CONF01 at 30.0 feet bgs and W7-8CONF03 at 45, 55, and 63 feet bgs). Hexavalent chromium concentrations in all samples collected from boring W7-8CONF02 were below the screening criterion.

Nine additional confirmation samples were collected in 2020 after follow-up injection activities were performed to address the 2019 confirmation samples with residual hexavalent chromium concentrations. Hexavalent chromium was not detected in any of the 2020 confirmation soil samples. All soil cores contained black staining indicative of CPS presence, and sulfur was reported in all confirmation samples at concentrations ranging between 202 to 4,150 mg/kg. The laboratory report for the 2020 samples is included in Appendix F.

The soil data were reviewed for usability and quality issues. Select soil samples were flagged by the laboratory for MS/MSD recoveries outside acceptable limits or an MS/MSD RPD that exceeded the control limits. In all cases, the LCS/LCSD recoveries and RPD were within control limits. Therefore, the data were considered acceptable for their intended use.





## 7.3 Post-Remediation Conditions

The W-7/W-8 containment injection implementation achieved the goals set for the program and resulted in reductions of hexavalent chromium in vadose zone soils overlaying the Hollydale Aquifer in the area northwest of the former Pond 1, beneath the new containment construction. Based on final confirmation samples collected after two rounds of injections, in January/February and September 2019, residual concentrations of hexavalent chromium in vadose zone soils beneath the W-7/W-8 containment northwest of the former Pond 1 are below both the Pond 1 TCL of 6.2 mg/kg and the proposed leaching to groundwater TCL of 30 mg/kg.

# 8 Former Pond 1

Remedial activities were performed within the regulated Pond 1 unit in 2019. The activities are documented in the P1CR (Terraphase Engineering 2020a). Remediation targeted unsaturated soil where hexavalent chromium was known to be present. The target injection zone extended from approximately 10 to 71 feet bgs and was composed of four stratigraphic layers, as described in Section 6. CPS solution was injected at 15 locations in the vadose zone under Pond 1 (Figure 6). Soil test borings were advanced before and after remedial activities and soil samples were collected to evaluate the success of the injection.

## 8.1 Injection Activities

Injection activities followed the approved *Pond 1 Closure Plan* (PTI 2015) and DTSC correspondence entitled *Pond 1 Closure Activities Required at Phibro-Tech, Inc., 8851 Dice Road, Santa Fe Springs, California*, dated March 12, 2018, and *Former Pond 1 Closure Workplan Update, Phibro-Tech, Inc., 8851 Dice Road, Santa Fe Springs, California*, dated August 15, 2019.

Injection of CPS took place between August 26 and September 17, 2019. CPS solution was injected into 15 borings distributed evenly across the former footprint of Pond 1 spaced approximately 10 feet apart, as shown on Figure 6. The depth intervals and volumes of injection at each point are listed in Table 5 of the P1CR (Terraphase 2020a). The *Remediation Field Services Report* prepared by Cascade, dated September 23, 2019, is included as Appendix D.

Average injection pressures into the unnamed aquitard ranged from 20 to over 390 psi and averaged around 150–300 psi. The highest pressures typically correlated with fine-grained material and deeper depth intervals. Pressure generally increased to achieve targeted flow rates. While higher pressures were encountered at deeper depths, and where geologic formations were finer grained, the flow rate generally remained steady between 40 and 50 gpm on average (ranging from 5.9 to 68.6 gpm throughout whole event). Five-foot-long injection tooling was used at all injection locations in a top-down method.

The approximate volume of injected solution was 162,240 gallons of 7 percent CPS solution. The amount injected per injection point ranged between 6,720 and 14,534 gallons. At borings where surfacing conditions prevented the proposed amount of CPS solution from being injected into the Gage Aquifer or unnamed aquitard, the excess CPS solution was injected into the unsaturated sands of the Hollydale Aquifer. Full details of injection volumes, flow rates, and pressures are presented in the *Remediation Field Services Report*, dated September 23, 2019, included in Appendix D.

## 8.2 Results

Baseline analytical hexavalent chromium in soil results are provided in Table 1. Post-remediation hexavalent chromium in soil results are provided in Table 3. Fifteen baseline boring locations were advanced prior to remediation. Eight confirmation boring locations were selected and approved by DTSC via email on October 4, 2019 (Figure 6).

A total of 141 soil confirmation samples were collected from borings P1-CONF1 through P1-CONF8. Boring locations are shown on Figure 6. There were 11 detections of hexavalent chromium above the Pond 1 TCL in the 141 collected samples; one of these samples was above the proposed leaching to groundwater TCL of 30 mg/kg. The maximum concentration was 50.9 mg/kg in P1CONF-3. Overall, 92 percent of the confirmation soil samples were below the Pond 1-specific cleanup goal for hexavalent chromium, and 99 percent were below the proposed leaching to groundwater TCL.

The 95UCL was calculated for the Pond 1 post-remediation hexavalent chromium data set using ProUCL Software version 5.1.002 (USEPA 2016), as presented in P1CR (Terraphase 2020a). The calculation indicated that the data are gamma distributed, and the recommended 95UCL for the dataset is 3.119 mg/kg. The 95UCL is well below the hexavalent chromium screening levels of 6.2 and 30 mg/kg.

The soil data were reviewed for usability and quality issues. Select soil samples were flagged by the laboratory for MS/MSD recoveries outside acceptable limits or an MS/MSD RPD that exceeded the control limits. In all cases, the LCS/LCSD recoveries and RPD were within control limits. Therefore, the data were considered acceptable for their intended use.

## 8.3 Post-Remediation Conditions

CPS injections under the former Pond 1 remediated concentrations of hexavalent chromium to below the TCL of 6.2 mg/kg. Approximately 10 percent of the confirmation samples were at concentrations above the direct soil exposure TCL, but only one confirmation sample was above the proposed site-wide leaching to groundwater TCL. Statistical assessment of the dataset demonstrated the 95UCL concentration of post-injection hexavalent chromium results is 3.119 mg/kg, below both TCLs, indicating that the remaining detections of hexavalent chromium are statistically insignificant.

## 9 Roadway Injections - 2019 and 2020

Injection activities were performed in 2019 and 2020 in the area southwest of Pond 1, mostly along or adjacent to the main Facility driveway, as shown on Figure 6. The injection zone varied in thickness across the area and was based on the known or estimated distribution of hexavalent chromium in vadose zone soils, as presented in the *Response to "Conditional Approval of Interim Measure Work Plan, 8851 Dice Road, Santa Fe Springs, California (Site Code: 300142)"* (Terraphase 2020d).

### 9.1 Injection Activities

In 2019, additional injection activities west of Pond 1 and in the main driveway south of Pond 1 were performed during the mobilization that included the Pond 1 injections. Injection of CPS took place between September 11 and September 20 at injection locations INJS-01, INJS-02, INJS-06, and INJS-07. Additional, more extensive, injection activities in these areas were performed between September 8 and October 6, 2020, at injection locations IP-1 through IP-15 and IP-37 through IP-45 under permit SR0232057 obtained from the Los Angeles County Department of Public Health (LACDPH). The injection locations are shown on Figure 6.

Average injection pressures ranged from 20 to 400 psi, and flow rates ranged from 4.5 to 43.8 gpm. Five-foot-long injection tooling was used during the 2019 activities and 1-foot-long tooling was used during the 2020 activities. Top-down methods were generally employed, but when surfacing of injectant could not be avoided, likely due to the saturation of the subsurface with CPS injectant, occasionally bottom-up injection methods were employed during the 2020 activities.

In September 2020, a process boring was advanced at location SWCONF9, placed approximately 9 feet away from three completed injection points IP-12, IP-18, and IP-19. CPS distribution was well established in the Gage Aquifer and at the interface between the unnamed aquitard and the Hollydale Aquifer, but extensive evidence of CPS penetration into the silts and clays of the aquitard was not observed, despite injections of 915 gallons per foot into three surrounding injection points. Injection spacing across the Site, both in the roadway and in the southwestern portion of the Facility (discussed in Section 10), was tightened from approximately 18-foot centers to approximately 9-foot centers, and the volume of injectant per foot was split so that a maximum of 460 gallons per foot was injected into each injection point. As the subsurface became saturated, surfacing became more prevalent. To mitigate the surfacing and to redirect the CPS injectant into the target injection zones, flow rates and pressures were decreased, and the volume of injectant per vertical foot was reduced from 460 to 350 gallons. As noted in the *2020 IRM Measure Work Plan* (Terraphase), the original 915 gallons per foot was calculated assuming full pore fluid displacement and was intended to be the maximum injectable volume.

The approximate volume of injected material in this area was 32,585 gallons of 7 percent CPS solution in 2019 and 225,370 gallons of 7 percent CPS solution in 2020. The amount injected per injection point ranged from 450 to 19,215 gallons. Full details of injection volumes, flow rates, and pressures are presented in the *Remediation Field Services Reports* provided by Cascade in Appendix D.

## 9.2 Confirmation Sampling

Confirmation sampling was performed in October 2020. Terraphase advanced six soil borings, SWCONF01 through SWCONF06, in the roadway portion of the Site to characterize post-remediation hexavalent chromium in soil. The boring locations are shown on Figures 6 and 8. All drilling was performed by Cascade using hollow stem auger drilling methods. The borings were advanced under permit SR0230671 obtained August 11, 2020, from LACDPH. Recovered soil cores were logged according to the Unified Soil Classification System. Boring logs for the six borings are included in Appendix E.

Soil samples were collected from each boring at approximate 5-foot intervals and at lithological contacts and analyzed for select metals, including arsenic, cadmium, chromium, copper, lead, and sulfur, using USEPA Method 6010, hexavalent chromium using USEPA Method 7196, and pH using USEPA Method 9045C. Analytical results for the post-remediation confirmation soil samples are presented in Table 3, and laboratory analytical reports are included as Appendix F.

## 9.3 Results

Hexavalent chromium concentrations in soil analytical results are shown in Table 3. A total of 38 soil confirmation samples were collected from 6 borings (SWCONF01 through SWCONF06). Hexavalent chromium was detected in one sample collected from the unnamed aquitard above the proposed leaching to groundwater TCL of 30 mg/kg at a concentration of 35.1 mg/kg (SWCONF03-55.0). This sample is vertically delineated by two deeper samples with hexavalent chromium concentrations either not detected or below 5 mg/kg. Hexavalent chromium was detected at concentrations above the direct soil exposure TCL in three samples collected in the Hollydale Aquifer unsaturated sands from two boring locations at concentrations ranging from 9.02 to 13.6 mg/kg; none of these samples were above the proposed leaching to groundwater TCL. These concentrations were identified at depths of 60.0 feet bgs at SWCONF01 and 58 and 60 feet bgs at SWCONF04. Boring SWCONF01 is also vertically delineated with a deeper sample that is non-detect for hexavalent chromium. Hexavalent chromium concentrations were not detected above 4 mg/kg in all samples collected from borings SWCONF02, SWCONF05, and SWCONF06.

The 95UCL was calculated for the roadway post-remediation hexavalent chromium data set using ProUCL Software version 5.1.002 (USEPA 2016). ProUCL outputs are included as Appendix G. The calculation indicates that the data is normal distributed, and the recommended 95UCL for the dataset is 4.626 mg/kg. The 95UCL is well below both the direct soil exposure Pond 1 TCL of 6.2 mg/kg and the proposed leaching to groundwater TCL.

The soil data were reviewed for usability and quality issues. Select soil samples were flagged by the laboratory for MS/MSD recoveries outside acceptable limits or an MS/MSD RPD that exceeded the control limits. In all cases, the LCS/LCSD recoveries and RPD were within control limits. Therefore, the data were considered acceptable for their intended use.

## 9.4 Post-Remediation Conditions

CPS injections in the roadway addressed concentrations of hexavalent chromium at depth to below the Pond 1 TCL. One of the confirmation samples was at a concentration above the proposed leaching to groundwater TCL. Statistical assessment of the dataset demonstrated the 95UCL concentration of post-injection hexavalent chromium results is 4.626 mg/kg, below both TCLs, indicating that the remaining detections of hexavalent chromium are statistically insignificant.

# 10 2020 IRM Injections

IRM injection activities were performed in 2020 in the southwestern portion of the Facility, west of the F-area, as shown on Figure 7. The injection zone varied in thickness across the area and was based on the known or estimated distribution of hexavalent chromium in vadose zone soils, as documented in Terraphase's *Interim Measure Work Plan* (2020b) and September 1, 2020, *Response to "Conditional Approval of Interim Measure Work Plan, 8851 Dice Road, Santa Fe Springs, California (Site Code: 300142)"* (Terraphase 2020d). In the central injection area, injection activities extended from 10 feet bgs to approximately 66 feet. To remediate the hexavalent chromium in the vadose zone, CPS solution was injected into 36 soil injection locations (Figure 7). Injections in the southwestern area were performed concurrently with injections in the roadway discussed in Section 9. Soil test borings were advanced both before and after the 2020 IRM activities and soil samples were collected to evaluate the success of the injection.

## 10.1 Injection Activities

Injection procedures generally followed methods outlined in the approved Terraphase *Interim Measure Work Plan*. All drilling and injection were performed by Cascade using a Geoprobe 8040DT. CPS solution was injected into the vadose zone through the direct-push drill rig's injection tooling. Following injection, all borings were grouted with neat cement and bentonite and the surface patched to match the existing grade. Injection borings were advanced under permit SR0232057 obtained from LACDPH. Prior to injection, the Site WDR permit was revised to cover the roadway and southwest solid waste management unit area (RWQCB 2020).

Injection activities took place from September 9 to November 13, 2020. A total of 36 injection points spaced nominally 9 feet apart were installed across the solid waste management unit injection area. Figure 7 shows the location of the injection points. Injection points were advanced in 1- or 2-foot intervals from various depths between 10 to 66 feet bgs. Injection volumes were adjusted from those in the work plan based on daylighting or surfacing, as discussed in Section 9.1. The approximate volume of injection solution was 420,988 gallons of 7 percent CPS solution. The amount injected per injection point ranged between 600 and 39,235 gallons. Detailed pressure readings, gallons injected, and flow rates for each injection point are found in the Remediation Field Services Report prepared by Cascade, attached as Appendix D.

Average injection pressures into the unnamed aquitard ranged from 40 to 590 psi. Injection pressures at most intervals were between 100 and 250 psi. Pressure generally increased to achieve targeted flow rates. Injection flow rates generally ranged between 1 and 44 gpm, with a maximum and approximate average of 150 and 20 gpm, respectively.

## 10.2 Confirmation Sampling

Post-remediation confirmation soil sampling was performed in September and December 2020 to characterize hexavalent chromium in soil. Soil borings were advanced at 13 locations, SWCONF07 through SWCONF20. One process boring, SWCONF09, discussed in Section 9.1, was advanced by Cascade in September 2020. The remaining 12 borings were advanced by MR Drilling of Santa Fe Springs, California in December 2020. The boring locations are shown on Figure 4. All drilling was performed using hollow stem auger drilling methods. The borings were advanced under permit SR0230671 obtained August 11, 2020, from LACDPH. Recovered soil cores were logged according to the Unified Soil Classification System. Boring logs for the 13 borings are included in Appendix E.

Soil samples were collected from each boring at approximate 5-foot intervals starting at the top of injection and at lithological contacts and analyzed for select metals, including arsenic, cadmium, chromium, copper, and lead, using EPA Method 6010, for hexavalent chromium using EPA Method 7196, and for pH using Method 9045C. Analytical results for the post-remediation confirmation soil samples are presented in Table 3, and laboratory analytical reports are included as Appendix F.

## 10.3 Results

Hexavalent chromium in soil analytical results are shown in Table 3. A total of 234 soil confirmation samples were collected from 13 borings, SWCONF07 through SWCONF20. Samples were only collected from depths at or below where injections were performed based on the results of pre-treatment samples. Hexavalent chromium was detected above 6.2 mg/kg in 18 samples. Eight residual concentrations were above 70 mg/kg; the remaining concentrations were not above 20 mg/kg. The detections were more frequent in the finer grained units, and included 3 samples collected from the Gage Aquifer (concentrations ranged from 7.9 to 516 mg/kg), 5 samples collected from the upper unnamed aquitard (concentrations ranged from 7.23 to 1,090 mg/kg), 3 samples collected from the intermediate sand (concentrations ranged from 9.59 to 14.5 mg/kg), 6 samples collected from the lower unnamed aquitard (concentrations ranged from 7.05 to 93.9 mg/kg), and 1 sample collected from the Hollydale Aquifer at a concentration of 6.21 mg/kg. Hexavalent chromium concentrations were below 4 mg/kg in all samples collected from borings SWCONF07, SWCONF08, SWCONF10, SWCONF14, SWCONF17, and SWCONF19.

Two samples collected from the lower unnamed aquitard from boring SWCONF20 at 48 and 50 feet bgs had detections of 72 and 93.9 mg/kg, respectively. Deeper samples were collected from this boring location at 55, 56, 56.5, 60, 65, and 70 feet bgs. All deeper samples were non-detect for hexavalent chromium except one sample at 56 feet bgs with a concentration of 2.19 mg/kg.

Similarly, hexavalent chromium was detected at SWCONF18 in the lower unnamed aquitard at a depth of 50.5 feet bgs and concentration of 72.8 mg/kg. Concentrations at SWCONF18 at 55, 60, 60.5, 65, and 70 feet bgs were at or below 6.21 mg/kg.

Five post-remediation detections of hexavalent chromium were above 100 mg/kg. These locations were limited to shallower soil from two borings that were most heavily impacted with hexavalent chromium prior to treatment, SWCONF15 and SWCONF16. At each boring, hexavalent chromium was concentrated in the sample collected from the top of the unnamed aquitard at the contact with the Gage Sand, while the sample collected from the immediately overlying Gage Sand was fully reduced. A second sample collected three feet into the aquitard at SWCONF15 contained hexavalent chromium at a concentration of 102 mg/kg. Single detections over 100 mg/kg, surrounded by non-detect samples 5 feet above and below, were also reported at SWCONF15 at a depth of 20 feet bgs and SWCONF16 at a depth of 15 feet bgs.

The remaining nine concentrations above 6.2 mg/kg ranged from 7.05 to 19.1 mg/kg.

The soil data were reviewed for usability and quality issues. Select soil samples were flagged by the laboratory for MS/MSD recoveries outside acceptable limits or an MS/MSD RPD that exceeded the control limits. In all cases, the LCS/LCSD recoveries and RPD were within control limits. Therefore, the data were considered acceptable for their intended use.

## 10.4 Post-Remediation Conditions

The CPS injections successfully reduced hexavalent chromium concentrations to at or below the Pond 1 TCL in nearly all locations sampled, and to below the proposed site-wide leaching to groundwater TCL in all but eight confirmation samples. There were 371 samples collected prior to treatment, spread laterally across the southwestern area at depths between 10 and 70 feet bgs. Of those samples, 141 (38 percent) contained concentrations of hexavalent chromium above 6.2 mg/kg, and 70 (19 percent) contained concentrations of hexavalent chromium above 30 mg/kg.

Post treatment, 234 confirmation samples were collected within the formerly impacted area, focused in the areas where injection was performed based on the results of pre-treatment samples. Of these samples, 18 (8 percent) contained concentrations of hexavalent chromium above 6.2 mg/kg. Only eight samples (3 percent) contained concentrations of hexavalent chromium above 30 mg/kg,. All impacted samples, regardless of depth, were vertically confined by multiple deeper soil samples with concentrations at or below the conservative 6.2 mg/kg TCL.

The 95UCL was calculated for the southwest area post-remediation hexavalent chromium data set of samples collected from 30 feet bgs or deeper. This is the highest historical groundwater elevation observed at the Facility, which has not occurred over the last 25 years<sup>1</sup>. Groundwater elevations are currently 40 feet deeper than this depth, and the Facility is capped and subject to monitoring and

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<sup>1</sup> The 30-foot bgs measurements were made in wells screened within the underlying Hollydale Aquifer and reflect the increased head in the confined aquifer at the time of measurement. No physical evidence for saturation rising to this shallower depth has been observed in the hundreds of borings logged across the Site.



maintenance of the Facility's surface cover to prevent infiltration into the subsurface. The 95UCL was calculated using ProUCL Software version 5.1.002 (USEPA 2016). ProUCL outputs are included as Appendix G. The calculation indicated the data is approximately lognormally distributed, and the recommended 95UCL for the dataset is 2.108 mg/kg. The 95UCL is well below both the Pond 1 TCL for hexavalent chromium of 6.2 mg/kg and the proposed leaching to groundwater TCL of 30 mg/kg.

## 11 Post-Remediation Conditions

Corrective action remedy treatment activities (injection of CPS solution into vadose zone soils and aquifer sediments) were completed in November 2020. Final confirmation samples for the recent injections in the southwestern portion of the Facility were collected in December 2020. This section presents the post-remediation conditions (i.e., Site geology) with respect to hexavalent chromium remedial activities.

### 11.1 Updated Site Geology

The updated conceptual understanding of the hydrogeologic units underlying the Facility was presented in Section 2.3, and a cross section illustrating the lithology along the groundwater gradient is presented as Figure 3. Soil borings advanced for the purposes of assessing the distribution of CPS solution and collecting confirmation samples confirm the updated interpretation of the local geology.

### 11.2 Distribution of Hexavalent Chromium in Soils

The vertical and horizontal distribution of hexavalent chromium in soil collected after treatment were documented by remedial activities in Sections 6.3, 7.3, 8.3, 9.4, and 10.4. Post treatment confirmation soil boring locations are shown on Figure 8, and analytical results are listed in Table 3. Overall, treatment of hexavalent chromium in vadose zone soils across the impacted areas of the Site were successful at reducing hexavalent chromium to trivalent chromium and fixating it as a non-toxic chromium hydroxide with low solubility. In the few sample locations (10 of 522 post-remediation samples, less than 2 percent) where total reduction below the proposed leaching to groundwater TCL was not achieved, the hexavalent chromium concentrations are vertically bounded by deeper clean samples or located at shallow depths where mobilization due to liquid infiltration from the surface or rising groundwater elevations is unlikely to occur.

The 95UCL was calculated for the post-remediation hexavalent chromium data set of all samples collected from 30 feet bgs or deeper. This is the highest historical groundwater elevation observed at the Facility, which has not occurred over the last 25 years<sup>2</sup>. Groundwater elevations are currently 40 feet deeper than this depth. The 95UCL was calculated using ProUCL Software version 5.1.002

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<sup>2</sup> The 30-foot bgs measurements were made in wells screened within the underlying Hollydale Aquifer and reflect the increased head in the confined aquifer at the time of measurement. No physical evidence for saturation rising to this shallower depth has been observed in the hundreds of borings logged across the Site.

(USEPA 2016). ProUCL outputs are included as Appendix G. The calculation indicated the data is approximately lognormally distributed, and the recommended 95UCL for the dataset is 1.352 mg/kg. The 95UCL is well below both the Pond 1 direct soil exposure TCL for hexavalent chromium of 6.2 mg/kg and the proposed leaching to groundwater TCL of 30 mg/kg.

### 11.3 Detections of Hexavalent Chromium in Groundwater

The current state of hexavalent chromium in groundwater was presented in Section 3.2. At present, hexavalent chromium concentrations in groundwater are within the average range of regional background concentrations based on 10 years of upgradient groundwater monitoring wells and recent Omega Superfund site OU2 Plume groundwater monitoring data. Groundwater elevations remain at low levels, such that most wells screened in the shallow-most Hollydale Aquifer are dry or contain too little water to provide a representative sample. Groundwater in the Hollydale Aquifer is significantly below the interface between the upper Hollydale and the unnamed aquitard. It is unlikely that groundwater levels will rise appreciably in the future given the recent and continuing drought in California. In the event ground levels rise, hexavalent chromium in vadose zone soils has been successfully treated.

## 12 Conclusions and Recommendations

The remedial activities described in this Report have been conducted at the Site to address hexavalent chromium in soil and groundwater per the requirements of the 1995 Permit Modification (CalEPA 1995) and the Consent Order (DTSC 2012).

CPS solution injections into the subsurface over multiple events between 2012 and 2020 have successfully reduced hexavalent chromium in vadose zone soils to average concentrations well below both the direct exposure-based TCL (6.2 mg/kg) and the proposed leaching to groundwater TCL (30 mg/kg). Detections of hexavalent chromium in on-Site groundwater monitoring wells are consistently at or below background conditions.

Based on these results, Terraphase does not recommend further remedial action be performed at the Site.

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# Tables

- 1 Pre-Remediation Distribution of Metals in Soil
- 2 Summary of Historical Injections
- 3 Post-Remediation Hexavalent Chromium in Soil



Table 1  
Pre-Remediation Distribution of Metals in Soil  
Revised Corrective Action Remedy Completion Report  
Phibro-Tech, Inc., Santa Fe Springs, California

					Metals					
					Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Copper	Lead	Zinc
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					980	6.3	1,800,000	47000	800	350000
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					780	6.2	-	-	320	-
Proposed Target Cleanup Level Based on Leaching to Groundwater					-	30	-	-	-	-
BL-01	BL-01-10	10	6/1/2017	17-06-0091	0.693	<0.80	28.1	80.7	8.53	66.7
	BL-01-15	15	6/1/2017	17-06-0091	0.587	<0.80	35	54.5	12.4	79.1
	BL-01-20	20	6/1/2017	17-06-0091	<0.510	<0.80	10.5	12.5	3.16	32.5
	BL-01-27.5	27.5	6/1/2017	17-06-0091	<0.508	<0.80	24	30.5	7.71	69
	BL-01-30	30	6/1/2017	17-06-0091	<0.515	<0.80	24.9	33.9	6.64	69.7
	BL-01-35.5	35.5	6/1/2017	17-06-0091	<0.488	<0.80	26.1	33.4	8.11	67.6
	BL-01-41	41	6/1/2017	17-06-0091	<0.478	<0.80	39.1	60.5	16.7	84.4
	BL-01-47	47	6/1/2017	17-06-0091	<0.521	<0.80	28	19.7	6.52	47.1
	BL-01-50	50	6/1/2017	17-06-0091	<0.493	<0.80	35.5	43.4	13.8	71.4
BL-02	BL-01-55	55	6/1/2017	17-06-0091	<0.510	<0.80	22.5	17.4	4.35	39.7
	BL-02-12	12	6/2/2017	17-06-0243	<0.513	<0.80	24.6	30.3	6.37	57.8
	BL-02-16	16	6/2/2017	17-06-0243	<0.521	<0.80	15.8	14.8	3.71	33.4
	BL-02-21.5	21.5	6/2/2017	17-06-0243	<0.490	<0.80	9.98	13.2	3.13	36.2
	BL-02-29.5	29.5	6/2/2017	17-06-0243	<0.483	<0.80	22.4	26.4	5.75	61.4
	BL-02-32.5	32.5	6/2/2017	17-06-0243	<0.521	<0.80	30.7	42.7	9.05	76.5
	BL-02-37	37	6/2/2017	17-06-0243	0.708	<0.80	34.2	52	10.1	74.9
	BL-02-42.5	42.5	6/2/2017	17-06-0243	<0.478	<0.80	27.1	37.3	11.6	64
	BL-02-47.5	47.5	6/2/2017	17-06-0243	<0.508	<0.80	25.2	26.6	6.74	55.6
BL-03	BL-02-52	52	6/2/2017	17-06-0243	<0.488	<0.80	12.6	13.5	3.36	33.6
	BL-02-55.5	55.5	6/2/2017	17-06-0243	<0.478	<0.80	11.3	13	3.27	33.5
	BL-03-11	11	6/1/2017	17-06-0091	<0.488	<0.80	32.8	42	8.86	73.1
	BL-03-15.5	15.5	6/1/2017	17-06-0091	0.766	1.4	109	105	22.9	110
	BL-03-21	21	6/1/2017	17-06-0091	<0.500	1.8	56.7	69.7	17.7	58.5
	BL-03-28	28	6/1/2017	17-06-0091	<0.518	<0.80	24.9	29	6.98	66.6
	BL-03-33	33	6/1/2017	17-06-0091	<0.488	<0.80	29.5	31.4	9.55	71.2
	BL-03-37	37	6/1/2017	17-06-0091	0.609	<0.80	36.1	54.5	12.9	90.7
	BL-03-42	42	6/1/2017	17-06-0091	<0.500	<0.80	24.3	27.2	7.41	58.7
CS-01	BL-03-50	50	6/1/2017	17-06-0091	<0.521	<0.80	15.2	18.6	3.95	42.6
	CS-01-10	10	12/6/2017	17-12-0445	<0.510	<0.80	9.98	11.9	2.3	20.9
	CS-01-15	15	12/6/2017	17-12-0445	0.533	<0.80	25.7	29.2	6.54	52.2
	CS-01-20	20	12/6/2017	17-12-0445	<0.483	<0.80	12.7	13.7	3.56	29.4
	CS-01-25	25	12/6/2017	17-12-0445	<0.478	<0.80	16.9	17.4	3.98	33.1
	CS-01-30	30	12/6/2017	17-12-0445	<0.521	<0.80	14.4	16	3.92	39.4
CS-02	CS-01-35	35	12/6/2017	17-12-0445	<0.481	<0.80	20.1	22.4	6.35	50.4
	CS-01-38.5	38.5	12/6/2017	17-12-0445	0.763	<0.80	31	42	10	77.5
	CS-02-10	10	12/6/2017	17-12-0445	0.679	<0.80	30.3	35.8	8.94	62.3
	CS-02-15	15	12/6/2017	17-12-0445	<0.495	<0.80	12.5	14.7	3.62	33
	CS-02-20	20	12/6/2017	17-12-0445	<0.518	<0.80	10.1	13.3	3.01	33.3
	CS-02-25	25	12/6/2017	17-12-0445	<0.485	<0.80	6.74	8.22	2.31	20.7
CS-03	CS-02-30	30	12/6/2017	17-12-0445	0.629	<0.80	22.3	31.5	6.47	61.1
	CS-02-35	35	12/6/2017	17-12-0445	0.618	<0.80	22.3	32.3	5.71	58
	CS-02-39.5	39.5	12/6/2017	17-12-0445	0.797	<0.80	29.2	38.2	7.84	68.2
	CS-03-10	10	12/6/2017	17-12-0445	62.6	6.4	122	34.6	6.41	2,010
CS-04	CS-04-10	10	12/6/2017	17-12-0445	0.681	<0.80	39.7	53.6	10.7	65.7
CS-05	CS-05-10	10	12/7/2017	17-12-0549	0.734	1.2	37.2	69	11.2	56.7
	CS-05-15	15	12/7/2017	17-12-0549	<0.488	<0.80	19.4	40.8	7.88	44.3
	CS-05-20	20	12/7/2017	17-12-0549	<0.500	<0.80	6.65	13.4	2.8	25.7
	CS-05-25	25	12/7/2017	17-12-0549	<0.495	<0.80	9.13	23.8	3.5	23.3
	CS-05-30	30	12/7/2017	17-12-0549	0.536	<0.80	20.2	75	8.48	41.5
	CS-05-35	35	12/7/2017	17-12-0549	1.52	<0.80	49.6	240	20.6	67.1
	CS-05-38.5	38.5	12/7/2017	17-12-0549	0.624	<0.80	31.4	45	8.41	71.7
CS-06	CS-06-10	10	12/7/2017	17-12-0549	5.86	0.8	49.2	353	27	154
CS-07	CS-07-10	10	12/7/2017	17-12-0549	0.58	1.8	40.8	39.3	11.3	72.3
CS-08	CS-08-10	10	12/7/2017	17-12-0549	0.593	1.3	38.2	41.5	10.8	63.3
	CS-08-15	15	12/7/2017	17-12-0549	0.745	<0.80	21.3	43.9	10.3	89.5
	CS-08-20	20	12/7/2017	17-12-0549	<0.490	<0.80	10.9	13.2	3.24	33.1
	CS-08-25	25	12/7/2017	17-12-0549	0.519	<0.80	10.2	14	3.63	33.9
	CS-08-30	30	12/7/2017	17-12-0549	<0.518	<0.80	15.7	20	5.79	39.8
	CS-08-35	35	12/7/2017	17-12-0549	0.815	<0.80	34.7	53	11.3	74.8
	CS-08-38	38	12/7/2017	17-12-0549	0.59	<0.80	28.7	35.2	8.01	72.6
CS-09	CS-09-10	10	12/8/2017	17-12-0729	3.24	<0.80	46.5	61	12.8	651
CS1-01	CS1-01-10.0	10	7/17/2018	18-07-1167	1.05	1.2	49.8	1,380	159	379
	CS1-01-15.0	15	7/17/2018	18-07-1167	0.583	<0.4	8.16	172	6.8	48.1
	CS1-01-20.0	20	7/17/2018	18-07-1167	<0.481	<0.4	6.05	342	2.77	67.6
	CS1-01-27.0	27	7/17/2018	18-07-1167	<0.476	<0.4	6.17	55.7	2.56	32.9
	CS1-01-28.0	28	7/17/2018	18-07-1167	<0.503	<0.4	24.1	36.8	7.69	82.4
	CS1-01-35.0	35	7/17/2018	18-07-1167	<0.493	0.55	27.5	71.5	54.6	118
	CS1-01-40.0	40	7/17/2018	18-07-1167	<0.490	<0.4	32.3	71	24.7	90.1
CS1-02	CS1-02-10.0	10	7/19/2018	18-07-1413	1.37	1.6	59.2	480	140	244
CS1-03	CS1-03-10.0	10	7/19/2018	18-07-1413	<0.483	0.76	57.6	601	81.5	200



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					Metals					
					Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Copper	Lead	Zinc
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					980	6.3	1,800,000	47000	800	350000
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					780	6.2	-	-	320	-
Proposed Target Cleanup Level Based on Leaching to Groundwater					-	30	-	-	-	-
CS1-04	CS1-04-10.0	10	7/19/2018	18-07-1413	0.532	<0.4	44.8	68.2	12.5	91.3
CS1-05	CS1-05-10.0	10	7/19/2018	18-07-1413	1.47	0.46	39.6	245	17.1	327
CS1-06	CS1-6-10.0	10	7/20/2018	18-07-1564	<0.481	0.72	44.6	874	20.1	214
CS1-07	CS1-07-15.0	15	7/16/2018	18-07-1064	<0.498	<0.4	6.15	59.4	5.42	21.9
	CS1-07-23.0	23	7/16/2018	18-07-1064	<0.505	<0.4	23.8	34.1	9.16	111
	CS1-07-27.0	27	7/16/2018	18-07-1064	<0.485	<0.4	23.5	84.8	18	231
	CS1-07-27.5	27.5	7/16/2018	18-07-1064	<0.495	3.6	79.6	328	197	240
	CS1-07-30.0	30	7/16/2018	18-07-1064	<0.526	<0.4	26.5	34.7	9.18	83.1
	CS1-07-35.0	35	7/16/2018	18-07-1064	<0.515	<0.4	26.8	37.7	10.5	73.6
	CS1-07-40.0	40	7/16/2018	18-07-1064	<0.495	<0.4	29	50.6	13	76.3
	CS1-07-47.0	47	7/16/2018	18-07-1064	<0.524	0.51	23.9	39.5	10.6	76.1
	CS1-07-50.0	50	7/17/2018	18-07-1167	<0.503	<0.4	11.8	11.2	7.39	35.5
	CS1-07-55.0	55	7/17/2018	18-07-1167	<0.493	<0.4	5.82	14.2	6.79	17.9
	CS1-07-60.0	60	7/17/2018	18-07-1167	<0.500	<0.4	6.68	6.42	3.89	18.8
	CS1-07-65.0	65	7/17/2018	18-07-1167	<0.481	<0.4	7.58	6.17	3.54	18.9
CS1-09	CS1-09-10.0	10	7/19/2018	18-07-1413	0.74	0.43	47	55.8	13.9	132
CS-11	CS-11-10	10	12/8/2017	17-12-0729	0.614	0.93	41.7	47.3	11.5	73.8
CS1-10	CS1-10-10.0	10	7/20/2018	18-07-1564	0.712	0.6	52.9	67.2	17	116
CS1-11	CS1-11-10.0	10	7/20/2018	18-07-1564	0.727	0.99	45.8	57.7	15.1	86.2
CS1-12	CS1-12-10.0	10	7/17/2018	18-07-1167	<0.495	<0.4	13.6	41.6	5.43	44.6
	CS1-12-15.0	15	7/17/2018	18-07-1167	<0.485	<0.4	5.85	41	2.43	35.9
	CS1-12-20.0	20	7/17/2018	18-07-1167	<0.488	<0.4	7.38	12.1	2.26	36.1
	CS1-12-25.0	25	7/17/2018	18-07-1167	<0.493	<0.4	11.7	34.2	26	55.8
	CS1-12-30.0	30	7/17/2018	18-07-1167	<0.481	<0.4	21	31.9	11.1	65.1
	CS1-12-35.0	35	7/17/2018	18-07-1167	<0.485	<0.4	28.6	40.2	13.4	82
	CS1-12-40.0	40	7/17/2018	18-07-1167	<0.485	<0.4	31.6	53.9	16.1	85.2
CS-13	CS-13-10	10	12/8/2017	17-12-0729	0.536	<0.80	38.7	41.2	11.6	69.7
F2A-01	F2A-01-10.0	10	7/20/2018	18-07-1563	1.04	1.1	37	36.7	9.04	58.6
	F2A-01-15.0	15	7/20/2018	18-07-1563	<0.493	0.54	10.5	11.7	2.9	27.3
	F2A-01-20.0	20	7/20/2018	18-07-1563	<0.513	<0.4	8.04	8.67	2.48	21
	F2A-01-25.0	25	7/20/2018	18-07-1563	<0.483	<0.4	8.19	9.17	2.07	21.1
	F2A-01-30.5	30.5	7/20/2018	18-07-1563	<0.505	<0.4	9.85	8.65	4.48	24.5
	F2A-01-31.0	31	7/20/2018	18-07-1563	1.07	<0.4	25.3	29.5	7.47	62.8B
	F2A-01-35.0	35	7/20/2018	18-07-1563	1.25	<0.4	36.3	42.2	8.11	77.2B
	F2A-01-40.0	40	7/20/2018	18-07-1563	1	<0.4	29.7	33.4	7.26	66.2B
F2A-02	F2A-02-10.0	10	7/20/2018	18-07-1563	1.23	0.8	35.6	37.6	8.08	63.3
	F2A-02-15.0	15	7/20/2018	18-07-1563	<0.503	<0.4	10.1	10.5	2.65	23.8
	F2A-02-25.0	25	7/20/2018	18-07-1563	<0.505	<0.4	6.5	7.94	2.33	17.9
	F2A-02-30.0	30	7/20/2018	18-07-1563	<0.498	<0.4	7.59	8.06	2.27	18.8
	F2A-02-31.0	31	7/20/2018	18-07-1563	0.936	0.74	26.1	33.4	7.29	63.3
	F2A-02-35.0	35	7/20/2018	18-07-1563	1.39	<0.4	36.8	49.7	7.53	77
	F2A-02-40.0	40	7/20/2018	18-07-1563	1.26	<0.4	39.4	53.6	9.53	79.6B
FeCl-SB4	FeCl-SB4-15.0	15	9/14/1990	-	-	ND	-	-	-	-
	FeCl-SB4-18.0	18	9/14/1990	-	-	ND	-	-	-	-
FP2-01	FP2-01-10.0	10	1/11/2019	19-01-0689	1.93	0.86	33.8	35.1	2.36	168
FP2-02	FP2-02-10.0	10	1/11/2019	19-01-0689	1.46	1.9	38.2	130	28.5	679
FP2-03	FP2-03-10.0	10	1/11/2019	19-01-0689	0.804	0.88	33.9	128	2.56	450
MW-01	MW-01/BG-1-15.5	15.5	8/13/1990	-	-	ND	-	-	-	-
	MW-01/BG-1-20.5	20.5	8/13/1990	-	-	ND	-	-	-	-
	MW-01/BG-1-25.5	25.5	8/13/1990	-	-	ND	-	-	-	-
	MW-01/BG-1-30.5	30.5	8/13/1990	-	-	ND	-	-	-	-
	MW-01/BG-1-40.5	40.5	8/13/1990	-	-	ND	-	-	-	-
	MW-01/BG-1-65.5	65.5	8/13/1990	-	-	ND	-	-	-	-
	MW-01/BG-1-95.0	95	8/13/1990	-	-	ND	-	-	-	-
MW-06D	MW-6D-15.0	15	9/6/1990	-	-	ND	-	-	-	-
	MW-6D-25.0	25	9/6/1990	-	-	ND	-	-	-	-
	MW-6D-40.0	40	9/6/1990	-	-	ND	-	-	-	-
	MW-6D-60.0	60	9/7/1990	-	-	ND	-	-	-	-
	MW-6D-95.0	95	9/7/1990	-	-	ND	-	-	-	-

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					Metals					
					Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Copper	Lead	Zinc
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					980	6.3	1,800,000	47000	800	350000
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					780	6.2	-	-	320	-
Proposed Target Cleanup Level Based on Leaching to Groundwater					-	30	-	-	-	-
MW-07D	MW07D-10.0	10	4/24/2020	570-26661-1	1.45	<0.998	53.4	83.5	11.7	115B
	MW07D-15.0	15	4/24/2020	570-26661-1	<0.540	0.971	43.3	31.8	3.44	39B
	MW07D-20.0	20	4/24/2020	570-26661-1	<0.520	<0.820	9.49	13.5	2.11	27.3B
	MW07D-25.0	25	4/24/2020	570-26661-1	<0.516	<0.845	10.1	17.2	3.21	35.3B
	MW07D-27.5	27.5	4/24/2020	570-26661-1	<0.518	<0.842	10.1	16.5	2.52	32.1B
	MW07D-28.0	28	4/24/2020	570-26661-1	<0.587	<0.968	25	37.1	3.49	79B
	MW07D-30.0	30	4/24/2020	570-26661-1	0.97	2.56	133	92.4	10.2	98.2B
	MW07D-35.0	35	4/24/2020	570-26661-1	0.789	<0.998	31	42.1	7.11	80.4B
	MW07D-40.0	40	4/24/2020	570-26661-1	1.36	<1.04	46.6	79.6	13.8	114B
	MW07D-45.0	45	4/24/2020	570-26661-1	0.989	<0.929	31.8	31.1	5.6	66.6B
	MW07D-50.0	50	4/24/2020	570-26661-1	<0.495	<0.818	8.48	8.05	1.18	20.6B
	MW07D-51.5	51.5	4/24/2020	570-26661-1	<0.493	<0.828	7.02	7.49	1.34	22.7B
	MW07D-52.0	52	4/24/2020	570-26661-1	0.876	<1.02	39.8	53.5	8.33	99.4B
	MW07D-55.0	55	4/27/2020	570-26778-1	0.804	1.61	26.4	36.1	4.04	56.5F1
	MW07D-60.0	60	4/27/2020	570-26778-1	<0.513	<0.817	7.7	6.26	1.39	13.9
	MW07D-65.0	65	4/27/2020	570-26778-1	<0.515	<0.824	15.3	14.2	1.71	19.6
	MW07D-70.0	70	4/27/2020	570-26778-1	<0.528	<0.842	19.4	16.6	2.16	32.9
	MW07D-75.0	75	4/27/2020	570-26778-1	<0.564	<0.920	6.68	5.93	1.43	11.7
	MW07D-80.0	80	4/27/2020	570-26778-1	<0.571	<0.907	11.8	12.2	1.64	12.6
	MW07D-85.0	85	4/27/2020	570-26778-1	<0.562	<0.913	7.11	7.94	1.32	14.3
	MW07D-89.0	89	4/27/2020	570-26778-1	0.64	<1.01	27.4	38.1	7.6	67.2
	MW07D-90.0	90	4/27/2020	570-26778-1	0.654	<1.02	26	31.2	4.44	64.4
MW-12D	MW-12D-25.0	25	8/31/1990	-	-	ND	-	-	-	-
	MW-12D-65.0	65	9/4/1990	-	-	ND	-	-	-	-
	MW-12D-100.0	100	9/4/1990	-	-	ND	-	-	-	-
MW-13D	MW-13D-25.0	25	8/17/1990	-	-	ND	-	-	-	-
	MW-13D-65.0	65	8/17/1990	-	-	0.74	-	-	-	-
	MW-13D-95.0	95	8/17/1990	-	-	ND	-	-	-	-
MW-14D	MW-14D-25.0	25	8/27/1990	-	-	24.5	-	-	-	-
	MW-14D-65.0	65	8/29/1990	-	-	16.3	-	-	-	-
	MW-14D-110.0	110	8/29/1990	-	-	0.3	-	-	-	-
MW-15D	MW-15D-19.5	19.5	8/21/1990	-	-	ND	-	-	-	-
	MW-15D-62.5	62.5	8/22/1990	-	-	ND	-	-	-	-
	MW-15D-105.5	105.5	8/23/1990	-	-	ND	-	-	-	-
	MW-15D-125.5	125.5	8/23/1990	-	-	ND	-	-	-	-
MW-17S	PTI-MW17-S-21.0	21	6/19/2007	-	<0.5U	<0.2	12	15	2.8	33
	PTI-MW17-S-30.0	30	6/19/2007	-	<0.5U	4.5	29	28	4.5	54
	PTI-MW17-S-42.5	42.5	6/19/2007	-	<0.5U	1.9	35	40	7.3	74
	PTI-MW17-S-53.5	53.5	6/19/2007	-	<0.5U	8.8	32	24	5.1	49
MW-18S	PTI-MW18-S-10.0	10	6/13/2007	-	<4RL1,U	130	1,800	8,700	17	300
	PTI-MW18-S-23.5	23.5	6/13/2007	-	<2RL1,U	48	3,900RL1	680	<8RL1,U	24
	PTI-MW18-S-30.0	30	6/13/2007	-	<1RL1,U	170	2,200	2,000	6.8	85
	PTI-MW18-S-43.0	43	6/13/2007	-	2.2	330	550	34	7.9	61
	PTI-MW18-S-55.0	55	6/14/2007	-	<0.5U	3.5	28	35	9.7	56
	PTI-MW18-S-58.5	58.5	6/14/2007	-	<0.5U	<1	11	10	2.2	22
MW-19S	PTI-MW19-S-24.5	24.5	6/18/2007	-	<0.5U	0.29	9.3	11	2.2	24
	PTI-MW19-S-32.5	32.5	6/18/2007	-	<1RL1,U	0.87	25	38	8.5	69
	PTI-MW19-S-45.0	45	6/18/2007	-	<0.5U	1.3	33	28	7.3	53
	PTI-MW19-S-60.5	60.5	6/18/2007	-	<0.5U	<0.2	13	16	2.7	38
	PTI-MW19-S-71.0	71	6/18/2007	-	<0.5U	<0.2	8.6	8.2	<2U	19
MW-20S	PTI-MW20-S-11.0	11	6/15/2007	-	<0.5U	<2	26	26	5.8	45
	PTI-MW20-S-23.0	23	6/15/2007	-	<0.5U	6.1	88	54	<2U	16
	PTI-MW20-S-30.0	30	6/15/2007	-	<0.5U	2.8	110	110	4.4	56
	PTI-MW20-S-43.0	43	6/15/2007	-	2.3	19	71	33	7	57
	PTI-MW20-S-50.0	50	6/15/2007	-	1.6	22	50	30	5.4	55
	PTI-MW20-S-58.0	58	6/15/2007	-	4.9	3.6	510	7	<2U	28
MW-21	MW21-13	13	4/19/2010	-	1.2	<0.2	36	45	8.5	77
	MW21-25	25	4/20/2010	-	0.51	<0.2	20	22	3	47
	MW21-25.5	25.5	4/21/2010	-	1.1	<0.2	29	47	7.6	70
	MW21-38	38	4/22/2010	-	1.1	0.29	38	54	13	80
	MW21-49	49	4/23/2010	-	0.93	0.39	28	28	7.3	53
MW-22	MW22-27.0	27	4/22/2010	-	0.97	<0.2	28	38	6.4	76
MW-23	MW23-29.0	29	4/20/2010	-	<0.5	<0.2	12	14	3.6	27
	MW23-30.0	30	4/20/2010	-	0.95	<0.2	26	35	6.5	68
MW-25	MW25-28	28	9/3/2013	-	<0.5	<0.4	9.36	10.2	1.57	25.6
	MW25-30	30	9/3/2013	-	<0.5	53	441	426	2.69	117
	MW25-57	57	9/3/2013	-	<0.5	15	38.7	27.1	1.43	58
	MW25-146	146	9/4/2013	-	<0.5	0.77	197	17.4	2.24	22.6
	MW25-148	148	9/4/2013	-	<0.5	<0.4	33.9	41.1	2.61	70.3

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Phibro-Tech, Inc., Santa Fe Springs, California

					Metals					
					Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Copper	Lead	Zinc
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					980	6.3	1,800,000	47000	800	350000
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					780	6.2	-	-	320	-
Proposed Target Cleanup Level Based on Leaching to Groundwater					-	30	-	-	-	-
MW-26	MW-26-10.0	10	9/24/2015	15-09-1956	2.29	0.51	23	27.2	5.55	46.8
	MW-26-15.0	15	9/24/2015	15-09-1956	1.13	ND	11.2	13.2	2.89	30.8
	MW-26-20.0	20	9/24/2015	15-09-1956	0.844	ND	7.83	9.5	2.42	21.4
	MW-26-25.0	25	9/24/2015	15-09-1956	0.732	ND	9.61	8.89	2.22	19.7
	MW-26-27.0	27	9/24/2015	15-09-1956	1.43	3.7	64.8	68.7	16.1	67.7
	MW-26-27.5	27.5	9/24/2015	15-09-1956	0.718	1.9	19.6	15.2	4.38	24.3
	MW-26-28.0	28	9/24/2015	15-09-1956	0.642	ND	9.5	8.91	2.28	18.9
	MW-26-28.5	28.5	9/24/2015	15-09-1956	0.564	<0.40	8.12	6.05	2.11	15.3
	MW-26-29.0	29	9/24/2015	15-09-1956	0.702	ND	8.3	8.38	2.06	19.1
	MW-26-29.5	29.5	9/24/2015	15-09-1956	2.29	ND	20.9	28.3	5.42	51.4
	MW-26-30.0	30	9/24/2015	15-09-1956	2.16	ND	20.2	26.1	4.88	50.8
	MW-26-30.5	30.5	9/24/2015	15-09-1956	2.36	<0.40	25.5	37.7	7.26	63.7
	MW-26-31.0	31	9/24/2015	15-09-1956	2.14	ND	22.4	29.4	5.25	57.1
	MW-26-31.5	31.5	9/24/2015	15-09-1956	2.12	<0.40	22.2	29.9	5.35	58.9
	MW-26-32.0	32	9/24/2015	15-09-1956	2.82	ND	28.7	34.7	6.56	63.3
	MW-26-32.5	32.5	9/24/2015	15-09-1956	2.55	<0.40	22.4	30	6.51	58.7
	MW-26-33.0	33	9/24/2015	15-09-1956	2.81	ND	26.4	30.9	4.58	64.5
	MW-26-33.5	33.5	9/24/2015	15-09-1956	2.65	<0.40	19.7	24.9	5.31	52.1
	MW-26-33.8	33.8	9/24/2015	15-09-1956	3.78	ND	30.3	41.6	5.96	74.7
	MW-26-34.0	34	9/24/2015	15-09-1956	1.99	ND	14	14.9	2.75	31.9
	MW-26-35.0-TOC	35	9/25/2015	15-09-2060	1.08	ND	8.52	15.5	1.66	20.2
	MW-26-40.0	40	9/24/2015	15-09-1956	0.561	ND	6.75	6.05	1.28	17.8
	MW-26-50.0	50	9/24/2015	15-09-1956	0.567	ND	6.48	5.16	1.48	15.7
	MW-26-52.5	52.5	9/24/2015	15-09-1956	1.01	ND	11.1	9.23	2.86	33
	MW-26-53.0	53	9/24/2015	15-09-1956	0.8	<0.40	10.9	9.86	2.73	26.2
	MW-26-53.5	53.5	9/24/2015	15-09-1956	1.11	ND	14.4	10.7	2.47	29.2
	MW-26-54.0	54	9/24/2015	15-09-1956	1.22	<0.40	14.2	13.9	3.08	38.1
	MW-26-54.5	54.5	9/24/2015	15-09-1956	1.49	ND	16.2	15.4	2.93	39
	MW-26-54.6	54.6	9/24/2015	15-09-1956	2.73	0.54	32.4	25.6	6.65	53.1
	MW-26-55.0	55	9/24/2015	15-09-1956	2.59	<0.40	33.6	26.4	7.25	54.4
	MW-26-55.5	55.5	9/24/2015	15-09-1956	2.89	0.43	33	26.3	6.36	53.6
	MW-26-56.0	56	9/24/2015	15-09-1956	2.25	<0.40	29.2	24.9	7.25	50.1
	MW-26-60.0	60	9/24/2015	15-09-1956	2.76	ND	31.7	27.1	7.04	55.5
	MW-26-64.0	64	9/24/2015	15-09-1956	1.67	ND	19	17.5	4.14	38.3
	MW-26-65.0	65	9/24/2015	15-09-1956	0.798	ND	7.54	7.27	3.6	18.7
	MW-26-146	146	9/25/2015	15-09-2060	2.34	ND	24.1	49.8	6.66	58.4
MW-26S	MW-26S-28.5	28.5	9/29/2015	15-09-2304	0.875	ND	16.5	17.4	4.54	25.5
	MW-26S-29.0	29	9/29/2015	15-09-2304	2.14	ND	18.9	23.3	4.54	48.1
	MW-26S-29.5	29.5	9/29/2015	15-09-2304	2.26	ND	21.2	27.9	5.22	52
	MW-26S-30.0	30	9/29/2015	15-09-2304	2.5	ND	23.7	31.8	5.99	55.6
	MW-26S-50.0	50	9/29/2015	15-09-2304	0.572	ND	6.85	3.51	0.981	13.8
	MW-26S-50.5	50.5	9/29/2015	15-09-2304	0.781	ND	9.69	6.4	2.29	18.2
	MW-26S-51.0	51	9/29/2015	15-09-2304	0.759	ND	10.2	5.87	1.71	17.3
	MW-26S-51.5	51.5	9/29/2015	15-09-2304	0.646	ND	11.1	5.68	1.6	17.2
	MW-26S-52.0-A	52	9/29/2015	15-09-2304	0.819	ND	10.9	8.48	2.41	19.7
	MW-26S-52.0-B		9/29/2015	15-09-2304	3.6	ND	35.8	58.7	11.5	76.1
	MW-26S-52.5	52.5	9/29/2015	15-09-2304	3.69	ND	41	60.5	13.2	86.5
	MW-26S-53.0	53	9/29/2015	15-09-2304	3.78	ND	41.9	68.4	14.3	91.5
	MW-26S-53.5	53.5	9/29/2015	15-09-2304	3.84	ND	40.2	70	15.7	88.1
	MW-26S-54.0	54	9/29/2015	15-09-2304	3.83	ND	38.8	58.6	14.1	91.8
MW-27	MW27-10.0	10	4/28/2020	570-26855-1	1.52	<0.907	23.8	314	41.3	98.7
	MW27-15.0	15	4/28/2020	570-26855-1	<0.539	<0.834	10.5	103	10.3	40.7
	MW27-20.0	20	4/28/2020	570-26855-1	<0.516	<0.818	6.63	76.1	7.86	32.9
	MW27-25.0	25	4/28/2020	570-26855-1	<0.524	<0.855	6.74	81.1	14.7	58
	MW27-26.5	26.5	4/28/2020	570-26855-1	<0.507	<0.819	42	114	36.6	27
	MW27-27.0	27	4/28/2020	570-26855-1	0.903	<1.02	85.6	198	123	63.4
	MW27-30.0	30	4/28/2020	570-26855-1	<0.598	1.27	49.3	126	24.4	63
	MW27-35.0	35	4/28/2020	570-26855-1	<0.505	<0.826	6.72	142	2.78	27.3
	MW27-40.0	40	4/28/2020	570-26855-1	<0.509	<0.822	6.28	67.6	7.26	15.2
	MW27-45.0	45	4/28/2020	570-26855-1	<0.514	<0.827	4.75	42.3	5.35	17.2
	MW27-50.0	50	4/28/2020	570-26855-1	<0.516	<0.828	3.67	70.8	13.4	18.1
	MW27-55.0	55	4/28/2020	570-26855-1	<0.528	<0.837	6.95	51.6	6.5	22.5
	MW27-60.0	60	4/28/2020	570-26855-1	<0.530	<0.826	9.05	9.51	2.01	19.9
	MW27-65.0	65	4/28/2020	570-26855-1	<0.538	<0.832	6.96	8.2	0.922	17.8
	MW27-70.0	70	4/28/2020	570-26855-1	<0.524	0.908	104	6.22	1.79	13.7
	MW27-75.0	75	4/28/2020	570-26855-1	<0.579	<0.932	18.2	15.1	2.41	19.2
	MW27-80.0	80	4/28/2020	570-26855-1	<0.616	<0.988	6.63	8.89	1.2	11
	MW27-85.0	85	4/28/2020	570-26855-1	<0.554	<0.897F1,F2	15	21.1	3.47	15.7
	MW27-90.0	90	4/28/2020	570-26855-1	<0.573	<0.938	5.77	6.29	1.11	7.97

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					Metals					
					Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Copper	Lead	Zinc
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG						
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					mg/kg 980	mg/kg 6.3	mg/kg 1,800,000	mg/kg 47000	mg/kg 800	mg/kg 350000
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					780	6.2	-	-	320	-
Proposed Target Cleanup Level Based on Leaching to Groundwater					-	30	-	-	-	-
MW-28	MW28-10.0	10	4/29/2020	570-26966-1	<0.587	10.9	85	1,420	13.8	775
	MW28-15.0	15	4/29/2020	570-26966-1	<0.535	<0.851	43.7	63.9	13.1	46.4
	MW28-20.0	20	4/29/2020	570-26966-1	<0.507	<0.821	87.3	49.8	8.2	29.7
	MW28-25.0	25	4/29/2020	570-26966-1	<0.507	1.19	175	50.3	4.9	38.7
	MW28-27.0	27	4/29/2020	570-26966-1	<0.621	<1.01	268	89.7	9.51	124
	MW28-27.5	27.5	4/29/2020	570-26966-1	1.39	2.25	326	224	130	331
	MW28-30.0	30	4/29/2020	570-26966-1	1.38	1.92	104F1	274	24.3	412
	MW28-35.0	35	4/29/2020	570-26966-1	<0.530	<0.820	31.8	50.1	4.84	48.8
	MW28-40.0	40	4/29/2020	570-26966-1	0.502	1.16	112	44.2	3.24	55.2
	MW28-45.0	45	4/29/2020	570-26966-1	<0.506	<0.814	37.8	34.1	26.7	17.2
	MW28-50.0	50	4/29/2020	570-26966-1	<0.506	<0.822	41.5	68.1	14	25.2
	MW28-55.0	55	4/29/2020	570-26966-1	<0.563	<0.866	24.5	48.8	28.9	46.4
	MW28-60.0	60	4/29/2020	570-26966-1	<0.535	<0.843	20.6	39.4	17.1	27.1
	MW28-65.0	65	4/29/2020	570-26966-1	<0.509	<0.837	82.6	118	13.4	19.3
	MW28-70.0	70	4/29/2020	570-26966-1	<0.530	0.831	85.3	109	21.9	36.1
	MW28-75.0	75	4/29/2020	570-26966-1	<0.583	1.71	67.4	100	40.1	29.2
	MW28-80.0	80	4/29/2020	570-26966-1	<0.573	<0.920F1	69.6	127	17.3	41.3
	MW28-85.0	85	4/29/2020	570-26966-1	<0.579	<0.899	38.6	91.4	8.38	32
	MW28-90.0	90	4/29/2020	570-26966-1	<0.558	<0.923	12.9	50.2F1	2.04	25.5
MW-29	MW29-10.0	10	4/22/2020	570-26397-1	0.797	<0.916	78.1	682	7.86	392
	MW29-15.0	15	4/22/2020	570-26397-1	1.42	<0.844	11.6	128	2.3	256
	MW29-20.0	20	4/22/2020	570-26397-1	1.15	<0.848	11.6	78	2.3	138
	MW29-25.0	25	4/22/2020	570-26397-1	<0.531	<0.822	7.35	67.2	1.72	75.4
	MW29-27.0	27	4/22/2020	570-26397-1	<0.495	<0.832	8.58	109	1.51	103
	MW29-27.5	27.5	4/22/2020	570-26397-1	4.05	<1.06	35.6	640	10.9	606
	MW29-30.0	30	4/22/2020	570-26397-1	0.702	<0.956	23.2	426	3.94	270
	MW29-35.0	35	4/22/2020	570-26397-1	<0.504	<0.833	9.37	80.5	1.57	126
	MW29-40.0	40	4/22/2020	570-26397-1	<0.512	3.6	497	457	26.3	195
	MW29-45.0	45	4/22/2020	570-26397-1	<0.497	<0.819	20	150	1.27	148
	MW29-50.0	50	4/22/2020	570-26397-1	<0.613	50.9	457	169	4.41	236
	MW29-55.0	55	4/22/2020	570-26397-1	<0.555	24.5	135	150	2.7	310
	MW29-60.0	60	4/22/2020	570-26397-1	0.611	12.2	56.9	91.8	2.68	206
	MW29-65.0	65	4/22/2020	570-26397-1	<0.509	5.7	628	58.4	1.41	564
	MW29-70.0	70	4/23/2020	570-26501-1	<0.538	<0.844F1	34.3F1,F2	21F1,F2	2.45	94.2F1
	MW29-75.0	75	4/23/2020	570-26501-1	<0.638	<0.983	53.9	38.7	2.59	37.8
	MW29-80.0	80	4/23/2020	570-26501-1	<0.632	<1.02	47.8	21	2.29	35.1
	MW29-85.0	85	4/23/2020	570-26501-1	<0.627	<0.968	30.6	24.3	2.52	29.9
P1-A2	P1-A2-10.0	10	7/10/2019	1489-1	0.777	22.2	107	25.3	2.98	72.7
	P1-A2-15.0	15	7/10/2019	1489-1	<0.509	10.7	52.4	9.02	1.71	26.3
	P1-A2-20.0	20	7/10/2019	1489-1	<0.549	53.1	393	21.2	1.66	40.4
	P1-A2-25.0	25	7/10/2019	1489-1	<0.586	<0.960	540	116	1.93	75.3
	P1-A2-26.0	26	7/10/2019	1489-1	1.52	<0.925	2,230	102	<0.556L	68.1
	P1-A2-25.5	25.5	7/10/2019	1489-1	0.897	<0.997	2,790	252	3.07	119
	P1-A2-30.0	30	7/10/2019	1489-1	<0.603	<1.01	3,280	139	<0.603L	109
	P1-A2-35.0	35	7/10/2019	1489-1	<0.659	<1.01	458	172	7.61	132
	P1-A2-40.0	40	7/10/2019	1489-1	<0.684	<1.07	288	337	12	168
	P1-A2-45.0	45	7/10/2019	1489-1	<0.586	<0.915	993	403	3.2	100
	P1-A2-50.0	50	7/10/2019	1489-1	<0.579	19.4	172	38.6	4.23	114
	P1-A2-53.0	53	7/10/2019	1489-1	7.97	30.1F1	128	44.7	3.79	90.8
	P1-A2-54.0	54	7/10/2019	1489-1	29.4	6.12	126	20.3	1.31	55.8
P1-A3	P1-A3-10.0	10	7/3/2019	19-07-0237	<0.543	4.1	329	179	2.54	50.9B
	P1-A3-15.0	15	7/3/2019	19-07-0237	<0.535	1.6	122	97.8	1.08	38.5B
	P1-A3-20.0	20	7/3/2019	19-07-0237	<0.531	14	75.8	87.4	0.77	31.8B
	P1-A3-24.25	24.25	7/3/2019	19-07-0237	<0.506	<0.84	122	76	1.56	29.6B
	P1-A3-25.0	25	7/3/2019	19-07-0237	<0.642	<1.0	243	316	5.07	105B
	P1-A3-25.75	25.75	7/3/2019	19-07-0237	<0.535	<0.84	87.2	79.7	1.69	30.9B
	P1-A3-26.0	26	7/3/2019	19-07-0237	<0.591	<0.92	162	398	2.49	94B
	P1-A3-30.0	30	7/3/2019	19-07-0237	<0.625	<1.0	938	244	1.8	88.8B
	P1-A3-31.5	31.5	7/3/2019	19-07-0237	<0.589	<0.98	492	703	6.91	158B
	P1-A3-35.0	35	7/3/2019	19-07-0237	1.85	<1.0	839	83	9.28	206B
	P1-A3-40.0	40	7/3/2019	19-07-0237	5.45	<1.1	402	90.7	13.5	106
	P1-A3-45.0	45	7/3/2019	19-07-0237	3.08	1	283	24.3	3.74	47
	P1-A3-50.0	50	7/3/2019	19-07-0237	1.12	2.5	145	43.2	4.88	74.9
	P1-A3-52.0	52	7/3/2019	19-07-0237	6.51	29	264	37.6	5.3	61.9
	P1-A3-53.0	53	7/3/2019	19-07-0237	8.4	61	325	19.3	1.73	40.7



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Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					980	6.3	1,800,000	47000	800	350000
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					780	6.2	-	-	320	-
Proposed Target Cleanup Level Based on Leaching to Groundwater					-	30	-	-	-	-
P1-A4	P1-A4-10.0	10	7/2/2019	19-07-0130	<0.662	21	326	700	3.57	627
	P1-A4-15.0	15	7/2/2019	19-07-0130	<0.529	6.6	127	127	2.4	252
	P1-A4-20.0	20	7/2/2019	19-07-0130	<0.620	6.4	83.1	30.4	1.51	131
	P1-A4-24.25	24.25	7/2/2019	19-07-0130	1.05	<0.84	47.7	10.4	1.54	87.9
	P1-A4-25.0	25	7/2/2019	19-07-0130	2.13	<0.98	140	87.9	3.06	284
	P1-A4-30.0	30	7/2/2019	19-07-0130	2.1	13	108	57.3	6.58	121
	P1-A4-35.0	35	7/2/2019	19-07-0130	1.85	<1.0	173	73.7	5.35	104
	P1-A4-40.0	40	7/2/2019	19-07-0130	<0.627	<1.0	272	54.7	4.03	85.6
	P1-A4-45.0	45	7/2/2019	19-07-0130	0.952	57	133	29.8	3.81	60.1
	P1-A4-50.0	50	7/2/2019	19-07-0130	1.09	160	235	47.6	4.71	77.2
	P1-A4-53.0	53	7/2/2019	19-07-0130	1.34	210	292	58	6.7	83
	P1-A4-55.0	55	7/2/2019	19-07-0130	5.84	47	712	8.09	<0.655	13.6
P1-A8	P1-A8-10.0	10	7/3/2019	19-07-0237	<0.556	6.7	358	183	2.69	55.9B
	P1-A8-15.0	15	7/3/2019	19-07-0237	<0.524	2.4	107	89.2	1.2	37B
	P1-A8-20.0	20	7/3/2019	19-07-0237	<0.497	10	82.4	86	0.829	31.5B
	P1-A8-26.0	26	7/3/2019	19-07-0237	<0.571	<0.93	178	367	2.8	98.2B
	P1-A8-30.0	30	7/3/2019	19-07-0237	<0.639	<1.0	1,050	217	<0.639	80.9B
	P1-A8-35.0	35	7/3/2019	19-07-0237	1.36	<1.0	719	84.8	7.47	167B
	P1-A8-40.0	40	7/3/2019	19-07-0237	4.58	<1.1	330	86.1	13.1	103
	P1-A8-45.0	45	7/3/2019	19-07-0237	2.61	5.7	343	28.3	4.88	52.7
	P1-A8-50.0	50	7/3/2019	19-07-0237	0.962	3.1	123	38.5	3.75	73.2
	P1-A8-52.0	52	7/3/2019	19-07-0237	4.3	32	184	38.1	3.51	68.8
P1-B1	P1-B1-10.0	10	7/10/2019	1489-1	<0.533	5.07	656	90.4	0.834	37
	P1-B1-15.0	15	7/10/2019	1489-1	<0.585	3.99	415	54	0.774	18.5
	P1-B1-20.0	20	7/10/2019	1489-1	<0.504	3.51	532	139	0.724	24.3
	P1-B1-25.0	25	7/10/2019	1489-1	<0.582	5.17	771	150	1.2	30.6
	P1-B1-25.5	25.5	7/10/2019	1489-1	<0.527	<0.832	1,160	111	6.33	30.9
	P1-B1-28.0	28	7/10/2019	1489-1	<0.601	3.28	5,520	166	<0.601L	83.7
	P1-B1-30.0	30	7/10/2019	1489-1	<0.580	5.36	2,840	147	<0.580L	78.3
	P1-B1-35.0	35	7/10/2019	1489-1	<0.554	10.4	4,270	323	4.73	84.7
	P1-B1-40.0	40	7/10/2019	1489-1	1.09	51	255	109	9.06	112
	P1-B1-45.0	45	7/10/2019	1489-1	1.02	49.1F1,F2	305	19.7	3.04	61
	P1-B1-50.0	50	7/10/2019	1489-1	2.92	21.3	75.7	16.6	3.23	43.4
	P1-B1-54.0	54	7/10/2019	1489-1	4.87	23.7	38	19	2.96	50.2
	P1-B1-54.5	54.5	7/10/2019	1489-1	0.921	5.78	226	11.8	1.15	39.2
P1-B2	P1-B2-10.0	10	7/11/2019	1581-1	0.581	24.3	60.4	8.24	3.41	21.9
	P1-B2-15.0	15	7/11/2019	1581-1	<0.506	16.7	62.3	6.32	1.26	21.4
	P1-B2-20.0	20	7/11/2019	1581-1	<0.501	37.9	123	16.4	0.969	19.7
	P1-B2-25.0	25	7/11/2019	1581-1	<0.578	<0.948	2,110	96.7	<0.578	49.1
	P1-B2-26.0	26	7/11/2019	1581-1	<0.617	<0.949	2,160	77.5	<0.617	42.9
	P1-B2-30.0	30	7/11/2019	1581-1	<0.659	4.25	2,960	139	2.05	58
	P1-B2-35.0	35	7/11/2019	1581-1	<0.632	4.16	200	239	12.3	95.7
	P1-B2-40.0	40	7/11/2019	1581-1	0.606	30.5	184	348	9.95	62.1
	P1-B2-45.0	45	7/11/2019	1581-1	1.36	16.1	184	98.3	8.78	34.6
	P1-B2-50.0	50	7/11/2019	1581-1	5.94	54.7	155	14.2	5.63	27.9
	P1-B2-54.0	54	7/11/2019	1581-1	8.14	20.3	76.2	16.1	3.78	37.1
	P1-B2-54.5	54.5	7/11/2019	1581-1	10.9	5.25	584	6.37	0.657	20.2
P1-B3	P1-B3-10.0	10	7/2/2019	19-07-0130	1.15	85	309B	73.1	4.09	53.3
	P1-B3-15.0	15	7/2/2019	19-07-0130	<0.530	65	153B	10.7	1.13	22.1
	P1-B3-20.0	20	7/2/2019	19-07-0130	<0.529	27	75B	6.12	1.16	14.4
	P1-B3-24.0	24	7/2/2019	19-07-0130	<0.523	6.4	111B	20.4	1.35	21.7
	P1-B3-25.0	25	7/2/2019	19-07-0130	<0.581	<0.95	166B	42.2	2.88	99.4
	P1-B3-30.0	30	7/2/2019	19-07-0130	2.26	98	258B	159	2.21	101
	P1-B3-35.0	35	7/2/2019	19-07-0130	9.34	72	138B	67	9.86	99.1
	P1-B3-40.0	40	7/2/2019	19-07-0130	0.814	82	123B	30.8	4.57	58.7
	P1-B3-45.0	45	7/2/2019	19-07-0130	0.715	76	98.1B	27.9	2.52	57
	P1-B3-50.0	50	7/2/2019	19-07-0130	1.77	85	157B	36.1	2.76	67.9
	P1-B3-55.0	55	7/2/2019	19-07-0130	5.91	10	747B	13.1	0.74	28.1
P1-B4	P1-B4-10.0	10	7/3/2019	19-07-0237	<0.575	4.5	1,480	136	1.92	30.3
	P1-B4-15.0	15	7/3/2019	19-07-0237	<0.617	4	875	54.4	<0.617	18.1
	P1-B4-20.0	20	7/3/2019	19-07-0237	<0.531	6.7	514	134	0.902	39.6
	P1-B4-25.0	25	7/3/2019	19-07-0237	0.578	1.2	101	58.3	1.37	43.4
	P1-B4-26.0	26	7/3/2019	19-07-0237	<0.637	1.4	367	111	1.63	60.4
	P1-B4-30.0	30	7/3/2019	19-07-0237	<0.609	190	943	205	2.68	99
	P1-B4-35.0	35	7/3/2019	19-07-0237	<0.663	3.6	208	402	10.9	176
	P1-B4-40.0	40	7/3/2019	19-07-0237	2.83	31	152	86.9	10.6	105
	P1-B4-45.0	45	7/3/2019	19-07-0237	6.14	23	93.4	31.7	4.5	60.9
	P1-B4-50.0	50	7/3/2019	19-07-0237	2.3	80	137	40.9	2.84	72.1
	P1-B4-53.0	53	7/3/2019	19-07-0237	2.96	82	147	37	3.54	65.8
	P1-B4-54.5	54.5	7/3/2019	19-07-0237	<0.505	1.5	1,380	11.3	<0.505	18.6

Table 1  
Pre-Remediation Distribution of Metals in Soil  
Revised Corrective Action Remedy Completion Report  
Phibro-Tech, Inc., Santa Fe Springs, California

					Metals					
					Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Copper	Lead	Zinc
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					980	6.3	1,800,000	47000	800	350000
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					780	6.2	-	-	320	-
Proposed Target Cleanup Level Based on Leaching to Groundwater					-	30	-	-	-	-
P1-C1	P1-C1-10.0	10	7/8/2019	1145-1	<0.542	12.1	208	23.5	3.52	38.7
	P1-C1-15.0	15	7/8/2019	1145-1	<0.557	3.7	155	209	1.95	62.8
	P1-C1-20.0	20	7/8/2019	1145-1	<0.547	<0.868	205	46.4	1.24	19.3
	P1-C1-25.0	25	7/8/2019	1145-1	<0.557	7.21	218	71.7	2.78	42.9
	P1-C1-26.0	26	7/8/2019	1145-1	<0.566	3.52	215	111	1.82	66.2
	P1-C1-30.0	30	7/8/2019	1145-1	1.2	17.9	167	420	6.68	128
	P1-C1-35.0	35	7/8/2019	1145-1	37.7	4.11	167	723	7.67	627
	P1-C1-40.0	40	7/8/2019	1145-1	1.93	12.1	102	66.2	8.51	90.5
	P1-C1-45.0	45	7/8/2019	1145-1	1.51	19.2	124	30.1	5.14	63.3
	P1-C1-50.0	50	7/8/2019	1145-1	2.12	31.3	85.2	36.8	4.83	71.9
	P1-C1-54.0	54	7/8/2019	1145-1	<0.563	4	33.2	28.7	3.7	61.2
	P1-C1-54.5	54.5	7/8/2019	1145-1	<0.561	4.13	376	18.4	1.2	40.7
P1-C2	P1-C2-10.0	10	7/11/2019	1581-1	<0.569	<0.900	20.9	21.7	10.5	33.4
	P1-C2-15.0	15	7/11/2019	1581-1	<0.537	<0.823	12.1	10.9	4.63	27.7
	P1-C2-20.0	20	7/11/2019	1581-1	<0.512	2.15	5.61	5.34	1.36	16.5
	P1-C2-26.0	26	7/11/2019	1581-1	<0.509	1.64	176	29.7	1.68	13.7
	P1-C2-26.5	26.5	7/11/2019	1581-1	<0.564	<0.904	393	128	2.47	41.9
	P1-C2-30.0	30	7/11/2019	1581-1	<0.590	3.55	121	167	6.66	67.6
	P1-C2-35.0	35	7/11/2019	1581-1	11.4	8.68	64.4	155	10.3	397
	P1-C2-40.0	40	7/11/2019	1581-1	7.77	28.8	141	49.7	19	68
	P1-C2-45.0	45	7/11/2019	1581-1	11.4	39.7	119	28.8	3.99	74.6F1
	P1-C2-50.0	50	7/11/2019	1581-1	6.06	49.2	84.6	30.1	1.92	79.8
	P1-C2-53.5	53.5	7/11/2019	1581-1	<0.653	17.2	42.7	28.1	3.32	66.5
	P1-C2-54.0	54	7/11/2019	1581-1	<0.525	5.79	1,270	10.7	<0.525	34.4
P1-C3	P1-C3-10.0	10	7/5/2019	19-07-0297	<0.564	65	178	25.4	2.81	51.1
	P1-C3-15.0	15	7/5/2019	19-07-0297	<0.531	34	79.8	10.1	1.22	22.3
	P1-C3-20.0	20	7/5/2019	19-07-0297	<0.530	21	61	32.2	1.02	26.1
	P1-C3-25.5	25.5	7/5/2019	19-07-0297	<0.529	<0.84	306	31.3	0.836	16.3
	P1-C3-26.0	26	7/5/2019	19-07-0297	<0.566	<0.92	422	98.3	2.35	64.4
	P1-C3-30.0	30	7/5/2019	19-07-0297	<0.569	11	131	325	3.9	110
	P1-C3-35.0	35	7/5/2019	19-07-0297	3.17	110	294	72.5	7.87	101
	P1-C3-40.0	40	7/5/2019	19-07-0297	4.43	95	183	106	13.1	121
	P1-C3-45.0	45	7/5/2019	19-07-0297	4.67	110	164	31.7	3.38	63.4
	P1-C3-50.0	50	7/5/2019	19-07-0297	4.85	130	212	36.4	5.06	66.3
	P1-C3-53.0	53	7/5/2019	19-07-0297	2.04	19	91.9	29.7	2.22	58.8
	P1-C3-54.0	54	7/5/2019	19-07-0297	3.18	1.3	2,850	18.7	<1.05	27.4
P1-C4	P1-C4-10.0	10	7/2/2019	19-07-0130	<0.577	12	151B	9.85	<0.577	3.23
	P1-C4-15.0	15	7/2/2019	19-07-0130	<0.533	1.8	488B	64.9	<0.533	22.5
	P1-C4-20.0	20	7/2/2019	19-07-0130	<0.523	1.6	446B	42.4	0.609	13.5
	P1-C4-24.5	24.5	7/2/2019	19-07-0130	<0.532	17	653B	34.1	<0.532	13.4
	P1-C4-25.0	25	7/2/2019	19-07-0130	<0.586	<0.92	1,270B	96.1	<0.586	46.1
	P1-C4-30.0	30	7/2/2019	19-07-0130	<0.585	1.7	1,040	109	1.04	59.1
	P1-C4-35.0	35	7/2/2019	19-07-0130	0.831	<1.0	213	322	16.3	114
	P1-C4-40.0	40	7/2/2019	19-07-0130	1.55	6.3	165	396	6.5	134
	P1-C4-45.0	45	7/2/2019	19-07-0130	0.966	5.7	349	241	3.61	75.1
	P1-C4-50.0	50	7/2/2019	19-07-0130	2.36	45	474	379	3.04	244
	P1-C4-54.0	54	7/2/2019	19-07-0130	8.48	120	285	109	4.85	269
	P1-C4-55.0	55	7/2/2019	19-07-0130	8.94	8.9	1,230	11.2	<0.527	56.9
P1-D1	P1-D1-10.0	10	7/1/2019	19-07-0050	<5.87	99	3,800	315	<5.87	168
	P1-D1-15.0	15	7/1/2019	19-07-0050	<5.43	23	661	7.52	<5.43	12.6
	P1-D1-20.0	20	7/1/2019	19-07-0050	<5.27	55	580	112	<5.27	27.4
	P1-D1-24.5	24.5	7/1/2019	19-07-0050	<5.10	37	223	37.8	<5.10	19.3
	P1-D1-25.0	25	7/1/2019	19-07-0050	<5.49	47	332	85.4	<5.49	55.2
	P1-D1-30.0	30	7/1/2019	19-07-0050	<6.35	<3.9	55.6	120	<6.35	93.4
	P1-D1-35.0	35	7/1/2019	19-07-0050	<6.60	26	81.7	63.6	9.23	104
	P1-D1-40.0	40	7/1/2019	19-07-0050	1.3	21	72.9	58.5	6.43	101
	P1-D1-45.0	45	7/1/2019	19-07-0050	0.624	38	64.3	34.8	3.88	69.5
	P1-D1-50.0	50	7/1/2019	19-07-0050	<0.587	48	46.7	26.2	3.05	59.1
	P1-D1-52.0	52	7/1/2019	19-07-0050	0.661	9.2	41.4	31	2.41	66.2
	P1-D1-53.5	53.5	7/1/2019	19-07-0050	<0.542	8.4	1,210	10.3	<0.542	17.4

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					Metals					
					Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Copper	Lead	Zinc
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HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					780	6.2	-	-	320	-
Proposed Target Cleanup Level Based on Leaching to Groundwater					-	30	-	-	-	-
P1-D2	P1-D2-10.0	10	7/5/2019	19-07-0297	<0.568	28	222	25.5	3.07	45.3
	P1-D2-15.0	15	7/5/2019	19-07-0297	<0.509	3.8	83	7.02	0.847	16.6
	P1-D2-20.0	20	7/5/2019	19-07-0297	<0.537	7.4	339	88.5	1.02	45.3
	P1-D2-25.0	25	7/5/2019	19-07-0297	<0.538	3.4	409	19.9	0.547	13.7
	P1-D2-25.5	25.5	7/5/2019	19-07-0297	<0.563	10	1,090	81.2	0.857	46.4
	P1-D2-30.0	30	7/5/2019	19-07-0297	<0.610	21	188	321	4.07	107
	P1-D2-35.0	35	7/5/2019	19-07-0297	9.44	24	145	55	3.88	217
	P1-D2-40.0	40	7/5/2019	19-07-0297	2.98	12	81	62	5.8	93.7
	P1-D2-45.0	45	7/5/2019	19-07-0297	2.45	11	86	31.5	5.08	62.1
	P1-D2-50.0	50	7/5/2019	19-07-0297	1.58	29	105	34.8	4.12	65.8
	P1-D2-54.0	54	7/5/2019	19-07-0297	1.32	4.6	1,740	22	<0.595	35.3
P1-D3	P1-D3-10.0	10	7/5/2019	19-07-0297	<0.562	<0.91	27.5	27.1	3.89	56.6
	P1-D3-15.0	15	7/5/2019	19-07-0297	<0.531	1.6	21.7	9.09	1.51	20.4
	P1-D3-20.0	20	7/5/2019	19-07-0297	<0.530	30	737	62.3	<0.530	17.7
	P1-D3-25.0	25	7/5/2019	19-07-0297	<0.511	6.4	305	16	0.729	12.1
	P1-D3-26.0	26	7/5/2019	19-07-0297	<0.570	40	1,420	111	1.29	45
	P1-D3-30.0	30	7/5/2019	19-07-0297	<0.589	100	876	324	1.86	76.4
	P1-D3-35.0	35	7/5/2019	19-07-0297	<0.645	34	175	313	7.19	117
	P1-D3-40.0	40	7/5/2019	19-07-0297	3.82	25	99.1	86.7	14.2	100
	P1-D3-45.0	45	7/5/2019	19-07-0297	0.632	46	102	32.3	3.78	66.7
	P1-D3-50.0	50	7/5/2019	19-07-0297	0.697	51	89.8	29.5	1.59	59.1
	P1-D3-53.5	53.5	7/5/2019	19-07-0297	2.72	11	52.6	52.9	4.88	85.8
P1-D4	P1-D4-10.0	10	7/1/2019	19-07-0050	<0.590	18	2,570	181	<0.590	46.5
	P1-D4-15.0	15	7/1/2019	19-07-0050	<0.524	67	1,070	47.9	0.884	14.1
	P1-D4-20.0	20	7/1/2019	19-07-0050	<0.514	3.1	492	30.9	<0.514	13.5
	P1-D4-24.0	24	7/1/2019	19-07-0050	<0.510	100	1,970	46	<0.510	<1.02
	P1-D4-24.25	24.25	7/1/2019	19-07-0050	<0.780	43	2,240	106	1.08	38.5
	P1-D4-24.75	24.75	7/1/2019	19-07-0050	<0.649	16	606	19.3	<0.649	5.58
	P1-D4-25.25	25.25	7/1/2019	19-07-0050	<0.562	19	1,800	97.3	<0.562	47
	P1-D4-30.0	30	7/1/2019	19-07-0050	<0.583	43	7,070	258	<0.583	33.9
	P1-D4-35.0	35	7/1/2019	19-07-0050	<0.647	150	1,230	399	3.28	98.5
	P1-D4-40.0	40	7/1/2019	19-07-0050	0.729	72	324	374	8.35	110
	P1-D4-45.0	45	7/1/2019	19-07-0050	2.58	250	369	332	3.02	80
P1-E1	P1-E1-10.0	10	7/29/2019	3142-1	1.4	<0.902	28.6	288	5.07	55.7
	P1-E1-15.0	15	7/29/2019	3142-1	<0.529	<0.834	7.96	97.4	1.51	19.8
	P1-E1-20.0	20	7/29/2019	3142-1	<0.516	<0.822	5.65	73.1	1.67	22.4
	P1-E1-25.0	25	7/29/2019	3142-1	<0.531	<0.827	5.98	81.5	1.3	22.8
	P1-E1-27.0	27	7/29/2019	3142-1	<0.520	<0.839F1,F2	7.94	129	1.33	24.5
	P1-E1-27.5	27.5	7/29/2019	3142-1	1.18	<0.919F1,F2	19.9	180	2.74	57
	P1-E1-30.0	30	7/29/2019	3142-1	1.9	<0.989	31.5	52.6	4.97	81.1
	P1-E1-34.0	34	7/29/2019	3142-1	1.85	<1.01	45.7	243	9.86	84.8
	P1-E1-34.5	34.5	7/29/2019	3142-1	1.87	<1.07	38.7	119	6.58	82.2
	P1-E1-40.0	40	7/29/2019	3142-1	2.76	<1.03	42.6	69.9	8.77	80.7
	P1-E1-45.0	45	7/29/2019	3142-1	1.97	<0.915	38	34.5	4.49	64
P1-E2	P1-E1-50.0	50	7/29/2019	3142-1	1.64	<1.03	29	34.7	3.77	64.7
	P1-E1-54.0	54	7/29/2019	3142-1	1.34	<1.04	26	71.6	2.69	61.5
	P1-E1-55.0	55	7/29/2019	3142-1	1.1	<0.971	25	33	3.46	57.9
	P1-E2-10.0	10	7/29/2019	3142-1	1.28	<0.919	23	104	3.37	50
	P1-E2-15.0	15	7/29/2019	3142-1	0.79	<0.836	9.9	40.6	1.69	27
	P1-E2-20.0	20	7/29/2019	3142-1	<0.541	<0.826	6.16	9.77	1.58	16.4
	P1-E2-25.0	25	7/29/2019	3142-1	<0.534	<0.836	23.1	35.1	1.41	16.6
	P1-E2-26.0	26	7/29/2019	3142-1	1.29	<0.915	33.4	120	3.33	61.7
	P1-E2-30.0	30	7/29/2019	3142-1	1.85	<0.985	38.2	114	4.78	85.4
	P1-E2-35.0	35	7/29/2019	3142-1	1.75	<1.01	29.6	93.5	5.84	96.7
	P1-E2-40.0	40	7/29/2019	3142-1	2.33	<1.04	41.9	62.7	5.97	97.4
P1-E2	P1-E2-45.0	45	7/29/2019	3142-1	2.08	<0.917	35.1	29.8	5.56	58.1
	P1-E2-50.0	50	7/29/2019	3142-1	2.23	<1.05	39.1	47.5	5.04	92.2
	P1-E2-54.0	54	7/29/2019	3142-1	2.63	<1.07	36	50.1	7.1	81.2
	P1-E2-55.0	55	7/29/2019	3142-1	1.17	<0.970	20.7	28.7	3.44	51.5



Table 1  
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Revised Corrective Action Remedy Completion Report  
Phibro-Tech, Inc., Santa Fe Springs, California

					Metals					
					Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Copper	Lead	Zinc
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					980	6.3	1,800,000	47000	800	350000
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					780	6.2	-	-	320	-
Proposed Target Cleanup Level Based on Leaching to Groundwater					-	30	-	-	-	-
P1-E3	P1-E3-10.0	10	7/26/2019	2958-1	1.5	<0.936	29.7B	33	8.25	58.1
	P1-E3-15.0	15	7/26/2019	2958-1	0.532	<0.864	9.01B	62	3.11	25.6
	P1-E3-20.0	20	7/26/2019	2958-1	0.73	<0.830	10.2	40.2	1.54	29.8
	P1-E3-24.5	24.5	7/26/2019	2958-1	<0.548	1.01	16.7	23	1.74	21.1
	P1-E3-25.0	25	7/26/2019	2958-1	2.47	3.29	51	118	3.03	89.1
	P1-E3-30.0	30	7/26/2019	2958-1	1.77	1.34	32.4	34.4	2.69	60.4
	P1-E3-35.0	35	7/26/2019	2958-1	2.47	1.91	51.4	54.4	8.1	88.6
	P1-E3-40.0	40	7/26/2019	2958-1	3.87	3.94	52.8	65.6	10.2	94.3
	P1-E3-45.0	45	7/26/2019	2958-1	2.3	3.57	62.1	30.5	3.92	61.1
	P1-E3-50.0	50	7/26/2019	2958-1	1.6	1.02	31.7	30.7	3.62	61.6
	P1-E3-55.0	55	7/26/2019	2958-1	3.42	<0.995	65.8	27.9	3.11	53.4
	P1-E3-55.5	55.5	7/26/2019	2958-1	1.71	<0.854	31.5	14.9	1.68	33.8
P1-F1	P1-F1-10.0	10	7/24/2019	2903-1	2	<0.960	42.7	502	5.88	72.3
	P1-F1-15.0	15	7/25/2019	2903-1	<0.544	<0.884	9.13	118	1.64	22.7
	P1-F1-20.0	20	7/25/2019	2903-1	<0.540	<0.834	6.35	24.8	0.928	16.2
	P1-F1-25.0	25	7/25/2019	2903-1	<0.503	<0.829	5.25	15.9	0.693	13.9
	P1-F1-27.5	27.5	7/25/2019	2903-1	<0.520	<0.827	5.08	59.5	1.02	13
	P1-F1-30.0	30	7/25/2019	2903-1	1.66	<0.948	28.3	181	4.34	69.2
	P1-F1-35.0	35	7/25/2019	2903-1	1.86	<1.09	36.9	49.7	7.28	75.7
	P1-F1-40.0	40	7/25/2019	2903-1	2.85	<1.10	48.8	85.9	14.6	107
	P1-F1-45.0	45	7/25/2019	2903-1	1.88	<0.933	39	35	4.98	62.3
	P1-F1-50.0	50	7/25/2019	2903-1	1.88	<1.06	30.9	47.1	9.65	74.8
	P1-F1-55.0	55	7/25/2019	2903-1	<0.554	0.96	27.7	12.5	1.07	27.9
	P1-F1-55.0	55	7/25/2019	2903-1	<0.554	0.96	27.7	12.5	1.07	27.9
P1-F2	P1-F2-10.0	10	7/25/2019	2903-1	2.33	<0.925	35.4	76.8	5.61	70.2
	P1-F2-15.0	15	7/25/2019	2903-1	0.583	<0.866	11.8	66.6	1.44	26.7
	P1-F2-20.0	20	7/25/2019	2903-1	<0.531	<0.0819	6.84	36	1.17	17.5
	P1-F2-25.0	25	7/25/2019	2903-1	<0.521	<0.857	5.97	12.3	0.809	13.7
	P1-F2-30.0	30	7/25/2019	2903-1	1.43	<0.914F1	22.1	49.2	2.18	56.4
	P1-F2-35.0	35	7/25/2019	2903-1	1.92	<1.02F1	34.9	45.6	4.24	76.2
	P1-F2-40.0	40	7/25/2019	2903-1	3.01	<1.07	40.7	73.9	12.1	80.5
	P1F2-45.0	45	7/25/2019	2903-1	1.6	<0.945	29.6	25.8	5.14	48.2
	P1-F2-50.0	50	7/25/2019	2903-1	1.43	<1.00	34.7	38.7	4.1	76.2
	P1-F2-55.0	55	7/25/2019	2903-1	0.806	<0.920	24.9	16.5	1.83	34.3
	P1-F2-55.0	55	7/25/2019	2903-1	0.806	<0.920	24.9	16.5	1.83	34.3
	P1-F2-55.0	55	7/25/2019	2903-1	0.806	<0.920	24.9	16.5	1.83	34.3
P1-F3	P1-F3-10.0	10	7/26/2019	2958-1	2.39	<1.02	44.4B	1,420	14.5	92.9
	P1-F3-15.0	15	7/26/2019	2958-1	<0.562	<0.857	9.18B	102	2.49	24.1
	P1-F3-20.0	20	7/26/2019	2958-1	<0.505	<0.835	5.99B	59.1	2.87	16.4
	P1-F3-24.5	24.5	7/26/2019	2958-1	<0.701	<1.07	6.22B	77.7	2.9	15.5
	P1-F3-25.0	25	7/26/2019	2958-1	1.15	<1.09	24.3B	385	8.54	61.5
	P1-F3-30.0	30	7/26/2019	2958-1	1.15	<0.928	22B	30.2	4.77	55.7
	P1-F3-35.0	35	7/26/2019	2958-1	1.62	<1.01	28.3B	39.2	6.64	72.7
	P1-F3-40.0	40	7/26/2019	2958-1	2.49	<1.07	42B	82.6	19.6	100
	P1-F3-45.0	45	7/26/2019	2958-1	1.36	<0.934	32.5B	26.1	6.25	51.9
	P1-F3-50.0	50	7/26/2019	2958-1	1.17	<1.01	29.5B	35.1	5.81	68.9
	P1-F3-55.0	55	7/26/2019	2958-1	0.831	<0.938	17B	18.6	3.31	47.8
	P1-F3-55.0	55	7/26/2019	2958-1	0.831	<0.938	17B	18.6	3.31	47.8
P1-R1	P1-R1-10.0	10	7/8/2019	1145-1	0.676	<0.929	155	339	4.97	85.7
	P1-R1-15.0	15	7/8/2019	1145-1	<0.534	4.24F1	234	99.6	2.89	30.1
	P1-R1-20.0	20	7/8/2019	1145-1	<0.574	1.82	248	89.8	0.864	37.5
	P1-R1-25.0	25	7/8/2019	1145-1	<0.558	1.7	359	92.7	0.806	48.9
	P1-R1-27.0	27	7/8/2019	1145-1	<0.542	<0.884	561	32.7	1.01	14.2
	P1-R1-28.0	28	7/8/2019	1145-1	<0.569	<0.909	922	84.8	0.82	54.9
	P1-R1-30.0	30	7/8/2019	1145-1	<0.600	2.13	905	117	4.2	70.6
	P1-R1-35.0	35	7/8/2019	1145-1	<0.543	1.96	139	229	6.14	99.5
	P1-R1-40.0	40	7/8/2019	1145-1	1.69	6.53	75.9	58	4.76	92.9
	P1-R1-45.0	45	7/8/2019	1145-1	1.49	13.7	98.5	25.9	4.74	51.7
	P1-R1-50.0	50	7/8/2019	1145-1	1.72	35.8	73.4	33.1	4.21	61.8
	P1-R1-55.0	55	7/8/2019	1145-1	7.75	30.6	89.4	29.6	3.22	56.5
	P1-R1-56.0	56	7/8/2019	1145-1	7.04	29.5	508	15.7	1.55	33.6
	P1-R1-56.0	56	7/8/2019	1145-1	7.04	29.5	508	15.7	1.55	33.6
P1-R12	P1-R12-45.0	45	7/9/2019	1270-1	<0.592	27.5	66.8	8.26	3.95	6.74

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					Metals					
					Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Copper	Lead	Zinc
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					980	6.3	1,800,000	47000	800	350000
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					780	6.2	-	-	320	-
Proposed Target Cleanup Level Based on Leaching to Groundwater					-	30	-	-	-	-
P1-R2	P1-R2-10.0	10	7/8/2019	1145-1	<0.579	1.53	1,090	585	6.63	108
	P1-R2-15.0	15	7/8/2019	1145-1	<0.525	3.41	707	163	1.18	29.7
	P1-R2-20.0	20	7/8/2019	1145-1	<0.564	3.27	529	81.9	1.35	27.4
	P1-R2-25.0	25	7/8/2019	1145-1	<0.568	2.93F1	529	47.8	0.581	19.8
	P1-R2-27.5	27.5	7/8/2019	1145-1	<0.549	2.95	589	36.7	<0.549	20.5
	P1-R2-28.0	28	7/8/2019	1145-1	<0.575	<0.898	1,010	69	0.812	58.1
	P1-R2-30.0	30	7/8/2019	1145-1	<0.588	<0.914	1,250	126	1.07	74.6
	P1-R2-35.0	35	7/8/2019	1145-1	<0.560	<0.890	161	235	2.61	94.9
	P1-R2-40.0	40	7/9/2019	1270-1	3.31	3.42	85.6	647	13.3	434
	P1-R2-45.0	45	7/9/2019	1270-1	0.623	24.2	97.7	15.2	5.91	15.6
	P1-R2-50.0	50	7/9/2019	1270-1	<0.585	11	31.2	11.2	3.72	22.4
	P1-R2-55.0	55	7/9/2019	1270-1	3.61	36.5	69.5	9.15	2.98	132
	P1-R2-56.0	56	7/9/2019	1270-1	12	28	751	10.9	0.977	37.1
P1-SW01	P1-SW1-10.0	10	7/9/2019	1270-1	0.787	<0.903	15.3	15.7	4.48	50.8
	P1-SW1-15.0	15	7/9/2019	1270-1	<0.560	<0.931	5.26	7.44	2.28	18
	P1-SW1-20.0	20	7/9/2019	1270-1	<0.570	<0.926	4.07	5.82	1.72	15.7
	P1-SW1-25.0	25	7/9/2019	1270-1	<0.594	<0.941	4.65	6.4	1.99	14.5
	P1-SW1-29.0	29	7/9/2019	1270-1	<0.593	<0.929	20.7	15.8	4.53	32.9
	P1-SW1-30.0	30	7/9/2019	1270-1	<0.578	<0.940	19.8	39.9	7.92	71.9
	P1-SW1-32.5	32.5	7/9/2019	1270-1	<0.590	<0.935F1	11.7	17.4	3.23	33.2
	P1-SW1-33.0	33	7/9/2019	1270-1	<0.572	<0.925	14.4F1	21.5F1	3.22	40.7F1
	P1-SW1-35.0	35	7/9/2019	1270-1	0.614	1.08	22.3	24	4.86	53.9
	P1-SW1-40.0	40	7/9/2019	1270-1	<0.680	2.74	23	35.7	8.6	52.7
	P1-SW1-45.0	45	7/9/2019	1270-1	<0.591	6.39	23.2	19.3	4.96	33.5
	P1-SW1-50.0	50	7/9/2019	1270-1	<0.570	8.64	19.8	12.8	3.76	30.1
	P1-SW1-55.0	55	7/9/2019	1270-1	<0.612	6.06	19.1	19.1	4.65	39
	P1-SW1-58.0	58	7/9/2019	1270-1	<0.610	9.79F1	23.9	17.1	3.21	37.4
	P1-SW1-59.0	59	7/9/2019	1270-1	<0.565	14.8	43.2	9.41	1.46	22.5
P1-SW02	P1-SW2-10.0	10	7/9/2019	1270-1	<0.586	<0.942	15.2	19.9	3.72	41.4
	P1-SW2-15.0	15	7/9/2019	1270-1	<0.593	<0.935	5.94	9.82	2.28	22.1
	P1-SW2-20.0	20	7/9/2019	1270-1	<0.581	<0.904	5.37	6.89	1.45	16.7F1
	P1-SW2-25.0	25	7/12/2019	1778-1	<0.520F2	<0.814	4.93F2	5.48F2	<0.520F2	13.6F2
	P1-SW2-28.5	28.5	7/12/2019	1778-1	<0.521	<0.822	7.2	7.26	<0.521	15.7
	P1-SW2-29.0	29	7/12/2019	1778-1	0.757	<1.06	42.3	64.5	3.93	105
	P1-SW2-30.0	30	7/12/2019	1778-1	<0.661	<1.05	32.4	44.5	4.24	79.1
	P1-SW2-35.0	35	7/12/2019	1778-1	<0.594	<0.954	21.8	29.6	2.1	57.2
	P1-SW2-36.0	36	7/12/2019	1778-1	<0.516	<0.822	8.51	5.54	<0.516	11.5
	P1-SW2-40.0	40	7/12/2019	1778-1	0.895	<1.03	53.6	88.5	11.5	113
	P1-SW2-45.0	45	7/12/2019	1778-1	<0.591	37.6	48.2	28.3	3.68	59.6
	P1-SW2-45.0	45	7/12/2019	1778-1	<0.591	37.6	48.2	28.3	3.68	59.6
P1-SW03	P1-SW3-10.0	10	7/12/2019	1778-1	<0.561	<0.921	22.2	26.3	2.11	48.4
	P1-SW3-15.0	15	7/12/2019	1778-1	<0.524	<0.822	10.6	13	0.849	31.2
	P1-SW3-20.0	20	7/12/2019	1778-1	<0.501	<0.821	7.82	6.84	<0.501	16.8
	P1-SW3-25.0	25	7/12/2019	1778-1	<0.517	<0.816	5.14	6.09	<0.517	14.2
	P1-SW3-28.0	28	7/12/2019	1778-1	<0.647	<0.998F1	34	49.7	3.06	85.5
	P1-SW3-32.0	32	7/12/2019	1778-1	<0.526	<0.863F1	11.4	13.9	0.938	28.4
	P1-SW3-34.5	34.5	7/12/2019	1778-1	0.81	<0.984	38.6	46.9	3.93	108
	P1-SW3-40.0	40	7/12/2019	1778-1	0.983	<1.06	45.7	79.8	10.3	108
P1-SW04	P1-SW4-10.0	10	7/12/2019	1778-1	<0.562	<0.877	26.1	29.8	3.38	60.8
	P1-SW4-15.0	15	7/12/2019	1778-1	<0.511	<0.848	10.2	12.3	1.62	29.4
	P1-SW4-20.0	20	7/12/2019	1778-1	<0.530	<0.874	8.66	12.7	1.44	27.4
	P1-SW4-25.0	25	7/12/2019	1778-1	<0.502	<0.830	5.98	6.88	1.14	18.2
	P1-SW4-30.0	30	7/12/2019	1778-1	<0.528	<0.831	8.77	10.3	2.29	22.4
	P1-SW4-35.0	35	7/12/2019	1778-1	<0.579	<0.878	8.84	11.2	1.53	26.7
	P1-SW4-37.0	37	7/12/2019	1778-1	0.739	<0.858	26.8	35.2	5.22	76.8
	P1-SW4-40.0	40	7/12/2019	1778-1	0.785	<0.874F1	37.2	58.8	5.61	93.9
P1-SW05	P1-SW5-10.0	10	7/30/2019	3330-1	1.68	<0.915	29.1	39.2	5.29	57.9
	P1-SW5-15.0	15	7/30/2019	3330-1	0.773	<0.801	8.33	13.9	2.42	32.4
	P1-SW5-20.0	20	7/30/2019	3330-1	0.683	<0.854	9.35	14	1.76	28.8
	P1-SW5-25.0	25	7/30/2019	3330-1	<0.512	<0.822	5.53	8.18	1.68	15.7
	P1-SW5-27.5	27.5	7/30/2019	3330-1	<0.494	2.54	39	32.3	1.54	18.4
	P1-SW5-28.0	28	7/30/2019	3330-1	1.48	22.2	1,100	1,030	9.85	91.3
	P1-SW5-30.0	30	7/30/2019	3330-1	1.17	3.25	66.4	801	6.66	121
	P1-SW5-35.0	35	7/30/2019	3330-1	0.998	4.04	50.6	332	3.39	87.2
	P1-SW5-40.0	40	7/30/2019	3330-1	8.59	17.4	82.2	83.8	8.96	84.3

Table 1  
Pre-Remediation Distribution of Metals in Soil  
Revised Corrective Action Remedy Completion Report  
Phibro-Tech, Inc., Santa Fe Springs, California

					Metals					
					Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Copper	Lead	Zinc
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					980	6.3	1,800,000	47000	800	350000
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					780	6.2	-	-	320	-
Proposed Target Cleanup Level Based on Leaching to Groundwater					-	30	-	-	-	-
P1-SW06	P1-SW6-10.0	10	7/30/2019	3330-1	1.42	<0.900	24.3	32	3.95	54.3
	P1-SW6-15.0	15	7/30/2019	3330-1	0.786	<0.845	12.8	19.5	2.54	35.6
	P1-SW6-20.0	20	7/30/2019	3330-1	0.554	<0.844	8.35	15	2.71	23.8
	P1-SW6-26.0	26	7/30/2019	3330-1	<0.538	<0.813	6.03	7.14	1.63	15.3
	P1-SW6-26.5	26.5	7/30/2019	3330-1	2.32	<1.08	27.2	52.9	7.81	76.1
	P1-SW6-30.0	30	7/30/2019	3330-1	2.37	<0.958	21.6	30.9	3.91	57.2
	P1-SW6-35.0	35	7/30/2019	3330-1	<0.501	<0.815	5.77	74	0.948	26.9
P1-SW07	P1-SW6-40.0	40	7/30/2019	3330-1	<0.776	<1.17	7.34	7.88	1.59	16.6
	P1-SW7-10.0	10	7/30/2019	3330-1	0.82	<0.872	21.4	542	9.45	213
	P1-SW7-15.0	15	7/30/2019	3330-1	<0.541	<0.865	12.9	1,090	4.72	247
	P1-SW7-20.0	20	7/30/2019	3330-1	<0.525	<0.817	7.28	351	2.07	47
	P1-SW7-26.5	26.5	7/30/2019	3330-1	<0.550	<0.830	11.5	15.8	1.88	19.2
	P1-SW7-27.0	27	7/30/2019	3330-1	2.67	<1.06	30.1	60.1	7.81	82.2
	P1-SW7-30.0	30	7/30/2019	3330-1	1.72	<0.965	24.5	43.3	5.94	57.7
P1-SW08	P1-SW7-35.0	35	7/30/2019	3330-1	<0.525	<0.817	5.38	8.64	0.83	13.8
	P1-SW7-40.0	40	7/30/2019	3330-1	2.23	<1.04	37.8	70.9	11.4	89.7
	P1-SW8-26.5	26.5	9/20/2019	570-7943	<0.524	<0.829	10.1	11.9	2.11	28.1
	P1-SW8-27.0	27	9/20/2019	570-7943	1.2	<1.05	41	48.4	4.87	98.7B
	P1-SW8-37.0	37	9/20/2019	570-7943	<0.565	<0.921	9.16	12.3	1.57	22.4
P1-SW09	P1-SW8-37.5	37.5	9/20/2019	570-7943	1.74	<1.03	43.6	69.6	8.48	105B
	P1-SW8-40.5	40.5	9/20/2019	570-7943	1.25	<1.05	43.2	65.7	11.4	94.7B
	P1-SW8-57.0	57	9/20/2019	570-7943	<0.523	<0.837	16.6	13.4	0.846	35.5
	P1-SW09-10.0	10	10/28/2019	570-11270-1	<0.572	<0.897	20	21	3.35	45.6
	P1-SW09-15.0	15	10/28/2019	570-11270-1	<0.514	<0.814	6.72	7.74	1.28	19.9
	P1-SW09-20.0	20	10/28/2019	570-11270-1	<0.520	<0.826	66.5	7.32	347	90.1
	P1-SW09-25.0	25	10/28/2019	570-11270-1	<0.520	<0.824	6.18	5.99	2.77	16.6
	P1-SW09-28.0	28	10/28/2019	570-11270-1	<0.530	<0.848	8.05	8.82	1.36	21.7
	P1-SW09-28.5	28.5	10/28/2019	570-11270-1	<0.639	<1.03	37.1	47.8	3.7	106
	P1-SW09-30.0	30	10/28/2019	570-11270-1	<0.563	<0.882	33.5	47.3	3.41	85.3
	P1-SW09-35.0	35	10/28/2019	570-11270-1	<0.614	<0.972	31.4	37.5	3.91	93.9
	P1-SW09-40.0	40	10/28/2019	570-11270-1	<0.642	<1.04	43.3	68.3	7.68	99.7
P1-SW10	P1-SW09-45.0	45	10/28/2019	570-11270-1	<0.588	<0.917	27.7	25.9	3.18	55.6
	P1-SW09-50.0	50	10/28/2019	570-11270-1	<0.587	<0.931	24.8	24.2	1.79	57.6
	P1-SW09-55.0	55	10/28/2019	570-11270-1	<0.655	<1.04	25.3	32.2	2.35	66.8
	P1-SW09-58.0	58	10/28/2019	570-11270-1	<0.594	<0.952	30	24.1	<0.594	50.8
	P1-SW09-59.0	59	10/28/2019	570-11270-1	<0.527	<0.846	59.2	14.7	1.31	30.3
	P1-SW10-10.0	10	10/28/2019	570-11270-1	<0.555	<0.903	19.7	21.1	2.35	47.6
	P1-SW10-15.0	15	10/28/2019	570-11270-1	<0.516	<0.835	9.36	10	1.04	25.4
	P1-SW10-20.0	20	10/28/2019	570-11270-1	<0.531	<0.844	10.5	11.9	1.08	31.1
	P1-SW10-25.0	25	10/28/2019	570-11270-1	<0.518	<0.826	7.75	8.13	1.23	21.8
	P1-SW10-26.0	26	10/28/2019	570-11270-1	<0.660	<1.06	34.3	51.7	5.3	100
	P1-SW10-30.0	30	10/28/2019	570-11270-1	<0.587	<0.934	17.9	23.5	2.19	48.3
	P1-SW10-35.0	35	10/28/2019	570-11270-1	<0.618	<0.990	20.1	29	1.98	54.4
P1-SW11	P1-SW10-40.0	40	10/28/2019	570-11270-1	<0.646	<1.05	42.6	73.4	9.17	92.5
	P1-SW10-45.0	45	10/28/2019	570-11270-1	<0.583	<0.917	29.5	20.8	3.36	51.1
	P1-SW10-50.0	50	10/28/2019	570-11270-1	<0.607	1.93	33.3	35.3	3.05	70.7
	P1-SW10-55.0	55	10/28/2019	570-11270-1	<0.660	3.79	33.9	29.3	2.19	67.2
	P1-SW10-57.5	57.5	10/28/2019	570-11270-1	<0.628	1.98	30.9	31.2	0.857	69.4
	P1-SW10-58.0	58	10/28/2019	570-11270-1	<0.525	<0.841	15.3	12.4	0.779	31.1
	P1-SW11-10.0	10	10/29/2019	570-11362-1	<0.601	<0.949	377	324	7.99	66.8
	P1-SW11-15.0	15	10/29/2019	570-11362-1	<0.551	<0.860	132	168	2.58	38
	P1-SW11-20.0	20	10/29/2019	570-11362-1	<0.554	<0.890	11.9	10.6	3.06	3.32
	P1-SW11-25.0	25	10/29/2019	570-11362-1	<0.539	1.35	400	41.9	57.5	13.4
	P1-SW11-26.0	26	10/29/2019	570-11362-1	<0.668L	16.2F1	1,910	411	37	154
	P1-SW11-30.0	30	10/29/2019	570-11362-1	<0.668	3.34F1	549	1,130	1.42	170
	P1-SW11-35.0	35	10/29/2019	570-11362-1	<0.572	<0.893	36.4	34.9	0.998	15.4
	P1-SW11-40.0	40	10/29/2019	570-11362-1	<0.561	<0.888	23.6	40.7	2.16	17.2
	P1-SW11-45.0	45	10/29/2019	570-11362-1	<0.524	<0.866	36.5	210	4.27	32.7
	P1-SW11-55.0	55	10/29/2019	570-11362-1	<0.648	<1.07	46.4	450	14.4	137
	P1-SW11-61.0	61	10/29/2019	570-11362-1	<0.659	<1.06	34.2	46.7	4.47	79.5
	P1-SW11-62.0	62	10/29/2019	570-11362-1	<0.582	<0.921	13.5	8.49	0.859	23.7

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					Metals					
					Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Copper	Lead	Zinc
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG						
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					mg/kg 980	mg/kg 6.3	mg/kg 1,800,000	mg/kg 47000	mg/kg 800	mg/kg 350000
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					780	6.2	-	-	320	-
Proposed Target Cleanup Level Based on Leaching to Groundwater					-	30	-	-	-	-
P1-SW12	P1-SW12-10.0	10	10/29/2019	570-11362-1	<0.582	<0.964	32.9	31.9	2.23	62.6
	P1-SW12-15.0	15	10/29/2019	570-11362-1	<0.569	<0.910	10.3	10.6	0.959	25
	P1-SW12-20.0	20	10/29/2019	570-11362-1	<0.523	<0.828	5.15	5.14	1.09	15.1
	P1-SW12-25.0	25	10/29/2019	570-11362-1	<0.568	<0.912	6.82	8.82	1.6	19.7
	P1-SW12-26.5	26.5	10/29/2019	570-11362-1	<0.596	<0.934	6.39	7.35	1.22	17.6
	P1-SW12-27.0	27	10/29/2019	570-11362-1	<0.634	<1.00	23.8	34.5	2.01	68.4
	P1-SW12-30.0	30	10/29/2019	570-11362-1	<0.598	<0.955	26.6	40.3	2.19	72.3
	P1-SW12-35.0	35	10/29/2019	570-11362-1	<0.649	<1.04	40.4	43.2	3.84	92.8
	P1-SW12-40.0	40	10/29/2019	570-11362-1	<0.663	<1.04	38.9	44.3	5.8	91.4
	P1-SW12-45.0	45	10/29/2019	570-11362-1	<0.573	<0.907	22.6	16.1	2.55	42.1
	P1-SW12-50.0	50	10/29/2019	570-11362-1	<0.595	<0.944	27.2	25.7	1.55	68.6
	P1-SW12-55.0	55	10/29/2019	570-11362-1	<0.619	<0.981	30.4	31	2.05	71.3
	P1-SW12-58.0	58	10/29/2019	570-11362-1	<0.553	<0.886	18.2	15.8	1.55	40.4
	P1-SW12-59.0	59	10/29/2019	570-11362-1	<0.553	3.22	65.5	12.6	1.25	34.3
P1-SW13	P1-SW13-10.0	10	10/30/2019	570-11477-1	<0.547	<0.908	26.3	31.2	3.27	57.9
	P1-SW13-15.0	15	10/30/2019	570-11477-1	<0.531	<0.842	11.3	12.2	1.16	32.4
	P1-SW13-20.0	20	10/30/2019	570-11477-1	<0.524	<0.831	7.78	8.24	1.27	24
	P1-SW13-25.0	25	10/30/2019	570-11477-1	<0.501	<0.819	7.97	7.14	1.16	20.7
	P1-SW13-26.0	26	10/30/2019	570-11477-1	<0.626	<1.03	37.7	58	4.05	105
	P1-SW13-30.0	30	10/30/2019	570-11477-1	<0.571	<0.913	16.6	18.6	1.06	45.4
	P1-SW13-35.0	35	10/30/2019	570-11477-1	<0.498	<0.819	5.82	5.25	0.56	16.7
	P1-SW13-40.0	40	10/30/2019	570-11477-1	<0.652	<1.03	44.8	67.7	8.8	117
	P1-SW13-45.0	45	10/30/2019	570-11477-1	<0.568	<0.923	34.6	24.9	2.25	60
	P1-SW13-50.0	50	10/30/2019	570-11477-1	<0.572	<0.938	28.9	26	1.11	63.3
	P1-SW13-55.0	55	10/30/2019	570-11477-1	<0.636	<1.00	32.2	35.5	1.83	77.1
	P1-SW13-57.5	57.5	10/30/2019	570-11477-1	<0.594	<0.953	26.6	28.4	1.7	70
P1-SW14	P1-SW14-10.0	10	10/30/2019	570-11477-1	<0.574	<0.916	30.2	30.2	1.71	97.5
	P1-SW14-15.0	15	10/30/2019	570-11477-1	<0.531	<0.841	9.17	9.49	0.828	27.9
	P1-SW14-20.0	20	10/30/2019	570-11477-1	<0.513	<0.842	10.5	11.7	0.813	31.6
	P1-SW14-25.0	25	10/30/2019	570-11477-1	<0.520	<0.839	8.59	9.11	1.1	22.3
	P1-SW14-28.0	28	10/30/2019	570-11477-1	<0.504	<0.825	8.96	10.1	2.57	23.5
	P1-SW14-29.0	29	10/30/2019	570-11477-1	<0.581	<0.907	28.3	32.8	1.5	67.6
	P1-SW14-30.0	30	10/30/2019	570-11477-1	<0.593	<0.931	25.1	34.1	1.68	72.5
	P1-SW14-35.0	35	10/30/2019	570-11477-1	<0.626	<1.03	50.3	58.5	3.82	102
	P1-SW14-40.0	40	10/30/2019	570-11477-1	<0.641	<1.03	77.7	64	9.08	91.8
	P1-SW14-45.0	45	10/30/2019	570-11477-1	<0.573	30.7	73.3	26.4	4.02	64
	P1-SW14-50.0	50	10/30/2019	570-11477-1	<0.561	16.2	51.5	23.6	1.55	58.6
	P1-SW14-56.0	56	10/30/2019	570-11477-1	<0.609	<1.00	46.8	15.5	0.921	42.5
	P1-SW14-57.0	57	10/30/2019	570-11477-1	<0.518	8.56	331	11.5	<0.518	27
P1-SW15	P1-SW15-10.0	10	10/31/2019	570-11579-1	<0.604	1,090	3,480	182	<0.604	45.7
	P1-SW15-15.0	15	10/31/2019	570-11579-1	<0.521	432	1,410	64.9	1.35	17.3
	P1-SW15-20.0	20	10/31/2019	570-11579-1	<0.554	341	1,190	55.3	0.704	26.6
	P1-SW15-25.0	25	10/31/2019	570-11579-1	<0.513	276	835	38.2	2.66	11.5
	P1-SW15-26.0	26	10/31/2019	570-11579-1	<0.528	681	1,590	59.2	5.88	1.86
	P1-SW15-26.5	26.5	10/31/2019	570-11579-1	<6.34	1,490	4,930	212	<6.34	46.7
	P1-SW15-30.0	30	10/31/2019	570-11579-1	<0.589	40.4	1,690	288	2.29	77.4
	P1-SW15-35.0	35	10/31/2019	570-11579-1	<0.520	11.7	165	93.6	<0.520	26.7
	P1-SW15-40.0	40	10/31/2019	570-11579-1	<0.522	15	127	57.7	0.781	21.1
	P1-SW15-45.0	45	10/31/2019	570-11579-1	<0.502	13.7	182	178	1.03	20
	P1-SW15-49.0	49	10/31/2019	570-11579-1	<0.517	7.93	181	411	1.88	48
	P1-SW15-50.0	50	10/31/2019	570-11579-1	<0.600	50.1	891	803	1.61	106
	P1-SW15-55.0	55	10/31/2019	570-11579-1	<0.578	18.9	373	350	3.18	80.5
	P1-SW15-61.0	61	10/31/2019	570-11579-1	<0.645	143	341	276	3.58	70.6
	P1-SW15-62.0	62	10/31/2019	570-11579-1	<0.586	14.6	206	102	1.46	53.7
P1-SW16	P1-SW16-10.0	10	10/31/2019	570-11579-1	<0.565	<0.927	25.5	29.3	2.96	56.7
	P1-SW16-15.0	15	10/31/2019	570-11579-1	<0.511	<0.837	8.83	10.8	1.51	24.6
	P1-SW16-20.0	20	10/31/2019	570-11579-1	<0.511	<0.826	7.38	8.77	1.08	23.2
	P1-SW16-25.5	25.5	10/31/2019	570-11579-1	<0.515	3.25	274	380	2.39	74.7
	P1-SW16-26.0	26	10/31/2019	570-11579-1	<0.646	26.3	298	1,330	3.79	234
	P1-SW16-30.0	30	10/31/2019	570-11579-1	<0.594	3.65	55.1	421	2.99	110
	P1-SW16-35.0	35	10/31/2019	570-11579-1	<0.586	<0.961	44.8	911	2.62	131
	P1-SW16-40.0	40	10/31/2019	570-11579-1	<0.501	<0.813F1	12.6	328	0.629	32.3
	P1-SW16-45.0	45	10/31/2019	570-11579-1	<0.625	6.09	83.7	906	3.88	146
	P1-SW16-50.0	50	10/31/2019	570-11579-1	1.74	2.66	31.5	34.4	2.16	202
	P1-SW16-55.0	55	10/31/2019	570-11579-1	<0.590	15.9	60.4	308	1.72	90.8
	P1-SW16-60.0	60	10/31/2019	570-11579-1	<0.523	11.5	36.8	143	1.22	64.6
	P1-SW16-62.0	62	10/31/2019	570-11579-1	<0.668	15.6	77.2	51.3	3.01	167
	P1-SW16-63.0	63	10/31/2019	570-11579-1	<0.511	<0.822	18.2	12.6	0.873	30.3



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					Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Copper	Lead	Zinc
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					980	6.3	1,800,000	47000	800	350000
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					780	6.2	-	-	320	-
Proposed Target Cleanup Level Based on Leaching to Groundwater					-	30	-	-	-	-
P1-SW17	SW17-18.0	18	12/3/2019	570-14472	0.847	14.6	2,040	154	12.4	-
	SW17-19.0	19	12/3/2019	570-14472	2.42	17.2	454	37.8	2.84	-
	SW17-25.5	25.5	12/3/2019	570-14472	<0.533	8.72	863	43.7	<0.533	-
	SW17-26.5	26.5	12/3/2019	570-14472	<0.680	21.4	2,630	271	3.59	-
	SW17-30.5	30.5	12/3/2019	570-14472	<0.644	9.3	635	184	2.17	-
	SW17-34.5	34.5	12/3/2019	570-14472	<0.505	<0.818	22.6	55.6	0.855	-
	SW17-45.0	45	12/3/2019	570-14603	<0.517	5.72	317	54F1	<0.517	-
	SW17-48.5	48.5	12/3/2019	570-14603	<0.523	3.3	302	330	2.39	-
	SW17-49.5	49.5	12/3/2019	570-14603	<0.630	<1.05	60.5	237	20.8	-
	SW17-52.5	52.5	12/3/2019	570-14603	<0.539	173	1,510	296	12.2	-
	SW17-53.5	53.5	12/3/2019	570-14603	<0.596	157	1,010	96.1	51.9	-
	SW17-55.5	55.5	12/4/2019	570-14603	<0.590	3.1	101	144	4.09	-
	SW17-57.0	57	12/4/2019	570-14603	<0.583	9.28F1	539	127	9.56	-
	SW17-59.0	59	12/4/2019	570-14603	<0.618	59.6F1	624	374	2.83	-
	SW17-61.0	61	12/4/2019	570-14603	<0.683	19.8	342	207	2.88	-
	SW17-63.0	63	12/4/2019	570-14603	<0.584	5.98	298	80.9	<0.584	-
	SW17-65.0	65	12/4/2019	570-14603	<0.549	3.26	399	72.5F1	7	-
P1-SW18	SW18-11.0	11	12/4/2019	570-14603	<0.687	199	384	102	175	-
	SW18-15.0	15	12/4/2019	570-14603	<0.600	33.6	144	32.8	38.8	-
	SW18-19.0	19	12/4/2019	570-14603	<0.523	19.5	96.5	57.2	21.1	-
	SW18-21.5	21.5	12/4/2019	570-14603	<0.515	185	396	68.1	77.3	-
	SW18-24.0	24	12/4/2019	570-14603	<0.508	516	1,030	57.3	1.37	-
	SW18-27.5	27.5	12/4/2019	570-14603	<0.594	25.4	1,110	233	1.24	-
	SW18-31.5	31.5	12/4/2019	570-14603	<0.693	32.3	962	398	1.81	-
	SW18-32.5	32.5	12/4/2019	570-14603	<0.514	27.4	226	86.6	0.556	-
	SW18-39.0	39	12/4/2019	570-14603	<0.502	8.63	118	39.9	<0.502	-
	SW18-45.0	45	12/4/2019	570-14603	<0.495	2.98	111	283	0.717	-
	SW18-49.0	49	12/4/2019	570-14782	<0.533	11.8	413	804	5.64	-
	SW18-53.0	53	12/4/2019	570-14782	0.796	<0.946	27.2	31.5	6.29	-
	SW18-57.5	57.5	12/4/2019	570-14782	<0.738	13.2	66.7	834	11.3	-
	SW18-59.5	59.5	12/4/2019	570-14782	<0.502	2.13	101	224	7.04	-
	SW18-63.5	63.5	12/4/2019	570-14782	<0.532	1.5	155	215	5.3	-
P1-SW19	SW19-10.0	10	12/5/2019	570-14782	<0.558	339	1,590	172	1.82	-
	SW19-15.0	15	12/5/2019	570-14782	<0.511	15.1	269	53.5	1.04	-
	SW19-20.0	20	12/5/2019	570-14782	<0.531	2.85	34.2	29.7	0.845	-
	SW19-26.0	26	12/5/2019	570-14782	<0.514	39	191	40.8	1.07	-
	SW19-26.5	26.5	12/5/2019	570-14782	<0.671	88.3	1,910	522	2.39	-
	SW19-29.0	29	12/5/2019	570-14782	<0.617	33.2	553	340	0.71	-
	SW19-30.0	30	12/5/2019	570-14782	<0.625	29.3	447	419	0.881	-
	SW19-35.0	35	12/5/2019	570-14782	<0.516	6.02	57.6	43.9	<0.516	-
	SW19-40.0	40	12/5/2019	570-14782	<0.496	5.42	68	64	<0.496	-
	SW19-45.0	45	12/5/2019	570-14782	<0.531	9.03	123	189	<0.531	-
	SW19-50.0	50	12/5/2019	570-14782	<0.512	38.8F1	262	731	3.18	-
	SW19-50.25	50.25	12/5/2019	570-14782	<0.612	127	659	266	1.77	-
	SW19-55.0	55	12/5/2019	570-14782	1.18	127	1,290	291	<0.566	-
	SW19-60.0	60	12/5/2019	570-14782	<0.648	128	449	150	1.12	-
	SW19-64.5	64.5	12/5/2019	570-14782	<0.535	5.7	167	40.8	0.57	-
	SW19-65.0	65	12/5/2019	570-14782	<0.519	3.69	345	33.7	<0.519	-
	SW19-68.0	68	12/5/2019	570-14782	<0.520	7.87	977	70.2F1	<0.520	-
P1-SW20	SW20-14.5	14.5	12/10/2019	570-15237	<0.562	1	98	460	25.8	-
	SW20-19.5	19.5	12/10/2019	570-15237	<0.514	5.48	64	184	6.13	-
	SW20-24.5	24.5	12/10/2019	570-15237	<0.525	1.01	109	63.4	4.14	-
	SW20-25.0	25	12/10/2019	570-15237	<0.637	2.25	339	385	18	-
	SW20-30.0	30	12/10/2019	570-15237	<0.641	1.41	74.2	343	16.9	-
	SW20-35.0	35	12/10/2019	570-15237	<0.496	<0.808	12.1	83.8	1.69	-
	SW20-40.0	40	12/10/2019	570-15237	<0.516	<0.814	12.4	37.7	1.93	-

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Phibro-Tech, Inc., Santa Fe Springs, California

					Metals					
					Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Copper	Lead	Zinc
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					980	6.3	1,800,000	47000	800	350000
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					780	6.2	-	-	320	-
Proposed Target Cleanup Level Based on Leaching to Groundwater					-	30	-	-	-	-
P1-SW21	SW21-13.0	13	12/11/2019	570-15386	<0.542	2.02	28.3	65.1	<0.542	-
	SW21-17.0	17	12/11/2019	570-15386	<0.509	1.94	20.8	53.7	<0.509	-
	SW21-23.0	23	12/11/2019	570-15386	<0.518	<0.828	14.5	38.1	<0.518	-
	SW21-25.0	25	12/11/2019	570-15386	<0.525	0.902	102	55.7	<0.525	-
	SW21-25.5	25.5	12/11/2019	570-15386	<0.664	3.04	636	383	2.2	-
	SW21-30.0	30	12/11/2019	570-15386	<0.667	<1.07	42.2	456	2.31	-
	SW21-35.0	35	12/11/2019	570-15386	0.614	0.977	50.4	65.8	2.73	-
	SW21-40.0	40	12/11/2019	570-15386	<0.502	<0.826	28	53.6	<0.502	-
	SW21-45.0	45	12/11/2019	570-15386	<0.503	<0.824	7.51	69	6.31	-
	SW21-50.0	50	12/11/2019	570-15386	<0.532	1.1F1	240	170	9.06	-
	SW21-55.0	55	12/11/2019	570-15386	<0.551	<0.866	88.4	149	9.02	-
	SW21-58.0	58	12/11/2019	570-15386	<0.550	0.945	158	105	82.1	-
	SW21-59.25	59.25	12/11/2019	570-15386	<0.649	1.14	208	184	22.6	-
	SW21-60.0	60	12/11/2019	570-15386	<1.25	2.42	370	236	53.7	-
	SW21-61.0	61	12/11/2019	570-15386	<0.591	1.22	186	90.7	17.7	-
	SW21-64.5	64.5	12/11/2019	570-15386	<0.502	2.12	315	193	23.4	-
P1-SW22	SW22-10.0	10	12/5/2019	570-14782	<0.573	283	2,100	390	20.3	-
	SW22-15.0	15	12/6/2019	570-14968	<0.545	8.17	2,880	222	<0.545L	-
	SW22-16.5	16.5	12/6/2019	570-14968	<0.576	245	1,950	158	<0.576L	-
	SW22-20.0	20	12/6/2019	570-14968	<0.515	75.6	447	56.7	<0.515	-
	SW22-25.0	25	12/6/2019	570-14968	<0.531	168	891	82.4	1.32	-
	SW22-25.5	25.5	12/6/2019	570-14968	<0.628	1,320	5,070	327	39.5	-
	SW22-30.0	30	12/6/2019	570-14968	<0.652	26.4	3,780	744	<0.652L	-
	SW22-35.0	35	12/6/2019	570-14968	<0.525	3.91	273	232	<0.525	-
	SW22-40.0	40	12/6/2019	570-14968	<0.504	6.01	190	47.3	1.07	-
	SW22-45.0	45	12/6/2019	570-14968	<0.515	9.87	245	153	1.26	-
	SW22-50.0	50	12/6/2019	570-14968	<0.537	12.2	356	833	1.58	-
	SW22-50.5	50.5	12/6/2019	570-14968	<0.704	4.59	711	521	8.95	-
	SW22-55.0	55	12/6/2019	570-14968	<0.569	<0.928	28.4	280	4.39	-
	SW22-60.0	60	12/6/2019	570-14968	<0.555	2.88	118	79.4	1.68	-
	SW22-63.0	63	12/6/2019	570-14968	<0.671	2.84	28.7	295	3.84	-
	SW22-63.5	63.5	12/6/2019	570-14968	<0.539	<0.843	137	469	1.4	-
	SW22-65.5	65.5	12/6/2019	570-14968	<0.586	<0.971	116	550	10.7	-
	SW22-67.0	67	12/6/2019	570-14968	<0.543	4.14	569	317	1.27	-
P1-SW23	SW23-10.0	10	12/6/2019	570-14968	<0.568	15.3	42.2	28.3	6.55	-
	SW23-15.0	15	12/6/2019	570-14968	<0.512	9.29	211	44.7	1.55	-
	SW23-20.0	20	12/6/2019	570-14968	<0.522	39.3	795	43.4	0.56	-
	SW23-25.0	25	12/6/2019	570-14968	<0.495	64.9	565	33.5	0.83	-
	SW23-25.5	25.5	12/9/2019	570-15125	<0.512	153	843	31.6	0.585	-
	SW23-26.5	26.5	12/9/2019	570-15125	<0.637	2,240	5,880	246	0.81	-
	SW23-27.5	27.5	12/9/2019	570-15125	<0.668	123	2,820	287	<0.668	-
	SW23-29.5	29.5	12/9/2019	570-15125	<0.612	37.6	997	160	<0.612	-
	SW23-31.0	31	12/9/2019	570-15125	<0.598	70.5	1,960	302	<0.598	-
	SW23-34.0	34	12/9/2019	570-15125	<0.602	43.1	988	437	1.47	-
	SW23-39.0	39	12/9/2019	570-15125	<0.504	14.3	159	57.8	<0.504	-
	SW23-44.5	44.5	12/9/2019	570-15125	<0.493	16.3	163	351	0.598	-
	SW23-48.0	48	12/9/2019	570-15125	<0.608	193	352	225	<0.608	-
	SW23-53.5	53.5	12/9/2019	570-15125	<0.613	145	244	34.3F2,F1	<0.613L	-
	SW23-57.5	57.5	12/9/2019	570-15125	1.38	154	318	27.3	<0.622	-
	SW23-62.0	62	12/9/2019	570-15125	<0.597	43.9	208	184	<0.597	-
	SW23-62.5	62.5	12/9/2019	570-15125	<0.547	6.72	78.9	159	0.606	-
	SW23-67.5	67.5	12/9/2019	570-15125	<0.494	3.02	583	135	0.529	-
P1-SW24	SW24-10.0	10	12/9/2019	570-15125	<0.611	219	878	103	19	-
	SW24-14.5	14.5	12/9/2019	570-15125	<0.553	979	2,080	81.5	<0.553	-
	SW24-17.0	17	12/9/2019	570-15125	<0.534	143	974	52.3	0.776	-
	SW24-22.0	22	12/9/2019	570-15125	<0.716	550	1,740	88.5	<0.716	-
	SW24-26.0	26	12/9/2019	570-15125	<0.648	1,040	4,320	314	1.77	-
	SW24-27.0	27	12/9/2019	570-15125	<0.644	279	1,920	398	<0.644	-
	SW24-29.5	29.5	12/9/2019	570-15125	<0.626	67.8	1,280	294	<0.626	-

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					Metals					
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Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
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HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					780	6.2	-	-	320	-
Proposed Target Cleanup Level Based on Leaching to Groundwater					-	30	-	-	-	-
P1-SW25	SW25-10.0	10	12/9/2019	570-15125	<0.567	<0.888	24.2	23.9	1.33	-
	SW25-15.0	15	12/9/2019	570-15125	<0.536	<0.823F1	9.81	11.8	0.932	-
	SW25-20.0	20	12/9/2019	570-15125	<0.507	<0.825	11.2	11.1	<0.507	-
	SW25-24.0	24	12/9/2019	570-15125	<0.505	<0.825	7.75	8.04	0.669	-
	SW25-25.0	25	12/9/2019	570-15125	<0.653	895	3,000	139	<0.653L	-
	SW25-25.5	25.5	12/9/2019	570-15125	<0.544	1,960	4,780	327	<0.544L	-
	SW25-28.0	28	12/9/2019	570-15125	<0.701	86.4	3,330	643	<0.701L	-
	SW25-31.0	31	12/10/2019	570-15237	<0.595	41.2	2,580	402	<0.595L	-
	SW25-36.0	36	12/10/2019	570-15237	<0.513	20.4F1	413	240	<0.513	-
	SW25-39.5	39.5	12/10/2019	570-15237	<0.522	21.8	214	280	0.626	-
	SW25-40.0	40	12/10/2019	570-15237	<0.661	98.3	358	658	2.42	-
	SW25-44.5	44.5	12/10/2019	570-15237	<0.600	67.4	145	26.4	2.83	-
	SW25-50.0	50	12/10/2019	570-15237	<0.532	159	241	21.8	0.867	-
	SW25-55.0	55	12/10/2019	570-15237	1.89	123	216	32.5	<0.564	-
	SW25-58.0	58	12/10/2019	570-15237	<0.550	14.7	43.4	167	<0.550	-
	SW25-62.0	62	12/10/2019	570-15237	0.894	26.1	93.1	44.3	1.78	-
	SW25-63.0	63	12/10/2019	570-15237	<0.477	2.41	29.9	75.4	<0.477	-
	SW25-67.5	67.5	12/10/2019	570-15237	<0.538	6.17	579	139	1.77	-
P1-SW26	SW26-15.0	15	12/11/2019	570-15529	<0.535	3.97	587	82	<0.535	-
	SW26-20.0	20	12/11/2019	570-15529	<0.525	73.4	623	75.4	<0.525	-
	SW26-24.5	24.5	12/12/2019	570-15529	<0.507	32.7	1,770	93.1F1	<0.507L	-
	SW26-26.0	26	12/12/2019	570-15529	<0.614	93.7	2,200	241	2.05	-
	SW26-30.0	30	12/12/2019	570-15529	<0.646	11.5	2,180	287	<0.646	-
	SW26-32.0	32	12/12/2019	570-15529	<0.627	3.82	413	214	1.58	-
	SW26-37.0	37	12/12/2019	570-15529	<0.539	<0.831	111	35.3	<0.539	-
	SW26-42.0	42	12/12/2019	570-15529	<0.503	6.03	368	59.8	<0.503	-
	SW26-47.0	47	12/12/2019	570-15529	<0.513	4.95	232	212	3.44	-
	SW26-52.0	52	12/12/2019	570-15529	<0.501	8.1	352	409	0.598	-
	SW26-56.0	56	12/12/2019	570-15529	<0.552	4.85F1	762	313	7.36	-
	SW26-60.0	60	12/12/2019	570-15529	<0.582	1.78	435	188	69.9	-
	SW26-63.0	63	12/12/2019	570-15529	<0.685	<1.09	63.5	113	11.6	-
	SW26-63.5	63.5	12/12/2019	570-15529	<0.599	2.13	154	113	9.87	-
	SW26-66.5	66.5	12/12/2019	570-15529	<0.512	2.97	192	83.9	5.6	-
P1-SW27	SW27-10.0	10	12/13/2019	570-15666	<5.91	342	6,950	1,330	<5.91	-
	SW27-15.0	15	12/13/2019	570-15666	<0.513	242	972	81	<0.513	-
	SW27-20.0	20	12/13/2019	570-15666	<0.494	308	696	40.6	<0.494	-
	SW27-23.5	23.5	12/13/2019	570-15666	<0.525	562	1,120	57.1	<0.525L	-
	SW27-26.5	26.5	12/13/2019	570-15666	<6.12	1,610	5,310	313	<6.12	-
	SW27-31.0	31	12/13/2019	570-15666	<0.652	94.3	2,220	569	<0.652L	-
P1-SW28	SW27-36.0	36	12/13/2019	570-15666	0.9	87.4	1,340	589	<0.641L	-
	SW28-12.0	12	12/12/2019	570-15529	<0.549	529	1,020	59.8	1.48	-
	SW28-17.0	17	12/12/2019	570-15529	<0.524	73.9	348	34.2	<0.524	-
	SW28-22.0	22	12/12/2019	570-15529	<0.515	185	533	43.6	<0.515	-
	SW28-25.5	25.5	12/12/2019	570-15529	<0.500	62	344	57.9	<0.500	-
	SW28-26.5	26.5	12/12/2019	570-15529	<0.635L	477	2,000	482	8.21	-
	SW28-31.0	31	12/12/2019	570-15529	<0.638	33	900	406	<0.638	-
	SW28-36.0	36	12/12/2019	570-15529	<0.509	5.44	107	126	0.642	-
	SW28-41.0	41	12/12/2019	570-15529	<0.509	4.22	49.8	38.4	<0.509	-
	SW28-47.0	47	12/12/2019	570-15529	<0.518	8.98	154	172	<0.518	-
	SW28-52.0	52	12/13/2019	570-15666	1.28F1	33.6	792	718	1.93F1	-
	SW28-57.0	57	12/13/2019	570-15666	1.59	15.2	53.5F1	28.8F1	2.07	-
	SW28-60.0	60	12/13/2019	570-15666	<0.629	16.7	388	114	<0.629L	-
	SW28-60.5	60.5	12/13/2019	570-15666	<0.536	16.5	282	61	0.84	-
	SW28-64.5	64.5	12/13/2019	570-15666	0.733	5.45	275	82.5	6.11	-
PI-1	PI-1-12.0	12	9/10/1990	-	-	94.5	-	-	-	-
	PI-1-17.0	17	9/10/1990	-	-	1.8	-	-	-	-
	PI-1-21.5	21.5	9/10/1990	-	-	81.2	-	-	-	-
	PI-1-27.0	27	9/10/1990	-	-	5.9	-	-	-	-
	PI-1-37.0	37	9/10/1990	-	-	ND	-	-	-	-
PI-2	PI-2-16.5	16.5	9/12/1990	-	-	24.4	-	-	-	-
	PI-2-23.0	23	9/12/1990	-	-	30.9	-	-	-	-
	PI-2-32.0	32	9/12/1990	-	-	199	-	-	-	-
	PI-2-36.5	36.5	9/12/1990	-	-	ND	-	-	-	-
PI-3	PI-3-16.0	16	9/12/1990	-	-	9.9	-	-	-	-
	PI-3-20.5	20.5	9/12/1990	-	-	4.4	-	-	-	-
	PI-3-25.5	25.5	9/12/1990	-	-	17.1	-	-	-	-
	PI-3-35.5	35.5	9/12/1990	-	-	1.5	-	-	-	-



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					Metals					
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Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					980	6.3	1,800,000	47000	800	350000
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					780	6.2	-	-	320	-
Proposed Target Cleanup Level Based on Leaching to Groundwater					-	30	-	-	-	-
PI-4	PI-4-11.0	11	9/10/1990	-	-	ND	-	-	-	-
	PI-4-17.0	17	9/10/1990	-	-	ND	-	-	-	-
	PI-4-21.5	21.5	9/10/1990	-	-	ND	-	-	-	-
	PI-4-26.5	26.5	9/11/1990	-	-	ND	-	-	-	-
	PI-4-36.0	36	9/11/1990	-	-	ND	-	-	-	-
PI-5	PI-5-15.0	15	9/11/1990	-	-	ND	-	-	-	-
	PI-5-20.0	20	9/11/1990	-	-	ND	-	-	-	-
	PI-5-25.0	25	9/11/1990	-	-	2.1	-	-	-	-
	PI-5-35.0	35	9/11/1990	-	-	7.9	-	-	-	-
PI-6	PI-6-15.0	15	9/13/1990	-	-	7.9	-	-	-	-
	PI-6-20.0	20	9/13/1990	-	-	3.1	-	-	-	-
	PI-6-25.0	25	9/13/1990	-	-	7.5	-	-	-	-
	PI-6-35.0	35	9/13/1990	-	-	143	-	-	-	-
PI-7	PI-7-15.5	15.5	9/13/1990	-	-	10.4	-	-	-	-
	PI-7-20.5	20.5	9/13/1990	-	-	8.9	-	-	-	-
	PI-7-25	25	9/13/1990	-	-	7.4	-	-	-	-
	PI-7-35	35	9/13/1990	-	-	61.8	-	-	-	-
PZ01	PTI-PZ01-S-12.5	12.5	6/14/2007	-	<0.5U	<2	23	28	6.2	51
	PTI-PZ01-S-22.5	22.5	6/14/2007	-	<0.5U	<1	17	11	2.9	30
	PTI-PZ01-S-41.0	41	6/14/2007	-	<0.5U	48	120	380	7.7	100
PZ02	PTI-PZ02-S-20.0	20	6/12/2007	-	<0.5U	<0.2	6.7	9.4	2.4	22
	PTI-PZ02-S-30.0	30	6/12/2007	-	<0.5U	<0.2	20	28	4.8	53
PZ03	PTI-PZ03-S-15.0	15	6/12/2007	-	<0.5U	<0.2	8.9	14	2.5	25
	PTI-PZ03-S-24.0	24	6/12/2007	-	<0.5U	<0.2	8.3	8.8	2.1	18
	PTI-PZ03-S-29.0	29	6/12/2007	-	<0.5U	<0.2	21	31	6.3	60
RS-1	RS-1-15.0	15	9/18/1990	-	-	ND	-	-	-	-
	RS-1-20.0	20	9/18/1990	-	-	ND	-	-	-	-
	RS-1-30.0	30	9/18/1990	-	-	ND	-	-	-	-
	RS-1-40.0	40	9/18/1990	-	-	1.2	-	-	-	-
RS-2	RS-2-15.0	15	9/18/1990	-	-	ND	-	-	-	-
	RS-2-20.0	20	9/18/1990	-	-	ND	-	-	-	-
	RS-2-30.0	30	9/18/1990	-	-	ND	-	-	-	-
	RS-2-40.0	40	9/18/1990	-	-	ND	-	-	-	-
RS-3	RS-3-15.0	15	9/17/1990	-	-	ND	-	-	-	-
	RS-3-20.0	20	9/17/1990	-	-	4	-	-	-	-
	RS-3-30.0	30	9/17/1990	-	-	ND	-	-	-	-
	RS-3-40.0	40	9/17/1990	-	-	7.4	-	-	-	-
RS-4	RS-4-15.0	15	9/17/1990	-	-	2.1	-	-	-	-
	RS-4-20.0	20	9/17/1990	-	-	4.4	-	-	-	-
	RS-4-30.0	30	9/17/1990	-	-	1.8	-	-	-	-
	RS-4-40.0	40	9/17/1990	-	-	12.2	-	-	-	-
RS-5	RS-5-15.0	15	9/20/1990	-	-	ND	-	-	-	-
	RS-5-20.0	20	9/20/1990	-	-	ND	-	-	-	-
	RS-5-30.0	30	9/20/1990	-	-	ND	-	-	-	-
	RS-5-40.0	40	9/20/1990	-	-	ND	-	-	-	-
RS-6	RS-6-15.0	15	9/20/1990	-	-	<0.2	-	-	-	-
	RS-6-20.0	20	9/20/1990	-	-	<0.2	-	-	-	-
	RS-6-30.0	30	9/20/1990	-	-	<0.2	-	-	-	-
	RS-6-40.0	40	9/20/1990	-	-	<0.2	-	-	-	-
SB-1	SB-1-15.0	15	9/19/1990	-	-	ND	-	-	-	-
	SB-1-20.5	20.5	9/19/1990	-	-	ND	-	-	-	-
	SB-1-30.5	30.5	9/19/1990	-	-	ND	-	-	-	-
	SB-1-40.0	40	9/19/1990	-	-	ND	-	-	-	-
SB-2	SB-2-15.0	15	9/18/1990	-	-	ND	-	-	-	-
	SB-2-20.5	20.5	9/18/1990	-	-	ND	-	-	-	-
	SB-2-30.0	30	9/18/1990	-	-	ND	-	-	-	-
	SB-2-40.5	40.5	9/18/1990	-	-	ND	-	-	-	-
SB-3	SB-3-15.5	15.5	9/18/1990	-	-	ND	-	-	-	-
	SB-3-20.0	20	9/18/1990	-	-	ND	-	-	-	-
	SB-3-30.0	30	9/18/1990	-	-	ND	-	-	-	-
	SB-3-40.0	40	9/18/1990	-	-	ND	-	-	-	-
SB-4	SB-4-16.0	16	12/15/1989	-	-	12.2	-	-	-	-
	SB-4-21.0	21	12/15/1989	-	-	12.6	-	-	-	-
	SB-4-25.5	25.5	12/15/1989	-	-	51.1	-	-	-	-
	SB-4-31.0	31	12/15/1989	-	-	11.9	-	-	-	-
	SB-4-36.0	36	12/15/1989	-	-	11.8	-	-	-	-
	SB-4-49.0	49	12/15/1989	-	-	26.9	-	-	-	-

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Proposed Target Cleanup Level Based on Leaching to Groundwater					-	30	-	-	-	-
SB-5	SB-5-15.5	15.5	12/14/1989	-	-	7.27	-	-	-	-
	SB-5-20.5	20.5	12/14/1989	-	-	2.68	-	-	-	-
	SB-5-25.5	25.5	12/14/1989	-	-	3.65	-	-	-	-
	SB-5-30.0	30	12/14/1989	-	-	3.02	-	-	-	-
	SB-5-45.5	45.5	12/14/1989	-	-	3.26	-	-	-	-
	SB-5-35.5	65.5	12/14/1989	-	-	ND	-	-	-	-
SB-6	SB-6-15.5	15.5	12/14/1989	-	-	ND	-	-	-	-
	SB-6-21.0	21	12/14/1989	-	-	ND	-	-	-	-
	SB-6-25.5	25.5	12/14/1989	-	-	ND	-	-	-	-
	SB-6-31.0	31	12/14/1989	-	-	ND	-	-	-	-
	SB-6-37.0	37	12/14/1989	-	-	ND	-	-	-	-
	SB-6-46.0	46	12/14/1989	-	-	ND	-	-	-	-
SB-7	SB-7-15.5	15.5	9/20/1990	-	-	312	-	-	-	-
	SB-7-20.5	20.5	9/20/1990	-	-	906	-	-	-	-
	SB-7-30.5	30.5	9/20/1990	-	-	330	-	-	-	-
	SB-7-40.5	40.5	9/20/1990	-	-	1,160	-	-	-	-
SB-8	SB-8-15.5	15.5	9/19/1990	-	-	ND	-	-	-	-
	SB-8-20.5	20.5	9/19/1990	-	-	ND	-	-	-	-
	SB-8-30.5	30.5	9/19/1990	-	-	ND	-	-	-	-
	SB-8-40.5	40.5	9/19/1990	-	-	ND	-	-	-	-
SMP01B	PTI-SMP01B-S-11.0	11	6/22/2007	-	0.55	0.33	26	34	8.1	69
	PTI-SMP01B-S-16.5	16.5	6/22/2007	-	<0.5U	<0.2	6.4	11	2.6	20
	PTI-SMP01B-S-30.0	30	6/22/2007	-	<0.5U	<0.2	18	22	4.5	47
	PTI-SMP01B-S-43.0	43	6/22/2007	-	<1RL1,U	0.98	35	61	16	74
SMP02B	PTI-SMP02B-S-12.0	12	6/21/2007	-	<0.5U	0.24	39	41	9.8	62
	PTI-SMP02B-S-26.0	26	6/21/2007	-	<0.5U	<0.2	5.5	9.5	2.1	14
	PTI-SMP02B-S-42.0	42	6/21/2007	-	<0.5U	<0.2	30	30	6.3	56
SMP03B	PTI-SMP03B-S-14.0	14	6/22/2007	-	<0.5U	0.22	26	36	7.9	50
	PTI-SMP03B-S-24.0	24	6/22/2007	-	0.63	<0.2	40	54	11	77
	PTI-SMP03B-S-43.0	43	6/22/2007	-	<0.5U	<0.2	9.5	11	3.1	22
SMP04B	PTI-SMP04B-S-22.0	22	6/20/2007	-	<0.5U	<0.2	9.4	14	3.1	30
	PTI-SMP04B-32.0	32	6/20/2007	-	<0.99RL1,U	<0.2	32	51	11	85
	PTI-SMP04B-42.5	42.5	6/20/2007	-	<0.5U	<0.2	26	32	7.7	57
SMP05B	PTI-SMP05B-S-10.5	10.5	6/22/2007	-	0.67	4.4	88	40	10	63
	PTI-SMP05B-S-29.0	29	6/22/2007	-	<0.5U	<0.2	8.1	11	2.5	18
	PTI-SMP05B-S-43.0	43	6/22/2007	-	<0.5U	<0.2	29	28	7	45
SMP06	PTI-SMP06-S-10.0	10	6/23/2007	-	<0.5U	0.26	10	17	16	39
	PTI-SMP06-S-23.0	23	6/23/2007	-	<0.5U	<0.2	6.4	9.9	2.3	15
	PTI-SMP06-S-32.0	32	6/23/2007	-	<0.5U	<0.2	19	31	5.3	51
SMP-07	PTI-SMP-07-S-32.0	32	6/23/2007	-	<0.5U	<0.2	5.8	7.1	<2U	13
	PTI-SMP-07-S-34.0	34	6/23/2007	-	<0.5U	<0.2	28	38	9	59
	PTI-SMP-07-S-43.0	43	6/23/2007	-	<0.5U	<0.2	18	19	5.1	35
SMP08	PTI-SMP08-S-13.0	13	6/23/2007	-	<0.5U	<0.2	7.8	18	2.3	21
	PTI-SMP08-S-26.0	26	6/23/2007	-	<0.5U	<0.2	5.5	13	2.4	17
	PTI-SMP08-S-41.0	41	6/23/2007	-	0.58	<0.2	28	28	7.5	51
SVE01B	PTI-SVE01B-S-14.0	14	6/21/2007	-	0.63	<0.2	32	140	10	110
	PTI-SVE01B-S-20.5	20.5	6/21/2007	-	<0.5U	<0.2	12	32	3.3	33
	PTI-SVE01B-S-30.0	30	6/21/2007	-	0.61	<0.2	28	55	8.7	73
SVE02B	PTI-SVE02B-S-10.0	10	6/21/2007	-	<0.5U	<0.2	36	44	9.7	66
	PTI-SVE02B-S-30.0	30	6/21/2007	-	<0.5U	1.8	85	250	2.3	22
	PTI-SVE02B-S-43.0	43	6/21/2007	-	<0.5U	<0.2	28	33	6.5	52
SVE03B	PTI-SVE03B-S-12.0	12	6/23/2007	-	<1RL1,U	<0.2	41	55	12	76
	PTI-SVE03B-S-21.0	21	6/23/2007	-	<0.5U	<0.2	11	16	3.3	26
	PTI-SVE03B-S-35.0	35	6/23/2007	-	0.66	<0.2	27	35	8.8	59
	PTI-SVE03B-S-45.0	45	6/23/2007	-	<0.5U	<0.2	16	20	4.9	38
SW29	SW29-10.0	10	1/30/2020	570-19320	0.824	<0.942	41	861	8.06	-
	SW29-15.0	15	1/30/2020	570-19320	<0.522	<0.847	7.4	75.3	1.86	-
	SW29-20.0	20	1/30/2020	570-19320	<0.534	<0.851	7.67	46.3	1.92	-
	SW29-24.0	24	1/30/2020	570-19320	<0.535	6.28	72.6	206	5.4	-
	SW29-24.5	24.5	1/30/2020	570-19320	<0.649	1.39	97.5	1,080	10.7	-
	SW29-30.0	30	1/30/2020	570-19320	<0.660	<1.04	38.7	65	7.8	-
	SW29-35.0	35	1/30/2020	570-19320	<0.523	<0.825	7.22	92	0.869	-
	SW29-40.0	40	1/30/2020	570-19320	<0.526	<0.815	29.9	262	1.98	-
	SW29-47.5	47.5	1/30/2020	570-19320	<0.528	5.16	280	253	0.852	-
	SW29-48.0	48	1/30/2020	570-19320	<0.651	<1.02	41.9	327	6.93	-
	SW29-53.0	53	1/30/2020	570-19320	<0.590	<0.948	35.9	983	7.33	-
	SW29-58.0	58	1/30/2020	570-19320	1.29	16	129	470	10.7	-
	SW29-60.0	60	1/30/2020	570-19320	1.09	8.09	28.5	15.1	2.26	-
	SW29-65.0	65	1/30/2020	570-19320	<0.522	4.59	627	7.46	0.631	-
	SW29-70.0	70	1/30/2020	570-19320	<0.520	<0.839	27.3	11.8	1.95	-

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HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					780	6.2	-	-	320	-
Proposed Target Cleanup Level Based on Leaching to Groundwater					-	30	-	-	-	-
SW30	SW30-10.0	10	1/31/2020	570-19488-1	0.903	<0.879	35	30.5	5.33	-
	SW30-15.0	15	1/31/2020	570-19488-1	<0.543	<0.836	12.2	13	1.51	-
	SW30-20.0	20	1/31/2020	570-19488-1	1.19	<0.968	22.7	26.3	4.13	-
	SW30-23.5	23.5	1/31/2020	570-19488-1	<0.550	<0.866	10.5	74	9.08	-
	SW30-24.0	24	1/31/2020	570-19488-1	1.86	<1.03	52.4	242	<0.638L	-
	SW30-30.0	30	1/31/2020	570-19488-1	0.818	<1.00	32.3	393	15.3	-
	SW30-35.0	35	1/31/2020	570-19488-1	<0.516	<0.824	7.43	44.8	5.27	-
	SW30-40.0	40	1/31/2020	570-19488-1	<0.520	<0.832	9.75	63.9	25.8	-
	SW30-45.0	45	1/31/2020	570-19488-1	<0.495	<0.828	26.5	168	9.92	-
	SW30-49.5	49.5	1/31/2020	570-19488-1	<0.640	<1.05	70.3	150	15.8	-
	SW30-54.5	54.5	1/31/2020	570-19488-1	<0.650	<1.02	53.2	156	76.2	-
	SW30-60.0	60	1/31/2020	570-19488-1	<0.568	<0.939	13	39.9	33.4	-
	SW30-65.0	65	1/31/2020	570-19488-1	<0.516	<0.830	71.1	162	22.5	-
	SW30-70.0	70	1/31/2020	570-19488-1	<0.537	<0.843	38.5	100	30.5	-
SW31	SW31-10.0	10	4/20/2020	570-26195-1	0.851	<0.923	32.4	27.8	7.08	-
	SW31-15.0	15	4/20/2020	570-26195-1	<0.532	<0.835	25.9	98.6	20.7	-
	SW31-20.0	20	4/20/2020	570-26195-1	<0.526	<0.818	10.4	86.8	8.99	-
	SW31-26.5	26.5	4/20/2020	570-26195-1	<0.541	<0.875	170	72.9	46.2	-
	SW31-27.0	27	4/20/2020	570-26195-1	<0.649	<1.00	409	292	90	-
	SW31-30.0	30	4/20/2020	570-26195-1	<0.665	<1.04	127	424	17.7	-
	SW31-35.0	35	4/20/2020	570-26195-1	<0.503	<0.818	10.3	154	4.8	-
	SW31-40.0	40	4/20/2020	570-26195-1	<0.495	<0.816	6.54	31.7	5.69	-
	SW31-45.0	45	4/20/2020	570-26195-1	0.556	<0.807	22.7	67.5	23.6	-
	SW31-50.0	50	4/20/2020	570-26195-1	<0.537	<0.849	46.5	94.1	20.8	-
	SW31-55.0	55	4/20/2020	570-26195-1	<0.540	<0.839	21.3	62.2	14.1	-
	SW31-58.5	58.5	4/20/2020	570-26195-1	<0.520	<0.827	51.4	103	16	-
	SW31-59.0	59	4/20/2020	570-26195-1	<0.576	<0.903	129	181	55.6	-
	SW31-60.0	60	4/20/2020	570-26195-1	<0.670	1.31	178	129	31.4	-
SW32	SW31-62.0	62	4/20/2020	570-26195-1	1.78	<0.925	69.9	74.3	21.1	-
	SW31-67.0	67	4/20/2020	570-26195-1	<0.521	<0.812	52.1	256	30.5	-
	SW32-10.0	10	4/21/2020	570-26289-1	1.06	1.12	167	345	21.4	-
	SW32-15.0	15	4/21/2020	570-26289-1	<0.499	<0.815	7.82	67.8	2.49	-
	SW32-20.0	20	4/21/2020	570-26289-1	<0.491	<0.824	10.7	104	4.73	-
	SW32-25.0	25	4/21/2020	570-26289-1	<0.489	<0.807	37.8	81.2	6.99	-
	SW32-26.5	26.5	4/21/2020	570-26289-1	<0.499	1.48	363	172	22.3	-
	SW32-27.0	27	4/21/2020	570-26289-1	1.24	13.7	1,840	696	111	-
	SW32-30.0	30	4/21/2020	570-26289-1	1.02	7.63	589	328	14.7	-
	SW32-35.0	35	4/21/2020	570-26289-1	<0.525	<0.833	20.4	138	3.72	-
	SW32-40.0	40	4/21/2020	570-26289-1	<0.533	<0.819	9.89	190	4.78	-
	SW32-45.0	45	4/21/2020	570-26289-1	<0.519	<0.813	26	256	3.6	-
	SW32-50.0	50	4/21/2020	570-26289-1	<0.527	<0.816	23.8	223	6.28	-
	SW32-52.0	52	4/21/2020	570-26289-1	<0.577	<0.947	39.3	125	84.4	-
SW33	SW32-55.0	55	4/21/2020	570-26289-1	<0.597	<0.917	30.6	149	44.4	-
	SW32-60.0	60	4/21/2020	570-26289-1	<0.542	<0.868	56.2	66	12.4	-
	SW32-65.0	65	4/21/2020	570-26289-1	<0.529	<0.822	9.71	136	22.6	-
	SW33-10.0	10	4/21/2020	570-26289-1	<0.562	2.62	134	212	6.32	-
	SW33-15.0	15	4/21/2020	570-26289-1	<0.543	2.01	138	107	2.34	-
	SW33-20.0	20	4/21/2020	570-26289-1	<0.514	1.64	52.9	76.4	2.88	-
	SW33-25.0	25	4/21/2020	570-26289-1	<0.564	1.24	243	200	5.33	-
	SW33-26.0	26	4/21/2020	570-26289-1	<0.515	2.05	297	144	4.4	-
	SW33-26.5	26.5	4/21/2020	570-26289-1	<0.644	5.74	1,470	655	7.97	-
	SW33-30.0	30	4/21/2020	570-26289-1	<0.640	7	850	859	17.8	-
	SW33-35.0	35	4/21/2020	570-26289-1	<0.502	<0.819	30	165	3.86	-
	SW33-40.0	40	4/21/2020	570-26289-1	<0.507	<0.809	8.07	57.9	4.43	-
	SW33-45.0	45	4/21/2020	570-26289-1	<0.523	<0.809	6.37	171	5.72	-
	SW33-50.0	50	4/21/2020	570-26289-1	<0.491	<0.814	15.1	317	3.87	-
	SW33-53.5	53.5	4/21/2020	570-26289-1	<0.543	<0.846	17.1	269	5.81	-
	SW33-54.0	54	4/21/2020	570-26289-1	<0.663L	<1.01	34.1	442	5.36	-
	SW33-55.0	55	4/21/2020	570-26289-1	<0.600	<0.958	35.6	40.6	5.89	-
	SW33-60.0	60	4/21/2020	570-26289-1	<0.580	<0.939	93.2	247	3.94	-
	SW33-62.0	62	4/21/2020	570-26289-1	<0.650	<1.04	29.4	230	16.7	-
	SW33-63.0	63	4/21/2020	570-26289-1	<0.498	<0.828	49.9	418	8.27	-
	SW33-65.0	65	4/21/2020	570-26289-1	<0.500	<0.824	52.1	44	0.94	-
	SW33-68.0	68	4/21/2020	570-26289-1	<0.508	<0.824	26.8	80.7	1.48	-

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					Metals					
					Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Copper	Lead	Zinc
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					980	6.3	1,800,000	47000	800	350000
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					780	6.2	-	-	320	-
Proposed Target Cleanup Level Based on Leaching to Groundwater					-	30	-	-	-	-
VZBS1	VZBS1-18.5	18.5	4/3/2012	440-7200	<12	360	3,300	1,500	<48	<120
	VZBS1-23.5	23.5	4/3/2012	440-7200	<11	140	3,500	520	<43	<110
	VZBS1-28	28	4/3/2012	440-7200	<11	89	1,800	360	<42	<110
	VZBS1-31.8	31.8	4/3/2012	440-7200	<12	260	3,900	1,000	<47	<120
	VZBS1-36.5	36.5	4/3/2012	440-7200	<12	250	5,000	3,200	<49	<120
	VZBS1-41.5	41.5	4/3/2012	440-7200	<12	2,200	9,000	6,200	<49	180
	VZBS1-46.5	46.5	4/3/2012	440-7200	<12	370	570	68	<49	<120
VZBS2	VZBS1-50	50	4/3/2012	440-7200	<12	430	520	<46	<46	<120
	VZBS2-18.5	18.5	4/3/2012	440-7200	<10	62	1,400	640	<41	<100
	VZBS2-22.5	22.5	4/3/2012	440-7200	<10	53	1,400	430	<41	<100
	VZBS2-28.5	28.5	4/3/2012	440-7200	<10	14	4,200	1,000	<41	<100
	VZBS2-31.5	31.5	4/3/2012	440-7200	<12	18	3,000	930	<47	<120
	VZBS2-36.5	36.5	4/3/2012	440-7200	<12	28	3,600	1,500	<49	130
	VZBS2-41.5	41.5	4/3/2012	440-7200	<12	750	2,100	4,500	<50	160
W7/8-01	VZBS2-46.5	46.5	4/3/2012	440-7200	<13	140	680	690	<50	140
	VZBS2-50	50	4/3/2012	440-7200	<12	250	400	<46	<46	<120
	W7/8-01-10.0	10	7/18/2018	18-07-1277	<0.505	0.52	32.9	45.1	57.4	366
	W7/8-01-15.0	15	7/18/2018	18-07-1277	<0.513	<0.4	14.1	23.8	5.5	180
	W7/8-01-20.0	20	7/18/2018	18-07-1277	<0.498	<0.4	8.44	31.4	6.18	136
	W7/8-01-25.5	25.5	7/18/2018	18-07-1277	<0.505	1.3	10.2	13.1	2.6	50.7
	W7/8-01-27.5	27.5	7/18/2018	18-07-1277	<0.481	1.4	10.3	12.3	1.85	52.9
	W7/8-01-28.8	28.8	7/18/2018	18-07-1277	1.11	3.4	25.7	34.8	5.94	91.9
	W7/8-01-30.0	30	7/18/2018	18-07-1277	1.04	16	130	82.7	5.54	72.1
	W7/8-01-35.0	35	7/18/2018	18-07-1277	10.2	14	56.3	43.4	8.37	392
	W7/8-01-40.0	40	7/18/2018	18-07-1277	2.75	17	66.3	44	6.99	64.3
	W7/8-01-45.0	45	7/18/2018	18-07-1277	0.902	18	82.3	37.4	8.69	74
	W7/8-01-50.0	50	7/18/2018	18-07-1277	2.18	23	80.8	37	15.9	71.2
W7/8-02	W7/8-01-55.0	55	7/18/2018	18-07-1277	1.76	18	43.6	27	6.31	58.9
	W7/8-01-60.0	60	7/18/2018	18-07-1277	1.14	7.1	42.5	13.9	4.68	33.9
	W7/8-01-64.0	64	7/18/2018	18-07-1277	<0.524	6.8	73.1	26.9	4.95	60.7
	W7/8-02-10.0	10	7/18/2018	18-07-1277	14.5	0.47	25.9	32.1	6.67	268
	W7/8-02-15.0	15	7/18/2018	18-07-1277	1.02	<0.4	16.7	16.9	4.19	805
	W7/8-02-20.0	20	7/18/2018	18-07-1277	0.506	<0.4	8.24	8.68	2.1	199
	W7/8-02-25.0	25	7/18/2018	18-07-1277	0.777	<0.4	8.71	8.4	2.05	235
W7/8-04	W7/8-02-30.5	30.5	7/18/2018	18-07-1277	2.79	<0.4	8.15	22.9	2.3	47.5
	W7/8-02-31.5	31.5	7/18/2018	18-07-1277	6.1	<0.4	23.9	117	4.5	204
	W7/8-02-35.0	35	7/18/2018	18-07-1277	1.69	<0.4	30.1	40.3	8.79	79.1
	W7/8-02-39.0	39	7/18/2018	18-07-1277	0.765	<0.4	33.3	46.7	8.15	72.6
	W7/8-04-10.0	10	7/20/2018	18-07-1563	1.18	0.55	40	35.2	8.36	127
	W7/8-04-15.0	15	7/20/2018	18-07-1563	0.622	<0.4	18.6	18.5	4.14	290
	W7/8-04-20.0	20	7/20/2018	18-07-1563	0.557	<0.4	8.01	9.21	2.35	59.2
W7/8-05	W7/8-04-25.0	25	7/20/2018	18-07-1563	1.55	<0.4	10.4	12.8	2.69	126
	W7/8-04-27.5	27.5	7/20/2018	18-07-1563	2.21	<0.4	7.33	9.22	2.85	64.7
	W7/8-04-28.0	28	7/20/2018	18-07-1563	1.01	1.3	43.7	69.4	4.94	174
	W7/8-04-30.0	30	7/20/2018	18-07-1563	1.02	0.97	40	74.9	4.71	79.5
	W7/8-04-35.0	35	7/20/2018	18-07-1563	2.41	3	35.6	51.4	8.7	73.2
	W7/8-04-40.0	40	7/20/2018	18-07-1563	5.39	2.5	41	56.7	8.21	89
	W7/8-05-10.0	10	7/18/2018	18-07-1277	<0.508	<0.4	27.9	33.9	10.3	191
W7/8-06	W7/8-05-15.0	15	7/18/2018	18-07-1277	<0.485	<0.4	10.5	12.7	4.22	100
	W7/8-05-20.0	20	7/18/2018	18-07-1277	<0.524	<0.4	8.86	10.7	2.9	62.4
	W7/8-05-25.0	25	7/18/2018	18-07-1277	<0.490	<0.4	13.1	15.2	3.86	120
	W7/8-05-32.0-Sand	32	7/18/2018	18-07-1277	6.38	<0.4	9.78	10.7	2.99	193
	W7/8-05-33.0	33	7/18/2018	18-07-1277	29	2.1	33.4	54.4	6.86	630
	W7/8-05-34.0-Aqd	34	7/18/2018	18-07-1277	3.09	6.2	51	74.1	13.6	259
	W7/8-05-39.0	39	7/18/2018	18-07-1277	1.4	5.1	38.3	49.5	10.4	84.3
W7/8-06	W7/8-06-10.0	10	7/20/2018	18-07-1563	67.1	1.1	31.4	30.7	6.81	330
	W7/8-06-15.0	15	7/20/2018	18-07-1563	1.87	<0.4	14.9	56	5.04	119
	W7/8-06-20.0	20	7/20/2018	18-07-1563	3.05	<0.4	9.21	36.2	2.12	228
	W7/8-06-25.0	25	7/20/2018	18-07-1563	1.95	<0.4	9.98	12.1	2.72	52.2
	W7/8-06-29.5	29.5	7/20/2018	18-07-1563	-	0.61	-	-	-	-
	W7/8-06-30.0	30	7/20/2018	18-07-1563	4.74	<0.4	9.04	7.76	1.7	19.7
	W7/8-06-31.0	31	7/20/2018	18-07-1563	9.01	<0.4	24.9	33.5	5.64	293
	W7/8-06-35.0	35	7/20/2018	18-07-1563	1.16	<0.4	31.2	35	7.64	82
	W7/8-06-40.0	40	7/20/2018	18-07-1563	1.47	<0.4	34.2	50.9	8.7	78.6



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Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					980	6.3	1,800,000	47000	800	350000
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					780	6.2	-	-	320	-
Proposed Target Cleanup Level Based on Leaching to Groundwater					-	30	-	-	-	-
W7/8-07	W7/8-07-10.0	10	7/19/2018	18-07-1412	0.608	3.3	222	1,060	20.8	128
	W7/8-07-15.0	15	7/19/2018	18-07-1412	<0.500	7	526	443	27.5	134
	W7/8-07-20.0	20	7/19/2018	18-07-1412	<0.495	9	520	102	9.49	37.6
	W7/8-07-25.0	25	7/19/2018	18-07-1412	<0.505	14	730	49.2	3.32	37
	W7/8-07-30.0	30	7/19/2018	18-07-1412	<0.493	20	552	41.3	8.91	27.7
	W7/8-07-32.0	32	7/19/2018	18-07-1412	<0.481	18	520	34.1	3.14	32
	W7/8-07-33.0	33	7/19/2018	18-07-1412	0.889	37	248	161	5.93	96.1
W7/8-08	W7/8-07-40.0	40	7/19/2018	18-07-1412	0.971	96	2,140	200	9.99	93.9
	W7/8-08-10.0	10	7/19/2018	18-07-1412	2.48	2.5	47	33.3	6.99	74.1
	W7/8-08-15.0	15	7/19/2018	18-07-1412	<0.488	0.52	13.9	17	3.79	35.8
	W7/8-08-20.0	20	7/19/2018	18-07-1412	<0.476	<0.4	9.24	47.8	2.78	77.9
	W7/8-08-25.0	25	7/19/2018	18-07-1412	<0.481	<0.4	14.7	88.7	2.66	146
W7/8-09	W7/8-08-30.0	30	7/19/2018	18-07-1412	<0.490	0.57	11.1	33.9	2.43	55.7
	W7/8-09-10.0	10	7/19/2018	18-07-1412	14.3	<0.4	35.8	113	11.7	1,610
	W7/8-09-15.0	15	7/19/2018	18-07-1412	0.607	<0.4	25.9	109	8.79	108
	W7/8-09-20.0	20	7/19/2018	18-07-1412	<0.493	<0.4	10.3	42.3	3.27	63.5
	W7/8-09-25.0	25	7/19/2018	18-07-1412	<0.488	0.67	32.3	47.5	2.89	73.7
	W7/8-09-30.0	30	7/19/2018	18-07-1412	<0.476	5.1	165	57.8	2.71	66.8
	W7/8-09-32.0	32	7/19/2018	18-07-1412	<0.495	7.4	149	36.5	3.12	65.9
W7/8-10	W7/8-09-40.0	40	7/19/2018	18-07-1412	1.51	110	1,780	372	9.08	156
	W7/8-10-13.0	13	7/20/2018	18-07-1563	5.15	0.96	36.4	31	7.51	145
	W7/8-10-20.0	20	7/20/2018	18-07-1563	<0.500	<0.4	9.01	9.62	2.67	22.1
	W7/8-10-29.5	29.5	7/20/2018	18-07-1563	0.926	<0.4	23.5	24.3	6.66	47.2
	W7/8-10-30.0	30	7/20/2018	18-07-1563	0.92	<0.4	17.2	21.5	5.32	41.9
	W7/8-10-35.5	35.5	7/20/2018	18-07-1563	2.35	<0.4	20.5	23.4	4.43	47.2
W7/8-11	W7/8-10-36.5	36.5	7/20/2018	18-07-1563	1.32	<0.4	10.5	10.3	3.12	29.4
	W7/8-10-37.0	37	7/20/2018	18-07-1563	1.98	<0.4	23.7	28	4.39	198
	W7/8-11-10.0	10	7/19/2018	18-07-1412	3.18	1.4	44.8	1,630	13.6	508
	W7/8-12-10.0	10	7/19/2018	18-07-1412	0.851	1	42.5	226	8.97	73.6
	W7/8-14-10.0	10	7/20/2018	18-07-1563	5.63	2.3	36.5	196	7.75	1,770B
	W7/8-15-10.0	10	7/20/2018	18-07-1563	6.07	6.5	61.2	96.7	8.09	554B
	W7/8-16-10.0	10	7/20/2018	18-07-1563	2.55	0.85	41.5	139	9.06	554B
	W7/8-17-10.0	10	7/20/2018	18-07-1563	2.38	0.86	45.8	142	8.48	447B
	W7/8-18-10.0	10	7/20/2018	18-07-1563	1.39	7	446	1,060	15.1	94
	W7/8-19-10.0	10	7/20/2018	18-07-1563	20.6	4.3	136	211	8.61	88.5
	W7/8-20-10.0	10	7/20/2018	18-07-1563	1.31	<0.4	38.1	112	6.55	184
	W7/8-21-10.0	10	7/20/2018	18-07-1563	1.12	0.56	36.2	35.7	7.23	158
	W7/8-22-10.0	10	7/20/2018	18-07-1563	1.25	1.1	41.8	576	7.67	191
	W7/8-23-10.0	10	7/20/2018	18-07-1563	0.809	0.5	27.2	34.9	5.26	122
WMU12-SB1	WMU12-SB1-15.0	15	3/13/1992	-	-	ND	-	-	-	-
	WMU12-SB1-20.0	20	3/13/1992	-	-	ND	-	-	-	-
	WMU12-SB1-30.0	30	3/13/1992	-	-	ND	-	-	-	-
	WMU12-SB1-40.0	40	3/13/1992	-	-	ND	-	-	-	-
WMU12-SB2	WMU12-SB2-15.0	15	3/13/1992	-	-	ND	-	-	-	-
	WMU12-SB2-20.0	20	3/13/1992	-	-	ND	-	-	-	-
	WMU12-SB2-30.0	30	3/13/1992	-	-	ND	-	-	-	-
	WMU12-SB2-40.0	40	3/13/1992	-	-	ND	-	-	-	-
WMU46-SB1	WMU46-SB1-15.0	15	3/12/1992	-	-	ND	-	-	-	-
	WMU46-SB1-20.0	20	3/12/1992	-	-	ND	-	-	-	-
	WMU46-SB1-25.0	25	3/12/1992	-	-	ND	-	-	-	-
WMU46-SB2	WMU46-SB2-15.0	15	3/12/1992	-	-	ND	-	-	-	-
	WMU46-SB2-20.0	20	3/12/1992	-	-	ND	-	-	-	-
	WMU46-SB2-25.0	25	3/12/1992	-	-	ND	-	-	-	-
	WMU46-SB2-30.0	30	3/12/1992	-	-	ND	-	-	-	-
	WMU46-SB2-35.0	35	3/12/1992	-	-	ND	-	-	-	-
	WMU46-SB2-40.0	40	3/12/1992	-	-	ND	-	-	-	-
Intermediate Samples - Post-Injection Sample Locations Later Targeted for Further Remediation										
IM-PI-04	IM-PI-04-40.5	40.5	6/29/2017	17-06-2173	-	490	-	-	-	-
VZPM1	VZPM1-49.5	49.5	4/24/2012	440-9523	-	270	-	-	-	-
VZPM2	VZPM2-46	46	4/24/2012	440-9523	-	140	-	-	-	-
	VZPM2-49.5	49.5	4/24/2012	440-9523	-	200	-	-	-	-

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					Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Copper	Lead	Zinc
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HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					780	6.2	-	-	320	-
Proposed Target Cleanup Level Based on Leaching to Groundwater					-	30	-	-	-	-
VZPM3	VZPM3-11	11	4/24/2012	440-9663	-	2,100	-	-	-	-
	VZPM3-18	18	4/24/2012	440-9663	-	290	-	-	-	-
	VZPM3-21	21	4/24/2012	440-9663	-	210	-	-	-	-
	VZPM3-26	26	4/24/2012	440-9663	-	1,300	-	-	-	-
	VZPM3-31	31	4/24/2012	440-9663	-	2,100	-	-	-	-
	VZPM3-36	36	4/24/2012	440-9663	-	<2.2	-	-	-	-
	VZPM3-37	37	4/24/2012	440-9663	-	230	-	-	-	-
	VZPM3-41.5	41.5	4/24/2012	440-9663	-	77	-	-	-	-
	VZPM3-46	46	4/24/2012	440-9663	-	240	-	-	-	-
	VZPM3-49.5	49.5	4/24/2012	440-9663	-	61	-	-	-	-
W7-8CONF01	W7-8CONF01-30.0	30	3/5/2019	19-03-0304	-	11	-	-	-	-
W7-8CONF03	W7-8CONF03-45.0	45	3/6/2019	19-03-0417	-	8.8	-	-	-	-
	W7-8CONF03-55.0	55	3/6/2019	19-03-0417	-	14	-	-	-	-
	W7-8CONF03-60.0	60	3/6/2019	19-03-0417	-	4.8	-	-	-	-
	W7-8CONF03-63.0	63	3/6/2019	19-03-0417	-	13	-	-	-	-

Notes:

- = Not reported, available or shown on Plates 6 and 7 of the *Final Site Conceptual Model - Phibro-Tech Inc., Santa Fe Springs, California* (CDM 2005) and not repeated here

< = analyte not detected above laboratory reporting limit

B = compound was found in the blank and sample

F1 = MS and/or MSD Recovery is outside acceptance limits

F2 = MS/MSD RPD exceeds control limits

ft-bgs = feet below ground surface

HERO = Human and Ecological Risk Office

L = A negative instrument reading had an absolute value greater than the reporting limit

mg/kg= milligrams per kilogram

ND = analyte not detected. Reporting limit not available

SL = Screening Level

**Table 2****Summary of Historical Injections**

Groundwater Remedy Report

Phibro-Tech, Inc., Santa Fe Springs, CA

Event		Number of Injection Points	Total Volume of 29% CPS Injected (gal)	Total Volume of Diluted CPS Injected (gal)	Depth Range of Injections (ft bgs)	Report Reference
Pilot Test	2012 Soil	7	4,356	19,245	15 - 50	<i>Interim Soil Corrective Action Pilot Test Report</i> , Iris Environmental, 2012
	2012 Groundwater	7	8,260	23,567	53 - 63	<i>Groundwater Corrective Action Pilot Test Report</i> , Iris Environmental, 2013
2017 IRM		25	25,147	144,779	10 - 61	<i>Interim Remedial Measures Results Report</i> , Terraphase Engineering, 2017
2019 WW Redo		15	15,823	80,150	15 - 63	<i>Investigation, Treatment and Excavation Report for Class II Report Modification - Wastewater Tank Replacements</i> , Terraphase Engineering, 2020
2019 Pond 1 - A, B, C, and D Injections		15	31,827	162,240	10 - 71	<i>Pond 1 Closure Report</i> , Terraphase Engineering, 2020
2019/2020 Roadway		24	62,265	257,955	25 - 65	This Report
2020 IRM		36	101,618	420,988	10 - 66	This Report

Note:

CPS = calcium polysulfide

ft bgs = feet below ground surface

gal = gallons



Table 3  
Post-Remediation Hexavalent Chromium in Soil  
Corrective Action Remedy Completion Report  
Phibro-Tech, Inc., Santa Fe Springs, California

					Metals
					Chromium (hexavalent)
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					6.3
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					6.2
Proposed Target Cleanup Level Based on Leaching to Groundwater					30
IM-PI-01	IM-PI-01-10	10	6/29/2017	17-06-2173	<0.80
	IM-PI-01-15	15	6/29/2017	17-06-2173	<0.80
	IM-PI-01-17	17	6/29/2017	17-06-2173	<0.80
	IM-PI-01-28	28	6/29/2017	17-06-2173	<0.80
	IM-PI-01-35	35	6/29/2017	17-06-2173	<0.80
IM-PI-02	IM-PI-02-10	10	6/30/2017	17-06-2265	<0.80
	IM-PI-02-15	15	6/30/2017	17-06-2265	<0.80
	IM-PI-02-17.5	17.5	6/30/2017	17-06-2265	<0.80
	IM-PI-02-20	20	6/30/2017	17-06-2265	<0.80
	IM-PI-02-28	28	6/30/2017	17-06-2265	<0.80
	IM-PI-02-28.3	28.3	6/30/2017	17-06-2265	<0.80
	IM-PI-02-33.8	33.8	6/30/2017	17-06-2265	<0.80
	IM-PI-02-34	34	6/30/2017	17-06-2265	<0.80
	IM-PI-02-38	38	6/30/2017	17-06-2265	<0.80
	IM-PI-02-42.5	42.5	6/30/2017	17-06-2265	<0.80
IM-PI-03	IM-PI-03-10	10	6/30/2017	17-06-2265	0.84
	IM-PI-03-15	15	6/30/2017	17-06-2265	<0.80
	IM-PI-03-20	20	6/30/2017	17-06-2265	<0.80
	IM-PI-03-27.5	27.5	6/30/2017	17-06-2265	<0.80
	IM-PI-03-35-40	35	6/30/2017	17-06-2265	<0.80
	IM-PI-03-41.5	41.5	6/30/2017	17-06-2265	<0.80
	IM-PI-03-51.5	51.5	6/30/2017	17-06-2265	<0.80
	IM-PI-03-54	54	6/30/2017	17-06-2265	<0.80
IM-PI-04	IM-PI-04-11	11	6/29/2017	17-06-2173	<0.80
	IM-PI-04-16	16	6/29/2017	17-06-2173	<0.80
	IM-PI-04-21	21	6/29/2017	17-06-2173	<0.80
	IM-PI-04-28	28	6/29/2017	17-06-2173	<0.80
	IM-PI-04-32	32	6/29/2017	17-06-2173	<0.80
	IM-PI-04-35.5	35.5	6/29/2017	17-06-2173	<0.80
	IM-PI-04-47.5	47.5	6/29/2017	17-06-2173	<0.80
	IM-PI-04-50	50	6/29/2017	17-06-2173	<0.80
	IM-PI-04-53	53	6/29/2017	17-06-2173	12
IM-TB-01	IM-TB-01-11.5	11.5	6/8/2017	17-06-0782	<0.80
	IM-TB-01-13	13	6/8/2017	17-06-0782	<0.80
	IM-TB-01-16	16	6/8/2017	17-06-0782	<0.80
	IM-TB-01-17	17	6/8/2017	17-06-0782	5.2
	IM-TB-01-21	21	6/8/2017	17-06-0782	<0.80
	IM-TB-01-22.5	22.5	6/8/2017	17-06-0782	<0.80
	IM-TB-01-25.5	25.5	6/8/2017	17-06-0782	<0.80
	IM-TB-01-31	31	6/8/2017	17-06-0782	<0.80
	IM-TB-01-32	32	6/8/2017	17-06-0782	<0.80
	IM-TB-01-33	33	6/8/2017	17-06-0782	<0.80
	IM-TB-01-36.5	36.5	6/8/2017	17-06-0782	<0.80
	IM-TB-01-37.5	37.5	6/8/2017	17-06-0782	<0.80
	IM-TB-01-42	42	6/8/2017	17-06-0782	<0.80
	IM-TB-01-46	46	6/8/2017	17-06-0782	<0.80
	IM-TB-01-47	47	6/8/2017	17-06-0782	<0.80
	IM-TB-01-48	48	6/8/2017	17-06-0782	<0.80
	IM-TB-01-52.5	52.5	6/8/2017	17-06-0782	<0.80
	IM-TB-01-56	56	6/8/2017	17-06-0782	<0.80
	IM-TB-01-57	57	6/8/2017	17-06-0782	<0.80
INJ04C-CONF	INJ04C-CONF-35.0	35	9/28/2020	570-39599-1	<0.963
	INJ04C-CONF-40.0	40	9/28/2020	570-39599-1	<1.00
	INJ04C-CONF-45.0	45	9/28/2020	570-39599-1	<0.936
INJS-3C-CONF	INJS-3C-CONF-30.0	30	10/6/2020	570-40255-1	<0.821F1
	INJS-3C-CONF-30.5	30.5	10/6/2020	570-40255-1	<0.891
	INJS-3C-CONF-35.0	35	10/6/2020	570-40255-1	<1.01
INJS-4C-CONF	INJS-4C-CONF-40.0	40	10/5/2020	570-40133-1	<1.03
	INJS-4C-CONF-45.0	45	10/5/2020	570-40133-1	<1.08
	INJS-4C-CONF-50.0	50	10/5/2020	570-40133-1	<0.937
	INJS-4C-CONF-55.0	55	10/5/2020	570-40133-1	<0.954
	INJS-4C-CONF-60.0	60	10/5/2020	570-40133-1	1.28
	INJS-4C-CONF-65.0	65	10/5/2020	570-40133-1	<0.876

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Post-Remediation Hexavalent Chromium in Soil  
Corrective Action Remedy Completion Report  
Phibro-Tech, Inc., Santa Fe Springs, California

					Metals
					Chromium (hexavalent)
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					6.3
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					6.2
Proposed Target Cleanup Level Based on Leaching to Groundwater					30
MW-18D	MW18D-10.0	10	4/30/2020	570-27063-1	<0.994
	MW18D-15.0	15	4/30/2020	570-27063-1	<0.923
	MW18D-20.0	20	4/30/2020	570-27063-1	<0.849
	MW18D-25.0	25	4/30/2020	570-27063-1	<0.834
	MW18D-29.5	29.5	4/30/2020	570-27063-1	<0.825
	MW18D-30.0	30	4/30/2020	570-27063-1	<0.918
	MW18D-35.0	35	4/30/2020	570-27063-1	<0.968
	MW18D-40.0	40	4/30/2020	570-27063-1	<0.978
	MW18D-45.0	45	4/30/2020	570-27063-1	<0.942
	MW18D-50.0	50	4/30/2020	570-27063-1	<0.929
	MW18D-53.0	53	4/30/2020	570-27063-1	<0.900
	MW18D-55.0	55	4/30/2020	570-27063-1	<0.832
	MW18D-60.0	60	4/30/2020	570-27063-1	<0.855
	MW18D-65.0	65	4/30/2020	570-27063-1	<0.844F1
	MW18D-70.0	70	5/1/2020	570-27185-1	<0.870F1
	MW18D-75.0	75	5/1/2020	570-27185-1	<0.994
	MW18D-80.0	80	5/1/2020	570-27185-1	<1.06
	MW18D-85.0	85	5/1/2020	570-27185-1	<0.979
	MW18D-90.0	90	5/1/2020	570-27185-1	<1.06
P1CONF-1	P1CONF-1-11.0	11	10/21/2019	570-10704	22.1
	P1CONF-1-15.0	15	10/21/2019	570-10704	5.56
	P1CONF-1-20.0	20	10/21/2019	570-10704	9.17
	P1CONF-1-26.0	26	10/21/2019	570-10704	<0.887
	P1CONF-1-26.5	26.5	10/21/2019	570-10704	6.86
	P1CONF-1-27.0	27	10/21/2019	570-10704	<0.896
	P1CONF-1-29.0	29	10/21/2019	570-10704	<0.948
	P1CONF-1-30.0	30	10/21/2019	570-10704	<0.929
	P1CONF-1-35.0	35	10/21/2019	570-10704	<1.02
	P1CONF-1-39.5	39.5	10/21/2019	570-10704	<0.853
	P1CONF-1-40.0	40	10/21/2019	570-10704	<0.995
	P1CONF-1-45.0	45	10/21/2019	570-10704	<0.931
	P1CONF-1-50.0	50	10/21/2019	570-10704	<0.939
	P1CONF-1-55.0	55	10/21/2019	570-10704	<1.02
	P1CONF-1-59.0	59	10/21/2019	570-10704	<0.881
	P1CONF-1-60.0	60	10/21/2019	570-10704	<0.847
	P1CONF-1-65.0	65	10/21/2019	570-10704	21.9
	P1CONF-1-70.0	70	10/21/2019	570-10704	<0.840
	P1CONF-1-72.0	72	10/21/2019	570-10704	<0.880
	P1CONF-1-74.0	74	10/21/2019	570-10704	<1.02F1
	P1CONF-1-75.0	75	10/21/2019	570-10704	<0.932F1
P1CONF-2	P1CONF-2-14.5	14.5	10/22/2019	5701-10797-1	<0.921
	P1CONF-2-15.0	15	10/22/2019	5701-10797-1	<0.986
	P1CONF-2-20.0	20	10/22/2019	5701-10797-1	<0.836
	P1CONF-2-25.0	25	10/22/2019	5701-10797-1	<0.828
	P1CONF-2-26.5	26.5	10/22/2019	5701-10797-1	<0.860
	P1CONF-2-27.0	27	10/22/2019	5701-10797-1	<0.933
	P1CONF-2-30.0	30	10/22/2019	5701-10797-1	<0.948
	P1CONF-2-35.0	35	10/22/2019	5701-10797-1	<1.00
	P1CONF-2-40.0	40	10/22/2019	5701-10797-1	<0.986
	P1CONF-2-45.0	45	10/22/2019	5701-10797-1	<1.06
	P1CONF-2-50.0	50	10/22/2019	5701-10797-1	<0.934
	P1CONF-2-55.0	55	10/22/2019	5701-10797-1	<0.947
	P1CONF-2-59.0	59	10/22/2019	5701-10797-1	<0.992
	P1CONF-2-60.0	60	10/22/2019	5701-10797-1	7.18
	P1CONF-2-64.5	64.5	10/22/2019	5701-10797-1	<0.999
	P1CONF-2-65.0	65	10/22/2019	5701-10797-1	1.96
	P1CONF-2-69.5	69.5	10/22/2019	5701-10797-1	<0.974
	P1CONF-2-70.0	70	10/22/2019	5701-10797-1	<0.859F1
	P1CONF-2-75.0	75	10/22/2019	5701-10797-1	<0.892F1,F2

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					Metals
					Chromium (hexavalent)
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					6.3
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					6.2
Proposed Target Cleanup Level Based on Leaching to Groundwater					30
P1CONF-3	P1CONF-3-15.0	15	10/22/2019	5701-10797-1	<0.889
	P1CONF-3-20.0	20	10/22/2019	5701-10797-1	<0.837
	P1CONF-3-25.0	25	10/22/2019	5701-10797-1	<0.838
	P1CONF-3-26.5	26.5	10/22/2019	5701-10797-1	<0.836
	P1CONF-3-27.0	27	10/22/2019	5701-10797-1	<1.03
	P1CONF-3-30.0	30	10/22/2019	5701-10797-1	<0.983
	P1CONF-3-35.0	35	10/22/2019	5701-10797-1	<0.974
	P1CONF-3-40.0	40	10/22/2019	5701-10797-1	<1.00
	P1CONF-3-45.0	45	10/22/2019	5701-10797-1	<0.967
	P1CONF-3-50.0	50	10/22/2019	5701-10797-1	50.9
	P1CONF-3-55.0	55	10/22/2019	5701-10797-1	<0.994
	P1CONF-3-59.0	59	10/22/2019	5701-10797-1	<0.885
	P1CONF-3-60.0	60	10/22/2019	5701-10797-1	<0.841
	P1CONF-3-65.0	65	10/22/2019	5701-10797-1	<1.03
	P1CONF-3-70.0	70	10/23/2019	570-10920-1	<0.818
	P1CONF-3-75.0	75	10/23/2019	570-10920-1	<0.872
P1CONF-4	P1CONF-4-15.0	15	10/23/2019	570-10920-1	<0.905
	P1CONF-4-20.0	20	10/23/2019	570-10920-1	<0.842
	P1CONF-4-25.0	25	10/23/2019	570-10920-1	<0.902F1
	P1CONF-4-29.5	29.5	10/23/2019	570-10920-1	<0.840F1
	P1CONF-4-30.0	30	10/23/2019	570-10920-1	<0.912
	P1CONF-4-35.0	35	10/23/2019	570-10920-1	<0.993
	P1CONF-4-40.0	40	10/23/2019	570-10920-1	14.4
	P1CONF-4-45.0	45	10/23/2019	570-10920-1	<1.04
	P1CONF-4-50.0	50	10/23/2019	570-10920-1	<0.950
	P1CONF-4-55.0	55	10/23/2019	570-10920-1	<1.03
	P1CONF-4-57.0	57	10/23/2019	570-10920-1	0.984
	P1CONF-4-58.0	58	10/23/2019	570-10920-1	1.85
	P1CONF-4-60.0	60	10/23/2019	570-10920-1	5.13
	P1CONF-4-61.0	61	10/23/2019	570-10920-1	<0.921
	P1CONF-4-65.0	65	10/23/2019	570-10920-1	<0.985
	P1CONF-4-70.0	70	10/23/2019	570-10920-1	<0.839
	P1CONF-4-75.0	75	10/23/2019	570-10920-1	<0.904
P1CONF-5	P1CONF-5-15.0	15	10/23/2019	570-10920-1	<0.884
	P1CONF-5-20.0	20	10/23/2019	570-10920-1	<0.844
	P1CONF-5-25.0	25	10/23/2019	570-10920-1	<0.839
	P1CONF-5-27.5	27.5	10/23/2019	570-10920-1	<0.825
	P1CONF-5-28.0	28	10/23/2019	570-10920-1	<0.983
	P1CONF-5-30.0	30	10/23/2019	570-10920-1	<0.944F1
	P1CONF-5-35.0	35	10/23/2019	570-10920-1	<0.963F1
	P1CONF-5-40.0	40	10/23/2019	570-10920-1	<1.02
	P1CONF-5-45.0	45	10/23/2019	570-10920-1	<1.06
	P1CONF-5-50.0	50	10/23/2019	570-10920-1	<0.911
	P1CONF-5-55.0	55	10/23/2019	570-10920-1	<1.05
	P1CONF-5-57.0	57	10/23/2019	570-10920-1	<0.942
	P1CONF-5-58.0	58	10/23/2019	570-10920-1	<0.859
	P1CONF-5-60.0	60	10/23/2019	570-10920-1	<0.841
	P1CONF-5-61.5	61.5	10/23/2019	570-10920-1	<0.836
	P1CONF-5-62.0	62	10/23/2019	570-10920-1	<0.964
	P1CONF-5-65.0	65	10/23/2019	570-10920-1	<0.951
	P1CONF-5-70.0	70	10/23/2019	570-10920-1	<0.932
	P1CONF-5-75.0	75	10/23/2019	570-10920-1	<0.916

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					Metals
					Chromium (hexavalent)
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					6.3
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					6.2
Proposed Target Cleanup Level Based on Leaching to Groundwater					30
P1CONF-6	P1CONF-6-15.0	15	10/24/2019	570-11043-1	<0.870
	P1CONF-6-20.0	20	10/24/2019	570-11043-1	<0.831
	P1CONF-6-25.0	25	10/24/2019	570-11043-1	<0.836
	P1CONF-6-28.0	28	10/24/2019	570-11043-1	<0.846
	P1CONF-6-29.0	29	10/24/2019	570-11043-1	<0.932
	P1CONF-6-35.0	35	10/24/2019	570-11043-1	<0.977
	P1CONF-6-40.0	40	10/24/2019	570-11043-1	<1.01F1
	P1CONF-6-43.0	43	10/24/2019	570-11043-1	<0.986F1
	P1CONF-6-45.0	45	10/24/2019	570-11043-1	<0.932
	P1CONF-6-50.0	50	10/24/2019	570-11043-1	<0.963
	P1CONF-6-55.0	55	10/24/2019	570-11043-1	5.56
	P1CONF-6-60.0	60	10/24/2019	570-11043-1	<0.838
	P1CONF-6-63.0	63	10/24/2019	570-11043-1	<1.04
	P1CONF-6-65.0	65	10/24/2019	570-11043-1	<0.831
	P1CONF-6-70.0	70	10/24/2019	570-11043-1	<1.11
	P1CONF-6-75.0	75	10/24/2019	570-11043-1	<0.920
P1CONF-7	P1CONF-7-15.0	15	10/24/2019	570-11043-1	<0.941
	P1CONF-7-20.0	20	10/24/2019	570-11043-1	<0.829
	P1CONF-7-25.0	25	10/24/2019	570-11043-1	<0.825
	P1CONF-7-27.0	27	10/24/2019	570-11043-1	<0.835
	P1CONF-7-27.5	27.5	10/24/2019	570-11043-1	<0.922
	P1CONF-7-30.0	30	10/24/2019	570-11043-1	<0.921
	P1CONF-7-35.0	35	10/25/2019	570-11171-1	4.89
	P1CONF-7-40.0	40	10/25/2019	570-11171-1	<1.02
	P1CONF-7-44.5	44.5	10/25/2019	570-11171-1	<0.926
	P1CONF-7-45.0	45	10/25/2019	570-11171-1	<0.921
	P1CONF-7-48.0	48	10/25/2019	570-11171-1	<0.943F1
	P1CONF-7-49.0	49	10/25/2019	570-11171-1	11.1F1
	P1CONF-7-54.5	54.5	10/25/2019	570-11171-1	<1.05
	P1CONF-7-55.0	55	10/25/2019	570-11171-1	<1.01
	P1CONF-7-56.75	56.75	10/25/2019	570-11171-1	<1.04
	P1CONF-7-60.0	60	10/25/2019	570-11171-1	10.2
	P1CONF-7-65.0	65	10/25/2019	570-11171-1	<0.839
	P1CONF-7-70.0	70	10/25/2019	570-11171-1	<0.929
P1CONF-8	P1CONF-8-15.0	15	10/25/2019	570-11171-1	<0.943
	P1CONF-8-20.0	20	10/25/2019	570-11171-1	7.95
	P1CONF-8-24.0	24	10/25/2019	570-11171-1	<0.866
	P1CONF-8-24.5	24.5	10/25/2019	570-11171-1	<0.977
	P1CONF-8-30.0	30	10/25/2019	570-11171-1	<0.927
	P1CONF-8-35.0	35	10/25/2019	570-11171-1	<0.956
	P1CONF-8-37.0	37	10/25/2019	570-11171-1	<0.985
	P1CONF-8-40.0	40	10/25/2019	570-11171-1	<1.02
	P1CONF-8-45.0	45	10/25/2019	570-11171-1	<0.935
	P1CONF-8-50.0	50	10/25/2019	570-11171-1	2.39
	P1CONF-8-55.0	55	10/25/2019	570-11171-1	5.98
	P1CONF-8-56.5	56.5	10/25/2019	570-11171-1	<1.02
	P1CONF-8-57.0	57	10/25/2019	570-11171-1	1.06F1
	P1CONF-8-65.0	65	10/25/2019	570-11171-1	7.21F1
	P1CONF-8-70.0	70	10/25/2019	570-11171-1	<0.838
SWCONF01	SWCONF1-43.0	43	10/6/2020	570-40254-1	<1.05
	SWCONF1-45.0	45	10/6/2020	570-40254-1	<0.898
	SWCONF1-50.0	50	10/6/2020	570-40254-1	<0.945
	SWCONF1-55.0	55	10/6/2020	570-40254-1	<0.947
	SWCONF1-57.0	57	10/6/2020	570-40254-1	<1.07
	SWCONF1-58.0	58	10/6/2020	570-40254-1	1.69F1
	SWCONF1-60.0	60	10/6/2020	570-40254-1	11.8
	SWCONF1-65.0	65	10/6/2020	570-40254-1	<0.931

**Table 3**  
**Post-Remediation Hexavalent Chromium in Soil**  
Corrective Action Remedy Completion Report  
Phibro-Tech, Inc., Santa Fe Springs, California

					Metals
					Chromium (hexavalent)
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					6.3
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					6.2
Proposed Target Cleanup Level Based on Leaching to Groundwater					30
SWCONF02	SWCONF2-28.0	28	10/7/2020	570-40370-1	<0.873
	SWCONF2-33.0	33	10/7/2020	570-40370-1	<0.911
	SWCONF2-36.0	36	10/7/2020	570-40370-1	<0.902
	SWCONF2-36.5	36.5	10/7/2020	570-40370-1	<1.02
	SWCONF2-42.0	42	10/7/2020	570-40370-1	<1.09
	SWCONF2-50.0	50	10/7/2020	570-40370-1	<0.937
	SWCONF2-56.0	56	10/7/2020	570-40370-1	<1.05
	SWCONF2-56.5	56.5	10/7/2020	570-40370-1	<0.918
	SWCONF2-62.0	62	10/7/2020	570-40370-1	<1.03
SWCONF03	SWCONF3-41.0	41	10/8/2020	570-40480-1	<1.03
	SWCONF3-46.0	46	10/8/2020	570-40480-1	<0.917
	SWCONF3-55.0	55	10/8/2020	570-40480-1	35.1
	SWCONF3-59.5	59.5	10/8/2020	570-40480-1	<1.04
	SWCONF3-65.0	65	10/8/2020	570-40480-1	4.93
SWCONF04	SWCONF4-41.0	41	10/9/2020	570-40695-1	<1.08
	SWCONF4-46.0	46	10/9/2020	570-40695-1	<0.903
	SWCONF4-51.0	51	10/9/2020	570-40695-1	<0.992
	SWCONF4-57.0	57	10/9/2020	570-40695-1	<0.937
	SWCONF4-58.0	58	10/9/2020	570-40695-1	9.02F1
	SWCONF4-60.0	60	10/9/2020	570-40695-1	13.6
SWCONF05	SWCONF5-43.0	43	10/9/2020	570-40695-1	<0.899
	SWCONF5-48.0	48	10/9/2020	570-40695-1	<0.937
	SWCONF5-53.0	53	10/9/2020	570-40695-1	2.32
	SWCONF5-58.0	58	10/9/2020	570-40695-1	<0.963
SWCONF06	SWCONF6-43.0	43	10/12/2020	570-40781-1	<0.860
	SWCONF6-48.0	48	10/12/2020	570-40781-1	<0.899
	SWCONF6-53.0	53	10/12/2020	570-40781-1	<0.934
	SWCONF6-58.0	58	10/12/2020	570-40781-1	<1.06
	SWCONF6-59.0	59	10/12/2020	570-40781-1	3.96
	SWCONF6-63.0	63	10/12/2020	570-40781-1	1.52
SWCONF07	SWCON F7-25.0	25	12/21/2020	570-46795-1	<0.835F1
	SWCON F7-26.0	26	12/21/2020	570-46795-1	<1.02
	SWCON F7-30.0	30	12/21/2020	570-46795-1	<0.953
	SWCON F7-35.0	35	12/21/2020	570-46795-1	<0.841
	SWCON F7-40.0	40	12/21/2020	570-46795-1	<0.849
	SWCON F7-40.5	40.5	12/21/2020	570-46795-1	<1.03
	SWCON F7-45.0	45	12/21/2020	570-46795-1	<0.934
	SWCON F7-50.0	50	12/21/2020	570-46795-1	<0.954
	SWCON F7-54.5	54.5	12/21/2020	570-46795-1	<1.00
	SWCON F7-55.0	55	12/21/2020	570-46795-1	<0.919
	SWCON F7-59.0	59	12/21/2020	570-46795-1	<0.862F1
	SWCON F7-60.0	60	12/21/2020	570-46795-1	<0.984
	SWCON F7-65.0	65	12/21/2020	570-46795-1	<0.839
SWCONF08	SWCON F7-70.0	70	12/21/2020	570-46795-1	<0.827
	SWCON F8-25.0	25	12/21/2020	570-46795-1	<0.828
	SWCON F8-27.0	27	12/21/2020	570-46795-1	<0.823
	SWCON F8-27.5	27.5	12/21/2020	570-46795-1	<1.02
	SWCON F8-30.0	30	12/21/2020	570-46795-1	<0.845
	SWCON F8-35.0	35	12/21/2020	570-46795-1	<0.816
	SWCON F8-40.0	40	12/21/2020	570-46795-1	<0.820F1,F2
	SWCON F08-45.0	45	12/21/2020	570-46795-1	<0.815
	SWCON F08-50.0	50	12/21/2020	570-46795-1	<0.843
	SWCON F08-51.5	51.5	12/21/2020	570-46795-1	<0.932
	SWCON F08-55.0	55	12/21/2020	570-46795-1	<0.970
	SWCON F08-60.0	60	12/21/2020	570-46795-1	<0.924
	SWCON F08-61.0	61	12/21/2020	570-46795-1	<1.01
	SWCON F08-61.5	61.5	12/21/2020	570-46795-1	<0.832F1
	SWCON F08-65.0	65	12/21/2020	570-46795-1	<0.846
	SWCON F08-70.0	70	12/21/2020	570-46795-1	<0.870



**Table 3**  
**Post-Remediation Hexavalent Chromium in Soil**  
Corrective Action Remedy Completion Report  
Phibro-Tech, Inc., Santa Fe Springs, California

					Metals
					Chromium (hexavalent)
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					6.3
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					6.2
Proposed Target Cleanup Level Based on Leaching to Groundwater					30
SWCONF09	SWCONF-09-22.0	22	9/16/2020	570-38551-1	<0.838F1
	SWCONF-09-23.0	23	9/16/2020	570-38551-1	<0.839
	SWCONF-09-23.5	23.5	9/16/2020	570-38551-1	<0.990
	SWCONF-09-28.5	28.5	9/16/2020	570-38551-1	<0.925
	SWCONF-09-34.0	34	9/16/2020	570-38551-1	<0.878
	SWCONF-09-34.5	34.5	9/16/2020	570-38551-1	<0.880
	SWCONF-09-35.0	35	9/16/2020	570-38551-1	<1.05
	SWCONF-09-40.0	40	9/16/2020	570-38551-1	1.01
	SWCONF-09-45.0	45	9/16/2020	570-38551-1	<0.963
	SWCONF-09-51.0	51	9/16/2020	570-38551-1	15.4
	SWCONF-09-57.0	57	9/16/2020	570-38551-1	<1.02
	SWCONF-09-57.5	57.5	9/16/2020	570-38551-1	<0.925F1
	SWCONF-09-60.0	60	9/16/2020	570-38551-1	<1.00
	SWCONF-09-64.0	64	9/16/2020	570-38551-1	<0.946
	SWCONF-09-69.0	69	9/16/2020	570-38551-1	3.6
SWCONF10	SWCONF10-25.0	25	12/22/2020	570-46871-1	<0.817
	SWCONF10-27.5	27.5	12/22/2020	570-46871-1	<0.847
	SWCONF10-28.0	28	12/22/2020	570-46871-1	<0.972
	SWCONF10-30.0	30	12/22/2020	570-46871-1	<1.02
	SWCONF10-35.0	35	12/22/2020	570-46871-1	<0.831
	SWCONF10-40.0	40	12/22/2020	570-46871-1	<0.825
	SWCONF10-45.0	45	12/22/2020	570-46871-1	<0.821
	SWCONF10-50.0	50	12/22/2020	570-46871-1	<0.826F1
	SWCONF10-55.0	55	12/22/2020	570-46871-1	<0.864
	SWCONF10-55.5	55.5	12/22/2020	570-46871-1	<0.926
	SWCONF10-60.0	60	12/22/2020	570-46871-1	<0.935
	SWCONF10-62.5	62.5	12/22/2020	570-46871-1	<1.06
	SWCONF10-63.0	63	12/22/2020	570-46871-1	<0.821
	SWCONF10-65.0	65	12/22/2020	570-46871-1	<0.845
	SWCONF10-70.0	70	12/22/2020	570-46871-1	1.17
SWCONF11	SWCONF11-10.0	10	12/22/2020	570-46871-1	<0.915
	SWCONF11-15.0	15	12/22/2020	570-46871-1	<0.838
	SWCONF11-20.0	20	12/22/2020	570-46871-1	<0.833
	SWCONF11-25.0	25	12/22/2020	570-46871-1	<0.844
	SWCONF11-27.5	27.5	12/22/2020	570-46871-1	<0.826
	SWCONF11-28.0	28	12/22/2020	570-46871-1	7.23
	SWCONF11-30.0	30	12/22/2020	570-46871-1	<1.02
	SWCONF11-35.0	35	12/22/2020	570-46871-1	<0.967
	SWCONF11-40.0	40	12/22/2020	570-46871-1	<0.840
	SWCONF11-40.5	40.5	12/22/2020	570-46871-1	7.05
	SWCONF11-45.0	45	12/22/2020	570-46871-1	4.41
	SWCONF11-50.0	50	12/22/2020	570-46871-1	<0.932
	SWCONF11-55.0	55	12/22/2020	570-46871-1	14.4
	SWCONF11-59.5	59.5	12/22/2020	570-46871-1	<0.863F1
	SWCONF11-60.0	60	12/22/2020	570-46871-1	<1.11
	SWCONF11-65.0	65	12/22/2020	570-46871-1	<0.861
	SWCONF11-70.0	70	12/22/2020	570-46871-1	<0.877

**Table 3**  
**Post-Remediation Hexavalent Chromium in Soil**  
Corrective Action Remedy Completion Report  
Phibro-Tech, Inc., Santa Fe Springs, California

					Metals
					Chromium (hexavalent)
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					6.3
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					6.2
Proposed Target Cleanup Level Based on Leaching to Groundwater					30
SWCONF12	SWCONF12-10.0	10	12/23/2020	570-47020-1	<0.904
	SWCONF12-15.0	15	12/23/2020	570-47020-1	5.17
	SWCONF12-20.0	20	12/23/2020	570-47020-1	2.24
	SWCONF12-25.5	25.5	12/23/2020	570-47020-1	7.9
	SWCONF12-26.0	26	12/23/2020	570-47020-1	<0.956
	SWCONF12-30.0	30	12/23/2020	570-47020-1	<1.00
	SWCONF12-32.5	32.5	12/23/2020	570-47020-1	<0.994
	SWCONF12-33.0	33	12/23/2020	570-47020-1	<0.864
	SWCONF12-35.0	35	12/23/2020	570-47020-1	<0.823F1
	SWCONF12-40.0	40	12/23/2020	570-47020-1	<0.834
	SWCONF12-45.0	45	12/23/2020	570-47020-1	<0.814
	SWCONF12-50.0	50	12/23/2020	570-47020-1	<0.828
	SWCONF12-55.0	55	12/23/2020	570-47020-1	<0.884
	SWCONF12-57.0	57	12/23/2020	570-47020-1	<0.905
	SWCONF12-57.5	57.5	12/23/2020	570-47020-1	<0.985
	SWCONF12-60.0	60	12/23/2020	570-47020-1	<0.958
	SWCONF12-62.5	62.5	12/23/2020	570-47020-1	<1.07
	SWCONF12-63.0	63	12/23/2020	570-47020-1	<0.872
	SWCONF12-65.0	65	12/23/2020	570-47020-1	<0.830
	SWCONF12-70.0	70	12/23/2020	570-47020-1	<0.828F1
SWCONF13	SWCONF13-10.0	10	12/28/2020	570-47162-1	<0.950
	SWCONF13-15.0	15	12/28/2020	570-47162-1	<0.885
	SWCONF13-20.0	20	12/28/2020	570-47162-1	<0.845F1
	SWCONF13-25.0	25	12/28/2020	570-47162-1	<0.847
	SWCONF13-26.5	26.5	12/28/2020	570-47162-1	<0.880
	SWCONF13-27.0	27	12/28/2020	570-47162-1	<0.990
	SWCONF13-30.0	30	12/28/2020	570-47162-1	19.1
	SWCONF13-32.5	32.5	12/28/2020	570-47162-1	<1.02
	SWCONF13-33.0	33	12/28/2020	570-47162-1	5.18
	SWCONF13-35.0	35	12/28/2020	570-47162-1	1.12
	SWCONF13-40.0	40	12/28/2020	570-47162-1	3.58
	SWCONF13-45.0	45	12/28/2020	570-47162-1	3.45
	SWCONF13-51.0	51	12/28/2020	570-47162-1	<0.840
	SWCONF13-51.5	51.5	12/28/2020	570-47162-1	3.48
	SWCONF13-55.0	55	12/28/2020	570-47162-1	0.999
	SWCONF13-60.0	60	12/28/2020	570-47162-1	<0.949
	SWCONF13-66.5	66.5	12/28/2020	570-47162-1	<1.04
	SWCONF13-67.0	67	12/28/2020	570-47162-1	<0.917
	SWCONF13-70.0	70	12/28/2020	570-47162-1	<0.976
	SWCONF13-75.0	75	12/28/2020	570-47162-1	<1.03
SWCONF14	SWCONF14-25.0	25	12/31/2020	570-47505-1	<0.878F1
	SWCONF14-25.5	25.5	12/31/2020	570-47505-1	<1.01
	SWCONF14-30.0	30	12/31/2020	570-47505-1	<0.988
	SWCONF14-32.0	32	12/31/2020	570-47505-1	<0.906
	SWCONF14-32.5	32.5	12/31/2020	570-47505-1	<0.829
	SWCONF14-35.0	35	12/31/2020	570-47505-1	<0.798
	SWCONF14-40.0	40	12/31/2020	570-47505-1	<0.814
	SWCONF14-45.0	45	12/31/2020	570-47505-1	<0.829
	SWCONF14-50.0	50	12/31/2020	570-47505-1	<0.836
	SWCONF14-55.0	55	12/31/2020	570-47505-1	<0.843
	SWCONF14-59.0	59	12/31/2020	570-47505-1	<0.933
	SWCONF14-59.5	59.5	12/31/2020	570-47505-1	<1.04
	SWCONF14-60.0	60	12/31/2020	570-47505-1	<0.936
	SWCONF14-65.0	65	12/31/2020	570-47505-1	<0.814
	SWCONF14-70.0	70	12/31/2020	570-47505-1	<0.828



Table 3  
Post-Remediation Hexavalent Chromium in Soil  
Corrective Action Remedy Completion Report  
Phibro-Tech, Inc., Santa Fe Springs, California

					Metals
					Chromium (hexavalent)
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					6.3
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					6.2
Proposed Target Cleanup Level Based on Leaching to Groundwater					30
SWCONF15	SWCONF15-10.0	10	12/23/2020	570-47020-1	2.7
	SWCONF15-15.0	15	12/23/2020	570-47020-1	<0.962
	SWCONF15-20.0	20	12/23/2020	570-47020-1	516
	SWCONF15-25.0	25	12/23/2020	570-47020-1	<0.889
	SWCONF15-26.5	26.5	12/23/2020	570-47020-1	<0.894
	SWCONF15-27.0	27	12/23/2020	570-47020-1	740
	SWCONF15-30.0	30	12/23/2020	570-47020-1	102
	SWCONF15-35.0	35	12/23/2020	570-47020-1	10.4
	SWCONF15-40.0	40	12/23/2020	570-47020-1	14.5
	SWCONF15-45.0	45	12/23/2020	570-47020-1	6.17
	SWCONF15-50.0	50	12/23/2020	570-47020-1	<0.807F1
	SWCONF15-55.0	55	12/23/2020	570-47020-1	<0.862
	SWCONF15-57.5	57.5	12/23/2020	570-47020-1	<0.960
	SWCONF15-58.0	58	12/23/2020	570-47020-1	1.14
	SWCONF15-60.0	60	12/23/2020	570-47020-1	<0.933
	SWCONF15-62.5	62.5	12/23/2020	570-47020-1	<1.05
	SWCONF15-63.0	63	12/23/2020	570-47020-1	<0.856
	SWCONF15-65.0	65	12/23/2020	570-47020-1	<0.861
	SWCONF15-70.0	70	12/23/2020	570-47020-1	<0.842
SWCONF16	SWCONF16-10.0	10	12/29/2020	570-47359-1	<0.913
	SWCONF16-15.0	15	12/29/2020	570-47359-1	135
	SWCONF16-20.0	20	12/29/2020	570-47359-1	<0.843
	SWCONF16-25.0	25	12/29/2020	570-47359-1	<0.822
	SWCONF16-27.0	27	12/29/2020	570-47359-1	<0.889
	SWCONF16-27.5	27.5	12/29/2020	570-47359-1	1,090
	SWCONF16-30.0	30	12/29/2020	570-47359-1	<0.950
	SWCONF16-32.5	32.5	12/29/2020	570-47359-1	<0.950
	SWCONF16-33.0	33	12/29/2020	570-47359-1	<0.825
	SWCONF16-35.0	35	12/29/2020	570-47359-1	<0.829
	SWConf16-40.0	40	12/30/2020	570-47443-1	<0.834
	SWConf16-45.0	45	12/30/2020	570-47443-1	<0.819F1
	SWConf16-50.0	50	12/30/2020	570-47443-1	<0.820
	SWConf16-52.5	52.5	12/30/2020	570-47443-1	9.59
	SWConf16-53.0	53	12/30/2020	570-47443-1	<1.02
	SWConf16-55.0	55	12/30/2020	570-47443-1	<0.957
	SWConf16-60.0	60	12/30/2020	570-47443-1	<0.914
	SWConf16-62.5	62.5	12/30/2020	570-47443-1	<0.992
	SWConf16-63.0	63	12/30/2020	570-47443-1	<0.881
	SWConf16-65.0	65	12/30/2020	570-47443-1	<0.908
	SWConf16-70.0	70	12/30/2020	570-47443-1	<0.841
SWCONF17	SWCONF17-10.0	10	12/31/2020	570-47505-1	<0.933F1
	SWCONF17-15.0	15	12/31/2020	570-47505-1	<0.841
	SWCONF17-20.0	20	12/31/2020	570-47505-1	3.96
	SWCONF17-25.0	25	12/31/2020	570-47505-1	<0.819
	SWCONF17-26.0	26	12/31/2020	570-47505-1	<1.03
	SWCONF17-26.5	26.5	12/31/2020	570-47505-1	<0.848
	SWCONF17-30.0	30	12/31/2020	570-47505-1	<1.01
	SWCONF17-32.5	32.5	12/31/2020	570-47505-1	<0.948
	SWCONF17-33.0	33	12/31/2020	570-47505-1	<0.829
	SWCONF17-35.0	35	12/31/2020	570-47505-1	<0.806F1
	SWCONF17-40.0	40	12/31/2020	570-47505-1	<0.815
	SWCONF17-45.0	45	12/31/2020	570-47505-1	<0.842
	SWCONF17-50.0	50	12/31/2020	570-47505-1	<0.819
	SWCONF17-55.0	55	12/31/2020	570-47505-1	<0.868
	SWCONF17-56.0	56	12/31/2020	570-47505-1	<0.867
	SWCONF17-60.0	60	12/31/2020	570-47505-1	<1.02
	SWCONF17-61.0	61	12/31/2020	570-47505-1	<0.983
	SWCONF17-61.5	61.5	12/31/2020	570-47505-1	<0.865
	SWCONF17-65.0	65	12/31/2020	570-47505-1	<0.859
	SWCONF17-70.0	70	12/31/2020	570-47505-1	<0.802

Table 3  
Post-Remediation Hexavalent Chromium in Soil  
Corrective Action Remedy Completion Report  
Phibro-Tech, Inc., Santa Fe Springs, California

					Metals
					Chromium (hexavalent)
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					6.3
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					6.2
Proposed Target Cleanup Level Based on Leaching to Groundwater					30
SWCONF18	SWCONF18-10.0	10	12/29/2020	570-47359-1	<0.918
	SWCONF18-15.0	15	12/29/2020	570-47359-1	<0.858
	SWCONF18-20.0	20	12/29/2020	570-47359-1	<0.849
	SWCONF18-25.0	25	12/29/2020	570-47359-1	<0.835
	SWCONF18-27.5	27.5	12/29/2020	570-47359-1	<0.842
	SWCONF18-28.0	28	12/29/2020	570-47359-1	<1.04
	SWCONF18-30.0	30	12/29/2020	570-47359-1	<0.881
	SWCONF18-34.0	34	12/29/2020	570-47359-1	<0.967
	SWCONF18-34.5	34.5	12/29/2020	570-47359-1	5.58
	SWCONF18-35.0	35	12/29/2020	570-47359-1	1.64
	SWCONF18-39.5	39.5	12/29/2020	570-47359-1	2.45
	SWCONF18-45.0	45	12/29/2020	570-47359-1	5.8
	SWCONF18-50.0	50	12/29/2020	570-47359-1	<0.859
	SWCONF18-50.5	50.5	12/29/2020	570-47359-1	72.8
	SWCONF18-55.0	55	12/29/2020	570-47359-1	<0.928
	SWCONF18-60.0	60	12/29/2020	570-47359-1	<1.01
	SWCONF18-60.5	60.5	12/29/2020	570-47359-1	5.57
	SWCONF18-65.0	65	12/29/2020	570-47359-1	4.16
	SWCONF18-70.0	70	12/29/2020	570-47359-1	6.21
SWCONF19	SWConf19-25.0	25	12/30/2020	570-47443-1	<0.944
	SWConf19-30.0	30	12/30/2020	570-47443-1	<0.977
	SWConf19-30.5	30.5	12/30/2020	570-47443-1	<0.939
	SWConf19-45.0	45	12/30/2020	570-47443-1	<0.837
	SWConf19-50.0	50	12/30/2020	570-47443-1	2.72F1
	SWConf19-55.0	55	12/30/2020	570-47443-1	<0.844
	SWConf19-58.0	58	12/30/2020	570-47443-1	<0.844
	SWConf19-58.5	58.5	12/30/2020	570-47443-1	<1.08
	SWConf19-60.0	60	12/30/2020	570-47443-1	<0.951
	SWConf19-65.0	65	12/30/2020	570-47443-1	<0.844
	SWConf19-70.0	70	12/30/2020	570-47443-1	<0.855
SWCONF20	SWConf20-25.0	25	12/30/2020	570-47443-1	<0.840F1
	SWConf20-25.5	25.5	12/30/2020	570-47443-1	<0.877
	SWConf20-30.0	30	12/30/2020	570-47443-1	<1.04
	SWConf20-45.0	45	12/30/2020	570-47443-1	<0.834F1
	SWConf20-47.5	47.5	12/30/2020	570-47443-1	<0.821
	SWConf20-48.0	48	12/30/2020	570-47443-1	72
	SWConf20-50.0	50	12/30/2020	570-47443-1	93.9
	SWConf20-55.0	55	12/30/2020	570-47443-1	<0.951
	SWConf20-56.0	56	12/30/2020	570-47443-1	2.19
	SWConf20-56.5	56.5	12/30/2020	570-47443-1	<0.925
	SWConf20-60.0	60	12/30/2020	570-47443-1	<0.877
	SWConf20-65.0	65	12/30/2020	570-47443-1	<0.833
VZPM1	VZPM1-18	18	4/24/2012	440-9523	<2.3
	VZPM1-20-25	20	4/24/2012	440-9523	<2.1
	VZPM1-25-30	25	4/24/2012	440-9523	<2.1
	VZPM1-32	32	4/24/2012	440-9523	<2.3
	VZPM1-35-38	35	4/24/2012	440-9523	<2.4
	VZPM1-41	41	4/24/2012	440-9523	<2.4
	VZPM1-46	46	4/24/2012	440-9523	<2.4
VZPM2	VZPM2-18	18	4/24/2012	440-9523	<2.4
	VZPM2-22	22	4/24/2012	440-9523	<2.5
	VZPM2-30	30	4/24/2012	440-9523	<2.2
	VZPM2-36	36	4/27/2012	440-9523	<2.2
	VZPM2-41	41	4/24/2012	440-9523	<2.3
W7-8CONF01	W7-8CONF01-23.0	23	3/5/2019	19-03-0304	0.43
	W7-8CONF01-25.0	25	3/5/2019	19-03-0304	<0.4
W7-8CONF02	W7-8CONF02-25.0	25	3/5/2019	19-03-0304	2.1
	W7-8CONF02-28.0	28	3/5/2019	19-03-0304	<0.4
	W7-8CONF02-33.0	33	3/5/2019	19-03-0304	<0.4
	W7-8CONF02-35.0	35	3/5/2019	19-03-0304	<0.4
	W7-8CONF02-40.0	40	3/5/2019	19-03-0304	<0.4
	W7-8CONF02-45.0	45	3/5/2019	19-03-0304	2.4
	W7-8CONF02-50.0	50	3/5/2019	19-03-0304	1.6
	W7-8CONF02-52.5	52.5	3/5/2019	19-03-0304	2.1

**Table 3**  
**Post-Remediation Hexavalent Chromium in Soil**  
Corrective Action Remedy Completion Report  
Phibro-Tech, Inc., Santa Fe Springs, California

					Metals
					Chromium (hexavalent)
Location	Field ID	Sample Depth (ft-bgs)	Sample Date	SDG	mg/kg
EPA RSL (Nov 2020, HQ=1.0) - Industrial Soil SL					6.3
HERO Note 3 (June 2020) - Commercial/Industrial Soil SL					6.2
Proposed Target Cleanup Level Based on Leaching to Groundwater					30
W7-8CONF03	W7-8CONF03-28.0	28	3/6/2019	19-03-0417	<0.4
	W7-8CONF03-29.0	29	3/6/2019	19-03-0417	<0.4
	W7-8CONF03-35.0	35	3/6/2019	19-03-0417	5.3
	W7-8CONF03-40.0	40	3/6/2019	19-03-0417	<0.4

Note:  
mg/kg= milligrams per kilogram  
< = analyte not detected above laboratory reporting limit  
ft-bgs = feet below ground surface  
F1 = MS and/or MSD Recovery is outside acceptance limits  
F2 = MS/MSD RPD exceeds control limits  
HERO = Human and Ecological Risk Office  
RSL = Regional Screening Level

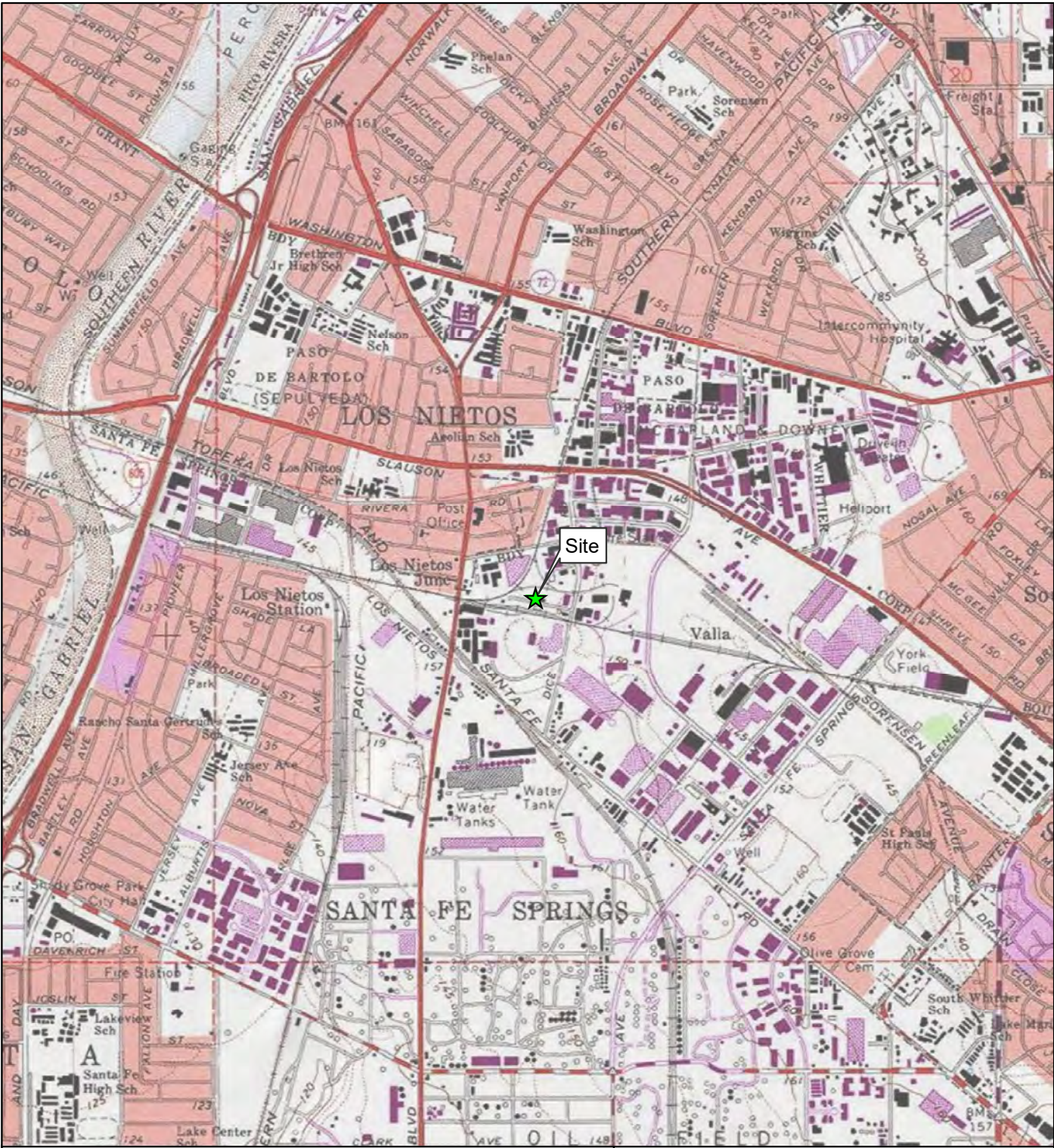
# Figures

- 1 Site Location
- 2 Site Features, Well Locations, and Treatment Areas
- 3 Cross Section A – A'
- 4 Pre-Treatment Boring Locations with Hexavalent Chromium Samples at Depth
- 5 Pilot Test and 2017 IRM Injection Area
- 6 Pond 1, W-7 and W-8 Containment and Roadway Injection Areas
- 7 2020 IRM Injection Area
- 8 Post-Injection Confirmation Boring Locations





File: C:\GIS\_Local\Projects\0197 PTI\MXDs\Site Location (Topo).mxd 12/14/2016 Created by: Initial Checked by: Initial Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet



0 700 1,400 2,100 2,800  
Feet

1 inch = 2,000 feet



#### Legend

★ Site Location

Base Map: USGS Santa Fe Springs 7.5 Minute Quadrangle.

**SAFETY FIRST**



CLIENT: Phibro-Tech, Inc.

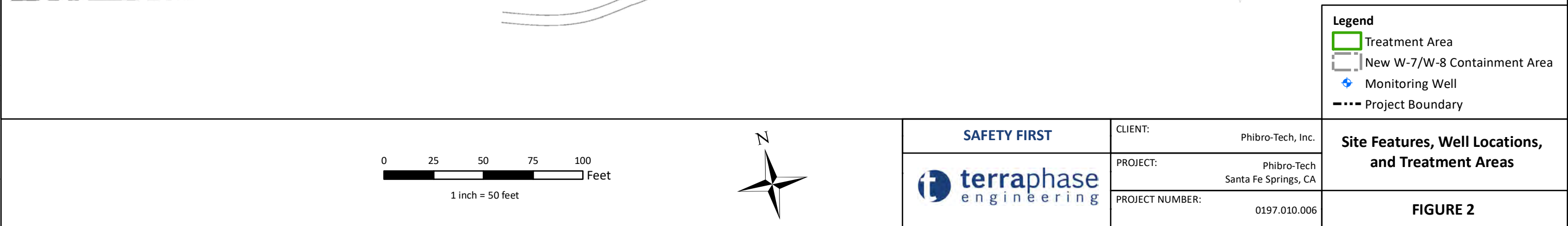
PROJECT: Phibro-Tech  
Santa Fe Springs, CA

PROJECT NUMBER: 0197.002.001

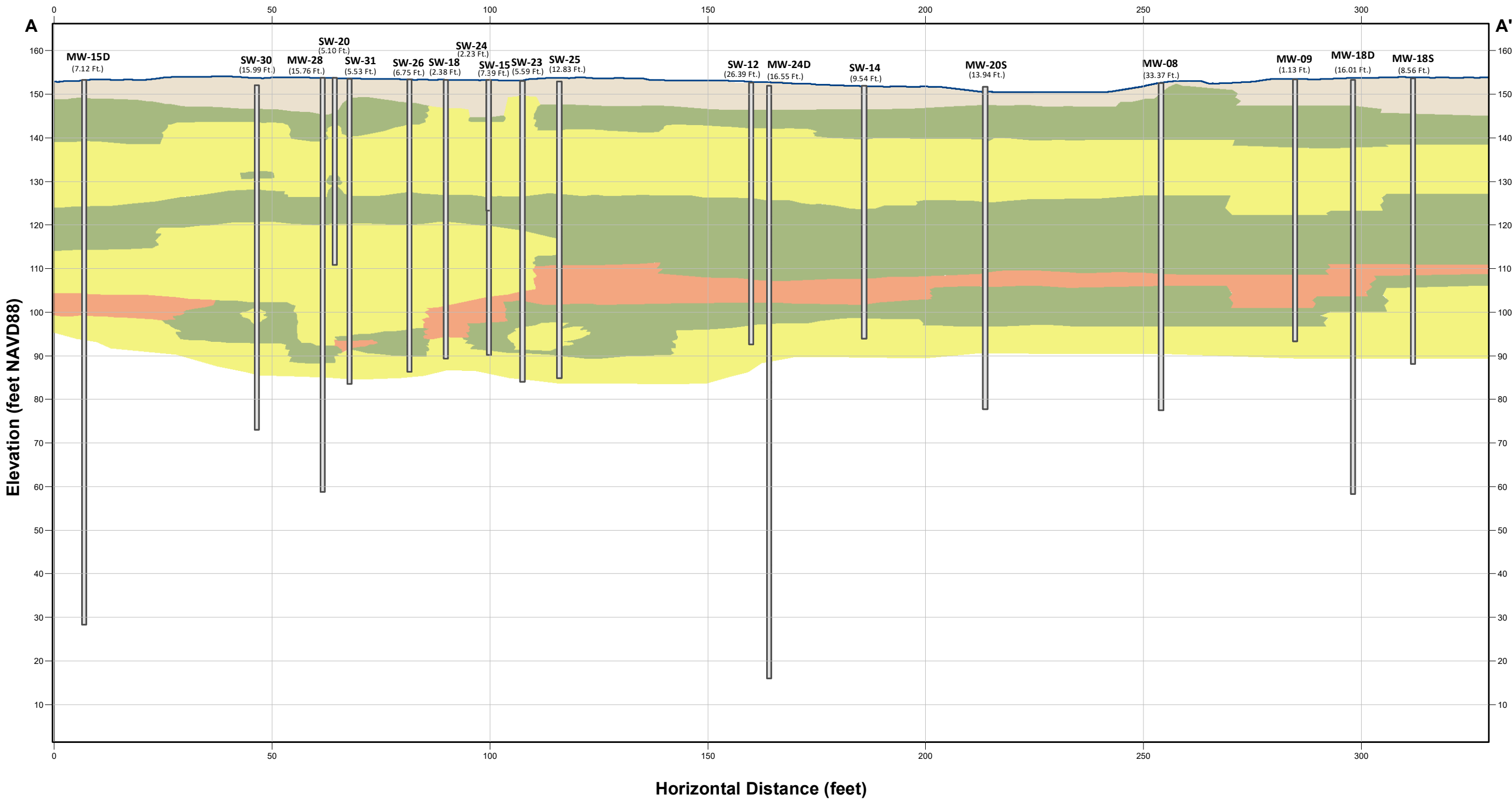
**Site Location**

**FIGURE 1**





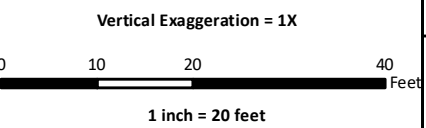
File: N:\GIS\Proj\0197\PT\Crossview\MXDs\Cross Section A\4.mxd 12/3/2020 Created by: JD Checked by: initial Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet



**Explanation**

- Borehole
- Silts/Predominantly Fine Materials
- Paleosol
- Fill
- Sands/predominantly coarse materials

**Notes**  
- NAVD88 = North American Vertical Datum of 1988.  
Label Format for points = **MW-15D** (7.12 Ft.) - Location  
projected 5 ft. or further - Projected Distance



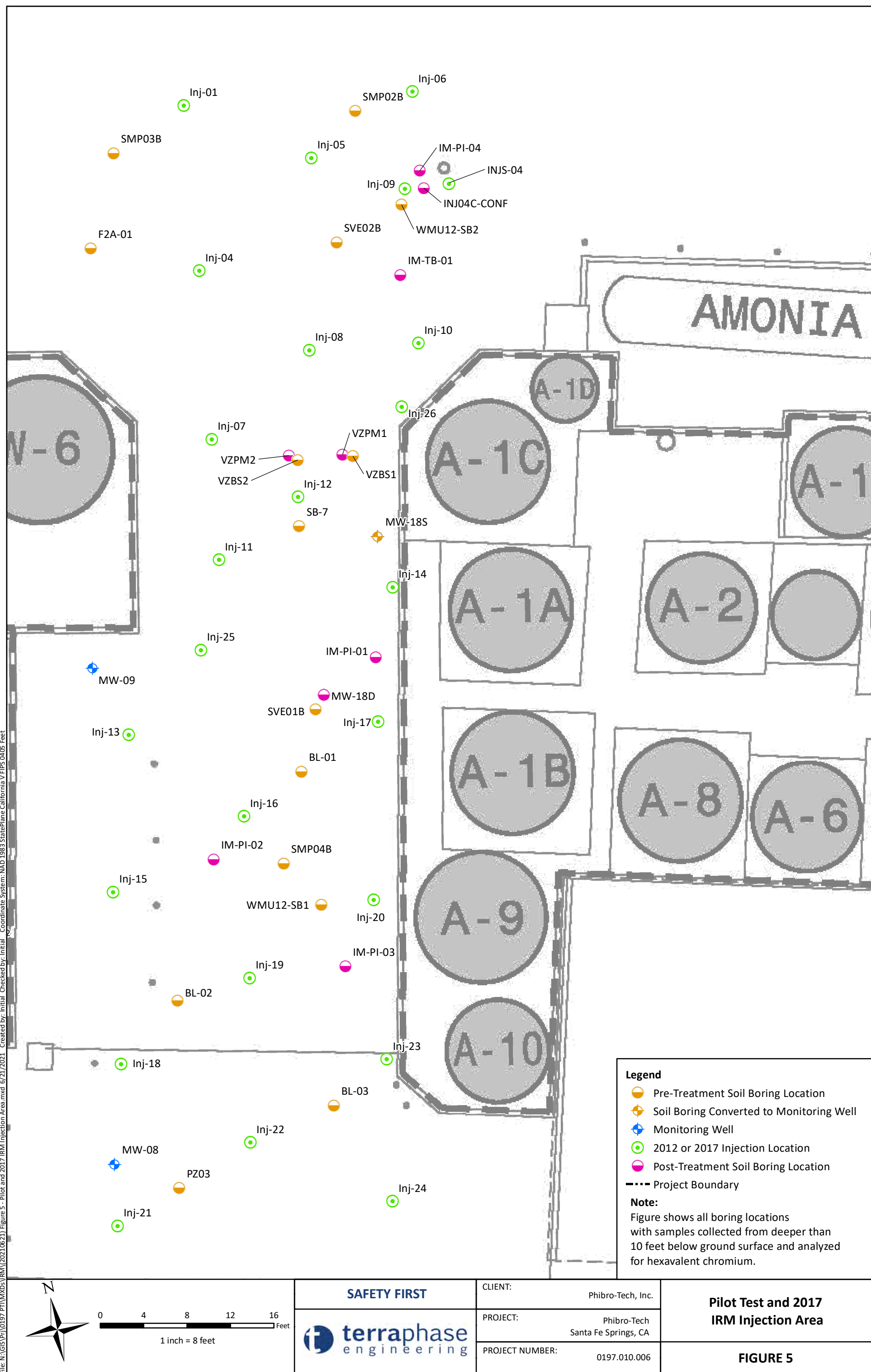
<div><div>SAFETY FIRST</div><div> terraphase engineering</div></div>	CLIENT: Phibro-Tech, Inc.	Cross Section A - A'
	PROJECT: Wastewater Treatment - Relocation Investigation Santa Fe Springs, CA	
	PROJECT NUMBER: 0197.010.004	FIGURE 3

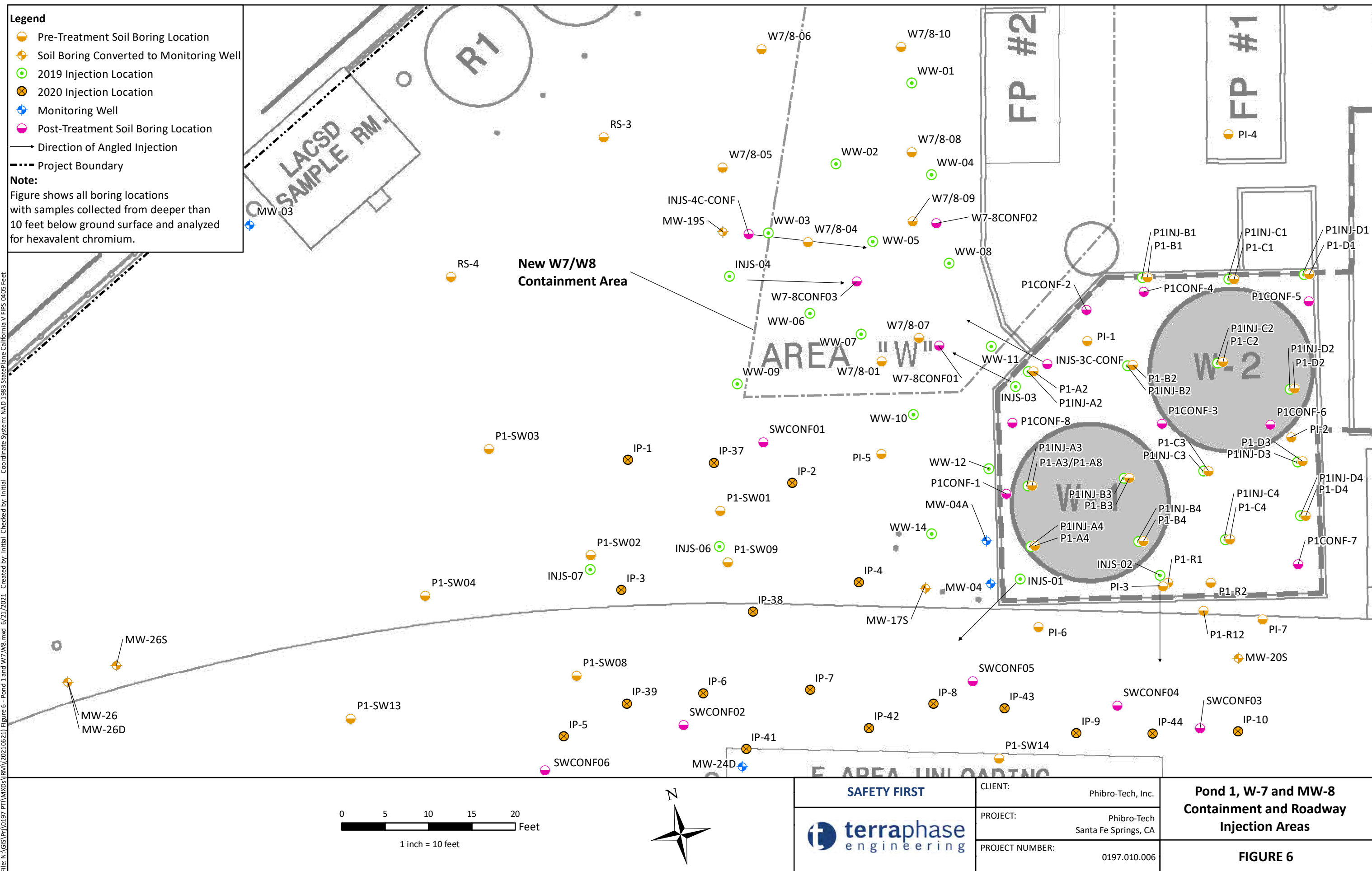




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**FIGURE 4**





### Pond 1, W-7 and MW-8 Containment and Roadway Injection Areas

**FIGURE 6**

## SAFETY FIRST



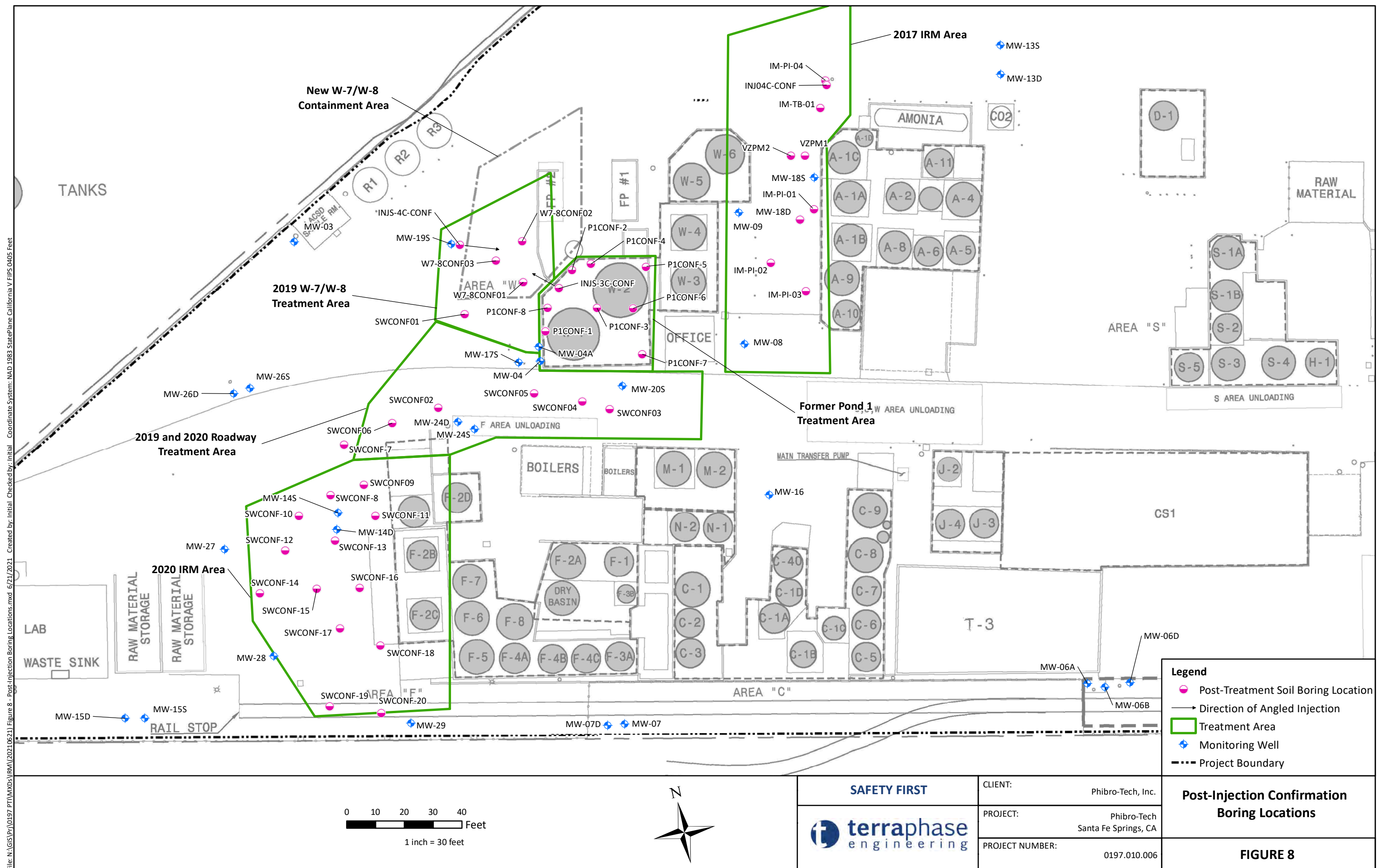
CLIENT:	Phibro-Tech, Inc.
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PROJECT:	Phibro-Tech Santa Fe Springs, CA
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PROJECT NUMBER:	0197.010.006
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# Appendix A

## Soil Target Cleanup Levels Based on Leaching to Groundwater





# Technical Memorandum

To: David Thaete  
Phibro-Tech, Inc.  
8851 Dice Spring Road  
Santa Fe Springs, California

From: Kevin Long  
Christopher Alger, PG, CHG, CEG  
Clare Steedman, PG  
Terraphase Engineering Inc.

cc: Dwight Glover, Phibro-Tech, Inc.  
Zack Walton, SSL Law Firm LLP

Date: October 8, 2021 Project No.: 0197.010.006

Subject: **Soil Migration to Groundwater Evaluation Work Plan,  
Revised Corrective Action Remedy Completion Report,  
Phibro-Tech, Inc., 8851 Dice Road, Santa Fe Springs, California**

Terraphase Engineering Inc. (Terraphase) has prepared this technical memorandum for Phibro-Tech, Inc. to document the specific assessment methodology proposed for evaluating the potential significance of the soil migration to groundwater from the western portion of the Phibro-Tech, Inc. facility, located at 8851 Dive Road in Santa Fe Springs, California (Facility), where hexavalent chromium was present in soils at depth prior to remedial activities.

## 1 Methodology

To evaluate the potential for surface and subsurface soil to leach unacceptable concentrations of hexavalent chromium, the soil data from the western portion of the Facility will be assessed using a generic soil screening level calculated using the methodologies described in the *Soil Screening Guidance: User's Guide* (United States Environmental Protection Agency [USEPA] Office of Solid Waste and Emergency Response [OSWER] 1996a), except that the California Maximum Contaminant Level (MCL) will be used as the acceptable groundwater concentration. Given the absence of a California MCL for hexavalent chromium, the California MCL for total chromium will be used as a surrogate.

The soil screening level will be calculated using both an "equilibrium partitioning" (also called soil/water partitioning [USEPA OSWER 1996a]) and a "leach test" methodology, as described below. The soil screening level corresponding to the more realistic of the two calculation methods will be used as a soil migration to groundwater screening level. For chemicals that are relatively immobile in the subsurface (e.g., semi-volatile organic compounds, polychlorinated biphenyls), the equilibrium partitioning method provides a more realistic, yet conservative, soil leachate concentration because it assumes that the chemical concentration in soil remains constant over time (i.e., since the chemical is immobile, its concentration in soil does not significantly decrease over time). For chemicals that are relatively mobile (e.g., volatile organic compounds), the leach test method provides a more realistic, yet conservative, soil

leachate concentration because it accounts for a finite amount of chemical mass in the soil. These two approaches of estimating soil leachate concentrations are conservative since they ignore attenuation of the chemical concentration in the vadose zone and dilution at the water table.

## 1.1 Equilibrium Partitioning

The following soil/water partition equation, which assumes an infinite source of the chemical, can be used to estimate concentrations of chemicals in soil leachate for a given soil concentration:

$$C_{soil} = C_{pw} \left( K_d + \frac{\theta_w + \theta_a H'}{\rho_b} \right)$$

In this relationship,  $C_{pw}$  is the soil leachate concentration (milligrams per [L] liter [L]),  $C_{soil}$  is the soil concentration (milligrams per kilogram),  $K_d$  is the chemical specific soil-water partition coefficient (L/kilogram [kg]),  $\theta_w$  is the water-filled soil porosity (unitless),  $\theta_a$  is the air-filled soil porosity (unitless),  $H'$  is the chemical specific Henry's Law constant (unitless) and  $\rho_b$  is the dry soil bulk density (kg/L). For this analysis, the soil properties will be based upon sandy clay, the soil type identified within the overburden. Specifically,  $\theta_w$  will be assumed to be 0.27 (L/L),  $\theta_a$  will be assumed to be 0.12 (L/L), and  $\rho_b$  will be assumed to be 1.63 kg/L (Environmental Quality Management, Inc. 2004).<sup>1</sup> The fraction organic carbon will be assumed to be 0.005 (grams/gram) based upon the average total organic carbon concentrations observed in soil sampling<sup>2</sup> performed at the Facility. The chemical specific  $K_d$ ,  $K_{oc}$ , and  $H'$  (and their sources) that will be used are presented in Table 1.

## 1.2 Leach Test Method

USEPA's leach test method (SW-846, Method 1312<sup>3</sup>) can be simulated by assuming a hypothetical worst-case leach test outcome in which the entire mass of the chemical in soil is extracted into the leaching fluid. With this assumption, the concentration of the chemical in soil can be divided by 20 (the ratio of the mass of leaching fluid to the mass of soil in the leaching test protocol) to estimate its leachate concentration:

$$C_{soil} = C_{pw} \times \frac{mr_{fluid:solid}}{\rho_{fluid}}$$

In the relationship above,  $C_{pw}$  is the soil leachate concentration (milligrams/L),  $C_{soil}$  is the soil concentration (milligrams/kg),  $mr_{fluid:solid}$  (kg/kg) is the mass ratio of the extraction fluid to soil used in the leach test (i.e., 20 kg-fluid per 1 kg-soil), and  $\rho_{fluid}$  (kg/L) is the density of the extraction fluid (assumed to be 1 kg/L).

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<sup>1</sup> Water-filled and air-filled porosity were estimated using the soil properties for sandy clay (Environmental Quality Management, Inc. 2004) and the van Genuchten equation (van Genuchten 1980), assuming a depth to groundwater of 55 feet.

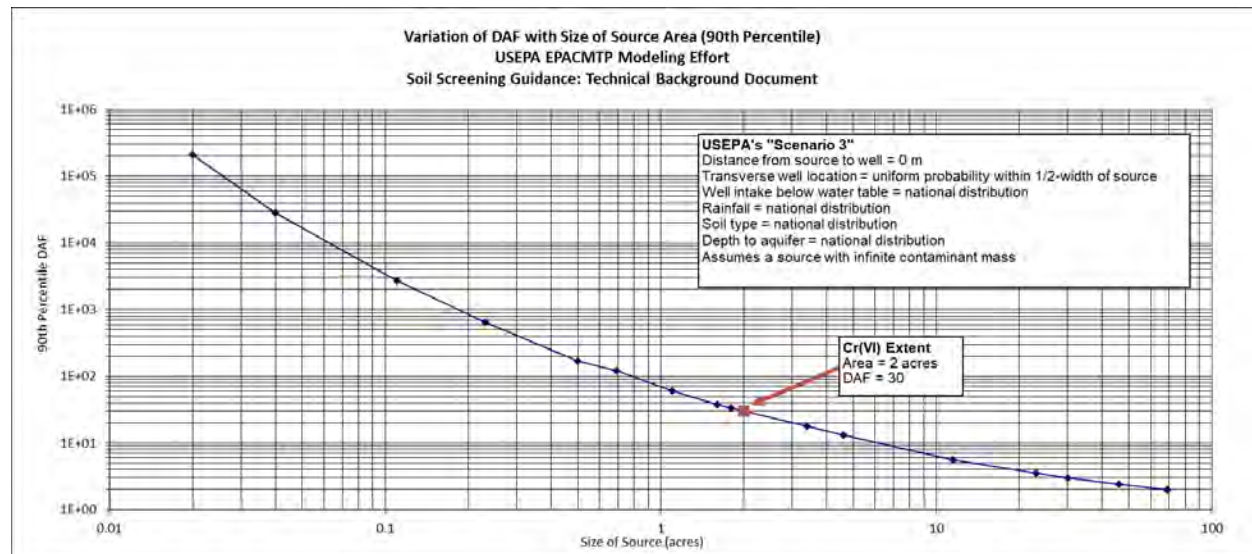
<sup>2</sup> The arithmetic mean value from 106 soil sampling results. For non-detect results, half the detection limit was used.

<sup>3</sup> Test Method 1312: Synthetic Precipitation Leaching Procedure (SPLP), <https://www.epa.gov/sites/production/files/2015-12/documents/1312.pdf>.



### 1.3 Dilution Attenuation Factor and Calculation of Soil Migration to Groundwater Screening Levels

As soil leachate moves through soil and groundwater, chemical concentrations are attenuated. The reduction in concentrations can be expressed by a dilution attenuation factor (DAF) defined as a ratio of soil leachate concentration to receptor point concentration (USEPA OWSER 1996a). Rather than independently model leachate migration to calculate a site-specific DAF, the 90th percentile DAFs, conservatively modeled by USEPA (USEPA OWSER 1996b) for various source area sizes, will be used for this evaluation. The original extent of hexavalent chromium in soils is approximately 2 acres. As presented below, using USEPA's conservative modeling results and the source area size of the original extent of hexavalent chromium, a DAF of 30 will be used.



To calculate soil migration to groundwater screening levels, the equations presented above can be further refined as follows:

$$C_{soil-SPLP} = C_{pw} \times \frac{mr_{fluid:solid}}{\rho_{fluid}} \times DAF$$

$$C_{soil-Kd} = C_{pw} \left( K_d + \frac{\theta_w + \theta_a H'}{\rho_b} \right) \times DAF$$

By substituting target groundwater concentrations for  $C_{pw}$  in the leach test method and equilibrium-partitioning method equations, and assuming a DAF, two possible soil screening levels are calculated. The higher of the two estimated values is used as it represents the more realistic, yet conservative, soil screening level for this pathway.

Table 2 presents the calculated soil migration to groundwater screening level for hexavalent chromium in soil. This level will be used as discussed in Section 1.4 to evaluate the potential significance of this exposure pathway.

## 1.4 Evaluation of Soil Sampling Results

To assess the potential significance of the soil migration to groundwater pathway, the post-remediation hexavalent chromium soil sampling results will be evaluated using the following incremental evaluation steps:

1. The maximum detected post-remediation soil concentrations, regardless of location or sampling depth, will be compared to the soil migration to groundwater screening level. Hexavalent chromium soil concentrations at or below this level will be concluded to not pose an unacceptable risk to groundwater via this exposure pathway.
2. If the maximum detected concentrations are greater than the screening level, the deepest most soil concentration in each boring will be compared to the screening level. If none of the deepest most soil sampling results are above the screening level, hexavalent chromium will be concluded to not pose an unacceptable risk to groundwater via this exposure pathway.
3. A conservative estimate of the average, deepest-most, soil concentration will be calculated if the deepest-most soil concentration, in one or more soil borings, was found to be greater than the screening level. If this conservatively estimated average concentration is less than or equal to the screening level, hexavalent chromium will be concluded to not pose an unacceptable risk to groundwater via this exposure pathway.

Additional evaluation will be considered if hexavalent chromium in soil cannot be concluded to not pose an unacceptable risk to groundwater using the above incremental evaluation. This additional evaluation could include:

- Consideration for groundwater sampling data in wells located within or immediately downgradient of the area and an evaluation to determine whether hexavalent chromium has impacted groundwater; and
- Additional post-remediation sampling to further characterize the current vertical or horizontal nature and extent of hexavalent chromium in soil and/or the actual ability of chemicals to leach from soil in this area (e.g., actual synthetic precipitation leaching procedure analyses of soil versus reliance on simulated worst-case synthetic precipitation leaching procedure outcome).

## 2 Alternative Groundwater Protection Concentrations

Alternative soil migration to groundwater screening levels for soil have also been calculated for select possible future hexavalent chromium MCL values, should a hexavalent chromium-specific California MCL be promulgated in the future, and are presented in Table 3.



### 3 Conclusion

This technical memorandum has been prepared to document the conservative assessment methodology proposed for evaluating the potential significance of the soil migration to groundwater pathway at the Facility. Specifically, this assessment is proposed to support the development of an alternative target cleanup level for hexavalent chromium as part of the *Revised Corrective Action Remedy Completion Report*.

Feel free to contact Chris Alger (510-645-1850 ext. 58; [chris.alger@terrphase.com](mailto:chris.alger@terrphase.com)) or Clare Steedman (949-377-2227 ext. 89; [clare.steedman@terrphase.com](mailto:clare.steedman@terrphase.com)) or Kevin Long (609-236-8171 ext. 93; [kevin.long@terrphase.com](mailto:kevin.long@terrphase.com)) with any comments or questions regarding this proposed assessment methodology.

### References

- Environmental Quality Management, Inc. 2004. *User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings*. Prepared for USEPA Office of Emergency and Remedial Response. February.
- USEPA OSWER. 1996a. *Soil Screening Guidance: User's Guide, 2nd Ed.* Publication 9355.4-23. July.
- USEPA OSWER. 1996b. *Soil Screening Guidance: Technical Background Document, 2nd Ed.* EPA/540/R95/128. May.
- Van Genuchten, M. Th. 1980. "A Closed-form Equation for Predicting the Hydraulic Conductivity of Unsaturated Soils." *Soil Science Society America Journal*, Volume 44 (October): 892-898.

#### Attachments (3):

- Table 1: Physical and Chemical Properties
- Table 2: Soil Migration to Groundwater Screening Levels
- Table 3: Alternative Soil Migration to Groundwater Screening Levels



**Table 1****Physical and Chemical Properties**

Phibro-Tech Inc., Santa Fe Springs, CA

Chem Group	Chemical	CASRN	K <sub>oc</sub> (L/kg)			K <sub>d</sub> (L/kg)			H (unitless)			s (mg/L)		
			Value	Ref	Notes	Value	Ref	Notes	Value	Ref	Notes	Value	Ref	Notes
INORG	Chromium VI	18540-29-9				1.9E+01	44	43						

**References:**

44 USEPA. 1996. Soil Screening Guidance: Technical Background Document and User Guide. Office of Emergency and Remedial Response. EPA/540/R-95/128. May.

**Notes:**

43 The value is associated with pH 6.8.



**Table 2**

**Soil Migration to Groundwater Screening Levels**

Phibro-Tech Inc., Santa Fe Springs, CA

Chem Group	Chemical	CASRN	Target Concentration in Groundwater (mg/L)		Solubility (mg/L)	K <sub>oc</sub> (L/kg)	K <sub>d</sub> (L/kg)	H (unitless)	C <sub>soil-MtGW-Eq</sub> (mg/kg)	C <sub>soil-MtGW-Lt</sub> (mg/kg)	Soil MtGW Screening Level (mg/kg)	
INORG	Chromium VI	18540-29-9	5.0E-02	sMCL			1.9E+01		2.9E+01	3.0E+01	3.0E+01	LT

**Notes:**

<b>f<sub>oc</sub></b>	Fraction organic carbon	0.005
<b>ρ<sub>b</sub></b>	Soil bulk density	1.63
<b>n</b>	Total porosity	0.39
<b>θ<sub>w</sub></b>	Water-filled soil porosity	0.23
<b>θ<sub>a</sub></b>	Air-filled soil porosity	0.15
<b>DAF</b>	Dilution attenuation factor	30

The California MCL of 0.05 for total chromium is used as a surrogate for chromium VI.

The Target Groundwater Concentrations basis is:

sMCL - State MCL

**Table 3****Alternative Soil Migration to Groundwater Screening Levels**

Phibro-Tech Inc., Santa Fe Springs, CA

Chem Group	Chemical	CASRN	Target Concentration in Groundwater (mg/L)		Soil MtGW Screening Level (mg/kg)	
INORG	Chromium VI	18540-29-9	1.0E-02	sMCL	6.0E+00	LT
			2.0E-02	sMCL	1.2E+01	LT
			3.0E-02	sMCL	1.8E+01	LT
			4.0E-02	sMCL	2.4E+01	LT

**Notes:**

$f_{oc}$	Fraction organic carbon	0.005
$\rho_b$	Soil bulk density	1.63
$n$	Total porosity	0.39
$\theta_w$	Water-filled soil porosity	0.23
$\theta_a$	Air-filled soil porosity	0.15
DAF	Dilution attenuation factor	30

The Target Groundwater Concentrations basis is:

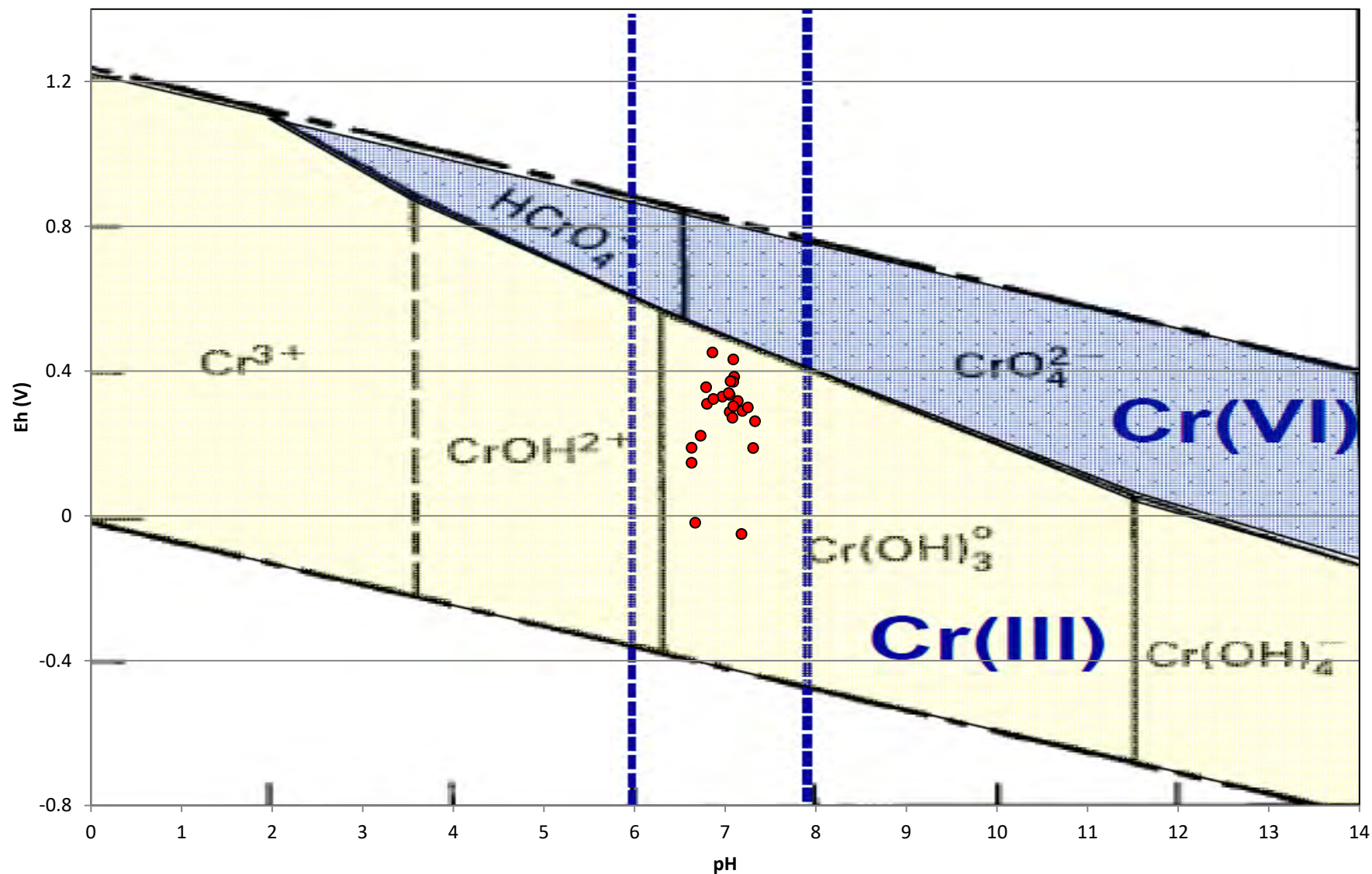
sMCL - State MCL

## Appendix B

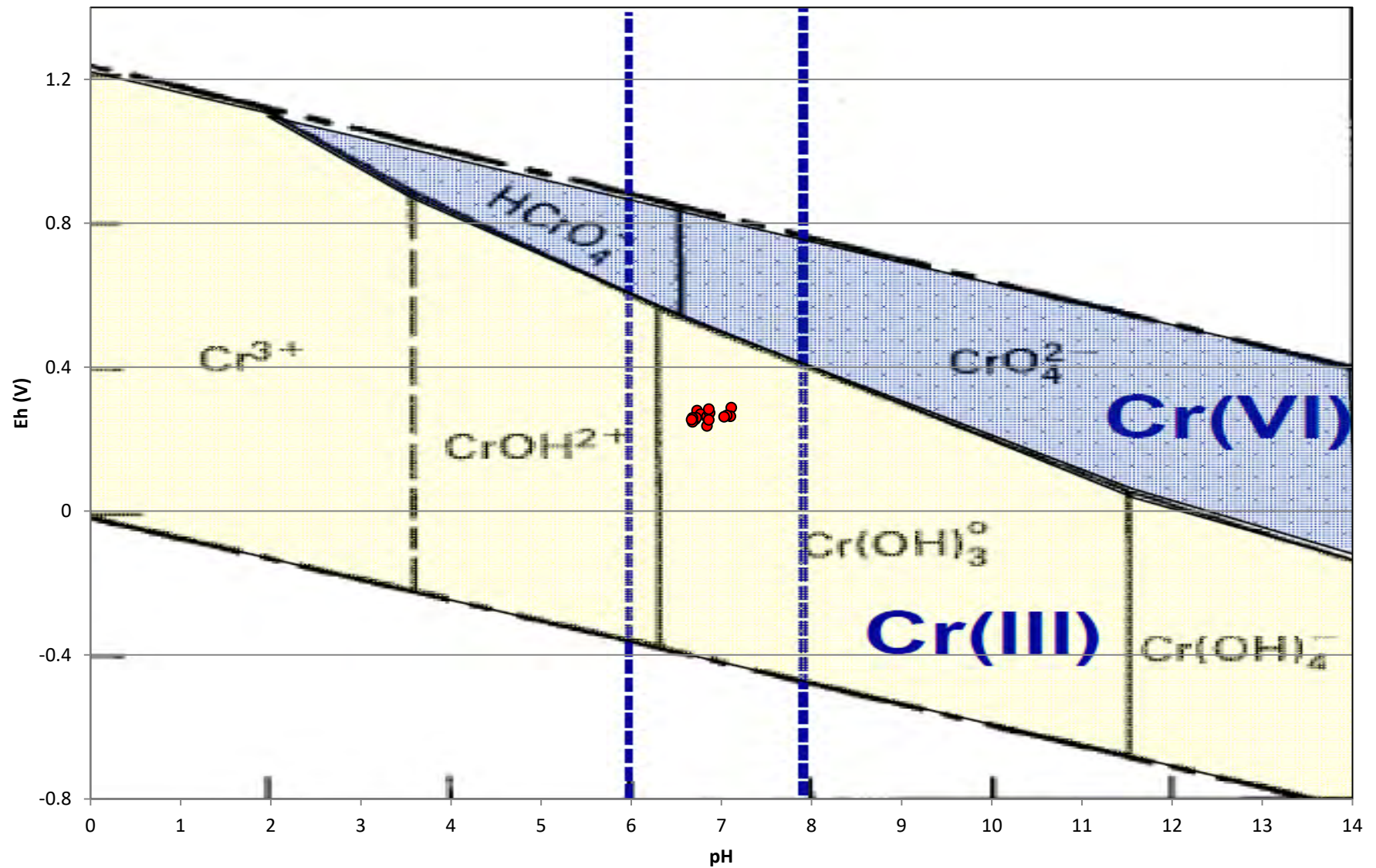
### Oxygen Reduction Potential (Eh) and pH Plots of Groundwater



Oxygen Reduction Potential (Eh) vs. pH:  
January 2013 - PTI wells (corrected to SHE standard)



Oxygen Reduction Potential (Eh) vs. pH:  
June 2020 - PTI wells (corrected to SHE standard)



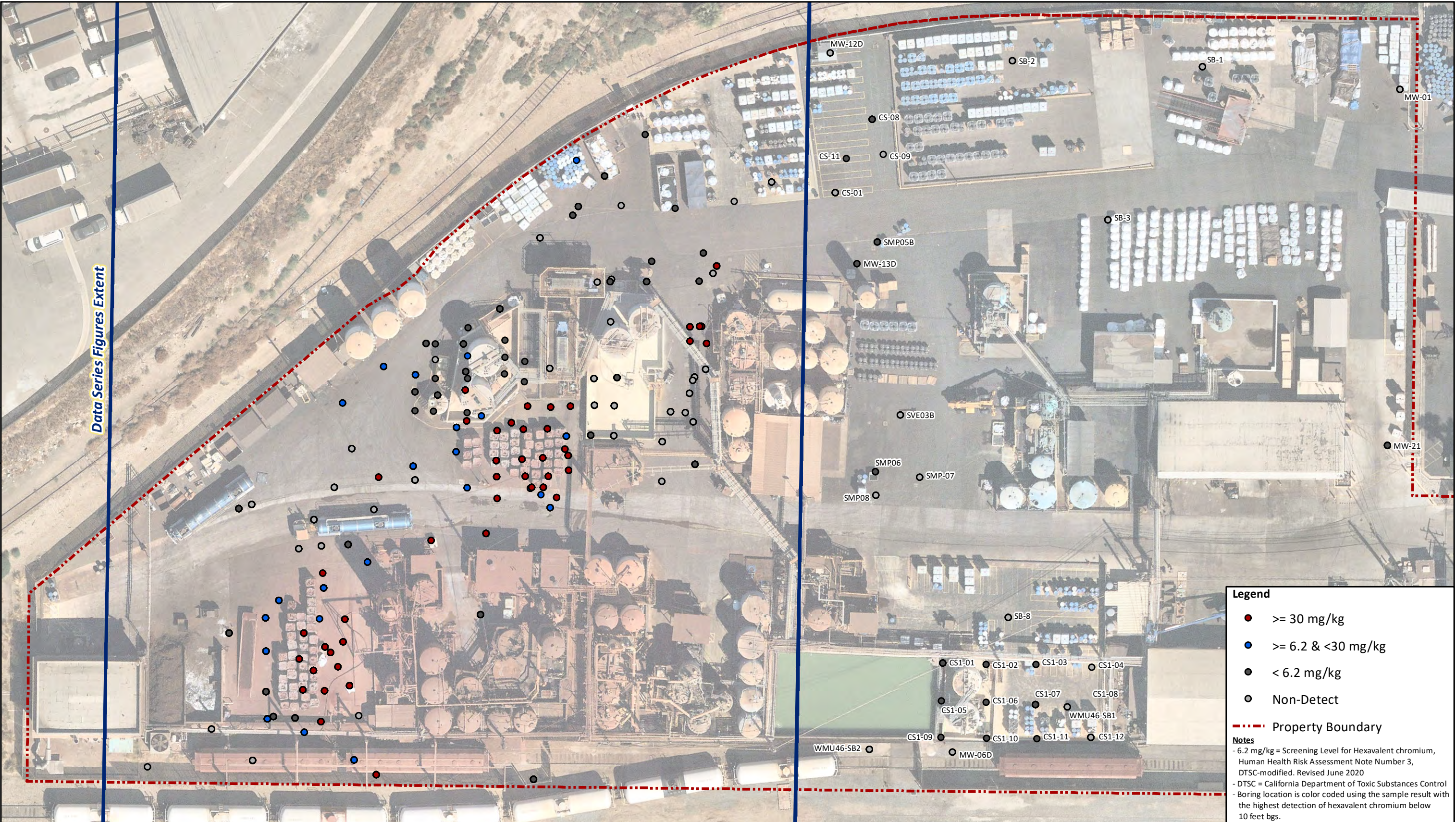
# Appendix C

## Pre- and Post-Remediation Distribution of Hexavalent Chromium in Soil

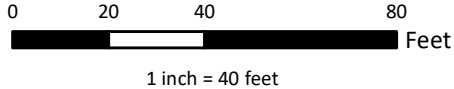




File: N:\GIS\PA\0197 PTA\MXDs\Pre-Post Treatment - Hex Chrom\20211008\Pre Remediation Sample Reference Map.mxd 10/8/2021 Created by: BKO Checked by: CS Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet



Aerial imagery source: Nearmap, September 21<sup>st</sup>, 2021




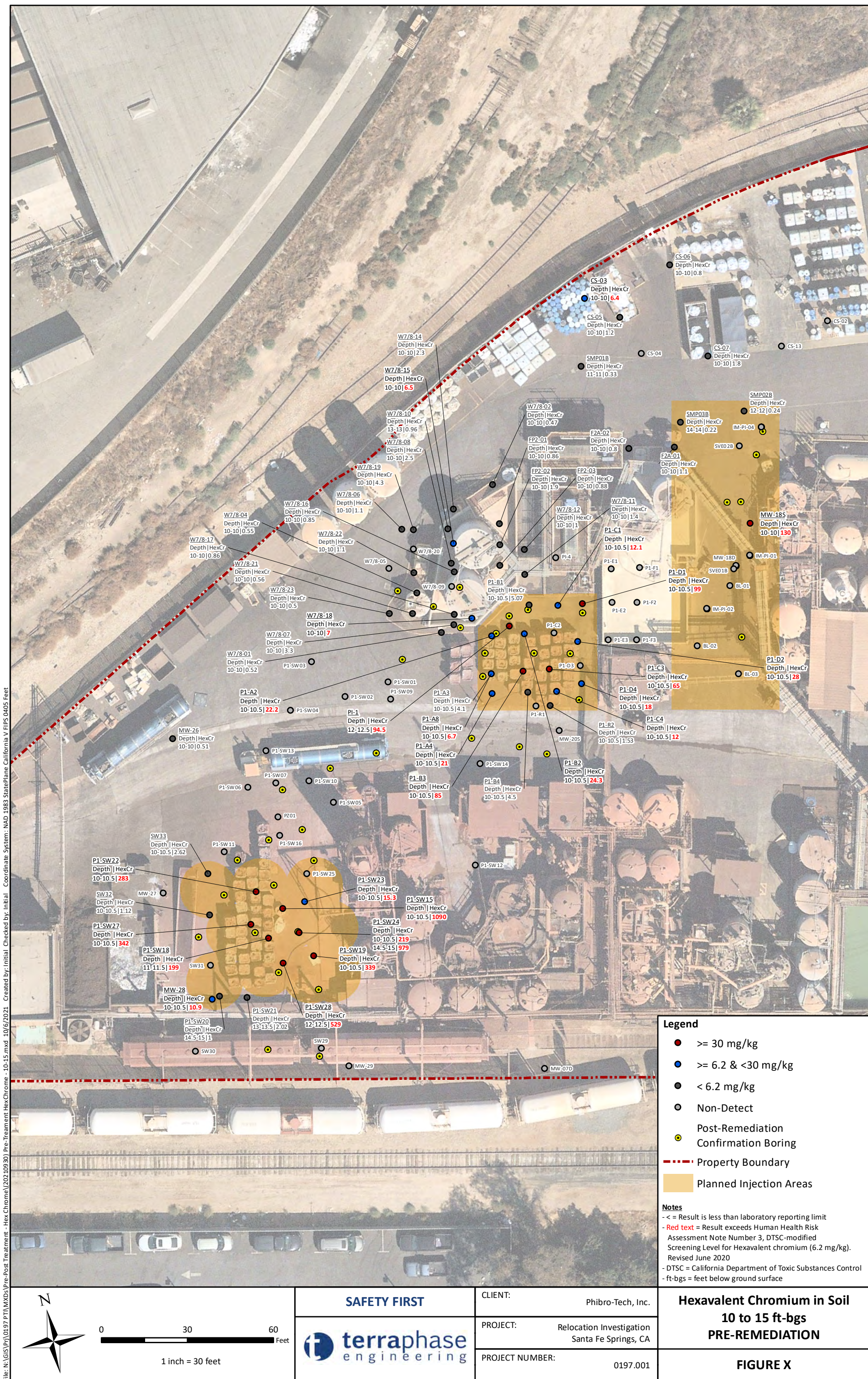
<b>SAFETY FIRST</b> 	CLIENT: Phibro-Tech, Inc.	<b>Hexavalent Chromium Pre-Remediation Sample Reference Map</b>
	PROJECT: Relocation Investigation Santa Fe Springs, CA	
	PROJECT NUMBER: 0197.001	

FIGURE X







File: N:\GIS\Proj\0197 PTI\MXDs\Pre-Post Treatment - Hex Chrome\ (20211005) Post-Treatment HexChrome - 10-15.mxd 10/6/2021 Created by: Initial Checked by: Initial Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet

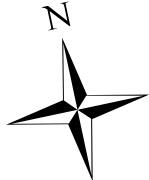



**Legend**

- $\geq 30$  mg/kg
- $\geq 6.2$  &  $< 30$  mg/kg
- $< 6.2$  mg/kg
- Non-Detect
- - - Property Boundary

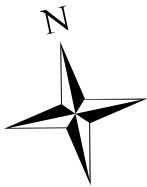
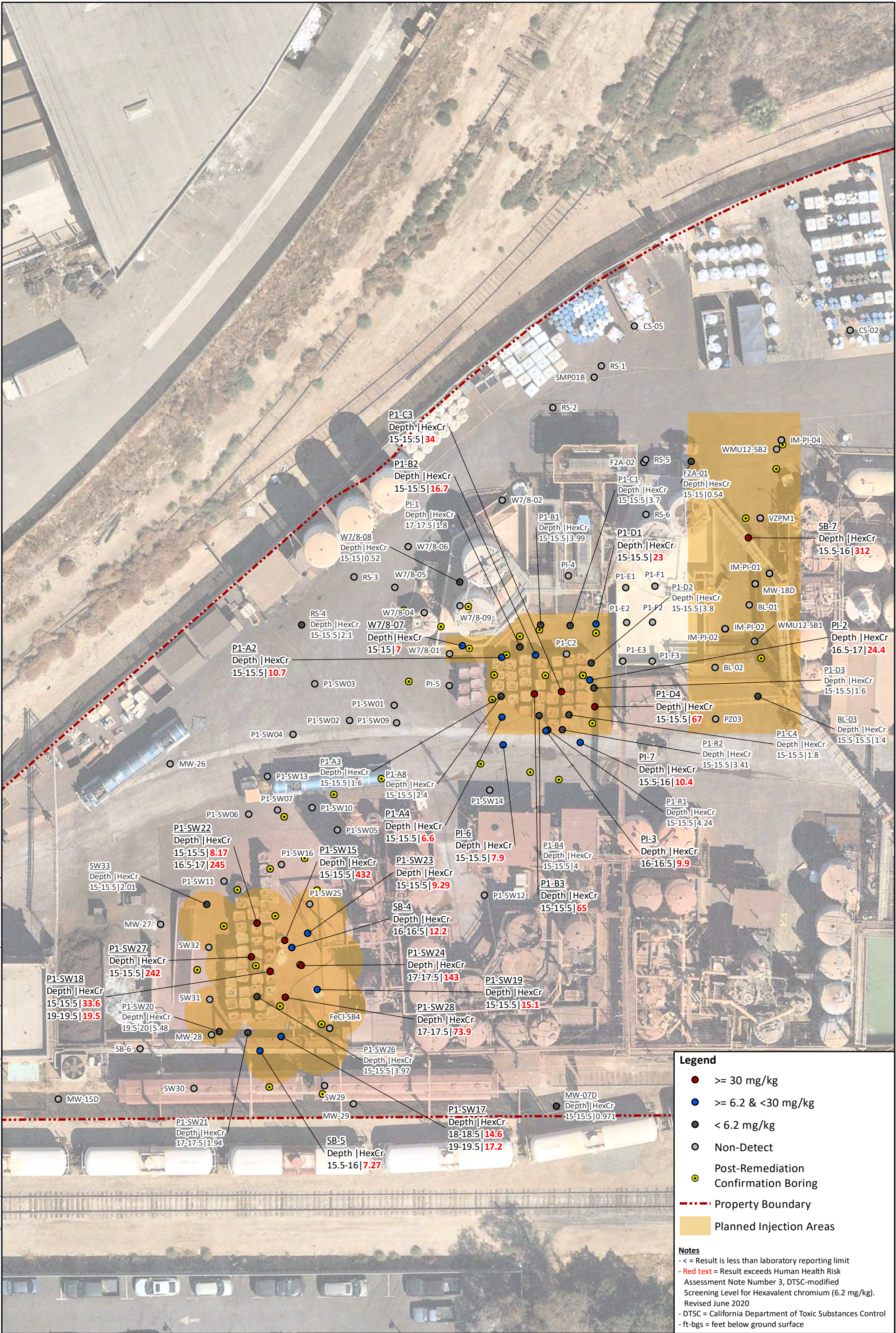
**Notes**

- $\leq$  = Result is less than laboratory reporting limit
- Red text = Result exceeds Human Health Risk Assessment Note Number 3, DTSC-modified Screening Level for Hexavalent chromium (6.2 mg/kg). Revised June 2020
- DTSC = California Department of Toxic Substances Control
- ft-bgs = feet below ground surface

<div><div><div>03060</div><div>Feet</div></div><div>1 inch = 30 feet</div></div>	<div><div>SAFETY FIRST</div><div></div></div>	<div>CLIENT: Phibro-Tech, Inc.</div> <div>PROJECT: Relocation Investigation Santa Fe Springs, CA</div> <div>PROJECT NUMBER: 0197.001</div>	<div>Hexavalent Chromium in Soil 10 to 15 ft-bgs POST-REMEDIATION</div>
			<div>FIGURE X</div>



File: N:\GIS\Proj\0197 PTI\MXDs\Pre-Post Treatment - Hex Chrome\20210930 Pre-Treatment HexChrome - 15-20.mxd 10/6/2021 Created by: Initial Checked by: Initial Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet



0 30 60 Feet  
1 inch = 30 feet

SAFETY FIRST



CLIENT: Phibro-Tech, Inc.  
PROJECT: Relocation Investigation Santa Fe Springs, CA  
PROJECT NUMBER: 0197.001

**Hexavalent Chromium in Soil  
15 to 20 ft-bgs  
PRE-REMEDIATION**

**FIGURE X**



File: N:\GIS\Proj\0197 PTI\MXDs\Pre-Post Treatment - Hex Chrome\20211006 Post-Treatment HexChrome - 15-20.mxd 10/6/2021 Created by: Initial Checked by: Initial Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet



**Legend**

>= 30 mg/kg

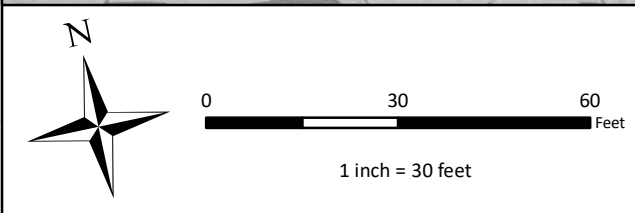
>= 6.2 & <30 mg/kg


< 6.2 mg/kg

Non-Detect

Property Boundary

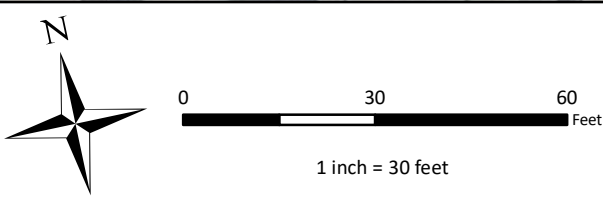
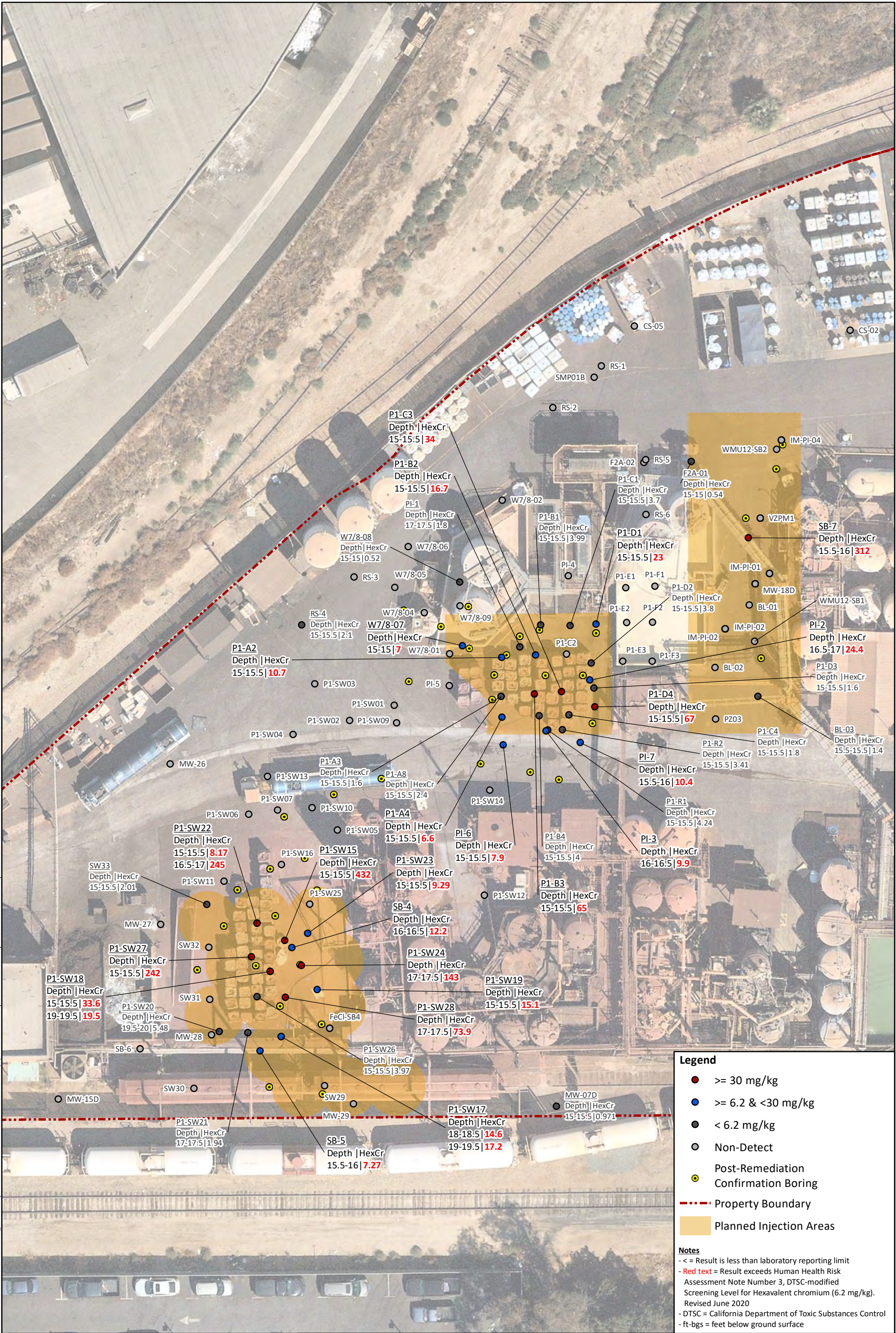
**Notes**  
- <= Result is less than laboratory reporting limit  
- **Red text** = Result exceeds Human Health Risk Assessment Note Number 3, DTSC-modified Screening Level for Hexavalent chromium (6.2 mg/kg). Revised June 2020  
- DTSC = California Department of Toxic Substances Control  
- ft-bgs = feet below ground surface




<div><div>SAFETY FIRST</div><div></div></div>	CLIENT: <div>Phibro-Tech, Inc.</div>	<div><div>Hexavalent Chromium in Soil</div><div>15 to 20 ft-bgs</div><div>POST-REMEDIATION</div></div> <div>FIGURE X</div>
	PROJECT: <div>Relocation Investigation Santa Fe Springs, CA</div>	
	PROJECT NUMBER: <div>0197.001</div>	



File: N:\GIS\Proj\0197 PTI\MXDs\Pre-Post Treatment - Hex Chrome\20210930 Pre-Treatment HexChrome - 20-25 mxd 10/6/2021 Created by: Initial Checked by: Initial Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet



<div>SAFETY FIRST</div> <div> terraphase engineering</div>	CLIENT: <div>Phibro-Tech, Inc.</div>	<div>Hexavalent Chromium in Soil</div> <div>20 to 25 ft-bgs</div> <div>PRE-REMEDIATION</div> <div>FIGURE X</div>
	PROJECT: <div>Relocation Investigation Santa Fe Springs, CA</div>	
	PROJECT NUMBER: <div>0197.001</div>	





File: N:\GIS\Pre-Post Treatment - Hex Chrome\20211006 Post-Treatment HexChrome - 20-25.mxd 10/6/2021 Created by: Initial Checked by: Initial Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet

**Legend**

- >= 30 mg/kg
- >= 6.2 & < 30 mg/kg
- < 6.2 mg/kg
- Non-Detect
- - - Property Boundary

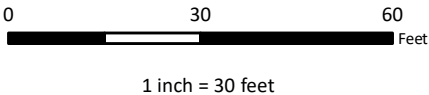
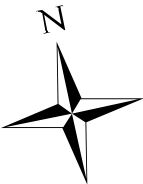
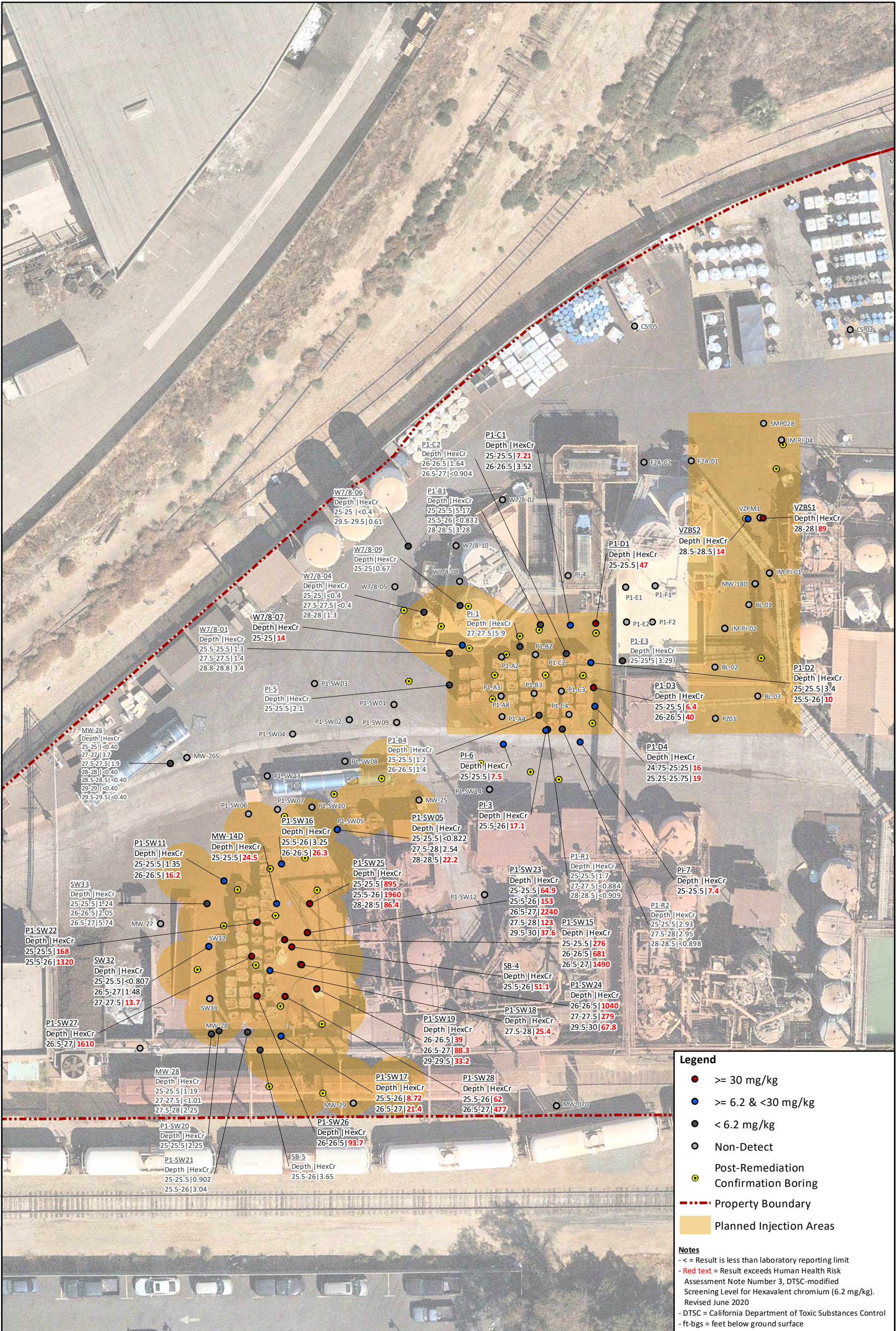
**Notes**

- < = Result is less than laboratory reporting limit
- Red text = Result exceeds Human Health Risk Assessment Note Number 3, DTSC-modified Screening Level for Hexavalent chromium (6.2 mg/kg). Revised June 2020
- DTSC = California Department of Toxic Substances Control
- ft-bgs = feet below ground surface

<div><div><div>N</div><div><div></div><div></div><div></div><div></div></div></div><div><div>0</div><div>30</div><div>60</div></div><div>Feet</div><div>1 inch = 30 feet</div></div>	<div><div>SAFETY FIRST</div><div><div><div>t</div><div>terr</div><div>phase</div></div><div>engineering</div></div></div>	<div>CLIENT: Phibro-Tech, Inc.</div>	<div>Hexavalent Chromium in Soil</div> <div>20 to 25 ft-bgs</div> <div>POST-REMEDIATION</div> <div>FIGURE X</div>
		<div>PROJECT: Relocation Investigation Santa Fe Springs, CA</div>	
		<div>PROJECT NUMBER: 0197.001</div>	



File: N:\GIS\Pre\0197 PTH\MXDs\Pre-Post Treatment - Hex Chrome\20210930 Pre-Treatment Hex Chrome - 25-30 mxd Created by: Initial Checked by: Initial Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet



CLIENT:	Phibro-Tech, Inc.
PROJECT:	Relocation Investigation Santa Fe Springs, CA
PROJECT NUMBER:	0197.001

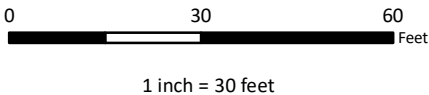
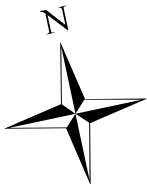
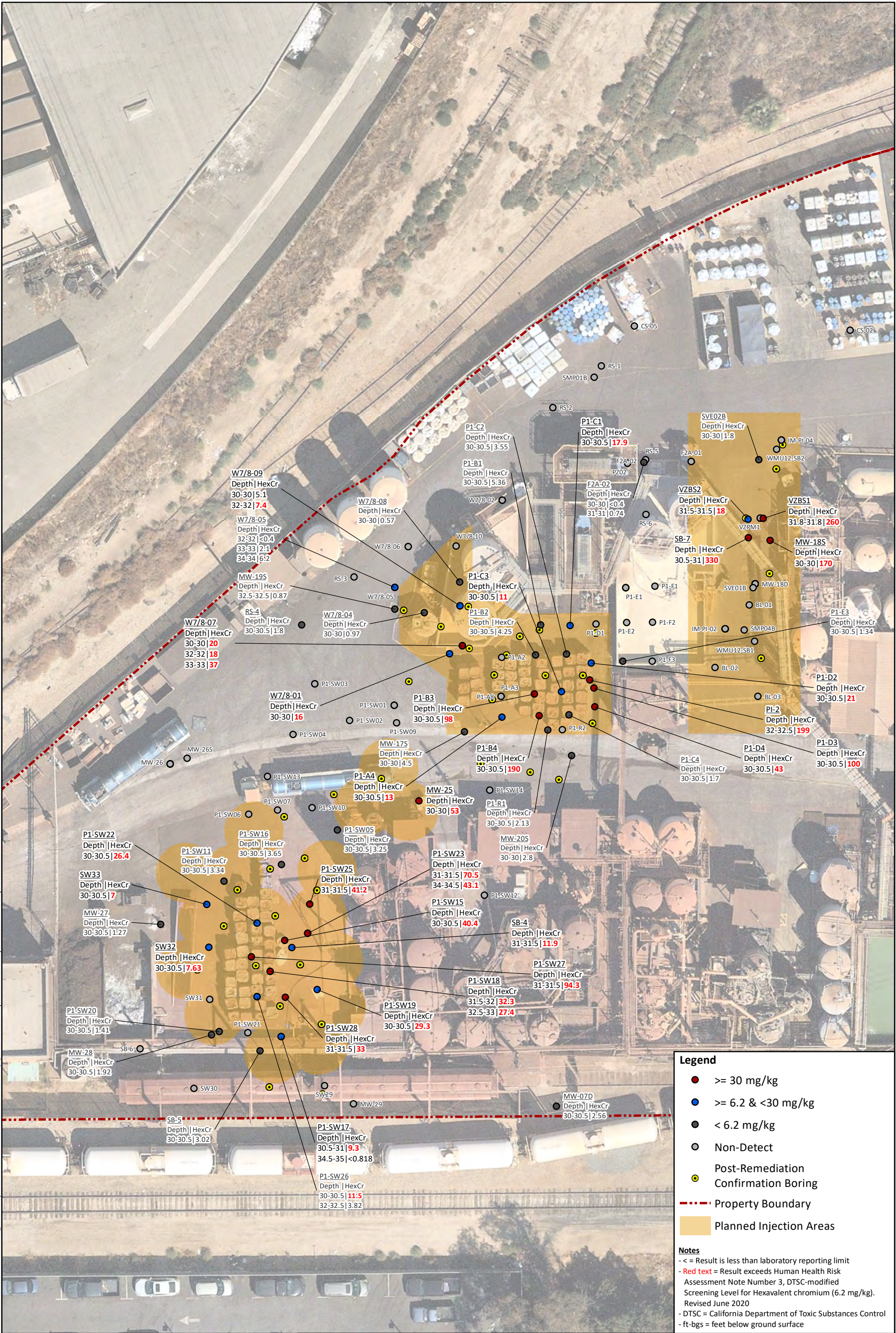
<b>Hexavalent Chromium in Soil 25 to 30 ft-bgs PRE-REMEDIATION</b>
<b>FIGURE X</b>







File: N:\GIS\Proj\0197 PTH\MXDs\Pre-Post Treatment - Hex Chrome\20211001 Pre-Treatment HexChrome - 30-35.mxd 10/6/2021 Created by: BKO Checked by: CS Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet



SAFETY FIRST



CLIENT:	Phibro-Tech, Inc.
PROJECT:	Relocation Investigation Santa Fe Springs, CA
PROJECT NUMBER:	0197.001

**Hexavalent Chromium in Soil  
30 to 35 ft-bgs  
PRE-REMEDATION**

**FIGURE X**



File: N:\GIS\Pre-Post Treatment - Hex Chrome\20211006 Post-Treatment HexChrome - 30-35.mxd 10/6/2021 Created by: Initial Checked by: Initial Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet

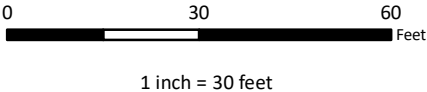


Legend

- >= 30 mg/kg
- >= 6.2 & <30 mg/kg
- < 6.2 mg/kg
- Non-Detect
- - - Property Boundary

Notes

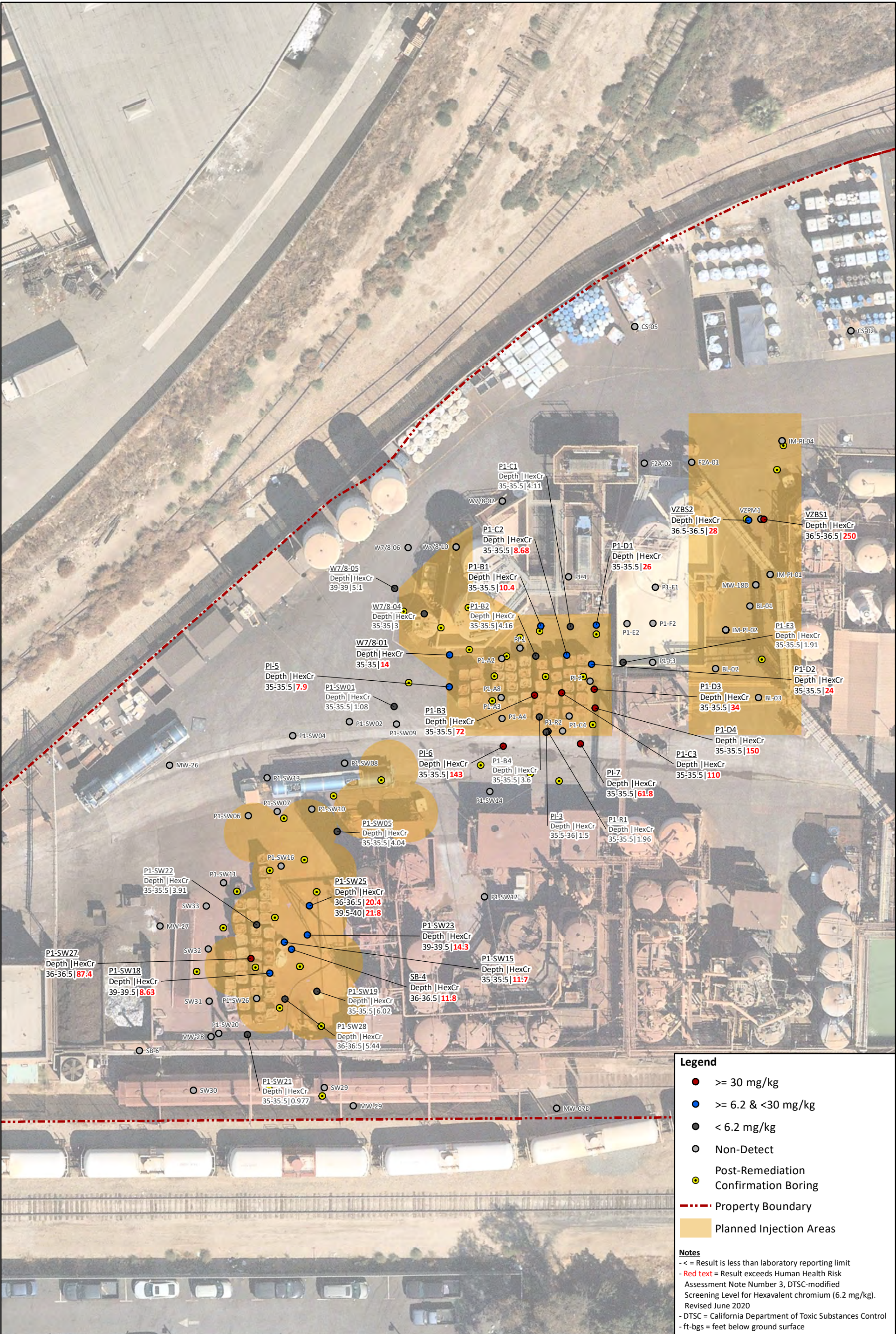
- < = Result is less than laboratory reporting limit
- Red text = Result exceeds Human Health Risk Assessment Note Number 3, DTSC-modified Screening Level for Hexavalent chromium (6.2 mg/kg). Revised June 2020
- DTSC = California Department of Toxic Substances Control
- ft-bgs = feet below ground surface



<div><div>SAFETY FIRST</div><div></div></div>	CLIENT: <div>Phibro-Tech, Inc.</div>	<div>Hexavalent Chromium in Soil</div> <div>30 to 35 ft-bgs</div> <div>POST-REMEDIATION</div> <div>FIGURE X</div>
	PROJECT: <div>Relocation Investigation Santa Fe Springs, CA</div>	
	PROJECT NUMBER: <div>0197.001</div>	



File: N:\GIS\Proj\0197 PTI\MXDs\Pre-Post Treatment - Hex Chrome\20211001 Pre-Treatment HexChrome - 35-40.mxd - 35-40.mxd 10/6/2021 Created by: BKO Checked by: CS Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet





File: N:\GIS\Pre-Post Treatment - Hex Chrome\20211006 Post-Treatment HexChrome - 35-40.mxd 10/6/2021 Created by: Initial Checked by: Initial Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet

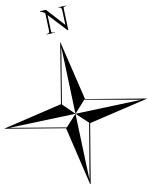


Legend

- $\geq 30$  mg/kg
- $\geq 6.2$  &  $< 30$  mg/kg
- $< 6.2$  mg/kg
- Non-Detect
- - - Property Boundary

Notes

- $\leq$  = Result is less than laboratory reporting limit
- Red text = Result exceeds Human Health Risk Assessment Note Number 3, DTSC-modified Screening Level for Hexavalent chromium (6.2 mg/kg). Revised June 2020
- DTSC = California Department of Toxic Substances Control
- ft-bgs = feet below ground surface



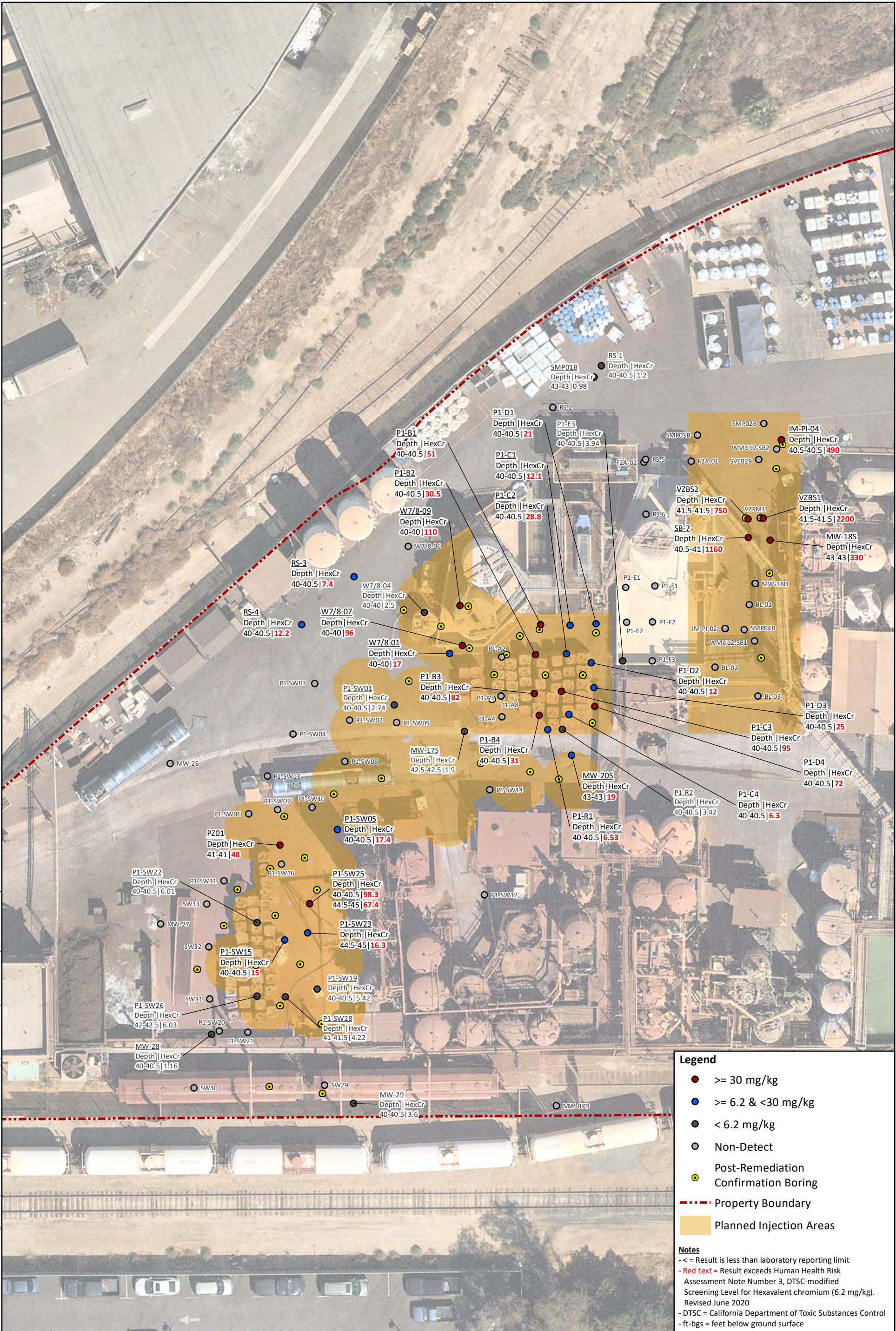
0 30 60 Feet  
1 inch = 30 feet

<div><div>SAFETY FIRST</div><div></div></div>	CLIENT: <div>Phibro-Tech, Inc.</div>	<div>Hexavalent Chromium in Soil</div> <div>35 to 40 ft-bgs</div> <div>POST-REMEDIATION</div>
	PROJECT: <div>Relocation Investigation Santa Fe Springs, CA</div>	
	PROJECT NUMBER: <div>0197.001</div>	

FIGURE X



File: N:\GIS\Proj\0197 PTI\MXDs\Pre-Post Treatment - Hex Chrome\20211001 Pre-Treatment HexChrome - 40-45.mxd 10/6/2021 Created by: BKO Checked by: CS Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet



Legend

- $\geq 30$  mg/kg
- $\geq 6.2$  &  $< 30$  mg/kg
- $< 6.2$  mg/kg
- Non-Detect
- Post-Remediation Confirmation Boring
- Property Boundary
- Planned Injection Areas

Notes

- $\leq$  = Result is less than laboratory reporting limit
- Red text = Result exceeds Human Health Risk Assessment Note Number 3, DTSC-modified Screening Level for Hexavalent chromium (6.2 mg/kg). Revised June 2020
- DTSC = California Department of Toxic Substances Control
- ft-bgs = feet below ground surface



0 30 60 Feet  
1 inch = 30 feet

SAFETY FIRST



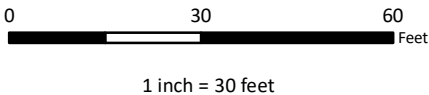
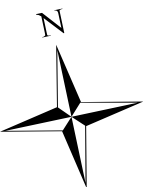
CLIENT: Phibro-Tech, Inc.  
PROJECT: Relocation Investigation Santa Fe Springs, CA  
PROJECT NUMBER: 0197.001

Hexavalent Chromium in Soil  
40 to 45 ft-bgs  
PRE-REMEDIATION

FIGURE X



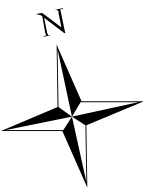
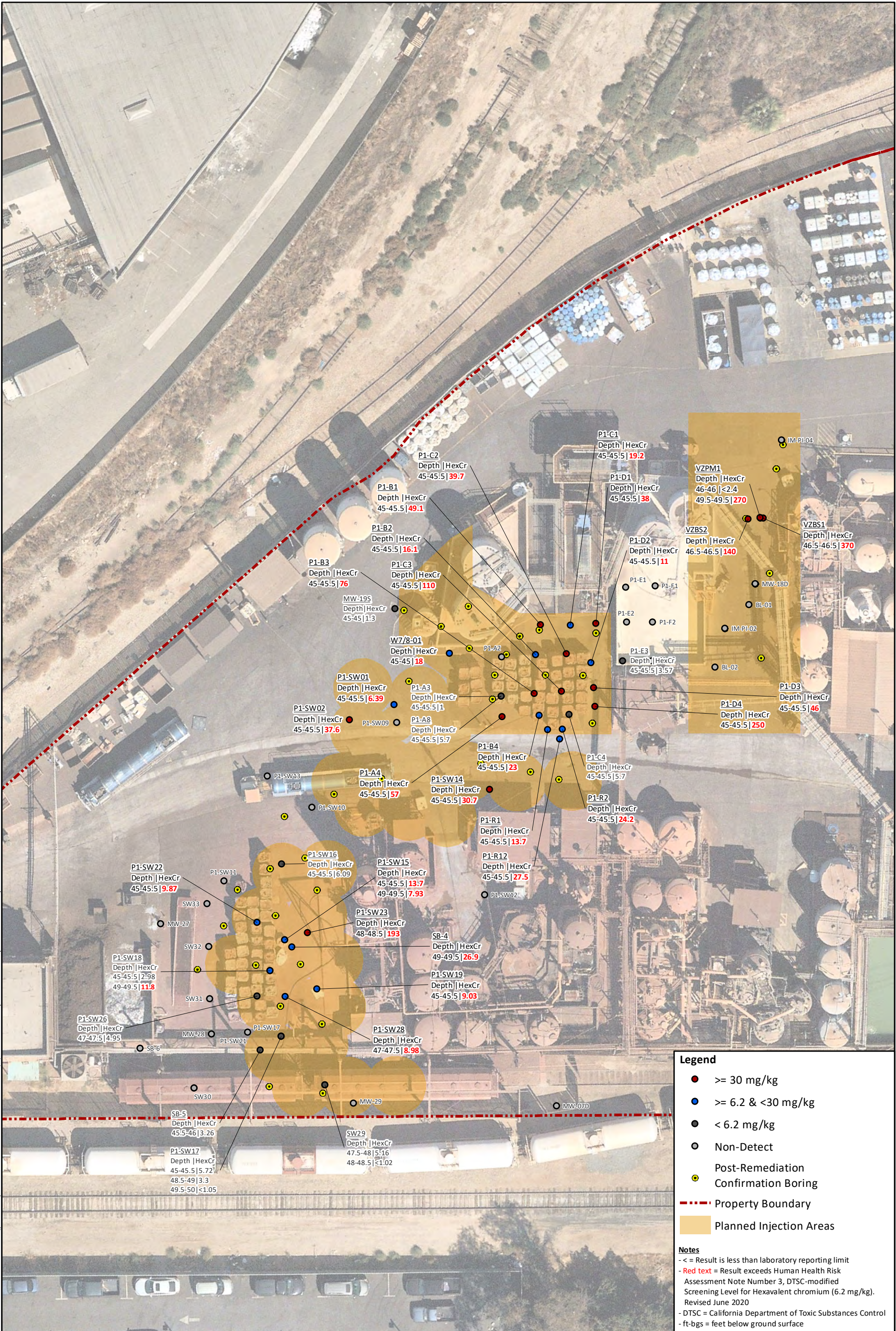
File: N:\GIS\Pre-Post Treatment - Hex Chrome\20211006 Post-Treatment HexChrome - 40-45.mxd 10/6/2021 Created by: Initial Checked by: Initial Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet



<div><div>SAFETY FIRST</div><div></div></div>	CLIENT: <div>Phibro-Tech, Inc.</div>	<div>Hexavalent Chromium in Soil</div> <div>40 to 45 ft-bgs</div> <div>POST-REMEDIATION</div> <div>FIGURE X</div>
	PROJECT: <div>Relocation Investigation Santa Fe Springs, CA</div>	
	PROJECT NUMBER: <div>0197.001</div>	



File: N:\GIS\Pre\0197 PTH\MXDs\Pre-Post Treatment - Hex Chrome\20211001 Pre-Treatment Hex Chrome - 45-50 mxd 10/6/2021 Created by: BKO Checked by: CS Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet



0 30 60 Feet  
1 inch = 30 feet

SAFETY FIRST



CLIENT: Phibro-Tech, Inc.  
PROJECT: Relocation Investigation Santa Fe Springs, CA  
PROJECT NUMBER: 0197.001

**Hexavalent Chromium in Soil  
45 to 50 ft-bgs  
PRE-REMEDIATION**

**FIGURE X**



File: N:\GIS\Pre-Post Treatment - Hex Chrome\20211006 Post-Treatment HexChrome - 45-50.mxd 10/6/2021 Created by: Initial Checked by: Initial Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet



**Legend**

- >= 30 mg/kg
- >= 6.2 & <30 mg/kg
- < 6.2 mg/kg
- Non-Detect
- - - Property Boundary

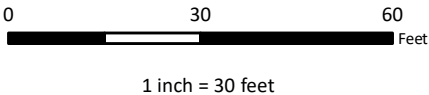
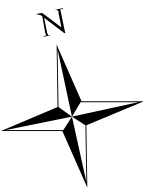
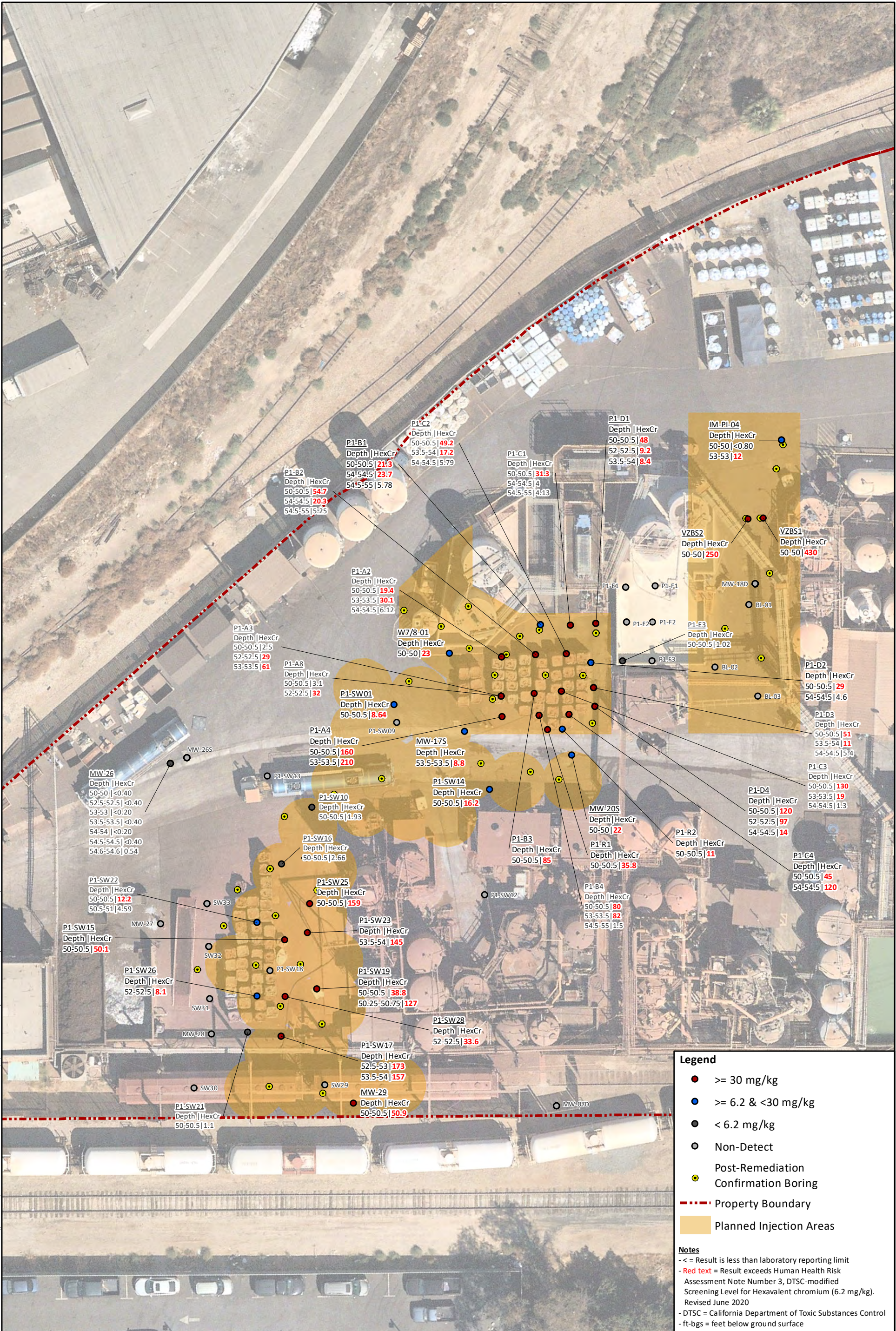
**Notes**

- < = Result is less than laboratory reporting limit
- Red text = Result exceeds Human Health Risk Assessment Note Number 3, DTSC-modified Screening Level for Hexavalent chromium (6.2 mg/kg). Revised June 2020
- DTSC = California Department of Toxic Substances Control
- ft-bgs = feet below ground surface

<div><div><div><div></div><div>N</div></div><div><div>0</div><div>30</div><div>60</div></div><div>Feet</div><div>1 inch = 30 feet</div></div></div>	<div><div>SAFETY FIRST</div><div><div><div></div></div><div>terraphase</div><div>engineering</div></div></div>	<div>CLIENT: Phibro-Tech, Inc.</div>	<div>Hexavalent Chromium in Soil</div> <div>45 to 50 ft-bgs</div> <div>POST-REMEDIATION</div>
		<div>PROJECT: Relocation Investigation Santa Fe Springs, CA</div>	
			<div>PROJECT NUMBER: 0197.001</div>



File: N:\GIS\Pre\0197 PTH\MXDs\Pre-Post Treatment - Hex Chrome\20211001 Pre-Treatment Hex Chrome - 50-55 mxd 10/6/2021 Created by: BKO Checked by: CS Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet



<div><div>SAFETY FIRST</div><div> terraphase engineering</div></div>	CLIENT:	Phibro-Tech, Inc.	<div>Hexavalent Chromium in Soil</div> <div>50 to 55 ft-bgs</div> <div>PRE-REMEDIATION</div> <div>FIGURE X</div>
	PROJECT:	Relocation Investigation Santa Fe Springs, CA	
	PROJECT NUMBER:	0197.001	



File: N:\GIS\Proj\0197 PTI\MXDs\Pre-Post Treatment - Hex Chrome\20211006 Post-Treatment HexChrome - 50-55.mxd 10/6/2021 Created by: Initial Checked by: Initial Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet



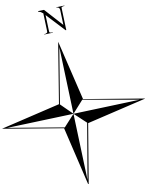
Legend

- $\geq 30$  mg/kg
- $\geq 6.2$  &  $< 30$  mg/kg
- $< 6.2$  mg/kg
- Non-Detect

--- Property Boundary

Notes

- $\leq$  = Result is less than laboratory reporting limit
- **Red text** = Result exceeds Human Health Risk Assessment Note Number 3, DTSC-modified Screening Level for Hexavalent chromium (6.2 mg/kg). Revised June 2020
- DTSC = California Department of Toxic Substances Control
- ft-bgs = feet below ground surface



0 30 60 Feet  
1 inch = 30 feet


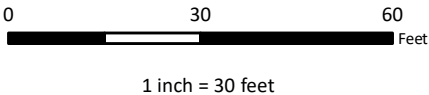
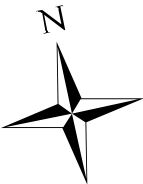
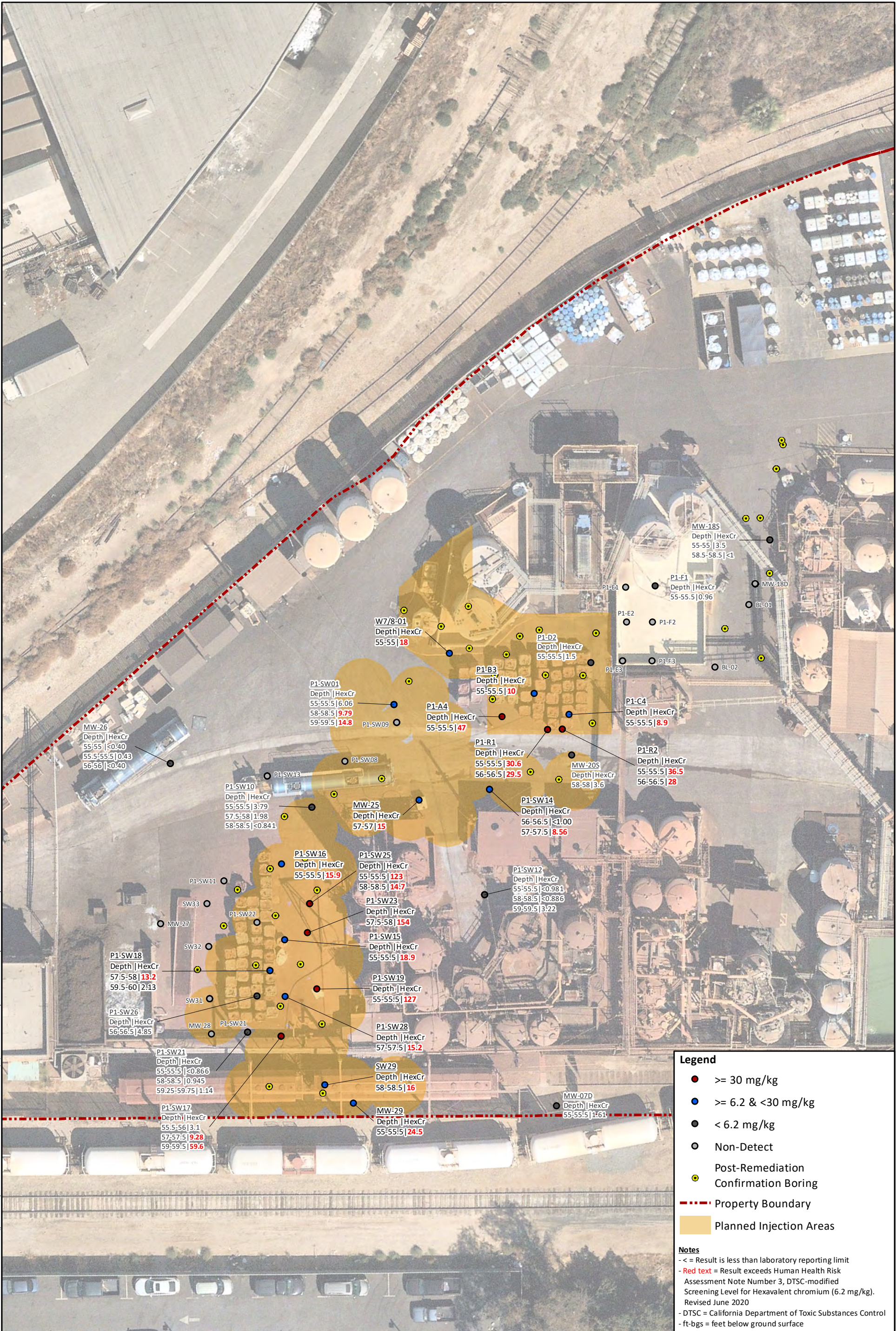
<div>SAFETY FIRST</div> <div> terraphase engineering</div>	CLIENT: <div>Phibro-Tech, Inc.</div>	<div>Hexavalent Chromium in Soil</div> <div>50 to 55 ft-bgs</div> <div>POST-REMEDIATION</div>
	PROJECT: <div>Relocation Investigation Santa Fe Springs, CA</div>	
	PROJECT NUMBER: <div>0197.001</div>	

FIGURE X



File: N:\GIS\Pre\0197 PTH\MXDs\Pre-Post Treatment - Hex Chrome\20211001 Pre-Treatment Hex Chrome - 55-60.mxd 10/6/2021 Created by: BKO Checked by: CS Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet



<div>SAFETY FIRST</div> <div> terraphase engineering</div>	CLIENT: <div>Phibro-Tech, Inc.</div>	<div>Hexavalent Chromium in Soil</div> <div>55 to 60 ft-bgs</div> <div>PRE-REMEDIATION</div> <div>FIGURE X</div>
	PROJECT: <div>Relocation Investigation Santa Fe Springs, CA</div>	
	PROJECT NUMBER: <div>0197.001</div>	



File: N:\GIS\Pre-Post Remediation - Hex Chrome\20211006 Post-Treatment HexChrome - 55-60.mxd 10/6/2021 Created by: Initial Checked by: Initial Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet



Legend

- $\geq 30$  mg/kg
- $\geq 6.2$  &  $< 30$  mg/kg
- $< 6.2$  mg/kg
- Non-Detect
- - - Property Boundary

Notes

- $\leq$  = Result is less than laboratory reporting limit
- Red text = Result exceeds Human Health Risk Assessment Note Number 3, DTSC-modified Screening Level for Hexavalent chromium (6.2 mg/kg). Revised June 2020
- DTSC = California Department of Toxic Substances Control
- ft-bgs = feet below ground surface

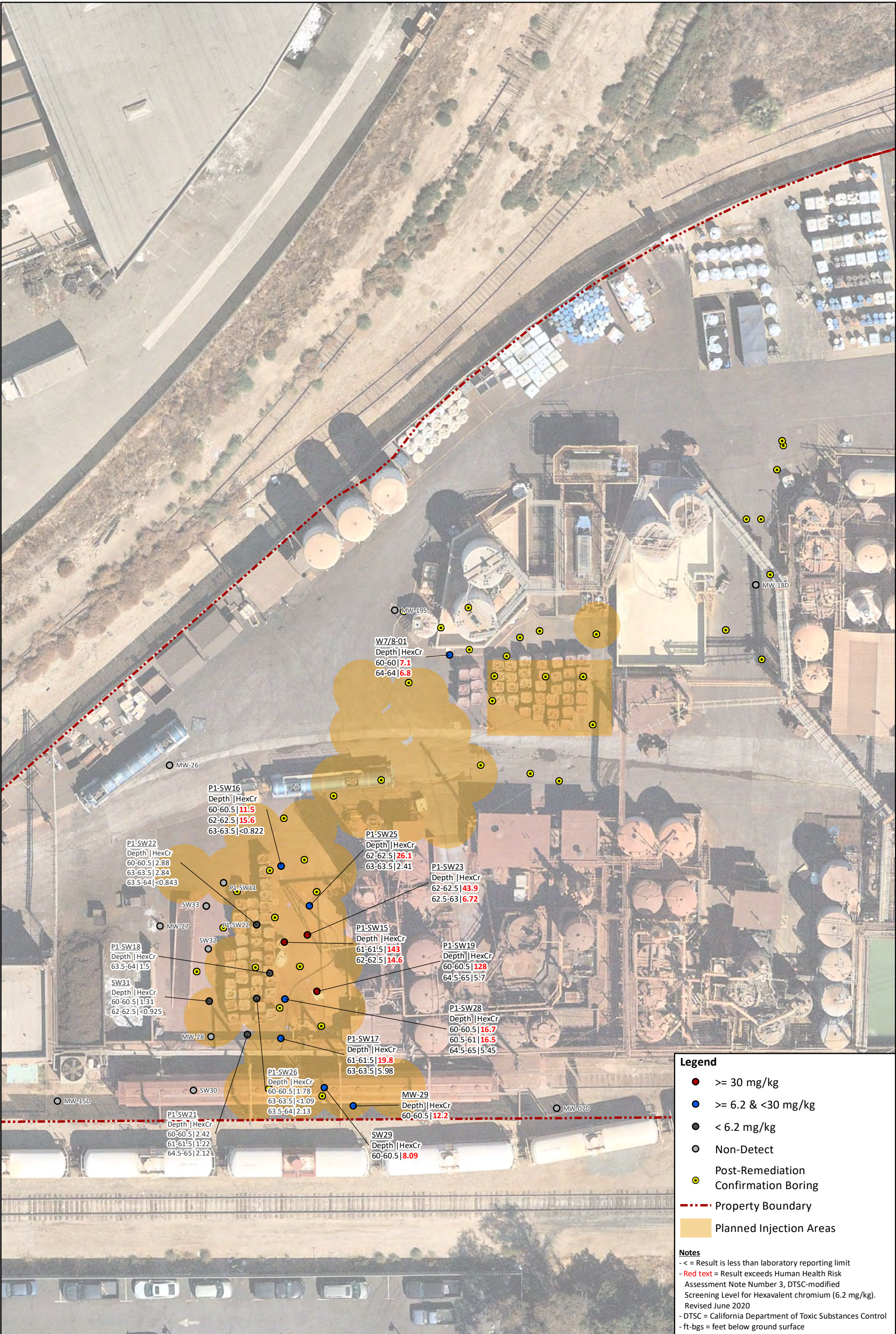


0 30 60 Feet  
1 inch = 30 feet

<div>SAFETY FIRST</div> <div></div>	CLIENT: <div>Phibro-Tech, Inc.</div>	<div>Hexavalent Chromium in Soil</div> <div>55 to 60 ft-bgs</div> <div>POST-REMEDIATION</div> <div>FIGURE X</div>
	PROJECT: <div>Relocation Investigation Santa Fe Springs, CA</div>	
	PROJECT NUMBER: <div>0197.001</div>	



File: N:\GIS\Proj\0197 PTI\MXDs\Pre-Post Treatment - Hex Chrome\20211001 Pre-Treatment HexChrome - 60-65.mxd 10/6/2021 Created by: BKO Checked by: CS Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet

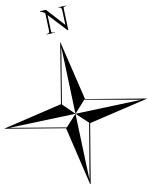


Legend

- $\geq 30$  mg/kg
- $\geq 6.2$  &  $< 30$  mg/kg
- $< 6.2$  mg/kg
- Non-Detect
- Post-Remediation Confirmation Boring
- Property Boundary
- Planned Injection Areas

Notes

- $\leq$  = Result is less than laboratory reporting limit
- Red text = Result exceeds Human Health Risk Assessment Note Number 3, DTSC-modified Screening Level for Hexavalent chromium (6.2 mg/kg). Revised June 2020
- DTSC = California Department of Toxic Substances Control
- ft-bgs = feet below ground surface



0 30 60 Feet  
1 inch = 30 feet

SAFETY FIRST



CLIENT: Phibro-Tech, Inc.  
PROJECT: Relocation Investigation Santa Fe Springs, CA  
PROJECT NUMBER: 0197.001

Hexavalent Chromium in Soil  
60 to 65 ft-bgs  
PRE-REMEDIATION

FIGURE X



File: N:\GIS\Proj\0197 PTI\MXDs\Pre-Post Treatment - Hex Chrome\20211006 Post-Treatment HexChrome - 60-65.mxd 10/6/2021 Created by: Initial Checked by: Initial Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet

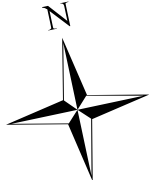



**Legend**

- $\geq 30$  mg/kg
- $\geq 6.2$  &  $< 30$  mg/kg
- $< 6.2$  mg/kg
- Non-Detect
- - - Property Boundary

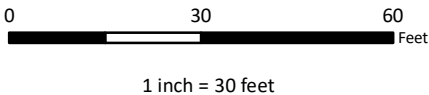
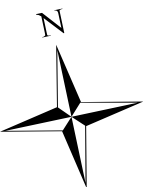
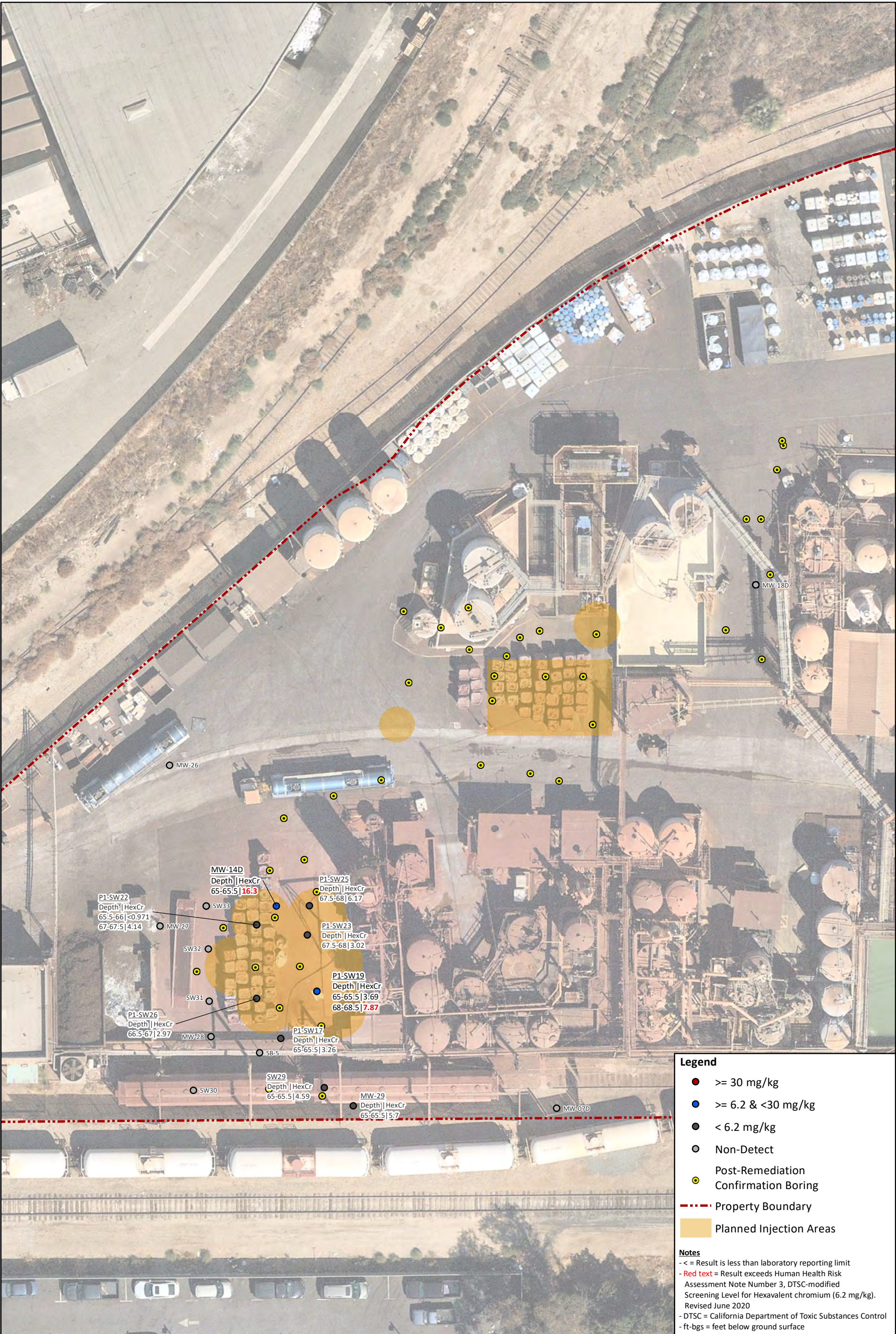
**Notes**

- $\leq$  = Result is less than laboratory reporting limit
- Red text = Result exceeds Human Health Risk Assessment Note Number 3, DTSC-modified Screening Level for Hexavalent chromium (6.2 mg/kg). Revised June 2020
- DTSC = California Department of Toxic Substances Control
- ft-bgs = feet below ground surface

<div><div><div>03060</div><div>Feet</div></div><div>1 inch = 30 feet</div></div>	<div><div>SAFETY FIRST</div><div></div></div>	<div>CLIENT: Phibro-Tech, Inc.</div> <div>PROJECT: Relocation Investigation Santa Fe Springs, CA</div> <div>PROJECT NUMBER: 0197.001</div>	<div>Hexavalent Chromium in Soil 60 to 65 ft-bgs POST-REMEDIATION</div>
			<div>FIGURE X</div>



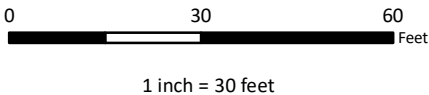
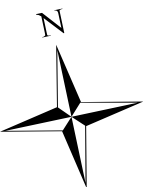
File: N:\GIS\Proj\0197 PTI\MXDs\Pre-Post Treatment - Hex Chrome\20211001 Pre-Treatment HexChrome - 65-70.mxd 10/6/2021 Created by: BKO Checked by: CS Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet



<div><div>SAFETY FIRST</div><div></div></div>	CLIENT: <div>Phibro-Tech, Inc.</div>	<div><div>Hexavalent Chromium in Soil</div><div>65 to 70 ft-bgs</div><div>PRE-REMEDIATION</div></div> <div>FIGURE X</div>
	PROJECT: <div>Relocation Investigation Santa Fe Springs, CA</div>	
	PROJECT NUMBER: <div>0197.001</div>	



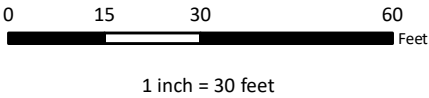
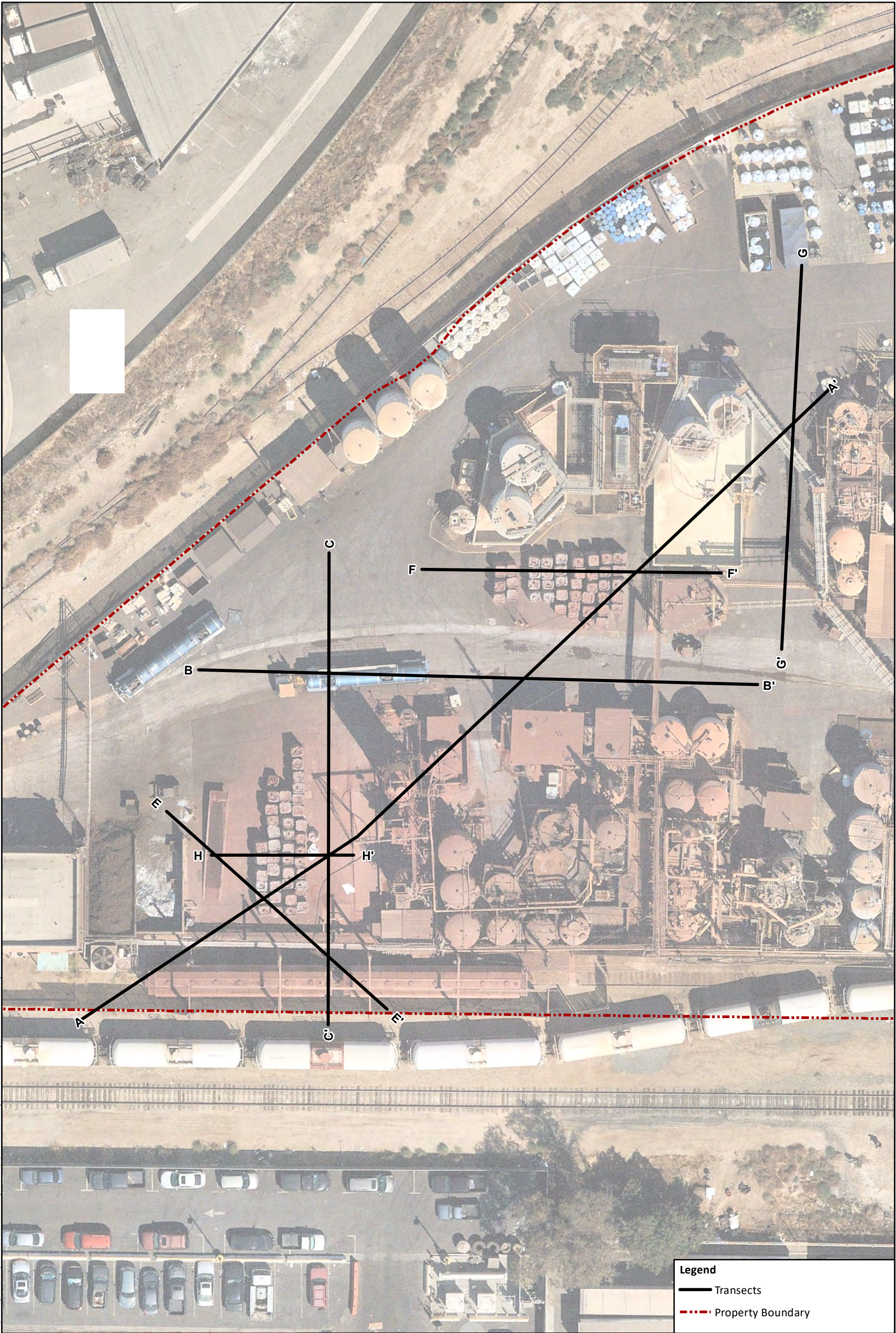
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<div><div>SAFETY FIRST</div><div></div></div>	CLIENT: <div>Phibro-Tech, Inc.</div>	<div>Hexavalent Chromium in Soil</div> <div>65 to 70 ft-bgs</div> <div>POST-REMEDIATION</div> <div>FIGURE X</div>
	PROJECT: <div>Relocation Investigation Santa Fe Springs, CA</div>	
	PROJECT NUMBER: <div>0197.001</div>	



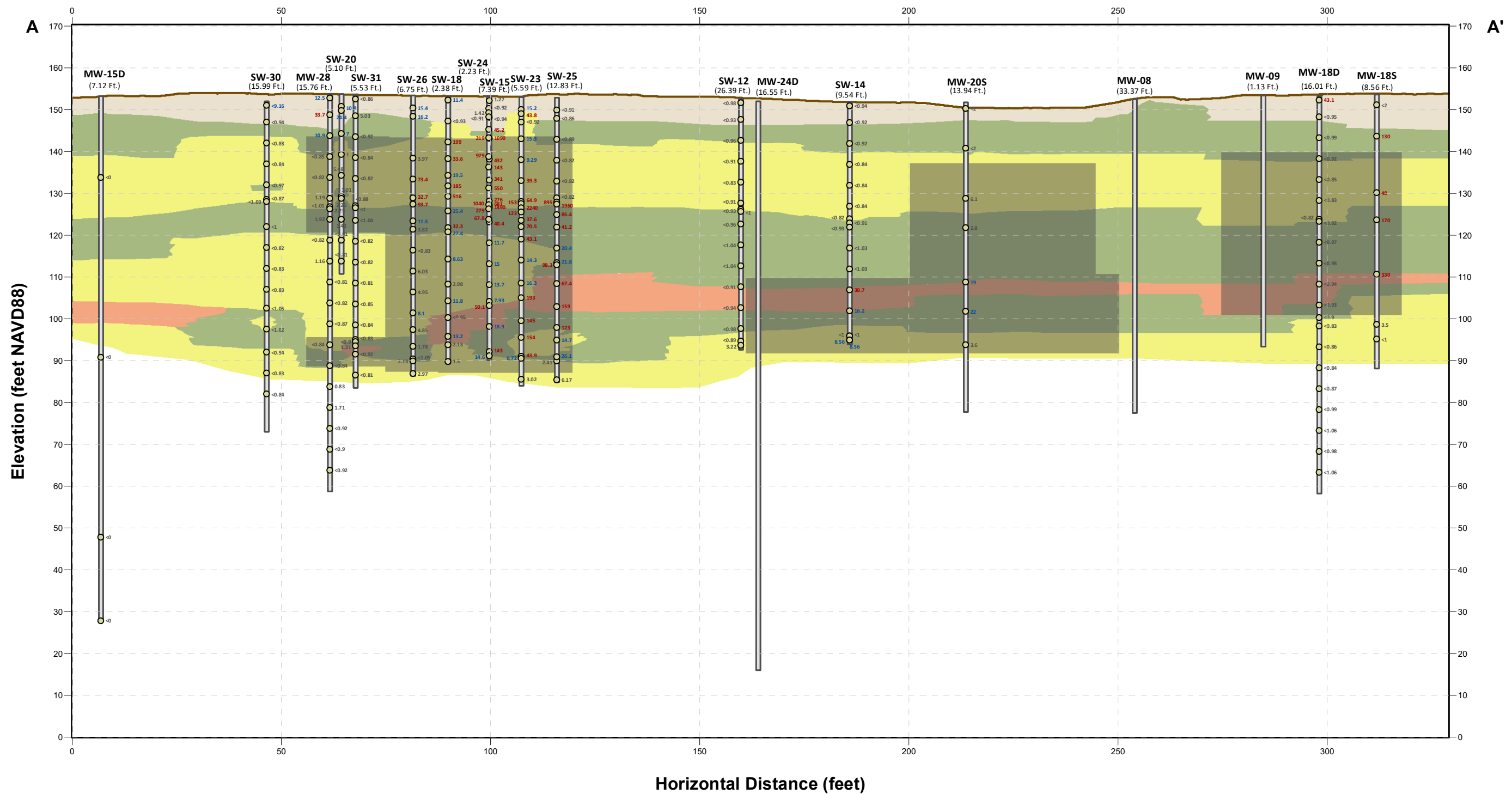
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<div><div>SAFETY FIRST</div><div></div></div>	CLIENT:	Phibro-Tech, Inc.	<div>Cross Section Transect Reference Map</div>
	PROJECT:	Relocation Investigation Santa Fe Springs, CA	
	PROJECT NUMBER:	0197.001	FIGURE X



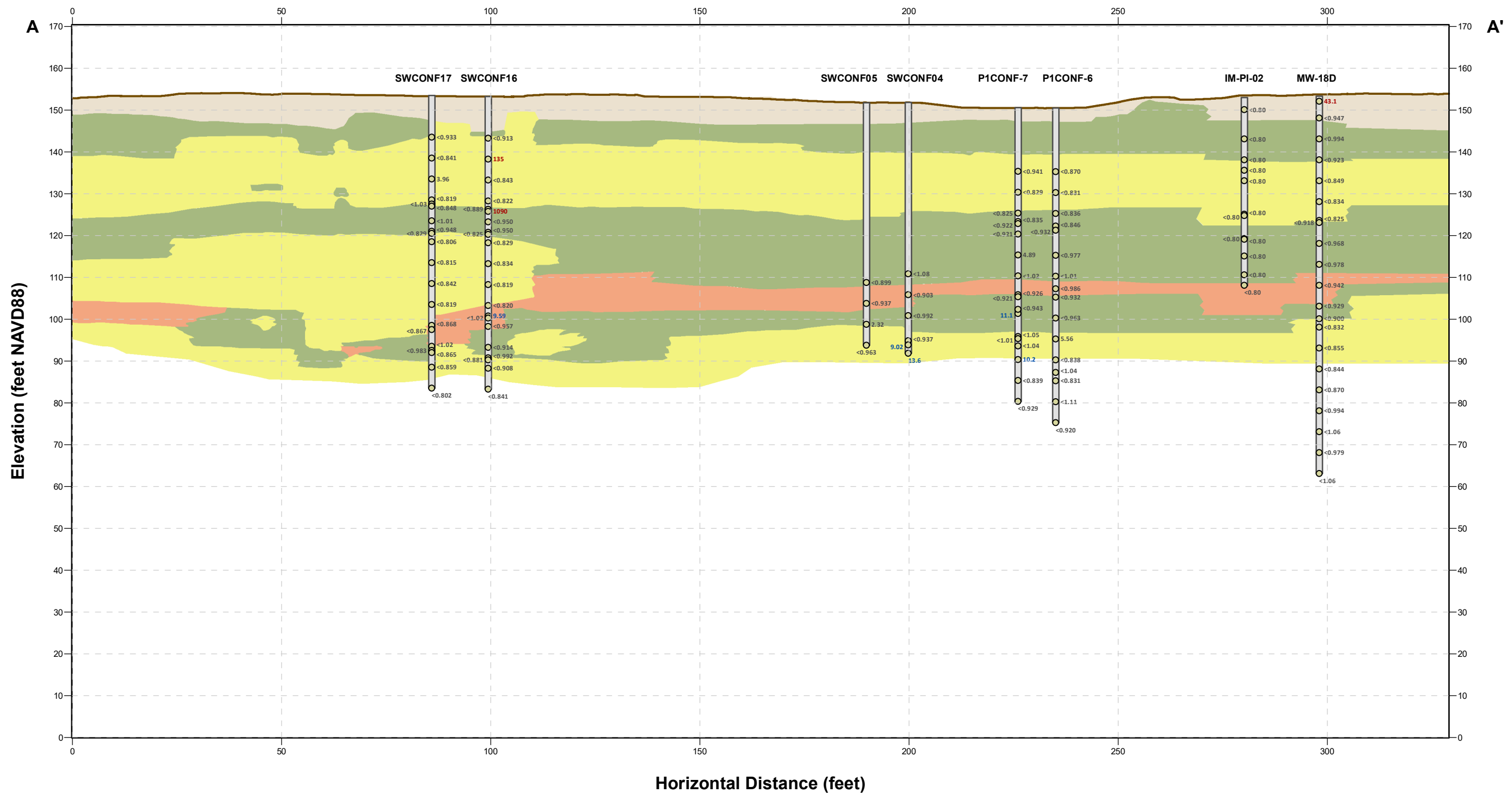
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<b>Explanation</b>  ○ Sample Location  — Borehole	   Silts/Predominantly Fine Materials	 Fill   Paleosol   Sands/Predominantly Coarse Materials	<b>SAFETY FIRST</b>  	CLIENT: Phibro-Tech, Inc.	<b>Cross Section A - A'</b> <b>PRE-REMEDIATION</b>
				PROJECT: Wastewater Treatment - Relocation Investigation Santa Fe Springs, CA	
				PROJECT NUMBER: 0197.010.004	<b>FIGURE 1</b>



File: N:\GIS\Prj\0197\_PTI\Crossview\MXDs\Pre\_Post Remediation\Cross Section A - Post Remediation.mxd 10/8/2021 Created by: BO Checked by: CS Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet



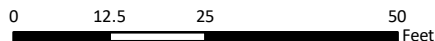
**Explanation**

- Sample Location
- Fill
- Paleosol
- Borehole
- Silts/Predominantly Fine Materials
- Sands/Predominantly Coarse Materials

**Notes**

- Analytical values show Hexavalent Chromium in milligrams per kilogram (mg/kg)
- < / ND = Not detected at laboratory reporting limit
- Red Text = Indicates a detection  $\geq 30$  mg/kg
- Blue Text = Indicates a detection  $\geq 6.2$  and  $< 30$  mg/kg
- NAVD88 = North American Vertical Datum of 1988
- Hexavalent chromium screening level of 6.2 mg/kg is based on the DTSC Human and Ecological Risk Office Note 3 Commercial/Industrial Soil tables.

Vertical Exaggeration = 1X



1 inch = 25 feet

**SAFETY FIRST**



CLIENT: Phibro-Tech, Inc.

PROJECT: Wastewater Treatment - Relocation Investigation  
Santa Fe Springs, CA

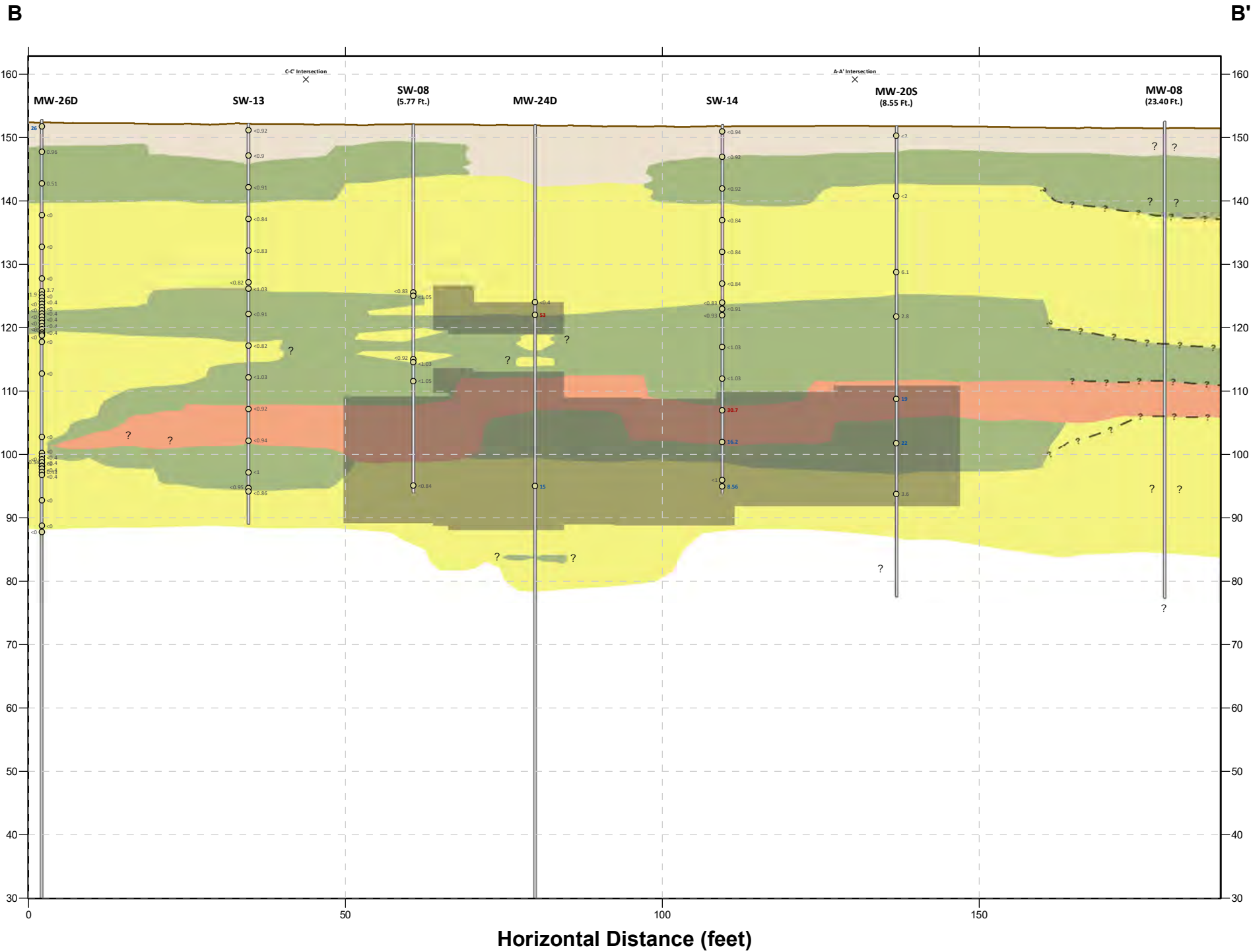
PROJECT NUMBER: 0197.010.004

**Cross Section A - A'**  
**POST-REMEDATION**

**FIGURE 1**

File: N:\GIS\Prj\0197 PT\Crossview\MXDs\Pre\_Post Remediation\Cross Section B - Pre Remediation.mxd 10/8/2021 Created by: BO Checked by: WS Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

Elevation (feet NAVD88)



**Explanation**

○ Sample Location

— Borehole

■ Zones Within Proposed Calcium Polysulfide Injection Point Radius of Influence

■ Silts/Predominantly Fine Materials

■ Fill

■ Paleosol

■ Sands/Predominantly Coarse Materials

**Notes**

- Analytical values show Hexavalent Chromium in milligrams per kilogram (mg/kg)
- < / ND = Not detected at laboratory reporting limit
- **Red Text** = Indicates a detection  $\geq 30$  mg/kg
- **Blue Text** = Indicates a detection  $\geq 6.2$  and  $< 30$  mg/kg
- NAVD88 = North American Vertical Datum of 1988
- Hexavalent chromium screening level of 6.2 mg/kg is based on the DTSC Human and Ecological Risk Office Note 3 Commercial/Industrial Soil tables.

Label Format for points  
projected 5 ft. or further = **SW-08**  
(5.77 Ft.)

Location  
Projected Distance

**Vertical Exaggeration = 1X**

0 10 20 40 Feet

**1 inch = 20 feet**

**SAFETY FIRST**



CLIENT: Phibro-Tech, Inc.

PROJECT: Wastewater Treatment - Relocation Investigation  
Santa Fe Springs, CA

PROJECT NUMBER: 0197.010.004

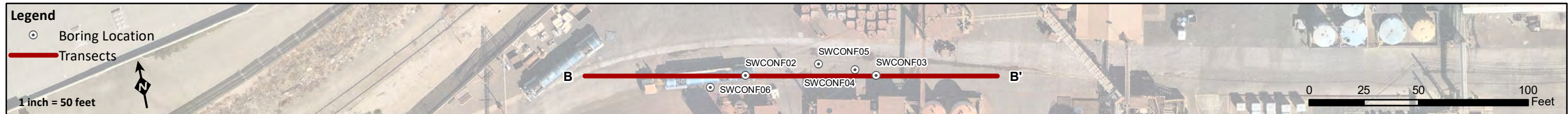
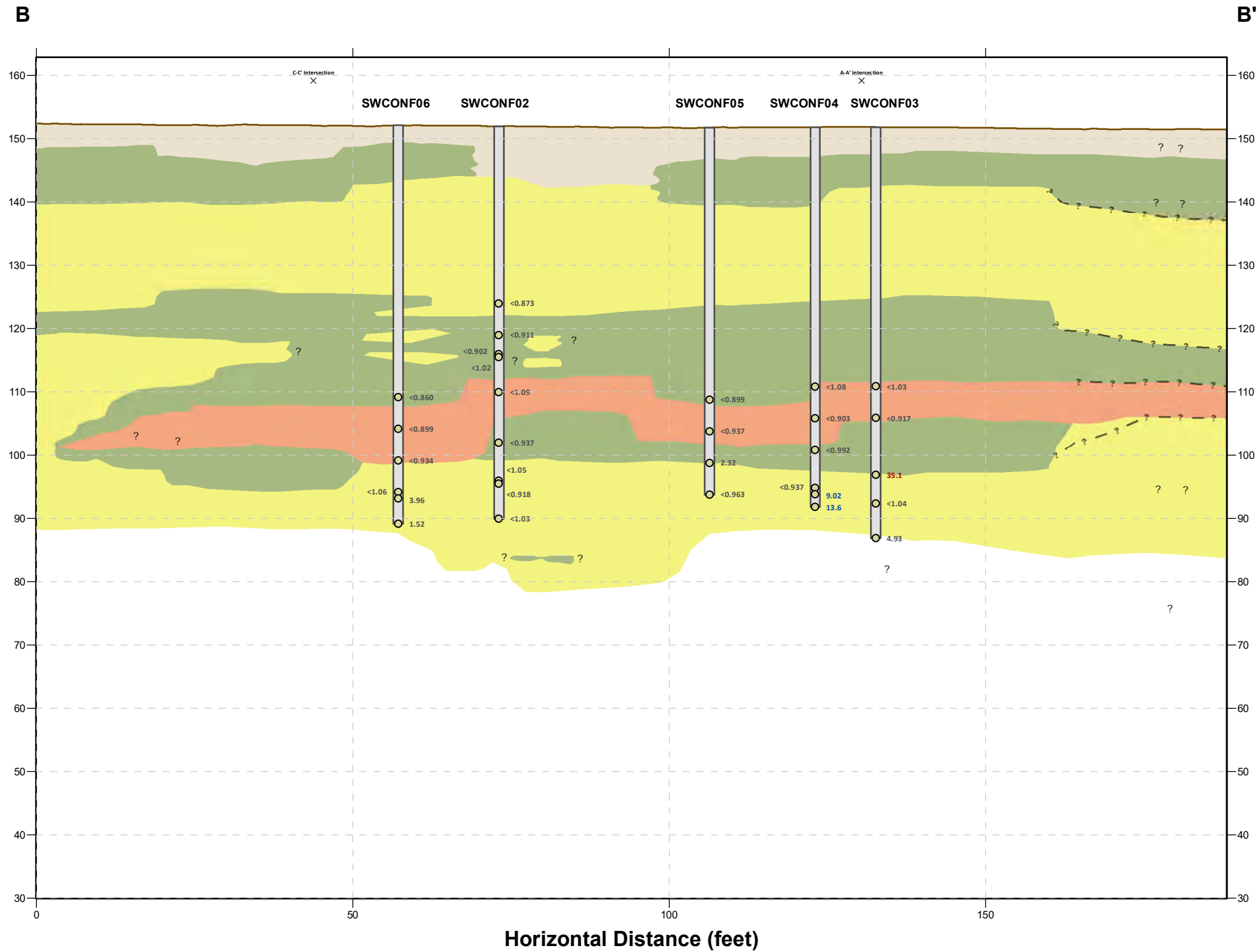
**Cross Section B - B'**  
**PRE-REMEDIATION**

**FIGURE 2**



File: N:\GIS\Prj\0197\_PTI\Crossview\MXDs\Pre\_Post Remediation\Cross Section B - Post Remediation.mxd 10/8/2021 Created by: BO Checked by: WS Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

Elevation (feet NAVD88)



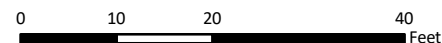
#### Explanation

- Sample Location
- Fill
- Paleosol
- Borehole
- Silts/Predominantly Fine Materials
- Sands/Predominantly Coarse Materials

#### Notes

- Analytical values show Hexavalent Chromium in milligrams per kilogram (mg/kg)
- < / ND = Not detected at laboratory reporting limit
- Red Text = Indicates a detection  $\geq 30$  mg/kg
- Blue Text = Indicates a detection  $\geq 6.2$  and  $< 30$  mg/kg
- NAVD88 = North American Vertical Datum of 1988
- Hexavalent chromium screening level of 6.2 mg/kg is based on the DTSC Human and Ecological Risk Office Note 3 Commercial/Industrial Soil tables.

Vertical Exaggeration = 1X



1 inch = 20 feet

SAFETY FIRST



CLIENT: Phibro-Tech, Inc.  
PROJECT: Wastewater Treatment - Relocation Investigation  
Santa Fe Springs, CA  
PROJECT NUMBER: 0197.010.004

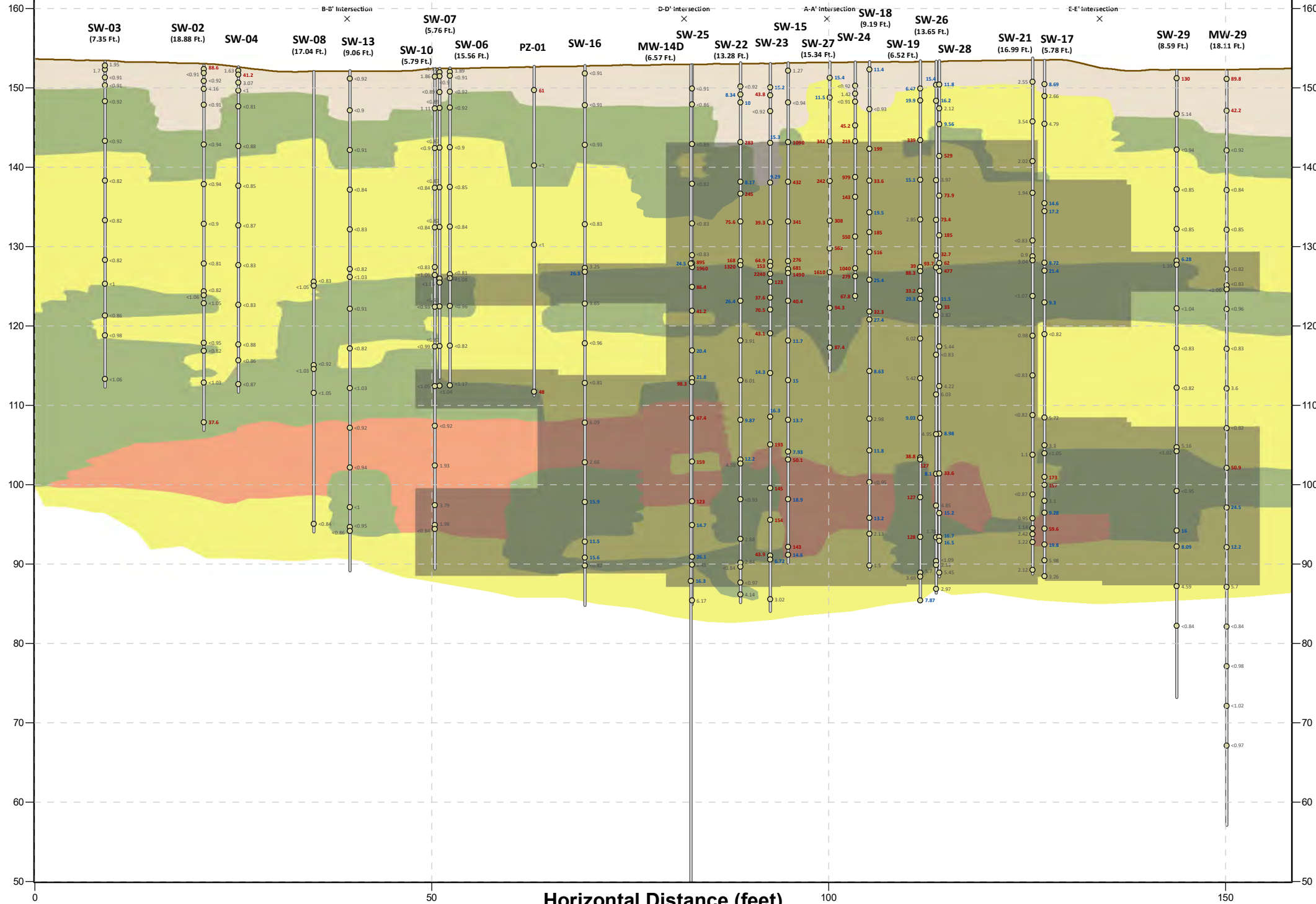
Cross Section B - B'  
POST-REMEDATION

FIGURE 2

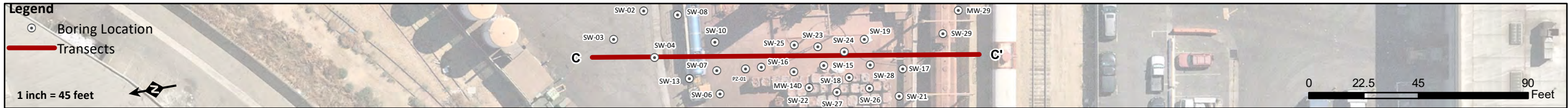
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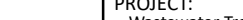




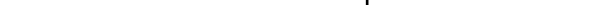
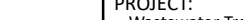
C

Elevation (feet NAVD88)



C'



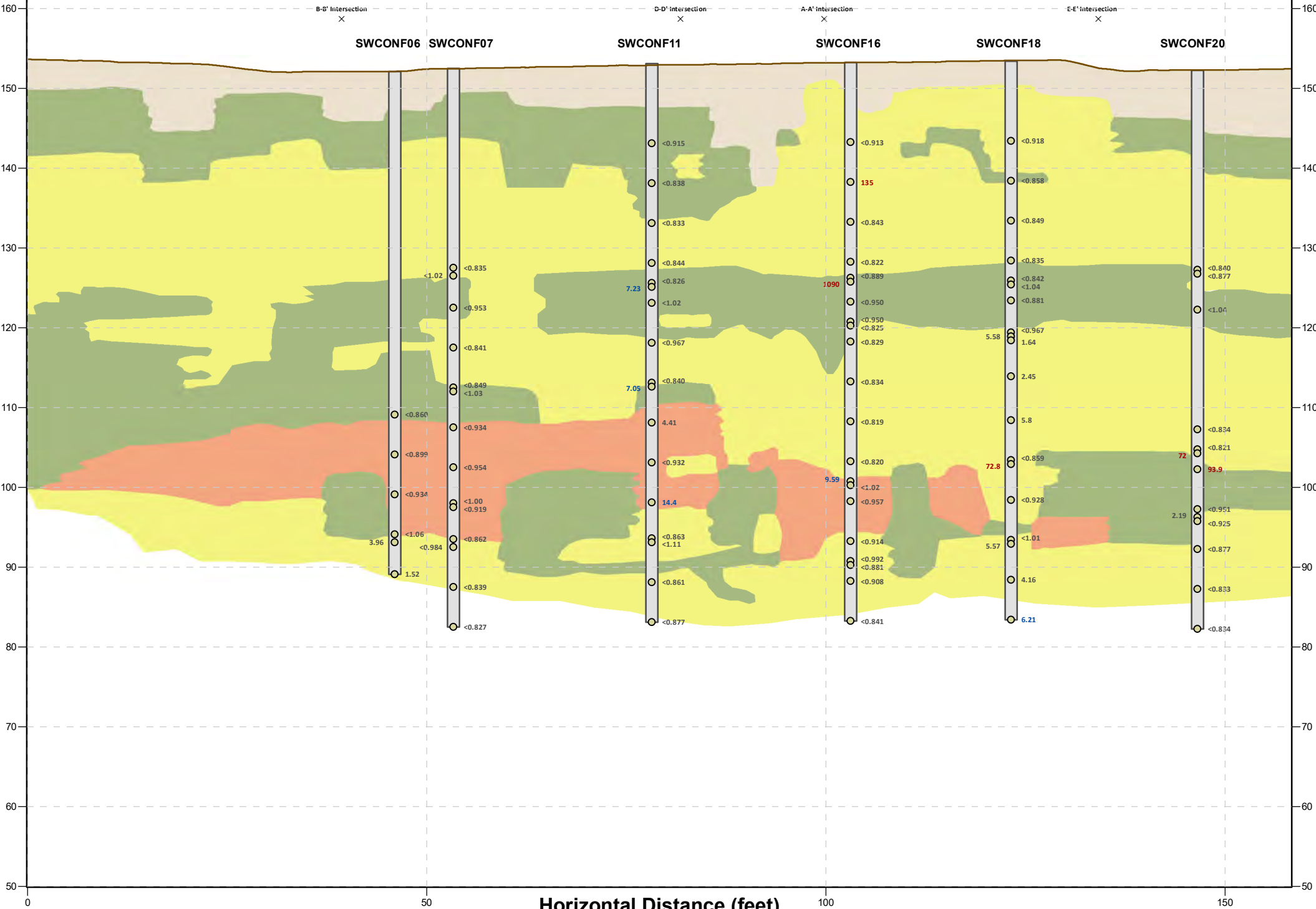
<b>Explanation</b>		 Fill	 Paleosol	 Sands/Predominantly Coarse Materials	<b>Notes</b> - Analytical values show Hexavalent Chromium in milligrams per kilogram (mg/kg) - < / ND = Not detected at laboratory reporting limit - Red Text = Indicates a detection >= 30 mg/kg - Blue Text = Indicates a detection >= 6.2 and < 30 mg/kg - NAVD88 = North American Vertical Datum of 1988 - Hexavalent chromium screening level of 6.2 mg/kg is based on the DTSC Human and Ecological Risk Office Note 3 Commercial/Industrial Soil tables.	Label Format for points = <b>MW-29</b> - Location projected 5 ft. or further (18.11 Ft) - Projected Distance	<b>SAFETY FIRST</b>		CLIENT: Phibro-Tech, Inc.	<b>Cross Section C - C'</b> <b>PRE-REMEDIATION</b>
 Sample Location	 Zones Within Proposed Calcium Polysulfide Injection Point Radius of Influence								 Silts/Predominantly Fine Materials	
 Borehole						<b>Vertical Exaggeration = 1X</b>  1 inch = 15 feet			PROJECT NUMBER: 0197.010.004	<b>FIGURE 3</b>



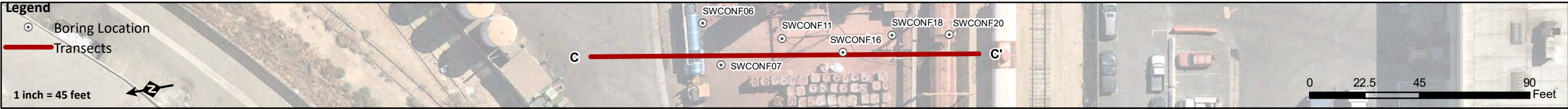
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C

Elevation (feet NAVD88)



C'



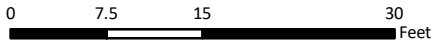
Explanation

- Sample Location
- Fill
- Paleosol
- Borehole
- Silts/Predominantly Fine Materials
- Sands/Predominantly Coarse Materials

Notes

- Analytical values show Hexavalent Chromium in milligrams per kilogram (mg/kg)
- < / ND = Not detected at laboratory reporting limit
- Red Text = Indicates a detection  $\geq 30$  mg/kg
- Blue Text = Indicates a detection  $\geq 6.2$  and  $< 30$  mg/kg
- NAVD88 = North American Vertical Datum of 1988
- Hexavalent chromium screening level of 6.2 mg/kg is based on the DTSC Human and Ecological Risk Office Note 3 Commercial/Industrial Soil tables.

Vertical Exaggeration = 1X



1 inch = 15 feet

SAFETY FIRST



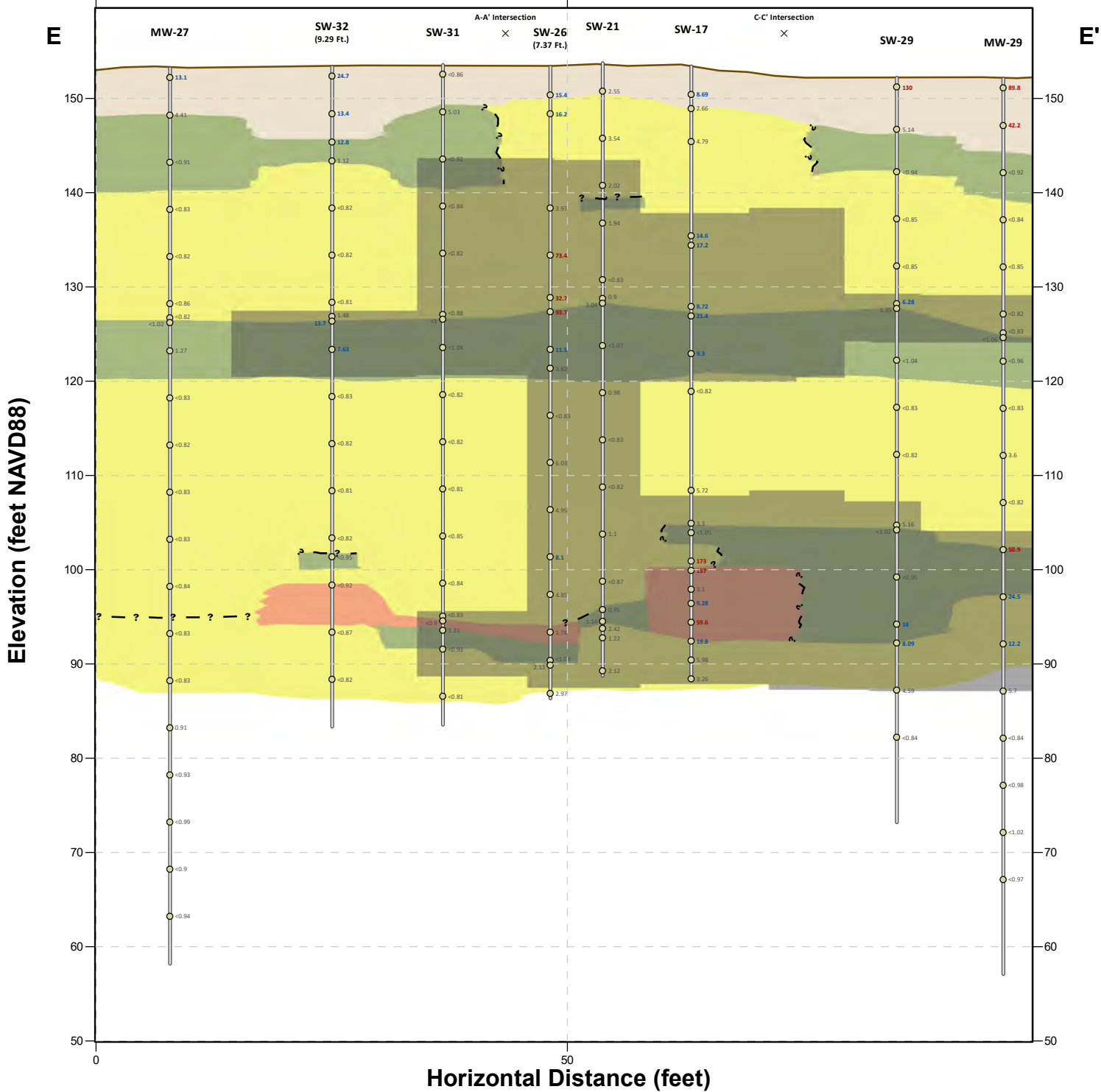
CLIENT: Phibro-Tech, Inc.









PROJECT: Wastewater Treatment - Relocation Investigation  
Santa Fe Springs, CA

PROJECT NUMBER: 0197.010.004

Cross Section C - C'  
POST-REMEDATION

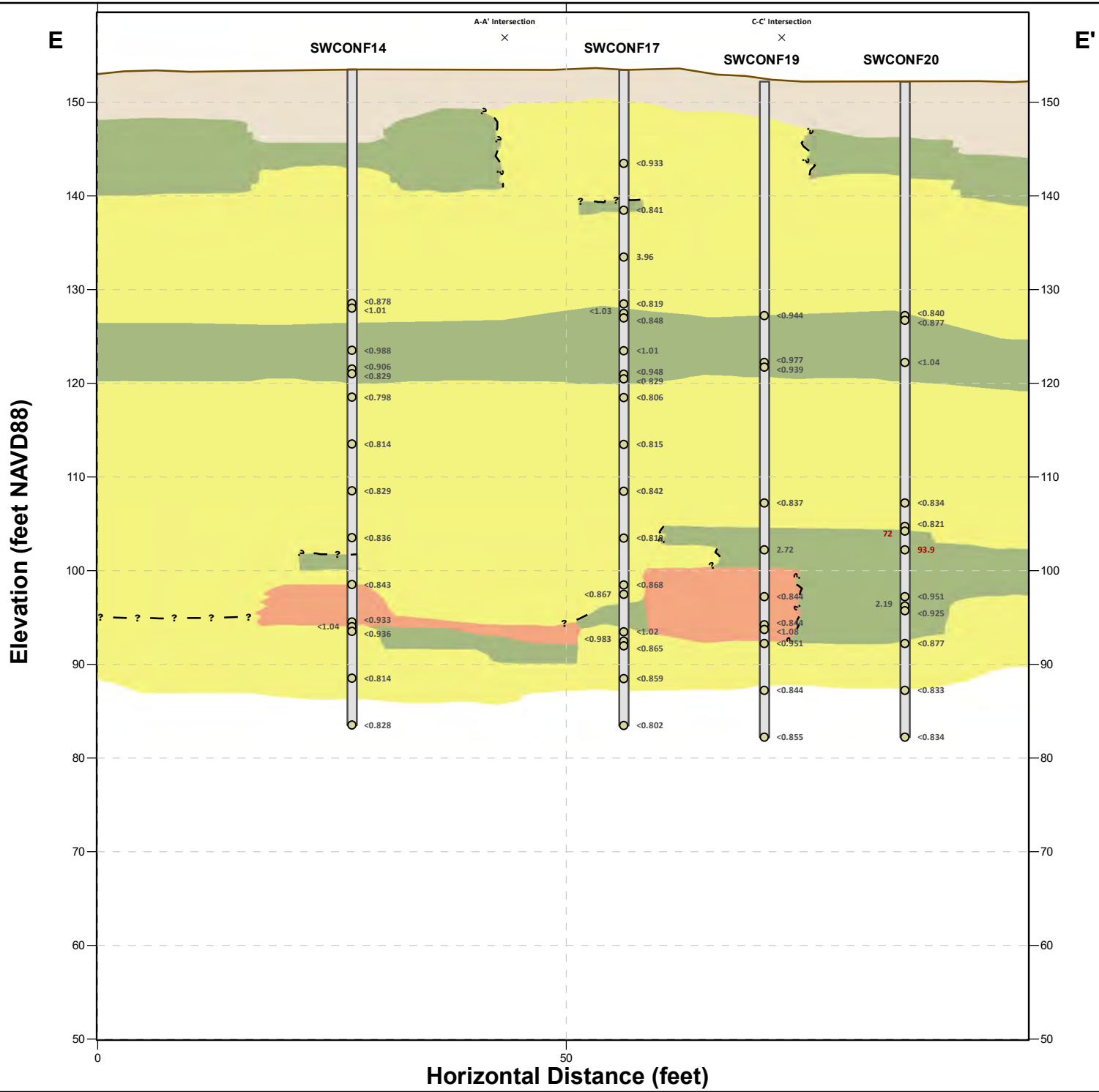
FIGURE 3



<b>Explanation</b>   Sample Location   Borehole   Fill  Paleosol   Silts/Predominantly Fine Materials  Sands/Predominantly Coarse Materials	<p>Zones Within Proposed Calcium Polysulfide Injection Point Radius of Influence</p>	<p><b>Notes</b></p> <ul style="list-style-type: none"><li>- Analytical values show Hexavalent Chromium in milligrams per kilogram (mg/kg)</li><li>- &lt; / ND = Not detected at laboratory reporting limit</li><li>- <b>Red Text</b> = Indicates a detection &gt;= 30 mg/kg</li><li>- <b>Blue Text</b> = Indicates a detection &gt;= 6.2 and &lt; 30 mg/kg</li><li>- NAVD88 = North American Vertical Datum of 1988</li><li>- Hexavalent chromium screening level of 6.2 mg/kg is based on the DTSC Human and Ecological Risk Office Note 3 Commercial/Industrial Soil tables.</li></ul>	<p>Label Format for points = <b>SW-32</b> (9.29 FL)</p> <ul style="list-style-type: none"><li>- Location</li><li>- Projected Distance</li></ul> <p>Vertical Exaggeration = 1X</p> <p>0 7.5 15 30 Feet</p> <p>1 inch = 15 feet</p>	<div><div><b>SAFETY FIRST</b></div></div> <div><div><b>terr</b>aphase engineering</div></div>	<p>CLIENT: Phibro-Tech, Inc.</p> <p>PROJECT: Wastewater Treatment - Relocation Investigation Santa Fe Springs, CA</p> <p>PROJECT NUMBER: 0197.010.004</p>	<p><b>Cross Section E - E'</b></p> <p><b>PRE-REMEDIATION</b></p> <p><b>FIGURE 5</b></p>
---	--	--	---	---	---	---



File: N:\GIS\Prj\0197\_PTI\Crossview\MXDs\Pre\_Post Remediation\Cross Section E - Post Remediation.mxd 10/8/2021 Created by: WS Checked by: BO Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet



**Explanation**

- |                   |                                    |                                      |
|-------------------|------------------------------------|--------------------------------------|
| ○ Sample Location | Fill                               | Paleosol                             |
| — Borehole        | Silts/Predominantly Fine Materials | Sands/Predominantly Coarse Materials |



CLIENT: Phibro-Tech, Inc.

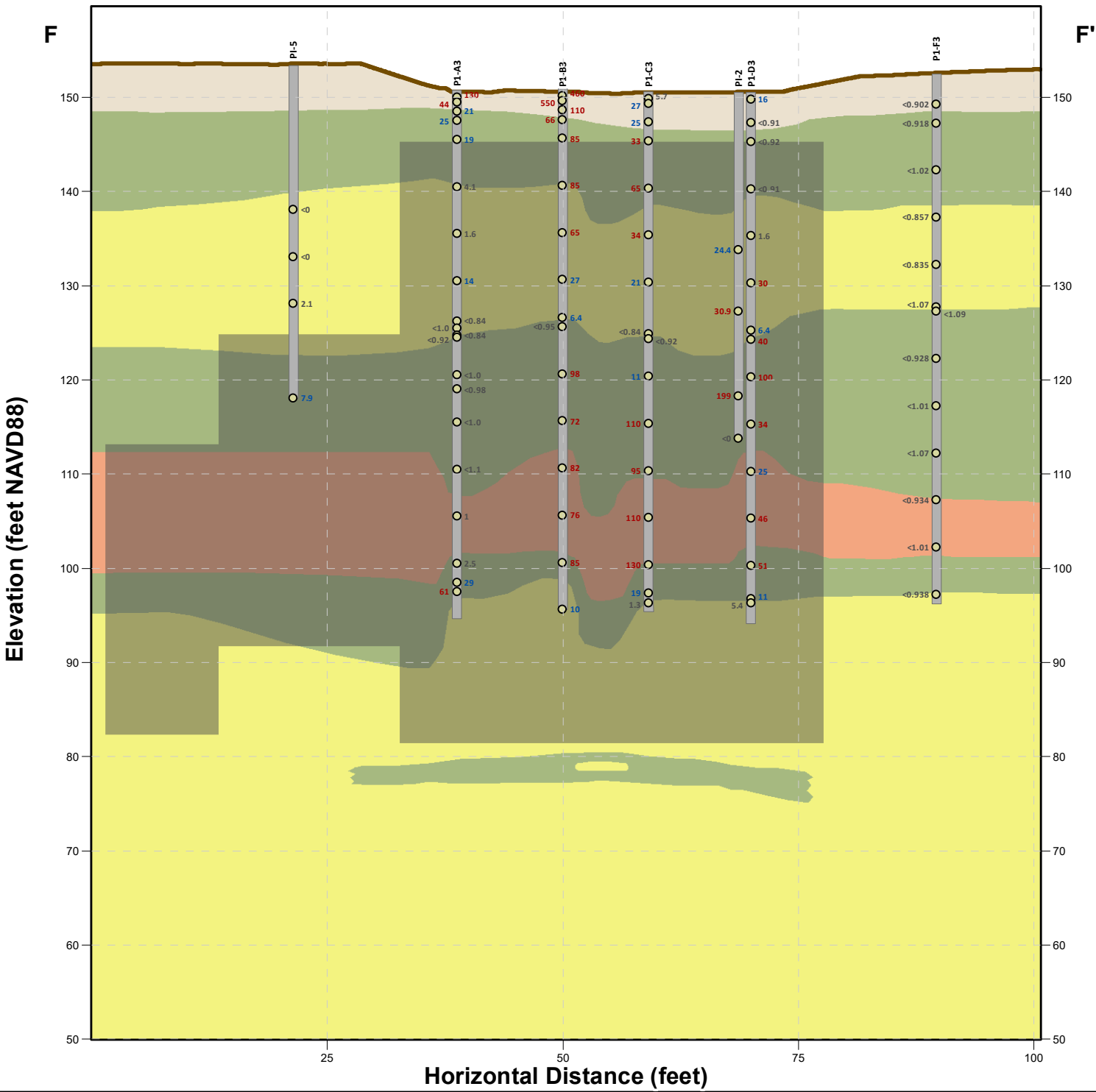
PROJECT: Wastewater Treatment - Relocation Investigation  
Santa Fe Springs, CA

PROJECT NUMBER: 0197.010.004

**Cross Section E - E'**  
**POST-REMEDATION**

**FIGURE 5**

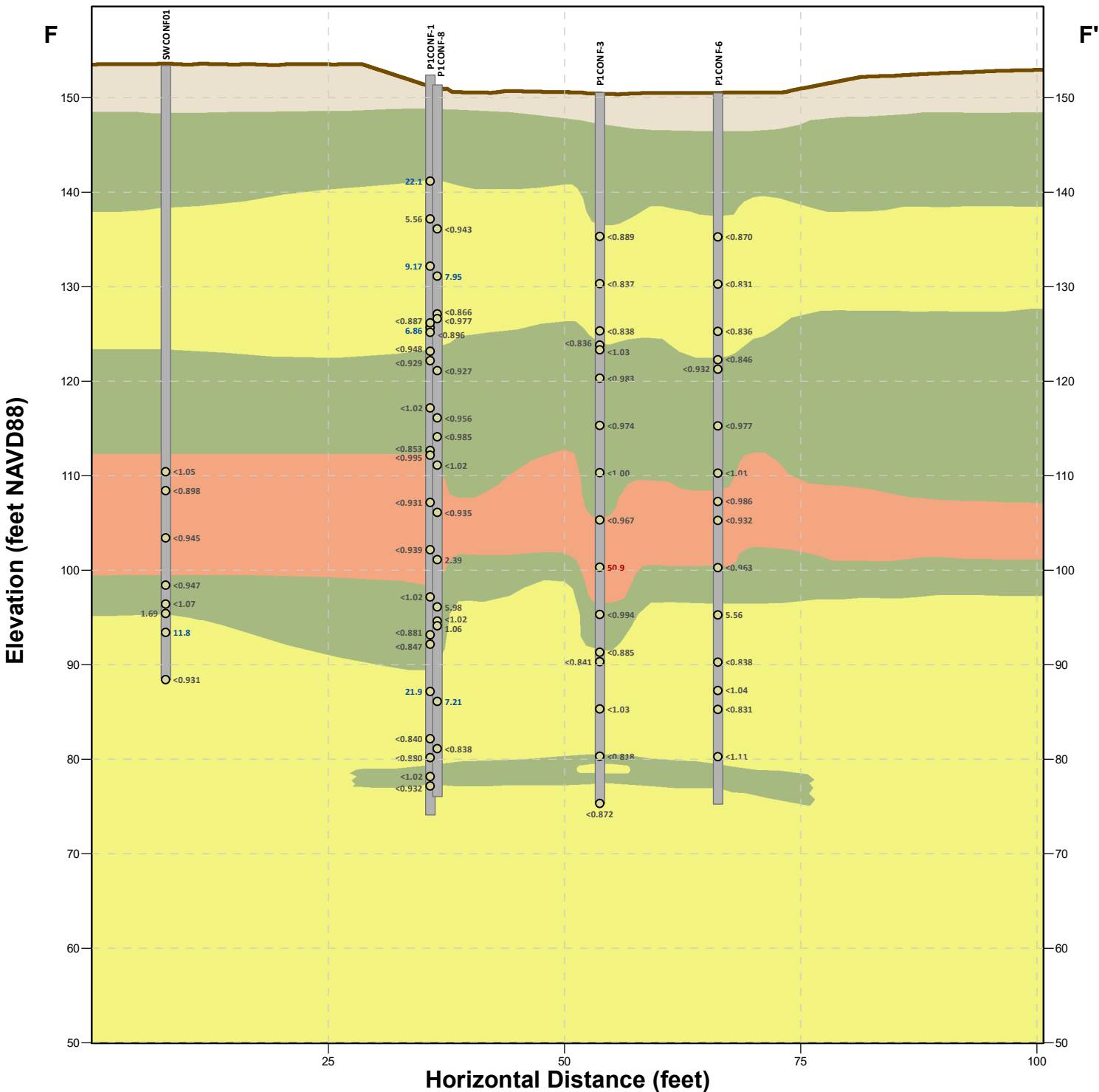
File: N:\GIS\Prj\0197\PT\Crossview\Pre\_Post Remediation\Cross Section F - Pre Remediation.mxd 10/8/2021 Created by: BO Checked by: CS Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet



<b>Explanation</b> <ul style="list-style-type: none"><li>Sample Location</li><li>Borehole</li><li>Zones Within Proposed Calcium Polysulfide Injection Point Radius of Influence</li><li>Silts/Predominantly Fine Materials</li><li>Sands/Predominantly Coarse Materials</li><li>Fill</li><li>Paleosol</li></ul>	<b>Notes</b> <ul style="list-style-type: none"><li>- Analytical values show Hexavalent Chromium in milligrams per kilogram (mg/kg)</li><li>- &lt; / ND = Not detected at laboratory reporting limit</li><li>- Red Text = Indicates a detection <math>\geq 30</math> mg/kg</li><li>- Blue Text = Indicates a detection <math>\geq 6.2</math> and <math>&lt; 30</math> mg/kg</li><li>- NAVD88 = North American Vertical Datum of 1988</li><li>- Hexavalent chromium screening level of 6.2 mg/kg is based on the DTSC Human and Ecological Risk Office Note 3 Commercial/Industrial Soil tables.</li></ul>	<b>SAFETY FIRST</b>		CLIENT: Phibro-Tech, Inc.	<b>Cross Section F - F'</b> <b>PRE-REMEDIATION</b>
		<b>Vertical Exaggeration = 1X</b> 0 7.5 15 30 Feet 1 inch = 15 feet		PROJECT: Wastewater Treatment - Relocation Investigation Santa Fe Springs, CA	
				PROJECT NUMBER: 0197.010.004	



File N:\GIS\Prj\0197\_PTI\Crossview\MXDs\Pre\_Post Remediation\Cross Section F - Post Remediation.mxd 10/8/2021 Created by: BO Checked by: CS Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

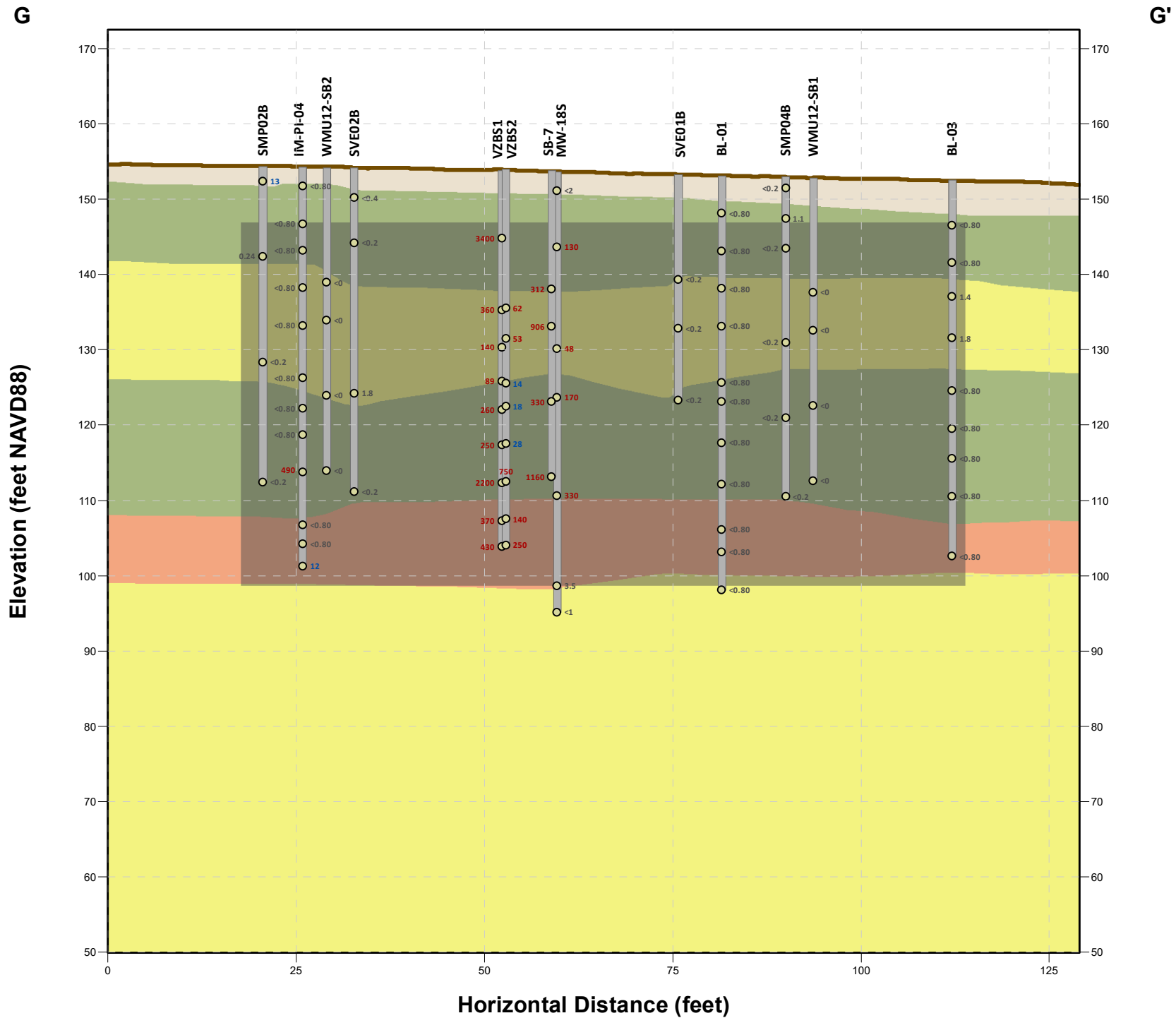


**Explanation**

- |                   |                                    |                                      |
|-------------------|------------------------------------|--------------------------------------|
| ○ Sample Location | Fill                               | Paleosol                             |
| — Borehole        | Silts/Predominantly Fine Materials | Sands/Predominantly Coarse Materials |

<div><div>SAFETY FIRST</div><div></div></div>	CLIENT: <div>Phibro-Tech, Inc.</div>	<div>Cross Section F - F'</div> <div>POST-REMEDATION</div>
	PROJECT: <div>Wastewater Treatment - Relocation Investigation Santa Fe Springs, CA</div>	
	PROJECT NUMBER: <div>0197.010.004</div>	<div>FIGURE X</div>

File: N:\GIS\PI\0197 PTL\Crossview\MXDs\Pre\_Remediation.mxd 10/8/2021 Created by: BO Checked by: CS Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

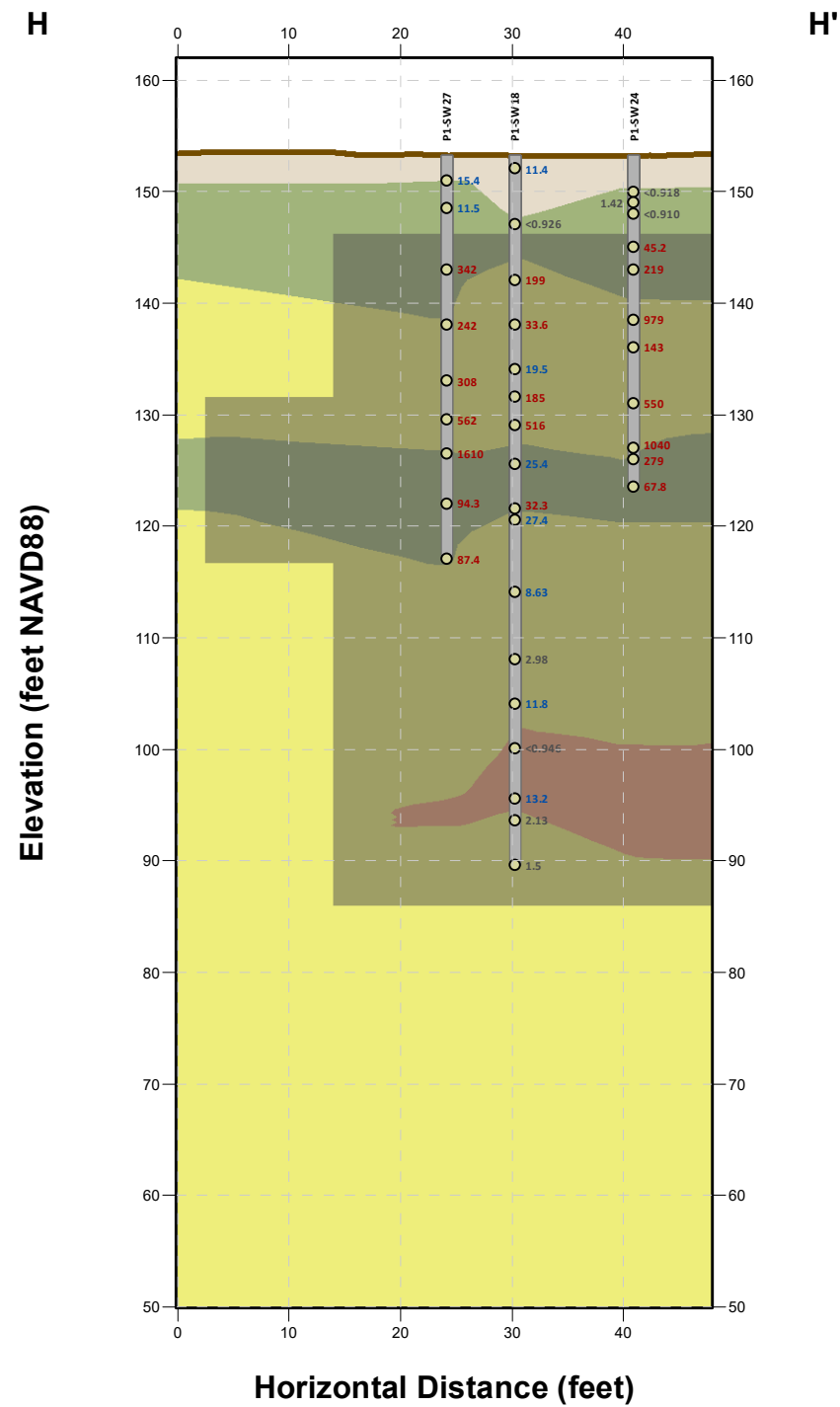











<b>Explanation</b>		<b>Notes</b>		<div><div>SAFETY FIRST</div><div></div></div>	CLIENT:	Phibro-Tech, Inc.	<b>Cross Section G - G'</b> <b>PRE-REMEDATION</b>
	Sample Location		Zones Within Proposed Calcium Polysulfide Injection Point Radius of Influence		PROJECT:	Wastewater Treatment - Relocation Investigation Santa Fe Springs, CA	
	Borehole		Sands/Predominantly Coarse Materials		PROJECT NUMBER:	0197.010.004	





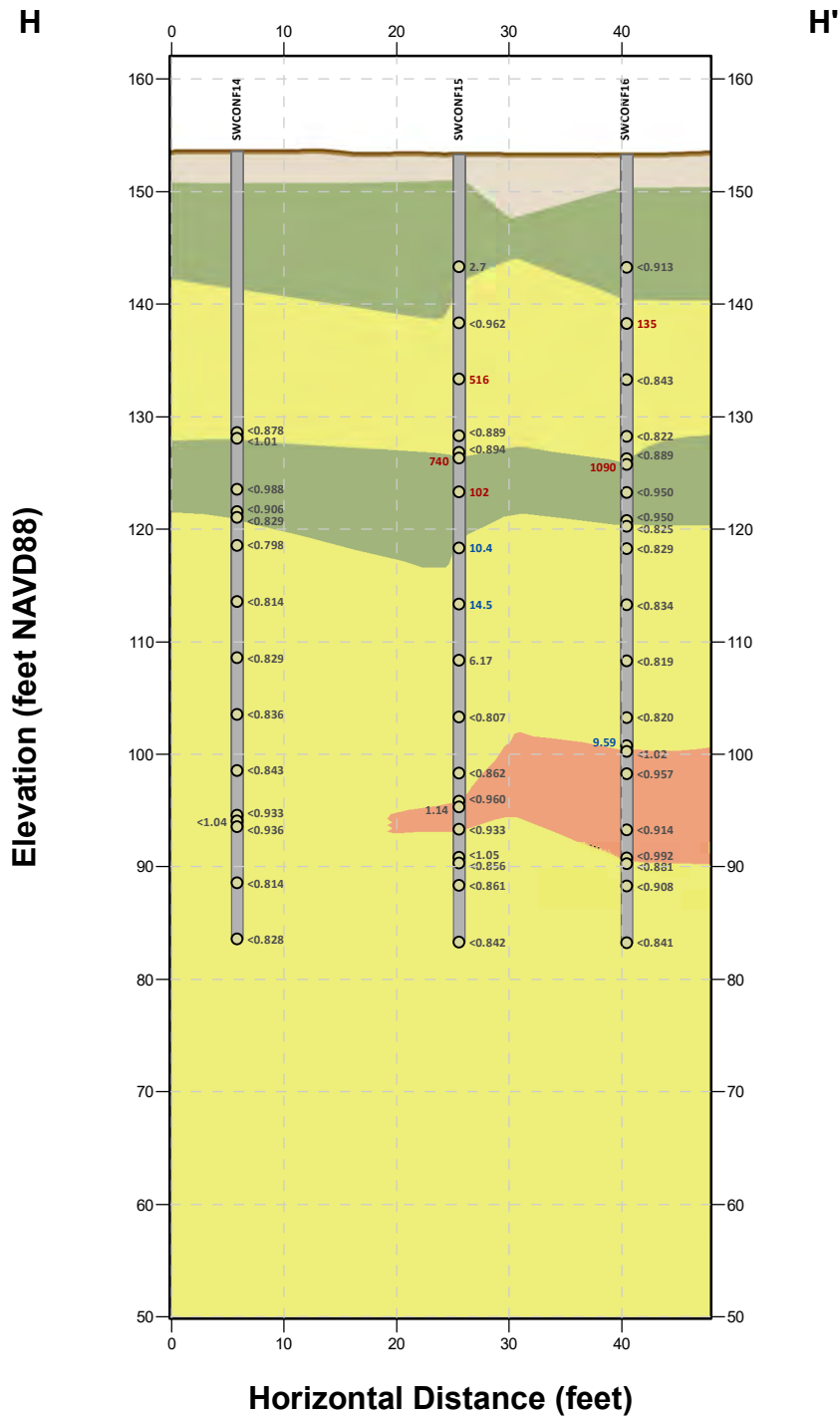
File: N:\GIS\Prj\0197\PT\Crossview\MXDs\Pre\_Post Remediation\Cross Section H - Pre Remediation.mxd 10/8/2021 Created by: BO Checked by: CS Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet



<b>Explanation</b>	 Sample Location	 Borehole						<b>Notes</b> - Analytical values show Hexavalent Chromium in milligrams per kilogram (mg/kg) - < / ND = Not detected at laboratory reporting limit - Red Text = Indicates a detection >= 30 mg/kg - Blue Text = Indicates a detection >= 6.2 and < 30 mg/kg - NAVD88 = North American Vertical Datum of 1988 - Hexavalent chromium screening level of 6.2 mg/kg is based on the DTSC Human and Ecological Risk Office Note 3 Commercial/Industrial Soil tables.	<b>Vertical Exaggeration = 1X</b>    1 inch = 17 feet	<b>SAFETY FIRST</b>	CLIENT: Phibro-Tech, Inc.	<b>Cross Section H - H'</b> <b>PRE-REMEDIATION</b>
											PROJECT: Wastewater Treatment - Relocation Investigation Santa Fe Springs, CA	



File: N:\GIS\Prj\0197\_PTI\Crossview\WXDs\Pre\_Post Remediation\Cross Section H - Post Remediation.mxd 10/8/2021 Created by: BO Checked by: BO Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet



**Explanation**

- |                   |                                    |                                      |
|-------------------|------------------------------------|--------------------------------------|
| ○ Sample Location | Fill                               | Paleosol                             |
| — Borehole        | Silts/Predominantly Fine Materials | Sands/Predominantly Coarse Materials |

**Notes**

- Analytical values show Hexavalent Chromium in milligrams per kilogram (mg/kg)
- < / ND = Not detected at laboratory reporting limit
- **Red Text** = Indicates a detection >= 30 mg/kg
- **Blue Text** = Indicates a detection >= 6.2 and < 30 mg/kg
- NAVD88 = North American Vertical Datum of 1988
- Hexavalent chromium screening level of 6.2 mg/kg is based on the DTSC Human and Ecological Risk Office Note 3 Commercial/Industrial Soil tables.

**SAFETY FIRST**



CLIENT: Phibro-Tech, Inc.

PROJECT: Wastewater Treatment - Relocation Investigation  
Santa Fe Springs, CA

PROJECT NUMBER: 0197.010.004

**Cross Section H - H'**  
**POST-REMEDATION**

**FIGURE X**

# Appendix D

## Remedial Field Reports (Vironex/Cascade)





# Injection Services Report

Prepared for:

**IRIS ENVIRONMENTAL**



Prepared by:



8851 Dice Road  
Street Address  
Santa Fe Springs, CA

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Appendix A - Injection Logs.....	5





## Project Summary

**Project Name:** Iris - Santa Fe Springs, CA - CPS Injection

### Proposed Scope of Work:

**Unsaturated Zone - Gage Aquifer** (silty sand and sand): Inject Calcium Polysulfide Solution at 4 Direct Push Injection Points (5-foot tool) Approximately 2,400 gallons of a CPS Solution will be injected from 16 feet to 26 feet, at each point.

**Unsaturated Zone - Aquitard** (silty clay and clayey silt): Inject Calcium Polysulfide Solution at 4 Direct Push Injection locations (1-foot tool). Approximately 2,400 gallons of a CPS Solution will be injected from 27 feet to 49 feet, at each location (2 injection points at each location with enough separation to minimize surfacng).

**Saturated Zone - Hollydale Aquifer** (sand): Inject Calcium Polysulfide Solution at 4 existing 1" Injection Well screened from 55 to 65 feet. Approximately 8,700 gallons of a CPS Solution will be injected into each of 4 injection wells.

### Actual Scope of Work:

**Unsaturated Zone - Gage Aquifer** (silty sand and sand): Inject Calcium Polysulfide Solution at 4 Direct Push Injection Points (5-foot tool) Approximately 2,600 gallons of a CPS Solution will be injected from 15 feet to 30 feet, at each point.

**Unsaturated Zone - Aquitard** (silty clay and clayey silt): Injected Calcium Polysulfide Solution at 3 Direct Push Injection locations (1.5" 1-foot tool). Approximately ~8,656 gallons of a CPS Solution. Injected from 30 feet to 38 feet at two (2) locations and from 30 feet to 50 feet at one location.,

**Saturated Zone - Hollydale Aquifer** (sand): Injected Calcium Polysulfide Solution at six (6) existing 1" Injection Well screened from 55 to 65 feet. A total of 24,658 gallons of a CPS Solution was injected into the six (6) injection wells.

**Project Start Date:** Monday, April 02, 2012

**Project End Date:** End Date

**Vironex Crew:** Shane Thompson, Amner Ramos, Mike Gerber and Sean Gardner

**Injection Equip:** Vironex Specialized Injection Rig - Truck Platform

**Direct Push Equip.:** Geoprobe 6610 Track Mounted Direct Push Rig

**Probe Rod:** 1.5" OD Direct Push Rod

**Injection Tool:** 1.5" OD Fixed-Open Tool with 5' Screen  
1.5" OD Fixed-Open Tool with 1' Screen

**Injection Method:** Top-Down Direct Push Injection  
Bottom-Up Direct Push Injection

**Coumpound:** Calcium Polysulfide

**Water Source:** Onsite Hose Spigot

## Injection Summary

Boring ID	Start Date	End Date
Gage		
GA-INJ-1	4/3/2012	4/6/2012
GA-INJ-4	4/3/2012	4/5/2012
GA-INJ-3	4/3/2012	4/6/2012
GA-INJ-2	4/3/2012	4/5/2012
Aquitard		
AQ-1	4/10/2012	4/12/2012
AQ-3	4/9/2012	4/18/2012
AQ-4	4/10/2012	4/12/2012
Hollydale		
UHA-2	4/12/2012	4/18/2012
UHA-1	4/24/2012	4/25/2012
UHA-2	4/24/2012	4/24/2012
UHA-3	4/24/2012	4/25/2012
PM-1	4/26/2012	4/27/2012
PM-2	4/26/2012	4/27/2012
PM-3	4/26/2012	4/27/2012

Total Gallons	CPS Gallons	Dye Ounces
2599	667	47.1
2626	674	47.6
2600	666	47.1
2600	666	47.1
Total Gallons	CPS Gallons	Dye Ounces
4433	862	80
2443	475	2
1780	346	32
Total Gallons	CPS Gallons	Dye Ounces
7012	1761	127
1203	410	22
85	22	2
3647	1153	66
2349	603	43
5191	2138	94
5171	2174	94

Totals

43,739	12,616	750
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Project Images



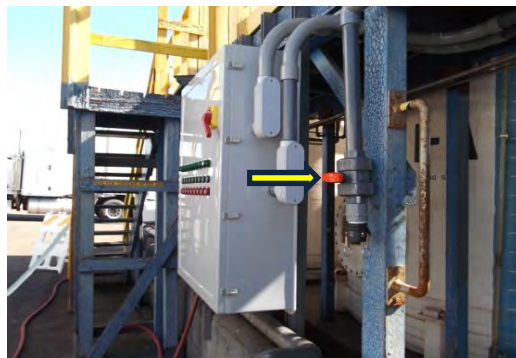
**Vironex Injection Rig**



**Vironex Direct Push Rig**



**Vironex Direct Push Rig**



**Water Source**



**CPS Holding Tank**



**CPS Transfer Pump**

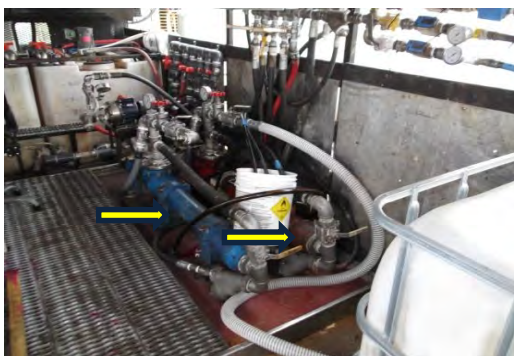
## Project Images



**330 Gallon CPS Mixing Tanks**



**CPS Mixed into a Solution**



**Injection Pumps**



**Four (4) Point injection  
Manifold**



**Injection to Simultaneous Points**



**Monitoring and Recording of  
Data**





## Appendix A - Injection Logs

**Project Name:** Iris - Santa Fe Springs, CA - CPS Injection

**Inj Rig Operator:** Shane Thompson

**Original Injection Scope of work:** Unsaturated Zone - Gage Aquifer (silty sand and sand): Inject Calcium Polysulfide Solution at 4 Direct Push Injection Points (2-1/8", 5-foot tool) Approximately 2,400 gallons of a CPS Solution (615 gal of CPS + 1,785 gal H2O) will be injected from 16 feet to 26 feet, at each point.

**Injection Approach:** Top-Down Direct Push Injection, targeting of 5-foot treatment intervals, 2 simultaneous injection locations, 15 GPM injection rate per point, < staying below the fracture pressure

Boring ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	CPS Injected Gallons	Rhodimine Dye Injected Ounces	Water Injected Gallons	Total Gallons Injected	Field Notes
GA-INJ-1	4/3/2012	10:33 AM	4/3/2012	11:56 AM	15 to 20	150	45	2.4	51.0	3.6	148.0	199	9:24 AM: Performing water injection test to establish flow rates and pressure perimeters. 150 PSI to obtain a flow rate and slowly scaled back to 1.5 GPM at 40 PSI 11:02 AM: Starting to lose flow at 45 PSI had to increase pressure to maintain a flow rate of 2 GPM 11:25 AM: Ceased injection to make the next batch. 11:36 AM: Resumed injection 11:56 AM: Per the client's request ceased injection to this interval and pushing down to the next interval.
	4/3/2012	12:22 PM	4/4/2012	10:50 AM	20 to 25	130	90	-13.0	308.0	21.7	892.5	1200	12:23 PM: Had to increase the pressure to 130 PSI to obtain a flow rate and then slowly scaled back the pressure to 80 PSI at 2.2 GPM. Was not able to achieve a flow rate below 80 PSI 3:28 PM: Ceased injection for the day (423 gals inj into this interval) 4/4/12, 8:04 AM: Resumed pumping, 5 GPM with a corresponding pressure of 90 psi.
	4/4/2012	11:10 AM	4/6/2012	9:57 AM	25 to 30	250	100	-16.4	308.0	21.7	892.5	1200	11:52 AM: Ceased pumping on this location due to exceeding max pressure output on 3L8 ( 300 psi ) we will switch back to pumping on two locations at a time ( INJ-2 & 3 ) 1:20 PM: resumed pumping. 4/5/12, 11:08 AM: Resumed pumping, 3 GPM with a corresponding pressure of 130 psi. 12:26 PM: Pressure has increased to 170 psi with a corresponding flow of 3 GPM. 3:00 PM: Ceased pumping for the day, 1,052 gal in. 4/6/12, 9:04 AM: Resumed pumping, 3.5 GPM with a corresponding pressure of 175 psi. 9:57 AM: Completed location.
GA-INJ-4	4/3/2012	10:33 AM	4/3/2012	11:56 AM	15 to 20	150	45	2.7	58.0	4.1	168.1	226	9:54 AM: Performing water injection test to establish flow rates and pressure perimeters. 150 PSI to obtain a flow rate and slowly scaled back to 1 GPM at 55 PSI 11:02 AM: Starting to lose flow at 45 PSI, had to increase pressure to maintain a flow rate of 2 GPM 11:15 AM: Observed a decrease in flow rate to 1.6 at 50 PSI. 11:25 AM: Ceased injection to make the next batch. 11:36 AM: Resumed injection 11:56 AM: Per the client's request ceased injection to this interval and pushing down to the next interval.
	4/3/2012	12:17 PM	4/4/2012	10:33 AM	20 to 25	175	50	-11.5	308.0	21.7	892.5	1200	12:19 PM: Had to increase the pressure to 175 PSI to obtain a flow rate and then slowly scaled back the pressure to 50 PSI at 6.5 GPM. 3:28 PM: Ceased injection for the day (561 gals inj into this interval) 4/4/12, 8:04 AM: resumed pumping, 5 gpm with a corresponding pressure of 50 psi.
	4/4/2012	10:59 AM	4/5/2012	11:07 AM	25 to 30	250	50	150.0	308.0	21.7	892.5	1200	11:52 AM: Ceased pumping on this location due to exceeding max pressure output on 3L8 ( 300 psi ) we will switch back to pumping on two locations at a time ( INJ-2 & 3 ) 4/5/12, 7:52 AM: Resumed pumping, 7 gpm with a corresponding pressure of 100 psi. 7:59 AM: Ceased pumping to take safety class. 8:22 AM: Resumed pumping.
GA-INJ-3	4/3/2012	1:01 PM	4/3/2012	2:10 PM	15 to 20	12	12	3.4	51.0	3.6	148.8	200	1:04 PM: There was no initial pressure spike to achieve flow, 3.4 gpm with a correspondinf pressure of 12 psi.
	4/3/2012	2:37 PM	4/4/2012	1:19 PM	20 to 25	100	100	-17.9	359.0	25.4	1041.3	1400	3:28 PM: Ceased injection for the day (48 gals inj into this interval) 4/4/12, 8:04 AM: Resumed pumping, 3 gpm with a corresponding pressure of 120 psi. 9:05 AM: Flow increased to 4.5 gpm with a corresponding pressure of 100 psi. 4/6/12, 12:13 PM: Resumed pumping, 16 gpm with a corresponding pressure of 85 psi ( most likely broken tooling ) 12:15 PM: Reduced flow to 8 gpm with a corresponding pressure of 40 psi due to slight day lighting around the drill string. 12:33 PM: Completed this location. 1:33 PM: Upon retrieval of tooling it was discovered that we lost (2) 1.5"x5" rods and (1) 1.5"x5" T.D. injection tool.
	4/4/2012	1:30 PM	4/6/2012	12:05 PM	25 to 30	250	130	-11.8	256.0	18.1	743.8	1000	4/5/12, 11:58 AM: resumed pumping, 2.2 gpm with a corresponding pressure of 170 psi. 3:00 PM: ceased pumping for the day, 698 gal in. 4/6/12, 9:04 AM: resumed pumping, 2 gpm with a corresponding pressure of 175 psi. 12:05 PM: lost flow and pressure increased to 300 psi with 1000 gal in, pulling drill string up 5' ( 20'-25' ) and will pump remaining 200 gal into that interval.
GA-INJ-2	4/3/2012	12:58 PM	4/3/2012	2:12 PM	15 to 20	130	50	2.7	51.0	3.6	148.8	200	12:59 PM: Increased pressure to 130 psi to obtain flow.
	4/3/2012	2:45 PM	4/4/2012	2:57 PM	20 to 25	300	300	199.0	612.0	43.3	1776.1	2388	2:46 PM: Ceased pumping for the day to replace fittings to stainless steel. 3:00 PM: Ceased injection to this location due to high pressures in excess of 300 PSI at 1 GPM (12 gallons inj into this interval) 4/4/12, 7:53 AM: Upon retrieval of tooling it was discovered that the injection tool had become clogged. 8:04 AM: Resumed pumping, 3 gpm with a corresponding pressure of 120 psi. 3:00 PM: Ceased pumping for the day. 4/5/12, 8:58 AM: Resumed pumping, 5 gpm with a corresponding pressure of 100 psi. 11:58 AM: Completed this location.
	4/5/2012	7:34 AM	4/5/2012	8:47 AM	25 to 30	250	275	0.3	3.1	0.2	8.9	12	7:35 AM: Increased pressure to 250 psi to with a corresponding flow of .3 gpm. 7:40 AM: Checking drill string for any obstructions with extention rods. 7:45 AM: It was discovered that the tooling was free of any obstructions. 7:59 AM: Ceased pumping to take safety class. 8:22 AM: Resumed pumping 8:47 AM: Retracting drill string 5' due to high pressure ( 250-300 psi ) and poor flow ( .3-.5 gpm ) we will pump remaining product @20'-25' ( 1,188 gal )
Page Total									2,673	189	7,754	10,425	



**Project Name:** Iris - Santa Fe Springs, CA - CPS Injection

**Inj Rig Operator:** Shane Thompson

**Original Injection Scope of work:** Unsaturated Zone - Aquitard (silty clay and clayey silt): Inject Calcium Polysulfide Solution at 4 Direct Push Injection locations (1-3/4" 1-foot tool). Approximately 4,800 gallons of a CPS Solution (933 gal of CPS + 3,867 gal H2O) will be injected from 30 feet to 50 feet, at each location (2 injection points at each location with enough separation to minimize surfacing).

**Injection Approach:** Bottom-Up Direct Push Injection, targeting 1-foot treatment intervals, 4 simultaneous injection locations, 5 GPM injection rate per point, < below the fracture pressure.

Boring ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	CPS Injected Gallons	Rhodimine Dye Injected Ounces	Water Injected Gallons	Total Gallons Injected	Field Notes
AQ-1	4/10/2012	8:16 AM	4/10/2012	9:10 AM	30 to 31	200	125	5	46.7	4.347	193.4	240	7:55 AM: Pre-probed to 28' to reduce friction on the drill string prior to advancing tooling, then backfill with bentonite chips, switching to T.D. 1' tool per client request. 8:06 AM: Started water
		9:14 AM	4/10/2012	9:58 AM	31 to 32	250	120	5	46.7	4.347	193.4	240	9:31 AM: Flow has increased to 6 GPM with a corresponding pressure no 119 psi, 85 gal in. 9:58 AM: Ceased pumping to put a second set of tooling in the ground.
		11:10 AM	4/10/2012	12:03 PM	32 to 33	250	105	6.5	46.7	4.347	193.4	240	11:44 AM: Ceased pumping due to day lighting around the drill string. 11:50 AM: Resumed pumping, 5 GPM with a corresponding pressure of 100 psi.
		12:07 PM	4/10/2012	12:58 PM	33 to 34	250	110	5	46.7	4.347	193.4	240	
		1:02 PM	4/10/2012	8:25 AM	34 to 35	250	140	4	35.8	3.333	148.2	184	1:04 PM: Slight day lighting around the drill string, reducing flow to 4 GPM. 1:43 PM: Ceased pumping due to day lighting around the rods. We will stop pumping at this time to pack bentonite
	4/16/2012	12:08 PM	4/16/2012	2:00 PM	35 to 36	425	425	1	46.7	4.347	193.4	240	12:20 PM: Ceased pumping to fix hydraulic leak on 3L8 pump. 12:30 PM: Resumed pumping. 12:43 PM: Flow increased to 3 GPM with a corresponding pressure of 350 psi, 35 gal in.
	4/16/2012	9:43 AM	4/16/2012	12:05 PM	36 to 37	300	300	1	30.7	2.862	127.3	158	12:05 PM: Ceased pumping at interval and pulling up to next interval, per client request.
	4/13/2012	12:24 PM	4/16/2012	9:39 AM	37 to 38	200	200	1	34.0	3.170	141.0	175	1:37 PM: Ceased pumping due to lighting. 2:17 PM: Resumed pumping. 3:03 PM: Ceased pumping for the day, 118 gal in. 4/16/12, 8:45 AM: Resumed pumping, 1 GPM with a corresponding pressure
	4/12/2012	5:00 PM	4/13/2012	12:14 PM	38 to 39	N/A	175	3	14.8	1.377	61.2	76	5:11 PM: Flow has increased to 4.5 GPM with a corresponding pressure of 165 psi, 45 gal in. 5:19 PM: Ceased pumping for the day with 76 gal in. 4/13/12, 11:04 AM: Resumed pumping.
	4/12/2012	3:40 PM	4/12/2012	4:57 PM	39 to 40	N/A	130	5	46.7	4.347	193.4	240	4:50 PM: Flow has decreased to 3 GPM with a corresponding pressure of 170 psi, 220 gal in.
	4/12/2012	2:40 P M	4/12/2012	3:37 PM	40 to 41	N/A	80	4.5	46.7	4.347	193.4	240	2:46 PM: Increased flow to 5 GPM with a corresponding pressure of 120 psi.
	4/12/2012	1:39 PM	4/12/2012	2:36 PM	41 to 42	N/A	75	4.5	46.7	4.347	193.4	240	2:30 PM: Pressure has increased to 85 psi., 200 gal in.
	4/12/2012	12:06 PM	4/12/2012	1:37 PM	42 to 43	N/A	70	5	46.7	4.347	193.4	240	1:15 PM: Ceased pumping.
	4/12/2012	9:34 AM	4/12/2012	12:01 PM	43 to 44	N/A	70	5.5	46.7	4.347	193.4	240	9:40 AM: Ceased pumping due to the high pressure demand at location 4. 11:19 AM: Resumed pumping.
	4/11/2012	8:38 AM	4/11/2012	9:22 AM	44 to 45	200	100	5.5	46.7	4.347	193.4	240	8:47 AM: Flow increased to 6 GPM with a corresponding pressure of 90 psi, 40 gal in. 9:15 AM: Flow has decreased to 5.7 with a corresponding pressure of 110 psi, 200 gal in.
		9:27 AM	4/11/2012	10:16 AM	45 to 46	175	85	5	46.7	4.347	193.4	240	10:20 AM: Ceased pumping due to CPS delivery.
		11:05 AM	4/11/2012	11:48 AM	46 to 47	200	80	5.5	46.7	4.347	193.4	240	11:38 AM: Flow has increased to 6.5 GPM with a corresponding pressure of 75 psi, 185 gal in.
		12:07 PM	4/11/2012	12:54PM	47 to 48	200	85	6.5	46.7	4.347	193.4	240	
		1:05 PM	4/11/2012	2:45 PM	48 to 49	200	60	5	46.7	4.347	193.4	240	1:17 PM: Ceased pumping due to slight day lighting around the rods. We will stop pumping on this location at this time to see if we get any influence from location 4, 21 gal in. 2:00 PM: Resumed
	4/12/2012	8:22 AM	4/12/2012	9:25 AM	49 to 50	150	60	5	46.7	4.347	193.4	240	
Page Total									862	80	3,571	4,433	

**Project Name:** Iris - Santa Fe Springs, CA - CPS Injection

**Inj Rig Operator:** Shane Thompson

**Original Injection Scope of work:** Unsaturated Zone - Aquitard (silty clay and clayey silt): Inject Calcium Polysulfide Solution at 4 Direct Push Injection locations (1-3/4" 1-foot tool). Approximately 4,800 gallons of a 7 % CPS Solution (933 gal of CPS + 3,867 gal H2O) will be injected from 30 feet to 50 feet, at each location (2 injection points at each location with enough separation to minimize surfacng).

**Injection Approach:** Bottom-Up Direct Push Injection, targeting 1-foot tratment intervals, 4 simultaneous injection locations, 5 GPM injection rate per point, < below the fracture pressure.

Boring ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	CPS Injected Gallons	Rhodimine Dye Injected Ounces	Water Injected Gallons	Total Gallons Injected	Field Notes
AQ-2					30 to 31				0.0	0.000	0.0		
					31 to 32				0.0	0.000	0.0		
					32 to 33				0.0	0.000	0.0		
					33 to 34				0.0	0.000	0.0		
					34 to 35				0.0	0.000	0.0		
					35 to 36				0.0	0.000	0.0		
					36 to 37				0.0	0.000	0.0		
					37 to 38				0.0	0.000	0.0		
					38 to 39				0.0	0.000	0.0		
					39 to 40				0.0	0.000	0.0		
					40 to 41				0.0	0.000	0.0		
					41 to 42				0.0	0.000	0.0		
					42 to 43				0.0	0.000	0.0		
					43 to 44				0.0	0.000	0.0		
					44 to 45				0.0	0.000	0.0		
					45 to 46				0.0	0.000	0.0		
					46 to 47				0.0	0.000	0.0		
					47 to 48				0.0	0.000	0.0		
					48 to 49				0.0	0.000	0.0		
					49 to 50				0.0	0.000	0.0		
					to				0.0	0.000	0.0		
					to				0.0	0.000	0.0		

Page Total

0 0 0 0



**Project Name:** Iris - Santa Fe Springs, CA - CPS Injection

**Inj Rig Operator:** Shane Thompson

**Original Injection Scope of work:** Unsaturated Zone - Aquitard (silty clay and clayey silt): Inject Calcium Polysulfide Solution at 4 Direct Push Injection locations (1-3/4" 1-foot tool). Approximately 4,800 gallons of a CPS Solution (933 gal of CPS + 3,867 gal H2O) will be injected from 30 feet to 50 feet, at each location (2 injection points at each location with enough separation to minimize surfacing).

**Injection Approach:** Bottom-Up Direct Push Injection, targeting 1-foot treatment intervals, 4 simultaneous injection locations, 5 GPM injection rate per point, < below the fracture pressure.

Boring ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	CPS Injected Gallons	Rhodimine Dye Injected Ounces	Water Injected Gallons	Total Gallons Injected	Field Notes
AQ-3	4/9/2012	12:27 PM	4/9/2012	1:49 PM	49 to 50	80	80	14	29.7	2.771	123.3	153	11:48 AM: conducted water test, 13 GPM with a corresponding pressure of 80 psi ( 50 gal ) 12:27 PM: started cps injection. 12:37 PM: ceased pumping due to slight day lighting from a previous
	4/17/2012	8:28 AM	4/17/2012	9:16 AM	30 to 31	150	150	5	46.7	4.347	193.4	240	NOTE: switching to 1' T.D. injection tool.
		9:20 AM	4/17/2012	9:59 AM	31 to 32	200	150	6	46.7	4.347	193.4	240	9:49 AM: flow has increased to 6.5 GPM with a corresponding pressure of 150 psi, 175 gal in.
		10:03 AM	4/17/2012	10:37 AM	32 to 33	200	100	7.5	46.7	4.347	193.4	240	
		10:41 AM	4/17/2012	11:17 AM	33 to 34	150	110	8.5	46.7	4.347	193.4	240	
		11:22 AM	4/17/2012	11:54 AM	34 to 35	250	110	8	46.7	4.347	193.4	240	
		11:58 AM	4/17/2012	12:27 PM	35 to 36	150	100	9.5	46.7	4.347	193.4	240	
		12:31 PM	4/17/2012	1:03 PM	36 to 37	200	100	8	46.7	4.347	193.4	240	
		1:09 PM	4/17/2012	1:41 PM	37 to 38	250	100	8.5	46.7	4.347	193.4	240	
		1:45 PM	4/18/2012	9:07 AM	38 to 39	200	110	6.5	71.9	6.702	298.1	370	2:03 PM: ceased pumping for the day to pre probe and backfill AQ-2, 120 gal in. 4/18/12, 8:23 AM: resumed pumping, 7.5 GPM with a corresponding pressure of 125 psi. 8:35 AM: this interval will
Page Total									475	44	1,968	2,443	

**Project Name:** Iris - Santa Fe Springs, CA - CPS Injection

**Inj Rig Operator:** Shane Thompson

**Original Injection Scope of work:** Unsaturated Zone - Aquitard (silty clay and clayey silt): Inject Calcium Polysulfide Solution at 4 Direct Push Injection locations (1-3/4" 1-foot tool). Approximately 4,800 gallons of a CPS Solution (933 gal of CPS + 3,867 gal H2O) will be injected from 30 feet to 50 feet, at each location (2 injection points at each location with enough separation to minimize surfacing).

**Injection Approach:** Bottom-Up Direct Push Injection, targeting 1-foot treatment intervals, 4 simultaneous injection locations, 5 GPM injection rate per point, < below the fracture pressure.

Boring ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	CPS Injected Gallons	Rhodimine Dye Injected Ounces	Water Injected Gallons	Total Gallons Injected	Field Notes
AQ-4	4/10/2012	11:10 AM	4/10/2012	2:01 PM	30 to 31	175	80	6.5	46.7	4.347	193.4	240	10:00 AM: pre-probed to 28' then backfilled with bentonite chips. 11:06 AM: started water test, 6.5 GPM with a corresponding pressure of 80 psi,( 25 gal. ) 11:10 AM: started cps injection. 11:44 AM: ceased pumping due to day lighting at AQ-1. we stop pumping on this location at this time in a effort keep day lighting at AQ-1 to a minimum. 1:45 PM: resumed pumping, 5 GPM with a corresponding pressure of 65 psi.
		2:45 PM	4/11/2012	10:19 AM	31 to 32	250	65	5	46.7	4.347	193.4	240	2:50 PM: ceased pumping due to day lighting around AQ-1. 3:00 PM: ceased pumping for the day, 12 gal in. 4/11/12, 9:30 AM: resumed pumping, 5 GPM with a corresponding pressure of 70 psi. 10:20 AM: ceased pumping due to cps delivery.
	4/11/2012	11:05 AM	4/11/2012	11:54AM	32 to 33	200	80	5.5	46.7	4.347	193.4	240	
		12:07 PM	4/11/2012	12:57 PM	33 to 34	225	100	5	46.7	4.347	193.4	240	
		1:05 PM	4/11/2012	1:52 PM	34 to 35	275	100	6	46.7	4.347	193.4	240	1:24 PM: flow has increased to 8 GPM with a corresponding pressure of 110 psi, when pumping on this location by itself.
		1:57 PM	4/11/2012	2:45 PM	35 to 36	250	110	5.5	46.7	4.347	193.4	240	
	4/12/2012	8:22 AM	4/13/2012	1:36 PM	36 to 37	250	300	1	66.1	6.158	273.9	340	8:35 AM: ceased pumping to send extension rods down the drill string and check for any clogging due to high pressure (225) and poor flow (2 GPM) 8:39 AM: tooling was found to be free of any clogging. 8:40 AM: resumed pumping. 10:14 AM: ceased pumping due to exceeding max pressure rating on the injection hose (250 psi) 100 gal in. 10:40 AM: advancing tooling to next interval, per client request. 4/13/12, 9:34 AM: resumed pumping, 300 psi to establish flow. 5 GPM with a corresponding pressure of 120 psi. This interval will receive an extra 240 gal, for a total of 340 gal per client request.
	4/12/2012	10:47 AM	4/13/2012	9:22 AM	37 to 38	250	250	0	0.0	0.000	0.0	0	11:07 AM: we were not able to achieve flow at this interval, pressure exceeded the max (250) for the injection hose. 11:16 AM: refusal at 38'. 4/13/12, 8:44 AM: we will use the hydra cell pump (high pressure) to try and achieve flow on this location. 8:58 AM: resumed pumping, 0 GPM with a corresponding pressure of 590 psi. 9:22 AM: pulling tooling up 1' (36'-37') per client request.
	Page Total								346	32	1,434	1,780	



Project Name: Iris - Santa Fe Springs, CA - CPS Injection

Inj Rig Operator: Shane Thompson

Original Injection Scope of work: Saturated Zone - Hollydale Aquifer (sand) - Inject Calcium Polysulfide into one (1) 1-inch injection well screened between 55 to 65 feet, approximately 8,700 gallons of a 10% CPS solution (2,231 gal of 29% CPS+ 6,469 gal of H2O) will be injected.

Injection Approach: 25 GPM injection rate, < fracture pressure.

Boring ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	CPS Injected Gallons	7% CPS Injected Gallons	Rhodimine Dye Injected Ounces	Water Injected Gallons	Total Gallons Injected	Field Notes
UHA-2	4/12/2012	11:19 AM	4/18/2012	12:28 PM	55 to 65	25	25	12	1,761	596	127	5,251	7,012	4/9/12, 2:31 PM: started water test, 13 GPM with a corresponding pressure of 25 psi. 2:38 PM: finished water test, we will pump cps at a later date. 4/12/12, 5:19 PM: ceased pumping for the day with 3746 gal in. 4/13/12, 9:51 AM: resumed pumping. 1:19 PM: flow has decreased to 10 GPM with a corresponding pressure of 25 psi, 5875 gal in. 1:37 PM: ceased pumping due to lighting. 2:17 PM: resumed pumping. 2:35 PM: pressure at well head is 20 psi, 6205 gal in. Decreased flow to 8.5 GPM. 3:03 PM: ceased pumping for the day, 6416 gal in. This location will no longer be pumped on, per client request. 4/18/12, 11:26 AM: resumed pumping, 11 GPM with a corresponding pressure of 25 psi. 12:28 PM: pumped an additional 596 gal of 7% cps. 12:33 PM: completed 50 gal flush.
					55 to 65				0.0		0.000	0.0		
					55 to 65				0.0		0.000	0.0		
					55 to 65				0.0		0.000	0.0		
					55 to 65				0.0		0.000	0.0		
					55 to 65				0.0		0.000	0.0		
Page Total									1,761		127	5,251	7,012	

Project Name: Iris - Santa Fe Springs, CA - CPS Injection

Inj Rig Operator: Shane Thompson

Original Injection Scope of work: Saturated Zone - Hollydale Aquifer (sand) - Inject Calcium Polysulfide into one (1) 1-inch injection well screened between 55 to 65 feet, approximately 8,700 gallons of a 10% CPS solution (2,231 gal of 29% CPS+ 6,469 gal of H2O) will be injected.

Injection Approach: 25 GPM injection rate, < fracture pressure.

Boring ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	CPS Injected Gallons	Rhodimine Dye Injected Ounces	Water Injected Gallons	Flush Water Injected Gallons	Total Gallons Injected	Field Notes
UHA-1	4/24/2012	1:41 PM	4/25/2012	11:48 AM	55 to 65	0	0	7	410.0	21.790	793.0	350.0	1203	<b>3:00 PM:</b> ceased pumping for the day, 625 gal in. <b>8:25 AM:</b> resumed pumping, flow of 10 GPM with a corresponding pressure of 20 psi, flushing with water. <b>9:04 AM:</b> completed 200 gal flush. <b>9:30 AM:</b> resumed pumping a 15% cps solution, 6 GPM with a corresponding pressure of 25 psi. <b>10:30 AM:</b> ceased pumping cps to flush 150 gal of water, 403 gal in (1028 total-cps) <b>10:55 AM:</b> resumed pumping cps. <b>11:41 AM:</b> Observed a decrease in the in the GPM to 2.9 and a increase in the pressure to ~30 PSI. <b>11:48 AM:</b> lost flow due to exceeding max pressure (25 psi) 175 gal in (1203 total-cps)
					55 to 65				0.0	0.000	0.0			
					55 to 65				0.0	0.000	0.0			
					55 to 65				0.0	0.000	0.0			
					55 to 65				0.0	0.000	0.0			
					55 to 65				0.0	0.000	0.0			
					55 to 65				0.0	0.000	0.0			
					55 to 65				0.0	0.000	0.0			
					55 to 65				0.0	0.000	0.0			
					55 to 65				0.0	0.000	0.0			
					55 to 65				0.0	0.000	0.0			
					55 to 65				0.0	0.000	0.0			
Page Total									410	22	793		1,203	



Project Name: Iris - Santa Fe Springs, CA - CPS Injection

Inj Rig Operator: Shane Thompson



INJECTION FIELD LOG

Original Injection Scope of work:	Saturated Zone - Hollydale Aquifer (sand) - Inject Calcium Polysulfide into one (1) 1-inch injection well screened between 55 to 65 feet, approximately 8,700 gallons of a 10% CPS solution (2,231 gal of 29% CPS+ 6,469 gal of H2O) will be injected.
Injection Approach:	25 GPM injection rate, < fracture pressure.

Boring ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	CPS Injected Gallons	Rhodimine Dye Injected Ounces	Water Injected Gallons	Total Gallons Injected	Field Notes
UHA-2	4/24/2012	1:41 PM	4/24/2012	2:12 PM	55 to 65	20	25	5	21.8	1.540	63.2	85	1:57 PM: flow has dropped to 3 GPM with a corresponding pressure of 25 psi, 55 gal in. 2:12 PM: lost flow due to exceeding 25 psi max., 85 gal in. 4/25/12, 8:25 AM: attempted to pump on this location, no flow due to exceeding 25 psi limit.
					55 to 65				0.0	0.000	0.0		
					55 to 65				0.0	0.000	0.0		
					55 to 65				0.0	0.000	0.0		
					55 to 65				0.0	0.000	0.0		
					55 to 65				0.0	0.000	0.0		
					55 to 65				0.0	0.000	0.0		
					55 to 65				0.0	0.000	0.0		
					55 to 65				0.0	0.000	0.0		
					55 to 65				0.0	0.000	0.0		
					55 to 65				0.0	0.000	0.0		
Page Total									22	2	63	85	

**Project Name:** Iris - Santa Fe Springs, CA - CPS Injection

**Inj Rig Operator:** Shane Thompson

**Original Injection Scope of work:** Saturated Zone - Hollydale Aquifer (sand) - Inject Calcium Polysulfide into one (1) 1-inch injection well screened between 55 to 65 feet, approximately 8,700 gallons of a 10% CPS solution (2,231 gal of 29% CPS+ 6,469 gal of H2O) will be injected.

**Injection Approach:** 25 GPM injection rate, < fracture pressure.

Boring ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	CPS Injected Gallons	15% CPS Injected Gallons	Rhodimine Dye Injected Ounces	Water Injected Gallons	Flush Water Injected Gallons	Total Gallons Injected	Field Notes
UHA-3	4/24/2012	1:41 PM	4/25/2012	3:51 PM	55 to 65	0	0	7	1,153	2,578	66	2,494	200	3,647	<b>3:00 PM:</b> ceased pumping for the day, 605 gal in. <b>4/25 8:25 AM:</b> resumed pumping, flow of 10 GPM with a corresponding pressure of 5 psi, flushing with water. <b>9:04 AM:</b> completed 200 gal flush. <b>9:30 AM:</b> resumed pumping a 15% cps solution, 8.5 GPM with a corresponding pressure of 10 psi. <b>10:30 AM:</b> ceased pumping cps to flush 200 gal of water, 523 gal in (1128 total-cps) <b>10:55 AM:</b> resumed pumping cps. <b>2:06 PM:</b> switching back to a 10% cps solution, 2578 gal in (total-cps), per client request. <b>3:51 PM:</b> ceased pumping due to exceeding max pressure (25 psi) 1914 gal in (3647 total-cps)
					55 to 65						0	0			
					55 to 65				0.0		0	0			
					55 to 65				0.0		0	0			
					55 to 65				0.0		0	0			
					55 to 65				0.0		0	0			
					55 to 65				0.0		0	0			
					55 to 65				0.0		0	0			
					55 to 65				0.0		0	0			
					55 to 65				0.0		0	0			
Page Total									1,153		66	2,494		3,647	



Project Name: Iris - Santa Fe Springs, CA - CPS Injection

Inj Rig Operator: Shane Thompson

Original Injection Scope of work: Saturated Zone - Hollydale Aquifer (sand) - Inject Calcium Polysulfide into one (1) 1-inch injection well screened between 55 to 65 feet, approximately 8,700 gallons of a 10% CPS solution (2,231 gal of 29% CPS+ 6,469 gal of H2O) will be injected.

Injection Approach: 25 GPM injection rate, < fracture pressure.

Boring ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	CPS Injected Gallons	15% CPS Injected Gallons	Rhodimine Dye Injected Ounces	Water Injected Gallons	Total Gallons Injected	Field Notes
PM-1	4/26/2012	7:55 AM	4/27/2012	8:35 AM	55 to 65	0	20	7	603.0	16.0	43	1746.0	2349	1:15 PM: ceased pumping due to pump failure ( 3L8) 1:50 PM: resumed pumping with transfer pump (Gator) @2 GPM. 2:55 PM: ceased pumping for the day, 2331 gal in. 4/27/12, 7:48 AM: resumed pumping @ 10% solution. 8:15 AM: switching to 15% solution, per client request, 2347 gal in. 8:35 AM: ceased pumping due to exceeding max psi (25) lost flow. 2349 gal in.
					55 to 65				0.0		0	0.0		
					55 to 65				0.0		0	0.0		
					55 to 65				0.0		0	0.0		
					55 to 65				0.0		0	0.0		
					55 to 65				0.0		0	0.0		
					55 to 65				0.0		0	0.0		
					55 to 65				0.0		0	0.0		
					55 to 65				0.0		0	0.0		
					55 to 65				0.0		0	0.0		
					55 to 65				0.0		0	0.0		
					55 to 65				0.0		0	0.0		
Page Total									603	16	43	1,746	2,349	

Project Name: Iris - Santa Fe Springs, CA - CPS Injection

Inj Rig Operator: Shane Thompson

Original Injection Scope of work: Saturated Zone - Hollydale Aquifer (sand) - Inject Calcium Polysulfide into one (1) 1-inch injection well screened between 55 to 65 feet, approximately 8,700 gallons of a 10% CPS solution (2,231 gal of 29% CPS+ 6,469 gal of H2O) will be injected.

Injection Approach: 25 GPM injection rate, < fracture pressure.



INJECTION FIELD LOG

Boring ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	CPS Injected Gallons	10% CPS Injected Gallons	15% CPS Injected Gallons	20% CPS Injected Gallons	25% CPS Injected Gallons	29% CPS Injected Gallons	Rhodimine Dye Injected Ounces	Water Injected Gallons	Total Gallons Injected	Field Notes
PM-2	4/26/2012	7:55 AM	4/27/2012	2:03 PM	55 to 65	0	20	9	2138.0	2,480	642	701	690	678	94	3,053	5,191	1:15 PM: ceased pumping due to pump failure ( 3L8) 1:50 PM: resumed pumping with transfer pump (Gator) @ 2 GPM. 2:27 PM: ceased pumping, 2313 gal in. 4/27/12, 7:48 AM: resumed pumping @ 10% solution. 8:15 AM: switching to 15% solution, per client request, 2480 gal in. 8:38 AM: flow has increased to 9 GPM with a corresponding pressure of 18 psi. 9:47 AM: switching to 20% solution, per client request, 3122 gal in. 11:11 AM: switching to 25% solution, per client request, 3823 gal in. 12:34 PM: switching to 29% solution, per client request, 4513 gal in.
					55 to 65				0.0						0			
					55 to 65				0.0						0	0.0		
					55 to 65				0.0						0	0.0		
					55 to 65				0.0						0	0.0		
					55 to 65				0.0						0	0.0		
					55 to 65				0.0						0	0.0		
					55 to 65				0.0						0	0.0		
					55 to 65				0.0						0	0.0		
					55 to 65				0.0						0	0.0		
					55 to 65				0.0						0	0.0		
					55 to 65				0.0						0	0.0		
Page Total									2,138		642	701	690	678	94	3,053	5,191	



Project Name: Iris - Santa Fe Springs, CA - CPS Injection

Inj Rig Operator: Shane Thompson

Original Injection Scope of work: Saturated Zone - Hollydale Aquifer (sand) - Inject Calcium Polysulfide into one (1) 1-inch injection well screened between 55 to 65 feet, approximately 8,700 gallons of a 10% CPS solution (2,231 gal of 29% CPS+ 6,469 gal of H2O) will be injected.

Injection Approach: 25 GPM injection rate, < fracture pressure.

Boring ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	CPS Injected Gallons	15% CPS Injected Gallons	20% CPS Injected Gallons	25% CPS Injected Gallons	29% CPS Injected Gallons	Rhodimine Dye Injected Ounces	Water Injected Gallons	Total Gallons Injected	Field Notes
PM-3	4/26/2012	7:55 AM	4/27/2012	2:03 PM	55 to 65	0	20	9	2174.0	675.0	650.0	711.0	735.0	94	2997.0	5171	1:15 PM: ceased pumping due to pump failure ( 3L8) 1:50 PM: resumed pumping with transfer pump (Gator) @2 GPM. 2:55 PM: ceased pumping for the day, 2256 gal in. 4/27/12. 7:48 AM: resumed pumping @ 10% solution. 8:15 AM: switching to a 15% solution, per client request, 2400 gal in. 8:38 AM: flow has increased to 9 GPM with a corresponding pressure of 0 psi. 9:47 AM: switching to 20% solution, per client request, 3075 gal in. 11:11 AM: switching to 25% solution, per client request, 3725 gal in. 12:34 PM: switching to 29% solution, per client request, 4436 gal in.
					55 to 65									0.000	0.0		
					55 to 65				0.0					0.000	0.0		
					55 to 65				0.0					0.000	0.0		
					55 to 65				0.0					0.000	0.0		
					55 to 65				0.0					0.000	0.0		
					55 to 65				0.0					0.000	0.0		
					55 to 65				0.0					0.000	0.0		
					55 to 65				0.0					0.000	0.0		
					55 to 65				0.0					0.000	0.0		
					55 to 65				0.0					0.000	0.0		
					55 to 65				0.0					0.000	0.0		
Page Total									2,174	675	650	711	735	94	2,997	5,171	



## REMEDATION FIELD SERVICES REPORT

Phibro – Tech, Inc.  
8851 Dice Road  
Santa Fe Springs, California

**Date:**

September 8, 2017

**Project Number:**

304-17-1068

**Prepared For:**

Terraphase Engineering Inc.  
1404 Franklin Street, Suite 600  
Oakland, California 94612

**Prepared by:**

Cascade Technical Services  
1225 East McFadden Avenue  
Santa Ana, California 92705

[WWW.CASCADE-ENV.COM](http://WWW.CASCADE-ENV.COM)



September 8, 2017  
Project No. 304-17-1068

Mr. Chris Alger  
Terraphase Engineering Inc.  
1404 Franklin Street, Suite 600  
Oakland, California 94612

Subject: Remediation Field Services Report  
Phibro – Tech, Inc.  
8851 Dice Rd.  
Santa Fe Springs, California

Dear Mr. Alger,

In accordance with your request and authorization, Cascade Technical Services (Cascade) has performed remediation field services for the subject site. The field services were performed in general accordance with Cascade's proposal dated April 24, 2017.

Cascade appreciates the opportunity to provide our services to you. If you have any questions or comments regarding this report, please contact the undersigned at your convenience.

Respectfully submitted,  
Cascade Technical Services

Frank Allen  
Remediation Specialist

Michael Gerber  
Operations Manager

Distribution: (1) Addressee (via e-mail)  
FA/MG/JP

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**Appendices**

Appendix A – Injection Summary and Logs

Appendix B – Injection Location Map (IRIS Environmental, 05/29/2015)



## **1 INTRODUCTION**

Terraphase Engineering Inc. (client), subcontracted Cascade Technical Services (Cascade) to perform remediation field services at the subject site located at 8851 Dice Road, Santa Fe Springs, California. Field services were conducted in general accordance with Cascade's proposal dated April 24, 2017.

## **2 REMEDIATION APPROACH**

Utilizing the top-down injection method, a 5-foot long, 1.75-inch diameter injection screen was driven into the subsurface using a Geoprobe® model 8040DT track mounted direct push drilling rig. Following tooling placement, a 5 percent calcium polysulfide (CPS) solution was injected into 24 temporary direct push locations. The solution was mixed inline using a custom-built injection system and injected through the tooling into the subsurface at the 24 temporary direct push injection points.

## **3 PROJECT ACTIVITIES**

The following sections describe the field activities conducted at the site. The activities were conducted between June 5 and 28, 2017.

### **3.1 PRE-MOBILIZATION ACTIVITIES**

A site-specific health and safety plan was prepared to address worker and general public safety. Underground Services Alert (USA) was notified at least 48 hours prior to the commencement of field activities and inquiry identification number B71460201 was obtained for Cascade's scope of work.

### **3.2 ONSITE ACTIVITIES**

On June 5, 2017, Cascade mobilized a custom-built injection system and a Geoprobe® model 8040DT track mounted direct push drilling rig to the site. Prior to the commencement of field activities, a tailgate safety meeting was performed. The safety meeting was followed by a site walk to review the proposed injection points marked by the client. The injection platform was placed inside a containment berm alongside the target treatment area. The injection area was located within an active processing facility with secure fencing, thus restricting unauthorized access to the work area. Other site control measures consisting of traffic cones and caution tape were implemented to delineate the work area. Spill kits and portable vacuums were placed within the work area for immediate deployment. Injection material transportation and handling were coordinated by Cascade.

The scope of work performed by Cascade included a 25-gallon potable water injection test performed at the first injection point (IP-9). The injection test was done to check for leaks throughout the injection system including the hose fittings and connections. Following the water injection test, Cascade injected a 5 percent CPS solution into 24 temporary injection points. The 5 percent CPS solution was comprised of approximately 24,135 gallons of a 29 percent concentration of CPS and 115,644 gallons of dilution water for a total volume of approximately 139,779 gallons. The solution was injected at depths between 10 and 60 feet bgs. Each direct push injection point received between 3,450 (IP-16) and 8,165 (IP-6, IP-7, IP-14 and IP-26) gallons of the 5 percent CPS solution (see injection logs for details). Daylighting was observed at some injection points at depths between 10 and 35 feet bgs. As a result, injection volumes were adjusted in the field at the client's direction (see injection logs for details).

Upon completion injection of the 5 percent CPS solution, approximately 300 gallons of flush water was pumped through the system to flush out the injection hoses and tooling and into the last boring location (IP-21). The total volume injected into the 24 temporary direct push points was approximately 140,079 gallons (24,135 gallons of the 29 percent CPS, 115,644 gallons of dilution water and 300 gallons of flush water). Remediation activities were successfully completed on June 28, 2017.

### **3.3 SITE RESTORATION**

Upon completion of injection activities, the boreholes were backfilled with bentonite chips and hydrated. The upper 6-inches of each borehole was filled with concrete to match the existing surface.

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Residual reagent resulting surfacing during injection activities was disposed of into the facility's water treatment system at the client's direction. Other waste (i.e. personal protective equipment, packaging materials, etc.) was collected in large trash bags and disposed as municipal solid waste.

#### **4 LIMITATIONS**

The implementation of the scope of work was performed in accordance with the client's design specification as described above (Section 2) and supporting injection logs (Appendix A). Cascade bears no responsibility for remediation results or impact to existing conditions.



## **APPENDIX A**

### Injection Summary and Logs

# PROJECT SUMMARY

PROJECT NAME/NUMBER: PHIBRO-TECH FACILITY, SANTA FE SPRINGS/304-17-1068

Day	Date	On-site Time	Off-site Time	Wells Completed	% Solution		5% CPS Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
					29% Calcium Polysulfide (Gallons)	Water (Gallons)			
Monday	6/5/2017	Set-up Day							
Tuesday	6/6/2017	7:00 AM	4:30 PM	0	782.2	3,747.8	4,530.0	0.0	4,530.0
Wednesday	6/7/2017	7:00 AM	4:15 PM	2	1,692.7	8,107.3	9,800.0	0.0	9,800.0
Thursday	6/8/2017	7:00 AM	4:00 PM	1	1,004.0	4,811.0	5,815.0	0.0	5,818.0
Friday	6/9/2017	7:00 AM	4:30 AM	2	1,775.0	8,505.0	10,280.0	0.0	10,277.0
Monday	6/12/2017	6:00 AM	4:00 PM	1	1,737.8	8,327.2	10,065.0	0.0	10,065.0
Tuesday	6/13/2017	6:00 AM	4:00 PM	2	1,562.3	7,485.7	9,048.0	0.0	9,048.0
Wednesday	6/14/2017	6:00 AM	4:00 PM	2	1,794.8	8,600.2	10,395.0	0.0	10,395.0
Thursday	6/15/2017	6:00 AM	4:00 AM	2	2,005.0	9,609.5	11,615.0	0.0	11,615.0
Friday	6/16/2017	6:00 AM	3:30 PM	1	2,050.0	9,820.0	11,870.0	0.0	11,870.0
Monday	6/19/2017	6:00 AM	3:45 PM	1	1,783.6	8,546.9	10,330.0	0.0	10,330.0
Tuesday	6/20/2017	5:30 AM	3:30 PM	2	1,523.9	7,302.1	8,826.0	0.0	8,826.0
Wednesday	off due to site walk								
Thursday	6/22/2017	6:30 AM	4:00 PM	1	1,459.2	6,991.8	8,451.0	0.0	8,451.0
Friday	6/23/2017	6:00 AM	3:30 PM	1	720.6	3,453.4	4,174.0	0.0	4,174.0
Monday	6/26/2017	6:00 AM	4:00 PM	2	1,365.8	6,544.2	7,910.0	0.0	7,910.0
Tuesday	6/27/2017	6:00 AM	4:00 PM	2	1,742.8	8,351.2	10,094.0	0.0	10,094.0
Wednesday	6/28/2017	6:00 AM	4:00 PM	2	1,135.5	5,440.5	6,576.0	300.0	6,876.0
PROJECT TOTALS				24	24,135	115,644	139,779	300	140,079



# INJECTION FIELD LOGS

PROJECT NAME/NUMBER: PHIBRO-TECH FACILITY, SANTA FE SPRINGS/304-17-1068

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		5% CPS Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
											29% Calcium Polysulfide (Gallons)	Water (Gallons)				
IP-1	6/12/2017	12:35 PM	6/12/2017	12:55 PM	10	to	15	200	180	33.8	117	558	675	0	675	
	6/12/2017	1:01 PM	6/12/2017	1:28 PM	15	to	20	250	250	37.4	174	836	1,010	0	1,010	
	6/12/2017	1:33 PM	6/12/2017	2:01 PM	20	to	25	300	290	36.1	174	836	1,010	0	1,010	
	6/12/2017	2:05 PM	6/12/2017	2:33 PM	25	to	30	320	310	36.1	174	836	1,010	0	1,010	
	6/12/2017	2:41 PM	6/12/2017	2:56 PM	30	to	35	320	280	40.7	105	505	610	0	610	
	6/12/2017	3:05 PM	6/12/2017	3:21 PM	35	to	40	300	260	38.1	105	505	610	0	610	
	6/13/2017	6:45 AM	6/13/2017	7:01 AM	40	to	45	290	240	38.1	105	505	610	0	610	
	6/13/2017	7:11 AM	6/13/2017	7:29 AM	45	to	50	300	290	33.9	105	505	610	0	610	
	6/13/2017	7:36 AM	6/13/2017	8:07 AM	50	to	55	300	300	32.6	174	836	1,010	0	1,010	
TOTALS											1,235	5,920	7,155	0	7,155	
IP-4	6/14/2017	10:00 AM	6/14/2017	10:20 AM	10	to	15	200	200	33.8	117	558	675	0	675	
	6/14/2017	10:25 AM	6/14/2017	10:52 AM	15	to	20	230	230	37.4	174	836	1,010	0	1,010	
	6/14/2017	10:57 AM	6/14/2017	11:20 AM	20	to	25	200	180	43.9	174	836	1,010	0	1,010	
	6/14/2017	11:26 AM	6/14/2017	11:52 AM	25	to	30	250	220	38.8	174	836	1,010	0	1,010	
	6/14/2017	11:56 AM	6/14/2017	12:12 PM	30	to	35	260	230	38.1	105	505	610	0	610	
	6/14/2017	12:18 PM	6/14/2017	12:34 PM	35	to	40	250	200	38.1	105	505	610	0	610	
	6/14/2017	12:41 PM	6/14/2017	12:57 PM	40	to	45	200	200	38.1	105	505	610	0	610	
	6/14/2017	1:01 PM	6/14/2017	1:18 PM	45	to	50	230	230	35.9	105	505	610	0	610	
	6/14/2017	1:26 PM	6/14/2017	1:55 PM	50	to	55	250	250	34.8	174	836	1,010	0	1,010	
TOTALS											1,235	5,920	7,155	0	7,155	

# INJECTION FIELD LOGS

PROJECT NAME/NUMBER: PHIBRO-TECH FACILITY, SANTA FE SPRINGS/304-17-1068

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		5% CPS Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
											29% Calcium Polysulfide (Gallons)	Water (Gallons)				
IP-5	6/8/2017	2:02 PM	6/8/2017	2:24 PM	10	to	15	60	60	30.7	117	558	675	0	675	
	6/8/2017	2:31 PM	6/8/2017	2:52 PM	15	to	20	100	90	32.1	117	558	675	0	675	
	6/8/2017	2:56 PM	6/8/2017	3:11 PM	20	to	25	200	180	45.0	117	558	675	0	675	
	6/8/2017	3:17 PM	6/8/2017	3:32 PM	25	to	30	220	200	45.0	117	558	675	0	675	
	6/9/2017	7:41 AM	6/9/2017	7:55 AM	30	to	35	200	180	43.6	105	505	610	0	610	
	6/9/2017	8:06 AM	6/9/2017	8:19 AM	35	to	40	200	170	46.9	105	505	610	0	610	
	6/9/2017	8:25 AM	6/9/2017	8:39 AM	40	to	45	200	200	43.6	105	505	610	0	610	
	6/9/2017	8:45 AM	6/9/2017	9:01 AM	45	to	50	250	230	38.1	105	505	610	0	610	
	6/9/2017	9:07 AM	6/9/2017	9:25 AM	50	to	55	280	250	37.5	117	558	675	0	675	
TOTALS											1,004	4,811	5,815	0	5,815	
IP-6	6/16/2017	8:00 AM	6/16/2017	8:22 AM	10	to	15	190	190	30.7	117	558	675	0	675	
	6/16/2017	8:27 AM	6/16/2017	8:56 AM	15	to	20	280	250	34.8	174	836	1,010	0	1,010	
	6/16/2017	9:00 AM	6/16/2017	9:23 AM	20	to	25	200	190	43.9	174	836	1,010	0	1,010	
	6/16/2017	9:28 AM	6/16/2017	9:52 AM	25	to	30	220	200	42.1	174	836	1,010	0	1,010	
	6/16/2017	9:57 AM	6/16/2017	10:12 AM	30	to	35	200	200	40.7	105	505	610	0	610	
	6/16/2017	10:16 AM	6/16/2017	10:32 AM	35	to	40	230	200	38.1	105	505	610	0	610	
	6/16/2017	10:38 AM	6/16/2017	10:54 AM	40	to	45	250	240	38.1	105	505	610	0	610	
	6/16/2017	11:00 AM	6/16/2017	11:21 AM	45	to	50	290	290	29.0	105	505	610	0	610	
	6/16/2017	11:27 AM	6/16/2017	12:02 PM	50	to	55	340	340	28.9	174	836	1,010	0	1,010	
	6/16/2017	12:06 PM	6/16/2017	12:32 PM	55	to	60	340	340	38.8	174	836	1,010		1,010	
TOTALS											1,410	6,755	8,165	0	8,165	



# INJECTION FIELD LOGS

PROJECT NAME/NUMBER: PHIBRO-TECH FACILITY, SANTA FE SPRINGS/304-17-1068

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		5% CPS Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
											29% Calcium Polysulfide (Gallons)	Water (Gallons)				
IP-7	6/15/2017	11:26 AM	6/15/2017	11:42 AM	10	to	15	150	150	42.2	117	558	675	0	675	
	6/15/2017	11:48 AM	6/15/2017	12:12 PM	15	to	20	200	200	42.1	174	836	1,010	0	1,010	
	6/15/2017	12:20 PM	6/15/2017	12:44 PM	20	to	25	200	170	42.1	174	836	1,010	0	1,010	
	6/15/2017	12:48 PM	6/15/2017	1:15 PM	25	to	30	230	230	37.4	174	836	1,010	0	1,010	
	6/15/2017	1:20 PM	6/15/2017	1:38 PM	30	to	35	250	240	33.9	105	505	610	0	610	
	6/15/2017	1:44 PM	6/15/2017	2:04 PM	35	to	40	280	280	30.5	105	505	610	0	610	
	6/15/2017	2:08 PM	6/15/2017	2:27 PM	40	to	45	270	270	32.1	105	505	610	0	610	
	6/15/2017	2:38 PM	6/15/2017	2:57 PM	45	to	50	300	290	32.1	105	505	610	0	610	
	6/15/2017	3:07 PM	6/15/2017	3:40 PM	50	to	55	320	300	30.6	174	836	1,010	0	1,010	
	6/16/2017	6:45 AM	6/16/2017	7:15 AM	55	to	60	310	290	33.7	174	836	1,010	0	1,010	
TOTALS											1,410	6,755	8,165	0	8,165	
IP-8	6/7/2017	2:21 PM	6/7/2017	2:45 PM	10	to	15	200	150	28.1	117	558	675	0	675	
	6/7/2017	2:53 PM	6/7/2017	3:13 PM	15	to	20	150	140	33.8	117	558	675	0	675	
	6/7/2017	3:19 PM	6/7/2017	3:38 PM	20	to	25	230	230	35.5	117	558	675	0	675	
	6/7/2017	3:41 PM	6/7/2017	3:59 PM	25	to	30	250	240	37.5	117	558	675	0	675	
	6/8/2017	11:12 AM	6/8/2017	11:31 AM	30	to	35	310	310	32.1	105	505	610	0	610	
	6/8/2017	11:42 AM	6/8/2017	11:56 AM	35	to	40	330	310	43.6	105	505	610	0	610	
	6/8/2017	12:04 PM	6/8/2017	12:20 PM	40	to	45	280	220	38.1	105	505	610	0	610	
	6/8/2017	12:28 PM	6/8/2017	12:46 PM	45	to	50	350	350	33.9	105	505	610	0	610	
	6/8/2017	12:52 PM	6/8/2017	1:14 PM	50	to	55	400	380	30.7	117	558	675	0	675	
	6/8/2017	1:21 PM	6/8/2017	1:39 PM	55	to	60	550	550	-	-	-	-	-	-	
TOTALS											1,004	4,811	5,815	0	5,815	

# INJECTION FIELD LOGS

PROJECT NAME/NUMBER: PHIBRO-TECH FACILITY, SANTA FE SPRINGS/304-17-1068

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		5% CPS Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
											29% Calcium Polysulfide (Gallons)	Water (Gallons)				
IP-9	6/6/2017	1:09 PM	6/6/2017	1:46 PM	10	to	15	80	50	18.2	117	558	675	0	675	
	6/6/2017	1:52 PM	6/6/2017	2:19 PM	15	to	20	50	50	25.0	117	558	675	0	675	
	6/6/2017	2:23 PM	6/6/2017	2:48 PM	20	to	25	90	90	27.0	117	558	675	0	675	
	6/6/2017	2:54 PM	6/6/2017	3:13 PM	25	to	30	200	180	35.5	117	558	675	0	675	
	6/6/2017	3:19 PM	6/6/2017	3:36 PM	30	to	35	120	120	35.9	105	505	610	0	610	
	6/6/2017	3:42 PM	6/6/2017	3:58 PM	35	to	40	140	120	38.1	105	505	610	0	610	X
	6/6/2017	4:04 PM	6/6/2017	4:20 PM	40	to	45	140	120	38.1	105	505	610	0	610	
	6/7/2017	8:15 AM	6/7/2017	8:41 AM	45	to	50	150	130	23.5	105	505	610	0	610	
	6/7/2017	8:48 AM	6/7/2017	9:06 AM	50	to	55	150	150	37.5	117	558	675	0	675	
TOTALS											1,004	4,811	5,815	0	5,815	
IP-10	6/7/2017	9:29 AM	6/7/2017	9:51 AM	10	to	15	150	140	30.7	117	558	675	0	675	
	6/7/2017	10:07 AM	6/7/2017	10:28 AM	15	to	20	350	250	32.1	117	558	675	0	675	
	6/7/2017	10:49 AM	6/7/2017	11:12 AM	20	to	25	250	220	29.3	117	558	675	0	675	
	6/7/2017	11:22 AM	6/7/2017	11:54 AM	25	to	30	350	350	21.1	117	558	675	0	675	
	6/7/2017	12:00 PM	6/7/2017	12:17 PM	30	to	35	240	220	35.9	105	505	610	0	610	
	6/7/2017	12:25 PM	6/7/2017	12:39 PM	35	to	40	250	230	43.6	105	505	610	0	610	
	6/7/2017	1:02 PM	6/7/2017	1:16 PM	40	to	45	200	200	43.6	105	505	610	0	610	
	6/7/2017	1:26 PM	6/7/2017	1:41 PM	45	to	50	250	250	40.7	105	505	610	0	610	
	6/7/2017	1:48 PM	6/7/2017	2:04 PM	50	to	55	250	250	42.2	117	558	675	0	675	
TOTALS											1,005	4,810	5,815	0	5,815	



# INJECTION FIELD LOGS

PROJECT NAME/NUMBER: PHIBRO-TECH FACILITY, SANTA FE SPRINGS/304-17-1068

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		5% CPS Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
											29% Calcium Polysulfide (Gallons)	Water (Gallons)				
IP-11	6/20/2017	1:22 PM	6/20/2017	1:43 PM	10	to	15	220	200	32.1	117	558	675	0	675	
	6/20/2017	1:51 PM	6/20/2017	2:13 PM	15	to	20	250	250	31.7	120	577	697	0	697	X
	6/20/2017	-	6/20/2017	-	20	to	30	-	-	-	-	-	-	-	-	
	6/22/2017	7:10 AM	6/22/2017	7:42 AM	31	to	36	400	380	19.1	105	505	610	0	610	
	6/22/2017	7:47 AM	6/22/2017	8:05 AM	36	to	41	280	280	33.9	105	505	610	0	610	
	6/22/2017	8:11 AM	6/22/2017	8:27 AM	41	to	46	300	270	38.1	105	505	610	0	610	
	6/22/2017	8:34 AM	6/22/2017	8:49 AM	46	to	51	240	220	40.7	105	505	610	0	610	
	6/22/2017	8:56 AM	6/22/2017	9:30 AM	51	to	56	370	300	29.7	174	836	1,010	0	1,010	
	6/22/2017	9:37 AM	6/22/2017	10:07 AM	56	to	61	340	300	33.7	174	836	1,010	0	1,010	
TOTALS											1,007	4,825	5,832	0	5,832	

IP-12	6/13/2017	8:56 AM	6/13/2017	9:17 AM	10	to	15	120	120	32.1	117	558	675	0	675	X
	6/13/2017	9:45 AM	6/13/2017	9:53 AM	15	to	20	100	100	19.5	27	129	156	0	156	X
	6/13/2017	-	6/13/2017	-	20	to	30	-	-	-	0	0	0	0	0	
	6/13/2017	10:22 AM	6/13/2017	10:37 AM	31	to	36	220	220	40.7	105	505	610	0	610	
	6/13/2017	10:43 AM	6/13/2017	10:59 AM	36	to	41	240	230	38.1	105	505	610	0	610	
	6/13/2017	11:06 AM	6/13/2017	11:21 AM	41	to	46	200	200	40.7	105	505	610	0	610	
	6/13/2017	11:31 AM	6/13/2017	11:46 AM	46	to	51	220	220	40.7	105	505	610	0	610	
	6/13/2017	11:52 AM	6/13/2017	12:21 PM	51	to	56	250	250	34.8	174	836	1,010	0	1,010	
	6/13/2017	12:37 PM	6/13/2017	1:05 PM	56	to	61	350	240	36.1	174	836	1,010	0	1,010	
TOTALS											914	4,377	5,291	0	5,291	

# INJECTION FIELD LOGS

PROJECT NAME/NUMBER: PHIBRO-TECH FACILITY, SANTA FE SPRINGS/304-17-1068

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		5% CPS Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
											29% Calcium Polysulfide (Gallons)	Water (Gallons)				
IP-13	6/27/2017	-	6/27/2017	-	10	to	30	-	-	-	-	-	-	-	-	
	6/27/2017	7:09 AM	6/27/2017	7:31 AM	31	to	36	200	200	27.7	105	505	610	0	610	
	6/27/2017	7:37 AM	6/27/2017	7:55 AM	36	to	41	180	180	33.9	105	505	610	0	610	
	6/27/2017	8:00 AM	6/27/2017	8:14 AM	41	to	46	230	210	43.6	105	505	610	0	610	
	6/27/2017	8:27 AM	6/27/2017	8:41 AM	46	to	51	230	220	43.6	105	505	610	0	610	
	6/27/2017	8:46 AM	6/27/2017	9:07 AM	51	to	56	250	250	48.1	174	836	1,010	0	1,010	
	6/27/2017	9:15 AM	6/27/2017	9:24 AM	56	to	61	250	250	39.3	61	293	354	0	354	X
TOTALS											657	3,147	3,804	0	3,804	
IP-14	6/22/2017	11:00 AM	6/22/2017	11:26 AM	10	to	15	100	90	26.0	117	558	675	0	675	
	6/22/2017	11:35 AM	6/22/2017	12:21 PM	15	to	20	90	90	22.0	174	836	1,010	0	1,010	
	6/22/2017	12:33 PM	6/22/2017	1:17 PM	20	to	25	250	250	23.0	174	836	1,010	0	1,010	
	6/22/2017	1:27 PM	6/22/2017	2:12 PM	25	to	30	370	340	22.4	174	836	1,010	0	1,010	
	6/22/2017	2:21 PM	6/22/2017	2:43 PM	30	to	35	250	250	13.0	49	237	286	0	286	X
	6/23/2017	7:08 AM	6/23/2017	7:25 AM	35	to	40	330	310	35.9	105	505	610	0	610	
	6/23/2017	7:33 AM	6/23/2017	7:49 AM	40	to	45	300	280	38.1	105	505	610	0	610	
	6/23/2017	7:58 AM	6/23/2017	8:22 AM	45	to	50	350	350	25.4	105	505	610	0	610	
	6/23/2017	8:31 AM	6/23/2017	9:08 AM	50	to	55	340	300	27.3	174	836	1,010	0	1,010	
	6/23/2017	9:14 AM	6/23/2017	10:05 AM	55	to	60	380	300	26.2	230	1,104	1,334	0	1,334	
TOTALS											1,410	6,755	8,165	0	8,165	



## INJECTION FIELD LOGS

PROJECT NAME/NUMBER: PHIBRO-TECH FACILITY, SANTA FE SPRINGS/304-17-1068

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		5% CPS Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
											29% Calcium Polysulfide (Gallons)	Water (Gallons)				
IP-15	6/27/2017	-	6/27/2017	-	10	to	30	-	-	-	-	-	-	-	-	
	6/27/2017	1:55 PM	6/27/2017	2:13 PM	31	to	36	290	280	33.9	105	505	610	0	610	
	6/27/2017	2:20 PM	6/27/2017	2:40 PM	36	to	41	200	200	30.5	105	505	610	0	610	
	6/27/2017	2:49 PM	6/27/2017	3:09 PM	41	to	46	200	200	30.5	105	505	610	0	610	
	6/28/2017	7:20 AM	6/28/2017	7:47 AM	46	to	51	300	220	22.6	105	505	610	0	610	
	6/28/2017	7:54 AM	6/28/2017	8:32 AM	51	to	56	320	300	26.6	174	836	1,010	0	1,010	
	6/28/2017	8:38 AM	6/28/2017	9:14 AM	56	to	61	350	310	28.1	174	836	1,010	0	1,010	
TOTALS											770	3,690	4,460	0	4,460	
IP-16	6/26/2017	-	6/26/2017	-	10	to	30	-	-	-	-	-	-	-	-	
	6/26/2017	1:08 PM	6/26/2017	1:22 PM	31	to	36	220	200	43.6	105	505	610	0	610	
	6/26/2017	1:30 PM	6/26/2017	1:44 PM	36	to	41	250	220	43.6	105	505	610	0	610	
	6/26/2017	1:49 PM	6/26/2017	2:04 PM	41	to	46	230	230	40.7	105	505	610	0	610	
	6/26/2017	2:11 PM	6/26/2017	2:25 PM	46	to	51	210	210	43.6	105	505	610	0	610	
	6/26/2017	2:37 PM	6/26/2017	3:05 PM	51	to	56	250	230	36.1	174	836	1,010	0	1,010	
	TOTALS										596	2,854	3,450	0	3,450	

# INJECTION FIELD LOGS

PROJECT NAME/NUMBER: PHIBRO-TECH FACILITY, SANTA FE SPRINGS/304-17-1068

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		5% CPS Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
											29% Calcium Polysulfide (Gallons)	Water (Gallons)				
IP-17	6/9/2017	11:35 AM	6/9/2017	11:51 AM	10	to	15	150	150	42.2	117	558	675	0	675	
	6/9/2017	11:55 AM	6/9/2017	12:10 PM	15	to	20	120	120	45.0	117	558	675	0	675	
	6/9/2017	12:15 PM	6/9/2017	12:33 PM	20	to	25	200	200	37.5	117	558	675	0	675	
	6/9/2017	12:38 PM	6/9/2017	12:56 PM	25	to	30	200	200	37.5	117	558	675	0	675	
	6/9/2017	1:02 PM	6/9/2017	1:17 PM	30	to	35	180	160	40.7	105	505	610	0	610	
	6/9/2017	1:24 PM	6/9/2017	1:39 PM	35	to	40	180	180	40.7	105	505	610	0	610	
	6/9/2017	1:46 PM	6/9/2017	2:02 PM	40	to	45	210	210	38.1	105	505	610	0	610	
	6/9/2017	2:07 PM	6/9/2017	2:24 PM	45	to	50	190	190	35.9	105	505	610	0	610	
	6/9/2017	2:30 PM	6/9/2017	2:49 PM	50	to	55	240	240	35.5	117	558	675	0	675	
	6/9/2017	2:54 PM	6/9/2017	3:13 PM	55	to	60	400	250	35.5	117	558	675	0	675	
TOTALS											1,121	5,369	6,490	0	6,490	
IP-18	6/27/2017	-	6/27/2017	-	10	to	30	-	-	-	-	-	-	-	-	
	6/27/2017	10:27 AM	6/27/2017	10:43 AM	31	to	36	200	180	38.1	105	505	610	0	610	
	6/27/2017	10:51 AM	6/27/2017	11:05 AM	36	to	41	200	190	43.6	105	505	610	0	610	
	6/27/2017	11:12 AM	6/27/2017	11:27 AM	41	to	46	200	200	40.7	105	505	610	0	610	
	6/27/2017	11:34 AM	6/27/2017	11:48 AM	46	to	51	240	240	43.6	105	505	610	0	610	
	6/27/2017	11:54 AM	6/27/2017	12:18 PM	51	to	56	260	260	42.1	174	836	1,010	0	1,010	
	6/27/2017	12:24 PM	6/27/2017	1:01 PM	56	to	61	360	300	27.3	174	836	1,010	0	1,010	
TOTALS											770	3,690	4,460	0	4,460	



# INJECTION FIELD LOGS

PROJECT NAME/NUMBER: PHIBRO-TECH FACILITY, SANTA FE SPRINGS/304-17-1068

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		5% CPS Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
											29% Calcium Polysulfide (Gallons)	Water (Gallons)				
IP-19	6/26/2017	-	6/26/2017	-	10	to	30	-	-	-	-	-	-	-	-	
	6/26/2017	9:04 AM	6/26/2017	9:39 AM	31	to	36	500	480	17.4	105	505	610	0	610	
	6/26/2017	10:22 AM	6/26/2017	10:40 AM	36	to	41	510	280	33.9	105	505	610	0	610	
	6/26/2017	10:48 AM	6/26/2017	11:01 AM	41	to	46	280	250	46.9	105	505	610	0	610	
	6/26/2017	11:07 AM	6/26/2017	11:21 AM	46	to	51	300	250	43.6	105	505	610	0	610	
	6/26/2017	11:25 AM	6/26/2017	11:50 AM	51	to	56	310	260	40.4	174	836	1,010	0	1,010	
	6/26/2017	11:56 AM	6/26/2017	12:21 PM	56	to	61	320	280	40.4	174	836	1,010		1,010	
TOTALS											770	3,690	4,460	0	4,460	
IP-20	6/15/2017	-	6/15/2017	-	10	to	25	-	-	-	-	-	-	-	-	
	6/15/2017	7:27 AM	6/15/2017	8:25 AM	25	to	30	440	410	17.4	174	836	1,010	0	1,010	
	6/15/2017	8:33 AM	6/15/2017	8:51 AM	30	to	35	280	240	33.9	105	505	610	0	610	
	6/15/2017	9:02 AM	6/15/2017	9:17 AM	35	to	40	220	200	40.7	105	505	610	0	610	
	6/15/2017	9:22 AM	6/15/2017	9:38 AM	40	to	45	200	200	38.1	105	505	610	0	610	
	6/15/2017	9:50 AM	6/15/2017	10:06 AM	45	to	50	220	220	38.1	105	505	610	0	610	
	6/15/2017	10:12 AM	6/15/2017	10:39 AM	50	to	55	250	240	37.4	174	836	1,010	0	1,010	
TOTALS											770	3,690	4,460	0	4,460	
IP-21	6/28/2017	-	6/28/2017	-	10	to	30	-	-	-	-	-	-	-	-	
	6/28/2017	10:48 AM	6/28/2017	11:11 AM	31	to	36	180	150	26.5	105	505	610	0	610	
	6/28/2017	11:21 AM	6/28/2017	11:39 AM	36	to	41	180	180	33.9	105	505	610	0	610	
	6/28/2017	11:48 AM	6/28/2017	12:10 PM	41	to	46	180	180	27.7	105	505	610	0	610	
	6/28/2017	12:20 PM	6/28/2017	12:43 PM	46	to	51	200	200	26.5	105	505	610	0	610	
	6/28/2017	1:00 PM	6/28/2017	1:39 PM	51	to	56	240	220	25.9	174	836	1,010	0	1,010	
	6/28/2017	1:46 PM	6/28/2017	2:06 PM	56	to	61	300	260	24.8	86	410	496	300	796	
TOTALS											681	3,265	3,946	300	4,246	

# INJECTION FIELD LOGS

PROJECT NAME/NUMBER: PHIBRO-TECH FACILITY, SANTA FE SPRINGS/304-17-1068

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		5% CPS Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
											29% Calcium Polysulfide (Gallons)	Water (Gallons)				
IP-22	6/20/2017	-	6/20/2017	-	10	to	15	-	-	-	-	-	-	-	-	
	6/20/2017	9:23 AM	6/20/2017	9:38 AM	15	to	20	180	180	24.3	63	301	364	0	364	X
	6/20/2017	-	6/20/2017	-	20	to	30	-	-	-	-	-	-	-	-	
	6/20/2017	10:05 AM	6/20/2017	10:22 AM	31	to	36	260	260	35.9	105	505	610	0	610	
	6/20/2017	10:20 AM	6/20/2017	10:43 AM	36	to	41	200	200	26.5	105	505	610	0	610	
	6/20/2017	10:49 AM	6/20/2017	11:04 AM	41	to	46	210	200	40.7	105	505	610	0	610	
	6/20/2017	11:18 AM	6/20/2017	11:33 AM	46	to	51	230	210	40.7	105	505	610	0	610	
	6/20/2017	11:41 AM	6/20/2017	12:08 PM	51	to	56	250	250	37.4	174	836	1,010	0	1,010	
	6/20/2017	12:14 PM	6/20/2017	12:42 PM	56	to	61	250	250	38.8	174	836	1,010		1,010	
TOTALS											833	3,991	4,824	0	4,824	
IP-23	6/9/2017	3:20 PM	6/9/2017	3:42 PM	10	to	15	190	190	30.7	117	558	675	0	675	X
	6/9/2017	-	6/9/2017	-	15	to	20	-	-	-	-	-	-	-	-	
	6/12/2017	6:54 AM	6/12/2017	7:40 AM	20	to	25	450	430	14.7	117	558	675	0	675	
	6/12/2017	8:15 AM	6/12/2017	8:55 AM	25	to	30	470	450	16.9	117	558	675	0	675	
	6/12/2017	9:15 AM	6/12/2017	9:37 AM	30	to	35	400	380	27.7	105	505	610	0	610	
	6/12/2017	9:48 AM	6/12/2017	10:09 AM	35	to	40	430	400	29.0	105	505	610	0	610	
	6/12/2017	10:13 AM	6/12/2017	10:29 AM	40	to	45	420	400	38.1	105	505	610	0	610	
	6/12/2017	10:36 AM	6/12/2017	10:52 AM	45	to	50	380	370	38.1	105	505	610	0	610	
	6/12/2017	10:57 AM	6/12/2017	11:16 AM	50	to	55	300	240	35.5	117	558	675	0	675	
	6/12/2017	11:21 AM	6/12/2017	11:40 AM	55	to	60	400	380	35.5	117	558	675	0	675	
TOTALS											1,004	4,811	5,815	0	5,815	



# INJECTION FIELD LOGS

PROJECT NAME/NUMBER: PHIBRO-TECH FACILITY, SANTA FE SPRINGS/304-17-1068

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		5% CPS Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
											29% Calcium Polysulfide (Gallons)	Water (Gallons)				
IP-24	6/13/2017	1:57 PM	6/13/2017	2:06 PM	10	to	12	160	160	23.3	36	174	210	0	210	X
	6/13/2017	2:21 PM	6/13/2017	2:23 PM	12	to	14	150	150	48.5	17	80	97	0	97	X
	6/13/2017	-	6/13/2017	-	14	to	30	-	-	-	-	-	-	-	-	
	6/13/2017	2:45 PM	6/13/2017	3:02 PM	31	to	36	240	230	35.9	105	505	610	0	610	
	6/13/2017	3:11 PM	6/13/2017	3:27 PM	36	to	41	200	200	38.1	105	505	610	0	610	
	6/14/2017	6:51 AM	6/14/2017	7:06 AM	41	to	46	250	250	40.7	105	505	610	0	610	
	6/14/2017	7:12 AM	6/14/2017	7:27 AM	46	to	51	250	200	40.7	105	505	610	0	610	
	6/14/2017	7:31 AM	6/14/2017	7:58 AM	51	to	56	240	220	37.4	174	836	1,010	0	1,010	
	6/14/2017	8:05 AM	6/14/2017	8:33 AM	56	to	61	300	230	36.1	174	836	1,010	0	1,010	
TOTALS											823	3,944	4,767	0	4,767	
IP-25	6/19/2017	-	6/19/2017	-	10	to	15	-	-	-	-	-	-	-	-	
	6/19/2017	12:42 PM	6/19/2017	1:11 PM	15	to	20	250	250	34.8	174	836	1,010	0	1,010	
	6/19/2017	1:18 PM	6/19/2017	1:44 PM	20	to	25	200	200	38.8	174	836	1,010	0	1,010	
	6/19/2017	1:53 PM	6/19/2017	2:16 PM	25	to	30	200	190	43.9	174	836	1,010	0	1,010	
	6/19/2017	2:22 PM	6/19/2017	2:37 PM	30	to	35	200	200	40.7	105	505	610	0	610	
	6/19/2017	2:42 PM	6/19/2017	2:56 PM	35	to	40	200	180	43.6	105	505	610	0	610	
	6/19/2017	3:01 PM	6/19/2017	3:16 PM	40	to	45	250	250	40.7	105	505	610	0	610	
	6/20/2017	7:15 AM	6/20/2017	7:31 AM	45	to	50	280	261	38.1	105	505	610	0	610	
	6/20/2017	7:39 AM	6/20/2017	8:05 AM	50	to	55	250	240	38.8	174	836	1,010	0	1,010	
	6/20/2017	8:12 AM	6/20/2017	8:38 AM	55	to	60	240	220	38.8	174	836	1,010	0	1,010	
TOTALS											1,293	6,197	7,490	0	7,490	

# INJECTION FIELD LOGS

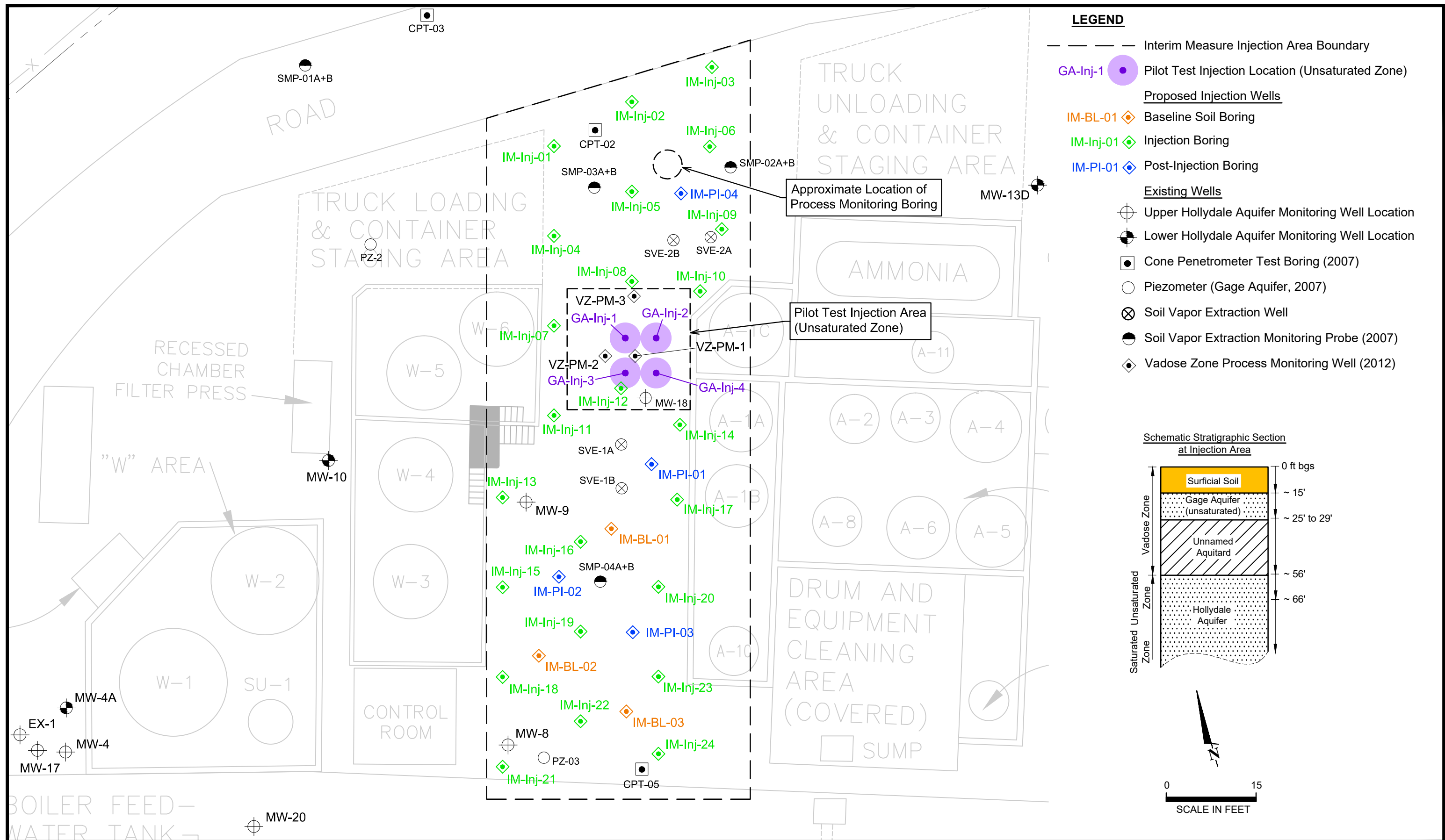
PROJECT NAME/NUMBER: PHIBRO-TECH FACILITY, SANTA FE SPRINGS/304-17-1068

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		5% CPS Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
											29% Calcium Polysulfide (Gallons)	Water (Gallons)				
IP-26	6/16/2017	12:40 PM	6/16/2017	1:06 PM	10	to	15	350	350	26.0	117	558	675	0	675	
	6/16/2017	1:15 PM	6/16/2017	1:40 PM	15	to	20	200	200	40.4	174	836	1,010	0	1,010	X
	6/16/2017	2:02 PM	6/16/2017	2:51 PM	20	to	25	350	330	20.6	174	836	1,010	0	1,010	
	6/19/2017	8:10 AM	6/19/2017	8:55 AM	26	to	31	360	360	22.4	174	836	1,010	0	1,010	
	6/19/2017	9:05 AM	6/19/2017	9:23 AM	31	to	36	300	280	33.9	105	505	610	0	610	
	6/19/2017	9:30 AM	6/19/2017	9:47 AM	36	to	41	250	230	35.9	105	505	610	0	610	
	6/19/2017	9:53 AM	6/19/2017	10:08 AM	41	to	46	220	220	40.7	105	505	610	0	610	
	6/19/2017	10:15 AM	6/19/2017	10:33 AM	46	to	51	300	270	33.9	105	505	610	0	610	
	6/19/2017	10:41 AM	6/19/2017	11:09 AM	51	to	56	250	250	36.1	174	836	1,010	0	1,010	
	6/19/2017	11:14 AM	6/19/2017	11:45 AM	56	to	61	270	270	32.6	174	836	1,010	0	1,010	
TOTALS											1,410	6,755	8,165	0	8,165	
PROJECT TOTALS											16,837	80,672	97,509	300	97,809	



## **APPENDIX B**

### Injection Location Map







## **REMEDATION FIELD SERVICES REPORT**

**ISCR – Calcium Polysulfide Injection**

**Phibro-Tech, Inc. Facility**

**8851 Dice Road**

**Santa Fe Springs, California**

**Date:**

February 11, 2019

**Project Number:**

310-19-1003

**Prepared For:**

Terraphase Engineering Inc.  
1404 Franklin Street, Suite 600  
Oakland, California 94612

**Prepared by:**

Cascade Technical Services  
1225 East McFadden Avenue  
Santa Ana, California 92705  
[WWW.CASCADE-ENV.COM](http://WWW.CASCADE-ENV.COM)

February 11, 2019  
Project No. 310-19-1003

Mr. Chris Alger  
Terraphase Engineering Inc.  
1404 Franklin Street, Suite 600  
Oakland, California 94612

Subject:       **Remediation Field Services Report  
ISCR – Calcium Polysulfide Injection  
Phibro-Tech, Inc. Facility  
8851 Dice Road  
Santa Fe Springs, California**

Dear Mr. Alger,

In accordance with your request and authorization, Cascade Technical Services (Cascade) has performed remediation field services for the subject site. The field services were performed in general accordance with Cascade's proposal dated January 24, 2019.

Cascade appreciates the opportunity to provide our services to you. If you have any questions or comments regarding this report, please contact the undersigned at your convenience.

Respectfully submitted,  
**CASCADE Technical Services**



Michael Gerber  
Remediation Project Manager

Rob Lopez  
Technical Specialist

Distribution: Addressee (via e-mail)

Cc:       Clare Steedman, Terraphase Engineering Inc.  
Don Winglewich, Cascade Technical Services LLC.  
Scott Wisher, Cascade Technical Services LLC.  
Chris Vargas, Cascade Technical Services LLC.  
John McAssey, Cascade Technical Services, LLC.



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**Appendices**

Appendix A – Injection Summary and Logs

Appendix B – Photographs

## 1 INTRODUCTION

Terraphase Engineering Inc. (client), subcontracted Cascade Technical Services (Cascade) to perform remediation field services at the subject site located at 8851 Dice Road in Santa Fe Springs, California. Field services were conducted in general accordance with Cascade's proposal dated January 24, 2019.

## 2 REMEDIATION APPROACH

Utilizing the top-down injection method, a 5-foot long, 1.75-inch diameter injection screen was driven into the subsurface using a Geoprobe® model 80400DT track mounted direct push drilling rig. Following tooling placement, a 7 percent calcium polysulfide (CPS) solution was mixed onsite and pumped via a custom built injection system. The solution was pumped into 13 temporary direct push injection points at depths ranging from approximately 15 to 63 feet below ground surface (bgs). The solution was comprised of approximately 13,800 gallons 29 percent CPS and 56,410 gallons of water.

## 3 PROJECT ACTIVITIES

The following sections describe the field activities conducted at the site. The activities were conducted between January 28 and February 8, 2019.

### 3.1 PRE-MOBILIZATION ACTIVITIES

A site-specific health and safety plan was prepared to address worker and general public safety. Cascade performed multiple readiness and performance tests on all equipment intended for use at the site. Underground Services Alert (USA) was notified at least 48 hours prior to the commencement of field activities and inquiry identification number A190071579 was obtained for Cascade's scope of work.

### 3.2 ONSITE ACTIVITIES

On January 28, 2019, Cascade mobilized a custom-built injection platform and a Geoprobe® model 80400DT track mounted direct push drilling rig to the site. Prior to the commencement of field activities, a tailgate safety meeting was performed. The safety meeting was followed by a site walk to review the proposed injection points marked by the client. The injection platform was placed inside a containment berm located near the target treatment area. The injection area was located within an active processing facility with secure fencing, thus restricting unauthorized access to the work area. Other site control measures consisting of traffic cones and caution tape were implemented to delineate the work area. Spill kits and portable vacuums were placed within the work area for immediate deployment. Injection material transportation and handling were coordinated by Cascade.

The scope of work performed by Cascade included a 25 gallon potable water injection test performed at the first injection point (IP-01). The injection test was done to check for leaks throughout the injection system including the hose fittings and connections. Following the water injection test, Cascade injected a 7 percent CPS solution into 13 temporary injection points. The 7 percent CPS solution was comprised of approximately 13,800 gallons of a 29 percent concentration of CPS and 56,410 gallons of dilution water for a total volume of approximately 70,210 gallons. The solution was injected at depths between 15 and 63 feet bgs, where actual depth varied by point. Each direct push injection point received between 4,460 (IP-04) and 9,900 (IP-14) gallons of the 7 percent CPS solution (see injection logs for details). Minor daylighting (< 5 gallons) was observed at injection points IP-02, IP-03, IP-08, IP-10, and IP-12 at discrete depth intervals (see injection logs for details).

Upon completion of injection of the target reagent volumes at each point, the injection lines were flushed with approximately 300 gallons of potable water. Total volume injected into the 13 temporary direct push points was approximately 70,510 gallons (13,800 gallons of 29 percent CPS, 56,410 gallons of dilution water and 300 gallons of flush water).

Remediation activities were successfully completed on February 8, 2019.



### **3.3 SITE RESTORATION**

Upon completion of injection activities, the boreholes were backfilled with bentonite chips and hydrated. The upper 6-inches of each borehole was filled with concrete to match the existing surface.

Investigation-derived waste was not generated during remediation activities at the site. Other waste (i.e. personal protective equipment, packaging materials, etc.) was collected in large trash bags and disposed as municipal solid waste.

## **4 LIMITATIONS**

The implementation of the scope of work was performed in accordance with the clients design specification as described above (Section 2) and supporting injection logs (Appendix A). Cascade bears no responsibility for remediation results or impact to existing conditions.

## **APPENDIX A**

### Injection Summary and Logs



# INJECTION POINT TOTALS

PROJECT NAME/NUMBER: TERRAPHASE PHIBRO-TECH FACILITY/310-19-1003

INJECTION POINT TOTALS (QUICK-LOOK)									
Well ID:	Start Date	Day Lighting (X)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)	Average Flow Rate (GPM)	Average Pressure (PSI)
			29% CPS (Gallons)	Water (Gallons)					
IP-01	1/29/2019		904	3,696	4,600	-	4,600	40	268
IP-05	1/30/2019		904	3,696	4,600	-	4,600	41	197
IP-02	1/30/2019	X	904	3,696	4,600	-	4,600	41	222
IP-03	1/30/2019	X	904	3,696	4,600	-	4,600	40	209
IP-06	1/31/2019		865	3,535	4,400	-	4,400	38	217
IP-04	2/1/2019		877	3,583	4,460	-	4,460	38	213
IP-08	2/1/2019	X	1,543	6,307	7,850	-	7,850	36	226
IP-07	2/4/2019		1,160	4,740	5,900	-	5,900	34	181
IP-09	2/5/2019		963	3,937	4,900	-	4,900	37	207
IP-10	2/5/2019	X	963	3,937	4,900	-	4,900	35	177
IP-11	2/6/2019		963	3,937	4,900	-	4,900	42	200
IP-12	2/7/2019	X	904	3,696	4,600	-	4,600	33	179
IP-14	2/7/2019		1,946	7,954	9,900	300	10,200	33	173

# WEEKLY PROJECT SUMMARY

PROJECT NAME/NUMBER: TERRAPHASE PHIBRO-TECH FACILITY/310-19-1003

Day	Date	On-site Time	Off-site Time	Wells Completed	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
					29% CPS (Gallons)	Water (Gallons)			
Monday	1/28/2019	7:00 AM	3:30 PM	Mobilization and Setup					
Tuesday	1/29/2019	7:00 AM	5:00 PM	1	904	3,696	4,600	-	4,600
Wednesday	1/30/2019	6:30 AM	4:30 PM	2	1,821	7,441	9,262	-	9,262
Thursday	1/31/2019	6:30 AM	4:30 PM	2	1,756	7,182	8,938	-	8,938
Friday	2/1/2019	6:30 AM	4:30 PM	1	1,736	7,094	8,830	-	8,830

Monday	2/4/2019	7:00 AM	5:00 PM	1	880	3,600	4,480	-	4,480
Tuesday	2/5/2019	6:30 AM	4:30 PM	2	2,123	8,677	10,800	-	10,800
Wednesday	2/6/2019	6:30 AM	4:30 PM	2	1,730	7,070	8,800	-	8,800
Thursday	2/7/2019	6:30 AM	4:30 PM	1	2,339	9,561	11,900	-	11,900
Friday	2/8/2019	6:30 AM	4:30 PM	1	511	2,089	2,600	300	2,900

<b>Totals</b>	13	13,800	56,410	70,210	300	70,510
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## Notes:

PSI - pounds per square inch

GPM - gallons per minute

CPS - calcium polysulfide



INJECTION FIELD LOG

PROJECT NUMBER/NAME: TERRAPHASE PHIBRO-TECH FACILITY/310-19-1003

Well ID	Start Date	Start Time	End Time	Injection Interval (FEET BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)	Day Lighting (X)	Field Notes
										29% CPS (Gallons)	Water (Gallons)					
IP-01	1/29/2019	10:42 AM	10:56 AM	30	to	35	260	260	45.0	128	522	650	-	650		
	1/29/2019	11:17 AM	11:40 AM	35	to	40	250	243	41.0	128	522	650	-	650		
	1/29/2019	12:04 PM	12:24 PM	40	to	45	240	262	38.0	128	522	650	-	650		
	1/29/2019	12:44 PM	1:02 PM	45	to	50	283	283	40.0	128	522	650	-	650		
	1/29/2019	1:48 PM	2:26 PM	50	to	55	296	280	40.0	197	803	1000	-	1,000		
	1/29/2019	2:42 PM	3:11 PM	55	to	60	280	277	38.0	197	803	1000	-	1,000		
TOTALS										904	3696	4600	-	4,600		
IP-05	1/30/2019	7:33 AM	7:50 AM	30	to	35	190	190	40.0	128	522	650	-	650		
	1/30/2019	8:00 AM	8:15 AM	35	to	40	210	210	43.0	128	522	650	-	650		
	1/30/2019	8:32 AM	8:50 AM	40	to	45	200	190	40.0	128	522	650	-	650		
	1/30/2019	9:01 AM	9:15 AM	45	to	50	215	190	45.0	128	522	650	-	650		
	1/30/2019	9:25 AM	9:50 AM	50	to	55	207	207	40.0	197	803	1000	-	1,000		
	1/30/2019	10:05 AM	10:30 AM	55	to	60	300	192	40.0	197	803	1000	-	1,000		
TOTALS										904	3696	4600	-	4,600		
IP-02	1/30/2019	11:38 AM	12:28 PM	30	to	35	220	216	40.0	128	522	650	-	650	X	11:46 AM: Ceased pumping due to day-lighting from IP-05. Re-sealed IP-05 with additional bentonite. 12:20 PM: Resumed pumping.
	1/30/2019	12:35 PM	12:52 PM	35	to	40	260	260	40.0	128	522	650	-	650		
	1/30/2019	1:01 PM	1:17 PM	40	to	45	200	200	40.0	128	522	650	-	650		
	1/30/2019	1:28 PM	1:42 PM	45	to	50	206	206	45.0	128	522	650	-	650		
	1/30/2019	1:55 PM	2:20 PM	50	to	55	226	226	40.0	197	803	1000	-	1,000		
	1/30/2019	2:30 PM	2:55 PM	55	to	60	280	226	40.0	197	803	1000	-	1,000		
TOTALS										904	3696	4600	-	4,600		

INJECTION FIELD LOG

PROJECT NUMBER/NAME: TERRAPHASE PHIBRO-TECH FACILITY/310-19-1003

Well ID	Start Date	Start Time	End Time	Injection Interval (FEET BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)	Day Lighting (X)	Field Notes
										29% CPS (Gallons)	Water (Gallons)					
IP-03	1/30/2019	3:54 PM	7:26 AM	30	to	35	170	170	40.0	128	522	650	-	650	X	3:56 PM: Ceased pumping due to day-lighting from hand augered at IP-04 (62 Gallons). Sealed hand auger loction with granular bentonite and hydrated. Will resume pumping tomorrow
	1/31/2019	7:36 AM	7:54 AM	35	to	40	212	212	40.0	128	522	650	-	650		
	1/31/2019	8:00 AM	8:17 AM	40	to	45	225	225	40.0	128	522	650	-	650		
	1/31/2019	8:24 AM	8:40 AM	45	to	50	225	225	40.0	128	522	650	-	650		
	1/31/2019	8:48 AM	9:14 AM	50	to	55	210	210	40.0	197	803	1000	-	1,000		
	1/31/2019	9:24 AM	9:48 AM	55	to	60	215	211	41.0	197	803	1000	-	1,000		
TOTALS										904	3696	4600	-	4,600		
IP-06	1/31/2019	12:48 PM	1:15 PM	30	to	35	208	208	30.0	88	362	450	-	450		
	1/31/2019	1:26 PM	1:44 PM	35	to	40	213	213	36.0	128	522	650	-	650		
	1/31/2019	1:57 PM	2:13 PM	40	to	45	207	207	40.0	128	522	650	-	650		
	1/31/2019	2:22 PM	2:37 PM	45	to	50	219	219	43.0	128	522	650	-	650		
	1/31/2019	2:50 PM	3:14 PM	50	to	55	278	278	40.0	197	803	1000	-	1,000		
	1/31/2019	3:23 PM	3:50 PM	55	to	60	180	178	37.0	197	803	1000	-	1,000		
TOTALS										865	3535	4400	-	4,400		
IP-04	2/1/2019	7:44 AM	8:12 AM	30	to	35	182	182	30.0	169	691	860	-	860		
	2/1/2019	8:22 AM	8:37 AM	35	to	40	219	219	43.0	128	522	650	-	650		
	2/1/2019	8:46 AM	9:03 AM	40	to	45	208	207	40.0	128	522	650	-	650		
	2/1/2019	9:13 AM	9:30 AM	45	to	50	220	219	40.0	128	522	650	-	650		
	2/1/2019	9:42 AM	9:58 AM	50	to	55	240	240	40.0	128	522	650	-	650		
	2/1/2019	10:09 AM	10:38 AM	55	to	60	400	212	35.0	197	803	1000	-	1,000		
TOTALS										877	3583	4460	-	4,460		



INJECTION FIELD LOG

PROJECT NUMBER/NAME: TERRAPHASE PHIBRO-TECH FACILITY/310-19-1003

Well ID	Start Date	Start Time	End Time	Injection Interval (FEET BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)	Day Lighting (X)	Field Notes
										29% CPS (Gallons)	Water (Gallons)					
IP-08	2/1/2019	12:08 PM	12:54 PM	15	to	20	150	150	25.0	197	803	1000	-	1,000		
	2/1/2019	1:02 PM	1:46 PM	20	to	25	230	230	25.0	197	803	1000	-	1,000		
	2/1/2019	1:53 PM	2:25 PM	25	to	30	260	260	31.0	197	803	1000	-	1,000		
	2/1/2019	2:32 PM	2:46 PM	30	to	33	290	290	43.0	118	482	600	-	600		
	2/1/2019	2:54 PM	3:11 PM	33	to	38	313	313	38.0	128	522	650	-	650		
	2/1/2019	3:21 PM	3:24 PM	38	to	43	264	264	40.0	24	96	120	-	120	X	3:24 PM: Ceased pumping due to day-lighting from annulus of rods.
	2/4/2019	8:00 AM	8:27 AM	38	to	43	146	146	20.0	104	426	530	-	530		2/4/19: Stepped out 2ft and re-drilled location.
	2/4/2019	8:39 AM	8:54 AM	43	to	48	206	206	43.0	128	522	650	-	650		
	2/4/2019	9:08 AM	9:23 AM	48	to	53	212	212	43.0	128	522	650	-	650		
	2/4/2019	9:40 AM	9:54 AM	53	to	58	210	210	46.0	128	522	650	-	650		
	2/4/2019	10:10 AM	10:37 AM	58	to	63	202	202	37.0	197	803	1000	-	1,000		
	TOTALS									1543	6307	7850	-	7,850		
IP-07	2/4/2019	3:58 PM	4:40 PM	23	to	28	113	113	24.0	197	803	1000	-	1,000		
	2/5/2019	7:00 AM	7:22 AM	28	to	33	125	125	30.0	128	522	650	-	650		
	2/5/2019	7:34 AM	7:59 AM	33	to	38	110	110	26.0	128	522	650	-	650		
	2/5/2019	8:07 AM	8:24 AM	38	to	43	192	192	40.0	128	522	650	-	650		
	2/5/2019	8:32 AM	8:49 AM	43	to	48	222	222	40.0	128	522	650	-	650		
	2/5/2019	8:56 AM	9:13 AM	48	to	53	212	212	40.0	128	522	650	-	650		
	2/5/2019	9:22 AM	9:39 AM	53	to	58	225	225	40.0	128	522	650	-	650		
	2/5/2019	9:46 AM	10:15 AM	58	to	63	250	250	35.0	197	803	1000	-	1,000		
	TOTALS									1160	4740	5900	-	5,900		
IP-09	2/5/2019	11:37 AM	11:55 AM	28	to	33	212	212	38.0	128	522	650	-	650		
	2/5/2019	12:00 PM	12:16 PM	33	to	38	211	211	41.0	128	522	650	-	650		
	2/5/2019	12:22 PM	12:38 PM	38	to	43	225	225	41.0	128	522	650	-	650		
	2/5/2019	12:45 PM	1:01 PM	43	to	48	255	255	41.0	128	522	650	-	650		
	2/5/2019	1:08 PM	1:44 PM	48	to	53	176	112	20.0	128	522	650	-	650		
	2/5/2019	1:57 PM	2:15 PM	53	to	58	146	146	36.0	128	522	650	-	650		
	2/5/2019	2:24 PM	2:48 PM	58	to	63	286	286	41.0	197	803	1000	-	1,000		
	TOTALS									963	3937	4900	-	4,900		

INJECTION FIELD LOG

PROJECT NUMBER/NAME: TERRAPHASE PHIBRO-TECH FACILITY/310-19-1003

Well ID	Start Date	Start Time	End Time	Injection Interval (FEET BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)	Day Lighting (X)	Field Notes
										29% CPS (Gallons)	Water (Gallons)					
IP-10	2/5/2019	3:44 PM	4:15 PM	23	to	28	173	173	38.0	197	803	1000	-	1,000		
	2/6/2019	7:04 AM	7:21 AM	28	to	33	205	205	40.0	128	522	650	-	650		
	2/6/2019	7:28 AM	7:45 AM	33	to	38	194	194	40.0	128	522	650	-	650		
	2/6/2019	7:50 AM	8:07 AM	38	to	43	172	172	40.0	128	522	650	-	650		
	2/6/2019	8:15 AM	8:33 AM	43	to	48	212	212	36.0	128	522	650	-	650		
	2/6/2019	8:42 AM	9:22 AM	48	to	53	50	50	17.0	128	522	650	-	650	X	8:45 AM: Stop due to day-lighting. 8:50 AM: Resume pumping at reduced flow rate.
	2/6/2019	9:37 AM	9:55 AM	53	to	58	230	230	36.0	128	522	650	-	650		
TOTALS										963	3937	4900	-	4,900		
IP-11	2/6/2019	11:42 AM	12:04 PM	23	to	28	300	213	46.0	197	803	1000	-	1,000		
	2/6/2019	12:14 PM	12:28 PM	28	to	33	270	201	46.0	128	522	650	-	650		
	2/6/2019	12:35 PM	12:50 PM	33	to	38	214	214	43.0	128	522	650	-	650		
	2/6/2019	1:03 PM	1:19 PM	38	to	43	191	191	41.0	128	522	650	-	650		
	2/6/2019	1:33 PM	1:50 PM	43	to	48	191	191	38.0	128	522	650	-	650		
	2/6/2019	2:02 PM	2:18 PM	48	to	53	191	191	41.0	128	522	650	-	650		
	2/6/2019	2:28 PM	2:45 PM	53	to	58	198	198	38.0	128	522	650	-	650		
TOTALS										963	3937	4900	-	4,900		
IP-12	2/7/2019	7:00 AM	7:27 AM	25	to	30	228	228	37.0	197	803	1000	-	1,000		
	2/7/2019	7:33 AM	7:59 AM	30	to	35	222	222	39.0	197	803	1000	-	1,000		
	2/7/2019	8:06 AM	8:23 AM	35	to	40	190	190	38.0	128	522	650	-	650		
	2/7/2019	8:30 AM	8:52 AM	40	to	45	197	197	30.0	128	522	650	-	650		
	2/7/2019	9:23 AM	9:49 AM	45	to	50	110	110	25.0	128	522	650	-	650	X	Day-lighting from annulus. Reduced flow rate to 25 gpm.
	2/7/2019	9:58 AM	10:21 AM	50	to	55	126	126	28.0	128	522	650	-	650		
TOTALS										904	3696	4600	-	4,600		



INJECTION FIELD LOG

PROJECT NUMBER/NAME: TERRAPHASE PHIBRO-TECH FACILITY/310-19-1003

Well ID	Start Date	Start Time	End Time	Injection Interval (FEET BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)	Day Lighting (X)	Field Notes
										29% CPS (Gallons)	Water (Gallons)					
IP-14	2/7/2019	11:49 AM	12:17 PM	25	to	30	182	182	36.0	197	803	1000	-	1,000		
	2/7/2019	12:26 PM	4:00 PM	30	to	35	163	163	30.0	1238	5062	6300	-	6,300		
	2/8/2019	6:50 AM	7:10 AM	35	to	40	152	152	33.0	128	522	650	-	650		
	2/8/2019	7:16 AM	7:35 AM	40	to	45	163	163	35.0	128	522	650	-	650		
	2/8/2019	7:43 AM	8:13 AM	45	to	50	172	172	22.0	128	522	650	-	650		
	2/8/2019	8:30 AM	8:59 AM	50	to	55	193	193	25.0	128	522	650	300	950		
TOTALS										1946	7954	9900	300	10,200		

## **APPENDIX B**

### Photographs





1. 01/28/2019 Pre-Injection Site Conditions



2. 01/28/2019 Pre-Injection Site Conditions



3. Site Setup and Layout



4. Site Setup and Layout



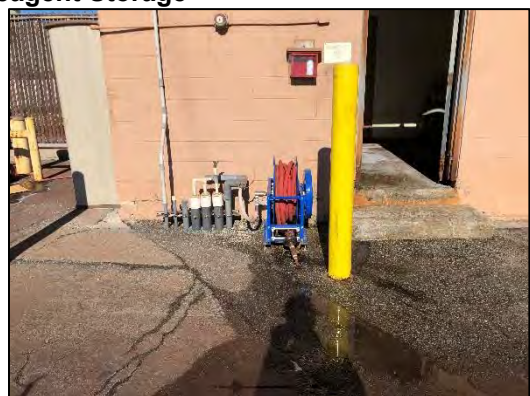
5. Reagent Storage



6. Reagent Storage



7. Hand Clearing Injection Point to 5 feet BGS



8. 02/08/2019 Post Injection Site Conditions



## REMEDIATION FIELD SERVICES REPORT

Phibro-Tech, Inc. Facility  
8851 Dice Road  
Santa Fe Springs, California 90670

**Date:**

September 23, 2019

**Project Number:**

304-19-1090

**Prepared For:**

Terraphase Engineering Inc.  
18401 Von Karmen Avenue, Suite 410  
Irvine, California 92612

**Prepared by:**

Cascade Technical Services  
1225 East McFadden Avenue  
Santa Ana, California 92705  
[WWW.CASCADE-ENV.COM](http://WWW.CASCADE-ENV.COM)





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September 23, 2019  
Project No. 304-19-1090

Clare Steedman, P.G.  
Terraphase Engineering Inc.  
18401 Von Karmen Avenue, Suite 410  
Irvine, California 92612

Subject: Remediation Field Services Report  
Phibro-Tech, Inc. Facility  
8851 Dice Road  
Santa Fe Springs, California 90670

In accordance with your request and authorization, Cascade Technical Services (Cascade) has performed remediation field services for the subject site. The field services were performed in general accordance with Cascade's proposal dated August 16, 2019.

Cascade appreciates the opportunity to provide our services to you. If you have any questions or comments regarding this report, please contact the undersigned at your convenience.

Respectfully submitted,  
Cascade Technical Services

Justin Mulford  
Project Manager

Distribution: (2) Addressee (via e-mail) ([chris.alger@terraphase.com](mailto:chris.alger@terraphase.com))  
([clare.steedman@terraphase.com](mailto:clare.steedman@terraphase.com))

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**Appendices**

Appendix A – Injection Summary and Logs

Appendix B – Photographs

Appendix C – Injection Location Maps



## 1 INTRODUCTION

Terraphase Engineering Inc. (client), subcontracted Cascade Technical Services (Cascade) to perform remediation field services at the subject site located at 8851 Dice Road, Santa Fe Springs, CA 90670. Field services were conducted in general accordance with Cascade's proposal dated August 16, 2019.

## 2 REMEDIATION APPROACH

Utilizing the top-down injection method, a 5-foot long, 1.75-inch diameter injection screen was driven into the subsurface using a Geoprobe® model 8040DT track mounted direct push drilling rig. Following tooling placement, a seven (7) percent calcium polysulfide (cps) solution comprised of approximately 42,455 gallons of 29 (twenty-nine) percent cps and approximately 167,370 gallons of potable water was injected into 22 (twenty-two) temporary direct push injection points. The solution was mixed on-site using a custom built injection system and then injected through the tooling into the subsurface at intervals ranging from 10 (ten) feet below ground surface (bgs) to 71 (seventy-one) feet bgs, where total depth and number of intervals varied location to location (see Appendix A for details).

## 3 PROJECT ACTIVITIES

The following sections describe the field activities conducted at the site. The activities were conducted between August 26, 2019 and September 20, 2019.

### 3.1 PRE-MOBILIZATION ACTIVITIES

A site-specific health and safety plan was prepared to address worker and general public safety. Underground Services Alert (USA) was notified at least 48 hours prior to the commencement of field activities and inquiry identification number A192340181-00A was obtained for Cascade's scope of work.

### 3.2 ONSITE ACTIVITIES

On August 26, 2019, Cascade mobilized a custom-built injection setup and a Geoprobe® model 8040DT track mounted direct push drilling rig to the site. Prior to the commencement of field activities, a tailgate safety meeting was performed. The safety meeting was followed by a site walk to review the proposed injection points marked by the client. The injection system was placed inside a containment berm located at the north end of the Phibro-Tech, Inc. facility. Site control measures consisting of traffic cones and caution tape were implemented to delineate the work area. Spill kits and portable vacuums were placed within the work area for immediate deployment. Injection material transportation and handling were coordinated by Cascade.

The scope of work performed by Cascade included a 10-gallon potable water injection test performed at injection well P1INJ-D4. The injection test was done to check for leaks throughout the injection system including the hose fittings and connections.

The scope of work performed by Cascade included the injection of a seven (7) percent calcium polysulfide (cps) solution into 22 (twenty-two) temporary injection points. Calcium polysulfide solution was applied at depths between 10 and 71 feet below ground surface (bgs), where actual total depth varied by injection point (see Appendix A for details). Each direct push injection point received between 4,750 gallons of the seven (7) percent cps solution and 14,500 gallons of the seven (7) percent cps solution (see injection logs for details).

Minor daylighting was observed at injection wells P1INJ-D4, P1INJ-B2, P1INJ-A2, and P1INJ-A4. As a result, injection rates were slowed in an attempt to control the daylighting, this process was successful at both P1INJ-D4 and P1INJ-B2. Daylighting continued at both P1INJ-A2 and P1INJ-A4 after the flow rate had been reduced, per the clients request Cascade stopped injections to drill to a deeper interval where the remaining volume from the upper intervals was injected (see Appendix A for details).

Upon completion of injection of the target reagent volumes at each point, the injection rods were pulled and surface was patched to match existing area. Total volume injected into the 22 (twenty-two) temporary direct push points was approximately 208,825 gallons of seven percent calcium polysulfide solution.

Remediation activities were successfully completed on September 20, 2019.

### **3.3 SITE RESTORATION**

Upon completion of injection activities, the boreholes were backfilled with bentonite chips and hydrated. The upper 3-feet of each borehole in Pond 1 was filled with surrounding surface soil to match the existing site conditions. The upper 6-inches of each borehole of locations outside of Pond 1 was filled with concrete to match the existing surface.

Investigation-derived waste was not generated during remediation activities at the site. Other waste (i.e. personal protective equipment, packaging materials, etc.) was collected in large trash bags and disposed as municipal solid waste.

## **4 LIMITATIONS**

The implementation of the scope of work was performed in accordance with the clients design specification as described above (Section 2) and supporting injection logs (Appendix A). Cascade bears no responsibility for remediation results or impact to existing conditions.



## **APPENDIX A**

### Injection Summary and Logs

## DAILY INJECTION POINT TOTALS

PROJECT NAME/NUMBER: Phibro-Tech Facility/304-19-1090

FIELD LOG TAB #1								
Well ID:	Start Date	Mark (X) For any Day Lighting	Depth Complete (Bottom of Interval)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
				29% CPS (Gallons)	Water (Gallons)			
P1INJ-D4	9/9/2019	x	71'	2,817	11,103	13,920	0	13,920
P1INJ-D1	9/9/2019		71'	2,841	11,199	14,040	0	14,040
P1INJ-D2	9/9/2019		57'	1,930	7,610	9,540	0	9,540
P1INJ-C1	9/9/2019		56'	1,360	5,360	6,720	0	6,720
P1INJ-B1	9/9/2019		56.5'	1,657	6,533	8,190	0	8,190
P1INJ-C2	9/9/2019		56'	1,845	7,275	9,120	0	9,120
P1INJ-D3	9/9/2019		57'	1,639	6,461	8,100	0	8,100
P1INJ- C3	9/9/2019		56'	1,888	7,442	9,330	0	9,330
P1INJ-B2	9/9/2019	x	56'	1,845	7,275	9,120	0	9,120
P1INJ-A2	9/9/2019	x	56'	1,894	7,466	9,360	0	9,360
P1INJ-B3	9/9/2019		71'	2,835	11,175	14,010	0	14,010
P1INJ-C4	9/9/2019		71'	2,373	9,357	11,730	0	11,730
P1INJ-B4	9/9/2019		71'	2,525	9,955	12,480	0	12,480
P1INJ-A4	9/9/2019	x	71'	2,437	9,608	12,046	0	12,046
INJS-01	9/9/2019		26'	2,023	7,977	10,000	0	10,000
INJS-02	9/9/2019		20'	2,023	7,977	10,000	0	10,000
P1INJ-A3	9/9/2019		71'	2,941	11,593	14,534	0	14,534
INJS-03	9/9/2019		30'	961	3,789	4,750	0	4,750
INJS-04	9/9/2019		60'	1,062	4,188	5,250	0	5,250
INJS-05	9/9/2019		55'	1,012	3,988	5,000	0	5,000
INJS-06	9/9/2019		70'	2,455	9,680	12,135	0	12,135
INJS-07	9/9/2019		32'	91	359	450	0	450



## WEEKLY PROJECT SUMMARY

**PROJECT NAME/NUMBER:** Phibro-Tech Facility/304-19-1090

Day	Date	On-site Time	Off-site Time	Wells Completed	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
					29% CPS (Gallons)	Water (Gallons)			
Monday	8/26/2019	7:00 AM	4:00 PM	Setup Day					
Tuesday	8/27/2019	6:00 AM	4:30 PM	0	789	3,111	3,900		3,900
Wednesday	8/28/2019	6:00 AM	4:30 PM	1	3,581	14,119	17,700		17,700
Thursday	8/29/2019	6:00 AM	4:30 PM	3	3,478	13,712	17,190		17,190
Friday	8/30/2019	6:00 AM	3:30 PM	2	3,484	13,736	17,220		17,220
Monday	9/2/2019	Labor Day							
Tuesday	9/3/2019	6:00 AM	4:30 PM	2	3,733	14,717	18,450		18,450
Wednesday	9/4/2019	6:00 AM	4:30 PM	1	2,390	9,424	11,814		11,814
Thursday	9/5/2019	6:00 AM	4:30 AM	1	2,763	10,893	13,656		13,656
Friday	9/6/2019	6:00 AM	4:30 PM	0	1,906	7,514	9,420		9,420
Monday	9/9/2019	6:00 AM	4:30 PM	2	2,798	11,032	13,830		13,830
Tuesday	9/10/2019	6:00 AM	4:30 PM	1	2,707	10,673	13,380		13,380
Wednesday	9/11/2019	6:00 AM	4:30 PM	0	1,810	7,137	8,947		8,947
Thursday	9/12/2019	6:00 AM	4:30 PM	1	1,798	7,090	8,888		8,888
Friday	9/13/2019	6:00 AM	3:45 PM	1	1,773	6,992	8,765		8,765
Monday	9/16/2019	6:00 AM	4:30 PM	1	2,316	9,130	11,446		11,446
Tuesday	9/17/2019	6:00 AM	4:00 PM	2	2,506	9,879	12,384		12,384
Wednesday	9/18/2019	6:00 AM	4:30 PM	2	2,074	8,176	10,250		10,250
Thursday	9/19/2019	6:00 AM	4:45 PM	1	2,066	8,144	10,209		10,209
Friday	9/20/2019	6:00 AM	5:00 PM	1.0	480.7	1,895.3	2,376.0		2,376.0

<b>Totals</b>	22	42,455	167,370	209,825	0	209,825
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## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech Facility/304-19-1090

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
									29% CPS (Gallons)	Water (Gallons)				
P1INJ-D4	9/5/2019	1:41 PM	9/5/2019	2:46 PM	10.0 to 15.0	20	20	18.5	242.8	957.2	1,200.0		1,200.0	
	9/5/2019	2:52 PM	9/5/2019	3:24 PM	15.0 to 20.0	110	110	37.5	242.8	957.2	1,200.0		1,200.0	
	9/6/2009	8:12 AM	9/6/2009	9:52 AM	20.0 to 25.0	75	75	12.0	242.8	957.2	1,200.0		1,200.0	x
	9/6/2009	10:15 AM	9/6/2009	10:35 AM	25.0 to 30.0	300	240	45.0	182.1	717.9	900.0		900.0	
	9/6/2009	10:46 AM	9/6/2009	11:05 AM	30.0 to 35.0	220	220	47.4	182.1	717.9	900.0		900.0	
	9/6/2009	11:39 AM	9/6/2009	11:58 AM	35.0 to 40.0	200	200	47.4	182.1	717.9	900.0		900.0	
	9/6/2009	12:17 PM	9/6/2009	12:35 PM	40.0 to 45.0	210	210	50.0	182.1	717.9	900.0		900.0	
	9/6/2009	12:49 PM	9/6/2009	1:07 PM	45.0 to 50.0	260	260	50.0	182.1	717.9	900.0		900.0	
	9/6/2009	1:19 PM	9/6/2009	1:35 PM	50.0 to 54.0	210	210	45.0	145.7	574.3	720.0		720.0	
	9/6/2009	1:51 PM	9/6/2009	2:25 PM	54.0 to 59.0	270	270	44.1	303.5	1,196.5	1,500.0		1,500.0	
	9/6/2009	2:38 PM	9/6/2009	3:07 PM	59.0 to 64.0	350	350	51.7	303.5	1,196.5	1,500.0		1,500.0	
	9/9/2019	6:34 AM	9/9/2019	7:19 AM	64.0 to 69.0	300	300	33.3	303.5	1,196.5	1,500.0		1,500.0	
	9/9/2019	7:22 AM	9/9/2019	7:40 AM	69.0 to 71.0	250	250	33.3	121.4	478.6	600.0		600.0	
TOTALS									2,816.5	11,103.5	13,920.0	0.0	13,920	



## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech Facility/304-19-1090

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
									29% CPS (Gallons)	Water (Gallons)				
P1INJ-D1	8/27/2019	1:30 PM	8/27/2019	2:50 PM	10.0 to 15.0	100	80	15.0	242.8	957.2	1,200.0		1,200.0	
	8/27/2019	3:00 PM	8/27/2019	3:23 PM	15.0 to 20.0	100	80	52.2	242.8	957.2	1,200.0		1,200.0	
	8/27/2019	3:25 PM	8/27/2019	3:55 PM	20.0 to 25.0	100	80	40.0	242.8	957.2	1,200.0		1,200.0	
	8/28/2019	6:44 AM	8/28/2019	7:02 AM	25.0 to 30.0	200	200	50.0	182.1	717.9	900.0		900.0	
	8/28/2019	7:05 AM	8/28/2019	7:24 AM	30.0 to 35.0	200	200	47.4	182.1	717.9	900.0		900.0	
	8/28/2019	7:29 AM	8/28/2019	7:50 AM	35.0 to 40.0	200	200	42.9	182.1	717.9	900.0		900.0	
	8/28/2019	7:55 AM	8/28/2019	8:17 AM	40.0 to 45.0	300	300	40.9	182.1	717.9	900.0		900.0	
	8/28/2019	8:24 AM	8/28/2019	8:49 AM	45.0 to 50.0	310	310	36.0	182.1	717.9	900.0		900.0	
	8/28/2019	8:55 AM	8/28/2019	9:07 AM	50.0 to 53.0	290	280	45.0	109.3	430.7	540.0		540.0	
	8/28/2019	9:14 AM	8/28/2019	9:44 AM	53.0 to 58.0	300	300	50.0	303.5	1,196.5	1,500.0		1,500.0	
	8/28/2019	9:51 AM	8/28/2019	10:21 AM	58.0 to 63.0	300	270	50.0	303.5	1,196.5	1,500.0		1,500.0	
	8/28/2019	10:27 AM	8/28/2019	11:38 AM	63.0 to 68.0	335	335	21.1	303.5	1,196.5	1,500.0		1,500.0	
	8/28/2019	11:44 AM	8/28/2019	12:11 PM	68.0 to 71.0	340	340	33.3	182.1	717.9	900.0		900.0	
TOTALS									2,840.8	11,199.2	14,040.0	0.0	14,040	

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech Facility/304-19-1090

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
									29% CPS (Gallons)	Water (Gallons)				
P1INJ-D2	8/28/2019	12:20 PM	8/28/2019	1:11 PM	10.0 to 15.0	175	175	23.5	242.8	957.2	1,200.0		1,200.0	
	8/28/2019	1:18 PM	8/28/2019	1:42 PM	15.0 to 20.0	200	200	50.0	242.8	957.2	1,200.0		1,200.0	
	8/28/2019	1:45 PM	8/28/2019	2:09 PM	20.0 to 25.0	200	200	50.0	242.8	957.2	1,200.0		1,200.0	
	8/28/2019	2:13 PM	8/28/2019	2:18 PM	25.0 to 26.0	240	240	48.0	48.6	191.4	240.0		240.0	
	8/28/2019	2:22 PM	8/28/2019	2:36 PM	26.0 to 30.0	225	225	51.4	145.7	574.3	720.0		720.0	
	8/28/2019	2:40 PM	8/28/2019	2:57 PM	30.0 to 35.0	225	225	52.9	182.1	717.9	900.0		900.0	
	8/28/2019	3:02 PM	8/28/2019	3:20 PM	35.0 to 40.0	215	215	50.0	182.1	717.9	900.0		900.0	
	8/28/2019	3:25 PM	8/28/2019	3:43 PM	40.0 to 45.0	250	250	50.0	182.1	717.9	900.0		900.0	
	8/29/2019	6:30 AM	8/29/2019	6:50 AM	45.0 to 50.0	250	250	45.0	182.1	717.9	900.0		900.0	
	8/29/2019	6:56 AM	8/29/2019	7:16 AM	50.0 to 55.0	360	360	45.0	182.1	717.9	900.0		900.0	
	8/29/2019	7:22 AM	8/29/2019	7:32 AM	55.0 to 57.0	300	300	48.0	97.1	382.9	480.0		480.0	
						TOTALS			1,930.3	7,609.7	9,540.0	0.0	9,540	



## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech Facility/304-19-1090

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
									29% CPS (Gallons)	Water (Gallons)				
P1INJ-C1	8/29/2019	8:04 AM	8/29/2019	8:26 AM	21.0 to 26.0	270	270	54.5	242.8	957.2	1,200.0		1,200.0	
	8/29/2019	8:31 AM	8/29/2019	8:47 AM	26.0 to 31.0	220	220	56.3	182.1	717.9	900.0		900.0	
	8/29/2019	8:53 AM	8/29/2019	9:09 AM	31.0 to 36.0	210	210	56.2	182.1	717.9	900.0		900.0	
	8/29/2019	9:14 AM	8/29/2019	9:33 AM	36.0 to 41.0	220	220	47.4	182.1	717.9	900.0		900.0	
	8/29/2019	9:39 AM	8/29/2019	9:57 AM	41.0 to 46.0	260	260	50.0	182.1	717.9	900.0		900.0	
	8/29/2019	10:03 AM	8/29/2019	10:21 AM	46.0 to 51.0	250	250	50.0	182.1	717.9	900.0		900.0	
	8/29/2019	10:28 AM	8/29/2019	10:40 AM	51.0 to 54.0	240	249	45.0	109.3	430.7	540.0		540.0	
	8/29/2019	10:47 AM	8/29/2019	10:56 AM	54.0 to 56.0	210	210	53.3	97.1	382.9	480.0		480.0	
TOTALS									1,359.7	5,360.3	6,720.0	0.0	6,720	

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech Facility/304-19-1090

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
									29% CPS (Gallons)	Water (Gallons)				
P1INJ-B1	8/29/2019	11:24 AM	8/29/2019	11:47 AM	15.0 to 20.0	220	220	52.2	242.8	957.2	1,200.0		1,200.0	
	8/29/2019	11:54 AM	8/29/2019	12:17 PM	20.0 to 25.0	210	210	52.2	242.8	957.2	1,200.0		1,200.0	
	8/29/2019	12:27 PM	8/29/2019	12:44 PM	25.0 to 30.0	380	265	52.9	182.1	717.9	900.0		900.0	
	8/29/2019	12:50 PM	8/29/2019	1:07 PM	30.0 to 35.0	275	276	52.9	182.1	717.9	900.0		900.0	
	8/29/2019	1:15 PM	8/29/2019	1:34 PM	35.0 to 40.0	310	310	47.4	182.1	717.9	900.0		900.0	
	8/29/2019	1:42 PM	8/29/2019	1:58 PM	40.0 to 45.0	280	280	56.2	182.1	717.9	900.0		900.0	
	8/29/2019	2:03 PM	8/29/2019	2:22 PM	45.0 to 50.0	370	370	47.4	182.1	717.9	900.0		900.0	
	8/29/2019	2:29 PM	8/29/2019	2:50 PM	50.0 to 54.5	390	390	38.6	163.9	646.1	810.0		810.0	
	8/29/2019	2:57 PM	8/29/2019	3:24 PM	54.5 to 56.5	390	390	17.8	97.1	382.9	480.0		480.0	
TOTALS									1,657.1	6,532.9	8,190.0	0.0	8,190	



## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech Facility/304-19-1090

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
									29% CPS (Gallons)	Water (Gallons)				
P1INJ-C2	8/30/2019	6:31 AM	8/30/2019	6:55 AM	11.0 to 16.0	150	150	50.0	242.8	957.2	1,200.0		1,200.0	
	8/30/2019	6:59 AM	8/30/2019	7:23 AM	16.0 to 21.0	200	200	50.0	242.8	957.2	1,200.0		1,200.0	
	8/30/2019	7:27 AM	8/30/2019	7:48 AM	21.0 to 26.0	245	245	57.1	242.8	957.2	1,200.0		1,200.0	
	8/30/2019	7:53 AM	8/30/2019	8:10 AM	26.0 to 31.0	200	200	52.9	182.1	717.9	900.0		900.0	
	8/30/2019	8:15 AM	8/30/2019	8:33 AM	31.0 to 36.0	190	190	50.0	182.1	717.9	900.0		900.0	
	8/30/2019	8:40 AM	8/30/2019	8:58 AM	36.0 to 41.0	200	200	50.0	182.1	717.9	900.0		900.0	
	8/30/2019	9:03 AM	8/30/2019	9:21 AM	41.0 to 46.0	210	210	50.0	182.1	717.9	900.0		900.0	
	8/30/2019	9:27 AM	8/30/2019	9:44 AM	46.0 to 51.0	220	220	52.9	182.1	717.9	900.0		900.0	
	8/30/2019	9:51 AM	8/30/2019	10:01 AM	51.0 to 54.0	250	250	54.0	109.3	430.7	540.0		540.0	
	8/30/2019	10:06 AM	8/30/2019	10:15 AM	54.0 to 56.0	250	250	53.3	97.1	382.9	480.0		480.0	
TOTALS									1,845.3	7,274.7	9,120.0	0.0	9,120	

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech Facility/304-19-1090

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
									29% CPS (Gallons)	Water (Gallons)				
P1INJ-D3	8/30/2019	10:48 AM	8/30/2019	11:21 AM	16.0 to 21.0	200	200	36.4	242.8	957.2	1,200.0		1,200.0	
	8/30/2019	11:38 AM	8/30/2019	12:09 PM	21.0 to 26.0	240	240	38.7	242.8	957.2	1,200.0		1,200.0	
	8/30/2019	12:14 PM	8/30/2019	12:30 PM	26.0 to 31.0	290	280	56.2	182.1	717.9	900.0		900.0	
	8/30/2019	12:36 PM	8/30/2019	12:51 PM	31.0 to 36.0	250	250	60.0	182.1	717.9	900.0		900.0	
	8/30/2019	12:57 PM	8/30/2019	1:13 PM	36.0 to 41.0	255	255	56.2	182.1	717.9	900.0		900.0	
	8/30/2019	1:21 PM	8/30/2019	1:38 PM	41.0 to 46.0	290	290	52.9	182.1	717.9	900.0		900.0	
	8/30/2019	1:30 PM	8/30/2019	1:59 PM	46.0 to 51.0	330	320	31.0	182.1	717.9	900.0		900.0	
	8/30/2019	2:06 PM	8/30/2019	2:17 PM	51.0 to 55.0	280	280	65.5	145.7	574.3	720.0		720.0	
	8/30/2019	2:28 PM	8/30/2019	2:36 PM	55.0 to 57.0	250	250	60.0	97.1	382.9	480.0		480.0	
TOTALS									1,638.9	6,461.1	8,100.0	0.0	8,100	



## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech Facility/304-19-1090

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
									29% CPS (Gallons)	Water (Gallons)				
P1INJ- C3	9/3/2019	6:52 AM	9/3/2019	7:17 AM	10.0 to 15.0	110	110	48.0	242.8	957.2	1,200.0		1,200.0	
	9/3/2019	7:22 AM	9/3/2019	7:46 AM	15.0 to 20.0	150	150	50.0	242.8	957.2	1,200.0		1,200.0	
	9/3/2019	7:49 AM	9/3/2019	8:13 AM	20.0 to 25.0	130	130	50.0	242.8	957.2	1,200.0		1,200.0	
	9/3/2019	8:17 AM	9/3/2019	8:20 AM	25.0 to 25.5	130	130	40.0	24.3	95.7	120.0		120.0	
	9/3/2019	8:23 AM	9/3/2019	8:42 AM	25.5 to 30.5	200	200	47.4	182.1	717.9	900.0		900.0	
	9/3/2019	8:47 AM	9/3/2019	9:06 AM	30.5 to 35.5	190	190	47.4	182.1	717.9	900.0		900.0	
	9/3/2019	9:11 AM	9/3/2019	9:28 AM	35.5 to 40.5	250	250	52.9	182.1	717.9	900.0		900.0	
	9/3/2019	9:34 AM	9/3/2019	9:51 AM	40.5 to 45.5	280	280	52.9	182.1	717.9	900.0		900.0	
	9/3/2019	9:58 AM	9/3/2019	10:18 AM	45.5 to 50.5	280	280	45.0	182.1	717.9	900.0		900.0	
	9/3/2019	10:24 AM	9/3/2019	10:36 AM	50.5 to 54.0	300	300	52.5	127.5	502.5	630.0		630.0	
	9/3/2019	10:43 AM	9/3/2019	10:50 AM	54.0 to 56.0	300	300	68.6	97.1	382.9	480.0		480.0	
						TOTALS			1,887.8	7,442.2	9,330.0	0.0	9,330	

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech Facility/304-19-1090

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
									29% CPS (Gallons)	Water (Gallons)				
P1INJ-B2	9/3/2019	11:28 AM	9/3/2019	11:52 AM	11.0 to 16.0	100	100	50.0	242.8	957.2	1,200.0		1,200.0	
	9/3/2019	11:56 AM	9/3/2019	12:20 PM	16.0 to 21.0	150	150	50.0	242.8	957.2	1,200.0		1,200.0	
	9/3/2019	12:24 PM	9/3/2019	12:48 PM	21.0 to 26.0	190	190	50.0	242.8	957.2	1,200.0		1,200.0	
	9/3/2019	12:53 PM	9/3/2019	1:08 PM	26.0 to 31.0	275	275	60.0	182.1	717.9	900.0		900.0	
	9/3/2019	1:13 PM	9/3/2019	1:28 PM	31.0 to 36.0	250	230	60.0	182.1	717.9	900.0		900.0	
	9/3/2019	1:34 PM	9/3/2019	1:50 PM	36.0 to 41.0	275	275	56.2	182.1	717.9	900.0		900.0	
	9/3/2019	1:56 PM	9/3/2019	2:35 PM	41.0 to 46.0	310	60	23.1	182.1	717.9	900.0		900.0	x
	9/3/2019	2:41 PM	9/3/2019	3:03 PM	46.0 to 51.0	120	120	40.9	182.1	717.9	900.0		900.0	
	9/3/2019	3:12 PM	9/3/2019	3:24 PM	51.0 to 54.0	210	210	45.0	109.3	430.7	540.0		540.0	
	9/3/2019	3:29 PM	9/3/2019	3:40 PM	54.0 to 56.0	210	210	43.6	97.1	382.9	480.0		480.0	
TOTALS									1,845.3	7,274.7	9,120.0	0.0	9,120	



## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech Facility/304-19-1090

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
									29% CPS (Gallons)	Water (Gallons)				
P1INJ-A2	9/4/2019	6:44 AM	9/4/2019	7:19 AM	10.0 to 15.0	75	75	34.3	242.8	957.2	1,200.0		1,200.0	
	9/4/2019	7:24 AM	9/4/2019	7:53 AM	15.0 to 20.0	90	90	41.4	242.8	957.2	1,200.0		1,200.0	
	9/4/2019	8:00 AM	9/4/2019	9:30 AM	20.0 to 25.0	120	120	10.8	196.3	773.7	970.0		970.0	x
	9/4/2019	9:32 AM	9/4/2019	10:46 AM	25.0 to 26.0	120	120	5.9	88.4	348.6	437.0		437.0	x
	9/4/2019	11:07 AM	9/4/2019	11:40 AM	34.0 to 39.0	95	95	27.3	182.1	717.9	900.0		900.0	
	9/4/2019	12:00 PM	9/4/2019	12:29 PM	39.0 to 44.0	120	120	31.0	182.1	717.9	900.0		900.0	
	9/4/2019	12:43 PM	9/4/2019	1:06 PM	44.0 to 49.0	155	140	39.1	182.1	717.9	900.0		900.0	
	9/4/2019	1:16 PM	9/4/2019	1:34 PM	49.0 to 54.0	200	190	50.0	182.1	717.9	900.0		900.0	
	9/4/2019	1:42 PM	9/4/2019	2:23 PM	54.0 to 56.0	260	260	47.6	395.2	1,557.8	1,953.0		1,953.0	
TOTALS									1,893.9	7,466.1	9,360.0	0.0	9,360	

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech Facility/304-19-1090

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
									29% CPS (Gallons)	Water (Gallons)				
P1INJ-B3	9/4/2019	3:00 PM	9/4/2019	3:26 PM	10.0 to 15.0	100	100	46.2	242.8	957.2	1,200.0		1,200.0	
	9/4/2019	3:30 PM	9/4/2019	3:55 PM	15.0 to 20.0	110	100	48.0	242.8	957.2	1,200.0		1,200.0	
	9/5/2019	6:23 AM	9/5/2019	6:50 AM	20.0 to 24.5	100	100	40.0	218.5	861.5	1,080.0		1,080.0	
	9/5/2019	6:54 AM	9/5/2019	7:14 AM	24.5 to 29.5	200	200	45.0	182.1	717.9	900.0		900.0	
	9/5/2019	7:18 AM	9/5/2019	7:39 AM	29.5 to 34.5	200	200	42.9	182.1	717.9	900.0		900.0	
	9/5/2019	7:45 AM	9/5/2019	8:04 AM	34.5 to 39.5	200	200	47.4	182.1	717.9	900.0		900.0	
	9/5/2019	8:26 AM	9/5/2019	8:52 AM	39.5 to 44.5	150	150	34.6	182.1	717.9	900.0		900.0	
	9/5/2019	9:08 AM	9/5/2019	9:29 AM	44.5 to 49.5	180	180	42.9	182.1	717.9	900.0		900.0	
	9/5/2019	9:41 AM	9/5/2019	9:57 AM	49.5 to 53.0	170	170	39.4	127.5	502.5	630.0		630.0	
	9/5/2019	10:07 AM	9/5/2019	10:44 AM	53.0 to 58.0	170	170	40.5	303.5	1,196.5	1,500.0		1,500.0	
	9/5/2019	10:57 AM	9/5/2019	11:33 AM	58.0 to 63.0	200	200	41.7	303.5	1,196.5	1,500.0		1,500.0	
	9/5/2019	11:42 AM	9/5/2019	1:36 PM	63.0 to 68.0	300	300	13.2	303.5	1,196.5	1,500.0		1,500.0	
	9/5/2019	1:42 PM	9/5/2019	2:08 PM	68.0 to 71.0	300	300	34.6	182.1	717.9	900.0		900.0	
						TOTALS			2,834.7	11,175.3	14,010.0	0.0	14,010	



## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech Facility/304-19-1090

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
									29% CPS (Gallons)	Water (Gallons)				
P1INJ-C4	9/9/2019	8:22 AM	9/9/2019	9:35 AM	19.5 to 24.5	250	250	16.4	242.8	957.2	1,200.0		1,200.0	
	9/9/2019	9:40 AM	9/9/2019	9:58 AM	24.5 to 29.5	240	200	50.0	182.1	717.9	900.0		900.0	
	9/9/2019	10:05 AM	9/9/2019	10:25 AM	29.5 to 34.5	200	190	45.0	182.1	717.9	900.0		900.0	
	9/9/2019	10:34 AM	9/9/2019	10:56 AM	34.5 to 39.5	150	140	40.9	182.1	717.9	900.0		900.0	
	9/9/2019	11:07 AM	9/9/2019	11:23 AM	39.5 to 44.5	300	300	56.3	182.1	717.9	900.0		900.0	
	9/9/2019	11:31 AM	9/9/2019	11:51 AM	44.5 to 49.5	190	190	45.0	182.1	717.9	900.0		900.0	
	9/9/2019	11:58 AM	9/9/2019	12:42 PM	49.5 to 53.0	100	75	14.3	127.5	502.5	630.0		630.0	
	9/9/2019	12:58 PM	9/9/2019	1:40 PM	53.0 to 58.0	250	200	35.7	303.5	1,196.5	1,500.0		1,500.0	
	9/9/2019	1:47 PM	9/9/2019	2:22 PM	58.0 to 63.0	280	270	42.9	303.5	1,196.5	1,500.0		1,500.0	
	9/9/2019	2:27 PM	9/9/2019	3:05 PM	63.0 to 68.0	260	260	39.5	303.5	1,196.5	1,500.0		1,500.0	
	9/9/2019	3:09 PM	9/9/2019	3:27 PM	68.0 to 71.0	280	280	50.0	182.1	717.9	900.0		900.0	
						TOTALS			2,373.4	9,356.6	11,730.0	0.0	11,730	

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech Facility/304-19-1090

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
									29% CPS (Gallons)	Water (Gallons)				
P1INJ-B4	9/10/2019	6:48 AM	9/10/2019	7:40 AM	17.0 to 22.0	150	200	23.1	242.8	957.2	1,200.0		1,200.0	
	9/10/2019	7:44 AM	9/10/2019	8:08 AM	22.0 to 27.0	260	250	50.0	242.8	957.2	1,200.0		1,200.0	
	9/10/2019	8:14 AM	9/10/2019	8:34 AM	27.0 to 32.0	150	150	45.0	182.1	717.9	900.0		900.0	
	9/10/2019	8:37 AM	9/10/2019	9:00 AM	32.0 to 37.0	180	150	39.1	182.1	717.9	900.0		900.0	
	9/10/2019	9:06 AM	9/10/2019	9:30 AM	37.0 to 42.0	160	150	37.5	182.1	717.9	900.0		900.0	
	9/10/2019	9:38 AM	9/10/2019	10:00 AM	42.0 to 47.0	180	160	40.9	182.1	717.9	900.0		900.0	
	9/10/2019	10:12 AM	9/10/2019	10:33 AM	47.0 to 52.0	170	170	42.9	182.1	717.9	900.0		900.0	
	9/10/2019	10:36 AM	9/10/2019	10:40 AM	52.0 to 53.0	180	180	45.0	36.4	143.6	180.0		180.0	
	9/10/2019	10:46 AM	9/10/2019	11:25 AM	53.0 to 57.0	200	190	30.8	242.8	957.2	1,200.0		1,200.0	
	9/10/2019	11:36 AM	9/10/2019	12:12 PM	57.0 to 62.0	210	205	41.7	303.5	1,196.5	1,500.0		1,500.0	
	9/10/2019	12:22 PM	9/10/2019	1:11 PM	62.0 to 67.0	205	200	30.6	303.5	1,196.5	1,500.0		1,500.0	
	9/10/2019	1:20 PM	9/10/2019	1:52 PM	67.0 to 71.0	200	200	37.5	242.8	957.2	1,200.0		1,200.0	
TOTALS									2,525.2	9,954.8	12,480.0	0.0	12,480	



## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech Facility/304-19-1090

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
									29% CPS (Gallons)	Water (Gallons)				
P1INJ-A4	9/10/2019	2:26 AM	9/10/2019	2:30 PM	10.0 to 15.0			0.0	0.0	0.0			0.0	x
	9/10/2019	3:10 AM	9/10/2019	3:50 AM	35.0 to 40.0	150	150	22.5	182.1	717.9	900.0		900.0	
	9/11/2019	6:30 AM	9/11/2019	6:53 AM	40.0 to 45.0	190	160	39.1	182.1	717.9	900.0		900.0	
	9/11/2019	7:05 AM	9/11/2019	8:14 AM	45.0 to 50.0	180	100	26.1	364.2	1,435.8	1,800.0		1,800.0	
	9/11/2019	8:21 AM	9/11/2019	9:58 AM	50.0 to 54.0	120	150	18.6	364.2	1,435.8	1,800.0		1,800.0	
	9/11/2019	10:24 AM	9/11/2019	11:26 AM	54.0 to 59.0	190	180	33.9	424.9	1,675.1	2,100.0		2,100.0	
	9/16/2019	6:59 AM	9/16/2019	8:22 AM	59.0 to 64.0	280	290	25.3	424.9	1,675.1	2,100.0		2,100.0	
	9/16/2019	8:33 AM	9/16/2019	9:44 AM	64.0 to 69.0	250	340	29.6	424.9	1,675.1	2,100.0		2,100.0	
	9/16/2019	9:48 AM	9/16/2019	10:25 AM	69.0 to 71.0	170	150	9.3	70.0	275.8	345.7		345.7	x
TOTALS									2,437.3	9,608.4	12,045.7	0.0	12,046	
INJS-01	9/11/2019	1:40 AM	9/11/2019	3:45 AM	20.0 to 25.0	280	270	18.8	474.9	1,872.1	2,347.0		2,347.0	
	9/12/2019	6:30 AM	9/12/2019	1:51 PM	25.0 to 26.0	300	350	17.4	1,548.5	6,104.5	7,653.0		7,653.0	
TOTALS									2,023.4	7,976.6	10,000.0	0.0	10,000	
INJS-02	9/12/2019	2:28 PM	9/12/2019	3:45 PM	20.0 to 25.0	250	300	16.0	249.9	985.1	1,235.0		1,235.0	
	9/13/2019	6:10 AM	9/13/2019	2:55 PM	25.0 to 20.0	230	260	16.7	1,773.5	6,991.5	8,765.0		8,765.0	
TOTALS									2,023.4	7,976.6	10,000.0	0.0	10,000	

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech Facility/304-19-1090

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
									29% CPS (Gallons)	Water (Gallons)				
P1INJ-A3	9/16/2019	11:15 AM	9/16/2019	12:10 PM	16.0 to 21.0	110	100	21.8	242.8	957.2	1,200.0		1,200.0	
	9/16/2019	12:15 PM	9/16/2019	1:12 PM	21.0 to 26.0	120	130	21.1	242.8	957.2	1,200.0		1,200.0	
	9/16/2019	1:18 PM	9/16/2019	1:43 PM	26.0 to 31.0	150	140	36.0	182.1	717.9	900.0		900.0	
	9/16/2019	1:47 PM	9/16/2019	2:17 PM	31.0 to 36.0	120	120	30.0	182.1	717.9	900.0		900.0	
	9/16/2019	2:22 PM	9/16/2019	2:47 PM	36.0 to 41.0	140	150	36.0	182.1	717.9	900.0		900.0	
	9/16/2019	2:53 PM	9/16/2019	3:17 PM	41.0 to 46.0	190	180	37.5	182.1	717.9	900.0		900.0	
	9/16/2019	3:25 PM	9/16/2019	3:45 PM	46.0 to 51.0	190	190	45.0	182.1	717.9	900.0		900.0	
	9/17/2019	6:45 AM	9/17/2019	7:03 AM	51.0 to 53.0	135	135	20.0	72.8	287.2	360.0		360.0	
	9/17/2019	7:09 AM	9/17/2019	8:07 AM	53.0 to 58.0	190	190	31.0	364.2	1,435.8	1,800.0		1,800.0	
	9/17/2019	8:17 AM	9/17/2019	9:10 AM	58.0 to 63.0	190	200	34.0	364.2	1,435.8	1,800.0		1,800.0	
	9/17/2019	9:16 AM	9/17/2019	10:26 AM	63.0 to 68.0	190	200	25.7	364.2	1,435.8	1,800.0		1,800.0	
	9/17/2019	10:30 AM	9/17/2019	11:36 AM	68.0 to 71.0	200	250	28.4	379.2	1,495.1	1,874.3		1,874.3	
						TOTALS			2,940.8	11,593.5	14,534.3	0.0	14,534	



## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech Facility/304-19-1090

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	
											29% CPS (Gallons)	Water (Gallons)					
INJS-03	9/17/2019	11:40 AM	9/17/2019	2:25 PM	25.0	to	30.0	290	300	28.8	961.1	3,788.9	4,750.0		4,750.0		
TOTALS												961.1	3,788.9	4,750.0	0.0	4,750	
INJS-04	9/18/2019	7:05 AM	9/18/2019	8:03 AM	45.0	to	50.0	225	180	30.2	354.1	1,395.9	1,750.0		1,750.0		
	9/18/2019	8:18 AM	9/18/2019	9:12 AM	50.0	to	55.0	180	160	32.4	354.1	1,395.9	1,750.0		1,750.0		
	9/18/2019	9:28 AM	9/18/2019	10:20 AM	55.0	to	60.0	180	150	33.7	354.1	1,395.9	1,750.0		1,750.0		
TOTALS												1,062.3	4,187.7	5,250.0	0.0	5,250	
INJS-05	9/18/2019	11:55 AM	9/18/2019	12:38 PM	35.0	to	40.0	150	160	29.1	252.9	997.1	1,250.0		1,250.0		
	9/18/2019	12:51 PM	9/18/2019	1:44 PM	40.0	to	45.0	160	190	23.6	252.9	997.1	1,250.0		1,250.0		
	9/18/2019	1:53 PM	9/18/2019	2:26 PM	45.0	to	50.0	200	210	37.9	252.9	997.1	1,250.0		1,250.0		
	9/18/2019	2:36 PM	9/18/2019	3:19 PM	50.0	to	55.0	190	100	29.1	252.9	997.1	1,250.0		1,250.0		
TOTALS												1,011.7	3,988.3	5,000.0	0.0	5,000	

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech Facility/304-19-1090

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting
									29% CPS (Gallons)	Water (Gallons)				
INJS-06	9/19/2019	7:17 AM	9/19/2019	8:27 AM	40.0 to 45.0	200	250	23.8	336.9	1,328.1	1,665.0		1,665.0	
	9/19/2019	8:36 AM	9/19/2019	9:30 AM	45.0 to 50.0	150	200	30.8	336.9	1,328.1	1,665.0		1,665.0	
	9/19/2019	9:39 AM	9/19/2019	10:35 AM	50.0 to 55.0	180	210	29.7	336.9	1,328.1	1,665.0		1,665.0	
	9/19/2019	10:44 AM	9/19/2019	11:40 AM	55.0 to 60.0	200	220	29.7	336.9	1,328.1	1,665.0		1,665.0	
	9/19/2019	12:00 PM	9/19/2019	1:05 PM	60.0 to 65.0	250	300	25.6	336.9	1,328.1	1,665.0		1,665.0	
	9/19/2019	1:18 PM	9/19/2019	2:20 PM	65.0 to 70.0	200	240	26.9	336.9	1,328.1	1,665.0		1,665.0	
	9/20/2019	7:44 AM	9/20/2019	10:35 AM	65.0 to 70.0	200	150	12.5	434.0	1,711.0	2,145.0		2,145.0	
TOTALS									2,455.3	9,679.7	12,135.0	0.0	12,135	
INJS-07	9/19/2019	3:15 PM	9/19/2019	3:50 PM	25.0 to 30.0	350	400	6.3	44.4	174.9	219.3		219.3	
	9/20/2019	6:20 AM	9/20/2019	7:35 AM	27.0 to 32.0	350	375		46.7	184.3	231.0		231.0	
TOTALS									91.1	359.2	450.3	0.0	450	



## **APPENDIX B**

### Photographs



1. Site Setup and Layout



2. Site Setup and Layout



3. Site Setup and Layout



4. Site Setup and Layout



5. Site Setup and Layout



6. September 20, 2019 Post Injection and Demobilization Site Conditions



7. September 20, 2019 Post Injection and Demobilization Site Conditions



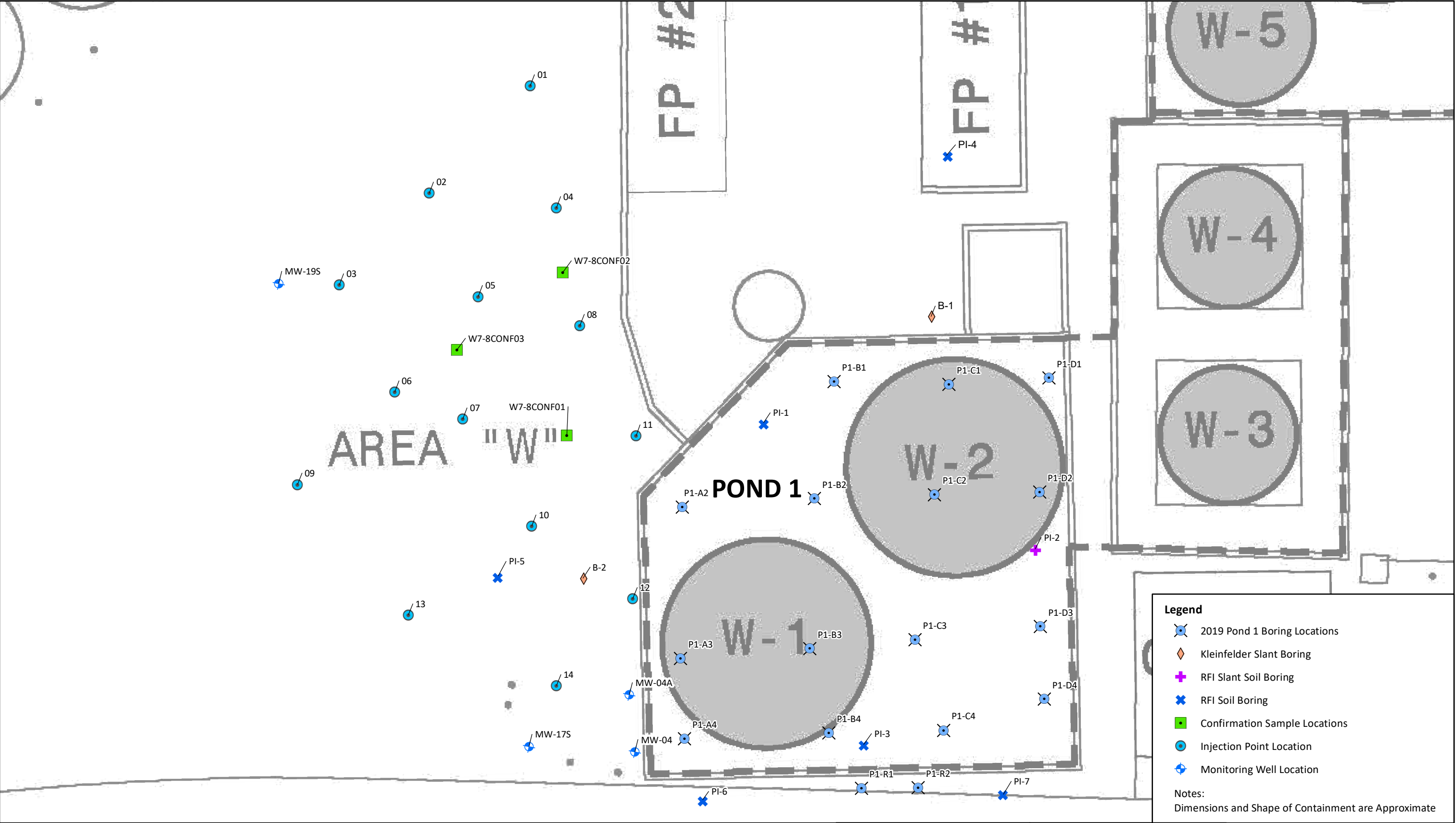
8. September 20, 2019 Post Injection and Demobilization Site Conditions



## **APPENDIX C**

### Injection Location Map

File: K:\GIS\Prj\0197 PFI\MXDs\20190614\Updated Soil Investigation Boring Location.mxd 8/17/2019 Created by: BO Checked by: CA Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet



**Legend**

- 2019 Pond 1 Boring Locations
- Kleinfelder Slant Boring
- RFI Slant Soil Boring
- RFI Soil Boring
- Confirmation Sample Locations
- Injection Point Location
- Monitoring Well Location

Notes:  
Dimensions and Shape of Containment are Approximate

<b>SAFETY FIRST</b>	CLIENT: Phibro-Tech, Inc.	<b>Soil Boring and Monitoring Well Location Map</b>
	PROJECT: Wastewater Treatment - Relocation Investigation Santa Fe Springs, CA	
	PROJECT NUMBER: 0197.011.002	

**FIGURE 1**







## **REMEDIATION FIELD SERVICES REPORT**

Phibro-Tech, Inc. Facility  
8851 Dice Road  
Santa Fe Springs, California 90670

**Date:**

November 16, 2020

**Project Number:**

304-20-1084

**Prepared For:**

Terraphase Engineering Inc.  
18401 Von Karmen Avenue, Suite 410  
Irvine, California 92612

**Prepared by:**

Cascade Remediation Services  
1225 East McFadden Avenue  
Santa Ana, California 92705  
[WWW.CASCADE-ENV.COM](http://WWW.CASCADE-ENV.COM)



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November 16, 2020  
Project No. 304-20-1084

Clare Steedman, P.G.  
Terraphase Engineering Inc.  
18401 Von Karmen Avenue, Suite 410  
Irvine, California 92612

Subject: Remediation Field Services Report  
Phibro-Tech, Inc. Facility  
8851 Dice Road  
Santa Fe Springs, California 90670

In accordance with your request and authorization, Cascade Remediation Services (Cascade) has performed remediation field services for the subject site. The field services were performed in general accordance with Cascade's proposal dated June 11, 2020.

Cascade appreciates the opportunity to provide our services to you. If you have any questions or comments regarding this report, please contact the undersigned at your convenience.

Respectfully Submitted,  
Cascade Remediation Services

A handwritten signature in black ink that reads "Justin Mulford".

Justin Mulford  
Project Manager

Distribution: Chris Alger - [chris.alger@terrphase.com](mailto:chris.alger@terrphase.com)  
Claire Steedman - [clare.steedman@terrphase.com](mailto:clare.steedman@terrphase.com)

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**Appendices**

Appendix A – Injection Summary and Logs

Appendix B – Photographs

Appendix C – Injection Location Maps



## 1 INTRODUCTION

Terraphase Engineering Inc. (client), subcontracted Cascade Remediation Services (Cascade) to perform remediation field services at the subject site located at 8851 Dice Road, Santa Fe Springs, CA 90670. Field services were conducted in general accordance with Cascade's proposal dated June 11, 2020.

## 2 REMEDIATION APPROACH

Utilizing the top-down injection method, a 1-foot long, 1.75-inch diameter injection screen was driven into the subsurface using a Geoprobe® model 8040DT track mounted direct push drilling rig. Following tooling placement, a seven-percent calcium polysulfide (cps) solution comprised of approximately 155,069 gallons of 29-percent cps and approximately 488,749 gallons of potable water was injected into 59 temporary direct push injection points. The solution was mixed on-site using a custom-built injection system and then injected through the tooling into the subsurface at intervals ranging from 10-feet below ground surface (bgs) to 71-feet bgs, where total depth and number of intervals varied location to location (see Appendix A).

Due to surfacing, Cascade implemented several different tooling combinations in the attempt to mitigate surfacing as much as possible. The primary injection tool used was a 1-foot long 1.75-inch diameter top-down injection tool, at certain locations (see Appendix A) two-foot and three-foot long top-down tools were attempted. Cascade also, utilized one-foot long 1.5-inch diameter bottom-up injection tools at a few locations. The various application methods were not successful in controlling the surfacing of the injectate.

## 3 PROJECT ACTIVITIES

The following sections describe the field activities conducted at the site. The activities were conducted between September 8, 2020 and November 13, 2020.

### 3.1 PRE-MOBILIZATION ACTIVITIES

A site-specific health and safety plan was prepared to address worker and general public safety. Underground Services Alert (USA) was notified at least 48 hours prior to the commencement of field activities and inquiry identification number A202460926-00A was obtained for Cascade's scope of work.

### 3.2 ONSITE ACTIVITIES

On September 8, 2020, Cascade mobilized a custom-built injection setup and two Geoprobe® model 8040DT track mounted direct push technology (DPT) rigs to the subject site. Prior to the commencement of field activities, a tailgate safety meeting was performed. The safety meeting was followed by a site walk to review the proposed injection points marked by the client. The injection system was placed inside a containment berm located at the north end of the Phibro-Tech, Inc. facility. Site control measures consisting of traffic cones and caution tape were implemented to delineate the work area. Spill kits and portable vacuums were placed within the work area for immediate deployment. Injection material transportation and handling were coordinated by Cascade.

The scope of work performed by Cascade included a 10-gallon potable water injection test performed at injection well IP-12. The injection test was done to check for leaks throughout the injection system including the hose fittings and connections.

The scope of work performed by Cascade included the injection of a seven percent calcium polysulfide (cps) solution into 59 temporary injection points. Calcium polysulfide solution was applied at depths between 10 and 66 feet below ground surface (bgs), where actual total depth varied by injection point (see Appendix A). Each direct push injection point received between 600 gallons of the seven percent cps solution and 39,235 gallons of the seven percent cps solution (see Appendix A).

Significant daylighting was observed at 34 of 59 injection wells (see Appendix A). As a result, injection rates were slowed to control the daylighting, this process was successful in most cases (see Appendix A). Changes in injection tooling were also implemented as a way of mitigating surfacing. Tooling change did not yield a significant change in production rates or daylighting.

Once target volumes were reached at each point, the injection rods were retracted, and surface was patched to match existing area. Total volume injected into the 59 temporary direct push points was approximately 646,360 gallons of seven percent calcium polysulfide solution.

Remediation activities were successfully completed on November 13, 2020.

### **3.3 SITE RESTORATION**

Upon completion of injection activities, the boreholes were backfilled with bentonite chips and hydrated. The upper 3-feet of each borehole in Pond 1 was filled with surrounding surface soil to match the existing site conditions. The upper 6-inches of each borehole of locations outside of Pond 1 was filled with concrete to match the existing surface.

Investigation-derived waste was not generated during remediation activities at the site. Other waste (i.e. personal protective equipment, packaging materials, etc.) was collected in large trash bags and disposed as municipal solid waste.

## **4 LIMITATIONS**

The implementation of the scope of work was performed in accordance with the clients design specification as described above (Section 2) and supporting injection logs (Appendix A). Cascade bears no responsibility for remediation results or impact to existing conditions.

## **APPENDIX A**

### Injection Summary and Logs



## DAILY INJECTION POINT TOTALS

### PROJECT

NAME/NUMBER: Phibro-Tech/304-20-1084

FIELD LOG TAB #1						
Well ID:	Start Date	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
		29% CPS (Gallons)	Water (Gallons)			
IP-12	9/9/2020	4,638.1	14,576.9	19,215.0	0.0	19,215.0
IP-18	9/9/2020	6,405.0	21,518.3	28,365.0	0.0	28,365.0
IP-19	9/9/2020	8,834.5	27,765.5	36,600.0	0.0	36,600.0
IP-17	9/11/2020	2,871.2	9,023.8	11,895.0	0.0	11,895.0
IP-11	9/14/2020	3,060.7	9,619.3	12,680.0	0.0	12,680.0
IP-6	9/15/2020	6,625.9	20,824.1	27,450.0	0.0	27,450.0
IP-25	9/18/2020	9,470.5	29,764.5	39,235.0	0.0	39,235.0
IP-1	9/16/2020	4,638.1	14,576.9	19,215.0	0.0	19,215.0
IP-5	9/17/2020	2,330.5	7,324.5	9,655.0	0.0	9,655.0
IP-3	9/17/2020	2,220.7	6,979.3	9,200.0	0.0	9,200.0
IP-7	9/18/2020	2,330.5	7,324.5	9,655.0	0.0	9,655.0
IP-14	9/28/2020	3,216.4	10,108.6	13,325.0	0.0	13,325.0
IP-2	9/21/2020	2,220.7	6,979.3	9,200.0	0.0	9,200.0
IP-10	9/22/2020	2,109.7	6,630.3	8,740.0	0.0	8,740.0
IP-4	9/23/2020	2,138.7	6,721.6	8,860.3	0.0	8,860.3
IP-37	9/25/2020	1,689.7	5,310.3	7,000.0	0.0	7,000.0
IP-43	9/28/2020	1,689.7	5,310.3	7,000.0	0.0	7,000.0

## DAILY INJECTION POINT TOTALS

### PROJECT

NAME/NUMBER: Phibro-Tech/304-20-1084

FIELD LOG TAB #1						
Well ID:	Start Date	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
		29% CPS (Gallons)	Water (Gallons)			
IP-38	9/28/2020	1,689.7	5,310.3	7,000.0	0.0	7,000.0
IP-44	9/29/2020	1,605.2	5,044.8	6,650.0	0.0	6,650.0
IP-39	9/30/2020	1,689.7	5,310.3	7,000.0	0.0	7,000.0
IP-8	9/30/2020	1,689.7	5,310.3	7,000.0	0.0	7,000.0
IP-9	9/30/2020	1,520.7	4,779.3	6,300.0	0.0	6,300.0
IP-41	10/1/2020	1,774.1	5,575.9	7,350.0	0.0	7,350.0
IP-40	10/1/2020	1,774.1	5,575.9	7,350.0	0.0	7,350.0
IP-42	10/1/2020	422.4	1,327.6	1,750.0	0.0	1,750.0
IP-15	10/2/2020	1,858.6	5,841.4	7,700.0	0.0	7,700.0
IP-13	10/2/2020	190.0	597.3	787.3	0.0	787.3
IP-45	10/5/2020	1,276.4	4,011.6	5,288.0	0.0	5,288.0
IP-46	10/5/2020	1,080.8	3,396.6	4,477.4	0.0	4,477.4
IP-47	10/6/2020	675.9	2,124.1	2,800.0	0.0	2,800.0
IP-60	10/7/2020	1,858.6	5,841.4	7,700.0	0.0	7,700.0
IP-36	10/7/2020	1,858.6	5,841.4	7,700.0	0.0	7,700.0
IP-35	10/8/2020	2,112.1	6,637.9	8,750.0	0.0	8,750.0
IP-32	10/8/2020	3,210.3	10,089.7	13,300.0	0.0	13,300.0

## DAILY INJECTION POINT TOTALS

### PROJECT

NAME/NUMBER: Phibro-Tech/304-20-1084

FIELD LOG TAB #1						
Well ID:	Start Date	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
		29% CPS (Gallons)	Water (Gallons)			
IP-21	10/22/2020	4,408.5	13,855.3	18,263.8	0.0	18,263.8
IP-28	10/9/2020	4,731.0	14,869.0	19,600.0	0.0	19,600.0
IP-22	10/12/2020	4,731.0	14,869.0	19,600.0	0.0	19,600.0
IP-33	10/14/2020	1,267.2	3,982.8	5,250.0	0.0	5,250.0
IP-34	10/16/2020	2,196.6	6,903.4	9,100.0	0.0	9,100.0
IP-20	10/16/2020	2,027.6	6,372.4	8,400.0	0.0	8,400.0
IP-29	10/19/2020	4,731.0	14,869.0	19,600.0	0.0	19,600.0
IP-26	10/21/2020	4,948.3	15,551.7	20,500.0	0.0	20,500.0
IP-18B	10/22/2020	506.9	1,593.1	2,100.0	0.0	2,100.0
IP-59	10/22/2020	3,210.3	10,089.7	13,300.0	0.0	13,300.0
IP-50	10/22/2020	2,739.7	8,610.3	11,350.0	0.0	11,350.0
IP-16	10/27/2020	929.3	2,920.7	3,850.0	0.0	3,850.0
IP-54	10/27/2020	3,210.3	10,089.7	13,300.0	0.0	13,300.0
IP-30	10/29/2020	4,127.6	12,972.4	17,100.0	0.0	17,100.0
IP-51	10/29/2020	3,210.3	10,089.7	13,300.0	0.0	13,300.0
IP-24	10/30/2020	4,248.3	13,351.7	17,600.0	0.0	17,600.0
IP-49	11/2/2020	1,201.1	3,775.0	4,976.1	0.0	4,976.1



## DAILY INJECTION POINT TOTALS

### PROJECT

NAME/NUMBER: Phibro-Tech/304-20-1084

FIELD LOG TAB #1						
Well ID:	Start Date	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
		29% CPS (Gallons)	Water (Gallons)			
IP-48	11/4/2020	144.8	455.2	600.0	0.0	600.0
IP-56	11/4/2020	1,734.6	5,451.5	7,186.1	0.0	7,186.1
IP-58	11/4/2020	1,665.5	5,234.5	6,900.0	0.0	6,900.0
IP-31	11/5/2020	2,193.1	6,892.4	9,085.5	0.0	9,085.5
IP-53	11/9/2020	410.3	1,289.7	1,700.0	0.0	1,700.0
IP-23	11/6/2020	555.2	1,744.8	2,300.0	0.0	2,300.0
IP-55	11/9/2020	3,089.7	9,710.3	12,800.0	0.0	12,800.0
IP-52	11/9/2020	580.7	1,825.0	2,405.7	0.0	2,405.7

## WEEKLY PROJECT SUMMARY

### PROJECT

NAME/NUMBER: Phibro-Tech/304-20-1084

Day	Date	On-site Time	Off-site Time	Wells Completed	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
					29% CPS (Gallons)	Water (Gallons)			
Tuesday	9/8/2020	10:00 AM	4:00 PM	Equipment Mobilization and Setup					
Wednesday	9/9/2020	7:00 AM	5:30 PM		3,754.7	11,800.3	15,555.0		15,555.0
Thursday	9/10/2020	7:00 AM	5:30 PM		5,079.8	15,965.2	21,045.0		21,045.0
Friday	9/11/2020	7:00 AM	5:30 PM	1.0	6,405.0	20,824.1	27,450.0		27,450.0
Monday	9/14/2020	7:00 AM	5:30 PM	1.0	6,184.1	20,130.0	26,535.0		26,535.0
Tuesday	9/15/2020	7:00 AM	5:30 PM	2.0	5,854.2	18,398.9	24,253.0		24,253.0
Wednesday	9/16/2020	7:00 AM	4:00 PM	0.0	5,820.1	18,291.8	24,112.0		24,112.0
Thursday	9/17/2020	7:00 AM	5:30 PM	2.0	5,195.7	16,329.3	21,525.0		21,525.0
Friday	9/18/2020	6:00 AM	4:30 PM	0.0	3,658.1	11,496.9	15,155.0		15,155.0
Monday	9/21/2020	7:00 AM	5:30 PM	1.0	4,099.9	12,885.2	16,985.0		16,985.0
Tuesday	9/22/2020	6:00 AM	4:30 PM	1.0	4,213.2	13,241.7	17,455.0		17,455.0
Wednesday	9/23/2020	6:00 AM	4:30 PM	0.0	4,323.2	13,586.9	17,910.0		17,910.0
Thursday	9/24/2020	6:00 AM	4:30 PM	2.0	1,477.0	4,642.1	6,119.2		6,119.2
Friday	9/25/2020	6:00 AM	4:30 PM	1.0	6,877.2	21,614.0	28,491.1		28,491.1

## WEEKLY PROJECT SUMMARY

**PROJECT** Phibro-Tech/304-20-  
**NAME/NUMBER:** 1084

Day	Date	On-site Time	Off-site Time	Wells Completed	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
					29% CPS (Gallons)	Water (Gallons)			
Monday	9/28/2020	6:00 AM	4:00 PM	2.0	3,125.8	9,824.1	12,950.0		12,950.0
Tuesday	9/29/2020	6:00 AM	4:30 PM	2.0	3,463.8	10,886.2	14,350.0		14,350.0
Wednesday	9/30/2020	6:00 AM	4:30 PM	1.0	3,125.9	9,824.2	12,950.0		12,950.0
Thursday	10/1/2020	6:00 AM	4:30PM	3.0	3,926.5	12,340.5	16,267.0		16,267.0
Friday	10/2/2020	6:00 AM	4:30 PM	2.0	3,102.5	9,750.5	12,853.0		12,853.0

Monday	10/5/2020	6:00 AM	4:30 PM	1.0	1,872.0	5,883.4	7,755.3		7,755.3
Tuesday	10/6/2020	6:00 AM	3:30 PM	3.0	2,179.0	6,848.4	9,027.4		9,027.4
Wednesday	10/7/2020	6:00 AM	4:30 PM	1.0	2,534.5	7,965.5	10,500.0		10,500.0
Thursday	10/8/2020	6:00 AM	4:30 PM	1.0	2,281.0	7,168.9	9,450.0		9,450.0
Friday	10/9/2020	6:00 AM	4:30 PM	1.0	4,264.9	13,403.8	17,668.6		17,668.6

Monday	10/12/2020	6:00 AM	4:30 PM	1.0	3,379.3	10,620.7	14,000.0		14,000.0
Tuesday	10/13/2020	6:00 AM	4:30 PM	0.0	2,245.0	7,055.9	9,301.1		9,301.1
Wednesday	10/14/2020	6:00 AM	4:30 AM	1.0	3,632.8	11,417.3	15,050.0		15,050.0
Thursday	10/15/2020	6:00 AM	4:30 PM	0.0	1,649.7	5,184.7	6,834.4		6,834.4
Friday	10/16/2020	6:00 AM	4:30 PM	1.0	3,545.3	11,142.5	14,687.8		14,687.8



## WEEKLY PROJECT SUMMARY

PROJECT NAME/NUMBER: Phibro-Tech/304-20-1084

Day	Date	On-site Time	Off-site Time	Wells Completed	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
					29% CPS (Gallons)	Water (Gallons)			
Monday	10/19/2020	6:00 AM	4:30 PM	1.0	2,618.9	8,230.9	10,849.8		10,849.8
Tuesday	10/20/2020	6:00 AM	4:30 PM	2.0	3,717.7	11,684.0	15,401.7		15,401.7
Wednesday	10/21/2020	6:00AM	4:30PM	1.0	4,142.5	13,019.5	19,262.1		19,262.1
Thursday	10/22/2020	6:00 AM	4:30PM	2.0	3,694.7	11,611.7	15,306.3		15,306.3
Friday	10/23/2020	6:00AM	4:30PM	0.0	2,288.6	7,192.8	9,481.4		9,481.4

Monday	10/26/2020	6:00 AM	4:30 PM	1.0	2,167.8	6,813.1	8,980.9		8,980.9
Tuesday	10/27/2020	6:00 AM	4:40 PM	1.0	1,651.8	5,191.2	6,843.0		6,843.0
Wednesday	10/28/2020	6:00 AM	4:30 PM	1.0	2,870.6	9,022.1	11,892.7		11,892.7
Thursday	10/29/2020	6:00 AM	4:30 PM	1.0	2,166.6	6,809.2	8,975.8		8,975.8
Friday	10/30/2020	6:00 AM	4:30 PM	1.0	4,307.8	13,538.9	17,846.7		17,846.7

Monday	11/2/2020	6:00 AM	4:30 PM	1.0	3,566.6	11,209.4	14,776.1		14,776.1
Tuesday	11/3/2020	6:00 AM	4:30 PM	1.0	3,145.6	9,886.0	13,031.5		13,031.5
Wednesday	11/4/2020	6:00 AM	4:30 PM	3.0	2,434.6	7,651.5	10,086.1		10,086.1
Thursday	11/5/2020	6:00 AM	4:30 AM	0.0	2,957.3	9,294.4	12,251.7		12,251.7
Friday	11/6/2020	6:00 AM	4:30 PM	0.0	955.8	3,003.9	3,959.7		3,959.7

Monday	11/9/2020	6:00 AM	4:30 PM	2.0	1,728.6	5,433.0	7,402.1		7,402.1
Tuesday	11/10/2020	6:00 AM	4:30 PM	1.0	1,964.8	6,174.8	7,899.1		7,899.1
Wednesday	11/11/2020	6:00 AM	4:30 PM	1.0	984.4	3,094.1	4,078.6		4,078.6
Thursday	11/12/2020	6:00 AM	4:30 PM	1.0	434.5	1,365.6	1,800.0		1,800.0

<b>Totals</b>				47	155,069.4	488,749.1	646,360.2	0.0	646,360.2
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## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-12	9/9/2020	8:54 AM	9/9/2020	10:24 AM	25.0 to 26.0	190	190	10.2	220.9	694.1	915.0		915.0		
	9/9/2020	10:35 AM	9/9/2020	11:32 AM	26.0 to 27.0	110	110	16.1	220.9	694.1	915.0		915.0		
	9/9/2020	11:37 AM	9/9/2020	12:26 PM	27.0 to 28.0	110	110	18.7	220.9	694.1	915.0		915.0		
	9/9/2020	12:40 PM	9/9/2020	1:40 PM	28.0 to 29.0	60	60	15.3	220.9	694.1	915.0		915.0		
	9/9/2020	1:53 PM	9/9/2020	2:53 PM	29.0 to 30.0	110	110	15.3	220.9	694.1	915.0		915.0		
	9/9/2020	3:35 PM	9/9/2020	4:02 PM	38.0 to 39.0	200	200	33.9	220.9	694.1	915.0		915.0		
	9/10/2020	8:38 AM	9/10/2020	9:16 AM	39.0 to 40.0	150	150	24.1	220.9	694.1	915.0		915.0		
	9/10/2020	9:25 AM	9/10/2020	10:03 AM	40.0 to 41.0	165	165	24.1	220.9	694.1	915.0		915.0		
	9/10/2020	10:34 AM	9/10/2020	11:15 AM	41.0 to 42.0	165	165	22.3	220.9	694.1	915.0		915.0		
	9/10/2020	11:24 AM	9/10/2020	12:08 PM	42.0 to 43.0	160	160	20.8	220.9	694.1	915.0		915.0		
	9/10/2020	12:40 PM	9/10/2020	1:24 PM	53.0 to 54.0	170	170	20.8	220.9	694.1	915.0		915.0		
	9/10/2020	1:38 PM	9/10/2020	2:23 PM	54.0 to 55.0	170	170	20.3	220.9	694.1	915.0		915.0		
	9/10/2020	2:25 PM	9/10/2020	3:19 PM	55.0 to 56.0	170	170	16.9	220.9	694.1	915.0		915.0		
	9/10/2020	3:31 PM	9/10/2020	4:40 PM	56.0 to 57.0	180	180	13.3	220.9	694.1	915.0		915.0		
	9/11/2020	7:24 AM	9/11/2020	8:11 AM	57.0 to 58.0	180	180	19.5	220.9	694.1	915.0		915.0		
	9/11/2020	8:28 AM	9/11/2020	9:08 AM	58.0 to 59.0	200	200	22.9	220.9	694.1	915.0		915.0		
	9/11/2020	9:20 AM	9/11/2020	10:08 AM	59.0 to 60.0	150	150	19.1	220.9	694.1	915.0		915.0		
	9/11/2020	10:21 AM	9/11/2020	11:06 AM	60.0 to 61.0	150	150	20.3	220.9	694.1	915.0		915.0		
	9/11/2020	11:16 AM	9/11/2020	12:03 PM	61.0 to 62.0	250	250	19.5	220.9	694.1	915.0		915.0		
	9/11/2020	12:17 PM	9/11/2020	12:56 PM	62.0 to 63.0	200	200	23.5	220.9	694.1	915.0		915.0		
	9/11/2020	1:04 PM	9/11/2020	1:45 PM	63.0 to 64.0	210	210	22.3	220.9	694.1	915.0		915.0		2:00 we tried to pulled rod out but it was communicating with other inj points so se left it over night
TOTALS									4,638.1	14,576.9	19,215.0	0.0	19,215		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-18	9/9/2020	8:54 AM	9/9/2020	9:39 AM	25.0 to 26.0	150	150	20.3	220.9	694.1	915.0		915.0		
	9/9/2020	9:59 AM	9/9/2020	11:03 AM	26.0 to 27.0	60	60	14.3	220.9	694.1	915.0		915.0		
	9/9/2020	11:15 AM	9/9/2020	12:26 PM	27.0 to 28.0	60	60	12.9	220.9	694.1	915.0		915.0		
	9/9/2020	12:40 PM	9/9/2020	1:40 PM	28.0 to 29.0	60	60	15.3	220.9	694.1	915.0		915.0		
	9/9/2020	1:53 PM	9/9/2020	2:53 PM	29.0 to 30.0	65	65	15.3	220.9	694.1	915.0		915.0		
	9/10/2020	10:25 AM	9/10/2020	10:58 AM	39.0 to 40.0	600	250	27.7	220.9	694.1	915.0		915.0		38-39' no flow were gona pull the rod and inspect tooling
	9/10/2020	11:05 AM	9/10/2020	11:37 AM	40.0 to 41.0	600	200	28.6	220.9	694.1	915.0		915.0		
	9/10/2020	11:47 AM	9/10/2020	12:26 PM	41.0 to 42.0	600	200	23.5	220.9	694.1	915.0		915.0		
	9/10/2020	12:40 PM	9/10/2020	1:22 PM	42.0 to 43.0	300	140	21.8	220.9	694.1	915.0		915.0		
	9/10/2020	1:38 PM	9/10/2020	2:23 PM	43.0 to 44.0	200	95	20.3	220.9	694.1	915.0		915.0		
	9/10/2020	2:35 PM	9/10/2020	3:19 PM	44.0 to 45.0	350	170	20.8	220.9	694.1	915.0		915.0		
	9/10/2020	3:31 PM	9/10/2020	4:40 PM	45.0 to 46.0	400	100	13.3	220.9	694.1	915.0		915.0		
	9/11/2020	7:24 AM	9/11/2020	8:11 AM	46.0 to 47.0	350	100	19.5	220.9	694.1	915.0		915.0		
	9/11/2020	8:28 AM	9/11/2020	9:08 AM	47.0 to 48.0	600	150	22.9	220.9	694.1	915.0		915.0		
	9/11/2020	9:20 AM	9/11/2020	10:08 AM	48.0 to 49.0	400	100	19.1	220.9	694.1	915.0		915.0		
	9/11/2020	10:21 AM	9/11/2020	11:06 AM	49.0 to 50.0	200	150	20.3	220.9	694.1	915.0		915.0		
	9/11/2020	11:16 AM	9/11/2020	12:03 PM	50.0 to 51.0	500	250	19.5	220.9	694.1	915.0		915.0		
	9/11/2020	12:17 PM	9/11/2020	12:56 PM	51.0 to 52.0	450	180	23.5	220.9	694.1	915.0		915.0		
	9/11/2020	1:04 PM	9/11/2020	1:45 PM	52.0 to 53.0	300	200	22.3	0.0	694.1	915.0		915.0		
	9/11/2020	2:00 PM	9/11/2020	2:43 PM	53.0 to 54.0	300	190	21.3	220.9	694.1	915.0		915.0		
	9/11/2020	2:55 PM	9/11/2020	3:31 PM	54.0 to 55.0	350	280	25.4	220.9	694.1	915.0		915.0		
	9/11/2020	3:44 PM	9/11/2020	4:16 PM	55.0 to 56.0	450	260	28.6	220.9	694.1	915.0		915.0		
	9/14/2020	7:35 AM	9/14/2020	8:22 AM	56.0 to 57.0	300	100	19.5	0.0	694.1	915.0		915.0		
	9/14/2020	8:36 AM	9/14/2020	9:17 AM	57.0 to 58.0	400	250	22.3	220.9	694.1	915.0		915.0		
	9/14/2020	9:33 AM	9/14/2020	10:14 AM	58.0 to 59.0	300	180	22.3	220.9	694.1	915.0		915.0		
	9/14/2020	10:22 AM	9/14/2020	11:00 AM	59.0 to 60.0	450	200	24.1	220.9	694.1	915.0		915.0		
	9/14/2020	11:14 AM	9/14/2020	11:53 AM	60.0 to 61.0	250	200	23.5	220.9	694.1	915.0		915.0		
	9/14/2020	12:06 PM	9/14/2020	12:47 PM	61.0 to 62.0	300	200	22.3	220.9	694.1	915.0		915.0		
	9/14/2020	1:02 PM	9/14/2020	1:43 PM	62.0 to 63.0	500	250	22.3	220.9	694.1	915.0		915.0		
	9/14/2020	1:57 PM	9/14/2020	2:38 PM	63.0 to 64.0	250	160	22.3	220.9	694.1	915.0		915.0		
	9/14/2020	2:49 PM	9/14/2020	3:18 PM	0.0 to 0.0	200	170	31.6	220.9	694.1	915.0		915.0		
TOTALS									6,405.0	21,518.3	28,365.0	0.0	28,365		



# INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-19	9/9/2020	8:54 AM	9/9/2020	9:39 AM	25.0 to 26.0	250	190	20.3	220.9	694.1	915.0		915.0		
	9/9/2020	9:59 AM	9/9/2020	11:03 AM	26.0 to 27.0	400	40	14.3	220.9	694.1	915.0		915.0		
	9/9/2020	11:15 AM	9/9/2020	12:26 PM	27.0 to 28.0	100	40	12.9	220.9	694.1	915.0		915.0		
	9/9/2020	12:40 PM	9/9/2020	1:40 PM	28.0 to 29.0	130	130	15.3	220.9	694.1	915.0		915.0		
	9/9/2020	1:53 PM	9/9/2020	2:51 PM	29.0 to 30.0	130	130	15.8	220.9	694.1	915.0		915.0		
	9/9/2020	3:35 PM	9/9/2020	4:02 PM	30.0 to 31.0	200	200	33.9	220.9	694.1	915.0		915.0		
	9/10/2020	8:38 AM	9/9/2020	9:16 AM	31.0 to 32.0	160	160	24.1	220.9	694.1	915.0		915.0		
	9/10/2020	9:25 AM	9/10/2020	1:03 PM	32.0 to 33.0	170	170	0.2	220.9	694.1	915.0		915.0		
	9/10/2020	10:35 AM	9/10/2020	11:15 AM	33.0 to 34.0	170	170	22.9	220.9	694.1	915.0		915.0		
	9/10/2020	11:24 AM	9/10/2020	12:08 PM	34.0 to 35.0	160	160	20.8	220.9	694.1	915.0		915.0		
	9/10/2020	12:40 PM	9/10/2020	1:24 PM	35.0 to 36.0	155	155	20.8	220.9	694.1	915.0		915.0		
	9/10/2020	1:38 PM	9/10/2020	2:23 PM	36.0 to 37.0	145	145	20.3	220.9	694.1	915.0		915.0		
	9/10/2020	2:35 PM	9/10/2020	3:19 PM	37.0 to 38.0	145	145	20.8	220.9	694.1	915.0		915.0		
	9/10/2020	3:31 PM	9/10/2020	4:40 PM	38.0 to 39.0	185	185	13.3	220.9	694.1	915.0		915.0		
	9/11/2020	7:24 AM	9/11/2020	8:11 AM	39.0 to 40.0	180	180	19.5	220.9	694.1	915.0		915.0		
	9/11/2020	8:28 AM	9/11/2020	9:08 AM	40.0 to 41.0	200	200	22.9	220.9	694.1	915.0		915.0		
	9/11/2020	9:20 AM	9/11/2020	10:08 AM	41.0 to 42.0	130	130	19.1	220.9	694.1	915.0		915.0		
	9/11/2020	10:21 AM	9/11/2020	11:06 AM	42.0 to 43.0	150	150	20.3	220.9	694.1	915.0		915.0		
	9/11/2020	11:16 AM	9/11/2020	12:03 PM	43.0 to 44.0	250	250	19.5	220.9	694.1	915.0		915.0		
	9/11/2020	12:17 PM	9/11/2020	12:56 PM	44.0 to 45.0	210	210	23.5	220.9	694.1	915.0		915.0		
	9/11/2020	1:04 PM	9/11/2020	1:45 PM	45.0 to 49.0	210	210	22.3	220.9	694.1	915.0		915.0		
	9/11/2020	2:00 PM	9/11/2020	2:43 PM	49.0 to 50.0	190	190	21.3	220.9	694.1	915.0		915.0		
	9/11/2020	2:55 PM	9/11/2020	3:31 PM	50.0 to 51.0	280	280	25.4	220.9	694.1	915.0		915.0		
	9/11/2020	3:44 PM	9/11/2020	4:16 PM	51.0 to 49.0	300	300	28.6	220.9	694.1	915.0		915.0		
	9/14/2020	7:35 AM	9/14/2020	8:22 AM	49.0 to 50.0	110	110	19.5	220.9	694.1	915.0		915.0		
	9/14/2020	8:36 AM	9/14/2020	12:00 AM	50.0 to 51.0	250	250	0.0	220.9	694.1	915.0		915.0		
	9/14/2020	9:33 AM	9/14/2020	10:14 AM	51.0 to 49.0	150	150	22.3	220.9	694.1	915.0		915.0		
	9/14/2020	10:22 AM	9/14/2020	11:00 AM	49.0 to 50.0	200	200	24.1	220.9	694.1	915.0		915.0		
	9/14/2020	11:14 AM	9/14/2020	11:50 AM	50.0 to 51.0	220	220	25.4	220.9	694.1	915.0		915.0		
	9/14/2020	12:06 PM	9/14/2020	12:47 PM	51.0 to 49.0	200	200	22.3	220.9	694.1	915.0		915.0		
	9/14/2020	1:02 PM	9/14/2020	1:43 PM	49.0 to 50.0	250	250	22.3	220.9	694.1	915.0		915.0		
	9/14/2020	1:57 PM	9/14/2020	2:38 PM	50.0 to 51.0	180	180	22.3	220.9	694.1	915.0		915.0		
	9/14/2020	2:49 PM	9/24/2020	5:18 PM	51.0 to 49.0	200	200	6.1	220.9	694.1	915.0		915.0		
	9/14/2020	3:31 PM	9/14/2020	4:03 PM	49.0 to 50.0	160	160	28.6	220.9	694.1	915.0		915.0		
	9/15/2020	7:24 AM	9/15/2020	7:55 AM	50.0 to 51.0	200	200	29.5	220.9	694.1	915.0		915.0		
	9/15/2020	8:06 AM	9/15/2020	8:44 AM	51.0 to 49.0	200	200	24.1	220.9	694.1	915.0		915.0		
	9/15/2020	9:23 AM	9/15/2020	10:21 AM	49.0 to 50.0	240	240	15.8	220.9	694.1	915.0		915.0		
	9/15/2020	10:27 AM	9/15/2020	10:59 AM	50.0 to 51.0	240	240	28.6	220.9	694.1	915.0		915.0		
	9/15/2020	11:07 AM	9/15/2020	11:40 AM	63.0 to 64.0	220	220	27.7	220.9	694.1	915.0		915.0		
	9/15/2020	11:44 AM	9/15/2020	12:17 PM	64.0 to 65.0	200	200	27.7	220.9	694.1	915.0		915.0		
TOTALS									8,834.5	27,765.5	36,600.0	0.0	36,600		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-17	9/11/2020	1:53 PM	9/11/2020	3:00 PM	25.0 to 26.0	560	550	13.7	220.9	694.1	915.0		915.0		
	9/11/2020	3:04 PM	9/11/2020	3:43 PM	26.0 to 27.0	250	250	23.5	220.9	694.1	915.0		915.0		
	9/11/2020	3:50 PM	9/11/2020	4:32 PM	27.0 to 28.0	250	250	21.8	220.9	694.1	915.0		915.0		
	9/14/2020	7:35 AM	9/14/2020	8:22 AM	28.0 to 29.0	160	160	19.5	220.9	694.1	915.0		915.0		
	9/14/2020	8:36 AM	9/14/2020	9:17 AM	29.0 to 30.0	250	250	22.3	220.9	694.1	915.0		915.0		
	9/14/2020	9:33 AM	9/14/2020	10:14 AM	30.0 to 31.0	150	150	22.3	220.9	694.1	915.0		915.0		
	9/14/2020	10:22 AM	9/14/2020	11:00 AM	31.0 to 32.0	200	200	24.1	220.9	694.1	915.0		915.0		
	9/14/2020	11:14 AM	9/14/2020	11:53 AM	60.0 to 61.0	120	120	23.5	220.9	694.1	915.0		915.0		
	9/14/2020	12:06 PM	9/14/2020	12:47 PM	61.0 to 62.0	200	200	22.3	220.9	694.1	915.0		915.0		
	9/14/2020	1:02 PM	9/14/2020	1:43 PM	62.0 to 63.0	250	250	22.3	220.9	694.1	915.0		915.0		
	9/14/2020	1:57 PM	9/14/2020	4:21 PM	63.0 to 64.0	500	500	6.4	220.9	694.1	915.0		915.0		gpm dropped to 10 gpm went up to 500 psi
	9/15/2020	7:54 AM	9/15/2020	8:24 AM	64.0 to 65.0	250	250	30.5	220.9	694.1	915.0		915.0		
	9/15/2020	8:37 AM	9/15/2020	9:10 AM	65.0 to 66.0	250	250	27.7	220.9	694.1	915.0		915.0		
TOTALS									2,871.2	9,023.8	11,895.0	0.0	11,895		
IP-11	9/14/2020	3:27 PM	9/14/2020	3:52 PM	26.0 to 27.0	150	150	36.6	220.9	694.1	915.0		915.0		
	9/14/2020	4:00 PM	9/14/2020	4:28 PM	27.0 to 28.0	150	150	32.7	220.9	694.1	915.0		915.0		
	9/15/2020	7:24 AM	9/15/2020	7:55 AM	28.0 to 29.0	150	150	29.5	220.9	694.1	915.0		915.0		
	9/15/2020	8:06 AM	9/15/2020	8:44 AM	29.0 to 30.0	180	180	24.1	220.9	694.1	915.0		915.0		
	9/15/2020	9:52 AM	9/15/2020	11:58 AM	30.0 to 31.0	40	40	7.3	220.9	694.1	915.0		915.0	x	kept it at 10 gpm due to daylight
	9/15/2020	12:05 PM	9/15/2020	2:47 PM	31.0 to 32.0	40	40	5.6	220.9	694.1	915.0		915.0		
	9/15/2020	2:57 PM	9/15/2020	4:07 PM	39.0 to 40.0	160	160	6.6	111.8	351.2	463.0		463.0		stopped injecting so we can pull IP-17,19
	9/16/2020	7:11 AM	9/16/2020	8:58 AM	39.0 to 40.0	200	200	4.2	109.1	342.9	452.0		452.0		
	9/16/2020	9:10 AM	9/16/2020	10:47 AM	40.0 to 41.0	360	360	9.4	220.9	694.1	915.0		915.0		
	9/16/2020	10:54 AM	9/16/2020	12:36 PM	41.0 to 42.0	210	210	7.7	189.5	595.5	785.0		785.0	x	client called it at 785 gal due to day lighting on asphalt and around monitoring well
	9/16/2020	12:46 PM	9/16/2020	1:37 PM	60.0 to 61.0	600	200	150.0	220.9	694.1	915.0		915.0		
	9/16/2020	1:41 PM	9/16/2020	2:26 PM	61.0 to 62.0	250	250	20.3	220.9	694.1	915.0		915.0		
	9/17/2020	7:30 AM	9/17/2020	8:34 AM	62.0 to 63.0	200	200	14.3	220.9	694.1	915.0		915.0		
	9/17/2020	8:39 AM	9/17/2020	9:37 AM	63.0 to 64.0	260	260	15.8	220.9	694.1	915.0		915.0		
	9/17/2020	9:55 AM	9/17/2020	10:47 AM	64.0 to 65.0	250	250	17.6	220.9	694.1	915.0		915.0		
TOTALS									3,060.7	9,619.3	12,680.0	0.0	12,680		

# INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
											29% CPS (Gallons)	Water (Gallons)					
IP-6	9/15/2020	9:48 AM	9/15/2020	10:25 AM	28.0	to	29.0	400	140	24.7	220.9	694.1	915.0		915.0		
	9/15/2020	10:34 AM	9/15/2020	11:05 AM	29.0	to	30.0	150	150	29.5	220.9	694.1	915.0		915.0		
	9/15/2020	11:12 AM	9/15/2020	11:35 AM	30.0	to	31.0	220	220	39.8	220.9	694.1	915.0		915.0		
	9/15/2020	11:47 AM	9/15/2020	12:12 PM	31.0	to	32.0	220	220	36.6	220.9	694.1	915.0		915.0		
	9/15/2020	12:25 PM	9/15/2020	12:50 PM	32.0	to	33.0	185	185	36.6	220.9	694.1	915.0		915.0		
	9/15/2020	1:00 PM	9/15/2020	1:34 PM	39.0	to	40.0	185	185	26.9	220.9	694.1	915.0		915.0		
	9/15/2020	2:16 PM	9/15/2020	2:42 PM	40.0	to	41.0	250	250	35.2	220.9	694.1	915.0		915.0		
	9/15/2020	2:47 PM	9/15/2020	3:15 PM	41.0	to	42.0	150	150	32.7	220.9	694.1	915.0		915.0		
	9/15/2020	3:26 PM	9/15/2020	3:53 PM	42.0	to	43.0	190	190	33.9	220.9	694.1	915.0		915.0		
	9/15/2020	4:07 PM	9/15/2020	4:33 PM	43.0	to	44.0	200	200	35.2	220.9	694.1	915.0		915.0		
	9/16/2020	7:11 AM	9/16/2020	7:38 AM	44.0	to	45.0	220	220	33.9	220.9	694.1	915.0		915.0		
	9/16/2020	7:46 AM	9/16/2020	8:12 AM	45.0	to	46.0	200	200	35.2	220.9	694.1	915.0		915.0		
	9/16/2020	8:16 AM	9/16/2020	8:47 AM	46.0	to	47.0	210	210	29.5	220.9	694.1	915.0		915.0		
	9/16/2020	8:55 AM	9/16/2020	9:30 AM	47.0	to	48.0	210	210	26.1	220.9	694.1	915.0		915.0		
	9/16/2020	9:43 AM	9/16/2020	10:14 AM	48.0	to	49.0	280	280	29.5	220.9	694.1	915.0		915.0		
	9/16/2020	10:24 AM	9/16/2020	10:57 AM	49.0	to	50.0	230	230	27.7	220.9	694.1	915.0		915.0		
	9/16/2020	11:10 AM	9/16/2020	11:36 AM	50.0	to	51.0	220	220	35.2	220.9	694.1	915.0		915.0		
	9/16/2020	11:50 AM	9/16/2020	12:17 PM	51.0	to	52.0	220	220	33.9	220.9	694.1	915.0		915.0		
	9/16/2020	12:35 PM	9/16/2020	1:08 PM	52.0	to	53.0	230	230	27.7	220.9	694.1	915.0		915.0		
	9/16/2020	1:20 PM	9/16/2020	1:49 PM	53.0	to	54.0	250	250	31.6	220.9	694.1	915.0		915.0		
	9/16/2020	1:57 PM	9/16/2020	2:24 PM	54.0	to	55.0	280	280	33.9	220.9	694.1	915.0		915.0		
	9/17/2020	7:30 AM	9/17/2020	8:12 AM	55.0	to	56.0	200	200	21.8	220.9	694.1	915.0		915.0		
	9/17/2020	8:17 AM	9/17/2020	8:50 AM	56.0	to	57.0	240	240	27.7	220.9	694.1	915.0		915.0		
	9/17/2020	9:00 AM	9/17/2020	9:32 AM	57.0	to	58.0	260	260	28.6	220.9	694.1	915.0		915.0		
	9/17/2020	9:55 AM	9/17/2020	10:23 AM	58.0	to	59.0	260	260	32.7	220.9	694.1	915.0		915.0		
	9/17/2020	10:42 AM	9/17/2020	11:15 AM	59.0	to	60.0	300	300	27.7	220.9	694.1	915.0		915.0		
	9/17/2020	11:29 AM	9/17/2020	12:00 PM	60.0	to	61.0	300	300	29.5	220.9	694.1	915.0		915.0		
	9/17/2020	2:10 PM	9/17/2020	3:08 PM	61.0	to	62.0	100	100	15.8	220.9	694.1	915.0		915.0	x	2:40 gpm drop to 10 due to daylight around the rod
	9/17/2020	3:21 PM	9/17/2020	4:01 PM	62.0	to	63.0	250	250	22.9	220.9	694.1	915.0		915.0		
	9/17/2020	4:07 PM	9/17/2020	4:45 PM	63.0	to	64.0	280	280	24.1	220.9	694.1	915.0		915.0		
TOTALS											6,625.9	20,824.1	27,450.0	0.0	27,450		



## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-25	9/18/2020	11:36 AM	9/18/2020	12:36 PM	10.0 to 11.0	200	80	15.3	220.9	694.1	915.0		915.0		
	9/18/2020	12:41 PM	9/18/2020	1:34 PM	11.0 to 12.0	100	100	17.3	220.9	694.1	915.0		915.0		
	9/18/2020	1:40 PM	9/18/2020	2:33 PM	12.0 to 13.0	95	95	17.3	220.9	694.1	915.0		915.0		
	9/18/2020	2:40 PM	9/18/2020	3:18 PM	13.0 to 14.0	180	180	24.1	220.9	694.1	915.0		915.0		
	9/21/2020	7:42 AM	9/21/2020	8:17 AM	14.0 to 15.0	130	130	26.1	220.9	694.1	915.0		915.0		
	9/21/2020	8:25 AM	9/21/2020	9:09 AM	15.0 to 16.0	110	110	20.8	220.9	694.1	915.0		915.0		
	9/21/2020	9:19 AM	9/21/2020	10:07 AM	16.0 to 17.0	180	180	19.1	220.9	694.1	915.0		915.0		
	9/21/2020	10:14 AM	9/21/2020	11:43 AM	17.0 to 18.0	180	180	10.3	220.9	694.1	915.0		915.0	x	10:30 drop to 7 gpm due to daylight
	9/21/2020	12:00 PM	9/21/2020	2:01 PM	18.0 to 19.0	150	150	7.6	220.9	694.1	915.0		915.0		
	9/21/2020	2:13 PM	9/21/2020	3:15 PM	19.0 to 20.0	120	120	14.8	220.9	694.1	915.0		915.0		
	9/21/2020	3:40 PM	9/21/2020	4:28 PM	20.0 to 21.0	90	90	19.1	220.9	694.1	915.0		915.0		
	9/22/2020	6:44 AM	9/22/2020	7:41 AM	21.0 to 22.0	250	250	16.1	220.9	694.1	915.0		915.0		
	9/22/2020	7:55 AM	9/22/2020	8:54 AM	22.0 to 23.0	300	300	15.5	220.9	694.1	915.0		915.0		
	9/22/2020	9:03 AM	9/22/2020	12:00 AM	23.0 to 24.0	230	230	0.0	220.9	694.1	915.0		915.0	x	small amount of daylight from an old soil boring 15' away
	9/22/2020	10:08 AM	9/22/2020	11:11 AM	24.0 to 25.0	280	280	14.5	220.9	694.1	915.0		915.0		
	9/22/2020	11:18 AM	9/22/2020	12:40 PM	25.0 to 26.0	450	450	11.2	220.9	694.1	915.0		915.0		915
	9/22/2020	12:44 PM	9/22/2020	1:11 PM	26.0 to 27.0	450	450	17.0	111.0	349.0	460.0		460.0		460
	9/22/2020	1:40 PM	9/22/2020	2:45 PM	27.0 to 28.0	400	400	7.1	111.0	349.0	460.0		460.0		
	9/22/2020	3:01 PM	9/22/2020	3:22 PM	28.0 to 29.0	150	150	21.9	111.0	349.0	460.0		460.0		
	9/23/2020	6:25 AM	9/23/2020	6:49 AM	29.0 to 30.0	145	145	19.2	111.0	349.0	460.0		460.0		
	9/23/2020	7:00 AM	9/23/2020	7:25 AM	30.0 to 31.0	150	150	18.4	111.0	349.0	460.0		460.0		
	9/23/2020	7:37 AM	9/23/2020	8:01 AM	31.0 to 32.0	140	140	19.2	111.0	349.0	460.0		460.0		
	9/23/2020	8:06 AM	9/23/2020	8:29 AM	32.0 to 33.0	150	150	20.0	111.0	349.0	460.0		460.0		460
	9/23/2020	8:41 AM	9/23/2020	9:30 AM	33.0 to 34.0	150	150	18.7	220.9	694.1	915.0		915.0		915
	9/23/2020	9:38 AM	9/23/2020	10:28 AM	34.0 to 35.0	200	200	18.3	220.9	694.1	915.0		915.0		
	9/23/2020	10:36 AM	9/23/2020	11:22 AM	35.0 to 36.0	200	200	19.9	220.9	694.1	915.0		915.0		
	9/23/2020	11:35 AM	9/23/2020	12:27 PM	36.0 to 37.0	200	200	17.6	220.9	694.1	915.0		915.0		
	9/23/2020	12:32 PM	9/23/2020	1:25 PM	37.0 to 38.0	300	300	17.3	220.9	694.1	915.0		915.0		
	9/23/2020	1:33 PM	9/23/2020	2:25 PM	38.0 to 39.0	300	300	17.6	220.9	694.1	915.0		915.0		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-25	9/24/2020	6:40 AM	9/24/2020	7:34 AM	39.0 to 40.0	300	300	16.9	220.9	694.1	915.0		915.0		
	9/24/2020	7:45 AM	9/24/2020	8:41 AM	40.0 to 41.0	350	350	16.3	220.9	694.1	915.0		915.0		
	9/24/2020	8:52 AM	9/24/2020	9:41 AM	41.0 to 42.0	400	400	18.7	220.9	694.1	915.0		915.0		
	9/24/2020	9:50 AM	9/24/2020	10:41 AM	42.0 to 43.0	370	370	17.9	220.9	694.1	915.0		915.0		
	9/24/2020	10:46 AM	9/24/2020	11:40 AM	43.0 to 44.0	350	350	16.9	220.9	694.1	915.0		915.0		
	9/24/2020	11:53 AM	9/24/2020	12:45 PM	44.0 to 45.0	400	400	17.6	220.9	694.1	915.0		915.0		
	9/24/2020	12:50 PM	9/24/2020	1:38 PM	45.0 to 46.0	450	450	19.1	220.9	694.1	915.0		915.0		
	9/24/2020	1:45 PM	9/24/2020	2:43 PM	46.0 to 47.0	300	300	15.8	220.9	694.1	915.0		915.0		
	9/25/2020	6:15 AM	9/25/2020	7:10 AM	47.0 to 48.0	500	500	16.6	220.9	694.1	915.0		915.0		
	9/25/2020	7:25 AM	9/25/2020	8:19 AM	48.0 to 49.0	500	500	16.9	220.9	694.1	915.0		915.0		
	9/25/2020	8:26 AM	9/25/2020	9:08 AM	49.0 to 50.0	550	550	21.8	220.9	694.1	915.0		915.0		
	9/25/2020	9:14 AM	9/25/2020	9:33 AM	50.0 to 51.0	550	550	24.2	111.0	349.0	460.0		460.0		460
	9/25/2020	9:47 AM	9/25/2020	10:00 AM	51.0 to 52.0	400	400	35.4	111.0	349.0	460.0		460.0		
	9/25/2020	10:21 AM	9/25/2020	10:30 AM	52.0 to 53.0	220	220	38.9	84.5	265.5	350.0		350.0		
	9/25/2020	10:37 AM	9/25/2020	10:47 AM	53.0 to 54.0	340	340	35.0	84.5	265.5	350.0		350.0		
	9/25/2020	10:56 AM	9/25/2020	11:05 AM	54.0 to 55.0	350	350	38.9	84.5	265.5	350.0		350.0		
	9/25/2020	11:09 AM	9/25/2020	11:20 AM	55.0 to 56.0	150	150	31.8	84.5	265.5	350.0		350.0		
	9/25/2020	11:33 AM	9/25/2020	11:47 AM	56.0 to 57.0	150	150	25.0	84.5	265.5	350.0		350.0		
	9/25/2020	11:54 AM	9/25/2020	12:10 PM	57.0 to 58.0	150	150	21.9	84.5	265.5	350.0		350.0		
	9/25/2020	12:18 PM	9/25/2020	12:28 PM	58.0 to 59.0	200	200	35.0	84.5	265.5	350.0		350.0		
	9/25/2020	12:31 PM	9/25/2020	12:45 PM	59.0 to 60.0	180	180	25.0	84.5	265.5	350.0		350.0		
	9/25/2020	1:04 PM	9/25/2020	1:17 PM	60.0 to 61.0	200	200	26.9	84.5	265.5	350.0		350.0		
	9/25/2020	1:24 PM	9/25/2020	1:39 PM	61.0 to 62.0	200	200	23.3	84.5	265.5	350.0		350.0		
	9/25/2020	1:42 PM	9/25/2020	1:53 PM	62.0 to 63.0	300	300	31.8	84.5	265.5	350.0		350.0		460
	9/25/2020	1:58 PM	9/25/2020	2:13 PM	63.0 to 64.0	200	200	23.3	84.5	265.5	350.0		350.0		
	9/25/2020	2:16 PM	9/25/2020	2:29 PM	64.0 to 65.0	200	200	26.9	84.5	265.5	350.0		350.0		
	9/25/2020	2:34 PM	9/25/2020	2:46 PM	65.0 to 66.0	350	350	29.2	84.5	265.5	350.0		350.0		
TOTALS									9,470.5	29,764.5	39,235.0	0.0	39,235		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-1	9/15/2020	2:08 PM	9/15/2020	2:33 PM	43.0 to 44.0	400	280	36.6	220.9	694.1	915.0		915.0		
	9/15/2020	2:42 PM	9/15/2020	3:13 PM	44.0 to 45.0	190	190	29.5	220.9	694.1	915.0		915.0		
	9/15/2020	3:21 PM	9/15/2020	3:49 PM	45.0 to 46.0	200	200	32.7	220.9	694.1	915.0		915.0		
	9/15/2020	3:56 PM	9/15/2020	4:22 PM	46.0 to 47.0	210	210	35.2	220.9	694.1	915.0		915.0		
	9/16/2020	7:11 AM	9/16/2020	7:40 AM	47.0 to 48.0	220	220	31.6	220.9	694.1	915.0		915.0		
	9/16/2020	7:50 AM	9/16/2020	8:17 AM	48.0 to 49.0	200	200	33.9	220.9	694.1	915.0		915.0		
	9/16/2020	8:27 AM	9/16/2020	8:55 AM	49.0 to 50.0	210	210	32.7	220.9	694.1	915.0		915.0		
	9/16/2020	9:04 AM	9/16/2020	9:32 AM	50.0 to 51.0	250	250	32.7	220.9	694.1	915.0		915.0		
	9/16/2020	9:43 AM	9/16/2020	10:13 AM	51.0 to 52.0	280	280	30.5	220.9	694.1	915.0		915.0		
	9/16/2020	10:24 AM	9/16/2020	11:15 AM	52.0 to 53.0	230	230	17.9	220.9	694.1	915.0		915.0		
	9/16/2020	11:10 AM	9/16/2020	11:36 AM	53.0 to 54.0	220	220	35.2	220.9	694.1	915.0		915.0		
	9/16/2020	11:50 AM	9/16/2020	12:17 PM	54.0 to 55.0	220	220	33.9	220.9	694.1	915.0		915.0		
	9/16/2020	12:35 PM	9/16/2020	1:08 PM	55.0 to 56.0	230	230	27.7	220.9	694.1	915.0		915.0		
	9/16/2020	1:20 PM	9/16/2020	1:49 PM	56.0 to 57.0	250	250	31.6	220.9	694.1	915.0		915.0		
	9/16/2020	1:57 PM	9/16/2020	2:24 PM	57.0 to 58.0	280	280	33.9	220.9	694.1	915.0		915.0		
	9/17/2020	7:30 AM	9/17/2020	8:12 AM	58.0 to 59.0	200	200	21.8	220.9	694.1	915.0		915.0		
	9/17/2020	8:17 AM	9/17/2020	8:50 AM	59.0 to 60.0	240	240	27.7	220.9	694.1	915.0		915.0		
	9/17/2020	9:00 AM	9/17/2020	9:32 AM	60.0 to 61.0	220	220	28.6	220.9	694.1	915.0		915.0		
	9/17/2020	9:55 AM	9/17/2020	7:24 PM	61.0 to 62.0	220	220	1.6	220.9	694.1	915.0		915.0		
	9/17/2020	10:42 AM	9/17/2020	11:15 AM	62.0 to 63.0	300	300	27.7	220.9	694.1	915.0		915.0		
	9/17/2020	11:29 AM	9/17/2020	12:00 PM	63.0 to 64.0	300	300	29.5	220.9	694.1	915.0		915.0		
TOTALS									4,638.1	14,576.9	19,215.0	0.0	19,215		



## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-5	9/17/2020	10:54 AM	9/17/2020	11:41 AM	43.0 to 44.0	350	250	19.5	220.9	694.1	915.0		915.0		
	9/17/2020	2:10 PM	9/17/2020	2:36 PM	44.0 to 45.0	200	200	17.7	111.0	349.0	460.0		460.0		460 gal per interval
	9/17/2020	2:54 PM	9/17/2020	3:12 PM	45.0 to 46.0	180	180	25.6	111.0	349.0	460.0		460.0		
	9/17/2020	3:18 PM	9/17/2020	3:43 PM	46.0 to 47.0	250	250	18.4	111.0	349.0	460.0		460.0		
	9/17/2020	3:52 PM	9/17/2020	4:11 PM	47.0 to 48.0	250	250	24.2	111.0	349.0	460.0		460.0		
	9/17/2020	4:21 PM	9/17/2020	4:41 PM	48.0 to 49.0	200	200	23.0	111.0	349.0	460.0		460.0		
	9/18/2020	6:15 AM	9/18/2020	6:41 AM	49.0 to 50.0	150	150	17.7	111.0	349.0	460.0		460.0		
	9/18/2020	6:55 AM	9/18/2020	7:47 AM	50.0 to 51.0	50	50	8.8	111.0	349.0	460.0		460.0	x	5 GPM at the start due to day light where asphalt meets the concrete pad
	9/18/2020	7:50 AM	9/18/2020	8:32 AM	51.0 to 52.0	80	80	11.0	111.0	349.0	460.0		460.0		
	9/18/2020	8:47 AM	9/18/2020	10:00 AM	52.0 to 53.0	30	30	6.3	111.0	349.0	460.0		460.0		
	9/18/2020	10:05 AM	9/18/2020	11:17 AM	53.0 to 54.0	90	90	6.4	111.0	349.0	460.0		460.0		
	9/22/2020	7:00 AM	9/22/2020	7:50 AM	54.0 to 55.0	150	150	9.2	111.0	349.0	460.0		460.0		
	9/22/2020	7:56 AM	9/22/2020	8:25 AM	55.0 to 56.0	150	150	15.9	111.0	349.0	460.0		460.0		
	9/22/2020	8:27 AM	9/22/2020	9:04 AM	56.0 to 57.0	200	200	12.4	111.0	349.0	460.0		460.0		
	9/22/2020	9:20 AM	9/22/2020	9:44 AM	57.0 to 58.0	200	200	19.2	111.0	349.0	460.0		460.0		
	9/22/2020	9:53 AM	9/22/2020	10:21 AM	58.0 to 59.0	150	150	16.4	111.0	349.0	460.0		460.0		
	9/22/2020	10:26 AM	9/22/2020	10:51 AM	59.0 to 60.0	150	150	18.4	111.0	349.0	460.0		460.0		
	9/22/2020	11:03 AM	9/22/2020	11:38 AM	60.0 to 61.0	120	120	13.1	111.0	349.0	460.0		460.0		
	9/22/2020	11:49 AM	9/22/2020	12:19 PM	61.0 to 62.0	150	150	15.3	111.0	349.0	460.0		460.0		
	9/22/2020	12:35 PM	9/22/2020	1:00 PM	62.0 to 63.0	180	180	18.4	111.0	349.0	460.0		460.0		
						TOTALS			2,330.5	7,324.5	9,655.0	0.0	9,655		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-3	9/17/2020	2:54 PM	9/17/2020	3:10 PM	43.0 to 44.0	550	150	28.8	111.0	349.0	460.0		460.0		460 gal per interval pr west
	9/17/2020	3:25 PM	9/17/2020	3:41 PM	44.0 to 45.0	250	250	28.7	111.0	349.0	460.0		460.0		
	9/17/2020	3:52 PM	9/17/2020	4:09 PM	45.0 to 46.0	250	250	27.1	111.0	349.0	460.0		460.0		
	9/17/2020	4:18 PM	9/17/2020	4:32 PM	46.0 to 47.0	250	250	32.9	111.0	349.0	460.0		460.0		
	9/18/2020	6:15 AM	9/18/2020	6:38 AM	47.0 to 48.0	150	150	20.0	111.0	349.0	460.0		460.0		
	9/18/2020	6:55 AM	9/18/2020	7:17 AM	48.0 to 49.0	100	100	20.9	111.0	349.0	460.0		460.0		
	9/18/2020	7:34 AM	9/18/2020	7:52 AM	49.0 to 50.0	150	150	25.6	111.0	349.0	460.0		460.0		
	9/18/2020	8:00 AM	9/18/2020	8:15 AM	50.0 to 51.0	170	170	30.7	111.0	349.0	460.0		460.0		
	9/18/2020	8:23 AM	9/18/2020	8:54 AM	51.0 to 52.0	200	200	14.8	111.0	349.0	460.0		460.0		
	9/18/2020	9:01 AM	9/18/2020	10:13 AM	52.0 to 53.0	50	50	6.4	111.0	349.0	460.0		460.0	×	9:22 turn off due to daylight
	9/18/2020	10:23 AM	9/18/2020	11:07 AM	53.0 to 54.0	85	85	10.5	111.0	349.0	460.0		460.0		
	9/18/2020	11:15 AM	9/18/2020	12:17 PM	54.0 to 55.0	90	90	7.4	111.0	349.0	460.0		460.0		
	9/18/2020	12:28 PM	9/18/2020	1:16 PM	55.0 to 56.0	60	60	9.6	111.0	349.0	460.0		460.0		
	9/18/2020	1:30 PM	9/18/2020	2:14 PM	56.0 to 57.0	60	60	10.5	111.0	349.0	460.0		460.0		
	9/18/2020	2:23 PM	9/18/2020	3:09 PM	57.0 to 58.0	60	60	10.0	111.0	349.0	460.0		460.0		
	9/21/2020	7:42 AM	9/21/2020	8:36 AM	58.0 to 59.0	50	50	8.5	111.0	349.0	460.0		460.0		
	9/21/2020	8:38 AM	9/21/2020	9:18 AM	59.0 to 60.0	50	50	11.5	111.0	349.0	460.0		460.0		
	9/21/2020	9:20 AM	9/21/2020	9:54 AM	60.0 to 61.0	50	50	13.5	111.0	349.0	460.0		460.0		
	9/21/2020	10:01 AM	9/21/2020	10:26 AM	61.0 to 62.0	140	140	18.4	111.0	349.0	460.0		460.0		
	9/21/2020	10:44 AM	9/21/2020	11:05 AM	62.0 to 63.0	180	180	21.9	111.0	349.0	460.0		460.0		
TOTALS									2,220.7	6,979.3	9,200.0	0.0	9,200		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-7	9/18/2020	7:48 AM	9/18/2020	8:29 AM	43.0 to 44.0	300	200	22.3	220.9	694.1	915.0		915.0		
	9/18/2020	8:47 AM	9/18/2020	10:00 AM	44.0 to 45.0	30	30	6.3	111.0	349.0	460.0		460.0	x	9:22 turn off due to daylight
	9/18/2020	10:09 AM	9/18/2020	10:58 AM	45.0 to 46.0	50	50	9.4	111.0	349.0	460.0		460.0		
	9/18/2020	11:07 AM	9/18/2020	11:57 AM	46.0 to 47.0	45	45	9.2	111.0	349.0	460.0		460.0		
	9/18/2020	11:58 AM	9/18/2020	12:29 PM	47.0 to 48.0	100	100	14.8	111.0	349.0	460.0		460.0		
	9/18/2020	12:31 PM	9/18/2020	1:03 PM	48.0 to 49.0	100	100	14.4	111.0	349.0	460.0		460.0		
	9/18/2020	1:30 PM	9/18/2020	2:06 PM	49.0 to 50.0	100	100	12.8	111.0	349.0	460.0		460.0		
	9/18/2020	2:23 PM	9/18/2020	2:50 PM	50.0 to 51.0	100	100	17.0	111.0	349.0	460.0		460.0		
	9/21/2020	7:42 AM	9/18/2020	8:24 AM	51.0 to 52.0	80	80	11.0	111.0	349.0	460.0		460.0		
	9/21/2020	8:40 AM	9/21/2020	9:12 AM	52.0 to 53.0	90	90	14.4	111.0	349.0	460.0		460.0		
	9/21/2020	9:19 AM	9/21/2020	9:52 AM	53.0 to 54.0	90	90	13.9	111.0	349.0	460.0		460.0		
	9/21/2020	10:01 AM	9/21/2020	10:25 AM	54.0 to 55.0	130	130	19.2	111.0	349.0	460.0		460.0		
	9/21/2020	10:44 AM	9/21/2020	11:03 AM	55.0 to 56.0	130	130	24.2	111.0	349.0	460.0		460.0		
	9/21/2020	11:20 AM	9/21/2020	11:50 AM	56.0 to 57.0	130	130	15.3	111.0	349.0	460.0		460.0		
	9/21/2020	12:08 PM	9/21/2020	12:32 PM	57.0 to 58.0	130	130	19.2	111.0	349.0	460.0		460.0		
	9/21/2020	12:44 PM	9/21/2020	1:07 PM	58.0 to 59.0	150	150	20.0	111.0	349.0	460.0		460.0		
	9/21/2020	1:20 PM	9/21/2020	1:46 PM	59.0 to 60.0	150	150	17.7	111.0	349.0	460.0		460.0		
	9/21/2020	1:55 PM	9/21/2020	2:16 PM	60.0 to 61.0	150	150	21.9	111.0	349.0	460.0		460.0		
	9/21/2020	2:29 PM	9/21/2020	3:07 PM	61.0 to 62.0	180	180	12.1	111.0	349.0	460.0		460.0		
	9/21/2020	3:18 PM	9/21/2020	4:00 PM	62.0 to 63.0	100	100	11.0	111.0	349.0	460.0		460.0		
TOTALS									2,330.5	7,324.5	9,655.0	0.0	9,655		



## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-14	9/28/2020	1:38 PM	9/28/2020	2:00 PM	28.0 to 29.0	50	50	15.9	84.5	265.5	350.0		350.0		
	9/28/2020	12:32 PM	9/28/2020	1:14 PM	29.0 to 30.0	40	40	8.3	84.5	265.5	350.0		350.0	×	5 GPM due to daylight
	9/28/2020	12:05 PM	9/28/2020	12:20 PM	30.0 to 31.0	100	100	23.3	84.5	265.5	350.0		350.0		
	9/28/2020	11:32 AM	9/28/2020	12:01 PM	31.0 to 32.0	50	50	12.1	84.5	265.5	350.0		350.0		
	9/28/2020	11:00 AM	9/28/2020	11:23 AM	32.0 to 33.0	50	50	15.2	84.5	265.5	350.0		350.0		
	9/28/2020	10:28 AM	9/28/2020	10:52 AM	39.0 to 40.0	50	50	14.6	84.5	265.5	350.0		350.0	×	Daylight from around the rod
	9/28/2020	9:53 AM	9/28/2020	10:13 AM	40.0 to 41.0	150	150	17.5	84.5	265.5	350.0		350.0		
	9/28/2020	9:22 AM	9/28/2020	9:36 AM	41.0 to 42.0	150	150	25.0	84.5	265.5	350.0		350.0		
	9/28/2020	9:03 AM	9/28/2020	9:15 AM	42.0 to 43.0	160	160	29.2	84.5	265.5	350.0		350.0		
	9/28/2020	8:36 AM	9/28/2020	8:48 AM	43.0 to 44.0	180	180	29.2	84.5	265.5	350.0		350.0		
	9/28/2020	8:14 AM	9/28/2020	8:25 AM	44.0 to 45.0	180	180	31.8	84.5	265.5	350.0		350.0		
	9/28/2020	7:50 AM	9/28/2020	8:03 AM	45.0 to 46.0	150	150	26.9	84.5	265.5	350.0		350.0		
	9/28/2020	7:11 AM	9/28/2020	7:24 AM	46.0 to 47.0	160	160	26.9	84.5	265.5	350.0		350.0		
	9/25/2020	3:12 PM	9/25/2020	3:20 PM	47.0 to 48.0	310	310	43.7	84.5	265.5	350.0		350.0		
	9/25/2020	2:37 PM	9/25/2020	2:48 PM	48.0 to 49.0	150	150	31.8	84.5	265.5	350.0		350.0		
	9/25/2020	2:10 PM	9/25/2020	2:21 PM	49.0 to 50.0	300	300	31.8	84.5	265.5	350.0		350.0		
	9/25/2020	1:46 PM	9/25/2020	1:56 PM	50.0 to 51.0	300	300	35.0	84.5	265.5	350.0		350.0		
	9/25/2020	1:24 PM	9/25/2020	1:39 PM	51.0 to 52.0	200	200	23.3	84.5	265.5	350.0		350.0		
	9/25/2020	1:04 PM	9/25/2020	1:17 PM	52.0 to 53.0	200	200	26.9	84.5	265.5	350.0		350.0		
	9/25/2020	12:32 PM	9/25/2020	12:46 PM	53.0 to 54.0	180	180	25.0	84.5	265.5	350.0		350.0		
	9/25/2020	12:05 PM	9/25/2020	12:17 PM	54.0 to 55.0	300	300	29.2	84.5	265.5	350.0		350.0		
	9/25/2020	11:33 AM	9/25/2020	11:47 AM	55.0 to 56.0	180	180	25.0	84.5	265.5	350.0		350.0		
	9/25/2020	11:07 AM	9/25/2020	11:20 AM	56.0 to 57.0	290	290	26.9	84.5	265.5	350.0		350.0		57-64 we are injecting 915 at each interval
	9/25/2020	10:44 AM	9/25/2020	10:53 AM	57.0 to 58.0	300	300	38.9	84.5	265.5	350.0		350.0		
	9/25/2020	10:21 AM	9/25/2020	10:32 AM	58.0 to 59.0	220	220	31.8	84.5	265.5	350.0		350.0		
	9/25/2020	9:40 AM	9/25/2020	10:06 AM	59.0 to 60.0	350	350	35.2	220.9	694.1	915.0		915.0		
	9/25/2020	8:54 AM	9/25/2020	9:15 AM	60.0 to 61.0	400	400	43.6	220.9	694.1	915.0		915.0		
	9/25/2020	8:28 AM	9/25/2020	8:50 AM	61.0 to 62.0	350	350	41.6	220.9	694.1	915.0		915.0		
	9/25/2020	7:52 AM	9/25/2020	8:22 AM	62.0 to 63.0	180	180	30.5	220.9	694.1	915.0		915.0		
	9/25/2020	6:15 AM	9/25/2020	7:46 AM	63.0 to 64.0	610	200	10.1	220.9	694.1	915.0		915.0		
TOTALS									3,216.4	10,108.6	13,325.0	0.0	13,325		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-2	9/21/2020	12:09 PM	9/21/2020	12:32 PM	43.0 to 44.0	200	120	20.0	111.0	349.0	460.0		460.0		406 gal per interval
	9/21/2020	12:44 PM	9/21/2020	1:07 PM	44.0 to 45.0	150	150	20.0	111.0	349.0	460.0		460.0		
	9/21/2020	1:20 PM	9/21/2020	1:46 PM	45.0 to 46.0	150	150	17.7	111.0	349.0	460.0		460.0		
	9/21/2020	1:55 PM	9/21/2020	2:13 PM	46.0 to 47.0	150	150	25.6	111.0	349.0	460.0		460.0		
	9/21/2020	2:29 PM	9/21/2020	3:21 PM	47.0 to 48.0	150	150	8.8	111.0	349.0	460.0		460.0		
	9/21/2020	3:30 PM	9/21/2020	4:00 PM	48.0 to 49.0	160	160	15.3	111.0	349.0	460.0		460.0		
	9/22/2020	6:44 AM	9/22/2020	7:16 AM	49.0 to 50.0	100	100	14.4	111.0	349.0	460.0		460.0		
	9/22/2020	7:22 AM	9/22/2020	8:00 AM	50.0 to 51.0	85	85	12.1	111.0	349.0	460.0		460.0		
	9/22/2020	8:11 AM	9/22/2020	8:41 AM	51.0 to 52.0	85	85	15.3	111.0	349.0	460.0		460.0		
	9/22/2020	8:46 AM	9/22/2020	9:18 AM	52.0 to 53.0	100	100	14.4	111.0	349.0	460.0		460.0		
	9/22/2020	9:24 AM	9/22/2020	9:53 AM	53.0 to 54.0	110	110	15.9	111.0	349.0	460.0		460.0		
	9/22/2020	10:01 AM	9/22/2020	10:29 AM	54.0 to 55.0	100	100	16.4	111.0	349.0	460.0		460.0		
	9/22/2020	10:36 AM	9/22/2020	11:05 AM	55.0 to 56.0	100	100	15.9	111.0	349.0	460.0		460.0		
	9/22/2020	11:18 AM	9/22/2020	11:50 AM	56.0 to 57.0	100	100	14.4	111.0	349.0	460.0		460.0		
	9/22/2020	11:56 AM	9/22/2020	12:26 PM	57.0 to 58.0	100	100	15.3	111.0	349.0	460.0		460.0		
	9/22/2020	12:35 PM	9/22/2020	1:00 PM	58.0 to 59.0	180	180	18.4	111.0	349.0	460.0		460.0		
	9/22/2020	1:35 PM	9/22/2020	2:10 PM	59.0 to 60.0	85	85	13.1	111.0	349.0	460.0		460.0		
	9/22/2020	2:25 PM	9/22/2020	2:45 PM	60.0 to 61.0	110	110	23.0	111.0	349.0	460.0		460.0		
	9/22/2020	3:00 PM	9/22/2020	3:24 PM	61.0 to 62.0	140	140	19.2	111.0	349.0	460.0		460.0		
	9/23/2020	6:25 AM	9/23/2020	6:47 AM	62.0 to 63.0	130	130	20.9	111.0	349.0	460.0		460.0		
TOTALS									2,220.7	6,979.3	9,200.0	0.0	9,200		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-10	9/22/2020	1:35 PM	9/22/2020	2:10 PM	41.0 to 42.0	400	180	13.1	111.0	349.0	460.0		460.0		
	9/22/2020	2:25 PM	9/22/2020	2:46 PM	42.0 to 43.0	175	175	12.4	111.0	349.0	460.0		460.0		
	9/22/2020	3:00 PM	9/22/2020	3:22 PM	43.0 to 44.0	180	180	20.9	111.0	349.0	460.0		460.0		
	9/23/2020	6:25 AM	9/23/2020	6:48 AM	44.0 to 45.0	170	170	20.0	111.0	349.0	460.0		460.0		
	9/23/2020	7:30 AM	9/23/2020	7:57 AM	45.0 to 46.0	100	100	17.0	111.0	349.0	460.0		460.0		
	9/23/2020	8:06 AM	9/23/2020	8:33 AM	46.0 to 47.0	150	150	17.0	111.0	349.0	460.0		460.0		
	9/23/2020	8:42 AM	9/23/2020	9:05 AM	47.0 to 48.0	150	150	20.0	111.0	349.0	460.0		460.0		
	9/23/2020	9:16 AM	9/23/2020	9:40 AM	48.0 to 49.0	140	140	19.2	111.0	349.0	460.0		460.0		
	9/23/2020	9:48 AM	9/23/2020	10:10 AM	49.0 to 50.0	150	150	20.9	111.0	349.0	460.0		460.0		
	9/23/2020	10:24 AM	9/23/2020	10:47 AM	50.0 to 51.0	150	150	20.0	111.0	349.0	460.0		460.0		
	9/23/2020	11:13 AM	9/23/2020	11:37 AM	51.0 to 52.0	130	130	19.2	111.0	349.0	460.0		460.0		
	9/23/2020	11:50 AM	9/23/2020	12:16 PM	52.0 to 53.0	140	140	17.7	111.0	349.0	460.0		460.0		
	9/23/2020	12:33 PM	9/23/2020	12:56 PM	53.0 to 54.0	110	110	20.0	111.0	349.0	460.0		460.0		
	9/23/2020	1:20 PM	9/23/2020	1:48 PM	54.0 to 55.0	100	100	16.4	111.0	349.0	460.0		460.0		
	9/23/2020	2:05 PM	9/23/2020	2:34 PM	55.0 to 56.0	110	110	15.9	111.0	349.0	460.0		460.0		
	9/24/2020	6:45 AM	9/24/2020	7:11 AM	56.0 to 57.0	180	180	17.7	111.0	349.0	460.0		460.0		
	9/24/2020	7:26 AM	9/24/2020	7:50 AM	57.0 to 58.0	180	180	19.2	111.0	349.0	460.0		460.0		
	9/24/2020	8:16 AM	9/24/2020	8:40 AM	58.0 to 59.0	170	170	19.2	111.0	349.0	460.0		460.0		
	9/24/2020	9:08 AM	9/24/2020	9:33 AM	59.0 to 60.0	150	150	18.4	111.0	349.0	460.0		460.0		
TOTALS									2,109.7	6,630.3	8,740.0	0.0	8,740		



# INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-4	9/23/2020	7:21 AM	9/23/2020	7:44 AM	43.0 to 44.0	425	100	20.0	111.0	349.0	460.0		460.0		460 gal all intervals
	9/23/2020	8:00 AM	9/23/2020	8:25 AM	44.0 to 45.0	100	100	18.4	111.0	349.0	460.0		460.0		
	9/23/2020	8:33 AM	9/23/2020	8:59 AM	45.0 to 46.0	120	120	17.7	111.0	349.0	460.0		460.0		
	9/23/2020	9:08 AM	9/23/2020	9:31 AM	46.0 to 47.0	110	110	20.0	111.0	349.0	460.0		460.0		
	9/23/2020	9:38 AM	9/23/2020	10:06 AM	47.0 to 48.0	100	100	16.4	111.0	349.0	460.0		460.0		
	9/23/2020	10:21 AM	9/23/2020	10:45 AM	48.0 to 49.0	100	100	19.2	111.0	349.0	460.0		460.0		
	9/23/2020	10:59 AM	9/23/2020	11:24 AM	49.0 to 50.0	100	100	18.4	111.0	349.0	460.0		460.0		
	9/23/2020	11:39 AM	9/23/2020	12:04 PM	50.0 to 51.0	100	100	18.4	111.0	349.0	460.0		460.0		
	9/23/2020	12:19 PM	9/23/2020	1:01 PM	51.0 to 52.0	80	80	11.0	111.0	349.0	460.0		460.0		
	9/23/2020	1:22 PM	9/23/2020	2:10 PM	52.0 to 53.0	50	50	9.6	111.0	349.0	460.0		460.0		
	9/24/2020	7:00 AM	9/24/2020	7:40 AM	53.0 to 54.0	100	100	11.5	111.0	349.0	460.0		460.0		
	9/24/2020	8:00 AM	9/24/2020	8:36 AM	54.0 to 55.0	100	100	12.8	111.0	349.0	460.0		460.0		
	9/24/2020	9:18 AM	9/24/2020	10:06 AM	55.0 to 56.0	90	90	9.6	111.0	349.0	460.0		460.0		
	9/24/2020	10:36 AM	9/24/2020	11:28 AM	56.0 to 57.0	60	60	8.8	111.0	349.0	460.0		460.0		
	9/24/2020	11:42 AM	9/24/2020	12:02 PM	57.0 to 58.0	90	90	6.0	29.0	91.2	120.3		120.3	x	Had daylighting so client wanted to stop and push to 63. Inject Bottom/Up
	9/24/2020	2:40 PM	9/24/2020	3:05 PM	58.0 to 59.0	100	100	18.4	111.0	349.0	460.0		460.0		
	9/24/2020	2:12 PM	9/24/2020	2:39 PM	59.0 to 60.0	100	100	17.0	111.0	349.0	460.0		460.0		
	9/24/2020	1:41 PM	9/24/2020	2:07 PM	60.0 to 61.0	110	110	17.7	111.0	349.0	460.0		460.0		
	9/24/2020	1:08 PM	9/24/2020	1:35 PM	61.0 to 62.0	120	120	17.0	111.0	349.0	460.0		460.0		
	9/24/2020	12:18 PM	9/24/2020	12:51 PM	62.0 to 63.0	100	100	13.9	111.0	349.0	460.0		460.0		
TOTALS									2,138.7	6,721.6	8,860.3	0.0	8,860		
IP-37	9/28/2020	10:28 AM	9/28/2020	10:40 AM	43.0 to 44.0	180	180	29.2	84.5	265.5	350.0		350.0		
	9/28/2020	10:06 AM	9/28/2020	10:19 AM	44.0 to 45.0	150	150	26.9	84.5	265.5	350.0		350.0		
	9/28/2020	9:39 AM	9/28/2020	9:52 AM	45.0 to 46.0	150	150	26.9	84.5	265.5	350.0		350.0		
	9/28/2020	9:20 AM	9/28/2020	9:36 AM	46.0 to 47.0	150	150	21.9	84.5	265.5	350.0		350.0		
	9/28/2020	9:00 AM	9/28/2020	9:15 AM	47.0 to 48.0	150	150	23.3	84.5	265.5	350.0		350.0		
	9/28/2020	8:36 AM	9/28/2020	8:47 AM	48.0 to 49.0	180	180	31.8	84.5	265.5	350.0		350.0		
	9/28/2020	8:14 AM	9/28/2020	8:25 AM	49.0 to 50.0	230	230	31.8	84.5	265.5	350.0		350.0		
	9/28/2020	7:50 AM	9/28/2020	8:03 AM	50.0 to 51.0	200	200	26.9	84.5	265.5	350.0		350.0		
	9/28/2020	7:11 AM	9/28/2020	7:26 AM	51.0 to 52.0	160	160	23.3	84.5	265.5	350.0		350.0		
	9/25/2020	3:12 PM	9/25/2020	3:20 PM	52.0 to 53.0	340	340	43.7	84.5	265.5	350.0		350.0		
	9/25/2020	2:37 PM	9/25/2020	2:47 PM	53.0 to 54.0	280	280	35.0	84.5	265.5	350.0		350.0		
	9/25/2020	2:05 PM	9/25/2020	2:17 PM	54.0 to 55.0	200	200	29.2	84.5	265.5	350.0		350.0		
	9/25/2020	1:49 PM	9/25/2020	1:59 PM	55.0 to 56.0	180	180	35.0	84.5	265.5	350.0		350.0		
	9/25/2020	1:24 PM	9/25/2020	1:39 PM	56.0 to 57.0	200	200	23.3	84.5	265.5	350.0		350.0		
	9/25/2020	1:04 PM	9/25/2020	1:16 PM	57.0 to 58.0	200	200	29.2	84.5	265.5	350.0		350.0		
	9/25/2020	12:31 PM	9/25/2020	12:46 PM	58.0 to 59.0	180	180	23.3	84.5	265.5	350.0		350.0		
	9/25/2020	11:54 AM	9/25/2020	12:17 PM	59.0 to 60.0	250	250	15.2	84.5	265.5	350.0		350.0		
	9/25/2020	11:03 AM	9/25/2020	11:47 AM	60.0 to 61.0	180	180	8.0	84.5	265.5	350.0		350.0		
	9/25/2020	11:07 AM	9/25/2020	11:20 AM	61.0 to 62.0	290	290	26.9	84.5	265.5	350.0		350.0		
	9/25/2020	10:47 AM	9/25/2020	10:56 AM	62.0 to 63.0	400	300	38.9	84.5	265.5	350.0		350.0		
TOTALS									1,689.7	5,310.3	7,000.0	0.0	7,000		

# INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-43	9/28/2020	8:36 AM	9/28/2020	8:50 AM	43.0 to 44.0	600	150	25.0	84.5	265.5	350.0		350.0		
	9/28/2020	9:03 AM	9/28/2020	9:17 AM	44.0 to 45.0	220	220	25.0	84.5	265.5	350.0		350.0		
	9/28/2020	9:28 AM	9/28/2020	9:40 AM	45.0 to 46.0	250	250	29.2	84.5	265.5	350.0		350.0		
	9/28/2020	10:00 AM	9/28/2020	10:16 AM	46.0 to 47.0	250	250	21.9	84.5	265.5	350.0		350.0		
	9/28/2020	10:28 AM	9/28/2020	10:50 AM	47.0 to 48.0	250	250	15.9	84.5	265.5	350.0		350.0		
	9/28/2020	10:53 AM	9/28/2020	11:11 AM	48.0 to 49.0	250	250	19.4	84.5	265.5	350.0		350.0		
	9/28/2020	11:24 AM	9/28/2020	11:38 AM	49.0 to 50.0	250	250	25.0	84.5	265.5	350.0		350.0		
	9/28/2020	11:45 AM	9/28/2020	12:20 PM	50.0 to 51.0	500	500	10.0	84.5	265.5	350.0		350.0		
	9/28/2020	12:27 PM	9/28/2020	12:53 PM	51.0 to 52.0	300	300	13.5	84.5	265.5	350.0		350.0		
	9/28/2020	1:05 PM	9/28/2020	1:40 PM	52.0 to 53.0	400	400	10.0	84.5	265.5	350.0		350.0		
	9/28/2020	1:52 PM	9/28/2020	2:20 PM	53.0 to 54.0	400	400	12.5	84.5	265.5	350.0		350.0		
	9/29/2020	7:03 AM	9/29/2020	7:31 AM	54.0 to 55.0	180	180	12.5	84.5	265.5	350.0		350.0		
	9/29/2020	7:41 AM	9/29/2020	8:26 AM	55.0 to 56.0	400	400	7.8	84.5	265.5	350.0		350.0		
	9/29/2020	8:38 AM	9/29/2020	9:22 AM	56.0 to 57.0	400	400	8.0	84.5	265.5	350.0		350.0		
	9/29/2020	9:52 AM	9/29/2020	10:23 AM	57.0 to 58.0	400	400	11.3	84.5	265.5	350.0		350.0		
	9/29/2020	10:36 AM	9/29/2020	11:18 AM	58.0 to 59.0	300	300	8.3	84.5	265.5	350.0		350.0		
	9/29/2020	11:35 AM	9/29/2020	12:26 PM	59.0 to 60.0	150	150	6.9	84.5	265.5	350.0		350.0		
	9/29/2020	12:53 PM	9/29/2020	1:24 PM	60.0 to 61.0	250	250	11.3	84.5	265.5	350.0		350.0		
	9/29/2020	1:43 PM	9/29/2020	2:00 PM	61.0 to 62.0	300	300	5.9	24.1	75.9	100.0		100.0	x	1:50 stopped due to daylight. 100 gal and push to next interval
	9/29/2020	2:19 PM	9/29/2020	3:39 PM	62.0 to 63.0	100	100	7.5	144.8	455.2	600.0		600.0		250 gal from interval 61-62 total gal 600
TOTALS									1,689.7	5,310.3	7,000.0	0.0	7,000		
IP-38	9/28/2020	12:02 PM	9/28/2020	12:18 PM	43.0 to 44.0	600	250	21.9	84.5	265.5	350.0		350.0		
	9/28/2020	12:32 PM	9/28/2020	12:48 PM	44.0 to 45.0	120	120	21.9	84.5	265.5	350.0		350.0		
	9/28/2020	1:06 PM	9/28/2020	1:20 PM	45.0 to 46.0	170	170	25.0	84.5	265.5	350.0		350.0		
	9/28/2020	1:38 PM	9/28/2020	1:51 PM	46.0 to 47.0	190	190	26.9	84.5	265.5	350.0		350.0		
	9/29/2020	7:03 AM	9/29/2020	7:14 AM	47.0 to 48.0	150	150	31.8	84.5	265.5	350.0		350.0		
	9/29/2020	7:31 AM	9/29/2020	7:52 AM	48.0 to 49.0	170	170	16.7	84.5	265.5	350.0		350.0		
	9/29/2020	8:03 AM	9/29/2020	8:15 AM	49.0 to 50.0	170	170	29.2	84.5	265.5	350.0		350.0		
	9/29/2020	8:38 AM	9/29/2020	8:52 AM	50.0 to 51.0	170	170	25.0	84.5	265.5	350.0		350.0		
	9/29/2020	9:10 AM	9/29/2020	9:24 AM	51.0 to 52.0	130	130	25.0	84.5	265.5	350.0		350.0		
	9/29/2020	9:41 AM	9/29/2020	9:54 AM	52.0 to 53.0	250	250	26.9	84.5	265.5	350.0		350.0		
	9/29/2020	10:05 AM	9/29/2020	10:14 AM	53.0 to 54.0	180	180	38.9	84.5	265.5	350.0		350.0		
	9/29/2020	10:26 AM	9/29/2020	10:39 AM	54.0 to 55.0	190	190	26.9	84.5	265.5	350.0		350.0		
	9/29/2020	11:02 AM	9/29/2020	11:15 AM	55.0 to 56.0	200	200	26.9	84.5	265.5	350.0		350.0		
	9/29/2020	11:35 AM	9/29/2020	11:48 AM	56.0 to 57.0	200	200	26.9	84.5	265.5	350.0		350.0		
	9/29/2020	11:58 AM	9/29/2020	12:26 PM	57.0 to 58.0	150	150	12.5	84.5	265.5	350.0		350.0	x	12:09 5 GPM due to daylight
	9/29/2020	12:53 PM	9/29/2020	1:28 PM	58.0 to 59.0	60	60	10.0	84.5	265.5	350.0		350.0		
	9/29/2020	1:43 PM	9/29/2020	2:00 PM	59.0 to 60.0	50	50	20.6	84.5	265.5	350.0		350.0		
	9/29/2020	2:19 PM	9/29/2020	2:32 PM	60.0 to 61.0	60	60	26.9	84.5	265.5	350.0		350.0		
	9/29/2020	2:39 PM	9/29/2020	2:51 PM	61.0 to 62.0	60	60	29.2	84.5	265.5	350.0		350.0		
	9/19/2020	3:04 PM	9/19/2020	3:17 PM	62.0 to 63.0	150	150	26.9	84.5	265.5	350.0		350.0		
TOTALS									1,689.7	5,310.3	7,000.0	0.0	7,000		

# INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-44	9/29/2020	7:03 AM	9/29/2020	7:16 AM	41.0 to 42.0	500	150	26.9	84.5	265.5	350.0		350.0		
	9/29/2020	7:31 AM	9/29/2020	7:52 AM	42.0 to 43.0	180	180	16.7	84.5	265.5	350.0		350.0		
	9/29/2020	8:03 AM	9/29/2020	8:14 AM	43.0 to 44.0	180	180	31.8	84.5	265.5	350.0		350.0		
	9/29/2020	8:38 AM	9/29/2020	8:51 AM	44.0 to 45.0	180	180	26.9	84.5	265.5	350.0		350.0		
	9/29/2020	9:10 AM	9/29/2020	9:24 AM	45.0 to 46.0	180	180	25.0	84.5	265.5	350.0		350.0		
	9/29/2020	9:52 AM	9/29/2020	10:08 AM	46.0 to 47.0	180	180	21.9	84.5	265.5	350.0		350.0		
	9/29/2020	10:37 AM	9/29/2020	10:46 AM	47.0 to 48.0	190	190	38.9	84.5	265.5	350.0		350.0		
	9/29/2020	11:02 AM	9/29/2020	11:21 AM	48.0 to 49.0	200	200	18.4	84.5	265.5	350.0		350.0	x	10 GPM due to daylight
	9/29/2020	11:35 AM	9/29/2020	12:02 PM	49.0 to 50.0	50	50	13.0	84.5	265.5	350.0		350.0		
	9/29/2020	12:19 PM	9/29/2020	12:37 PM	50.0 to 51.0	160	160	19.4	84.5	265.5	350.0		350.0		
	9/29/2020	12:53 PM	9/29/2020	1:06 PM	51.0 to 52.0	180	180	26.9	84.5	265.5	350.0		350.0		
	9/29/2020	1:15 PM	9/29/2020	1:29 PM	52.0 to 53.0	260	260	25.0	84.5	265.5	350.0		350.0		
	9/29/2020	1:43 PM	9/29/2020	1:55 PM	53.0 to 54.0	120	120	29.2	84.5	265.5	350.0		350.0		
	9/29/2020	2:19 PM	9/29/2020	2:31 PM	54.0 to 55.0	200	200	29.2	84.5	265.5	350.0		350.0		
	9/29/2020	2:48 PM	9/29/2020	2:58 PM	55.0 to 56.0	220	220	35.0	84.5	265.5	350.0		350.0		
	9/29/2020	3:12 PM	9/29/2020	3:24 PM	56.0 to 57.0	220	220	29.2	84.5	265.5	350.0		350.0		
	9/30/2020	8:49 AM	9/30/2020	9:01 AM	57.0 to 58.0	250	250	29.2	84.5	265.5	350.0		350.0		
	9/30/2020	9:15 AM	9/30/2020	9:26 AM	58.0 to 59.0	250	250	31.8	84.5	265.5	350.0		350.0		
	9/30/2020	9:46 AM	9/30/2020	10:29 AM	59.0 to 60.0	220	220	8.1	84.5	265.5	350.0		350.0	x	9:51 10 GPM due to daylight
TOTALS									1,605.2	5,044.8	6,650.0	0.0	6,650		
IP-39	9/30/2020	8:49 AM	9/30/2020	9:01 AM	43.0 to 44.0	600	250	29.2	84.5	265.5	350.0		350.0		
	9/30/2020	9:11 AM	9/30/2020	9:21 AM	44.0 to 45.0	250	250	35.0	84.5	265.5	350.0		350.0		
	9/30/2020	9:46 AM	9/30/2020	10:02 AM	45.0 to 46.0	220	220	21.9	84.5	265.5	350.0		350.0		
	9/30/2020	10:27 AM	9/30/2020	11:13 AM	46.0 to 47.0	150	150	7.6	84.5	265.5	350.0		350.0		
	9/30/2020	11:30 AM	9/30/2020	11:41 AM	47.0 to 48.0	200	200	31.8	84.5	265.5	350.0		350.0		
	9/30/2020	11:49 AM	9/30/2020	11:59 AM	48.0 to 49.0	220	220	35.0	84.5	265.5	350.0		350.0		
	9/30/2020	12:04 PM	9/30/2020	12:15 PM	49.0 to 50.0	250	250	31.8	84.5	265.5	350.0		350.0		
	9/30/2020	12:28 PM	9/30/2020	12:39 PM	50.0 to 51.0	200	200	31.8	84.5	265.5	350.0		350.0		
	9/30/2020	12:50 PM	9/30/2020	1:11 PM	51.0 to 52.0	200	200	16.7	84.5	265.5	350.0		350.0		
	9/30/2020	1:17 PM	9/30/2020	1:29 PM	52.0 to 53.0	200	200	29.2	84.5	265.5	350.0		350.0		
	9/30/2020	1:35 PM	9/30/2020	1:48 PM	53.0 to 54.0	200	200	26.9	84.5	265.5	350.0		350.0		
	9/30/2020	1:59 PM	9/30/2020	2:13 PM	54.0 to 55.0	200	200	25.0	84.5	265.5	350.0		350.0		
	9/30/2020	2:20 PM	9/30/2020	2:32 PM	55.0 to 56.0	200	200	29.2	84.5	265.5	350.0		350.0		
	9/30/2020	2:46 PM	9/30/2020	3:00 PM	56.0 to 57.0	200	200	25.0	84.5	265.5	350.0		350.0		
	9/30/2020	3:08 PM	9/30/2020	3:23 PM	57.0 to 58.0	200	200	23.3	84.5	265.5	350.0		350.0		
	10/1/2020	7:06 AM	10/1/2020	7:21 AM	58.0 to 59.0	200	200	23.3	84.5	265.5	350.0		350.0		
	10/1/2020	7:35 AM	10/1/2020	7:47 AM	59.0 to 60.0	200	200	29.2	84.5	265.5	350.0		350.0		
	10/1/2020	7:57 AM	10/1/2020	8:11 AM	60.0 to 61.0	200	200	25.0	84.5	265.5	350.0		350.0		
	10/1/2020	8:21 AM	10/1/2020	8:36 AM	61.0 to 62.0	200	200	23.3	84.5	265.5	350.0		350.0		
	10/1/2020	8:44 AM	10/1/2020	9:02 AM	62.0 to 63.0	200	200	19.4	84.5	265.5	350.0		350.0	x	17 gpm due to daylight from asphalt
TOTALS									1,689.7	5,310.3	7,000.0	0.0	7,000		



## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-8	9/30/2020	11:07 AM	9/30/2020	11:18 AM	43.0 to 44.0	500	150	31.8	84.5	265.5	350.0		350.0		
	9/30/2020	11:38 AM	9/30/2020	11:49 AM	44.0 to 45.0	200	200	31.8	84.5	265.5	350.0		350.0		
	9/30/2020	12:01 PM	9/30/2020	12:14 PM	45.0 to 46.0	250	250	26.9	84.5	265.5	350.0		350.0		
	9/30/2020	12:37 PM	9/30/2020	12:46 PM	46.0 to 47.0	200	200	38.9	84.5	265.5	350.0		350.0		
	9/30/2020	12:50 PM	9/30/2020	1:11 AM	47.0 to 48.0	200	200	-0.5	84.5	265.5	350.0		350.0		
	9/30/2020	1:19 PM	9/30/2020	12:30 PM	48.0 to 49.0	200	200	-7.1	84.5	265.5	350.0		350.0		
	9/30/2020	1:36 PM	9/30/2020	1:48 PM	49.0 to 50.0	200	200	29.2	84.5	265.5	350.0		350.0		
	9/30/2020	2:02 PM	9/30/2020	2:13 PM	50.0 to 51.0	200	200	31.8	84.5	265.5	350.0		350.0		
	9/30/2020	2:30 PM	9/30/2020	2:40 PM	51.0 to 52.0	200	200	35.0	84.5	265.5	350.0		350.0		
	9/30/2020	2:56 PM	9/30/2020	3:10 PM	52.0 to 53.0	200	200	25.0	84.5	265.5	350.0		350.0		
	1-Oct	7:06 AM	10/1/2020	7:21 AM	53.0 to 54.0	200	200	23.3	84.5	265.5	350.0		350.0		
	10/1/2020	7:40 AM	10/1/2020	7:51 AM	54.0 to 55.0	200	200	31.8	84.5	265.5	350.0		350.0		
	10/1/2020	8:00 AM	10/1/2020	8:12 AM	55.0 to 56.0	200	200	29.2	84.5	265.5	350.0		350.0		
	10/1/2020	8:27 AM	10/1/2020	8:38 AM	56.0 to 57.0	200	200	31.8	84.5	265.5	350.0		350.0		
	10/1/2020	8:55 AM	10/1/2020	9:09 AM	57.0 to 58.0	250	250	25.0	84.5	265.5	350.0		350.0		
	10/1/2020	9:23 AM	10/1/2020	9:38 AM	58.0 to 59.0	300	300	23.3	84.5	265.5	350.0		350.0		
	10/1/2020	9:51 AM	10/1/2020	10:02 AM	59.0 to 60.0	300	300	31.8	84.5	265.5	350.0		350.0		
	10/1/2020	10:12 AM	10/1/2020	10:22 AM	60.0 to 61.0	280	280	35.0	84.5	265.5	350.0		350.0		
	10/1/2020	10:30 AM	10/1/2020	10:46 AM	61.0 to 62.0	250	250	21.9	84.5	265.5	350.0		350.0		
	10/1/2020	10:59 AM	10/1/2020	11:10 AM	62.0 to 63.0	250	250	31.8	84.5	265.5	350.0		350.0		
TOTALS									1,689.7	5,310.3	7,000.0	0.0	7,000		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-9	9/30/2020	11:30 AM	9/30/2020	11:41 AM	42.0 to 43.0	600	200	31.8	84.5	265.5	350.0		350.0		
	9/30/2020	11:50 AM	9/30/2020	12:00 PM	43.0 to 44.0	200	200	35.0	84.5	265.5	350.0		350.0		
	9/30/2020	12:06 PM	9/30/2020	12:18 PM	44.0 to 45.0	240	240	29.2	84.5	265.5	350.0		350.0		
	9/30/2020	12:38 PM	9/30/2020	12:50 PM	45.0 to 46.0	200	200	29.2	84.5	265.5	350.0		350.0		
	9/30/2020	1:00 PM	9/30/2020	1:21 PM	46.0 to 47.0	200	200	16.7	84.5	265.5	350.0		350.0		
	9/30/2020	1:34 PM	9/30/2020	1:48 PM	47.0 to 48.0	200	200	25.0	84.5	265.5	350.0		350.0		
	9/30/2020	2:02 PM	9/30/2020	2:14 PM	48.0 to 49.0	200	200	29.2	84.5	265.5	350.0		350.0		
	9/30/2020	2:30 PM	9/30/2020	2:40 PM	49.0 to 50.0	200	200	35.0	84.5	265.5	350.0		350.0		
	9/30/2020	2:55 PM	9/30/2020	3:09 PM	50.0 to 51.0	200	200	25.0	84.5	265.5	350.0		350.0		
	10/1/2020	7:06 AM	10/1/2020	7:21 AM	51.0 to 52.0	200	200	23.3	84.5	265.5	350.0		350.0		
	10/1/2020	7:40 AM	10/1/2020	7:51 AM	52.0 to 53.0	200	200	31.8	84.5	265.5	350.0		350.0		
	10/1/2020	8:00 AM	10/1/2020	8:12 AM	53.0 to 54.0	200	200	29.2	84.5	265.5	350.0		350.0		
	10/1/2020	8:27 AM	10/1/2020	8:38 AM	54.0 to 55.0	200	200	31.8	84.5	265.5	350.0		350.0		
	10/1/2020	8:55 AM	10/1/2020	9:09 AM	55.0 to 56.0	250	250	25.0	84.5	265.5	350.0		350.0		
	10/1/2020	9:23 AM	10/1/2020	9:38 AM	56.0 to 57.0	300	300	23.3	84.5	265.5	350.0		350.0		
	10/1/2020	9:51 AM	10/1/2020	10:02 AM	57.0 to 58.0	300	300	31.8	84.5	265.5	350.0		350.0		
	10/1/2020	10:12 AM	10/1/2020	10:22 AM	58.0 to 59.0	280	280	35.0	84.5	265.5	350.0		350.0		
	10/1/2020	10:30 AM	10/1/2020	10:46 AM	59.0 to 60.0	250	250	21.9	84.5	265.5	350.0		350.0		
						TOTALS			1,520.7	4,779.3	6,300.0	0.0	6,300		

# INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-41	10/1/2020	10:39 AM	10/1/2020	10:43 AM	43.0 to 44.0	650	250	87.5	84.5	265.5	350.0		350.0		
	10/1/2020	10:59 AM	10/1/2020	11:07 AM	44.0 to 45.0	250	250	43.7	84.5	265.5	350.0		350.0		
	10/1/2020	11:24 AM	10/1/2020	11:32 AM	45.0 to 46.0	320	320	43.8	84.5	265.5	350.0		350.0		
	10/1/2020	11:38 AM	10/1/2020	11:46 AM	46.0 to 47.0	320	320	43.7	84.5	265.5	350.0		350.0		
	10/1/2020	11:50 AM	10/1/2020	12:00 PM	47.0 to 48.0	320	320	35.0	84.5	265.5	350.0		350.0		
	10/1/2020	12:07 PM	10/1/2020	12:17 PM	48.0 to 49.0	320	320	35.0	84.5	265.5	350.0		350.0		
	10/1/2020	12:29 PM	10/1/2020	12:41 PM	49.0 to 50.0	200	200	29.2	84.5	265.5	350.0		350.0		
	10/1/2020	12:47 PM	10/1/2020	12:55 PM	50.0 to 51.0	220	220	43.8	84.5	265.5	350.0		350.0		
	10/1/2020	1:05 PM	10/1/2020	1:17 PM	51.0 to 52.0	180	180	29.2	84.5	265.5	350.0		350.0		
	10/1/2020	1:35 PM	10/1/2020	1:50 PM	52.0 to 53.0	200	200	23.3	84.5	265.5	350.0		350.0		
	10/1/2020	2:00 PM	10/1/2020	2:12 PM	53.0 to 54.0	200	200	29.2	84.5	265.5	350.0		350.0		
	10/1/2020	2:23 PM	10/1/2020	2:58 PM	54.0 to 55.0	20	20	10.0	84.5	265.5	350.0		350.0	x	10 GPM due to daylight
	10/1/2020	3:14 PM	10/1/2020	3:35 PM	55.0 to 56.0	50	50	16.7	84.5	265.5	350.0		350.0		
	10/2/2020	6:40 AM	10/2/2020	7:04 AM	56.0 to 57.0	120	120	14.6	84.5	265.5	350.0		350.0		
	10/2/2020	7:18 AM	10/2/2020	7:45 AM	57.0 to 58.0	220	220	13.0	84.5	265.5	350.0		350.0		
	10/2/2020	7:50 AM	10/2/2020	8:08 AM	58.0 to 59.0	190	190	19.4	84.5	265.5	350.0		350.0		
	10/2/2020	8:15 AM	10/2/2020	8:29 AM	59.0 to 60.0	150	150	25.0	84.5	265.5	350.0		350.0		
	10/2/2020	8:36 AM	10/2/2020	8:49 AM	60.0 to 61.0	250	250	26.9	84.5	265.5	350.0		350.0		
	10/2/2020	9:03 AM	10/2/2020	9:16 AM	61.0 to 62.0	250	250	26.9	84.5	265.5	350.0		350.0		
	10/2/2020	9:38 AM	10/2/2020	9:52 AM	62.0 to 63.0	220	220	25.0	84.5	265.5	350.0		350.0		
	10/2/2020	10:04 AM	10/2/2020	10:19 AM	63.0 to 64.0	210	210	23.3	84.5	265.5	350.0		350.0		

TOTALS 1,774.1 5,575.9 7,350.0 0.0 7,350



## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-40	10/1/2020	12:07 PM	10/1/2020	12:21 PM	43.0 to 44.0	400	310	25.0	84.5	265.5	350.0		350.0		
	10/1/2020	12:27 PM	10/1/2020	12:51 PM	44.0 to 45.0	50	50	14.6	84.5	265.5	350.0		350.0	x	15 GPM due to daylight from around the rod
	10/1/2020	1:05 PM	10/1/2020	1:20 PM	45.0 to 46.0	100	100	23.3	84.5	265.5	350.0		350.0		
	10/1/2020	1:35 PM	10/1/2020	1:50 PM	46.0 to 47.0	200	200	23.3	84.5	265.5	350.0		350.0		
	10/1/2020	2:00 PM	10/1/2020	2:12 PM	47.0 to 48.0	200	200	29.2	84.5	265.5	350.0		350.0		
	10/1/2020	2:23 PM	10/1/2020	2:58 PM	48.0 to 49.0	40	40	10.0	84.5	265.5	350.0		350.0	x	2:26 off due to daylight
	10/1/2020	3:09 PM	10/1/2020	3:31 PM	49.0 to 50.0	150	150	15.9	84.5	265.5	350.0		350.0		
	10/2/2020	6:40 AM	10/2/2020	7:04 AM	50.0 to 51.0	150	150	14.6	84.5	265.5	350.0		350.0		
	10/2/2020	7:18 AM	10/2/2020	7:45 AM	51.0 to 52.0	90	90	13.0	84.5	265.5	350.0		350.0		
	10/2/2020	7:50 AM	10/2/2020	8:08 AM	52.0 to 53.0	160	160	19.4	84.5	265.5	350.0		350.0		
	10/2/2020	8:15 AM	10/2/2020	8:29 AM	53.0 to 54.0	150	150	25.0	84.5	265.5	350.0		350.0		
	10/2/2020	8:36 AM	10/2/2020	8:49 AM	54.0 to 55.0	250	250	26.9	84.5	265.5	350.0		350.0		
	10/2/2020	9:03 AM	10/2/2020	9:16 AM	55.0 to 56.0	250	250	26.9	84.5	265.5	350.0		350.0		
	10/2/2020	9:22 AM	10/2/2020	9:38 AM	56.0 to 57.0	150	150	21.9	84.5	265.5	350.0		350.0		
	10/2/2020	9:45 AM	10/2/2020	9:56 AM	57.0 to 58.0	200	200	31.8	84.5	265.5	350.0		350.0		
	10/2/2020	10:04 AM	10/2/2020	10:18 AM	58.0 to 59.0	210	210	25.0	84.5	265.5	350.0		350.0		
	10/2/2020	10:38 AM	10/2/2020	10:54 AM	59.0 to 60.0	100	100	21.9	84.5	265.5	350.0		350.0		
	10/2/2020	11:00 AM	10/2/2020	11:15 AM	60.0 to 61.0	200	200	23.3	84.5	265.5	350.0		350.0		
	10/2/2020	11:25 AM	10/2/2020	11:50 AM	61.0 to 62.0	200	200	14.0	84.5	265.5	350.0		350.0		
	10/2/2020	11:55 AM	10/2/2020	12:07 PM	62.0 to 63.0	200	200	29.2	84.5	265.5	350.0		350.0		
	10/2/2020	12:12 PM	10/2/2020	12:31 PM	63.0 to 64.0	200	200	18.4	84.5	265.5	350.0		350.0		
TOTALS									1,774.1	5,575.9	7,350.0	0.0	7,350		
IP-42	10/1/2020	1:35 PM	10/1/2020	1:50 PM	43.0 to 44.0	400	200	23.3	84.5	265.5	350.0		350.0		
	10/1/2020	2:00 PM	10/1/2020	2:12 PM	44.0 to 45.0	200	200		84.5	265.5	350.0		350.0		
	10/1/2020	2:23 PM	10/1/2020	3:00 PM	45.0 to 46.0	40	40	4.5	40.3	126.7	167.0		167.0	x	10 GPM due to daylight... did not continue injectinf due to daylight
	10/2/2020	6:40 AM	10/2/2020	8:16 AM	46.0 to 47.0	100	100	5.6	128.7	404.3	533.0		533.0	x	350 gal Plus 183 gal from previous interval due to daylight tootal gal 533
	10/2/2020	8:20 AM	10/2/2020	8:53 AM	47.0 to 48.0	100	100	10.6	84.5	265.5	350.0		350.0		
	10/2/2020	9:05 AM	10/2/2020	9:06 AM	48.0 to 49.0			0.0	0.0	0.0			0.0	x	9:06 stopped injecting daylight from around the rod.. Were gona pull the rod and inspect to tool.
TOTALS									422.4	1,327.6	1,750.0	0.0	1,750		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-15	10/2/2020	11:10 AM	10/2/2020	11:18 AM	42.0 to 43.0	400	300	43.7	84.5	265.5	350.0		350.0		
	10/2/2020	11:25 AM	10/2/2020	11:49 AM	43.0 to 44.0	220	220	14.6	84.5	265.5	350.0		350.0		
	10/2/2020	12:10 PM	10/2/2020	12:26 PM	44.0 to 45.0	200	200	21.9	84.5	265.5	350.0		350.0		
	10/2/2020	12:45 PM	10/2/2020	1:05 PM	45.0 to 46.0	150	150	17.5	84.5	265.5	350.0		350.0		
	10/2/2020	1:11 PM	10/2/2020	1:33 PM	46.0 to 47.0	220	220	15.9	84.5	265.5	350.0		350.0		
	10/2/2020	1:41 PM	10/2/2020	1:57 PM	47.0 to 48.0	200	200	21.9	84.5	265.5	350.0		350.0		
	10/2/2020	2:03 PM	10/2/2020	2:25 PM	48.0 to 49.0	220	220	15.9	84.5	265.5	350.0		350.0		
	10/2/2020	2:28 PM	10/2/2020	2:39 PM	49.0 to 50.0	220	220	31.8	84.5	265.5	350.0		350.0		
	10/2/2020	2:45 PM	10/2/2020	2:55 PM	50.0 to 51.0	250	250	35.0	84.5	265.5	350.0		350.0		
	10/2/2020	3:01 PM	10/2/2020	3:13 PM	51.0 to 52.0	220	220	29.2	84.5	265.5	350.0		350.0		
	10/3/2020	6:59 AM	10/3/2020	7:14 AM	52.0 to 53.0	150	150	23.3	84.5	265.5	350.0		350.0		
	10/3/2020	7:18 AM	10/3/2020	7:35 AM	53.0 to 54.0	140	140	20.6	84.5	265.5	350.0		350.0		
	10/3/2020	7:49 AM	10/3/2020	8:10 AM	54.0 to 55.0	150	150	16.7	84.5	265.5	350.0		350.0		
	10/3/2020	8:19 AM	10/3/2020	8:35 AM	55.0 to 56.0	140	140	21.9	84.5	265.5	350.0		350.0		
	10/3/2020	9:00 AM	10/3/2020	9:14 AM	56.0 to 57.0	150	150	25.0	84.5	265.5	350.0		350.0		
	10/3/2020	9:47 AM	10/3/2020	10:04 AM	57.0 to 58.0	150	150	20.6	84.5	265.5	350.0		350.0		
	10/3/2020	10:26 AM	10/3/2020	10:43 AM	58.0 to 59.0	180	180	20.6	84.5	265.5	350.0		350.0		
	10/3/2020	10:56 AM	10/3/2020	11:17 AM	59.0 to 60.0	150	150	16.7	84.5	265.5	350.0		350.0		
	10/3/2020	12:05 PM	10/3/2020	12:17 PM	60.0 to 61.0	180	180	29.2	84.5	265.5	350.0		350.0		
	10/3/2020	12:46 PM	10/3/2020	1:23 PM	61.0 to 62.0	50	50	9.5	84.5	265.5	350.0		350.0		
	10/3/2020	1:30 PM	10/3/2020	1:55 PM	62.0 to 63.0	100	100	14.0	84.5	265.5	350.0		350.0		
	10/3/2020	2:05 PM	10/3/2020	2:38 PM	62.0 to 63.0	120	120	10.6	84.5	265.5	350.0		350.0		
TOTALS									1,858.6	5,841.4	7,700.0	0.0	7,700		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-13	10/2/2020	12:05 PM	10/2/2020	12:36 PM	26.0 to 27.0	400	240	11.3	84.5	265.5	350.0		350.0		
	10/2/2020	12:45 PM	10/2/2020	1:36 PM	27.0 to 28.0	200	200	6.9	84.5	265.5	350.0		350.0	x	1:14 off due to daylight from cracks on asphalt
	10/2/2020	1:42 PM	10/2/2020	2:28 PM	28.0 to 29.0	40	40	1.5	16.9	53.1	70.0		70.0	x	stopped due to daylight from the asphalt cracks
	10/3/2020	7:46 AM	10/3/2020	8:05 AM	63.0 to 64.0	600	600	0.9	4.2	13.1	17.3		17.3	x	Location only pumping at 1gpm. Going to pull and clean tool. Then go back down to depth. Kept surfacing so we are moving to another location
TOTALS									190.0	597.3	787.3	0.0	787		
IP-45	10/5/2020	8:56 AM	10/5/2020	9:11 AM	25.0 to 26.0	150	110	23.3	84.5	265.5	350.0		350.0		
	10/5/2020	9:47 AM	10/5/2020	10:01 AM	26.0 to 27.0	90	90	25.0	84.5	265.5	350.0		350.0		
	10/5/2020	10:20 AM	10/5/2020	10:40 AM	27.0 to 28.0	100	100	17.5	84.5	265.5	350.0		350.0		
	10/5/2020	10:49 AM	10/5/2020	11:11 AM	28.0 to 29.0	60	60	15.9	84.5	265.5	350.0		350.0		
	10/5/2020	11:59 AM	10/5/2020	12:10 PM	29.0 to 30.0	350	110	31.8	84.5	265.5	350.0		350.0		
	10/5/2020	12:46 PM	10/5/2020	1:29 PM	30.0 to 31.0	60	60	8.1	84.5	265.5	350.0		350.0		
	10/5/2020	1:45 PM	10/5/2020	2:05 PM	38.0 to 39.0	70	70	17.5	84.5	265.5	350.0		350.0		
	10/5/2020	2:20 PM	10/5/2020	2:33 PM	39.0 to 40.0	60	60	2.8	8.8	27.5	36.3		36.3	x	Had to push down a foot due to surfacing
	10/5/2020	2:40 PM	10/5/2020	2:44 PM	40.0 to 41.0	60	60	0.4	0.4	1.3	1.7		1.7	x	Started to surface immediately. Going to push down to last depth and go bottom up.
	10/6/2020	10:12 AM	10/6/2020	11:13 AM	41.0 to 42.0	70	70	5.7	84.5	265.5	350.0		350.0		
	10/6/2020	9:13 AM	10/6/2020	10:05 AM	42.0 to 43.0	60	60	6.7	84.5	265.5	350.0		350.0		
	10/6/2020	8:43 AM	10/6/2020	9:02 AM	59.0 to 60.0	150	150	18.4	84.5	265.5	350.0		350.0		
	10/6/2020	8:29 AM	10/6/2020	8:42 AM	60.0 to 61.0	150	150	26.9	84.5	265.5	350.0		350.0		
	10/6/2020	8:09 AM	10/6/2020	8:22 AM	61.0 to 62.0	200	200	26.9	84.5	265.5	350.0		350.0		
	10/6/2020	7:45 AM	10/6/2020	8:07 AM	62.0 to 63.0	180	180	15.9	84.5	265.5	350.0		350.0		
	10/6/2020	7:30 AM	10/6/2020	7:44 AM	63.0 to 64.0	190	190	25.0	84.5	265.5	350.0		350.0		
	10/6/2020	6:45 AM	10/6/2020	7:20 AM	64.0 to 65.0	550	300	10.0	84.5	265.5	350.0		350.0		
TOTALS									1,276.4	4,011.6	5,288.0	0.0	5,288		



## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-46	10/5/2020	12:45 PM	10/5/2020	1:08 PM	25.0 to 26.0	300	50	15.2	84.5	265.5	350.0		350.0		
	10/5/2020	1:27 PM	10/5/2020	2:11 PM	26.0 to 27.0	60	60	8.0	84.5	265.5	350.0		350.0		
	10/5/2020	2:35 PM	10/5/2020	2:56 PM	27.0 to 28.0	100	100	16.7	84.5	265.5	350.0		350.0		
	10/6/2020	6:45 AM	10/6/2020	8:00 AM	28.0 to 29.0	550	550	4.7	84.5	265.5	350.0		350.0		
	10/6/2020	8:05 AM	10/6/2020	8:50 AM	29.0 to 30.0	150	150	7.8	84.5	265.5	350.0		350.0		
	10/6/2020	9:00 AM	10/6/2020	11:22 AM	30.0 to 31.0	150	150	2.0	67.0	210.4	277.4		277.4	✖	Daylighting. Pushing down to 65 and going bottom/up
	10/6/2020	1:39 PM	10/6/2020	1:50 PM	31.0 to 32.0	150	150	31.8	84.5	265.5	350.0		350.0		
	10/6/2020	1:28 PM	10/6/2020	1:38 PM	59.0 to 60.0	150	150	35.0	84.5	265.5	350.0		350.0		
	10/6/2020	1:18 PM	10/6/2020	1:27 PM	60.0 to 61.0	150	150	38.9	84.5	265.5	350.0		350.0		
	10/6/2020	1:07 PM	10/6/2020	1:17 PM	61.0 to 62.0	300	300	35.0	84.5	265.5	350.0		350.0		
	10/6/2020	12:54 PM	10/6/2020	1:04 PM	62.0 to 63.0	200	200	35.0	84.5	265.5	350.0		350.0		
	10/6/2020	12:37 PM	10/6/2020	12:50 PM	63.0 to 64.0	160	160	26.9	84.5	265.5	350.0		350.0		
	10/6/2020	12:01 PM	10/6/2020	12:33 PM	64.0 to 65.0	350	300	10.9	84.5	265.5	350.0		350.0		
TOTALS									1,080.8	3,396.6	4,477.4	0.0	4,477		
IP-47	10/6/2020	11:30 AM	10/6/2020	11:50 AM	46.0 to 47.0	100	100	17.5	84.5	265.5	350.0		350.0		
	10/6/2020	10:58 AM	10/6/2020	11:20 AM	47.0 to 48.0	80	80	15.9	84.5	265.5	350.0		350.0		
	10/6/2020	10:10 AM	10/6/2020	10:55 AM	48.0 to 49.0	50	50	7.8	84.5	265.5	350.0		350.0		
	10/6/2020	9:09 AM	10/6/2020	9:54 AM	49.0 to 50.0	150	150	7.8	84.5	265.5	350.0		350.0		
	10/6/2020	8:44 AM	1/10/1900	9:02 AM	50.0 to 51.0	170	170	19.4	84.5	265.5	350.0		350.0		
	10/6/2020	8:25 AM	10/6/2020	8:37 AM	51.0 to 52.0	160	160	29.2	84.5	265.5	350.0		350.0		
	10/6/2020	8:07 AM	10/6/2020	8:22 AM	52.0 to 53.0	160	160	23.3	84.5	265.5	350.0		350.0		
	10/6/2020	7:52 AM	10/6/2020	8:01 AM	53.0 to 54.0	500	380	38.9	84.5	265.5	350.0		350.0		
TOTALS									675.9	2,124.1	2,800.0	0.0	2,800		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-60	10/7/2020	8:35 AM	10/7/2020	8:51 AM	23.0 to 24.0	300	100	21.9	84.5	265.5	350.0		350.0		
	10/7/2020	8:57 AM	10/7/2020	9:15 AM	24.0 to 25.0	100	100	19.4	84.5	265.5	350.0		350.0		
	10/7/2020	9:24 AM	10/7/2020	9:41 AM	25.0 to 26.0	100	100	20.6	84.5	265.5	350.0		350.0		
	10/7/2020	9:55 AM	10/7/2020	10:06 AM	26.0 to 27.0	130	130	31.8	84.5	265.5	350.0		350.0		
	10/7/2020	10:15 AM	10/7/2020	10:26 AM	27.0 to 28.0	150	150	31.8	84.5	265.5	350.0		350.0		
	10/7/2020	10:31 AM	10/7/2020	10:42 AM	48.0 to 49.0	200	200	31.8	84.5	265.5	350.0		350.0		
	10/7/2020	11:01 AM	10/7/2020	11:12 AM	49.0 to 50.0	220	220	31.8	84.5	265.5	350.0		350.0		
	10/7/2020	11:19 AM	10/7/2020	11:30 AM	50.0 to 51.0	220	220	31.8	84.5	265.5	350.0		350.0		
	10/7/2020	11:43 AM	10/7/2020	11:54 AM	51.0 to 52.0	200	200	31.8	84.5	265.5	350.0		350.0		
	10/7/2020	12:05 PM	10/7/2020	12:15 PM	52.0 to 53.0	200	200	35.0	84.5	265.5	350.0		350.0		
	10/7/2020	12:19 PM	10/7/2020	12:29 PM	53.0 to 54.0	210	210	35.0	84.5	265.5	350.0		350.0		
	10/7/2020	12:34 PM	10/7/2020	12:43 PM	54.0 to 55.0	220	220	38.9	84.5	265.5	350.0		350.0		
	10/7/2020	12:52 PM	10/7/2020	1:03 PM	55.0 to 56.0	210	210	31.8	84.5	265.5	350.0		350.0		
	10/7/2020	1:17 PM	10/7/2020	1:27 PM	56.0 to 57.0	250	250	35.0	84.5	265.5	350.0		350.0		
	10/7/2020	1:31 PM	10/7/2020	1:39 PM	57.0 to 58.0	300	300	43.8	84.5	265.5	350.0		350.0		
	10/7/2020	1:41 PM	10/7/2020	1:50 PM	58.0 to 59.0	300	300	38.9	84.5	265.5	350.0		350.0		
	10/7/2020	1:52 PM	10/7/2020	2:00 PM	59.0 to 60.0	300	300	43.8	84.5	265.5	350.0		350.0		
	10/7/2020	2:02 PM	10/7/2020	2:10 PM	60.0 to 61.0	310	310	43.8	84.5	265.5	350.0		350.0		
	10/7/2020	2:13 PM	10/7/2020	2:22 PM	61.0 to 62.0	310	310	38.9	84.5	265.5	350.0		350.0		
	10/7/2020	2:24 PM	10/7/2020	2:33 PM	62.0 to 63.0	300	300	38.9	84.5	265.5	350.0		350.0		
	10/7/2020	2:36 PM	10/7/2020	2:43 PM	63.0 to 64.0	300	300	0.0	84.5	265.5	350.0		350.0		
	10/7/2020	2:46 PM	10/7/2020	3:00 PM	64.0 to 65.0	300	300	25.0	84.5	265.5	350.0		350.0		
TOTALS									1,858.6	5,841.4	7,700.0	0.0	7,700		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-36	10/7/2020	1:21 PM	10/7/2020	1:37 PM	23.0 to 24.0	200	150	21.9	84.5	265.5	350.0		350.0		
	10/7/2020	1:41 PM	10/7/2020	1:55 PM	24.0 to 25.0	160	160	25.0	84.5	265.5	350.0		350.0		
	10/7/2020	1:57 PM	10/7/2020	2:11 PM	25.0 to 26.0	180	180	25.0	84.5	265.5	350.0		350.0		
	10/7/2020	2:13 PM	10/7/2020	2:26 PM	26.0 to 27.0	200	200	26.9	84.5	265.5	350.0		350.0		
	10/7/2020	2:28 PM	10/7/2020	2:39 PM	27.0 to 28.0	210	210	31.8	84.5	265.5	350.0		350.0		
	10/7/2020	2:45 PM	10/7/2020	3:01 PM	48.0 to 49.0	210	210	21.9	84.5	265.5	350.0		350.0		
	10/7/2020	3:03 PM	10/7/2020	3:12 PM	49.0 to 50.0	300	300	38.9	84.5	265.5	350.0		350.0		
	10/7/2020	3:18 PM	10/7/2020	3:27 PM	50.0 to 51.0	300	300	38.9	84.5	265.5	350.0		350.0		
	10/8/2020	6:45 AM	10/8/2020	6:54 AM	51.0 to 52.0	280	280	38.9	84.5	265.5	350.0		350.0		
	10/8/2020	7:02 AM	10/8/2020	7:11 AM	52.0 to 53.0	300	300	38.9	84.5	265.5	350.0		350.0		
	10/8/2020	7:34 AM	10/8/2020	7:45 AM	53.0 to 54.0	250	250	31.8	84.5	265.5	350.0		350.0		
	10/8/2020	7:53 AM	10/8/2020	8:01 AM	54.0 to 55.0	300	300	43.7	84.5	265.5	350.0		350.0		
	10/8/2020	8:08 AM	10/8/2020	8:18 AM	55.0 to 56.0	290	290	35.0	84.5	265.5	350.0		350.0		
	10/8/2020	8:28 AM	10/8/2020	8:37 AM	56.0 to 57.0	300	300	38.9	84.5	265.5	350.0		350.0		
	10/8/2020	9:00 AM	10/8/2020	9:08 AM	57.0 to 58.0	300	300	43.8	84.5	265.5	350.0		350.0		
	10/8/2020	9:14 AM	10/8/2020	9:28 AM	58.0 to 59.0	290	290	25.0	84.5	265.5	350.0		350.0		
	10/8/2020	9:33 AM	10/8/2020	9:42 AM	59.0 to 60.0	290	290	38.9	84.5	265.5	350.0		350.0		
	10/8/2020	12:55 PM	10/8/2020	1:04 PM	60.0 to 61.0	300	300	38.9	84.5	265.5	350.0		350.0		
	10/8/2020	1:09 PM	10/8/2020	1:19 PM	61.0 to 62.0	310	310	35.0	84.5	265.5	350.0		350.0		
	10/8/2020	1:35 PM	10/8/2020	1:44 PM	62.0 to 63.0	350	350	38.9	84.5	265.5	350.0		350.0		
	10/8/2020	1:58 PM	10/8/2020	2:07 PM	63.0 to 64.0	340	340		84.5	265.5	350.0		350.0		
	10/8/2020	2:10 PM	10/8/2020	2:20 PM	64.0 to 65.0	350	350	35.0	84.5	265.5	350.0		350.0		
TOTALS									1,858.6	5,841.4	7,700.0	0.0	7,700		



## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-35	10/8/2020	7:52 AM	10/8/2020	8:15 AM	23.0 to 24.0	200	70	15.2	84.5	265.5	350.0		350.0		
	10/8/2020	8:28 AM	10/8/2020	8:50 AM	24.0 to 25.0	80	80	15.9	84.5	265.5	350.0		350.0		
	10/8/2020	9:00 AM	10/8/2020	9:28 AM	25.0 to 26.0	100	100	12.5	84.5	265.5	350.0		350.0		
	10/8/2020	9:33 AM	10/8/2020	10:02 AM	26.0 to 27.0	100	100	12.1	84.5	265.5	350.0		350.0		
	10/8/2020	10:08 AM	10/8/2020	10:35 AM	27.0 to 28.0	100	100	13.0	84.5	265.5	350.0		350.0		
	10/8/2020	12:44 PM	10/8/2020	1:13 PM	45.0 to 46.0	90	90	12.1	84.5	265.5	350.0		350.0		
	10/8/2020	1:24 PM	10/8/2020	1:38 PM	46.0 to 47.0	120	120	25.0	84.5	265.5	350.0		350.0		
	10/8/2020	1:48 PM	10/8/2020	2:08 PM	47.0 to 48.0	110	110	17.5	84.5	265.5	350.0		350.0		
	10/8/2020	2:19 PM	10/8/2020	2:42 PM	48.0 to 49.0	100	100	15.2	84.5	265.5	350.0		350.0		
	10/8/2020	2:50 PM	10/8/2020	3:05 PM	49.0 to 50.0	150	150	23.3	84.5	265.5	350.0		350.0		
	10/8/2020	3:15 PM	10/8/2020	3:29 PM	50.0 to 51.0	150	150	25.0	84.5	265.5	350.0		350.0		
	10/9/2020	6:40 AM	10/9/2020	6:55 AM	51.0 to 52.0	160	160	23.3	84.5	265.5	350.0		350.0		
	10/9/2020	6:58 AM	10/9/2020	7:13 AM	52.0 to 53.0	150	150	23.3	84.5	265.5	350.0		350.0		
	10/9/2020	7:18 AM	10/9/2020	7:30 AM	53.0 to 54.0	200	200	29.2	84.5	265.5	350.0		350.0		
	10/9/2020	7:32 AM	10/9/2020	7:44 AM	54.0 to 55.0	200	200	29.2	84.5	265.5	350.0		350.0		
	10/9/2020	7:46 AM	10/9/2020	7:58 AM	55.0 to 56.0	210	210	29.2	84.5	265.5	350.0		350.0		
	10/9/2020	8:02 AM	10/9/2020	8:17 AM	56.0 to 57.0	190	190	23.3	84.5	265.5	350.0		350.0		
	10/9/2020	8:21 AM	10/9/2020	8:35 AM	57.0 to 58.0	200	200	25.0	84.5	265.5	350.0		350.0		
	10/9/2020	8:38 AM	10/9/2020	8:52 AM	58.0 to 59.0	200	200	25.0	84.5	265.5	350.0		350.0		
	10/9/2020	8:55 AM	10/9/2020	9:09 AM	59.0 to 60.0	200	200	25.0	84.5	265.5	350.0		350.0		
	10/9/2020	9:13 AM	10/9/2020	9:26 AM	60.0 to 61.0	210	210	26.9	84.5	265.5	350.0		350.0		
	10/9/2020	9:30 AM	10/9/2020	9:46 AM	61.0 to 62.0	210	210	21.9	84.5	265.5	350.0		350.0		
	10/9/2020	9:51 AM	10/9/2020	10:03 AM	62.0 to 63.0	260	260	29.2	84.5	265.5	350.0		350.0		
	10/9/2020	10:06 AM	10/9/2020	10:19 AM	63.0 to 64.0	250	250	26.9	84.5	265.5	350.0		350.0		
	10/9/2020	10:22 AM	10/9/2020	10:35 AM	64.0 to 65.0	250	250	26.9	84.5	265.5	350.0		350.0		
TOTALS									2,112.1	6,637.9	8,750.0	0.0	8,750		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-32	10/8/2020	8:40 AM	10/8/2020	10:13 AM	15.0 to 17.0	100	50	7.5	169.0	531.0	700.0		700.0		
	10/9/2020	7:17 AM	10/9/2020	8:03 AM	17.0 to 19.0	50	50	15.2	169.0	531.0	700.0		700.0	x	Client wants to run a 2 foot tool on this injection point
	10/9/2020	8:09 AM	10/9/2020	8:46 AM	19.0 to 21.0	50	50	18.9	169.0	531.0	700.0		700.0		
	10/9/2020	8:51 AM	10/9/2020	10:54 AM	21.0 to 23.0	100	100	5.7	169.0	531.0	700.0		700.0	x	Had to slow down right due to surfacing
	10/9/2020	11:01 AM	10/9/2020	12:00 PM	23.0 to 25.0	50	50	11.9	169.0	531.0	700.0		700.0		
	10/9/2020	12:06 PM	10/9/2020	12:34 PM	25.0 to 27.0	120	120	25.0	169.0	531.0	700.0		700.0		
	10/9/2020	12:42 PM	10/9/2020	1:03 PM	27.0 to 29.0	200	200	33.3	169.0	531.0	700.0		700.0		
	10/9/2020	1:06 PM	10/9/2020	1:29 PM	29.0 to 31.0	200	200	30.4	169.0	531.0	700.0		700.0		
	10/9/2020	1:32 PM	10/9/2020	1:48 PM	31.0 to 33.0	200	200	43.7	169.0	531.0	700.0		700.0		
	10/9/2020	1:49 PM	10/9/2020	2:05 PM	45.0 to 47.0	200	200	43.7	169.0	531.0	700.0		700.0		
	10/9/2020	2:07 PM	10/9/2020	2:50 PM	47.0 to 49.0	200	200	16.3	169.0	531.0	700.0		700.0		
	10/9/2020	2:58 PM	10/9/2020	3:28 PM	49.0 to 51.0	200	200	23.3	169.0	531.0	700.0		700.0		
	10/12/2020	6:26 AM	10/12/2020	7:09 AM	51.0 to 53.0	200	200	16.3	169.0	531.0	700.0		700.0		
	10/12/2020	7:14 AM	10/12/2020	7:53 AM	53.0 to 55.0	110	110	17.9	169.0	531.0	700.0		700.0		
	10/12/2020	7:58 AM	10/12/2020	8:33 AM	55.0 to 57.0	150	150	20.0	169.0	531.0	700.0		700.0		
	10/12/2020	8:37 AM	10/12/2020	9:10 AM	57.0 to 59.0	140	140	21.2	169.0	531.0	700.0		700.0		
	10/12/2020	9:22 AM	10/12/2020	10:04 AM	59.0 to 61.0	150	150	16.7	169.0	531.0	700.0		700.0		
	10/12/2020	10:10 AM	10/12/2020	10:39 AM	61.0 to 63.0	180	180	24.1	169.0	531.0	700.0		700.0		
	10/12/2020	10:43 AM	10/12/2020	11:05 AM	63.0 to 65.0	150	150	31.8	169.0	531.0	700.0		700.0		
TOTALS									3,210.3	10,089.7	13,300.0	0.0	13,300		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-21	10/22/2020	8:17 AM	10/22/2020	9:34 AM	10.0 to 12.0	60	50	0.8	15.4	48.4	63.8		63.8		
	10/22/2020	8:17 AM	10/22/2020	9:34 AM	14.0 to 16.0	70	70	9.1	169.0	531.0	700.0		700.0	x	stopped due to daylighting
	10/9/2020	9:35 AM	10/9/2020	10:37 AM	16.0 to 18.0	200	200	11.3	169.0	531.0	700.0		700.0		
	10/9/2020	10:41 AM	10/9/2020	11:23 AM	18.0 to 20.0	200	200	16.7	169.0	531.0	700.0		700.0		
	10/9/2020	11:36 AM	10/9/2020	12:13 PM	20.0 to 22.0	210	210	18.9	169.0	531.0	700.0		700.0		
	10/9/2020	12:16 PM	10/9/2020	12:55 PM	22.0 to 24.0	300	300	17.9	169.0	531.0	700.0		700.0		
	10/9/2020	1:11 PM	10/9/2020	1:52 PM	24.0 to 26.0	300	300	17.1	169.0	531.0	700.0		700.0		
	10/9/2020	1:55 PM	10/9/2020	3:31 PM	26.0 to 28.0	480	480	7.3	169.0	531.0	700.0		700.0		
	10/12/2020	6:25 AM	10/12/2020	7:10 AM	28.0 to 30.0	110	110	15.6	169.0	531.0	700.0		700.0		
	10/12/2020	7:15 AM	10/12/2020	8:05 AM	30.0 to 32.0	100	100	14.0	169.0	531.0	700.0		700.0		
	10/12/2020	8:21 AM	10/12/2020	9:05 AM	32.0 to 34.0	100	100	15.9	169.0	531.0	700.0		700.0		
	10/12/2020	10:08 AM	10/12/2020	10:43 AM	34.0 to 36.0	150	150	20.0	169.0	531.0	700.0		700.0		
	10/12/2020	10:50 AM	10/12/2020	11:20 AM	36.0 to 38.0	160	160	23.3	169.0	531.0	700.0		700.0		
	10/12/2020	11:25 AM	10/12/2020	12:05 PM	38.0 to 40.0	160	160	17.5	169.0	531.0	700.0		700.0		
	10/12/2020	12:23 PM	10/12/2020	1:12 PM	40.0 to 42.0	300	300	14.3	169.0	531.0	700.0		700.0	x	Daylighting after running 30min at a new location. Slowed down the rate. Client wants to keep pumping.
	10/12/2020	1:18 PM	10/12/2020	2:15 PM	42.0 to 44.0	300	300	12.3	169.0	531.0	700.0		700.0		
	10/12/2020	2:25 PM	10/12/2020	3:15 PM	44.0 to 46.0	300	300	14.0	169.0	531.0	700.0		700.0		
	10/13/2020	6:47 AM	10/13/2020	8:15 AM	46.0 to 48.0	250	250	8.0	169.0	531.0	700.0		700.0		
	10/22/2020	6:50 AM	10/22/2020	8:02 AM	48.0 to 50.0	250	250	9.7	169.0	531.0	700.0		700.0	x	Started daylighting in a new location. Stopped injecting for 15 min and there was still a flow. Pushing to the next interval.
	10/13/2020	9:30 AM	10/13/2020	11:46 AM	50.0 to 52.0	200	200	5.1	169.0	531.0	700.0		700.0		
	10/21/2020	3:10 PM	10/21/2020	3:30 PM	52.0 to 54.0	200	200	35.0	169.0	531.0	700.0		700.0	x	Stopped pumping because the client wanted to use those rods for the railroad location . Will continue once the railroad locations are complete
	10/20/2020	12:06 PM	10/20/2020	12:34 PM	54.0 to 56.0	280	280	25.0	169.0	531.0	700.0		700.0		
	10/20/2020	12:40 PM	10/20/2020	3:20 PM	56.0 to 58.0	250	250	4.4	169.0	531.0	700.0		700.0		
	10/21/2020	6:30 AM	10/21/2020	8:23 AM	58.0 to 60.0	250	250	6.2	169.0	531.0	700.0		700.0		
	10/21/2020	8:30 AM	10/21/2020	9:47 AM	60.0 to 62.0	250	250	9.1	169.0	531.0	700.0		700.0		
	10/21/2020	9:55 AM	10/21/2020	12:14 PM	62.0 to 64.0	400	400	5.0	169.0	531.0	700.0		700.0		
	10/21/2020	12:24 PM	10/21/2020	2:57 PM	64.0 to 66.0	300	300	4.6	169.0	531.0	700.0		700.0		
TOTALS									4,408.5	13,855.3	18,263.8	0.0	18,264		



## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-28	10/9/2020	11:53 AM	10/9/2020	1:54 PM	10.0 to 12.0	20	20	5.8	169.0	531.0	700.0		700.0		
	10/20/2020	10:37 AM	10/20/2020	11:08 AM	12.0 to 14.0	20	20	22.6	169.0	531.0	700.0		700.0	x	Stopped due to daylighting. Pushing to the next interval
	10/20/2020	9:58 AM	10/20/2020	10:31 AM	14.0 to 16.0	20	20	21.2	169.0	531.0	700.0		700.0	x	Stopped due to daylighting. Pushing to the bottom. Going bottom/up
	10/13/2020	10:14 AM	10/14/2020	1:49 PM	16.0 to 18.0	150	150	3.3	169.0	531.0	700.0		700.0	x	Drilled wit boom up tool got hard pulled up to 16'-18' got flow so we decide to finish that intrval. Before we pull up rest of the tool
	10/20/2020	9:20 AM	10/20/2020	9:53 AM	18.0 to 20.0	100	100	21.2	169.0	531.0	700.0		700.0		
	10/20/2020	7:50 AM	10/20/2020	9:11 AM	20.0 to 22.0	150	150	8.6	169.0	531.0	700.0		700.0		
	10/20/2020	6:40 AM	10/20/2020	7:05 AM	22.0 to 24.0	190	190	28.0	169.0	531.0	700.0		700.0	x	Started to daylight immediately. Had to slow down the rate. Finish pumping tomorrow
	10/19/2020	10:40 AM	10/19/2020	11:14 AM	24.0 to 26.0	180	180	20.6	169.0	531.0	700.0		700.0		
	10/19/2020	9:58 AM	10/19/2020	10:35 AM	26.0 to 28.0	210	210	18.9	169.0	531.0	700.0		700.0		
	10/19/2020	9:15 AM	10/19/2020	9:55 AM	28.0 to 30.0	200	200	17.5	169.0	531.0	700.0		700.0		
	10/19/2020	8:35 AM	10/19/2020	9:13 AM	30.0 to 32.0	200	200	18.4	169.0	531.0	700.0		700.0		
	10/19/2020	7:51 AM	10/19/2020	8:27 AM	32.0 to 34.0	250	250	19.4	169.0	531.0	700.0		700.0		
	10/19/2020	7:10 AM	10/19/2020	7:48 AM	34.0 to 36.0	300	300	18.4	169.0	531.0	700.0		700.0		
	10/13/2020	2:01 PM	10/13/2020	2:50 PM	36.0 to 38.0	350	350	14.3	169.0	531.0	700.0		700.0		
	10/13/2020	2:53 PM	10/13/2020	3:13 PM	38.0 to 40.0	300	300	35.0	169.0	531.0	700.0		700.0		
	10/14/2020	6:27 AM	10/14/2020	6:55 AM	40.0 to 42.0	400	400	25.0	169.0	531.0	700.0		700.0		
	10/14/2020	6:59 AM	10/14/2020	7:50 AM	42.0 to 44.0	300	300	13.7	169.0	531.0	700.0		700.0		
	10/14/2020	8:09 AM	10/14/2020	10:16 AM	44.0 to 46.0	300	300	5.5	169.0	531.0	700.0		700.0		
	10/14/2020	10:22 AM	10/14/2020	3:06 PM	46.0 to 48.0	200	200	2.5	169.0	531.0	700.0		700.0		
	10/16/2020	6:25 AM	10/16/2020	9:21 AM	48.0 to 50.0	100	100	4.0	169.0	531.0	700.0		700.0		
	10/16/2020	9:35 AM	10/16/2020	10:37 AM	50.0 to 52.0	110	110	11.3	169.0	531.0	700.0		700.0		
	10/16/2020	11:00 AM	10/16/2020	12:12 PM	52.0 to 54.0	110	110	9.7	169.0	531.0	700.0		700.0		
	10/16/2020	12:17 PM	10/16/2020	1:06 PM	54.0 to 56.0	110	110	14.3	169.0	531.0	700.0		700.0		
	10/16/2020	1:13 PM	10/16/2020	1:46 PM	56.0 to 58.0	110	110	21.2	169.0	531.0	700.0		700.0		
	10/16/2020	1:51 PM	10/16/2020	2:21 PM	58.0 to 60.0	290	290	23.3	169.0	531.0	700.0		700.0		
	10/16/2020	2:27 PM	10/16/2020	3:00 PM	60.0 to 62.0	290	290	21.2	169.0	531.0	700.0		700.0		
	10/16/2020	3:01 PM	10/16/2020	3:29 PM	62.0 to 64.0	290	290	25.0	169.0	531.0	700.0		700.0		
	10/12/2020	10:20 AM	10/12/2020	1:13 PM	64.0 to 66.0	590	560	4.0	169.0	531.0	700.0		700.0	x	Daylighting 20min after running. Had to slow down the rate
TOTALS									4,731.0	14,869.0	19,600.0	0.0	19,600		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-22	10/12/2020	11:52 AM	10/12/2020	1:54 PM	10.0 to 12.0	20	10	5.7	169.0	531.0	700.0		700.0		
	10/12/2020	1:58 PM	10/12/2020	2:45 PM	12.0 to 14.0	40	40	14.9	169.0	531.0	700.0		700.0		
	10/12/2020	2:53 PM	10/12/2020	3:20 PM	14.0 to 16.0	60	60	25.9	169.0	531.0	700.0		700.0		
	10/13/2020	6:47 AM	10/13/2020	7:17 AM	16.0 to 18.0	100	100	23.3	169.0	531.0	700.0		700.0		
	10/13/2020	7:23 AM	10/13/2020	7:53 AM	18.0 to 20.0	100	100	23.3	169.0	531.0	700.0		700.0		
	10/13/2020	8:06 AM	10/13/2020	9:20 AM	20.0 to 22.0	150	150	9.5	169.0	531.0	700.0		700.0	x	Slowed down rate due to daylighting in a new location
	10/13/2020	9:34 AM	10/13/2020	10:50 AM	22.0 to 24.0	60	60	9.2	169.0	531.0	700.0		700.0		
	10/13/2020	10:55 AM	10/13/2020	12:08 PM	24.0 to 26.0	70	70	9.6	169.0	531.0	700.0		700.0		
	10/13/2020	12:12 PM	10/13/2020	2:17 PM	26.0 to 28.0	60	60	5.6	169.0	531.0	700.0		700.0		
	10/13/2020	2:23 PM	10/13/2020	3:20 PM	28.0 to 30.0	60	60	12.3	169.0	531.0	700.0		700.0		
	10/14/2020	6:39 AM	10/14/2020	6:56 AM	30.0 to 32.0	80	80	41.2	169.0	531.0	700.0		700.0		
	10/14/2020	7:01 AM	10/14/2020	7:42 AM	32.0 to 34.0	70	70	17.1	169.0	531.0	700.0		700.0		
	10/14/2020	7:48 AM	10/14/2020	8:58 AM	34.0 to 36.0	150	150	10.0	169.0	531.0	700.0		700.0		
	10/14/2020	9:09 AM	10/14/2020	10:17 AM	36.0 to 38.0	150	150	10.3	169.0	531.0	700.0		700.0		
	10/14/2020	10:30 AM	10/14/2020	11:34 AM	38.0 to 40.0	140	140	10.9	169.0	531.0	700.0		700.0		
	10/14/2020	11:41 AM	10/14/2020	1:20 PM	40.0 to 42.0	120	120	7.1	169.0	531.0	700.0		700.0		
	10/14/2020	1:27 PM	10/14/2020	3:29 PM	42.0 to 44.0	130	130	5.7	169.0	531.0	700.0		700.0		
	10/15/2020	6:26 AM	10/15/2020	1:09 PM	44.0 to 46.0	150	150	1.7	169.0	531.0	700.0		700.0		
	10/15/2020	1:15 PM	10/15/2020	2:56 PM	46.0 to 48.0	220	220	6.9	169.0	531.0	700.0		700.0		
	10/16/2020	6:10 AM	10/16/2020	9:14 AM	48.0 to 50.0	200	200	3.8	169.0	531.0	700.0		700.0		
	10/19/2020	9:30 AM	10/19/2020	11:38 AM	50.0 to 52.0	200	200	5.5	169.0	531.0	700.0		700.0	x	Daylighting at a low GPM. Going to inject bottom/up
	10/19/2020	8:35 AM	10/19/2020	9:08 AM	52.0 to 54.0	200	200	21.2	169.0	531.0	700.0		700.0		
	10/19/2020	7:51 AM	10/19/2020	8:27 AM	54.0 to 56.0	180	180	19.4	169.0	531.0	700.0		700.0		
	10/19/2020	7:04 AM	10/19/2020	7:44 AM	56.0 to 58.0	190	190	17.5	169.0	531.0	700.0		700.0		
	10/16/2020	2:37 PM	10/16/2020	3:22 PM	58.0 to 60.0	180	180	15.6	169.0	531.0	700.0		700.0		
	10/16/2020	2:01 PM	10/16/2020	2:31 PM	60.0 to 62.0	200	200	23.3	169.0	531.0	700.0		700.0		
	10/16/2020	1:14 PM	10/16/2020	1:51 PM	62.0 to 64.0	200	200	18.9	169.0	531.0	700.0		700.0		
	10/16/2020	12:17 PM	10/16/2020	1:10 PM	64.0 to 66.0	200	200	13.2	169.0	531.0	700.0		700.0		
TOTALS									4,731.0	14,869.0	19,600.0	0.0	19,600		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-33	10/14/2020	12:29 PM	10/14/2020	12:45 PM	50.0 to 52.0	400	450	43.7	169.0	531.0	700.0		700.0		
	10/14/2020	11:57 AM	10/14/2020	12:25 PM	52.0 to 54.0	430	430	25.0	169.0	531.0	700.0		700.0		
	10/14/2020	11:36 AM	10/14/2020	11:53 AM	54.0 to 56.0	430	430	41.2	169.0	531.0	700.0		700.0		
	10/14/2020	11:13 AM	10/14/2020	11:30 AM	56.0 to 58.0	420	420	41.2	169.0	531.0	700.0		700.0		
	10/14/2020	10:51 AM	10/14/2020	11:09 AM	58.0 to 60.0	450	450	38.9	169.0	531.0	700.0		700.0		
	10/14/2020	10:28 AM	10/14/2020	10:44 AM	60.0 to 62.0	450	450	43.8	169.0	531.0	700.0		700.0		
	10/14/2020	10:04 AM	10/14/2020	10:22 AM	62.0 to 64.0	450	450	38.9	169.0	531.0	700.0		700.0		
	10/14/2020	8:42 AM	10/14/2020	9:57 AM	64.0 to 65.0	500	450	4.7	84.5	265.5	350.0		350.0		
TOTALS									1,267.2	3,982.8	5,250.0	0.0	5,250		
IP-34	10/16/2020	7:02 AM	10/16/2020	7:29 AM	23.0 to 25.0	220	220	25.9	169.0	531.0	700.0		700.0		
	10/16/2020	6:27 AM	10/16/2020	6:59 AM	25.0 to 27.0	200	200	21.9	169.0	531.0	700.0		700.0		
	10/16/2020	6:10 AM	10/16/2020	6:25 AM	27.0 to 28.0	250	250	46.7	169.0	531.0	700.0		700.0		
	10/15/2020	2:16 PM	10/15/2020	3:20 PM	45.0 to 47.0	250	250	10.9	169.0	531.0	700.0		700.0		
	10/15/2020	1:53 PM	10/15/2020	2:14 PM	47.0 to 49.0	260	260	33.3	169.0	531.0	700.0		700.0		
	10/15/2020	1:27 PM	10/15/2020	1:50 PM	49.0 to 51.0	250	250	30.4	169.0	531.0	700.0		700.0		
	10/15/2020	1:03 PM	10/15/2020	1:26 PM	51.0 to 53.0	260	260	30.4	169.0	531.0	700.0		700.0		
	10/15/2020	12:33 PM	10/15/2020	12:57 PM	53.0 to 55.0	200	200	29.2	169.0	531.0	700.0		700.0		
	10/15/2020	6:32 AM	10/15/2020	7:05 AM	55.0 to 57.0	200	200	21.2	169.0	531.0	700.0		700.0		
	10/14/2020	3:12 PM	10/14/2020	3:29 PM	57.0 to 59.0	410	410	41.2	169.0	531.0	700.0		700.0		
	10/14/2020	2:47 PM	10/14/2020	3:06 PM	59.0 to 61.0	380	380	36.8	169.0	531.0	700.0		700.0		
	10/14/2020	2:22 PM	10/14/2020	2:41 PM	61.0 to 63.0	380	380	36.8	169.0	531.0	700.0		700.0		
	10/14/2020	1:46 PM	10/14/2020	2:15 PM	63.0 to 65.0	400	370	24.1	169.0	531.0	700.0		700.0		
TOTALS									2,196.6	6,903.4	9,100.0	0.0	9,100		



## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-20	10/16/2020	10:00 AM	10/16/2020	11:05 AM	10.0 to 12.0	300	150	10.8	169.0	531.0	700.0		700.0		
	10/16/2020	11:31 AM	10/16/2020	12:06 PM	12.0 to 14.0	150	150	20.0	169.0	531.0	700.0		700.0		
	10/16/2020	12:17 PM	10/16/2020	1:00 PM	14.0 to 16.0	150	150	16.3	169.0	531.0	700.0		700.0		
	10/16/2020	1:05 PM	10/16/2020	1:31 PM	16.0 to 18.0	160	160	26.9	169.0	531.0	700.0		700.0		
	10/16/2020	1:35 PM	10/16/2020	2:02 PM	18.0 to 20.0	200	200	25.9	169.0	531.0	700.0		700.0		
	10/16/2020	2:04 PM	10/16/2020	2:33 PM	20.0 to 22.0	200	200	24.1	169.0	531.0	700.0		700.0		
	10/19/2020	6:55 AM	10/19/2020	12:39 PM	22.0 to 24.0	200	200	2.0	169.0	531.0	700.0		700.0		
	10/19/2020	12:52 PM	10/19/2020	2:23 PM	24.0 to 26.0	200	200	7.7	169.0	531.0	700.0		700.0		
	10/19/2020	2:30 PM	10/19/2020	3:15 PM	26.0 to 28.0	200	200	15.6	169.0	531.0	700.0		700.0		
	10/20/2020	6:40 AM	10/20/2020	7:10 AM	28.0 to 30.0	250	250	23.3	169.0	531.0	700.0		700.0		
	10/20/2020	7:42 AM	10/20/2020	12:08 PM	30.0 to 32.0	590	590	2.6	169.0	531.0	700.0		700.0		
	10/20/2020	12:30 PM	10/20/2020	2:43 PM	32.0 to 33.0	300	300	5.3	169.0	531.0	700.0		700.0		
TOTALS									2,027.6	6,372.4	8,400.0	0.0	8,400		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-29	10/19/2020	12:33 PM	10/19/2020	1:43 PM	10.0 to 12.0	250	100	10.0	169.0	531.0	700.0		700.0		
	10/21/2020	2:22 PM	10/21/2020	2:40 PM	12.0 to 14.0	100	100	38.9	169.0	531.0	700.0		700.0	x	Pushing down 4 ft due to daylighting
	10/21/2020	1:55 PM	10/21/2020	2:20 PM	14.0 to 16.0	100	100	28.0	169.0	531.0	700.0		700.0		
	10/21/2020	1:13 PM	10/21/2020	1:53 PM	16.0 to 18.0	150	150	17.5	169.0	531.0	700.0		700.0	x	started to daylight right away. Pushing down another 4ft
	10/21/2020	12:27 PM	10/21/2020	1:10 PM	18.0 to 20.0	150	150	16.3	169.0	531.0	700.0		700.0		
	10/21/2020	12:14 PM	10/21/2020	12:45 PM	20.0 to 22.0	180	180	22.6	169.0	531.0	700.0		700.0	x	Still causing surface to daylight. Pushing to another depth
	10/21/2020	11:05 AM	10/21/2020	12:12 PM	22.0 to 24.0	200	200	10.4	169.0	531.0	700.0		700.0		
	10/21/2020	10:04 AM	10/21/2020	11:01 AM	24.0 to 26.0	210	210	12.3	169.0	531.0	700.0		700.0		
	10/21/2020	9:41 AM	10/21/2020	10:02 AM	26.0 to 28.0	210	210	33.3	169.0	531.0	700.0		700.0		
	10/21/2020	9:06 AM	10/21/2020	9:38 AM	28.0 to 30.0	200	200	21.9	169.0	531.0	700.0		700.0		
	10/21/2020	8:30 AM	10/21/2020	9:00 AM	30.0 to 32.0	200	200	23.3	169.0	531.0	700.0		700.0		
	10/21/2020	8:05 AM	10/21/2020	8:26 AM	32.0 to 34.0	200	200	33.3	169.0	531.0	700.0		700.0		
	10/21/2020	7:34 AM	10/21/2020	7:58 AM	34.0 to 36.0	260	260	29.2	169.0	531.0	700.0		700.0		
	10/21/2020	6:30 AM	10/21/2020	7:23 AM	36.0 to 38.0	280	280	13.2	169.0	531.0	700.0		700.0		
	10/20/2020	3:07 PM	10/20/2020	3:30 PM	38.0 to 40.0	280	280	30.4	169.0	531.0	700.0		700.0		
	10/20/2020	2:44 PM	10/20/2020	3:06 PM	40.0 to 42.0	270	270	31.8	169.0	531.0	700.0		700.0		
	10/20/2020	2:19 PM	10/20/2020	2:40 PM	42.0 to 44.0	250	250	33.3	169.0	531.0	700.0		700.0		
	10/20/2020	1:51 PM	10/20/2020	2:15 PM	44.0 to 46.0	290	290	29.2	169.0	531.0	700.0		700.0		
	10/20/2020	1:24 PM	10/20/2020	2:46 PM	46.0 to 48.0	280	280	8.5	169.0	531.0	700.0		700.0		
	10/20/2020	12:58 PM	10/20/2020	1:21 PM	48.0 to 50.0	270	270	30.4	169.0	531.0	700.0		700.0		
	10/20/2020	8:25 AM	10/20/2020	9:16 AM	50.0 to 52.0	350	350	13.7	169.0	531.0	700.0		700.0		
	10/20/2020	9:23 AM	10/20/2020	9:43 AM	52.0 to 54.0	300	300	35.0	169.0	531.0	700.0		700.0		
	10/20/2020	9:51 AM	10/20/2020	10:11 AM	54.0 to 56.0	300	300	35.0	169.0	531.0	700.0		700.0		
	10/20/2020	10:19 AM	10/20/2020	10:39 AM	56.0 to 58.0	300	300	35.0	169.0	531.0	700.0		700.0		
	10/20/2020	10:44 AM	10/20/2020	11:04 AM	58.0 to 60.0	250	250	35.0	169.0	531.0	700.0		700.0		
	10/20/2020	11:12 AM	10/20/2020	11:33 AM	60.0 to 62.0	270	270	33.3	169.0	531.0	700.0		700.0		
	10/20/2020	11:40 AM	10/20/2020	12:01 PM	62.0 to 64.0	290	290	33.3	169.0	531.0	700.0		700.0		
	10/20/2020	12:18 PM	10/20/2020	12:38 PM	64.0 to 66.0	280	280	35.0	169.0	531.0	700.0		700.0		
TOTALS									4,731.0	14,869.0	19,600.0	0.0	19,600		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-26	10/21/2020	7:40 AM	10/21/2020	8:49 AM	10.0 to 12.0	250	100	10.1	169.0	531.0	700.0		700.0		
	10/21/2020	9:28 AM	10/21/2020	9:47 AM	12.0 to 14.0	100	100	36.8	169.0	531.0	700.0		700.0		
	10/21/2020	9:55 AM	10/21/2020	10:37 AM	14.0 to 16.0	100	100	16.7	169.0	531.0	700.0		700.0		
	10/21/2020	10:45 AM	10/21/2020	11:17 AM	16.0 to 18.0	150	150	21.9	169.0	531.0	700.0		700.0	x	Started to cause daylighting near the end of the interval. Pushing down 4ft
	10/28/2020	12:45 PM	10/28/2020	2:29 PM	18.0 to 20.0	100	100	1.9	48.3	151.7	200.0		200.0		
	10/21/2020	11:23 AM	10/21/2020	12:24 PM	20.0 to 22.0	190	190	11.5	169.0	531.0	700.0		700.0		
	10/21/2020	12:32 PM	10/21/2020	1:06 PM	22.0 to 24.0	180	180	20.6	169.0	531.0	700.0		700.0		
	10/21/2020	1:14 PM	10/21/2020	1:45 PM	24.0 to 26.0	180	180	22.6	169.0	531.0	700.0		700.0		
	10/21/2020	1:55 PM	10/21/2020	2:33 PM	26.0 to 28.0	180	180	18.4	169.0	531.0	700.0		700.0		
	10/21/2020	2:37 PM	10/21/2020	3:04 PM	28.0 to 30.0	180	180	25.9	169.0	531.0	700.0		700.0		
	10/21/2020	3:10 PM	10/21/2020	3:30 PM	30.0 to 32.0	190	190	35.0	169.0	531.0	700.0		700.0		
	10/22/2020	6:39 AM	10/22/2020	7:01 AM	32.0 to 34.0	200	200	31.8	169.0	531.0	700.0		700.0		
	10/22/2020	7:08 AM	10/22/2020	7:34 AM	34.0 to 36.0	200	200	26.9	169.0	531.0	700.0		700.0		
	10/22/2020	7:38 AM	10/22/2020	8:08 AM	36.0 to 38.0	200	200	23.3	169.0	531.0	700.0		700.0		
	10/22/2020	8:10 AM	10/22/2020	8:42 AM	38.0 to 40.0	190	190	21.9	169.0	531.0	700.0		700.0		
	10/22/2020	8:49 AM	10/22/2020	9:14 AM	40.0 to 42.0	210	210	28.0	169.0	531.0	700.0		700.0		
	10/22/2020	9:20 AM	10/22/2020	9:44 AM	42.0 to 46.0	240	240	29.2	169.0	531.0	700.0		700.0		
	10/22/2020	9:55 AM	10/22/2020	10:20 AM	46.0 to 48.0	280	280	28.0	169.0	531.0	700.0		700.0		
	10/22/2020	10:34 AM	10/22/2020	11:03 AM	48.0 to 50.0	290	290	24.1	169.0	531.0	700.0		700.0		
	10/22/2020	11:12 AM	10/22/2020	11:41 AM	42.0 to 44.0	280	280	24.1	169.0	531.0	700.0		700.0		
	10/22/2020	11:48 AM	10/22/2020	12:12 PM	44.0 to 46.0	290	290	29.2	169.0	531.0	700.0		700.0		
	10/22/2020	12:18 PM	10/22/2020	12:55 PM	46.0 to 48.0	250	250	18.9	169.0	531.0	700.0		700.0	x	Started surfacing at the railroad tracks. Tried to push the next interval and saw surfacing. Pushing down to 66 and going bottom/up
	10/28/2020	7:11 AM	10/28/2020	12:27 PM	48.0 to 52.0	100	100	2.2	169.0	531.0	700.0		700.0		
	10/28/2020	6:30 AM	10/28/2020	7:09 AM	52.0 to 54.0	110	110	17.9	169.0	531.0	700.0		700.0		
	10/27/2020	6:30 AM	10/27/2020	11:04 AM	54.0 to 56.0	100	100	2.6	169.0	531.0	700.0		700.0		
	10/26/2020	9:35 AM	10/26/2020	3:08 PM	56.0 to 58.0	110	110	2.1	169.0	531.0	700.0		700.0		
	10/26/2020	6:41 AM	10/26/2020	9:34 AM	58.0 to 60.0	90	90	4.0	169.0	531.0	700.0		700.0		
	10/23/2020	8:44 AM	10/23/2020	1:30 PM	60.0 to 62.0	130	130	2.4	169.0	531.0	700.0		700.0		
	10/23/2020	6:30 AM	10/23/2020	8:36 AM	62.0 to 64.0	150	150	5.6	169.0	531.0	700.0		700.0		
	10/22/2020	1:31 PM	10/22/2020	2:27 PM	64.0 to 66.0	310	310	12.5	169.0	531.0	700.0		700.0		
TOTALS									4,948.3	15,551.7	20,500.0	0.0	20,500		



## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-18B	10/22/2020	6:43 AM	10/22/2020	7:31 AM	25.0 to 27.0	300	130	14.6	169.0	531.0	700.0		700.0		
	10/22/2020	7:36 AM	10/22/2020	8:26 AM	27.0 to 29.0	160	160	14.0	169.0	531.0	700.0		700.0		
	10/22/2020	8:30 AM	10/22/2020	9:18 AM	29.0 to 30.0	180	180	14.6	169.0	531.0	700.0		700.0		
TOTALS									506.9	1,593.1	2,100.0	0.0	2,100		
IP-59	10/22/2020	10:00 AM	10/22/2020	11:41 AM	15.0 to 17.0	270	180	6.9	169.0	531.0	700.0		700.0		
	10/22/2020	11:48 AM	10/22/2020	12:50 PM	17.0 to 19.0	180	180	9.6	143.5	451.2	594.7		594.7	x	stopped due to daylighting. Pushing 4ft
	10/26/2020	1:06 PM	10/26/2020	3:08 PM	19.0 to 21.0	80	80	6.6	194.4	610.9	805.3		805.3		pumped the amount plus the remailing from interval 17-19
	10/23/2020	6:30 AM	10/23/2020	9:47 AM	21.0 to 23.0	400	400	3.6	169.0	531.0	700.0		700.0		
	10/23/2020	9:53 AM	10/23/2020	11:05 AM	23.0 to 25.0	270	270	9.7	169.0	531.0	700.0		700.0		
	10/23/2020	11:11 AM	10/23/2020	11:36 AM	25.0 to 27.0	220	220	15.3	92.1	289.3	381.4		381.4	x	Had to stop injecting due to dalighting. Pushing down 4ft to continue injecting
	10/26/2020	10:52 AM	10/26/2020	1:00 PM	27.0 to 29.0	100	100	8.0	245.9	772.7	1,018.6		1,018.6		pumped the amount plus the remailing from interval 25-27
	10/23/2020	11:43 AM	10/23/2020	12:32 PM	29.0 to 31.0	250	250	14.3	169.0	531.0	700.0		700.0		
	10/23/2020	12:37 PM	10/23/2020	1:04 PM	31.0 to 33.0	220	220	25.9	169.0	531.0	700.0		700.0		
	10/23/2020	1:16 PM	10/23/2020	1:43 PM	45.0 to 47.0	370	370	25.9	169.0	531.0	700.0		700.0		
	10/23/2020	1:47 PM	10/23/2020	2:28 PM	47.0 to 49.0	380	380	17.1	169.0	531.0	700.0		700.0		
	10/23/2020	2:35 PM	10/23/2020	2:56 PM	49.0 to 51.0	280	280	33.3	169.0	531.0	700.0		700.0		
	10/23/2020	3:00 PM	10/23/2020	3:30 PM	51.0 to 53.0	270	270	23.3	169.0	531.0	700.0		700.0		
	10/26/2020	6:43 AM	10/26/2020	7:13 AM	53.0 to 55.0	280	280	23.3	169.0	531.0	700.0		700.0		
	10/26/2020	7:17 AM	10/26/2020	7:59 AM	55.0 to 57.0	300	300	16.7	169.0	531.0	700.0		700.0		
	10/26/2020	8:04 AM	10/26/2020	8:38 AM	57.0 to 59.0	290	290	20.6	169.0	531.0	700.0		700.0		
	10/26/2020	8:42 AM	10/26/2020	9:23 AM	59.0 to 61.0	260	260	17.1	169.0	531.0	700.0		700.0		
	10/26/2020	9:26 AM	10/26/2020	10:01 AM	61.0 to 63.0	280	280	20.0	169.0	531.0	700.0		700.0		
	10/26/2020	10:06 AM	10/26/2020	10:42 AM	63.0 to 65.0	300	300	19.4	169.0	531.0	700.0		700.0		
TOTALS									3,210.3	10,089.7	13,300.0	0.0	13,300		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-50	10/22/2020	10:44 AM	10/22/2020	11:57 AM	25.0 to 27.0	300	170	9.6	169.0	531.0	700.0		700.0		
	10/22/2020	12:01 PM	10/22/2020	1:06 PM	27.0 to 29.0	150	150	10.8	169.0	531.0	700.0		700.0		
	10/30/2020	8:34 AM	10/30/2020	9:33 AM	29.0 to 31.0	190	190	11.9	169.0	531.0	700.0		700.0	x	Started to daylight in another area. Pushing down 4ft
	10/30/2020	7:32 AM	10/30/2020	8:28 AM	31.0 to 33.0	150	150	12.5	169.0	531.0	700.0		700.0		
	10/30/2020	7:19 AM	10/30/2020	7:30 AM	33.0 to 35.0	200	200	63.6	169.0	531.0	700.0		700.0	x	Started to daylight again in the same area. Rate is high because I had to pump the remaining volume
	10/30/2020	6:30 AM	10/30/2020	7:18 AM	35.0 to 37.0	180	180	14.6	169.0	531.0	700.0		700.0		
	10/29/2020	2:26 PM	10/29/2020	3:30 PM	37.0 to 39.0	110	110	10.9	169.0	531.0	700.0		700.0	x	started to daylight right away. Going bottom/up
	10/29/2020	12:36 PM	10/29/2020	2:16 PM	39.0 to 41.0	50	50	2.0	48.3	151.7	200.0		200.0		
	10/29/2020	11:00 AM	10/29/2020	12:33 PM	41.0 to 43.0	40	40	2.2	48.3	151.7	200.0		200.0		
	10/29/2020	9:18 AM	10/29/2020	10:55 AM	43.0 to 45.0	70	70	2.1	48.3	151.7	200.0		200.0		
	10/29/2020	7:31 AM	10/29/2020	9:14 AM	45.0 to 47.0	90	90	1.9	48.3	151.7	200.0		200.0		
	10/29/2020	6:36 AM	10/29/2020	7:28 AM	47.0 to 49.0	90	90	3.8	48.3	151.7	200.0		200.0		
	10/28/2020	1:31 PM	10/28/2020	2:20 PM	49.0 to 51.0	80	80	4.1	48.3	151.7	200.0		200.0		
	10/28/2020	7:22 AM	10/28/2020	1:23 PM	51.0 to 53.0	60	60	1.9	169.0	531.0	700.0		700.0		
	10/28/2020	6:30 AM	10/28/2020	7:10 AM	53.0 to 55.0	50	50	17.5	169.0	531.0	700.0		700.0		
	10/27/2020	6:30 AM	10/27/2020	11:05 AM	55.0 to 57.0	40	40	2.5	169.0	531.0	700.0		700.0		
	10/26/2020	9:11 AM	10/26/2020	2:27 PM	57.0 to 59.0	160	160	2.2	169.0	531.0	700.0		700.0	x	started to daylight - reduce flow rate.
	10/26/2020	6:40 AM	10/26/2020	9:06 AM	59.0 to 61.0	120	120	4.8	169.0	531.0	700.0		700.0		
	10/23/2020	8:36 AM	10/23/2020	1:27 PM	61.0 to 63.0	100	100	2.4	169.0	531.0	700.0		700.0		
	10/23/2020	7:32 AM	10/23/2020	8:32 AM	63.0 to 65.0	210	210	11.7	169.0	531.0	700.0		700.0		
	10/23/2020	6:30 AM	10/23/2020	7:23 AM	65.0 to 66.0	400	210	6.6	84.5	265.5	350.0		350.0		
TOTALS									2,739.7	8,610.3	11,350.0	0.0	11,350		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-16	10/27/2020	7:50 AM	10/27/2020	8:25 AM	26.0 to 28.0	300	180	20.0	169.0	531.0	700.0		700.0		
	10/27/2020	8:30 AM	10/27/2020	9:05 AM	28.0 to 30.0	180	180	20.0	169.0	531.0	700.0		700.0		
	10/27/2020	9:12 AM	10/27/2020	9:46 AM	30.0 to 32.0	190	190	20.6	169.0	531.0	700.0		700.0		
	10/27/2020	10:30 AM	10/27/2020	11:02 AM	60.0 to 62.0	520	220	21.9	169.0	531.0	700.0		700.0		
	10/27/2020	11:15 AM	10/27/2020	11:51 AM	62.0 to 64.0	250	250	19.4	169.0	531.0	700.0		700.0		
	10/27/2020	11:57 AM	10/27/2020	12:28 PM	64.0 to 65.0	200	200	11.3	84.5	265.5	350.0		350.0		
TOTALS									929.3	2,920.7	3,850.0	0.0	3,850		
IP-54	10/27/2020	1:55 PM	10/27/2020	2:28 PM	28.0 to 30.0	290	180	21.2	169.0	531.0	700.0		700.0		
	10/27/2020	2:38 PM	10/27/2020	2:58 PM	30.0 to 32.0	200	200	35.0	169.0	531.0	700.0		700.0		
	10/27/2020	3:06 PM	10/27/2020	3:30 PM	32.0 to 34.0	190	190	29.2	169.0	531.0	700.0		700.0		
	10/28/2020	6:30 AM	10/28/2020	7:10 AM	34.0 to 36.0	220	220	17.5	169.0	531.0	700.0		700.0		
	10/28/2020	7:24 AM	10/28/2020	8:00 AM	36.0 to 38.0	230	230	19.4	169.0	531.0	700.0		700.0		
	10/28/2020	8:04 AM	10/28/2020	8:47 AM	38.0 to 40.0	210	210	16.3	169.0	531.0	700.0		700.0		
	10/28/2020	8:52 AM	10/28/2020	10:09 AM	40.0 to 42.0	250	250	9.1	169.0	531.0	700.0		700.0		
	10/29/2020	10:00 AM	10/29/2020	10:42 AM	42.0 to 44.0	260	260	16.7	169.0	531.0	700.0		700.0	✖	Started to daylight in a new area. Going bottom/up
	10/29/2020	8:49 AM	10/29/2020	9:58 AM	44.0 to 46.0	140	140	10.1	169.0	531.0	700.0		700.0		
	10/29/2020	7:46 AM	10/29/2020	8:43 AM	46.0 to 48.0	150	150	12.3	169.0	531.0	700.0		700.0		
	10/29/2020	6:38 AM	10/29/2020	7:43 AM	48.0 to 50.0	180	180	10.8	169.0	531.0	700.0		700.0		
	10/28/2020	3:13 PM	10/28/2020	3:45 PM	50.0 to 52.0	140	140	21.9	169.0	531.0	700.0		700.0		
	10/28/2020	2:47 PM	10/28/2020	3:11 PM	52.0 to 54.0	160	160	29.2	169.0	531.0	700.0		700.0		
	10/28/2020	2:15 PM	10/28/2020	2:42 PM	54.0 to 56.0	200	200	25.9	169.0	531.0	700.0		700.0		
	10/28/2020	1:43 PM	10/28/2020	2:10 PM	56.0 to 58.0	190	190	25.9	169.0	531.0	700.0		700.0		
	10/28/2020	1:14 PM	10/28/2020	1:41 PM	58.0 to 60.0	130	130	25.9	169.0	531.0	700.0		700.0		
	10/28/2020	12:37 PM	10/28/2020	1:09 PM	60.0 to 62.0	160	160	21.9	169.0	531.0	700.0		700.0		
	10/28/2020	12:01 PM	10/28/2020	12:35 PM	62.0 to 64.0	170	170	20.6	169.0	531.0	700.0		700.0		
	10/28/2020	11:14 AM	10/28/2020	11:55 AM	64.0 to 66.0	150	150	17.1	169.0	531.0	700.0		700.0		
TOTALS									3,210.3	10,089.7	13,300.0	0.0	13,300		



## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-30	10/29/2020	6:38 AM	10/29/2020	7:13 AM	10.0 to 12.0	100	100	5.7	48.3	151.7	200.0		200.0		
	11/3/2020	2:24 PM	11/3/2020	3:26 PM	12.0 to 14.0	100	100	3.2	48.3	151.7	200.0		200.0	x	Started to surface. Pushing down 8ft
	11/3/2020	12:29 PM	11/3/2020	2:16 PM	14.0 to 16.0	60	60	1.9	48.3	151.7	200.0		200.0		
	11/3/2020	10:36 AM	11/3/2020	12:25 PM	16.0 to 18.0	60	60	1.8	48.3	151.7	200.0		200.0		
	11/3/2020	9:10 AM	11/3/2020	10:28 AM	18.0 to 20.0	50	50	2.6	48.3	151.7	200.0		200.0		
	11/3/2020	8:20 AM	11/3/2020	9:05 AM	20.0 to 22.0	160	160	15.6	169.0	531.0	700.0		700.0		
	11/3/2020	7:43 AM	11/3/2020	8:14 AM	22.0 to 24.0	160	160	22.6	169.0	531.0	700.0		700.0		
	11/3/2020	7:18 AM	11/3/2020	7:40 AM	24.0 to 26.0	130	130	31.8	169.0	531.0	700.0		700.0		
	11/3/2020	6:31 AM	11/3/2020	7:09 AM	26.0 to 28.0	110	110	18.4	169.0	531.0	700.0		700.0		
	11/2/2020	3:09 PM	11/2/2020	4:04 PM	28.0 to 30.0	100	100	12.7	169.0	531.0	700.0		700.0		
	11/2/2020	2:39 PM	11/2/2020	3:05 PM	30.0 to 32.0	120	120	26.9	169.0	531.0	700.0		700.0		
	11/2/2020	1:47 PM	11/2/2020	2:35 PM	32.0 to 34.0	160	160	14.6	169.0	531.0	700.0		700.0		
	10/30/2020	7:53 AM	10/30/2020	9:01 AM	34.0 to 36.0	210	210	10.3	169.0	531.0	700.0		700.0		
	10/30/2020	9:06 AM	10/30/2020	9:58 AM	36.0 to 38.0	220	220	13.5	169.0	531.0	700.0		700.0		
	10/30/2020	10:09 AM	10/30/2020	10:52 AM	38.0 to 40.0	270	270	16.3	169.0	531.0	700.0		700.0		
	10/30/2020	11:00 AM	10/30/2020	11:39 AM	40.0 to 42.0	300	300	17.9	169.0	531.0	700.0		700.0		
	10/30/2020	11:46 AM	10/30/2020	12:38 PM	42.0 to 44.0	260	260	13.5	169.0	531.0	700.0		700.0		
	10/30/2020	12:43 PM	10/30/2020	1:41 PM	44.0 to 46.0	280	280	12.1	169.0	531.0	700.0		700.0		
	10/30/2020	1:49 PM	10/30/2020	2:54 PM	46.0 to 48.0	330	330	10.8	169.0	531.0	700.0		700.0		
	10/30/2020	3:01 PM	10/30/2020	3:30 PM	48.0 to 50.0	300	300	24.1	169.0	531.0	700.0		700.0		
	10/30/2020	3:39 PM	10/30/2020	4:05 PM	50.0 to 52.0	300	300	26.9	169.0	531.0	700.0		700.0		
	11/2/2020	6:41 AM	11/2/2020	7:35 AM	52.0 to 54.0	220	220	13.0	169.0	531.0	700.0		700.0		
	11/2/2020	7:49 AM	11/2/2020	8:51 AM	54.0 to 56.0	220	220	11.3	169.0	531.0	700.0		700.0		
	11/2/2020	9:03 AM	11/2/2020	9:51 AM	56.0 to 58.0	210	210	14.6	169.0	531.0	700.0		700.0		
	11/2/2020	10:00 AM	11/2/2020	10:52 AM	58.0 to 60.0	180	180	13.5	169.0	531.0	700.0		700.0		
	11/2/2020	11:02 AM	11/2/2020	11:41 AM	60.0 to 62.0	230	230	17.9	169.0	531.0	700.0		700.0		
	11/2/2020	12:05 PM	11/2/2020	12:48 PM	62.0 to 64.0	170	170	16.3	169.0	531.0	700.0		700.0		
	11/2/2020	12:56 PM	11/2/2020	1:30 PM	64.0 to 66.0	260	260	20.6	169.0	531.0	700.0		700.0		
TOTALS									4,127.6	12,972.4	17,100.0	0.0	17,100		

# INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-51	10/29/2020	11:32 AM	10/29/2020	12:42 PM	28.0 to 30.0	90	60	10.0	169.0	531.0	700.0		700.0		
	10/29/2020	12:49 PM	10/29/2020	1:56 PM	30.0 to 32.0	80	80	10.4	169.0	531.0	700.0		700.0		
	10/29/2020	2:02 PM	10/29/2020	2:51 PM	32.0 to 34.0	130	130	14.3	169.0	531.0	700.0		700.0		
	10/29/2020	2:55 PM	10/29/2020	3:27 PM	34.0 to 36.0	160	160	21.9	169.0	531.0	700.0		700.0		
	10/29/2020	3:31 PM	10/29/2020	4:01 PM	36.0 to 38.0	270	270	23.3	169.0	531.0	700.0		700.0		
	10/30/2020	6:30 AM	10/30/2020	7:18 AM	38.0 to 40.0	230	230	14.6	169.0	531.0	700.0		700.0		
	10/30/2020	7:24 AM	10/30/2020	8:12 AM	40.0 to 42.0	290	290	14.6	169.0	531.0	700.0		700.0		
	10/30/2020	8:20 AM	10/30/2020	9:06 AM	42.0 to 44.0	330	330	15.2	169.0	531.0	700.0		700.0		
	10/30/2020	9:17 AM	10/30/2020	10:23 AM	44.0 to 46.0	370	370	10.6	169.0	531.0	700.0		700.0		
	10/30/2020	10:30 AM	10/30/2020	11:20 AM	46.0 to 48.0	380	380	14.0	169.0	531.0	700.0		700.0		
	10/30/2020	11:27 AM	10/30/2020	12:31 PM	48.0 to 50.0	520	520	10.9	169.0	531.0	700.0		700.0		
	10/30/2020	12:38 PM	10/30/2020	1:31 PM	50.0 to 52.0	460	460	13.2	169.0	531.0	700.0		700.0		
	10/30/2020	1:40 PM	10/30/2020	2:09 PM	52.0 to 54.0	390	390	24.1	169.0	531.0	700.0		700.0		
	10/30/2020	2:13 PM	10/30/2020	2:52 PM	54.0 to 56.0	300	300	17.9	169.0	531.0	700.0		700.0		
	10/30/2020	3:04 PM	10/30/2020	3:34 PM	56.0 to 58.0	290	290	23.3	169.0	531.0	700.0		700.0		
	10/30/2020	3:38 PM	10/30/2020	4:00 PM	58.0 to 60.0	210	210	31.8	169.0	531.0	700.0		700.0		
	11/2/2020	6:30 AM	11/2/2020	7:31 AM	60.0 to 62.0	190	190	11.5	169.0	531.0	700.0		700.0		
	11/2/2020	7:36 AM	11/2/2020	8:24 AM	62.0 to 64.0	210	210	14.6	169.0	531.0	700.0		700.0		
	11/2/2020	8:32 AM	11/2/2020	9:14 AM	64.0 to 66.0	310	310	16.7	169.0	531.0	700.0		700.0		
TOTALS									3,210.3	10,089.7	13,300.0	0.0	13,300		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-24	10/30/2020	9:39 AM	10/30/2020	10:19 AM	10.0 to 12.0	150	90	5.0	48.3	151.7	200.0		200.0		
	10/30/2020	10:25 AM	10/30/2020	11:33 AM	12.0 to 14.0	80	80	10.3	169.0	531.0	700.0		700.0		
	10/30/2020	11:44 AM	10/30/2020	2:10 PM	14.0 to 16.0	110	110	1.4	48.3	151.7	200.0		200.0		Switch out flowmeter. Back online 13:55
	10/30/2020	2:28 PM	10/30/2020	3:15 PM	16.0 to 18.0	90	90	4.3	48.3	151.7	200.0		200.0		
	10/30/2020	3:20 PM	10/30/2020	3:47 PM	18.0 to 20.0	120	120	7.4	48.3	151.7	200.0		200.0		
	11/2/2020	6:37 AM	11/2/2020	7:49 AM	20.0 to 22.0	120	120	9.7	169.0	531.0	700.0		700.0		
	11/2/2020	7:57 AM	11/2/2020	9:03 AM	22.0 to 24.0	250	250	10.6	169.0	531.0	700.0		700.0		
	11/2/2020	9:15 AM	11/2/2020	10:19 AM	24.0 to 26.0	250	250	10.9	169.0	531.0	700.0		700.0		
	11/2/2020	10:32 AM	11/2/2020	11:31 AM	26.0 to 28.0	310	310	11.9	169.0	531.0	700.0		700.0		
	11/2/2020	12:05 PM	11/2/2020	1:21 PM	28.0 to 30.0	180	180	9.2	169.0	531.0	700.0		700.0		
	11/2/2020	1:33 PM	11/2/2020	2:22 PM	30.0 to 32.0	200	200	14.3	169.0	531.0	700.0		700.0		
	11/2/2020	2:31 PM	11/2/2020	3:13 PM	32.0 to 34.0	180	180	16.7	169.0	531.0	700.0		700.0		
	11/2/2020	3:27 PM	11/2/2020	4:00 PM	34.0 to 36.0	220	220	21.2	169.0	531.0	700.0		700.0		
	11/3/2020	6:31 AM	11/3/2020	7:07 AM	36.0 to 38.0	200	200	19.4	169.0	531.0	700.0		700.0		
	11/3/2020	7:14 AM	11/3/2020	7:40 AM	38.0 to 40.0	270	270	26.9	169.0	531.0	700.0		700.0		
	11/3/2020	7:48 AM	11/3/2020	8:37 AM	40.0 to 42.0	310	310	14.3	169.0	531.0	700.0		700.0		
	11/3/2020	8:55 AM	11/3/2020	9:55 AM	42.0 to 44.0	300	300	11.7	169.0	531.0	700.0		700.0		
	11/3/2020	10:05 AM	11/3/2020	10:42 AM	44.0 to 46.0	340	340	18.9	169.0	531.0	700.0		700.0		
	11/3/2020	10:54 AM	11/3/2020	11:24 AM	46.0 to 48.0	380	380	23.3	169.0	531.0	700.0		700.0		
	11/3/2020	11:30 AM	11/3/2020	11:58 AM	48.0 to 50.0	370	370	25.0	169.0	531.0	700.0		700.0		
	11/3/2020	12:03 PM	11/3/2020	12:40 PM	50.0 to 52.0	360	360	18.9	169.0	531.0	700.0		700.0		
	11/3/2020	12:50 PM	11/3/2020	1:25 PM	52.0 to 54.0	400	400	20.0	169.0	531.0	700.0		700.0		
	11/3/2020	1:33 PM	11/3/2020	2:15 PM	54.0 to 56.0	430	430	16.7	169.0	531.0	700.0		700.0		
	11/3/2020	2:26 PM	11/3/2020	2:53 PM	56.0 to 58.0	300	300	25.9	169.0	531.0	700.0		700.0		
	11/3/2020	3:00 PM	11/3/2020	3:28 PM	58.0 to 60.0	280	280	25.0	169.0	531.0	700.0		700.0		
	11/3/2020	3:36 PM	11/3/2020	3:59 PM	60.0 to 62.0	260	260	30.4	169.0	531.0	700.0		700.0		
	11/4/2020	6:37 AM	11/4/2020	7:01 AM	62.0 to 64.0	270	270	29.2	169.0	531.0	700.0		700.0		
	11/4/2020	7:10 AM	11/4/2020	7:47 AM	64.0 to 66.0	250	250	18.9	169.0	531.0	700.0		700.0		
TOTALS									4,248.3	13,351.7	17,600.0	0.0	17,600		



## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-49	11/2/2020	10:05 AM	11/2/2020	11:19 AM	28.0 to 30.0	110	90	3.3	59.6	187.3	246.9		246.9		
	11/2/2020	12:00 PM	11/2/2020	1:06 PM	30.0 to 32.0	90	90	3.0	48.3	151.7	200.0		200.0		
	11/2/2020	1:15 PM	11/2/2020	2:38 PM	32.0 to 34.0	90	90	2.4	48.3	151.7	200.0		200.0		
	11/2/2020	2:42 PM	11/2/2020	2:54 PM	34.0 to 36.0	100	100	2.4	7.0	22.2	29.2		29.2	x	Started daylighting even while running .5gpm. Pushing to next interval
	11/3/2020	6:30 AM	11/3/2020	8:38 AM	36.0 to 38.0	60	60	1.6	48.3	151.7	200.0		200.0		
	11/3/2020	9:00 AM	11/3/2020	9:35 AM	38.0 to 40.0	70	70	5.7	48.3	151.7	200.0		200.0		
	11/3/2020	9:46 AM	11/3/2020	10:36 AM	40.0 to 42.0	70	70	4.0	48.3	151.7	200.0		200.0		
	11/3/2020	10:43 AM	11/3/2020	12:18 PM	42.0 to 44.0	80	80	2.1	48.3	151.7	200.0		200.0		
	11/3/2020	12:29 PM	11/3/2020	1:25 PM	44.0 to 46.0	80	80	3.6	48.3	151.7	200.0		200.0		
	11/3/2020	1:38 PM	11/3/2020	3:00 PM	46.0 to 48.0	100	100	2.4	48.3	151.7	200.0		200.0		
	11/4/2020	6:30 AM	11/4/2020	7:32 AM	48.0 to 50.0	130	130	3.2	48.3	151.7	200.0		200.0		
	11/4/2020	7:50 AM	11/4/2020	8:54 AM	50.0 to 52.0	90	90	3.1	48.3	151.7	200.0		200.0		
	11/4/2020	9:10 AM	11/4/2020	10:00 AM	52.0 to 54.0	90	90	4.0	48.3	151.7	200.0		200.0		
	11/4/2020	10:07 AM	11/4/2020	11:17 AM	54.0 to 56.0	130	130	10.0	169.0	531.0	700.0		700.0		
	11/4/2020	11:27 AM	11/4/2020	12:29 PM	56.0 to 58.0	160	160	11.3	169.0	531.0	700.0		700.0		
	11/4/2020	12:34 PM	11/4/2020	1:36 PM	58.0 to 60.0	180	180	11.3	169.0	531.0	700.0		700.0		
	11/4/2020	1:41 PM	11/4/2020	2:06 PM	60.0 to 62.0	260	260	8.0	48.3	151.7	200.0		200.0	x	Couldn't maintain a flow over 10gpm without any daylighting.
	11/4/2020	2:10 PM	11/4/2020	2:37 PM	62.0 to 64.0	120	120	7.4	48.3	151.7	200.0		200.0		
					to #####				0.0	0.0			0.0		
					##### to #####				0.0	0.0			0.0		
					##### to #####				0.0	0.0			0.0		
TOTALS									1,201.1	3,775.0	4,976.1	0.0	4,976		
IP-48	11/4/2020	6:58 AM	11/4/2020	7:40 AM	28.0 to 30.0	220	150	4.8	48.3	151.7	200.0		200.0		
	11/4/2020	10:42 AM	11/4/2020	11:21 AM	30.0 to 32.0	110	110	5.1	48.3	151.7	200.0		200.0	x	Had to slow down rate to .5 and still causing daylighting. Pushing to next interval to try and get better flow
	11/4/2020	8:44 AM	11/4/2020	10:28 AM	32.0 to 33.0	110	110	1.9	48.3	151.7	200.0		200.0		
TOTALS									144.8	455.2	600.0	0.0	600		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-49	11/2/2020	10:05 AM	11/2/2020	11:19 AM	28.0 to 30.0	110	90	3.3	59.6	187.3	246.9		246.9		
	11/2/2020	12:00 PM	11/2/2020	1:06 PM	30.0 to 32.0	90	90	3.0	48.3	151.7	200.0		200.0		
	11/2/2020	1:15 PM	11/2/2020	2:38 PM	32.0 to 34.0	90	90	2.4	48.3	151.7	200.0		200.0		
	11/2/2020	2:42 PM	11/2/2020	2:54 PM	34.0 to 36.0	100	100	2.4	7.0	22.2	29.2		29.2	x	Started daylighting even while running .5gpm. Pushing to next interval
	11/3/2020	6:30 AM	11/3/2020	8:38 AM	36.0 to 38.0	60	60	1.6	48.3	151.7	200.0		200.0		
	11/3/2020	9:00 AM	11/3/2020	9:35 AM	38.0 to 40.0	70	70	5.7	48.3	151.7	200.0		200.0		
	11/3/2020	9:46 AM	11/3/2020	10:36 AM	40.0 to 42.0	70	70	4.0	48.3	151.7	200.0		200.0		
	11/3/2020	10:43 AM	11/3/2020	12:18 PM	42.0 to 44.0	80	80	2.1	48.3	151.7	200.0		200.0		
	11/3/2020	12:29 PM	11/3/2020	1:25 PM	44.0 to 46.0	80	80	3.6	48.3	151.7	200.0		200.0		
	11/3/2020	1:38 PM	11/3/2020	3:00 PM	46.0 to 48.0	100	100	2.4	48.3	151.7	200.0		200.0		
	11/4/2020	6:30 AM	11/4/2020	7:32 AM	48.0 to 50.0	130	130	3.2	48.3	151.7	200.0		200.0		
	11/4/2020	7:50 AM	11/4/2020	8:54 AM	50.0 to 52.0	90	90	3.1	48.3	151.7	200.0		200.0		
	11/4/2020	9:10 AM	11/4/2020	10:00 AM	52.0 to 54.0	90	90	4.0	48.3	151.7	200.0		200.0		
	11/4/2020	10:07 AM	11/4/2020	11:17 AM	54.0 to 56.0	130	130	10.0	169.0	531.0	700.0		700.0		
	11/4/2020	11:27 AM	11/4/2020	12:29 PM	56.0 to 58.0	160	160	11.3	169.0	531.0	700.0		700.0		
	11/4/2020	12:34 PM	11/4/2020	1:36 PM	58.0 to 60.0	180	180	11.3	169.0	531.0	700.0		700.0		
	11/4/2020	1:41 PM	11/4/2020	2:06 PM	60.0 to 62.0	260	260	8.0	48.3	151.7	200.0		200.0	x	Couldn't maintain a flow over 10gpm without any daylighting.
	11/4/2020	2:10 PM	11/4/2020	2:37 PM	62.0 to 64.0	120	120	7.4	48.3	151.7	200.0		200.0		
TOTALS									1,201.1	3,775.0	4,976.1	0.0	4,976		
IP-48	11/4/2020	6:58 AM	11/4/2020	7:40 AM	28.0 to 30.0	220	150	4.8	48.3	151.7	200.0		200.0		
	11/4/2020	10:42 AM	11/4/2020	11:21 AM	30.0 to 32.0	110	110	5.1	48.3	151.7	200.0		200.0	x	Had to slow down rate to .5 and still causing daylighting. Pushing to next interval to try and get better flow
	11/4/2020	8:44 AM	11/4/2020	10:28 AM	32.0 to 33.0	110	110	1.9	48.3	151.7	200.0		200.0		
TOTALS									144.8	455.2	600.0	0.0	600		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-56	11/4/2020	8:34 AM	11/4/2020	9:30 AM	28.0 to 30.0	200	160	12.5	169.0	531.0	700.0		700.0		
	11/4/2020	9:39 AM	11/4/2020	10:39 AM	30.0 to 32.0	160	160	11.7	169.0	531.0	700.0		700.0		
	11/4/2020	10:47 AM	11/4/2020	11:39 AM	32.0 to 34.0	180	180	13.5	169.0	531.0	700.0		700.0		
	11/4/2020	11:59 AM	11/4/2020	12:35 PM	34.0 to 36.0	190	190	19.4	169.0	531.0	700.0		700.0		
	11/4/2020	12:44 PM	11/4/2020	1:39 PM	36.0 to 38.0	190	190	10.7	141.5	444.6	586.1		586.1	x	Started to daylight and low gpm. Pushing to next interval
	11/4/2020	1:58 PM	11/4/2020	2:53 PM	38.0 to 40.0	200	200	3.6	48.3	151.7	200.0		200.0		
	11/10/2020	1:21 PM	11/10/2020	2:00 PM	40.0 to 42.0	300	300	5.1	48.3	151.7	200.0		200.0	x	daylighting even at a 1gpm. Pushing down 10ft
	11/10/2020	12:13 PM	11/10/2020	1:19 PM	42.0 to 44.0	90	90	3.0	48.3	151.7	200.0		200.0		
	11/10/2020	10:29 AM	11/10/2020	12:00 PM	44.0 to 46.0	100	100	2.2	48.3	151.7	200.0		200.0		
	11/10/2020	8:33 AM	11/10/2020	10:21 AM	46.0 to 48.0	110	110	1.9	48.3	151.7	200.0		200.0		
	11/10/2020	6:40 AM	11/10/2020	8:09 AM	48.0 to 50.0	100	100	2.2	48.3	151.7	200.0		200.0		
	11/5/2020	8:58 AM	11/5/2020	10:03 AM	50.0 to 52.0	200	200	10.8	169.0	531.0	700.0		700.0		
	11/5/2020	10:11 AM	11/5/2020	10:37 AM	52.0 to 54.0	60	60	7.7	48.3	151.7	200.0		200.0		
	11/5/2020	10:44 AM	11/5/2020	11:52 AM	54.0 to 56.0	70	70	2.9	48.3	151.7	200.0		200.0		
	11/5/2020	11:55 AM	11/5/2020	1:31 PM	56.0 to 58.0	70	70	2.1	48.3	151.7	200.0		200.0		
	11/5/2020	1:39 PM	11/5/2020	2:03 PM	58.0 to 60.0	70	70	8.3	48.3	151.7	200.0		200.0		
	11/5/2020	2:11 PM	11/5/2020	2:55 PM	60.0 to 62.0	60	60	4.5	48.3	151.7	200.0		200.0		
	11/6/2020	6:25 AM	11/6/2020	7:18 AM	62.0 to 64.0	60	60	3.8	48.3	151.7	200.0		200.0		
	11/9/2020	2:35 PM	11/9/2020	3:34 PM	64.0 to 66.0	60	60	11.9	169.0	531.0	700.0		700.0		
TOTALS									1,734.6	5,451.5	7,186.1	0.0	7,186		



## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-58	11/4/2020	12:08 PM	11/4/2020	1:10 PM	28.0 to 30.0	290	140	11.3	169.0	531.0	700.0		700.0		
	11/4/2020	1:50 PM	11/4/2020	3:01 PM	30.0 to 32.0	160	160	9.9	169.0	531.0	700.0		700.0		
	11/5/2020	6:30 AM	11/5/2020	7:31 AM	32.0 to 34.0	180	180	11.5	169.0	531.0	700.0		700.0	x	started to daylight near the end. Pushing 24ft
	11/12/2020	10:54 AM	11/12/2020	11:50 AM	38.0 to 40.0	30	30	3.6	48.3	151.7	200.0		200.0		
	11/12/2020	9:25 AM	11/12/2020	10:49 AM	40.0 to 42.0	30	30	2.4	48.3	151.7	200.0		200.0		
	11/12/2020	7:42 AM	11/12/2020	9:17 AM	42.0 to 44.0	30	30	2.1	48.3	151.7	200.0		200.0		
	11/12/2020	6:41 AM	11/12/2020	7:33 AM	44.0 to 46.0	50	50	3.8	48.3	151.7	200.0		200.0		
	11/11/2020	12:01 PM	11/11/2020	2:10 PM	46.0 to 48.0	50	50	1.6	48.3	151.7	200.0		200.0		
	11/6/2020	7:04 AM	11/6/2020	8:38 AM	48.0 to 50.0	50	50	2.1	48.3	151.7	200.0		200.0		
	11/6/2020	6:30 AM	11/6/2020	6:56 AM	50.0 to 52.0	60	60	7.7	48.3	151.7	200.0		200.0		
	11/5/2020	2:30 PM	11/5/2020	3:40 PM	52.0 to 54.0	110	110	10.0	169.0	531.0	700.0		700.0		
	11/5/2020	1:05 PM	11/5/2020	2:15 PM	54.0 to 56.0	90	90	10.0	169.0	531.0	700.0		700.0		
	11/5/2020	8:33 AM	11/5/2020	9:17 AM	56.0 to 58.0	400	210	15.9	169.0	531.0	700.0		700.0		
	11/5/2020	9:26 AM	11/5/2020	10:13 AM	58.0 to 60.0	200	200	14.9	169.0	531.0	700.0		700.0		
	11/5/2020	10:19 AM	11/5/2020	10:46 AM	60.0 to 62.0	210	210	7.4	48.3	151.7	200.0		200.0		
	11/5/2020	10:56 AM	11/5/2020	11:43 AM	62.0 to 64.0	160	160	4.3	48.3	151.7	200.0		200.0		
	11/5/2020	11:48 AM	11/5/2020	12:45 PM	64.0 to 66.0	160	160	3.5	48.3	151.7	200.0		200.0		
	TOTALS								1,665.5	5,234.5	6,900.0	0.0	6,900		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-31	11/5/2020	7:10 AM	11/5/2020	8:00 AM	15.0 to 17.0	130	70	9.7	117.2	368.3	485.5		485.5		
	11/11/2020	12:20 PM	11/11/2020	1:53 PM	17.0 to 19.0	80	80	2.2	48.3	151.7	200.0		200.0		
	11/11/2020	1:58 PM	11/11/2020	3:14 PM	19.0 to 21.0	110	110	2.6	48.3	151.7	200.0		200.0		
	11/12/2020	6:41 AM	11/12/2020	8:14 AM	21.0 to 23.0	50	50	2.2	48.3	151.7	200.0		200.0		
	11/12/2020	8:17 AM	11/12/2020	10:31 AM	23.0 to 25.0	50	50	1.5	48.3	151.7	200.0		200.0		
	11/6/2020	9:01 AM	11/6/2020	10:58 AM	25.0 to 27.0	580	580	1.7	48.3	151.7	200.0		200.0		
	11/11/2020	10:09 AM	11/11/2020	12:06 PM	27.0 to 29.0	580	580	1.7	48.3	151.7	200.0		200.0		
	11/11/2020	8:20 AM	11/11/2020	10:05 AM	29.0 to 31.0	580	580	1.9	48.3	151.7	200.0		200.0		
	11/6/2020	7:57 AM	11/6/2020	8:46 AM	31.0 to 33.0	240	240	14.3	169.0	531.0	700.0		700.0		
	11/6/2020	6:38 AM	11/6/2020	7:47 AM	45.0 to 47.0	500	500	10.1	169.0	531.0	700.0		700.0		
	11/5/2020	9:44 AM	11/5/2020	10:13 AM	47.0 to 49.0	580	580	6.9	48.3	151.7	200.0		200.0		
	11/5/2020	10:29 AM	11/5/2020	11:50 AM	49.0 to 51.0	590	590	8.6	169.0	531.0	700.0		700.0		
	11/5/2020	11:59 AM	11/5/2020	12:44 PM	51.0 to 53.0	300	300	15.6	169.0	531.0	700.0		700.0		
	11/5/2020	12:49 PM	11/5/2020	1:22 PM	53.0 to 55.0	220	220	21.2	169.0	531.0	700.0		700.0		
	11/5/2020	1:28 PM	11/5/2020	1:50 PM	55.0 to 57.0	260	260	31.8	169.0	531.0	700.0		700.0		
	11/5/2020	1:58 PM	11/5/2020	2:19 PM	57.0 to 59.0	270	270	33.3	169.0	531.0	700.0		700.0		
	11/5/2020	2:30 PM	11/5/2020	3:00 PM	59.0 to 61.0	250	250	23.3	169.0	531.0	700.0		700.0		
	11/5/2020	3:07 PM	11/5/2020	3:33 PM	61.0 to 63.0	210	210	26.9	169.0	531.0	700.0		700.0		
	11/5/2020	3:39 PM	11/5/2020	4:00 PM	63.0 to 65.0	280	280	33.3	169.0	531.0	700.0		700.0		
TOTALS									2,193.1	6,892.4	9,085.5	0.0	9,086		
IP-53	11/9/2020	7:26 AM	11/9/2020	8:15 AM	28.0 to 30.0	130	70	14.3	169.0	531.0	700.0		700.0		
	11/6/2020	2:38 PM	11/6/2020	3:49 PM	30.0 to 32.0	180	180	9.9	169.0	531.0	700.0		700.0	x	2Surfacing at 10 gpm. Pushed to next interval.
	11/9/2020	6:56 AM	11/9/2020	7:11 AM	32.0 to 33.0	180	180	20.0	72.4	227.6	300.0		300.0		
TOTALS									410.3	1,289.7	1,700.0	0.0	1,700		

## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-23	11/6/2020	3:08 PM	11/6/2020	4:00 PM	26.0 to 28.0	200	110	13.5	169.0	531.0	700.0		700.0		
	11/9/2020	6:45 AM	11/9/2020	7:26 AM	28.0 to 30.0	160	160	17.1	169.0	531.0	700.0		700.0		
	11/9/2020	7:35 AM	11/9/2020	8:15 AM	30.0 to 32.0	160	160	17.5	169.0	531.0	700.0		700.0		
	11/9/2020	8:22 AM	11/9/2020	9:20 AM	32.0 to 33.0	160	160	3.4	48.3	151.7	200.0		200.0		
TOTALS									555.2	1,744.8	2,300.0	0.0	2,300		
IP-55	11/9/2020	7:50 AM	11/9/2020	8:50 AM	28.0 to 30.0	230	140	11.7	169.0	531.0	700.0		700.0		
	11/9/2020	8:57 AM	11/9/2020	9:47 AM	30.0 to 32.0	150	150	14.0	169.0	531.0	700.0		700.0		
	11/9/2020	11:44 AM	11/9/2020	12:31 PM	32.0 to 34.0	150	150	14.9	169.0	531.0	700.0		700.0		
	11/9/2020	12:38 PM	11/9/2020	1:15 PM	34.0 to 36.0	160	160	18.9	169.0	531.0	700.0		700.0		
	11/9/2020	1:25 PM	11/9/2020	2:19 PM	36.0 to 38.0	160	160	13.0	169.0	531.0	700.0		700.0		
	11/9/2020	2:26 PM	11/9/2020	3:17 PM	38.0 to 40.0	260	260	13.7	169.0	531.0	700.0		700.0		
	11/10/2020	6:40 AM	11/10/2020	7:09 AM	40.0 to 42.0	200	200	24.1	169.0	531.0	700.0		700.0		
	11/10/2020	7:16 AM	11/10/2020	8:25 AM	42.0 to 44.0	210	210	10.1	169.0	531.0	700.0		700.0		
	11/10/2020	8:33 AM	11/10/2020	9:54 AM	44.0 to 46.0	220	220	8.6	169.0	531.0	700.0		700.0		
	11/10/2020	9:59 AM	11/10/2020	11:11 AM	46.0 to 48.0	220	220	9.7	169.0	531.0	700.0		700.0		
	11/10/2020	11:25 AM	11/10/2020	11:40 AM	48.0 to 50.0	210	210	13.3	48.3	151.7	200.0		200.0		
	11/10/2020	11:48 AM	11/10/2020	12:51 PM	50.0 to 52.0	200	200	11.1	169.0	531.0	700.0		700.0		
	11/10/2020	12:54 PM	11/10/2020	1:32 PM	52.0 to 54.0	230	230	18.4	169.0	531.0	700.0		700.0		
	11/10/2020	1:40 PM	11/10/2020	2:45 PM	54.0 to 56.0	260	260	10.8	169.0	531.0	700.0		700.0		
	11/10/2020	2:55 PM	11/10/2020	3:28 PM	56.0 to 58.0	220	220	21.2	169.0	531.0	700.0		700.0		
	11/10/2020	3:35 PM	11/10/2020	4:00 PM	58.0 to 60.0	210	210	28.0	169.0	531.0	700.0		700.0		
	11/11/2020	6:40 AM	11/11/2020	7:15 AM	60.0 to 62.0	240	240	20.0	169.0	531.0	700.0		700.0		
	11/11/2020	7:25 AM	11/11/2020	8:16 AM	62.0 to 64.0	280	280	13.7	169.0	531.0	700.0		700.0		
	11/11/2020	8:20 AM	11/11/2020	9:01 AM	64.0 to 66.0	260	260	17.1	169.0	531.0	700.0		700.0		
TOTALS									3,089.7	9,710.3	12,800.0	0.0	12,800		



## INJECTION FIELD LOG

PROJECT NUMBER/NAME: Phibro-Tech/304-20-1084

Well ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution		% Solution Injected (Gallons)	Flush Water Injected (Gal)	Total Injected (Gal)	Day Lighting	Field Notes
									29% CPS (Gallons)	Water (Gallons)					
IP-52	11/9/2020	11:55 AM	11/9/2020	1:41 PM	28.0 to 30.0	280	220	1.2	31.1	97.8	128.9		128.9		
	11/9/2020	2:50 PM	11/9/2020	3:08 PM	30.0 to 32.0	220	220	6.2	26.9	84.6	111.5		111.5	x	Started to daylight at 28-30. Even at a low gpm. Pushing to next interval.
	11/10/2020	6:40 AM	11/10/2020	8:36 AM	32.0 to 34.0	200	200	1.7	48.3	151.7	200.0		200.0		
	11/10/2020	8:58 AM	11/10/2020	10:29 AM	34.0 to 36.0	180	180	1.0	22.4	70.5	92.9		92.9		
	11/10/2020	10:40 AM	11/10/2020	11:56 AM	38.0 to 40.0	110	110	1.0	17.5	54.9	72.4		72.4	x	Started to daylight so we are pulling rods and stepping over.
	11/12/2020	10:26 AM	11/12/2020	11:59 AM	48.0 to 50.0	50	50	2.2	48.3	151.7	200.0		200.0		
	11/12/2020	8:14 AM	11/12/2020	10:16 AM	50.0 to 52.0	40	40	1.6	48.3	151.7	200.0		200.0		
	11/12/2020	6:41 AM	11/12/2020	8:09 AM	52.0 to 54.0	60	60	2.3	48.3	151.7	200.0		200.0		
	11/11/2020	1:56 PM	11/11/2020	3:25 PM	54.0 to 56.0	60	60	2.2	48.3	151.7	200.0		200.0		
	11/11/2020	12:18 PM	11/11/2020	1:50 PM	56.0 to 58.0	60	60	2.2	48.3	151.7	200.0		200.0		
	11/11/2020	10:50 AM	11/11/2020	12:12 PM	58.0 to 60.0	60	60	2.4	48.3	151.7	200.0		200.0		
	11/11/2020	9:35 AM	11/11/2020	10:41 AM	60.0 to 62.0	70	70	3.0	48.3	151.7	200.0		200.0		
	11/11/2020	6:40 AM	11/11/2020	9:27 AM	62.0 to 64.0	70	70	1.2	48.3	151.7	200.0		200.0		
	11/10/2020	2:31 PM	11/10/2020	3:25 PM	64.0 to 66.0	190	80	3.7	48.3	151.7	200.0		200.0		
TOTALS									580.7	1,825.0	2,405.7	0.0	2,406		

## **APPENDIX B**

### Photographs



1. Site Setup and Layout



2. Site Setup and Layout



3. Site Setup and Layout



4. Site Setup and Layout



5. Site Setup and Layout



6. Post Injection and Demobilization Site Conditions



7. Post Injection and Demobilization Site Conditions



8. Post Injection and Demobilization Site Conditions

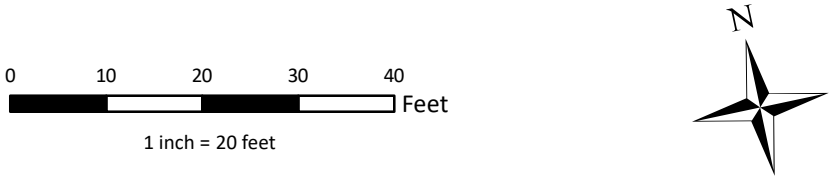
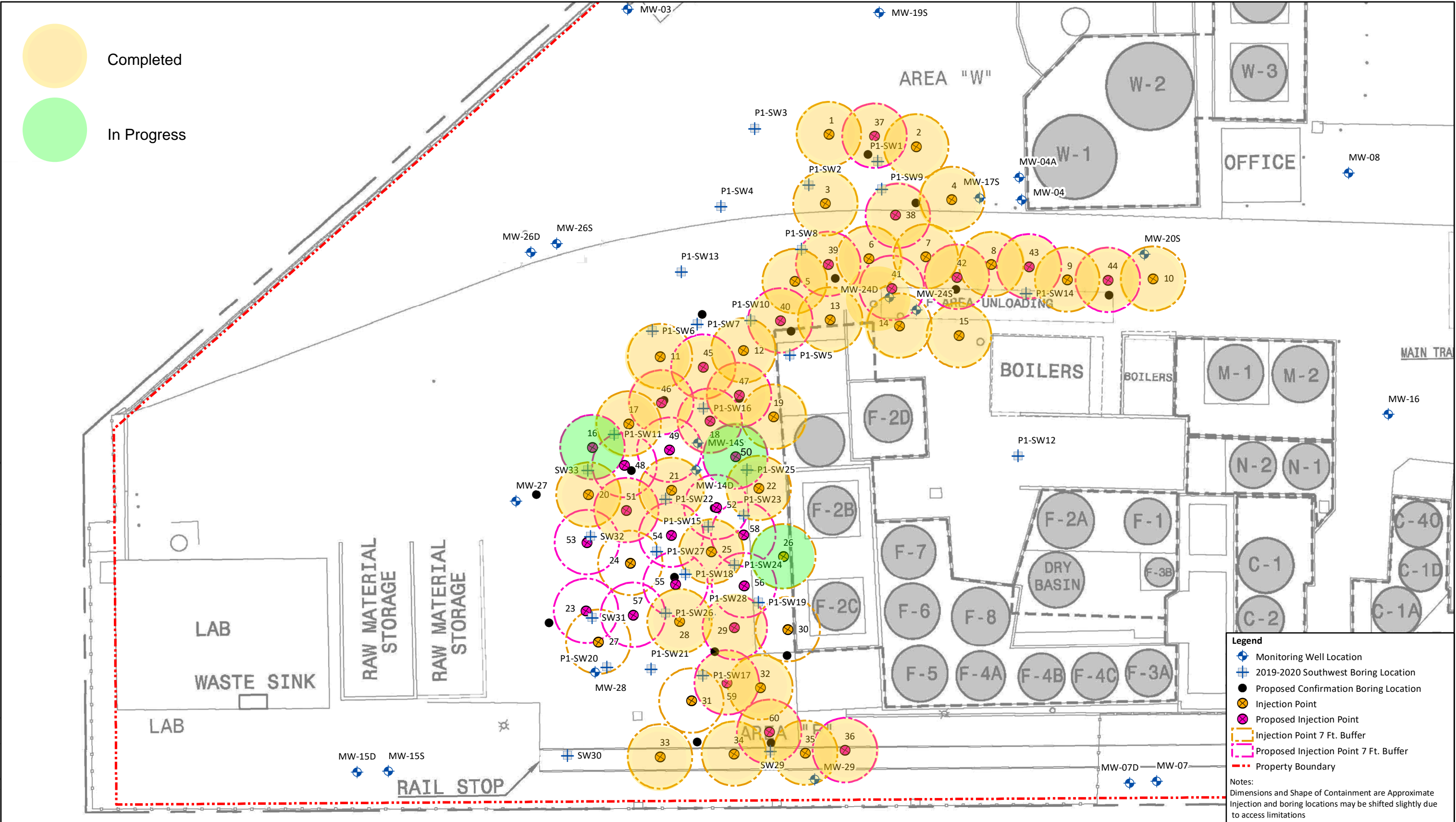


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## APPENDIX C

### Injection Location Map

File: N:\GIS\PTI\0197 PTI\MXDs\20200511\ Figure 4 - Proposed Injection Locations.mxd 9/21/2020 Created by: BO Checked by: CS Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet



<b>SAFETY FIRST</b> 	CLIENT: Phibro-Tech, Inc.	<b>Proposed Injection Locations</b>  <b>FIGURE 4</b>
	PROJECT: PTI Part B Application Support Santa Fe Springs, CA	
	PROJECT NUMBER: 0197.010.006	

# Appendix E

## 2020 Confirmation Boring Logs





<b>PROJECT NUMBER</b> 0197 PTI	<b>DRILLING COMPANY</b> Cascade	<b>COORDINATES</b> 6541050.61385999, 1807820.33085
<b>PROJECT NAME</b> PTI	<b>DRILLER</b> Nacho	<b>COORD SYS</b>
<b>CLIENT</b> PhibroTech Inc.	<b>DRILL RIG</b> CME-95	<b>SURFACE ELEVATION</b> ~152 ft msl
<b>ADDRESS</b> 8851 Dice Rd, Santa Fe Springs, CA	<b>DRILLING METHOD</b> Hollow Stem Auger	<b>LOGGED BY</b> W. Skillings
<b>DRILLING DATE</b> 9/28/2020	<b>TOTAL DEPTH</b> 50 feet	<b>CHECKED BY</b> Clare Steedman, Chris Alger
	<b>BOREHOLE DIAMETER</b> 8 inches	

**COMMENTS**

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
2		60/60			XXXX	SP	ASPHALT:
4							GRAVEL BASE:
6		60/60				ML	SAND: Reddish Brown, 25YR 4/4, Damp: Low plasticity, Medium grained sand, Large coarse gravels, Poorly Graded (0, 90, 10)
8							Lime precipitate, Damp: Light gray 4.5-5 ft.
10		60/60					SANDY SILT: Brown, 7.5YR 4/4, Damp: Firm consistency, Low plasticity, Fine sand, Poorly Graded (0, 30, 70)
12							
14		60/60				SP	SAND: Greenish Black, 5G-11 2.5/1, Damp: Medium grained sand, Poorly Graded, CPS Staining to 20 feet (0, 90, 10)
16		60/60					
18							
20		60/60					Light Yellow Brown, 10YR 6/4, No CPS staining 20-23 ft.
22							
24		60/60					CPS staining 23.6 ft.
26							No CPS staining 23.6-29.5
28		60/60					
30		60/60				ML	CPS mottling at 29. ft
32							SILT: Grayish Brown, 2.5YR 5/2, Damp: Hard consistency, Low plasticity, Fine grained sand, CPS mottling 29.5-50 ft. (0, 10, 90)
34			INJ04C-CONF-35.0				
36		60/60					
38							
40			INJ04C-CONF-40.0				


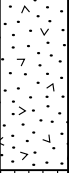
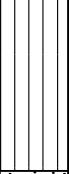
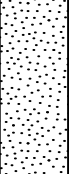
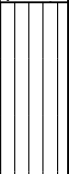
**Disclaimer** This log is intended for environmental not geotechnical purposes.

Page 1 of 2

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
40		60/60					
42							
44			INJ04C-CONF-45.0				
46		60/60					
48						ML/CL	SANDY SILTY CLAY: Brown, Dry, Very Hard, Fine grained sand, CPS mottling throughout. Paleosol (0, 30, 70)
50							Termination Depth at: 50 feet
52							
54							
56							
58							
60							
62							
64							
66							
68							
70							
72							
74							
76							
78							
80							
82							
84							
86							
88							

<b>PROJECT NUMBER</b> 0197 PTI <b>PROJECT NAME</b> PTI <b>CLIENT</b> PhibroTech Inc. <b>ADDRESS</b> 8851 Dice Rd, Santa Fe Springs, CA <b>DRILLING DATE</b> 10/6/2020	<b>DRILLING COMPANY</b> Cascade <b>DRILLER</b> Nacho <b>DRILL RIG</b> CME-95 <b>DRILLING METHOD</b> Hollow Stem Auger <b>TOTAL DEPTH</b> 40 feet <b>BOREHOLE DIAMETER</b> 8 inches	<b>COORDINATES</b> 6540945.105719, 1807770.69235399 <b>COORD SYS</b> <b>SURFACE ELEVATION</b> ~152 ft msl <b>LOGGED BY</b> W. Skillings <b>CHECKED BY</b> Clare Steedman, Chris Alger
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**COMMENTS** Angled Boring 23 deg NW

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
2		60/60					ASPHALT: FILL: SILTY SAND
4							
6		60/60					CONCRETE SLURRY OF POND 1 OR W7/W8 EXCAVATIONS
8							
10		60/60				ML	SILT: Dark Red/Brown, 5YR 3/4, Damp, Hard consistency, Low plasticity, Fine Grained Sand (0, 10, 90)
12							
14							
16		60/60				SP	SAND: Brown, 10YR 5/4, Damp, Hard consistency, Medium Grained Sand 15-32.5 ft, Poorly Graded (0, 90, 10)
18							
20		60/60					Pale Brown, 10YR 6/3, Some coarse sands 20-21 ft
22							
24							
26		60/60					CPS Banding 27-28 ft, CPS Staining
28							Pervasive CPS color 28-40 ft
30			INJS-3C-CONF-30.0				Coarse sand with fine Gravel 29-29.5
32		60/60	INJS-3C-CONF-30.5			ML	SILT: CPS colors, Damp, Very Hard consistency, Low plasticity, fine grained sand (0, 10, 90)
34							
36			INJS-3C-CONF-35.0				Heavy CPS staining: Strong Sulfur Odor 36-37 ft.
38		60/60					
40							Termination Depth at:40 feet


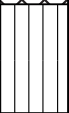
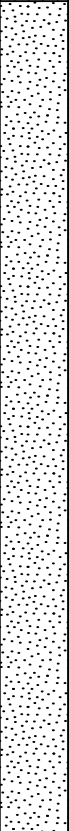
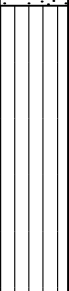
**Disclaimer** This log is intended for environmental not geotechnical purposes.

Page 1 of 1



<b>PROJECT NUMBER</b> 0197 PTI <b>PROJECT NAME</b> PTI <b>CLIENT</b> PhibroTech Inc. <b>ADDRESS</b> 8851 Dice Rd., Santa Fe Springs, <b>DRILLING DATE</b> 10/5/2020	<b>DRILLING COMPANY</b> Cascade <b>DRILLER</b> Nacho <b>DRILL RIG</b> CME-95 <b>DRILLING METHOD</b> Hollow Stem Auger <b>TOTAL DEPTH</b> 70 feet <b>BOREHOLE DIAMETER</b> 8 inches	<b>COORDINATES</b> 6540914.526285, 1807792.47198799 <b>COORD SYS</b> <b>SURFACE ELEVATION</b> ~152 ft. msl <b>LOGGED BY</b> W. Skillings <b>CHECKED BY</b> Clare Steedman, Chris Alger
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**COMMENTS** Angled Boring 15 deg E

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
2		60/60					ASPHALT: CONCRETE: FILL:
4							
6		60/60				ML	SANDY SILT: 10YR 4/6, Damp: Soft consistency, Low plasticity, Fine grained sand (0, 10, 90)
8							
10		60/60				SP	SAND: Brown, 10YR 4/3, Damp: Fine and Medium grained sand, CPS Colors 12-15 ft., Poorly Graded (0, 90, 10)
12							
14							
16		60/60					No CPS staining 15-30 ft.
18							
20		60/60					Medium grained sand 20-32 ft.
22							
24							
26		60/60					
28							
30		60/60					CPS staining, Fine gravel 30-32 ft.
32							
34						ML	SANDY SILT: Blue Green CPS color, Damp: Hard consistency, Low plasticity, Fine sand, Poorly Graded (0, 30, 70)
36		60/60					Mottled CPS staining 35-49 ft.
38							
40							


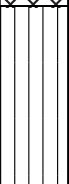
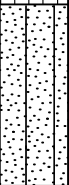
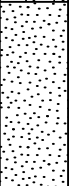
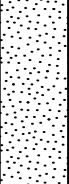
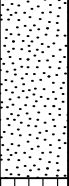
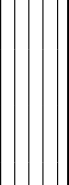
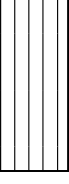
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Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
40		60/60					Heavy CPS staining 41- 42 ft.
42							
44			INJS-4C-CONF-45.0				
46		60/60					
48							
50		60/60	INJS-4C-CONF-50.0			ML/CL	SANDY SILTY CLAY: Brown, 7.5YR 4/6, Dry, Very Hard, Medium plasticity, Fine Sand, No CPS staining (0, 20, 80)
52							Heavy CPS staining 52-54 ft.
54			INJS-4C-CONF-55.0				Mottled CPS staining 54-55 ft.
56		60/60					No CPS staining 55-58ft
58							Heavy CPS staining 58-61 ft.
60		60/60	INJS-4C-CONF-60.0				No CPS staining 61-70 ft.
62							
64			INJS-4C-CONF-65.0			SP	SAND: 10YR 6/4, Dry, Medium Sand, Poorly Graded
66		60/60					
68							
70							Termination Depth at:70 feet
72							
74							
76							
78							
80							
82							
84							
86							
88							

<b>PROJECT NUMBER</b> 0197 PTI	<b>DRILLING COMPANY</b> Cascade	<b>COORDINATES</b> 6540911.19957999, 1807768.68533
<b>PROJECT NAME</b> PTI	<b>DRILLER</b> Nacho	<b>COORD SYS</b>
<b>CLIENT</b> PhibroTech Inc.	<b>DRILL RIG</b> CME-95	<b>SURFACE ELEVATION</b> ~152 ft. msl
<b>ADDRESS</b> 8851 Dice Rd., Santa Fe Springs, CA	<b>DRILLING METHOD</b> Hollow Stem Auger	<b>LOGGED BY</b> W. Skillings
<b>DRILLING DATE</b> 10/6/2020	<b>TOTAL DEPTH</b> 65 feet	<b>CHECKED BY</b> Clare Steedman, Chris Alger
	<b>BOREHOLE DIAMETER</b> 8 inches	

**COMMENTS**

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
2		60/60					ASPHALT: Dusty red fill, gravel- asphalt fill FILL: Dusty Red gravel-asphalt fill
4							
6		60/60				ML	SANDY SILT: Brown, 7.5YR 4/4, Damp, Firm consistency, Low plasticity, Fine grained sand (0, 30, 70)
8							
10		60/60				SM	SILTY SAND: Brown, 7.5YR 4/4, Damp, fine and medium grained sand, Poorly Graded (0, 80, 20)
12							
14							
16		60/60				SP	SAND: Light Yellow Brown, 10YR 6/4, Damp, medium grained sand, Poorly Graded (0, 90, 10)
18							
20		60/60					
22							
24							Coarse sand with fine Gravel 24 ft only
26		60/60					
28							
30		60/60				ML	SILT: CPS colors, Damp, Firm consistency, Low plasticity, Fine grained Sand (0, 10, 90)
32							
34							
36		60/60					
38							
40							

**Disclaimer** This log is intended for environmental not geotechnical purposes.



Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
40		60/60					
42			SWCONF1-43.0				Mottled CPS staining 41-50 ft. Manganese root structures, change to Hard consistency.
44			SWCONF1-45.0				
46		60/60					
48							
50			SWCONF1-50.0				Heavy CPS staining 50-58ft, Poorly Graded (0, 90, 10)
52		60/60					
54			SWCONF1-55.0				
56		60/60	SWCONF1-57.0				
58			SWCONF1-58.0				
60			SWCONF1-60.0			SP	SAND: Light Brownish Grey, 10YR 6/2, Damp, medium grained sand, No CPS Staining
62		60/60					CPS staining 63-65 ft. (0, 90, 10)
64			SWCONF1-65.0				
66							Termination Depth at: 65 feet
68							
70							
72							
74							
76							
78							
80							
82							
84							
86							
88							

<b>PROJECT NUMBER</b> 0197 PTI	<b>DRILLING COMPANY</b> Cascade	<b>COORDINATES</b> 6540895.41325999, 1807738.67275999
<b>PROJECT NAME</b> PTI	<b>DRILLER</b> Nacho	<b>COORD SYS</b>
<b>CLIENT</b> PhibroTech Inc.	<b>DRILL RIG</b> CME-95	<b>SURFACE ELEVATION</b> ~152 ft. msl
<b>ADDRESS</b> 8851 Dice Rd., Santa Fe Springs, CA	<b>DRILLING METHOD</b> Hollow Stem Auger	<b>LOGGED BY</b> W. Skillings
<b>DRILLING DATE</b> 10/7/2020	<b>TOTAL DEPTH</b> 65 feet	<b>CHECKED BY</b> Clare Steedman, Chris Alger
	<b>BOREHOLE DIAMETER</b> 8 inches	

**COMMENTS**

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
2		60/60					CONCRETE
4						ML	SANDY SILT: red brown, 5YR 4/4, Damp, Hard consistency, Low plasticity, Fine grained sand, Poorly Graded (0, 30, 70)
6		60/60					
8							
10		60/60				SM	SILTY SAND: yellowish brown, 10YR 6/4, Damp, Fine grained sand, Poorly Graded (0, 70, 30)
12							
14						SP	SAND: light yellow brown, 10YR 6/4, Damp, medium grained sand, Poorly Graded (0, 90, 10)
16		60/60					
18							Pale brown, 10YR 6/3, color change and increase in grain size to 1.5mm- still medium grained sand
20		60/60					
22							
24							Heavy CPS staining 25-35 ft, coarse sand grains, some yellow orange CPS fluid
26		60/60					
28			SWCONF2-28.0				
30		60/60					
32			SWCONF2-33.0				
34							
36		60/60	SWCONF2-36.0 SWCONF2-36.5				No CPS staining at 35 feet
38						ML	SILT: CPS Mottling, Moist, Firm consistency, Low plasticity, Fine grained sand (0, 10, 90)
40							

**Disclaimer** This log is intended for environmental not geotechnical purposes.

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Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
40		60/60					
42			SWCONF2-42.0				
44							
46		60/60					
48							
50			SWCONF2-50.0				
52		60/60					Continued Mottled CPS colors
54						SM	SILTY SAND: heavily stained with CPS fluid (0, 70, 30)
56		60/60	SWCONF2-56.0 SWCONF2-56.5			SP	SAND: CPS color, moist to wet, medium grained sand, Poorly Graded sand, 1-mm thick laminar bedding (0, 90, 10)
58							
60		60/60					
62			SWCONF2-62.0				
64							
66							Termination Depth at: 65 feet
68							
70							
72							
74							
76							
78							
80							
82							
84							
86							
88							



<b>PROJECT NUMBER</b> 0197 PTI	<b>DRILLING COMPANY</b> Cascade	<b>COORDINATES</b> 6540953.58839999, 1807725.95227
<b>PROJECT NAME</b> PTI	<b>DRILLER</b> Nacho	<b>COORD SYS</b>
<b>CLIENT</b> PhibroTech Inc.	<b>DRILL RIG</b> CME-95	<b>SURFACE ELEVATION</b> ~152 ft. msl
<b>ADDRESS</b> 8851 Dice Rd., Santa Fe Springs, CA	<b>DRILLING METHOD</b> Hollow Stem Auger	<b>LOGGED BY</b> W. Skillings
<b>DRILLING DATE</b> 10/8/2020	<b>TOTAL DEPTH</b> 65 feet	<b>CHECKED BY</b> Clare Steedman, Chris Alger
	<b>BOREHOLE DIAMETER</b> 8 inches	

**COMMENTS**

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
2		60/60					CONCRETE
4							FILL
6		60/60				ML	SILT: Brown, 7.5YR 4/4, Damp, Hard consistency, Low plasticity, Fine grained sand (0, 10, 90)
8							
10		60/60				SM	SILTY SAND: Yellow Brown, 10YR 5/4, Damp, Fine grained sand, Poorly Graded (0, 70, 30)
12							
14							
16		60/60				SP	SAND: Yellow Brown, 10YR 5/6, Damp, Fine to Medium grained sand, Poorly Graded (0, 90, 10)
18							
20		60/60					
22							Medium grained sand
24							
26		60/60					CPS staining, coarse grained sand
28							
30		60/60				ML	SILT: CPS Colors, Damp, Soft consistency, Low plasticity, Fine grained sand (0, 10, 90)
32							
34							Brown, 10YR 4/4, No CPS staining
36		60/60					
38							Mottled CPS staining 37.5-44 ft.
40							

**Disclaimer** This log is intended for environmental not geotechnical purposes.

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Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
40		60/60	SWCONF3-41.0				
42							
44							CPS Mottling, Very Hard consistency, CPS staining 44-45 ft.
46		60/60	SWCONF3-46.0				Paleosol, mottled CPS staining 45-46 ft.
48							CPS Mottling, CPS staining 46-47.5 ft.
50							Mottled CPS and Strong Brown colors 47.5-55 ft
52		60/60					
54			SWCONF3-55.0				No CPS staining
56		60/60					
58			SWCONF3-59.5			SM	SILTY SAND: CPS colors, Damp, Fine grained sand, Poorly Graded, CPS Staining (0, 70, 30)
60		60/60					No CPS staining 60 ft
62							
64			SWCONF3-65.0				
66							Termination Depth at:65 feet
68							
70							
72							
74							
76							
78							
80							
82							
84							
86							
88							

<b>PROJECT NUMBER</b> 0197 PTI <b>PROJECT NAME</b> PTI <b>CLIENT</b> PhibroTech Inc. <b>ADDRESS</b> 8851 Dice Rd., Santa Fe Springs, CA <b>DRILLING DATE</b> 10/9/2020	<b>DRILLING COMPANY</b> Cascade <b>DRILLER</b> Nacho <b>DRILL RIG</b> CME-95 <b>DRILLING METHOD</b> Hollow Stem Auger <b>TOTAL DEPTH</b> 65 feet <b>BOREHOLE DIAMETER</b> 8 inches	<b>COORDINATES</b> 6540944.78988, 1807730.4847999 <b>COORD SYS</b> <b>SURFACE ELEVATION</b> ~152 ft. msl <b>LOGGED BY</b> W. Skillings <b>CHECKED BY</b> Clare Steedman, Chris Alger
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**COMMENTS**

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
2							ASPHALT
4							Boring was not logged between surface and 40 ft. bgs
6							
8							
10							
12							
14							
16							
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							
40							



Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
40		60/60	SWCONF4-41.0			ML	SILT: CPS Mottled Brown, Damp, Firm consistency, Low plasticity, Fine grained sand, (0, 10, 90)
42							
44						ML/CL	SANDY SILTY CLAY: CPS Mottled Strong Brown, 7.5YR 4/6, Damp, Very Hard consistency, Medium plasticity, Fine grained sand (0, 20, 80)
46		60/60	SWCONF4-46.0				
48							
50		60/60	SWCONF4-51.0			ML	SANDY SILT: CPS colors, Damp, Soft consistency, Low plasticity, Fine grained sand (0, 30, 70)
52							No CPS Staining 53-55 ft
54							
56		60/60	SWCONF4-57.0			ML/ SM	SILTY SAND/SANDY SILT: CPS colors, Moist, Soft consistency, Low plasticity, Fine to Medium grained sand, Poorly Graded (0, 50, 50)
58			SWCONF4-58.0				
60			SWCONF4-60.0			SP	SAND: Pale brown, Damp, Medium grained sand, no CPS staining, Poorly Graded, 1mm thick laminar bedding (0, 90, 10)
62		60/60					two ~6" lenses of silt between 61.5 and 63.5 feet, CPS liquid ponding at top of upper silt lens
64							
66							Termination Depth at: 65 feet
68							
70							
72							
74							
76							
78							
80							
82							
84							
86							
88							

<b>PROJECT NUMBER</b> 0197 PTI <b>PROJECT NAME</b> PTI <b>CLIENT</b> PhibroTech Inc. <b>ADDRESS</b> 8851 Dice Rd., Santa Fe Springs, CA <b>DRILLING DATE</b> 10/9/2020	<b>DRILLING COMPANY</b> Cascade <b>DRILLER</b> Nacho <b>DRILL RIG</b> CME-95 <b>DRILLING METHOD</b> Hollow Stem Auger <b>TOTAL DEPTH</b> 65 feet <b>BOREHOLE DIAMETER</b> 8 inches	<b>COORDINATES</b> 6540929.06496, 1807736.66706999 <b>COORD SYS</b> <b>SURFACE ELEVATION</b> ~152 ft. msl <b>LOGGED BY</b> W. Skillings <b>CHECKED BY</b> Clare Steedman, Chris Alger
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**COMMENTS**

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
2							CONCRETE
4							Boring was not logged between surface and 40 ft. bgs
6							
8							
10							
12							
14							
16							
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							
40							

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
40		60/60				ML	SANDY SILT: Damp, Soft consistency, Low plasticity, Fine grained sand, CPS mottling and staining
42			SWCONF5-43.0				
44							
46		60/60				ML/CL	SANDY SILTY CLAY: red oxide/black, Dry, Very Hard consistency, Medium plasticity, Fine grained sand, Strong brown, CPS mottling 45-48 ft.
48			SWCONF5-48.0				
50							Pervasive CPS Staining 48-50 ft.
52		60/60				ML	SILT: CPS mottling/Brown, Damp, Hard consistency, Low plasticity, Fine grained sand
54			SWCONF5-53.0				
56		60/60				SM	SILTY SAND: Brown, 10YR 4/4, Damp, Fine grained sand, No CPS, Poorly Graded (0, 70, 30)
58			SWCONF5-58.0			ML/SM	SAND SILT/ SILTY SAND: CPS colors, Moist, Soft consistency, Low plasticity, fine grained sand, Poorly Graded, CPS Staining 56-65 ft. (0, 50, 50)
60			SWCONF5-60.0			SM	SILTY SAND: CPS Colors, Moist, fine grained sand, Poorly Graded, CPS Staining (0, 80, 20)
62		60/60				SP	SAND: CPS colors, Moist, medium grained sand, Poorly Graded, CPS Staining (0, 90, 10)
64							
66							Termination Depth at: 65 feet
68							
70							
72							
74							
76							
78							
80							
82							
84							
86							
88							



<b>PROJECT NUMBER</b> 0197 PTI <b>PROJECT NAME</b> PTI <b>CLIENT</b> PhibroTech Inc. <b>ADDRESS</b> 8851 Dice Rd., Santa Fe Springs, CA <b>DRILLING DATE</b> 10/12/2020	<b>DRILLING COMPANY</b> Cascade <b>DRILLER</b> Nacho <b>DRILL RIG</b> CME-95 <b>DRILLING METHOD</b> Hollow Stem Auger <b>TOTAL DEPTH</b> 65 feet <b>BOREHOLE DIAMETER</b> 8 inches	<b>COORDINATES</b> 6540878.70719, 1807736.89904999 <b>COORD SYS</b> <b>SURFACE ELEVATION</b> ~152 ft. msl <b>LOGGED BY</b> W. Skillings <b>CHECKED BY</b> Clare Steedman, Chris Alger
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**COMMENTS**

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
2							CONCRETE
4							Boring was not logged between surface and 40 ft. bgs
6							
8							
10							
12							
14							
16							
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							
40							

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
40		60/60				ML	SANDY SILT: Brown, 10YR 4/4 laminar bedding, Damp, Soft consistency, Low plasticity, fine grained sand, Brown (0, 30, 70)
42			SWCONF6-43.0				
44							CPS Staining 43-44 ft.
46		60/60				ML/CL	SANDY SILTY CLAY: Strong Brown, 7.5YR 4/6, Dry, Very Hard consistency, Medium plasticity, fine grained sand (0, 20, 80)
48			SWCONF6-48.0				CPS Staining 45 ft only.
50							Mottled CPS 50-51 ft.
52		60/60					Pervasive CPS colors 51-54 ft.
54			SWCONF6-53.0				
56							Mottled CPS 54-55 ft.
58		60/60	SWCONF6-58.0				Black Manganese root structures, Pervasive CPS colors 55-58.5 ft.
60			SWCONF6-59.0				
62		60/60				SM	SILTY SAND: Brown with red oxide mottling, 10YR 4/4, Damp, Fine grained sand, Poorly Graded, No CPS (0, 70, 30)
64			SWCONF6-63.0				
66						SP	SAND: Light Yellow Brown, 10YR 6/4, Damp, medium grained sand, Poorly Graded (0, 10, 90)
68							Termination Depth at: 65 feet
70							
72							
74							
76							
78							
80							
82							
84							
86							
88							

<b>PROJECT NUMBER</b> 0197.010.006	<b>DRILLING COMPANY</b> MR Drilling	<b>COORDINATES</b> ,
<b>PROJECT NAME</b> SW Area for GW Remediation	<b>DRILLER</b> Justin	<b>COORD SYS</b>
<b>CLIENT</b> PhibroTech Inc.	<b>DRILL RIG</b> BK-81	<b>SURFACE ELEVATION</b> 152 ft NAVD88
<b>ADDRESS</b> 8851 Dice Rd, Santa Fe Springs, CA	<b>DRILLING METHOD</b> Hollow Stem Auger	<b>LOGGED BY</b> W. Skillings
<b>DRILLING DATE</b> 12/21/2020	<b>TOTAL DEPTH</b> 70 feet	<b>CHECKED BY</b> Clare Steedman, Chris Alger
	<b>BOREHOLE DIAMETER</b> 8 inches	

**COMMENTS**

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
2		18/18					ASPHALT:
4		18/18					FILL: Silty SAND and Engineering base gravel with white lime powder
6		24/24					
8		18/18					
10		18/18					
12		24/24					
14		18/18				SM	SILTY SAND: Brown, 10YR 4/3, Damp, Medium dense, Fine grained sand, Poorly Graded (0, 70, 30)
16		18/18					
18		24/24					
20		18/18				SP	SAND: Brown, 10YR 4/3, Damp, Medium dense, Medium sand, Poorly Graded (0, 90, 10)
22		18/18					
24		24/24					
26		18/18	SWCON F7-25.0				
28		18/18	SWCON F7-26.0				Pervasive CPS coloration 25.5 ft - 27.5 ft
30		24/24				ML	SANDY SILT: Pervasive CPS Coloration, Damp, Low plasticity, Fine grained sand (0, 30, 70)
32		18/18					Color Change to Brown
34		24/24	SWCON F7-30.0				
36		18/18				SP	SAND: Yellowish brown, 10YR 5/4, Damp, Medium dense, Fine grained sand, Poorly Graded (0, 90, 10)
38		18/18					Pervasive CPS staining coloration 30.5 ft - 44 ft
40		24/24	SWCON F7-35.0				
42		18/18					
44		24/24	SWCON F7-40.0				

**Disclaimer** This log is intended for environmental not geotechnical purposes.

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Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
40		18/18	SWCON F7-40.5			ML	SILT: Pervasive CPS Coloration, Damp, Stiff consistency, Low plasticity, (0, 10, 90)
42		18/18					
44		24/24					
46		18/18	SWCON F7-45.0				Mottled CPS coloration with Brown 44 ft - 52 ft
48		18/18					
50		24/24					
52		18/18	SWCON F7-50.0				
54		18/18					Pervasive CPS coloration 52 ft - 55 ft
56		24/24					
58		18/18	SWCON F7-54.5			SP	SAND: Light Yellow Brown, 10YR 6/4, Damp, Medium dense, Fine sand, Poorly Graded (0, 90, 10)
60		18/18	SWCON F7-55.0				Pervasive CPS coloration 57 ft - 61 ft
62		24/24	SWCON F7-59.0				
64		18/18	SWCON F7-60.0			ML	SANDY SILT: Pervasive CPS Coloration, Damp, Soft, Low plasticity, Fine sand (0, 30, 70)
66		18/18				SP	SAND: Gray, 10YR 6/1, Damp, Medium dense, Mostly medium sand with coarse sand, Poorly Graded (0, 90, 10)
68		24/24	SWCON F7-65.0				
70		18/18					
72		24/24	SWCON F7-70.0				
74							Termination Depth at:70 Feet
76							
78							
80							
82							
84							
86							
88							

<b>PROJECT NUMBER</b> 0197.001.006	<b>DRILLING COMPANY</b> MR Drilling	<b>COORDINATES</b> ,
<b>PROJECT NAME</b> SW Area For GW Remediation	<b>DRILLER</b> Justin	<b>COORD SYS</b>
<b>CLIENT</b> PhibroTech Inc.	<b>DRILL RIG</b> BK-81	<b>SURFACE ELEVATION</b> 152 ft NAVD88
<b>ADDRESS</b> 8851 Dice Rd, Santa Fe Springs, CA	<b>DRILLING METHOD</b> Hollow Stem Auger	<b>LOGGED BY</b> W. Skillings
<b>DRILLING DATE</b> 12/21/2020	<b>TOTAL DEPTH</b> 70 feet	<b>CHECKED BY</b> Clare Steedman, Chris Alger
	<b>BOREHOLE DIAMETER</b> 8 inches	

**COMMENTS**

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
0		0/240					ASPHALT: Boring was not logged between the surface and 20 ft.
2							
4							
6							
8							
10							
12							
14							
16							
18							
20		18/18				SP	SAND: Pervasive CPS Dark Coloration, Damp, Loose, Medium sand, Trace fine gravel, subrounded, Quartz, Poorly Graded (0, 90, 10), Pervasive CPS staining coloration 20 - 32 feet
22		18/18					
24		24/24	SWCON F8-25.0				
26		18/18	SWCON F8-27.0				
28		18/18	SWCON F8-27.5			ML	SILT: Pervasive CPS dark Coloration, Damp, Very Hard consistency, Low plasticity, Fine sand (0, 10, 90)
30		24/24	SWCON F8-30.0				
32		18/18					Brown, 10YR 4/3, NO CPS coloration 32 - 34 feet
34		24/24	SWCON F8-35.0			SP	SAND: Light Yellowish Brown, 10YR 6/4, Damp, Medium Dense, Medium sand, Poorly Graded (0, 90, 10)
36		18/18					
38		18/18					
40		24/24	SWCON F8-40.0				

**Disclaimer** This log is intended for environmental not geotechnical purposes.

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Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
40		18/18					
42		18/18					
44		24/24					6inch CPS color band
			SWCON F08-45.0				
46		18/18					
		18/18					Strong brown color change, Coarse sands
48		24/24					
			SWCON F08-50.0				
50		18/18					
			SWCON F08-51.5				
52		18/18				ML	SANDY SILT: Dark Gray, 10YR 4/1, Damp, Stiff consistency, Low plasticity, Fine sand (0, 10, 90)
		24/24					Pervasive CPS staining coloration 53 - 54.5 feet
54			SWCON F08-55.0				Light Yellow Brown, 10YR 6/4, No CPS colors 54.5 - 57.5 feet
56		18/18					
		18/18					Pervasive CPS staining coloration 57.5 - 70 feet
58		24/24					Increase in sand content (0, 30, 70)
			SWCON F08-60.0				
60		18/18					
			SWCON F08-61.0				
			SWCON F08-61.5				
62		18/18				SP	SAND: Pervasive CPS dark coloration, Damp, Medium Dense, Medium sand, Poorly Graded (0, 90, 10)
		24/24					
64			SWCON F08-65.0				
66		18/18					
		18/18					
68		24/24					
			SWCON F08-70.0				
70							Termination Depth at:70 Feet
72							
74							
76							
78							
80							
82							
84							
86							
88							



<b>PROJECT NUMBER</b> 0197 PTI	<b>DRILLING COMPANY</b> Cascade	<b>COORDINATES</b> 6540864.65881999, 1807717.89925
<b>PROJECT NAME</b> PTI	<b>DRILLER</b> Nacho	<b>COORD SYS</b>
<b>CLIENT</b> PhibroTech Inc.	<b>DRILL RIG</b> CME-85	<b>SURFACE ELEVATION</b> ~152 ft. msl
<b>ADDRESS</b> 8851 Dice Rd., Santa Fe Springs, CA	<b>DRILLING METHOD</b> Hollow Stem Auger	<b>LOGGED BY</b> W. Skillings
<b>DRILLING DATE</b> 9/16/2020	<b>TOTAL DEPTH</b> 70 feet	<b>CHECKED BY</b> Clare Steedman, Chris Alger
	<b>BOREHOLE DIAMETER</b> 8 inches	

**COMMENTS**

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
2		60/60				SW-GP	ASPHALT:
4						SM	GRAVELLY SAND: Very Dark Grayish Brown, 10YR 3/2, Damp, Fine, medium and coarse grained sand, fine gravel, Well Graded (40, 40, 20) SILTY SAND: Grayish Brown, 10YR 5/2, Damp, Fine grained sand, red oxide stains, white lime precipitate (1 cm diameter nodules), Poorly Graded (0, 60, 40)
6		60/60				ML	SANDY SILT: Brown, 10YR 4/3, Damp, Hard consistency, Low plasticity, Fine grained sand, no oxidation or lime precipitates (0, 30, 70)
10		60/60				SP	SAND: Brown, 10YR 4/3, Damp, Fine grained sand, Poorly Graded (0, 90, 10)
16		60/60					Medium grained sand 15 ft.
22		60/60	SWCONF-09-22.0				CPS staining 22.5 - 30 ft.
24			SWCONF-09-23.0				2-inch silt lenses with CPS staining at 23.5 ft and 24.5 ft
24			SWCONF-09-23.5				
28		60/60	SWCONF-09-28.5				
30		60/60				SM/ML	SILTY SAND/SANDY SILT MIXTURE: Brown, 10YR 4/3, Moist, Soft consistency, Low plasticity, Fine grained sand, CPS mottling 30-31 ft, Poorly Graded (0, 50, 50)
32							No CPS staining 31-34 ft.
34			SWCONF-09-34.0				CPS Staining 34-37.5 ft.
34			SWCONF-09-34.5				
36		60/60	SWCONF-09-35.0			ML	SILT: Brown, 10YR 4/3, Damp, Hard, Low Plasticity, (0,30,70)
38							No CPS staining 37.5-39 ft.
40			SWCONF-09-40.0				Very Hard, Verticle Black Manganese Root Structures, CPS colors 39-40 ft (0, 10, 90)

**Disclaimer** This log is intended for environmental not geotechnical purposes.

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
40		60/60					
42							
44			SWCONF-09-45.0				
46		60/60				ML/CL	SANDY SILTY CLAY: Brown, 10YR 4/4, Damp, Very Hard, High plasticity, Fine sand, no CPS colors, paleosol (0, 20, 80)
48							
50		60/60	SWCONF-09-51.0				
52							
54						ML	SANDY SILT: Brown, 10YR 4/4, Damp, Medium Stiff consistency, Low plasticity, Fine sand (0, 30, 70)
56		60/60	SWCONF-09-57.0 SWCONF-09-57.5				
58			SWCONF-09-60.0			SP	SAND: Damp, Medium grained sand, CPS colors to 57.5-59.5 ft., Poorly Graded (0, 95, 5)
60		60/60				ML	SILT: Brown, 10YR 4/3, Damp, Hard consistency, Low plasticity, CPS staining on top half of layer (0, 10, 90)
62			SWCONF-09-64.0			SP	SAND: Grayish Brown, 10YR 5/3, Dry, Medium grained sand, Poorly Graded, no CPS color (0, 90, 10)
64							
66		60/60					
68			SWCONF-09-69.0				
70							Termination Depth at:70 feet
72							
74							
76							
78							
80							
82							
84							
86							
88							

<b>PROJECT NUMBER</b> 0197.001.006	<b>DRILLING COMPANY</b> MR Drilling	<b>COORDINATES</b> ,
<b>PROJECT NAME</b> SW Area for GW Remediation	<b>DRILLER</b> Justin	<b>COORD SYS</b>
<b>CLIENT</b> PhibroTech Inc.	<b>DRILL RIG</b> BK-81	<b>SURFACE ELEVATION</b> 152 ft NAVD88
<b>ADDRESS</b> 8851 Dice Rd, Santa Fe Springs, CA	<b>DRILLING METHOD</b> Hollow Stem Auger	<b>LOGGED BY</b> W. Skillings
<b>DRILLING DATE</b> 12/22/2020	<b>TOTAL DEPTH</b> 70 feet	<b>CHECKED BY</b> Clare Steedman, Chris Alger
	<b>BOREHOLE DIAMETER</b> 8 inches	

**COMMENTS**

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
0		0/240					ASPHALT: Boring was not logged between the surface and 20 ft.
2							
4							
6							
8							
10							
12							
14							
16							
18							
20		18/18				SP	SAND: Brown, 10YR 4/3, Damp, Medium Dense, Medium sand, Poorly Graded (0, 90, 10)
22		18/18					
24		24/24					
25			SWCONF10-25.0				
26		18/18					Pervasive CPS staining coloration 25.5 - 57.5 feet
27		18/18	SWCONF10-27.5				
28		24/24	SWCONF10-28.0			ML	SANDY SILT: Pervasive CPS dark coloration, Damp, Hard consistency, Low plasticity, Fine sand (0, 30, 70)
29			SWCONF10-30.0				
30		18/18					
32		18/18					
34		24/24					
35			SWCONF10-35.0			SP	SAND: Pervasive CPS dark coloration, Damp, Medium dense, Fine sand, Poorly Graded (0, 90, 10)
36		18/18					
38		18/18					Changes to Medium sand
39		24/24					
40			SWCONF10-40.0				

**Disclaimer** This log is intended for environmental not geotechnical purposes.

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Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
40		18/18					
42		18/18					
44		24/24					
46		18/18	SWCONF10-45.0				
48		18/18					
50		24/24					
52		18/18	SWCONF10-50.0				
54		18/18					
56		24/24					
58		18/18	SWCONF10-55.0				
60		18/18	SWCONF10-55.5				
62		24/24					
64		18/18	SWCONF10-60.0				
66		18/18					
68		24/24					
70		18/18	SWCONF10-70.0				
72							Termination Depth at:70 Feet
74							
76							
78							
80							
82							
84							
86							
88							

<b>PROJECT NUMBER</b> 0197.010.006	<b>DRILLING COMPANY</b> MR Drilling	<b>COORDINATES</b> ,
<b>PROJECT NAME</b> SW Area for GW Remediation	<b>DRILLER</b> Justin	<b>COORD SYS</b>
<b>CLIENT</b> PhibroTech Inc.	<b>DRILL RIG</b> BK-81	<b>SURFACE ELEVATION</b> 152 ft NAVD88
<b>ADDRESS</b> 8851 Dice Rd, Santa Fe Springs, CA	<b>DRILLING METHOD</b> Hollow Stem Auger	<b>LOGGED BY</b> W. Skillings
<b>DRILLING DATE</b> 12/22/2020	<b>TOTAL DEPTH</b> 70 feet	<b>CHECKED BY</b> Clare Steedman, Chris Alger
	<b>BOREHOLE DIAMETER</b> 8 inches	

**COMMENTS**

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
0		0/240					Asphalt Boring was not logged between the surface and 10 ft.
2							
4							
6							
8							
10			SWCONF11-10.0				
12						ML	FILL: Silty SAND and Engineering base gravel, contains white lime powder Pervasive CPS staining coloration 10.5 - 40.5 feet unless noted SILT: Pervasive CPS dark coloration, Damp, Fine sand, Stiff consistency, Low plasticity, (0, 10, 90)
14			SWCONF11-15.0			SP	SAND: Pervasive CPS dark coloration, Damp, Medium Dense, Medium sand, Poorly Graded (0, 90, 10)
16							
18							No CPS coloration 18 - 20 feet
20			SWCONF11-20.0				
22		18/18					
24		18/18					
26		24/24					
28			SWCONF11-25.0				
30		18/18					
32		18/18	SWCONF11-27.5				
34		24/24	SWCONF11-28.0			ML	SILT: Pervasive CPS dark coloration, Damp, Hard consistency, Low plasticity, Fine sand, (0, 10, 90), heavy black CPS color at contact with relatively lighter dark blue staining throughout layer
36			SWCONF11-30.0				
38		18/18					
40		18/18				SP	SAND: Pervasive CPS dark coloration, Damp, Medium Dense, Medium sand, Poorly Graded (0, 90, 10)
42		24/24					
44			SWCONF11-35.0				
46		18/18					
48		18/18					
50		24/24					
52			SWCONF11-40.0				

**Disclaimer** This log is intended for environmental not geotechnical purposes.

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Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
40		18/18	SWCONF11-40.5				
42		18/18				ML	SILT: Brown, 10YR 4/3, Damp, Hard consistency, Low Plasticity (0, 10, 90), No CPS coloration
44		24/24					
46		18/18	SWCONF11-45.0			CL	SANDY SILTY CLAY: 7.5Y 4/6 Damp, Very Hard, Strong Brown, Medium plasticity, Fine sand, (0, 20, 80)
48		18/18					
50		24/24					
52		18/18	SWCONF11-50.0				
54		18/18				ML	SILT: Pervasive CPS dark coloration Damp, Hard, Low plasticity, Fine sand, Low Plasticity (0, 10, 90)
56		24/24					Mottled CPS coloration 51.5 - 53 feet
58		18/18					Pervasive CPS coloration 53 - 55 ft,
60		18/18	SWCONF11-55.0				No CPS coloration 55 - 60 ft
62		24/24				SP	SAND: Light Yellowish Brown, 10YR 6/4, Damp, Medium Dense, Medium sand, Poorly Graded (0, 90, 10)
64		18/18	SWCONF11-59.5				
66		18/18	SWCONF11-60.0			ML	SANDY SILT: Pervasive CPS dark Coloration, Damp, Soft consistency, Low plasticity, Fine sand (0, 30, 70)
68		24/24					
70		18/18				SP	SAND: Pervasive CPS dark Coloration, Damp, Medium Dense, Medium sand, Poorly Graded, Strong Sulfur Odor (0, 90, 10)
72		18/18	SWCONF11-65.0				
74		18/18					
76		24/24					
78		18/18					
80		18/18	SWCONF11-70.0				
82							
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<b>PROJECT NUMBER</b> 0197.010.006	<b>DRILLING COMPANY</b> MR Drilling	<b>COORDINATES</b> ,
<b>PROJECT NAME</b> SW Area for GW Remediation	<b>DRILLER</b> Justin	<b>COORD SYS</b>
<b>CLIENT</b> PhibroTech Inc.	<b>DRILL RIG</b> BK-81	<b>SURFACE ELEVATION</b> 152 ft NAVD88
<b>ADDRESS</b> 8851 Dice Rd, Santa Fe Springs, CA	<b>DRILLING METHOD</b> Hollow Stem Auger	<b>LOGGED BY</b> W. Skillings
<b>DRILLING DATE</b> 12/23/2021	<b>TOTAL DEPTH</b> 70 feet	<b>CHECKED BY</b> Clare Steedman, Chris Alger
	<b>BOREHOLE DIAMETER</b> 8 inches	

**COMMENTS**

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
2		0/120					Asphalt Boring was not logged between the surface and 10 ft.
4							
6							
8							
10			SWCONF12-10.0				
12		18/18					FILL: Silty SAND, Contains Red oxidation and Black coloration
14		18/18					
16		24/24					
18			SWCONF12-15.0			SP	SAND: Brown, 10YR 4/3, Damp, Loose, Fine sand, Poorly Graded (0, 90, 10)
20		18/18					Medium sand
22		18/18					
24		24/24					
26			SWCONF12-20.0				
28		18/18					
30		18/18					
32		24/24					
34			SWCONF12-25.5				
36			SWCONF12-26.0				
38		18/18				ML	SILT: Brown, 10YR 4/3, Damp, Soft consistency, High plasticity, Fine sand, heavy black CPS color at contact top 2 inches, brown color until 28 ft (0, 10, 90)
40		24/24					Pervasive CPS coloration 28 - 70 feet
42			SWCONF12-30.0				
44		18/18					
46		18/18					
48		24/24					
50			SWCONF12-32.5				
52			SWCONF12-33.0				
54		24/24				SP	SAND: Pervasive CPS dark coloration, Damp, Medium Dense, Medium sand, Poorly Graded (0, 90, 10)
56			SWCONF12-35.0				
58		18/18					
60		18/18					
62		24/24					
64			SWCONF12-40.0				

**Disclaimer** This log is intended for environmental not geotechnical purposes.

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Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
40		18/18					
42		18/18					
44		24/24					
46		18/18	SWCONF12-45.0				
48		18/18					
50		24/24	SWCONF12-50.0				
52		18/18					
54		24/24	SWCONF12-55.0				
56		18/18	SWCONF12-57.0				
58		18/18	SWCONF12-57.5				
60		24/24	SWCONF12-60.0			ML	SILT: Pervasive CPS dark coloration, Damp, Hard consistency, Low plasticity, Fine sand (0, 10, 90)
62		18/18	SWCONF12-62.5				
64		24/24	SWCONF12-63.0			SP	SAND: Pervasive CPS dark coloration, Damp, Dense, Medium sand, Poorly Graded (0, 90, 10)
66		18/18	SWCONF12-65.0				
68		18/18					
70		24/24	SWCONF12-70.0				
72							Termination Depth at:70 Feet
74							
76							
78							
80							
82							
84							
86							
88							

<b>PROJECT NUMBER</b> 0197 PTI <b>PROJECT NAME</b> PhibroTech Inc. <b>CLIENT</b> PhibroTech Inc. <b>ADDRESS</b> 8851 Dice Rd, Santa Fe Springs, CA <b>DRILLING DATE</b> 12/28/2020	<b>DRILLING COMPANY</b> MR Drilling <b>DRILLER</b> Justin <b>DRILL RIG</b> BK-81 <b>DRILLING METHOD</b> Hollow Stem Auger <b>TOTAL DEPTH</b> 75 feet <b>BOREHOLE DIAMETER</b> 8 inches	<b>COORDINATES</b> , <b>COORD SYS</b> <b>SURFACE ELEVATION</b> 152 ft NAVD88 <b>LOGGED BY</b> W. Skillings <b>CHECKED BY</b> Clare Steedman, Chris Alger
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**COMMENTS**

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
2		0/120					ASPHALT: Boring was not logged between the surface and 10 ft.
10		18/18	SWCONF13-10.0			ML	SANDY SILT: Mottled CPS coloration with Yellow, Dry, Soft consistency, Low plasticity, Fine grained sand (0, 30, 70)
12		18/18					
14		24/24					
16		18/18	SWCONF13-15.0			SP	SAND: Pervasive CPS dark coloration, Damp, Loose, Fine and Medium grained sand, Poorly Graded (0, 90, 10)
18		18/18					
20		24/24					
22		18/18	SWCONF13-20.0				
24		18/18					
26		24/24	SWCONF13-25.0				
28		18/18	SWCONF13-26.5			ML	SILT: Pervasive CPS dark coloration, Damp, Hard consistency, Low plasticity (0, 10, 90)
30		18/18	SWCONF13-27.0				No CPS Coloration 27.5 - 30 feet
32		24/24					
34		18/18	SWCONF13-30.0			SP	SAND: Yellowish brown, 10YR 5/4, Damp, Medium Dense, Medium sand, Poorly Graded (0, 90, 10)
36		18/18					
38		18/18	SWCONF13-32.5				
40		24/24	SWCONF13-33.0				
			SWCONF13-35.0				
		18/18					
		18/18					
		24/24	SWCONF13-40.0				

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Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
40		18/18					
42		18/18					
44		24/24					
45			SWCONF13-45.0				
46		18/18					
47		18/18					
48		24/24					
50		18/18	SWCONF13-51.0				Pervasive CPS Coloration 50 - 70 feet
51			SWCONF13-51.5				
52		18/18				ML	SILT: Pervasive CPS dark coloration, Damp, Hard consistency, Low plasticity (0, 10, 90)
53		24/24					
54			SWCONF13-55.0				
55		18/18					
56		18/18					
57		24/24					
58			SWCONF13-60.0				
59		18/18					
60		18/18					
61		24/24					
62		18/18	SWCONF13-66.5				
63			SWCONF13-67.0				
64		24/24					
65		18/18					
66			SWCONF13-70.0				
67		18/18				SP	SAND: Pervasive CPS dark coloration, Damp, Medium Dense, Medium sand, Poorly Graded (0, 90, 10)
68		24/24					
69			SWCONF13-75.0				
70		18/18					
71		18/18					
72		24/24					
73			SWCONF13-75.0				
75							Termination Depth at:75 Feet
76							
78							
80							
82							
84							
86							
88							

<b>PROJECT NUMBER</b> 0197.010.006	<b>DRILLING COMPANY</b> MR Drilling	<b>COORDINATES</b> ,
<b>PROJECT NAME</b> SW Area for GW Remediation	<b>DRILLER</b> Rubin	<b>COORD SYS</b>
<b>CLIENT</b> PhibroTech Inc.	<b>DRILL RIG</b> LAR Track Rig	<b>SURFACE ELEVATION</b> 152 ft NAVD88
<b>ADDRESS</b> 8851 Dice Santa Fe Springs, CA	<b>DRILLING METHOD</b> Hollow Stem Auger	<b>LOGGED BY</b> W. Skillings
<b>DRILLING DATE</b> 12/31/2020	<b>TOTAL DEPTH</b> 70 feet	<b>CHECKED BY</b> Clare Steedman, Chris Alger
	<b>BOREHOLE DIAMETER</b> 8 inches	

**COMMENTS**

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
2		0/240					ASPHALT: Boring was not logged between the surface and 20 ft.
4							
6							
8							
10							
12							
14							
16							
18							
20							
22	18/18					SP	SAND: Light Brown, 7.5Y 5/4, Damp, Medium Dense, Fine sand, Poorly Graded (0, 90, 10)
24	18/18						
26	24/24						
28			SWCONF14-25.0				
30	18/18		SWCONF14-25.5				Pervasive Black CPS coloration 25 - 26 ft, includes top 1 inch of SILT contact
32	18/18					ML	SILT: Brown, 10YR 4/3, Damp, Hard consistency, Low plasticity, fine sand (0, 10, 90)
34	24/24						Mottled CPS coloration 26 - 27.5 feet
36							Pervasive CPS colors 28.5 - 30.5 feet
38			SWCONF14-30.0				
40	18/18						31 - 35 feet red oxidation banding colors
42	18/18		SWCONF14-32.0				
44	24/24		SWCONF14-32.5				
46						SP	SAND: Light Brown, 7.5Y 5/4, Damp, Medium Dense, Medium sand, Poorly Graded (0, 90, 10), thin laminar bedding with red oxidation colors
48			SWCONF14-35.0				
50	18/18						
52	18/18						
54	24/24						
56			SWCONF14-40.0				

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Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
38		18/18					
40		18/18					
42		18/18					
44		24/24					
45			SWCONF14-45.0				
46		18/18					
47		18/18					
48		24/24					
49			SWCONF14-50.0				
50		18/18					
51		18/18					
52		24/24					
53			SWCONF14-55.0				
54		18/18					Pervasive CPS coloration 54 - 70 feet
55		18/18					
56		18/18					
57		24/24	SWCONF14-59.0				
58			SWCONF14-59.5				
59			SWCONF14-60.0				6inch ML layer, SILT, damp, hard, fine sand, low plasticity
60		18/18					
61		18/18					
62		24/24					
63			SWCONF14-65.0				
64		18/18					
65		18/18					
66		18/18					
67		24/24					
68			SWCONF14-70.0				
70							Termination Depth at:70 Feet
72							
74							
76							
78							
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82							
84							
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<b>PROJECT NUMBER</b> 0197.010.006	<b>DRILLING COMPANY</b> MR Drilling	<b>COORDINATES</b> ,
<b>PROJECT NAME</b> SW Area for GW Remediation	<b>DRILLER</b> Justin	<b>COORD SYS</b>
<b>CLIENT</b> PhibroTech Inc.	<b>DRILL RIG</b> BK-81	<b>SURFACE ELEVATION</b> 152 ft NAVD88
<b>ADDRESS</b> 8851 Dice Rd, Santa Fe Springs, CA	<b>DRILLING METHOD</b> Hollow Stem Auger	<b>LOGGED BY</b> W. Skillings
<b>DRILLING DATE</b> 12/23/2021	<b>TOTAL DEPTH</b> 70 feet	<b>CHECKED BY</b> Clare Steedman, Chris Alger
	<b>BOREHOLE DIAMETER</b> 8 inches	

**COMMENTS**

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
0		0/120					ASPHALT: Boring was not logged between the surface and 20 ft.
2							
4							
6							
8							
10			SWCONF15-10.0				
12		18/18				SP	FILL: Silty SAND containing white lime powder
14		18/18					SAND: Pervasive CPS dark coloration, Damp, Very Loose, Fine grained sand, Poorly Graded (0, 90, 10)
16		24/24					
18			SWCONF15-15.0				
20		18/18					Very Light Yellow Brown, 5/3 10YR 16 - 21 feet
22		18/18					
24		24/24					Color change to light yellow brown
26			SWCONF15-20.0				Pervasive CPS colors 23 - 27 feet
28		18/18					
30		18/18	SWCONF15-25.0				
32		24/24					
34			SWCONF15-26.5				
36		18/18	SWCONF15-27.0				
38		24/24				ML	SILT: Brown, 10YR 4/4, Damp, Soft consistency, Low plasticity, Fine grained sand, dark CPS coloration at top of contact (0, 10, 90)
40			SWCONF15-30.0				
42		18/18					
44		18/18					
46		24/24					
48			SWCONF15-35.0			SP	SAND: Light Yellow Brown, 10YR 6/4, Damp, Medium Dense, Medium grained sand, Poorly Graded (0, 90, 10)
50		18/18					
52		18/18					
54		24/24					
56			SWCONF15-40.0				

**Disclaimer** This log is intended for environmental not geotechnical purposes.

Page 1 of 2

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
40		18/18					
42		18/18					
44		24/24					
			SWCONF15-45.0				
46		18/18					
		18/18					
48		24/24					
			SWCONF15-50.0				
50		18/18					
52		18/18					Pervasive CPS coloration 51.5 - 58 feet
		24/24					
54			SWCONF15-55.0				
56		18/18					
		18/18	SWCONF15-57.5				
58			SWCONF15-58.0				
		24/24				CL	SANDY SILTY CLAY: Strong Brown, 7.5Y 4/6, Damp, Very Hard consistency, Medium plasticity, fine grained sand (0, 20, 80)
60			SWCONF15-60.0				
		18/18				ML	Pervasive CPS coloration 60 - 70 feet
62		18/18	SWCONF15-62.5				SANDY SILT: Pervasive CPS dark colors, Damp, Soft consistency, Low plasticity, Fine sand (0, 30, 70)
			SWCONF15-63.0				
64		24/24				SP	SAND: Pervasive CPS dark coloration, Damp, Medium Dense, Medium sand, Poorly Graded (0, 90, 10)
			SWCONF15-65.0				
66		18/18					
		18/18					
68		24/24					
			SWCONF15-70.0				
70							Termination Depth at:70 Feet
72							
74							
76							
78							
80							
82							
84							
86							
88							

<b>PROJECT NUMBER</b> 0197.010.006 <b>PROJECT NAME</b> SW Area for GW Remediation <b>CLIENT</b> PhibroTech Inc. <b>ADDRESS</b> 8851 Dice Rd, Santa Fe Springs, CA <b>DRILLING DATE</b> 12/29/2020	<b>DRILLING COMPANY</b> MR Drilling <b>DRILLER</b> Rubin <b>DRILL RIG</b> LAR Track Rig <b>DRILLING METHOD</b> Hollow Stem Auger <b>TOTAL DEPTH</b> 70 feet <b>BOREHOLE DIAMETER</b> 8 inches	<b>COORDINATES</b> , <b>COORD SYS</b> <b>SURFACE ELEVATION</b> 152 ft NAVD88 <b>LOGGED BY</b> W. Skillings <b>CHECKED BY</b> Clare Steedman, Chris Alger
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**COMMENTS**

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
2		0/120					ASPHALT: Boring was not logged between the surface and 20 ft.
10		18/18	SWCONF16-10.0			ML	SILT: Pervasive CPS dark coloration, Damp, Stiff consistency, Low plasticity, Fine sand (0, 10, 90)
12		18/18					
14		24/24	SWCONF16-15.0			SP	SAND: Brown, 10YR 4/3, Damp, Medium Dense, Medium Sand, Poorly Graded (0, 90, 10)
16		18/18					
18		18/18					
20		24/24	SWCONF16-20.0				
22		18/18					
24		24/24	SWCONF16-25.0				Pervasive CPS dark coloration 22.5 - 27.5 feet
26		18/18					
28		18/18	SWCONF16-27.0 SWCONF16-27.5			ML	SILT: Mottled CPS coloration, Damp, Hard consistency, Low plasticity, (0, 10, 90)
30		24/24	SWCONF16-30.0				Pervasive CPS colors 29 - 40 feet Strong sulfur odor
32		18/18	SWCONF16-32.5 SWCONF16-33.0				
34		24/24	SWCONF16-35.0			SP	SAND: Pervasive CPS coloration, Damp, Medium Dense, Medium sand, Poorly Graded (0, 10, 90)
36		18/18					
38		18/18					
40		24/24	SWCONF16-40.0				

**Disclaimer** This log is intended for environmental not geotechnical purposes.

Page 1 of 2



Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
40		18/18					Light Yellow Brown, 10YR 6/4, Increase in fine gravel content to 12% from 40 - 45 feet (12, 80, 8)
42		18/18					
44		24/24					
45			SWConf16-45.0				
46		18/18					
47		18/18					
48		24/24					
49			SWConf16-50.0				
50		18/18					
51		18/18	SWConf16-52.5				
52			SWConf16-53.0				
53		24/24				ML	SILT: Pervasive CPS dark coloration, Damp, Very Hard consistency, Low plasticity, (0, 10, 90) Pervasive CPS coloration 53 - 70 feet
54			SWConf16-55.0				
55		18/18					
56		18/18					
57		24/24					
58			SWConf16-60.0				
59		18/18					
60		18/18	SWConf16-62.5				
61			SWConf16-63.0				
62		24/24				SP	SAND: Pervasive CPS dark coloration, Damp, Medium Dense, Medium sand, Poorly Graded (0, 90, 10)
63			SWConf16-65.0				
64		18/18					
65		18/18					
66		24/24					
67			SWConf16-70.0				
70							Termination Depth at:70 Feet
72							
74							
76							
78							
80							
82							
84							
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88							

<b>PROJECT NUMBER</b> 0197.010.006	<b>DRILLING COMPANY</b> MR Drilling	<b>COORDINATES</b> ,
<b>PROJECT NAME</b> SW Area for GW Remediation	<b>DRILLER</b> Daniel	<b>COORD SYS</b>
<b>CLIENT</b> PhibroTech Inc.	<b>DRILL RIG</b> CME-75	<b>SURFACE ELEVATION</b> 152 ft NAVD88
<b>ADDRESS</b> 8851 Dice Rd Santa Fe Springs, CA	<b>DRILLING METHOD</b> Hollow Stem Auger	<b>LOGGED BY</b> W. Skillings
<b>DRILLING DATE</b> 12/31/2020	<b>TOTAL DEPTH</b> 70 feet	<b>CHECKED BY</b> Clare Steedman, Chris Alger
	<b>BOREHOLE DIAMETER</b> 8 inches	

**COMMENTS**

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
0		0/120					ASPHALT: Boring was not logged between the surface and 10 ft.
2							
4							
6							
8							
10			SWCONF17-10.0				Pervasive CPS coloration 10-16feet
12		18/18				ML	SILT: Pervasive CPS dark coloration, Damp, Stiff consistency, Low plasticity, Fine sand (0, 10, 90)
14		24/24				SP	SAND: Pervasive CPS dark coloration, Damp, Medium Dense, Medium sand, Poorly Graded (0, 90, 10)
16			SWCONF17-15.0				No CPS coloration 16 - 24 feet
18		18/18					
20		24/24					
22			SWCONF17-20.0				
24		18/18					Pervasive CPS coloration 24 - 70 feet
26		24/24					
28		18/18	SWCONF17-25.0				
30		18/18	SWCONF17-26.0			ML	SILT: Pervasive CPS dark coloration, Damp, Stiff consistency, Low plasticity, Fine sand (0, 10, 90)
32		24/24	SWCONF17-26.5				
34			SWCONF17-30.0				
36		18/18					
38		18/18	SWCONF17-32.5				
40		24/24	SWCONF17-33.0			SP	SAND: Pervasive CPS dark coloration, Damp, Medium Dense, Medium sand, Poorly Graded (0, 90, 10)
			SWCONF17-35.0				
		18/18					
		18/18					
		24/24					
			SWCONF17-40.0				

**Disclaimer** This log is intended for environmental not geotechnical purposes.

Page 1 of 2

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
40		18/18					
42		18/18					
44		24/24					
			SWCONF17-45.0				
46		18/18					
48		18/18					
		24/24					
50			SWCONF17-50.0				
52		18/18					
		18/18					
54		24/24					
			SWCONF17-55.0				
56		18/18	SWCONF17-56.0			ML	SILT: Mottled CPS coloration, Damp, Very Hard consistency, Low plasticity, fine sand (0, 10, 90)
58		18/18					
		24/24					
60			SWCONF17-60.0				
		18/18	SWCONF17-61.0				
62			SWCONF17-61.5			SP	SAND: Pervasive CPS dark coloration, Damp, Medium Dense, Medium sand, Poorly Graded (0, 90, 10)
		18/18					
64		24/24					
			SWCONF17-65.0				
66		18/18					
		18/18					
68		24/24					
			SWCONF17-70.0				
70							Termination Depth at:70 Feet
72							
74							
76							
78							
80							
82							
84							
86							
88							



<b>PROJECT NUMBER</b> 0197.010.006 <b>PROJECT NAME</b> SW Area for GW Remediation <b>CLIENT</b> PhibroTech Inc. <b>ADDRESS</b> 8851 Dice Rd, Santa Fe Springs, CA <b>DRILLING DATE</b> 12/29/2020	<b>DRILLING COMPANY</b> MR Drilling <b>DRILLER</b> Rubin <b>DRILL RIG</b> LAR Track Rig <b>DRILLING METHOD</b> Hollow Stem Auger <b>TOTAL DEPTH</b> 70 feet <b>BOREHOLE DIAMETER</b> 8 inches	<b>COORDINATES</b> , <b>COORD SYS</b> <b>SURFACE ELEVATION</b> 152 ft NAVD88 <b>LOGGED BY</b> W. Skillings <b>CHECKED BY</b> Clare Steedman, Chris Alger
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**COMMENTS**








Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
2		0/120					Asphalt Boring was not logged between the surface and 10 ft.
4							
6							
8							
10			SWCONF18-10.0				
12		18/18				ML	SILT: Pervasive CPS dark coloration, Damp, Stiff consistency, Low plasticity (0, 10, 90) Mottled CPS coloration 11 - 13 feet
14		24/24				SP	SAND: Pervasive CPS dark coloration, Damp, Medium Dense, Medium sand, Poorly Graded (0, 90, 10)
16		18/18	SWCONF18-15.0				
18		18/18					
20		24/24					
22			SWCONF18-20.0				
24		18/18					No CPS coloration 23 - 25 feet
26		24/24	SWCONF18-25.0				Pervasive CPS coloration 25 - 28 feet
28		18/18					Increase in gravel content to top of contact at 28 feet
30		18/18	SWCONF18-27.5 SWCONF18-28.0			ML	SILT: Mottled CPS coloration, Damp, Hard consistency, Low plasticity, (0, 10, 90) Pervasive CPS coloration 31.5 - 34 feet
32		24/24	SWCONF18-30.0				
34		18/18	SWCONF18-34.0 SWCONF18-34.5 SWCONF18-35.0			SP	SAND: Light Yellow Brown, 10YR 6/4, Damp, Medium Dense, Medium sand, Poorly Graded (0, 90, 10)
36		24/24					
38			SWCONF18-39.5				
40							

**Disclaimer** This log is intended for environmental not geotechnical purposes.

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
40		18/18					
42		18/18					
44		24/24					
46		18/18	SWCONF18-45.0				
48		18/18					
50		24/24					Pervasive CPS coloration 47.5 - 50.5 feet
52		18/18	SWCONF18-50.0				
54		24/24	SWCONF18-50.5			ML	SILT: Light Yellow Brown, 10YR 6/4, Damp, Hard consistency, Low plasticity (0, 10, 90)
56		18/18				CL	SANDY SILTY CLAY: Mottled CPS colors, Damp, Very Hard consistency, Medium plasticity, Fine sand (0, 20, 80)
58		24/24					
60		18/18	SWCONF18-55.0				
62		18/18				ML	SILT: Mottled CPS colors, Damp, Hard consistency, Low plasticity, Fine sand (0, 10, 90)
64		24/24					
66		18/18	SWCONF18-60.0				
68		24/24	SWCONF18-60.5			SP	SAND: Light Yellow Brown, 10YR 6/4, Damp, Dense, Medium sand, Poorly Graded (0, 90, 10)
70		18/18					
72		24/24					
74		18/18	SWCONF18-65.0				
76		18/18					
78		24/24					
80		18/18	SWCONF18-70.0				
82		18/18					
84		24/24					
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<b>PROJECT NUMBER</b> 0197.010.006 <b>PROJECT NAME</b> SW Area for GW Remediation <b>CLIENT</b> PhibroTech Inc. <b>ADDRESS</b> 8851 Dice Rd, Santa Fe Springs, CA <b>DRILLING DATE</b> 12/30/2020	<b>DRILLING COMPANY</b> MR Drilling <b>DRILLER</b> Rubin <b>DRILL RIG</b> LAR Track Rig <b>DRILLING METHOD</b> Hollow Stem Auger <b>TOTAL DEPTH</b> 70 feet <b>BOREHOLE DIAMETER</b> 8 inches	<b>COORDINATES</b> , <b>COORD SYS</b> <b>SURFACE ELEVATION</b> 152 ft NAVD88 <b>LOGGED BY</b> W. Skillings <b>CHECKED BY</b> Clare Steedman, Chris Alger
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**COMMENTS**

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
0		0/300					Railroad Tie/Engineering Gravels
2							Boring was not logged between the surface and 25 ft.
4							
6							
8							
10							
12							
14							
16							
18							
20							
22							
24			SWConf19-25.0				
26	18/18					ML	SILT: Mottled CPS colors, Damp, Hard consistency, Low plasticity, Fine sand (0, 10, 90)
28	18/18						
30	24/24						
32			SWConf19-30.0				
34	18/18		SWConf19-30.5			SP	SAND: Yellow Brown, 10YR 5/4, Damp, Medium Dense, Medium sand, Poorly Graded (0, 90, 10)
36	18/18						
38	24/24						
40	0/120						Boring was not logged between 35 and 45 ft.



Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
40							
42							
44			SWConf19-45.0				
46		18/18				SP	SAND, Yellow Brown, 10YR 5/4, damp, Medium Dense, Medium sand, Poorly graded, (0, 90, 10)
48		18/18					
50		24/24					
52			SWConf19-50.0				
54		18/18					
56		18/18				SW	SANDY GRAVEL: Strong Brown, 7.5Y 4/6, Damp, Medium Dense, Fine Gravel sub-rounded, Medium sand, Moderately Graded (50, 45, 5) CPS colors 54 - 70 feet
58		24/24					
60			SWConf19-55.0				
62		18/18					
64		18/18					
66			SWConf19-58.0				
68		24/24	SWConf19-58.5			ML	SILT: CPS coloration, Moist, Soft consistency, Low plasticity (0, 10, 90)
70			SWConf19-60.0				
72		18/18				SP	SAND: CPS coloration, Damp, Medium Dense, Fine sand, Poorly Graded (0, 90, 10)
74		18/18					
76		24/24					
78			SWConf19-65.0				Becomes medium sand
80		18/18					
82		18/18					
84		24/24					
86			SWConf19-70.0				
88							Termination Depth at: 70 Feet
90							

<b>PROJECT NUMBER</b> 0197.010.006 <b>PROJECT NAME</b> SW Area for GW Remediation <b>CLIENT</b> PhibroTech Inc. <b>ADDRESS</b> 8851 Dice Rd Santa Fe Springs, CA <b>DRILLING DATE</b> 12/30/2020	<b>DRILLING COMPANY</b> MR Drilling <b>DRILLER</b> Rubin <b>DRILL RIG</b> LAR Track Rig <b>DRILLING METHOD</b> Hollow Stem Auger <b>TOTAL DEPTH</b> 70 feet <b>BOREHOLE DIAMETER</b> 8 inches	<b>COORDINATES</b> , <b>COORD SYS</b> <b>SURFACE ELEVATION</b> 152 ft NAVD88 <b>LOGGED BY</b> W. Skillings <b>CHECKED BY</b> Clare Steedman, Chris Alger
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**COMMENTS**

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
0		0/300					Railroad Tie/Engineering Gravels
2							Boring was not logged between the surface and 25 ft.
4							
6							
8							
10							
12							
14							
16							
18							
20							
22							
24			SWConf20-25.0				
26	18/18		SWConf20-25.5			SP	SAND: CPS coloration, Damp, Medium Dense, Medium sand, Poorly Graded (0, 90, 10)
28	18/18					ML	SILT: CPS coloration, Damp, Stiff consistency, Low plasticity (0, 10, 90)
30	24/24						
32			SWConf20-30.0				
34	18/18					SP	SAND: Light Yellow Brown, 10YR 6/4, Damp, Medium Dense, Medium sand, Poorly Graded (0, 90, 10)
36	24/24						
38	0/120						
40							Boring was not logged between 35 and 45 ft.

**Disclaimer** This log is intended for environmental not geotechnical purposes.

Page 1 of 2

Depth (ft)	PID (ppm)	Recovery (in inches)	Samples	Water	Graphic Log	USCS	Material Description
40							
42							
44			SWConf20-45.0				
46	18/18					SP	SAND, Light Yellow Brown, 10YR 6/4, Damp, Medium Dense, Medium sand, Poorly Graded (0, 90, 10) CPS colors 47 - 48 feet
48	18/18		SWConf20-47.5				
			SWConf20-48.0				
50	24/24					CL	SANDY SILTY CLAY: Strong Brown, 7.5Y 4/6, Damp, Very Hard consistency, Medium plasticity, fine sand, black manganese root structures, 1 mm caliche nodules (0, 20, 80)
			SWConf20-50.0				
52	18/18						
54	24/24					ML	SILT: CPS mottling with Brown, 10YR 4/3, Damp, Hard consistency, Low plasticity, (0, 10, 90)
			SWConf20-55.0				
56	18/18		SWConf20-56.0				
			SWConf20-56.5				
58	18/18					SP	SAND: Pervasive CPS dark coloration, Damp, Medium Dense, Medium sand, Poorly Graded (0, 90, 10)
60	24/24						
			SWConf20-60.0				
62	18/18						
64	24/24						
			SWConf20-65.0				
66	18/18						
68	18/18						
70	24/24						
			SWConf20-70.0				
72							Termination Depth at: 70 Feet
74							
76							
78							
80							
82							
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86							
88							



# Appendix F

## 2020 Confirmation Sample Analytical Laboratory Reports



## ANALYTICAL REPORT

Eurofins Calscience LLC  
7440 Lincoln Way  
Garden Grove, CA 92841  
Tel: (714)895-5494

Laboratory Job ID: 570-38551-1

Laboratory Sample Delivery Group: 0197.010.006

Client Project/Site: PTI Southwest Soil Injection Confirmation

**For:**

Terraphase Engineering Inc  
18401 Von Karman Ave  
Suite 410  
Irvine, California 92612

Attn: Chris Alger

*Virendra R Patel*

Authorized for release by:  
9/21/2020 11:33:25 AM

Virendra Patel, Project Manager I  
(714)895-5494

[Virendra.Patel@eurofinset.com](mailto:Virendra.Patel@eurofinset.com)

### LINKS

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*The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

### Qualifiers

#### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
L	A negative instrument reading had an absolute value greater than the reporting limit

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count



## Case Narrative

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

**Job ID: 570-38551-1**

**Laboratory: Eurofins Calscience LLC**

### Narrative

#### Job Narrative 570-38551-1

### Comments

No additional comments.

### Receipt

The samples were received on 9/16/2020 4:20 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.2° C.

### HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### Metals

Method 6010B: Due to the high concentration of Sulfur, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 570-95028 and analytical batch 570-95833 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 6010B: The absolute response for Arsenic was greater than the method reporting limit (RL) in the following sample: (MB 570-95028/1-A).

The instrument raw data has been manually reviewed and the result can be reported as ND.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

## Client Sample ID: SWCONF-09-22.0

## Lab Sample ID: 570-38551-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.34		0.774	mg/Kg	1	✱	6010B	Total/NA
Chromium	9.56		0.258	mg/Kg	1	✱	6010B	Total/NA
Copper	11.0		0.516	mg/Kg	1	✱	6010B	Total/NA
Lead	1.87		0.516	mg/Kg	1	✱	6010B	Total/NA
Sulfur	894		5.16	mg/Kg	1	✱	6010B	Total/NA
pH	7.7		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF-09-23.0

## Lab Sample ID: 570-38551-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.94		0.768	mg/Kg	1	✱	6010B	Total/NA
Chromium	9.67		0.256	mg/Kg	1	✱	6010B	Total/NA
Copper	10.7		0.512	mg/Kg	1	✱	6010B	Total/NA
Lead	1.83		0.512	mg/Kg	1	✱	6010B	Total/NA
Sulfur	1550		5.12	mg/Kg	1	✱	6010B	Total/NA
pH	11.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF-09-23.5

## Lab Sample ID: 570-38551-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.36		0.910	mg/Kg	1	✱	6010B	Total/NA
Chromium	21.1		0.303	mg/Kg	1	✱	6010B	Total/NA
Copper	19.6		0.606	mg/Kg	1	✱	6010B	Total/NA
Lead	2.87		0.606	mg/Kg	1	✱	6010B	Total/NA
Sulfur	8230		60.6	mg/Kg	10	✱	6010B	Total/NA
pH	10.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF-09-28.5

## Lab Sample ID: 570-38551-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.64		0.852	mg/Kg	1	✱	6010B	Total/NA
Chromium	34.4		0.284	mg/Kg	1	✱	6010B	Total/NA
Copper	84.4		0.568	mg/Kg	1	✱	6010B	Total/NA
Lead	2.15		0.568	mg/Kg	1	✱	6010B	Total/NA
Sulfur	2330		5.68	mg/Kg	1	✱	6010B	Total/NA
pH	11.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF-09-34.0

## Lab Sample ID: 570-38551-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.93		0.792	mg/Kg	1	✱	6010B	Total/NA
Chromium	32.4		0.264	mg/Kg	1	✱	6010B	Total/NA
Copper	27.7		0.528	mg/Kg	1	✱	6010B	Total/NA
Lead	1.99		0.528	mg/Kg	1	✱	6010B	Total/NA
Sulfur	759		5.28	mg/Kg	1	✱	6010B	Total/NA
pH	8.3		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF-09-34.5

## Lab Sample ID: 570-38551-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.53		0.805	mg/Kg	1	✱	6010B	Total/NA
Chromium	25.1		0.268	mg/Kg	1	✱	6010B	Total/NA
Copper	46.4		0.537	mg/Kg	1	✱	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

## Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

### Client Sample ID: SWCONF-09-34.5 (Continued)

### Lab Sample ID: 570-38551-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Lead	1.14		0.537	mg/Kg	1	✱	6010B	Total/NA
Sulfur	713		5.37	mg/Kg	1	✱	6010B	Total/NA
pH	9.4		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCONF-09-35.0

### Lab Sample ID: 570-38551-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	20.9		0.958	mg/Kg	1	✱	6010B	Total/NA
Chromium	58.1		0.319	mg/Kg	1	✱	6010B	Total/NA
Copper	581		0.639	mg/Kg	1	✱	6010B	Total/NA
Lead	5.76		0.639	mg/Kg	1	✱	6010B	Total/NA
Sulfur	10100		63.9	mg/Kg	10	✱	6010B	Total/NA
pH	10.1		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCONF-09-40.0

### Lab Sample ID: 570-38551-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	30.5		0.953	mg/Kg	1	✱	6010B	Total/NA
Chromium	71.5		0.318	mg/Kg	1	✱	6010B	Total/NA
Copper	1290		0.635	mg/Kg	1	✱	6010B	Total/NA
Lead	9.18		0.635	mg/Kg	1	✱	6010B	Total/NA
Sulfur	361		6.35	mg/Kg	1	✱	6010B	Total/NA
pH	5.1		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCONF-09-45.0

### Lab Sample ID: 570-38551-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.9		0.905	mg/Kg	1	✱	6010B	Total/NA
Cadmium	1.09		0.604	mg/Kg	1	✱	6010B	Total/NA
Chromium	190		0.302	mg/Kg	1	✱	6010B	Total/NA
Copper	357		0.604	mg/Kg	1	✱	6010B	Total/NA
Lead	4.21		0.604	mg/Kg	1	✱	6010B	Total/NA
Sulfur	1910		6.04	mg/Kg	1	✱	6010B	Total/NA
pH	7.2		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCONF-09-51.0

### Lab Sample ID: 570-38551-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.41		0.876	mg/Kg	1	✱	6010B	Total/NA
Chromium	52.9		0.292	mg/Kg	1	✱	6010B	Total/NA
Copper	32.7		0.584	mg/Kg	1	✱	6010B	Total/NA
Lead	2.38		0.584	mg/Kg	1	✱	6010B	Total/NA
Sulfur	1590		5.84	mg/Kg	1	✱	6010B	Total/NA
pH	7.0		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCONF-09-57.0

### Lab Sample ID: 570-38551-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.42		0.925	mg/Kg	1	✱	6010B	Total/NA
Chromium	46.8		0.308	mg/Kg	1	✱	6010B	Total/NA
Copper	25.0		0.617	mg/Kg	1	✱	6010B	Total/NA
Lead	3.04		0.617	mg/Kg	1	✱	6010B	Total/NA
Sulfur	294		6.17	mg/Kg	1	✱	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

## Client Sample ID: SWCONF-09-57.0 (Continued)

## Lab Sample ID: 570-38551-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.7		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF-09-57.5

## Lab Sample ID: 570-38551-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	1.86		0.861	mg/Kg	1	✱	6010B	Total/NA
Chromium	74.7		0.287	mg/Kg	1	✱	6010B	Total/NA
Copper	15.2		0.574	mg/Kg	1	✱	6010B	Total/NA
Lead	1.78		0.574	mg/Kg	1	✱	6010B	Total/NA
Sulfur	1100		5.74	mg/Kg	1	✱	6010B	Total/NA
pH	8.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF-09-60.0

## Lab Sample ID: 570-38551-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.67		0.945	mg/Kg	1	✱	6010B	Total/NA
Chromium	94.1		0.315	mg/Kg	1	✱	6010B	Total/NA
Copper	21.0		0.630	mg/Kg	1	✱	6010B	Total/NA
Lead	1.28		0.630	mg/Kg	1	✱	6010B	Total/NA
Sulfur	544		6.30	mg/Kg	1	✱	6010B	Total/NA
pH	7.8		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF-09-64.0

## Lab Sample ID: 570-38551-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.78		0.878	mg/Kg	1	✱	6010B	Total/NA
Chromium	30.9		0.293	mg/Kg	1	✱	6010B	Total/NA
Copper	19.2		0.586	mg/Kg	1	✱	6010B	Total/NA
Lead	1.49		0.586	mg/Kg	1	✱	6010B	Total/NA
Sulfur	518		5.86	mg/Kg	1	✱	6010B	Total/NA
pH	7.9		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF-09-69.0

## Lab Sample ID: 570-38551-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.96		0.773	mg/Kg	1	✱	6010B	Total/NA
Chromium	215		0.258	mg/Kg	1	✱	6010B	Total/NA
Copper	7.36		0.515	mg/Kg	1	✱	6010B	Total/NA
Lead	0.971		0.515	mg/Kg	1	✱	6010B	Total/NA
Sulfur	16.4		5.15	mg/Kg	1	✱	6010B	Total/NA
pH	7.0		0.01	S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC



# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCONF-09-22.0

Date Collected: 09/16/20 09:15

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.34		0.774	mg/Kg	✱	09/16/20 17:14	09/19/20 02:27	1
Cadmium	ND		0.516	mg/Kg	✱	09/16/20 17:14	09/19/20 02:27	1
Chromium	9.56		0.258	mg/Kg	✱	09/16/20 17:14	09/19/20 02:27	1
Copper	11.0		0.516	mg/Kg	✱	09/16/20 17:14	09/19/20 02:27	1
Lead	1.87		0.516	mg/Kg	✱	09/16/20 17:14	09/19/20 02:27	1
Sulfur	894		5.16	mg/Kg	✱	09/16/20 17:14	09/19/20 02:27	1

Client Sample ID: SWCONF-09-23.0

Date Collected: 09/16/20 09:20

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.94		0.768	mg/Kg	✱	09/16/20 17:14	09/19/20 02:46	1
Cadmium	ND		0.512	mg/Kg	✱	09/16/20 17:14	09/19/20 02:46	1
Chromium	9.67		0.256	mg/Kg	✱	09/16/20 17:14	09/19/20 02:46	1
Copper	10.7		0.512	mg/Kg	✱	09/16/20 17:14	09/19/20 02:46	1
Lead	1.83		0.512	mg/Kg	✱	09/16/20 17:14	09/19/20 02:46	1
Sulfur	1550		5.12	mg/Kg	✱	09/16/20 17:14	09/19/20 02:46	1

Client Sample ID: SWCONF-09-23.5

Date Collected: 09/16/20 09:21

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.36		0.910	mg/Kg	✱	09/16/20 17:14	09/19/20 02:48	1
Cadmium	ND		0.606	mg/Kg	✱	09/16/20 17:14	09/19/20 02:48	1
Chromium	21.1		0.303	mg/Kg	✱	09/16/20 17:14	09/19/20 02:48	1
Copper	19.6		0.606	mg/Kg	✱	09/16/20 17:14	09/19/20 02:48	1
Lead	2.87		0.606	mg/Kg	✱	09/16/20 17:14	09/19/20 02:48	1
Sulfur	8230		60.6	mg/Kg	✱	09/16/20 17:14	09/19/20 15:02	10

Client Sample ID: SWCONF-09-28.5

Date Collected: 09/16/20 09:35

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.64		0.852	mg/Kg	✱	09/16/20 17:14	09/19/20 02:50	1
Cadmium	ND		0.568	mg/Kg	✱	09/16/20 17:14	09/19/20 02:50	1
Chromium	34.4		0.284	mg/Kg	✱	09/16/20 17:14	09/19/20 02:50	1
Copper	84.4		0.568	mg/Kg	✱	09/16/20 17:14	09/19/20 02:50	1
Lead	2.15		0.568	mg/Kg	✱	09/16/20 17:14	09/19/20 02:50	1
Sulfur	2330		5.68	mg/Kg	✱	09/16/20 17:14	09/19/20 02:50	1

Client Sample ID: SWCONF-09-34.0

Date Collected: 09/16/20 09:50

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.93		0.792	mg/Kg	✱	09/16/20 17:14	09/19/20 02:53	1
Cadmium	ND		0.528	mg/Kg	✱	09/16/20 17:14	09/19/20 02:53	1
Chromium	32.4		0.264	mg/Kg	✱	09/16/20 17:14	09/19/20 02:53	1
Copper	27.7		0.528	mg/Kg	✱	09/16/20 17:14	09/19/20 02:53	1
Lead	1.99		0.528	mg/Kg	✱	09/16/20 17:14	09/19/20 02:53	1
Sulfur	759		5.28	mg/Kg	✱	09/16/20 17:14	09/19/20 02:53	1

Eurofins Calscience LLC

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCONF-09-34.5

Date Collected: 09/16/20 09:57

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.53		0.805	mg/Kg	✱	09/16/20 17:14	09/19/20 02:55	1
Cadmium	ND		0.537	mg/Kg	✱	09/16/20 17:14	09/19/20 02:55	1
Chromium	25.1		0.268	mg/Kg	✱	09/16/20 17:14	09/19/20 02:55	1
Copper	46.4		0.537	mg/Kg	✱	09/16/20 17:14	09/19/20 02:55	1
Lead	1.14		0.537	mg/Kg	✱	09/16/20 17:14	09/19/20 02:55	1
Sulfur	713		5.37	mg/Kg	✱	09/16/20 17:14	09/19/20 02:55	1

Client Sample ID: SWCONF-09-35.0

Date Collected: 09/16/20 10:15

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-7

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20.9		0.958	mg/Kg	✱	09/16/20 17:14	09/19/20 02:57	1
Cadmium	ND		0.639	mg/Kg	✱	09/16/20 17:14	09/19/20 02:57	1
Chromium	58.1		0.319	mg/Kg	✱	09/16/20 17:14	09/19/20 02:57	1
Copper	581		0.639	mg/Kg	✱	09/16/20 17:14	09/19/20 02:57	1
Lead	5.76		0.639	mg/Kg	✱	09/16/20 17:14	09/19/20 02:57	1
Sulfur	10100		63.9	mg/Kg	✱	09/16/20 17:14	09/19/20 15:04	10

Client Sample ID: SWCONF-09-40.0

Date Collected: 09/16/20 10:25

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-8

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	30.5		0.953	mg/Kg	✱	09/16/20 17:14	09/19/20 02:59	1
Cadmium	ND		0.635	mg/Kg	✱	09/16/20 17:14	09/19/20 02:59	1
Chromium	71.5		0.318	mg/Kg	✱	09/16/20 17:14	09/19/20 02:59	1
Copper	1290		0.635	mg/Kg	✱	09/16/20 17:14	09/19/20 02:59	1
Lead	9.18		0.635	mg/Kg	✱	09/16/20 17:14	09/19/20 02:59	1
Sulfur	361		6.35	mg/Kg	✱	09/16/20 17:14	09/19/20 02:59	1

Client Sample ID: SWCONF-09-45.0

Date Collected: 09/16/20 10:45

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-9

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.9		0.905	mg/Kg	✱	09/16/20 17:14	09/19/20 03:02	1
Cadmium	1.09		0.604	mg/Kg	✱	09/16/20 17:14	09/19/20 03:02	1
Chromium	190		0.302	mg/Kg	✱	09/16/20 17:14	09/19/20 03:02	1
Copper	357		0.604	mg/Kg	✱	09/16/20 17:14	09/19/20 03:02	1
Lead	4.21		0.604	mg/Kg	✱	09/16/20 17:14	09/19/20 03:02	1
Sulfur	1910		6.04	mg/Kg	✱	09/16/20 17:14	09/19/20 03:02	1

Client Sample ID: SWCONF-09-51.0

Date Collected: 09/16/20 11:10

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-10

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.41		0.876	mg/Kg	✱	09/16/20 17:14	09/19/20 03:04	1
Cadmium	ND		0.584	mg/Kg	✱	09/16/20 17:14	09/19/20 03:04	1
Chromium	52.9		0.292	mg/Kg	✱	09/16/20 17:14	09/19/20 03:04	1
Copper	32.7		0.584	mg/Kg	✱	09/16/20 17:14	09/19/20 03:04	1
Lead	2.38		0.584	mg/Kg	✱	09/16/20 17:14	09/19/20 03:04	1
Sulfur	1590		5.84	mg/Kg	✱	09/16/20 17:14	09/19/20 03:04	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCONF-09-57.0

Date Collected: 09/16/20 11:30

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-11

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.42		0.925	mg/Kg	✱	09/16/20 17:14	09/19/20 03:06	1
Cadmium	ND		0.617	mg/Kg	✱	09/16/20 17:14	09/19/20 03:06	1
Chromium	46.8		0.308	mg/Kg	✱	09/16/20 17:14	09/19/20 03:06	1
Copper	25.0		0.617	mg/Kg	✱	09/16/20 17:14	09/19/20 03:06	1
Lead	3.04		0.617	mg/Kg	✱	09/16/20 17:14	09/19/20 03:06	1
Sulfur	294		6.17	mg/Kg	✱	09/16/20 17:14	09/19/20 03:06	1

Client Sample ID: SWCONF-09-57.5

Date Collected: 09/16/20 11:32

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-12

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.86		0.861	mg/Kg	✱	09/16/20 17:14	09/19/20 03:20	1
Cadmium	ND		0.574	mg/Kg	✱	09/16/20 17:14	09/19/20 03:20	1
Chromium	74.7		0.287	mg/Kg	✱	09/16/20 17:14	09/19/20 03:20	1
Copper	15.2		0.574	mg/Kg	✱	09/16/20 17:14	09/19/20 03:20	1
Lead	1.78		0.574	mg/Kg	✱	09/16/20 17:14	09/19/20 03:20	1
Sulfur	1100		5.74	mg/Kg	✱	09/16/20 17:14	09/19/20 03:20	1

Client Sample ID: SWCONF-09-60.0

Date Collected: 09/16/20 11:45

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-13

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.67		0.945	mg/Kg	✱	09/16/20 17:14	09/19/20 03:23	1
Cadmium	ND		0.630	mg/Kg	✱	09/16/20 17:14	09/19/20 03:23	1
Chromium	94.1		0.315	mg/Kg	✱	09/16/20 17:14	09/19/20 03:23	1
Copper	21.0		0.630	mg/Kg	✱	09/16/20 17:14	09/19/20 03:23	1
Lead	1.28		0.630	mg/Kg	✱	09/16/20 17:14	09/19/20 03:23	1
Sulfur	544		6.30	mg/Kg	✱	09/16/20 17:14	09/19/20 03:23	1

Client Sample ID: SWCONF-09-64.0

Date Collected: 09/16/20 11:50

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-14

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.78		0.878	mg/Kg	✱	09/16/20 17:14	09/19/20 03:25	1
Cadmium	ND		0.586	mg/Kg	✱	09/16/20 17:14	09/19/20 03:25	1
Chromium	30.9		0.293	mg/Kg	✱	09/16/20 17:14	09/19/20 03:25	1
Copper	19.2		0.586	mg/Kg	✱	09/16/20 17:14	09/19/20 03:25	1
Lead	1.49		0.586	mg/Kg	✱	09/16/20 17:14	09/19/20 03:25	1
Sulfur	518		5.86	mg/Kg	✱	09/16/20 17:14	09/19/20 03:25	1

Client Sample ID: SWCONF-09-69.0

Date Collected: 09/16/20 11:58

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-15

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.96		0.773	mg/Kg	✱	09/16/20 17:14	09/19/20 03:27	1
Cadmium	ND		0.515	mg/Kg	✱	09/16/20 17:14	09/19/20 03:27	1
Chromium	215		0.258	mg/Kg	✱	09/16/20 17:14	09/19/20 03:27	1
Copper	7.36		0.515	mg/Kg	✱	09/16/20 17:14	09/19/20 03:27	1
Lead	0.971		0.515	mg/Kg	✱	09/16/20 17:14	09/19/20 03:27	1
Sulfur	16.4		5.15	mg/Kg	✱	09/16/20 17:14	09/19/20 03:27	1

Eurofins Calscience LLC

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF-09-22.0

Date Collected: 09/16/20 09:15

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.7		0.01	S.U.			09/16/20 20:00	1
Percent Moisture	4.9		0.1	%			09/16/20 17:04	1

Client Sample ID: SWCONF-09-23.0

Date Collected: 09/16/20 09:20

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	11.4		0.01	S.U.			09/16/20 20:00	1
Percent Moisture	4.7		0.1	%			09/16/20 17:04	1

Client Sample ID: SWCONF-09-23.5

Date Collected: 09/16/20 09:21

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	10.5		0.01	S.U.			09/16/20 20:00	1
Percent Moisture	19.2		0.1	%			09/16/20 17:04	1

Client Sample ID: SWCONF-09-28.5

Date Collected: 09/16/20 09:35

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	11.4		0.01	S.U.			09/16/20 20:00	1
Percent Moisture	14.5		0.1	%			09/16/20 17:04	1

Client Sample ID: SWCONF-09-34.0

Date Collected: 09/16/20 09:50

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.3		0.01	S.U.			09/16/20 20:00	1
Percent Moisture	8.5		0.1	%			09/16/20 17:04	1

Client Sample ID: SWCONF-09-34.5

Date Collected: 09/16/20 09:57

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	9.4		0.01	S.U.			09/16/20 20:00	1
Percent Moisture	8.7		0.1	%			09/16/20 17:04	1

Client Sample ID: SWCONF-09-35.0

Date Collected: 09/16/20 10:15

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-7

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	10.1		0.01	S.U.			09/16/20 20:00	1
Percent Moisture	23.6		0.1	%			09/16/20 17:04	1

Client Sample ID: SWCONF-09-40.0

Date Collected: 09/16/20 10:25

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-8

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.1		0.01	S.U.			09/16/20 20:00	1
Percent Moisture	23.2		0.1	%			09/16/20 17:04	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF-09-45.0

Date Collected: 09/16/20 10:45

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-9

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.2		0.01	S.U.			09/16/20 20:00	1
Percent Moisture	17.6		0.1	%			09/16/20 17:04	1

Client Sample ID: SWCONF-09-51.0

Date Collected: 09/16/20 11:10

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-10

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.0		0.01	S.U.			09/16/20 20:00	1
Percent Moisture	16.9		0.1	%			09/16/20 17:04	1

Client Sample ID: SWCONF-09-57.0

Date Collected: 09/16/20 11:30

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-11

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.7		0.01	S.U.			09/16/20 20:00	1
Percent Moisture	22.1		0.1	%			09/16/20 17:04	1

Client Sample ID: SWCONF-09-57.5

Date Collected: 09/16/20 11:32

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-12

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.5		0.01	S.U.			09/16/20 20:00	1
Percent Moisture	14.6		0.1	%			09/16/20 17:04	1

Client Sample ID: SWCONF-09-60.0

Date Collected: 09/16/20 11:45

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-13

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.8		0.01	S.U.			09/16/20 20:00	1
Percent Moisture	21.0		0.1	%			09/16/20 17:04	1

Client Sample ID: SWCONF-09-64.0

Date Collected: 09/16/20 11:50

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-14

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.9		0.01	S.U.			09/16/20 20:00	1
Percent Moisture	15.4		0.1	%			09/16/20 17:04	1

Client Sample ID: SWCONF-09-69.0

Date Collected: 09/16/20 11:58

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-15

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.0		0.01	S.U.			09/16/20 20:00	1
Percent Moisture	6.7		0.1	%			09/16/20 17:04	1

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 570-95028/1-A

Matrix: Solid

Analysis Batch: 95833

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 95028

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	L	0.746	mg/Kg		09/16/20 17:14	09/19/20 02:19	1
Cadmium	ND		0.498	mg/Kg		09/16/20 17:14	09/19/20 02:19	1
Chromium	ND		0.249	mg/Kg		09/16/20 17:14	09/19/20 02:19	1
Copper	ND		0.498	mg/Kg		09/16/20 17:14	09/19/20 02:19	1
Lead	ND		0.498	mg/Kg		09/16/20 17:14	09/19/20 02:19	1
Sulfur	ND		4.98	mg/Kg		09/16/20 17:14	09/19/20 02:19	1

Lab Sample ID: LCS 570-95028/2-A

Matrix: Solid

Analysis Batch: 95852

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 95028

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	24.6	24.33		mg/Kg		99	80 - 120
Cadmium	24.6	24.66		mg/Kg		100	80 - 120
Chromium	24.6	24.81		mg/Kg		101	80 - 120
Copper	24.6	24.29		mg/Kg		99	80 - 120
Lead	24.6	24.64		mg/Kg		100	80 - 120
Sulfur	24.6	27.27		mg/Kg		111	80 - 120

Lab Sample ID: LCSD 570-95028/3-A

Matrix: Solid

Analysis Batch: 95852

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 95028

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	24.9	25.12		mg/Kg		101	80 - 120	3	20
Cadmium	24.9	25.07		mg/Kg		101	80 - 120	2	20
Chromium	24.9	25.05		mg/Kg		101	80 - 120	1	20
Copper	24.9	24.88		mg/Kg		100	80 - 120	2	20
Lead	24.9	25.50		mg/Kg		103	80 - 120	3	20
Sulfur	24.9	24.08		mg/Kg		97	80 - 120	12	20

Lab Sample ID: 570-38551-1 MS

Matrix: Solid

Analysis Batch: 95833

Client Sample ID: SWCONF-09-22.0

Prep Type: Total/NA

Prep Batch: 95028

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	4.34		25.9	25.27		mg/Kg	✱	81	75 - 125
Cadmium	ND		25.9	23.79		mg/Kg	✱	91	75 - 125
Chromium	9.56		25.9	34.06		mg/Kg	✱	95	75 - 125
Copper	11.0		25.9	36.85		mg/Kg	✱	100	75 - 125
Lead	1.87		25.9	24.67		mg/Kg	✱	88	75 - 125
Sulfur	894		25.9	1003	4	mg/Kg	✱	419	75 - 125

Lab Sample ID: 570-38551-1 MSD

Matrix: Solid

Analysis Batch: 95833

Client Sample ID: SWCONF-09-22.0

Prep Type: Total/NA

Prep Batch: 95028

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	4.34		26.0	25.44		mg/Kg	✱	81	75 - 125	1	20

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 570-38551-1 MSD

Matrix: Solid

Analysis Batch: 95833

Client Sample ID: SWCONF-09-22.0

Prep Type: Total/NA

Prep Batch: 95028

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		26.0	23.75		mg/Kg	⚡	90	75 - 125	0	20
Chromium	9.56		26.0	34.34		mg/Kg	⚡	95	75 - 125	1	20
Copper	11.0		26.0	36.88		mg/Kg	⚡	99	75 - 125	0	20
Lead	1.87		26.0	25.06		mg/Kg	⚡	89	75 - 125	2	20
Sulfur	894		26.0	999.9	4	mg/Kg	⚡	406	75 - 125	0	20

## Method: 9045C - pH

Lab Sample ID: 570-38551-1 DU

Matrix: Solid

Analysis Batch: 95241

Client Sample ID: SWCONF-09-22.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.7		7.8		S.U.		1	25

## Method: Moisture - Percent Moisture

Lab Sample ID: 570-38551-1 DU

Matrix: Solid

Analysis Batch: 95025

Client Sample ID: SWCONF-09-22.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	4.9		5.0		%		2	10

Lab Sample ID: 570-38551-11 DU

Matrix: Solid

Analysis Batch: 95025

Client Sample ID: SWCONF-09-57.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	22.1		22.5		%		2	10

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

## Metals

### Prep Batch: 95028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-38551-1	SWCONF-09-22.0	Total/NA	Solid	3050B	
570-38551-2	SWCONF-09-23.0	Total/NA	Solid	3050B	
570-38551-3	SWCONF-09-23.5	Total/NA	Solid	3050B	
570-38551-4	SWCONF-09-28.5	Total/NA	Solid	3050B	
570-38551-5	SWCONF-09-34.0	Total/NA	Solid	3050B	
570-38551-6	SWCONF-09-34.5	Total/NA	Solid	3050B	
570-38551-7	SWCONF-09-35.0	Total/NA	Solid	3050B	
570-38551-8	SWCONF-09-40.0	Total/NA	Solid	3050B	
570-38551-9	SWCONF-09-45.0	Total/NA	Solid	3050B	
570-38551-10	SWCONF-09-51.0	Total/NA	Solid	3050B	
570-38551-11	SWCONF-09-57.0	Total/NA	Solid	3050B	
570-38551-12	SWCONF-09-57.5	Total/NA	Solid	3050B	
570-38551-13	SWCONF-09-60.0	Total/NA	Solid	3050B	
570-38551-14	SWCONF-09-64.0	Total/NA	Solid	3050B	
570-38551-15	SWCONF-09-69.0	Total/NA	Solid	3050B	
MB 570-95028/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-95028/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-95028/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-38551-1 MS	SWCONF-09-22.0	Total/NA	Solid	3050B	
570-38551-1 MSD	SWCONF-09-22.0	Total/NA	Solid	3050B	

### Analysis Batch: 95833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-38551-1	SWCONF-09-22.0	Total/NA	Solid	6010B	95028
570-38551-2	SWCONF-09-23.0	Total/NA	Solid	6010B	95028
570-38551-3	SWCONF-09-23.5	Total/NA	Solid	6010B	95028
570-38551-4	SWCONF-09-28.5	Total/NA	Solid	6010B	95028
570-38551-5	SWCONF-09-34.0	Total/NA	Solid	6010B	95028
570-38551-6	SWCONF-09-34.5	Total/NA	Solid	6010B	95028
570-38551-7	SWCONF-09-35.0	Total/NA	Solid	6010B	95028
570-38551-8	SWCONF-09-40.0	Total/NA	Solid	6010B	95028
570-38551-9	SWCONF-09-45.0	Total/NA	Solid	6010B	95028
570-38551-10	SWCONF-09-51.0	Total/NA	Solid	6010B	95028
570-38551-11	SWCONF-09-57.0	Total/NA	Solid	6010B	95028
570-38551-12	SWCONF-09-57.5	Total/NA	Solid	6010B	95028
570-38551-13	SWCONF-09-60.0	Total/NA	Solid	6010B	95028
570-38551-14	SWCONF-09-64.0	Total/NA	Solid	6010B	95028
570-38551-15	SWCONF-09-69.0	Total/NA	Solid	6010B	95028
MB 570-95028/1-A	Method Blank	Total/NA	Solid	6010B	95028
570-38551-1 MS	SWCONF-09-22.0	Total/NA	Solid	6010B	95028
570-38551-1 MSD	SWCONF-09-22.0	Total/NA	Solid	6010B	95028

### Analysis Batch: 95852

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-38551-3	SWCONF-09-23.5	Total/NA	Solid	6010B	95028
570-38551-7	SWCONF-09-35.0	Total/NA	Solid	6010B	95028
LCS 570-95028/2-A	Lab Control Sample	Total/NA	Solid	6010B	95028
LCSD 570-95028/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	95028



# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

## General Chemistry

### Analysis Batch: 95025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-38551-1	SWCONF-09-22.0	Total/NA	Solid	Moisture	
570-38551-2	SWCONF-09-23.0	Total/NA	Solid	Moisture	
570-38551-3	SWCONF-09-23.5	Total/NA	Solid	Moisture	
570-38551-4	SWCONF-09-28.5	Total/NA	Solid	Moisture	
570-38551-5	SWCONF-09-34.0	Total/NA	Solid	Moisture	
570-38551-6	SWCONF-09-34.5	Total/NA	Solid	Moisture	
570-38551-7	SWCONF-09-35.0	Total/NA	Solid	Moisture	
570-38551-8	SWCONF-09-40.0	Total/NA	Solid	Moisture	
570-38551-9	SWCONF-09-45.0	Total/NA	Solid	Moisture	
570-38551-10	SWCONF-09-51.0	Total/NA	Solid	Moisture	
570-38551-11	SWCONF-09-57.0	Total/NA	Solid	Moisture	
570-38551-12	SWCONF-09-57.5	Total/NA	Solid	Moisture	
570-38551-13	SWCONF-09-60.0	Total/NA	Solid	Moisture	
570-38551-14	SWCONF-09-64.0	Total/NA	Solid	Moisture	
570-38551-15	SWCONF-09-69.0	Total/NA	Solid	Moisture	
570-38551-1 DU	SWCONF-09-22.0	Total/NA	Solid	Moisture	
570-38551-11 DU	SWCONF-09-57.0	Total/NA	Solid	Moisture	

### Leach Batch: 95033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-38551-1	SWCONF-09-22.0	Total/NA	Solid	DI Leach	
570-38551-2	SWCONF-09-23.0	Total/NA	Solid	DI Leach	
570-38551-3	SWCONF-09-23.5	Total/NA	Solid	DI Leach	
570-38551-4	SWCONF-09-28.5	Total/NA	Solid	DI Leach	
570-38551-5	SWCONF-09-34.0	Total/NA	Solid	DI Leach	
570-38551-6	SWCONF-09-34.5	Total/NA	Solid	DI Leach	
570-38551-7	SWCONF-09-35.0	Total/NA	Solid	DI Leach	
570-38551-8	SWCONF-09-40.0	Total/NA	Solid	DI Leach	
570-38551-9	SWCONF-09-45.0	Total/NA	Solid	DI Leach	
570-38551-10	SWCONF-09-51.0	Total/NA	Solid	DI Leach	
570-38551-11	SWCONF-09-57.0	Total/NA	Solid	DI Leach	
570-38551-12	SWCONF-09-57.5	Total/NA	Solid	DI Leach	
570-38551-13	SWCONF-09-60.0	Total/NA	Solid	DI Leach	
570-38551-14	SWCONF-09-64.0	Total/NA	Solid	DI Leach	
570-38551-15	SWCONF-09-69.0	Total/NA	Solid	DI Leach	
570-38551-1 DU	SWCONF-09-22.0	Total/NA	Solid	DI Leach	

### Analysis Batch: 95241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-38551-1	SWCONF-09-22.0	Total/NA	Solid	9045C	95033
570-38551-2	SWCONF-09-23.0	Total/NA	Solid	9045C	95033
570-38551-3	SWCONF-09-23.5	Total/NA	Solid	9045C	95033
570-38551-4	SWCONF-09-28.5	Total/NA	Solid	9045C	95033
570-38551-5	SWCONF-09-34.0	Total/NA	Solid	9045C	95033
570-38551-6	SWCONF-09-34.5	Total/NA	Solid	9045C	95033
570-38551-7	SWCONF-09-35.0	Total/NA	Solid	9045C	95033
570-38551-8	SWCONF-09-40.0	Total/NA	Solid	9045C	95033
570-38551-9	SWCONF-09-45.0	Total/NA	Solid	9045C	95033
570-38551-10	SWCONF-09-51.0	Total/NA	Solid	9045C	95033
570-38551-11	SWCONF-09-57.0	Total/NA	Solid	9045C	95033
570-38551-12	SWCONF-09-57.5	Total/NA	Solid	9045C	95033

Eurofins Calscience LLC

## QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

### General Chemistry (Continued)

#### Analysis Batch: 95241 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-38551-13	SWCONF-09-60.0	Total/NA	Solid	9045C	95033
570-38551-14	SWCONF-09-64.0	Total/NA	Solid	9045C	95033
570-38551-15	SWCONF-09-69.0	Total/NA	Solid	9045C	95033
570-38551-1 DU	SWCONF-09-22.0	Total/NA	Solid	9045C	95033

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

## Client Sample ID: SWCONF-09-22.0

## Lab Sample ID: 570-38551-1

Date Collected: 09/16/20 09:15

Matrix: Solid

Date Received: 09/16/20 16:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	95028	09/16/20 17:14	SP7J	ECL 1
Total/NA	Analysis	6010B		1			95833	09/19/20 02:27	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Leach	DI Leach			20.04 g	20 mL	95033	09/16/20 17:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	95241	09/16/20 20:00	Y3IH	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			95025	09/16/20 17:04	UAPD	ECL 1
Instrument ID: NOEQUIP										

## Client Sample ID: SWCONF-09-23.0

## Lab Sample ID: 570-38551-2

Date Collected: 09/16/20 09:20

Matrix: Solid

Date Received: 09/16/20 16:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.05 g	100 mL	95028	09/16/20 17:14	SP7J	ECL 1
Total/NA	Analysis	6010B		1			95833	09/19/20 02:46	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Leach	DI Leach			20.04 g	20 mL	95033	09/16/20 17:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	95241	09/16/20 20:00	Y3IH	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			95025	09/16/20 17:04	UAPD	ECL 1
Instrument ID: NOEQUIP										

## Client Sample ID: SWCONF-09-23.5

## Lab Sample ID: 570-38551-3

Date Collected: 09/16/20 09:21

Matrix: Solid

Date Received: 09/16/20 16:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	95028	09/16/20 17:14	SP7J	ECL 1
Total/NA	Analysis	6010B		1			95833	09/19/20 02:48	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3050B			2.04 g	100 mL	95028	09/16/20 17:14	SP7J	ECL 1
Total/NA	Analysis	6010B		10			95852	09/19/20 15:02	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Leach	DI Leach			20.05 g	20 mL	95033	09/16/20 17:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	95241	09/16/20 20:00	Y3IH	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			95025	09/16/20 17:04	UAPD	ECL 1
Instrument ID: NOEQUIP										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF-09-28.5**

**Lab Sample ID: 570-38551-4**

**Date Collected: 09/16/20 09:35**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.06 g	100 mL	95028	09/16/20 17:14	SP7J	ECL 1
Total/NA	Analysis	6010B		1			95833	09/19/20 02:50	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Leach	DI Leach			20.01 g	20 mL	95033	09/16/20 17:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	95241	09/16/20 20:00	Y3IH	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			95025	09/16/20 17:04	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF-09-34.0**

**Lab Sample ID: 570-38551-5**

**Date Collected: 09/16/20 09:50**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.07 g	100 mL	95028	09/16/20 17:14	SP7J	ECL 1
Total/NA	Analysis	6010B		1			95833	09/19/20 02:53	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Leach	DI Leach			20.01 g	20 mL	95033	09/16/20 17:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	95241	09/16/20 20:00	Y3IH	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			95025	09/16/20 17:04	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF-09-34.5**

**Lab Sample ID: 570-38551-6**

**Date Collected: 09/16/20 09:57**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	95028	09/16/20 17:14	SP7J	ECL 1
Total/NA	Analysis	6010B		1			95833	09/19/20 02:55	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Leach	DI Leach			20.02 g	20 mL	95033	09/16/20 17:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	95241	09/16/20 20:00	Y3IH	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			95025	09/16/20 17:04	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF-09-35.0**

**Lab Sample ID: 570-38551-7**

**Date Collected: 09/16/20 10:15**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.05 g	100 mL	95028	09/16/20 17:14	SP7J	ECL 1
Total/NA	Analysis	6010B		1			95833	09/19/20 02:57	OYW3	ECL 1
Instrument ID: ICP8										



# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF-09-35.0**

**Lab Sample ID: 570-38551-7**

**Date Collected: 09/16/20 10:15**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.05 g	100 mL	95028	09/16/20 17:14	SP7J	ECL 1
Total/NA	Analysis	6010B		10			95852	09/19/20 15:04	OYW3	ECL 1
		Instrument ID: ICP8								
Total/NA	Leach	DI Leach			20.02 g	20 mL	95033	09/16/20 17:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	95241	09/16/20 20:00	Y3IH	ECL 1
		Instrument ID: NOEQUIP								
Total/NA	Analysis	Moisture		1			95025	09/16/20 17:04	UAPD	ECL 1
		Instrument ID: NOEQUIP								

**Client Sample ID: SWCONF-09-40.0**

**Lab Sample ID: 570-38551-8**

**Date Collected: 09/16/20 10:25**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.05 g	100 mL	95028	09/16/20 17:14	SP7J	ECL 1
Total/NA	Analysis	6010B		1			95833	09/19/20 02:59	OYW3	ECL 1
		Instrument ID: ICP8								
Total/NA	Leach	DI Leach			20.00 g	20 mL	95033	09/16/20 17:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	95241	09/16/20 20:00	Y3IH	ECL 1
		Instrument ID: NOEQUIP								
Total/NA	Analysis	Moisture		1			95025	09/16/20 17:04	UAPD	ECL 1
		Instrument ID: NOEQUIP								

**Client Sample ID: SWCONF-09-45.0**

**Lab Sample ID: 570-38551-9**

**Date Collected: 09/16/20 10:45**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	100 mL	95028	09/16/20 17:14	SP7J	ECL 1
Total/NA	Analysis	6010B		1			95833	09/19/20 03:02	OYW3	ECL 1
		Instrument ID: ICP8								
Total/NA	Leach	DI Leach			20.05 g	20 mL	95033	09/16/20 17:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	95241	09/16/20 20:00	Y3IH	ECL 1
		Instrument ID: NOEQUIP								
Total/NA	Analysis	Moisture		1			95025	09/16/20 17:04	UAPD	ECL 1
		Instrument ID: NOEQUIP								

**Client Sample ID: SWCONF-09-51.0**

**Lab Sample ID: 570-38551-10**

**Date Collected: 09/16/20 11:10**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.06 g	100 mL	95028	09/16/20 17:14	SP7J	ECL 1
Total/NA	Analysis	6010B		1			95833	09/19/20 03:04	OYW3	ECL 1
		Instrument ID: ICP8								

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF-09-51.0**

**Lab Sample ID: 570-38551-10**

**Date Collected: 09/16/20 11:10**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Leach	DI Leach			20.01 g	20 mL	95033	09/16/20 17:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	95241	09/16/20 20:00	Y3IH	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			95025	09/16/20 17:04	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF-09-57.0**

**Lab Sample ID: 570-38551-11**

**Date Collected: 09/16/20 11:30**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.08 g	100 mL	95028	09/16/20 17:14	SP7J	ECL 1
Total/NA	Analysis	6010B		1			95833	09/19/20 03:06	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Leach	DI Leach			20.02 g	20 mL	95033	09/16/20 17:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	95241	09/16/20 20:00	Y3IH	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			95025	09/16/20 17:04	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF-09-57.5**

**Lab Sample ID: 570-38551-12**

**Date Collected: 09/16/20 11:32**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	95028	09/16/20 17:14	SP7J	ECL 1
Total/NA	Analysis	6010B		1			95833	09/19/20 03:20	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Leach	DI Leach			20.05 g	20 mL	95033	09/16/20 17:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	95241	09/16/20 20:00	Y3IH	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			95025	09/16/20 17:04	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF-09-60.0**

**Lab Sample ID: 570-38551-13**

**Date Collected: 09/16/20 11:45**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	100 mL	95028	09/16/20 17:14	SP7J	ECL 1
Total/NA	Analysis	6010B		1			95833	09/19/20 03:23	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Leach	DI Leach			19.99 g	20 mL	95033	09/16/20 17:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	95241	09/16/20 20:00	Y3IH	ECL 1
Instrument ID: NOEQUIP										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF-09-60.0**

**Lab Sample ID: 570-38551-13**

**Date Collected: 09/16/20 11:45**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			95025	09/16/20 17:04	UAPD	ECL 1

**Client Sample ID: SWCONF-09-64.0**

**Lab Sample ID: 570-38551-14**

**Date Collected: 09/16/20 11:50**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	100 mL	95028	09/16/20 17:14	SP7J	ECL 1
Total/NA	Analysis	6010B		1			95833	09/19/20 03:25	OYW3	ECL 1
		Instrument ID: ICP8								
Total/NA	Leach	DI Leach			20.00 g	20 mL	95033	09/16/20 17:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	95241	09/16/20 20:00	Y3IH	ECL 1
		Instrument ID: NOEQUIP								
Total/NA	Analysis	Moisture		1			95025	09/16/20 17:04	UAPD	ECL 1
		Instrument ID: NOEQUIP								

**Client Sample ID: SWCONF-09-69.0**

**Lab Sample ID: 570-38551-15**

**Date Collected: 09/16/20 11:58**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.08 g	100 mL	95028	09/16/20 17:14	SP7J	ECL 1
Total/NA	Analysis	6010B		1			95833	09/19/20 03:27	OYW3	ECL 1
		Instrument ID: ICP8								
Total/NA	Leach	DI Leach			20.05 g	20 mL	95033	09/16/20 17:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	95241	09/16/20 20:00	Y3IH	ECL 1
		Instrument ID: NOEQUIP								
Total/NA	Analysis	Moisture		1			95025	09/16/20 17:04	UAPD	ECL 1
		Instrument ID: NOEQUIP								

## Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

## Accreditation/Certification Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

### Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-29-20
California	SCAQMD LAP	17LA0919	11-30-20
California	State	2944	09-29-20
Guam	State	20-003R	10-31-20
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-29-21
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-20



## Method Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	ECL 1
9045C	pH	SW846	ECL 1
Moisture	Percent Moisture	EPA	ECL 1
3050B	Preparation, Metals	SW846	ECL 1
DI Leach	Deionized Water Leaching Procedure	ASTM	ECL 1

### Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

## Sample Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-1  
SDG: 0197.010.006

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-38551-1	SWCONF-09-22.0	Solid	09/16/20 09:15	09/16/20 16:20	
570-38551-2	SWCONF-09-23.0	Solid	09/16/20 09:20	09/16/20 16:20	
570-38551-3	SWCONF-09-23.5	Solid	09/16/20 09:21	09/16/20 16:20	
570-38551-4	SWCONF-09-28.5	Solid	09/16/20 09:35	09/16/20 16:20	
570-38551-5	SWCONF-09-34.0	Solid	09/16/20 09:50	09/16/20 16:20	
570-38551-6	SWCONF-09-34.5	Solid	09/16/20 09:57	09/16/20 16:20	
570-38551-7	SWCONF-09-35.0	Solid	09/16/20 10:15	09/16/20 16:20	
570-38551-8	SWCONF-09-40.0	Solid	09/16/20 10:25	09/16/20 16:20	
570-38551-9	SWCONF-09-45.0	Solid	09/16/20 10:45	09/16/20 16:20	
570-38551-10	SWCONF-09-51.0	Solid	09/16/20 11:10	09/16/20 16:20	
570-38551-11	SWCONF-09-57.0	Solid	09/16/20 11:30	09/16/20 16:20	
570-38551-12	SWCONF-09-57.5	Solid	09/16/20 11:32	09/16/20 16:20	
570-38551-13	SWCONF-09-60.0	Solid	09/16/20 11:45	09/16/20 16:20	
570-38551-14	SWCONF-09-64.0	Solid	09/16/20 11:50	09/16/20 16:20	
570-38551-15	SWCONF-09-69.0	Solid	09/16/20 11:58	09/16/20 16:20	





For courier service / sample drop off information, contact us26\_sales@eurofinsus.com or call us.

## CHAIN OF CUSTODY RECORD

DATE: 09-16-20

PAGE: 2 OF 2

06/02/14 Revision  
9/21/2020



## Login Sample Receipt Checklist

Client: Terraphase Engineering Inc

Job Number: 570-38551-1

SDG Number: 0197.010.006

Login Number: 38551

List Number: 1

Creator: Patel, Jayesh

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

Eurofins Calscience LLC  
7440 Lincoln Way  
Garden Grove, CA 92841  
Tel: (714)895-5494

Laboratory Job ID: 570-38551-2

Laboratory Sample Delivery Group: 0197.010.006

Client Project/Site: PTI Southwest Soil Injection Confirmation

**For:**

Terraphase Engineering Inc  
18401 Von Karman Ave  
Suite 410  
Irvine, California 92612

Attn: Chris Alger

*Virendra R Patel*

Authorized for release by:  
9/18/2020 2:24:18 PM

Virendra Patel, Project Manager I  
(714)895-5494

[Virendra.Patel@eurofinset.com](mailto:Virendra.Patel@eurofinset.com)

### LINKS

Review your project  
results through

**TotalAccess**

Have a Question?



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*The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-2  
SDG: 0197.010.006

### Qualifiers

#### General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count



## Case Narrative

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-2  
SDG: 0197.010.006

**Job ID: 570-38551-2**

**Laboratory: Eurofins Calscience LLC**

### Narrative

#### Job Narrative 570-38551-2

### Comments

No additional comments.

### Receipt

The samples were received on 9/16/2020 4:20 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.2° C.

### General Chemistry

Method 7196A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with preparation batch 570-95060 and analytical batch 570-95332 were outside control limits: (570-38551-A-1-H MS), (570-38551-A-1-I MSD), (570-38551-A-1-F MSI ^25) and (570-38551-A-1-G MSID ^25). The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method 7196A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with preparation batch 570-95060 and analytical batch 570-95344 were outside control limits: SWCONF-09-22.0 (570-38551-1), (570-38551-A-1-H MS), (570-38551-A-1-I MSD), (570-38551-A-1-F MSI ^25) and (570-38551-A-1-G MSID ^25). The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method 7196A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with preparation batch 570-95416 and analytical batch 570-95586 were outside control limits: SWCONF-09-57.5 (570-38551-12), (570-38551-A-12-E MS) and (570-38551-A-12-F MSD). The associated laboratory control sample (LCS) recovery met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-2  
SDG: 0197.010.006

**Client Sample ID: SWCONF-09-22.0**

**Lab Sample ID: 570-38551-1**

No Detections.

**Client Sample ID: SWCONF-09-23.0**

**Lab Sample ID: 570-38551-2**

No Detections.

**Client Sample ID: SWCONF-09-23.5**

**Lab Sample ID: 570-38551-3**

No Detections.

**Client Sample ID: SWCONF-09-28.5**

**Lab Sample ID: 570-38551-4**

No Detections.

**Client Sample ID: SWCONF-09-34.0**

**Lab Sample ID: 570-38551-5**

No Detections.

**Client Sample ID: SWCONF-09-34.5**

**Lab Sample ID: 570-38551-6**

No Detections.

**Client Sample ID: SWCONF-09-35.0**

**Lab Sample ID: 570-38551-7**

No Detections.

**Client Sample ID: SWCONF-09-40.0**

**Lab Sample ID: 570-38551-8**

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	1.01		0.886	mg/Kg	1	✱	7196A	Total/NA

**Client Sample ID: SWCONF-09-45.0**

**Lab Sample ID: 570-38551-9**

No Detections.

**Client Sample ID: SWCONF-09-51.0**

**Lab Sample ID: 570-38551-10**

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	15.4		0.955	mg/Kg	1	✱	7196A	Total/NA

**Client Sample ID: SWCONF-09-57.0**

**Lab Sample ID: 570-38551-11**

No Detections.

**Client Sample ID: SWCONF-09-57.5**

**Lab Sample ID: 570-38551-12**

No Detections.

**Client Sample ID: SWCONF-09-60.0**

**Lab Sample ID: 570-38551-13**

No Detections.

**Client Sample ID: SWCONF-09-64.0**

**Lab Sample ID: 570-38551-14**

No Detections.

**Client Sample ID: SWCONF-09-69.0**

**Lab Sample ID: 570-38551-15**

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	3.60		0.844	mg/Kg	1	✱	7196A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-2  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF-09-22.0

Date Collected: 09/16/20 09:15

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	F1	0.838	mg/Kg	☆	09/16/20 18:00	09/17/20 15:47	1

Client Sample ID: SWCONF-09-23.0

Date Collected: 09/16/20 09:20

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.839	mg/Kg	☆	09/16/20 18:00	09/17/20 15:48	1

Client Sample ID: SWCONF-09-23.5

Date Collected: 09/16/20 09:21

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.990	mg/Kg	☆	09/16/20 18:00	09/17/20 15:49	1

Client Sample ID: SWCONF-09-28.5

Date Collected: 09/16/20 09:35

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.925	mg/Kg	☆	09/16/20 18:00	09/17/20 15:50	1

Client Sample ID: SWCONF-09-34.0

Date Collected: 09/16/20 09:50

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.878	mg/Kg	☆	09/16/20 18:00	09/17/20 15:52	1

Client Sample ID: SWCONF-09-34.5

Date Collected: 09/16/20 09:57

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.880	mg/Kg	☆	09/16/20 18:00	09/17/20 15:51	1

Client Sample ID: SWCONF-09-35.0

Date Collected: 09/16/20 10:15

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-7

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.05	mg/Kg	☆	09/16/20 18:00	09/17/20 15:53	1

Client Sample ID: SWCONF-09-40.0

Date Collected: 09/16/20 10:25

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-8

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	1.01		0.886	mg/Kg	☆	09/16/20 18:00	09/17/20 15:54	1

Client Sample ID: SWCONF-09-45.0

Date Collected: 09/16/20 10:45

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-9

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.963	mg/Kg	☆	09/17/20 20:00	09/18/20 12:34	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-2  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF-09-51.0

Date Collected: 09/16/20 11:10

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-10

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	15.4		0.955	mg/Kg	☆	09/17/20 20:00	09/18/20 12:35	1

Client Sample ID: SWCONF-09-57.0

Date Collected: 09/16/20 11:30

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-11

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.02	mg/Kg	☆	09/17/20 20:00	09/18/20 12:36	1

Client Sample ID: SWCONF-09-57.5

Date Collected: 09/16/20 11:32

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-12

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	F1	0.925	mg/Kg	☆	09/17/20 20:00	09/18/20 12:33	1

Client Sample ID: SWCONF-09-60.0

Date Collected: 09/16/20 11:45

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-13

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.00	mg/Kg	☆	09/17/20 20:00	09/18/20 12:37	1

Client Sample ID: SWCONF-09-64.0

Date Collected: 09/16/20 11:50

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-14

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.946	mg/Kg	☆	09/17/20 20:00	09/18/20 12:38	1

Client Sample ID: SWCONF-09-69.0

Date Collected: 09/16/20 11:58

Date Received: 09/16/20 16:20

Lab Sample ID: 570-38551-15

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	3.60		0.844	mg/Kg	☆	09/17/20 20:00	09/18/20 12:39	1



# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-2  
SDG: 0197.010.006

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 570-95060/1-A  
Matrix: Solid  
Analysis Batch: 95344

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 95060

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.800	mg/Kg		09/16/20 18:00	09/17/20 15:40	1

Lab Sample ID: LCSD 570-95060/3-A  
Matrix: Solid  
Analysis Batch: 95344

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 95060

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	19.9	16.88		mg/Kg		85	78 - 120	3	20

Lab Sample ID: 570-38551-1 MS  
Matrix: Solid  
Analysis Batch: 95344

Client Sample ID: SWCONF-09-22.0  
Prep Type: Total/NA  
Prep Batch: 95060

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND	F1	21.1	ND	F1	mg/Kg	✱	0	75 - 125

Lab Sample ID: 570-38551-1 MSD  
Matrix: Solid  
Analysis Batch: 95344

Client Sample ID: SWCONF-09-22.0  
Prep Type: Total/NA  
Prep Batch: 95060

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	21.0	ND	F1	mg/Kg	✱	0	75 - 125	NC	25

Lab Sample ID: 570-38551-1 MSI  
Matrix: Solid  
Analysis Batch: 95344

Client Sample ID: SWCONF-09-22.0  
Prep Type: Total/NA  
Prep Batch: 95060

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND	F1	1020	449.1	F1	mg/Kg	✱	44	75 - 125

Lab Sample ID: 570-38551-1 MSID  
Matrix: Solid  
Analysis Batch: 95344

Client Sample ID: SWCONF-09-22.0  
Prep Type: Total/NA  
Prep Batch: 95060

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1030	471.0	F1	mg/Kg	✱	46	75 - 125	5	25

Lab Sample ID: MB 570-95416/1-A  
Matrix: Solid  
Analysis Batch: 95586

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 95416

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.787	mg/Kg		09/17/20 20:00	09/18/20 12:26	1

Lab Sample ID: LCS 570-95416/2-A  
Matrix: Solid  
Analysis Batch: 95586

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 95416

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	19.9	22.44		mg/Kg		113	78 - 120

Eurofins Calscience LLC

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-2  
SDG: 0197.010.006

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: LCSD 570-95416/3-A

Matrix: Solid

Analysis Batch: 95586

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 95416

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	20.0	20.73		mg/Kg		104	78 - 120	8	20

Lab Sample ID: 570-38551-12 MS

Matrix: Solid

Analysis Batch: 95586

Client Sample ID: SWCONF-09-57.5

Prep Type: Total/NA

Prep Batch: 95416

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	23.4	12.87	F1	mg/Kg	✱	55	75 - 125		

Lab Sample ID: 570-38551-12 MSD

Matrix: Solid

Analysis Batch: 95586

Client Sample ID: SWCONF-09-57.5

Prep Type: Total/NA

Prep Batch: 95416

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	23.5	14.97	F1	mg/Kg	✱	64	75 - 125	15	25

Lab Sample ID: 570-38551-12 MSI

Matrix: Solid

Analysis Batch: 95586

Client Sample ID: SWCONF-09-57.5

Prep Type: Total/NA

Prep Batch: 95416

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1130	1117		mg/Kg	✱	99	75 - 125		

Lab Sample ID: 570-38551-12 MSID

Matrix: Solid

Analysis Batch: 95586

Client Sample ID: SWCONF-09-57.5

Prep Type: Total/NA

Prep Batch: 95416

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1140	1101		mg/Kg	✱	97	75 - 125	1	25

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-2  
SDG: 0197.010.006

## General Chemistry

### Prep Batch: 95060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-38551-1	SWCONF-09-22.0	Total/NA	Solid	3060A	
570-38551-2	SWCONF-09-23.0	Total/NA	Solid	3060A	
570-38551-3	SWCONF-09-23.5	Total/NA	Solid	3060A	
570-38551-4	SWCONF-09-28.5	Total/NA	Solid	3060A	
570-38551-5	SWCONF-09-34.0	Total/NA	Solid	3060A	
570-38551-6	SWCONF-09-34.5	Total/NA	Solid	3060A	
570-38551-7	SWCONF-09-35.0	Total/NA	Solid	3060A	
570-38551-8	SWCONF-09-40.0	Total/NA	Solid	3060A	
MB 570-95060/1-A	Method Blank	Total/NA	Solid	3060A	
LCSD 570-95060/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-38551-1 MS	SWCONF-09-22.0	Total/NA	Solid	3060A	
570-38551-1 MSD	SWCONF-09-22.0	Total/NA	Solid	3060A	
570-38551-1 MSI	SWCONF-09-22.0	Total/NA	Solid	3060A	
570-38551-1 MSID	SWCONF-09-22.0	Total/NA	Solid	3060A	

### Analysis Batch: 95344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-38551-1	SWCONF-09-22.0	Total/NA	Solid	7196A	95060
570-38551-2	SWCONF-09-23.0	Total/NA	Solid	7196A	95060
570-38551-3	SWCONF-09-23.5	Total/NA	Solid	7196A	95060
570-38551-4	SWCONF-09-28.5	Total/NA	Solid	7196A	95060
570-38551-5	SWCONF-09-34.0	Total/NA	Solid	7196A	95060
570-38551-6	SWCONF-09-34.5	Total/NA	Solid	7196A	95060
570-38551-7	SWCONF-09-35.0	Total/NA	Solid	7196A	95060
570-38551-8	SWCONF-09-40.0	Total/NA	Solid	7196A	95060
MB 570-95060/1-A	Method Blank	Total/NA	Solid	7196A	95060
LCSD 570-95060/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	95060
570-38551-1 MS	SWCONF-09-22.0	Total/NA	Solid	7196A	95060
570-38551-1 MSD	SWCONF-09-22.0	Total/NA	Solid	7196A	95060
570-38551-1 MSI	SWCONF-09-22.0	Total/NA	Solid	7196A	95060
570-38551-1 MSID	SWCONF-09-22.0	Total/NA	Solid	7196A	95060

### Prep Batch: 95416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-38551-9	SWCONF-09-45.0	Total/NA	Solid	3060A	
570-38551-10	SWCONF-09-51.0	Total/NA	Solid	3060A	
570-38551-11	SWCONF-09-57.0	Total/NA	Solid	3060A	
570-38551-12	SWCONF-09-57.5	Total/NA	Solid	3060A	
570-38551-13	SWCONF-09-60.0	Total/NA	Solid	3060A	
570-38551-14	SWCONF-09-64.0	Total/NA	Solid	3060A	
570-38551-15	SWCONF-09-69.0	Total/NA	Solid	3060A	
MB 570-95416/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-95416/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-95416/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-38551-12 MS	SWCONF-09-57.5	Total/NA	Solid	3060A	
570-38551-12 MSD	SWCONF-09-57.5	Total/NA	Solid	3060A	
570-38551-12 MSI	SWCONF-09-57.5	Total/NA	Solid	3060A	
570-38551-12 MSID	SWCONF-09-57.5	Total/NA	Solid	3060A	

## QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-2  
SDG: 0197.010.006

### General Chemistry

#### Analysis Batch: 95586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-38551-9	SWCONF-09-45.0	Total/NA	Solid	7196A	95416
570-38551-10	SWCONF-09-51.0	Total/NA	Solid	7196A	95416
570-38551-11	SWCONF-09-57.0	Total/NA	Solid	7196A	95416
570-38551-12	SWCONF-09-57.5	Total/NA	Solid	7196A	95416
570-38551-13	SWCONF-09-60.0	Total/NA	Solid	7196A	95416
570-38551-14	SWCONF-09-64.0	Total/NA	Solid	7196A	95416
570-38551-15	SWCONF-09-69.0	Total/NA	Solid	7196A	95416
MB 570-95416/1-A	Method Blank	Total/NA	Solid	7196A	95416
LCS 570-95416/2-A	Lab Control Sample	Total/NA	Solid	7196A	95416
LCSD 570-95416/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	95416
570-38551-12 MS	SWCONF-09-57.5	Total/NA	Solid	7196A	95416
570-38551-12 MSD	SWCONF-09-57.5	Total/NA	Solid	7196A	95416
570-38551-12 MSI	SWCONF-09-57.5	Total/NA	Solid	7196A	95416
570-38551-12 MSID	SWCONF-09-57.5	Total/NA	Solid	7196A	95416



# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-2  
SDG: 0197.010.006

**Client Sample ID: SWCONF-09-22.0**

**Lab Sample ID: 570-38551-1**

**Date Collected: 09/16/20 09:15**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.51 g	100 mL	95060	09/16/20 18:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	95344	09/17/20 15:47	CO7S	ECL 1
Instrument ID: UV8										

**Client Sample ID: SWCONF-09-23.0**

**Lab Sample ID: 570-38551-2**

**Date Collected: 09/16/20 09:20**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.50 g	100 mL	95060	09/16/20 18:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	95344	09/17/20 15:48	CO7S	ECL 1
Instrument ID: UV8										

**Client Sample ID: SWCONF-09-23.5**

**Lab Sample ID: 570-38551-3**

**Date Collected: 09/16/20 09:21**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.50 g	100 mL	95060	09/16/20 18:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	95344	09/17/20 15:49	CO7S	ECL 1
Instrument ID: UV8										

**Client Sample ID: SWCONF-09-28.5**

**Lab Sample ID: 570-38551-4**

**Date Collected: 09/16/20 09:35**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.53 g	100 mL	95060	09/16/20 18:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	95344	09/17/20 15:50	CO7S	ECL 1
Instrument ID: UV8										

**Client Sample ID: SWCONF-09-34.0**

**Lab Sample ID: 570-38551-5**

**Date Collected: 09/16/20 09:50**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.49 g	100 mL	95060	09/16/20 18:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	95344	09/17/20 15:52	CO7S	ECL 1
Instrument ID: UV8										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-2  
SDG: 0197.010.006

**Client Sample ID: SWCONF-09-34.5**

**Lab Sample ID: 570-38551-6**

**Date Collected: 09/16/20 09:57**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.49 g	100 mL	95060	09/16/20 18:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	95344	09/17/20 15:51	CO7S	ECL 1
Instrument ID: UV8										

**Client Sample ID: SWCONF-09-35.0**

**Lab Sample ID: 570-38551-7**

**Date Collected: 09/16/20 10:15**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.50 g	100 mL	95060	09/16/20 18:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	95344	09/17/20 15:53	CO7S	ECL 1
Instrument ID: UV8										

**Client Sample ID: SWCONF-09-40.0**

**Lab Sample ID: 570-38551-8**

**Date Collected: 09/16/20 10:25**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.94 g	100 mL	95060	09/16/20 18:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	95344	09/17/20 15:54	CO7S	ECL 1
Instrument ID: UV8										

**Client Sample ID: SWCONF-09-45.0**

**Lab Sample ID: 570-38551-9**

**Date Collected: 09/16/20 10:45**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.52 g	100 mL	95416	09/17/20 20:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	95586	09/18/20 12:34	UAPD	ECL 1
Instrument ID: UV8										

**Client Sample ID: SWCONF-09-51.0**

**Lab Sample ID: 570-38551-10**

**Date Collected: 09/16/20 11:10**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.52 g	100 mL	95416	09/17/20 20:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	95586	09/18/20 12:35	UAPD	ECL 1
Instrument ID: UV8										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-2  
SDG: 0197.010.006

**Client Sample ID: SWCONF-09-57.0**

**Lab Sample ID: 570-38551-11**

**Date Collected: 09/16/20 11:30**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.52 g	100 mL	95416	09/17/20 20:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	95586	09/18/20 12:36	UAPD	ECL 1
Instrument ID: UV8										

**Client Sample ID: SWCONF-09-57.5**

**Lab Sample ID: 570-38551-12**

**Date Collected: 09/16/20 11:32**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.53 g	100 mL	95416	09/17/20 20:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	95586	09/18/20 12:33	UAPD	ECL 1
Instrument ID: UV8										

**Client Sample ID: SWCONF-09-60.0**

**Lab Sample ID: 570-38551-13**

**Date Collected: 09/16/20 11:45**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.52 g	100 mL	95416	09/17/20 20:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	95586	09/18/20 12:37	UAPD	ECL 1
Instrument ID: UV8										

**Client Sample ID: SWCONF-09-64.0**

**Lab Sample ID: 570-38551-14**

**Date Collected: 09/16/20 11:50**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.50 g	100 mL	95416	09/17/20 20:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	95586	09/18/20 12:38	UAPD	ECL 1
Instrument ID: UV8										

**Client Sample ID: SWCONF-09-69.0**

**Lab Sample ID: 570-38551-15**

**Date Collected: 09/16/20 11:58**

**Matrix: Solid**

**Date Received: 09/16/20 16:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3060A			2.54 g	100 mL	95416	09/17/20 20:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	95586	09/18/20 12:39	UAPD	ECL 1
Instrument ID: UV8										

## Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

## Accreditation/Certification Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-2  
SDG: 0197.010.006

### Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-29-20
California	SCAQMD LAP	17LA0919	11-30-20
California	State	2944	09-29-20
Guam	State	20-003R	10-31-20
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-29-21
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-20



## Method Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-2  
SDG: 0197.010.006

Method	Method Description	Protocol	Laboratory
7196A	Chromium, Hexavalent	SW846	ECL 1
3060A	Alkaline Digestion (Chromium, Hexavalent)	SW846	ECL 1

### Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

## Sample Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-38551-2  
SDG: 0197.010.006

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-38551-1	SWCONF-09-22.0	Solid	09/16/20 09:15	09/16/20 16:20	
570-38551-2	SWCONF-09-23.0	Solid	09/16/20 09:20	09/16/20 16:20	
570-38551-3	SWCONF-09-23.5	Solid	09/16/20 09:21	09/16/20 16:20	
570-38551-4	SWCONF-09-28.5	Solid	09/16/20 09:35	09/16/20 16:20	
570-38551-5	SWCONF-09-34.0	Solid	09/16/20 09:50	09/16/20 16:20	
570-38551-6	SWCONF-09-34.5	Solid	09/16/20 09:57	09/16/20 16:20	
570-38551-7	SWCONF-09-35.0	Solid	09/16/20 10:15	09/16/20 16:20	
570-38551-8	SWCONF-09-40.0	Solid	09/16/20 10:25	09/16/20 16:20	
570-38551-9	SWCONF-09-45.0	Solid	09/16/20 10:45	09/16/20 16:20	
570-38551-10	SWCONF-09-51.0	Solid	09/16/20 11:10	09/16/20 16:20	
570-38551-11	SWCONF-09-57.0	Solid	09/16/20 11:30	09/16/20 16:20	
570-38551-12	SWCONF-09-57.5	Solid	09/16/20 11:32	09/16/20 16:20	
570-38551-13	SWCONF-09-60.0	Solid	09/16/20 11:45	09/16/20 16:20	
570-38551-14	SWCONF-09-64.0	Solid	09/16/20 11:50	09/16/20 16:20	
570-38551-15	SWCONF-09-69.0	Solid	09/16/20 11:58	09/16/20 16:20	





For courier service / sample drop off information, contact us26\_sales@eurofinsus.com or call us.

## CHAIN OF CUSTODY RECORD

DATE: 09-16-20  
PAGE: 2 OF 2

LABORATORY CLIENT: Terraphase Engineering, Inc.						CLIENT PROJECT NAME / NUMBER: PTI Southwest Soil Injection Confirmation / 0197.010.006								P.O. NO.:													
ADDRESS: 1404 Franklin Street Suite 600						PROJECT CONTACT: Chris Alger (Terraphase), Virendra Patel (ECI)								SAMPLER(S): (PRINT) <i>Clare Steedman West Skilling</i>													
CITY: Oakland		STATE: CA		ZIP: 94612																							
TEL: 510-645-1850 x58		E-MAIL: Chris.Alger@terraphase.com				REQUESTED ANALYSES																					
TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"): <input type="checkbox"/> SAME DAY <input checked="" type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input checked="" type="checkbox"/> 5 DAYS <input checked="" type="checkbox"/> STANDARD <i>Cy 9/16/20</i>										Soil Analyses						Water Analyses											
<input type="checkbox"/> COELT EDF		GLOBAL ID:				LOG CODE:		TEIO																			
SPECIAL INSTRUCTIONS: • Please provide results in generic EDD and ESData formats • Please email results to: Chris Alger, Clare Steedman, EDD@terraphase.com • Results in dry weight. • All analyses on 5-day TAT except CrVI 7196 on 24 hr TAT										Unpreserved		Preserved		Field Filtered													
LAB USE ONLY	SAMPLE ID	SAMPLING DATE TIME		MATRIX	NO. OF CONT.																						
						EPA 6010B Cd, Cr, Cu, Pb, As + Se	Cr(VI) ■ 7196 □ 7199 □ 218.6	pH 9045C	Moisture Content	PCBs (8082)						EPA 6010B Cd, Cr, Cu, Pb, As	Cr(VI) □ 7196 ■ 7199 □ 218.6	PCBs (8082)									
11	SWCONF-09-57.0	9-16-20	1130	S	1	X				X	X	X	X														
12	SWCONF-09-57.5	9-16-20	1132	S	1	X				X	X	X	X														
13	SWCONF-09-60.0	9-16-20	1145	S	1	X				X	X	X	X														
14	SWCONF-09-64.0	9-16-20	1150	S	1	X				X	X	X	X														
15	SWCONF-09-69.0	9-16-20	1158	S	1	X				X	X	X	X														
Relinquished by: (Signature) <i>[Signature]</i>						Received by: (Signature/Affiliation) <i>Dannyle B</i>						Date: <i>9/16/20</i>		Time: <i>1520</i>													
Relinquished by: (Signature)						Received by: (Signature/Affiliation)						Date:		Time:													
Relinquished by: (Signature)						Received by: (Signature/Affiliation)						Date:		Time:													



## Login Sample Receipt Checklist

Client: Terraphase Engineering Inc

Job Number: 570-38551-2

SDG Number: 0197.010.006

Login Number: 38551

List Number: 1

Creator: Patel, Jayesh

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

Eurofins Calscience LLC  
7440 Lincoln Way  
Garden Grove, CA 92841  
Tel: (714)895-5494

Laboratory Job ID: 570-39599-1

Client Project/Site: PTI Southwest Soil Injection Confirmation

For:

Terraphase Engineering Inc  
18401 Von Karman Ave  
Suite 410  
Irvine, California 92612

Attn: Clare Steedman

*Virendra R Patel*

Authorized for release by:  
10/5/2020 12:17:57 PM

Virendra Patel, Project Manager I  
(714)895-5494

[Virendra.Patel@eurofinset.com](mailto:Virendra.Patel@eurofinset.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

*The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-39599-1

### Qualifiers

#### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.
L	A negative instrument reading had an absolute value greater than the reporting limit

#### General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count



# Case Narrative

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-39599-1

**Job ID: 570-39599-1**

**Laboratory: Eurofins Calscience LLC**

## Narrative

### Job Narrative 570-39599-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 9/28/2020 5:22 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.0° C.

#### HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Metals

Method 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-98754 and analytical batch 570-99090 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 6010B: Due to the high concentration of Sulfur, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 570-98754 and analytical batch 570-99090 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 6010B: The absolute response for Cadmium was greater than the method reporting limit (RL) in the following sample: INJ04C-CONF-45.0 (570-39599-3).

The instrument raw data has been manually reviewed and the result can be reported as ND.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

Method 7196A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-98059 and analytical batch 570-98452 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-39599-1

## Client Sample ID: INJ04C-CONF-35.0

## Lab Sample ID: 570-39599-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.70		0.890	mg/Kg	1	✱	6010B	Total/NA
Chromium	31.2		0.297	mg/Kg	1	✱	6010B	Total/NA
Copper	41.6		0.593	mg/Kg	1	✱	6010B	Total/NA
Lead	4.00		0.593	mg/Kg	1	✱	6010B	Total/NA
Sulfur	922		5.93	mg/Kg	1	✱	6010B	Total/NA
pH	6.7		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: INJ04C-CONF-40.0

## Lab Sample ID: 570-39599-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	23.2		0.915	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.867		0.610	mg/Kg	1	✱	6010B	Total/NA
Chromium	42.6		0.305	mg/Kg	1	✱	6010B	Total/NA
Copper	59.1		0.610	mg/Kg	1	✱	6010B	Total/NA
Lead	7.53		0.610	mg/Kg	1	✱	6010B	Total/NA
Sulfur	1120		6.10	mg/Kg	1	✱	6010B	Total/NA
pH	7.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: INJ04C-CONF-45.0

## Lab Sample ID: 570-39599-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16.7		0.852	mg/Kg	1	✱	6010B	Total/NA
Chromium	371		0.284	mg/Kg	1	✱	6010B	Total/NA
Copper	16.1		0.568	mg/Kg	1	✱	6010B	Total/NA
Lead	13.6		0.568	mg/Kg	1	✱	6010B	Total/NA
Sulfur	3880		5.68	mg/Kg	1	✱	6010B	Total/NA
pH	7.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: EB01

## Lab Sample ID: 570-39599-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.200		0.0500	mg/L	1		6010B	Total/NA

This Detection Summary does not include radiochemical test results.

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## Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-39599-1

### Method: 7199 - Chromium, Hexavalent (IC)

Client Sample ID: EB01

Date Collected: 09/28/20 12:15

Date Received: 09/28/20 17:22

Lab Sample ID: 570-39599-4

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			09/28/20 18:10	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-39599-1

## Method: 6010B - Metals (ICP)

Client Sample ID: INJ04C-CONF-35.0

Date Collected: 09/28/20 10:40

Date Received: 09/28/20 17:22

Lab Sample ID: 570-39599-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.70		0.890	mg/Kg	☼	10/01/20 16:00	10/02/20 18:17	1
Cadmium	ND		0.593	mg/Kg	☼	10/01/20 16:00	10/02/20 18:17	1
Chromium	31.2		0.297	mg/Kg	☼	10/01/20 16:00	10/02/20 18:17	1
Copper	41.6		0.593	mg/Kg	☼	10/01/20 16:00	10/02/20 18:17	1
Lead	4.00		0.593	mg/Kg	☼	10/01/20 16:00	10/02/20 18:17	1
Sulfur	922		5.93	mg/Kg	☼	10/01/20 16:00	10/02/20 18:17	1

Client Sample ID: INJ04C-CONF-40.0

Date Collected: 09/28/20 10:50

Date Received: 09/28/20 17:22

Lab Sample ID: 570-39599-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	23.2		0.915	mg/Kg	☼	10/01/20 16:00	10/02/20 18:20	1
Cadmium	0.867		0.610	mg/Kg	☼	10/01/20 16:00	10/02/20 18:20	1
Chromium	42.6		0.305	mg/Kg	☼	10/01/20 16:00	10/02/20 18:20	1
Copper	59.1		0.610	mg/Kg	☼	10/01/20 16:00	10/02/20 18:20	1
Lead	7.53		0.610	mg/Kg	☼	10/01/20 16:00	10/02/20 18:20	1
Sulfur	1120		6.10	mg/Kg	☼	10/01/20 16:00	10/02/20 18:20	1

Client Sample ID: INJ04C-CONF-45.0

Date Collected: 09/28/20 11:00

Date Received: 09/28/20 17:22

Lab Sample ID: 570-39599-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16.7		0.852	mg/Kg	☼	10/01/20 16:00	10/02/20 18:30	1
Cadmium	ND	L	0.568	mg/Kg	☼	10/01/20 16:00	10/02/20 18:30	1
Chromium	371		0.284	mg/Kg	☼	10/01/20 16:00	10/02/20 18:30	1
Copper	16.1		0.568	mg/Kg	☼	10/01/20 16:00	10/02/20 18:30	1
Lead	13.6		0.568	mg/Kg	☼	10/01/20 16:00	10/02/20 18:30	1
Sulfur	3880		5.68	mg/Kg	☼	10/01/20 16:00	10/02/20 18:30	1

Client Sample ID: EB01

Date Collected: 09/28/20 12:15

Date Received: 09/28/20 17:22

Lab Sample ID: 570-39599-4

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L		10/01/20 08:55	10/02/20 23:37	1
Cadmium	ND		0.0100	mg/L		10/01/20 08:55	10/02/20 23:37	1
Chromium	ND		0.0500	mg/L		10/01/20 08:55	10/02/20 23:37	1
Copper	ND		0.0500	mg/L		10/01/20 08:55	10/02/20 23:37	1
Lead	0.200		0.0500	mg/L		10/01/20 08:55	10/02/20 23:37	1



# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-39599-1

## General Chemistry

Client Sample ID: INJ04C-CONF-35.0

Date Collected: 09/28/20 10:40

Date Received: 09/28/20 17:22

Lab Sample ID: 570-39599-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.963	mg/Kg	☆	09/29/20 14:00	09/30/20 17:33	1
pH	6.7		0.01	S.U.			09/28/20 19:00	1
Percent Moisture	16.9		0.1	%			10/01/20 11:57	1

Client Sample ID: INJ04C-CONF-40.0

Date Collected: 09/28/20 10:50

Date Received: 09/28/20 17:22

Lab Sample ID: 570-39599-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.00	mg/Kg	☆	09/29/20 14:00	09/30/20 17:34	1
pH	7.4		0.01	S.U.			09/28/20 19:00	1
Percent Moisture	20.5		0.1	%			10/01/20 11:57	1

Client Sample ID: INJ04C-CONF-45.0

Date Collected: 09/28/20 11:00

Date Received: 09/28/20 17:22

Lab Sample ID: 570-39599-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.936	mg/Kg	☆	09/29/20 14:00	09/30/20 17:35	1
pH	7.4		0.01	S.U.			09/28/20 19:00	1
Percent Moisture	14.5		0.1	%			10/01/20 11:57	1

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-39599-1

## Method: 7199 - Chromium, Hexavalent (IC)

Lab Sample ID: MB 570-97657/5

Matrix: Water

Analysis Batch: 97657

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			09/28/20 15:31	1

Lab Sample ID: LCS 570-97657/6

Matrix: Water

Analysis Batch: 97657

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.0501	0.04987		mg/L		100	80 - 120

Lab Sample ID: LCSD 570-97657/7

Matrix: Water

Analysis Batch: 97657

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	0.0501	0.04994		mg/L		100	80 - 120	0	20

Lab Sample ID: 160-39568-A-3 MS

Matrix: Water

Analysis Batch: 97657

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND		0.0501	0.05052		mg/L		101	70 - 130

Lab Sample ID: 160-39568-A-3 MSD

Matrix: Water

Analysis Batch: 97657

Client Sample ID: Matrix Spike Duplicate

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND		0.0501	0.05130		mg/L		103	70 - 130	2	25

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 570-98603/1-A

Matrix: Water

Analysis Batch: 99213

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 98603

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L		10/01/20 08:55	10/02/20 22:48	1
Cadmium	ND		0.0100	mg/L		10/01/20 08:55	10/02/20 22:48	1
Chromium	ND		0.0500	mg/L		10/01/20 08:55	10/02/20 22:48	1
Copper	ND		0.0500	mg/L		10/01/20 08:55	10/02/20 22:48	1
Lead	ND		0.0500	mg/L		10/01/20 08:55	10/02/20 22:48	1

Lab Sample ID: LCS 570-98603/2-A

Matrix: Water

Analysis Batch: 99213

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 98603

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.500	0.4294		mg/L		86	80 - 120
Cadmium	0.500	0.4797		mg/L		96	80 - 120

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-39599-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-98603/2-A

Matrix: Water

Analysis Batch: 99213

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 98603

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.500	0.4856		mg/L		97	80 - 120
Copper	0.500	0.5263		mg/L		105	80 - 120
Lead	0.500	0.4824		mg/L		96	80 - 120

Lab Sample ID: LCSD 570-98603/3-A

Matrix: Water

Analysis Batch: 99213

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 98603

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	0.500	0.4472		mg/L		89	80 - 120	4	20
Cadmium	0.500	0.4791		mg/L		96	80 - 120	0	20
Chromium	0.500	0.4855		mg/L		97	80 - 120	0	20
Copper	0.500	0.5269		mg/L		105	80 - 120	0	20
Lead	0.500	0.4869		mg/L		97	80 - 120	1	20

Lab Sample ID: 570-39598-B-3-B MS

Matrix: Water

Analysis Batch: 99283

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 98603

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		0.500	0.4153		mg/L		83	80 - 140
Cadmium	ND		0.500	0.4682		mg/L		93	82 - 124
Chromium	ND		0.500	0.4735		mg/L		95	86 - 122
Copper	ND		0.500	0.4544		mg/L		91	78 - 126
Lead	ND		0.500	0.4846		mg/L		90	84 - 120

Lab Sample ID: 570-39598-B-3-C MSD

Matrix: Water

Analysis Batch: 99283

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 98603

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	ND		0.500	0.4166		mg/L		83	80 - 140	0	11
Cadmium	ND		0.500	0.4393		mg/L		87	82 - 124	6	7
Chromium	ND		0.500	0.4495		mg/L		90	86 - 122	5	8
Copper	ND		0.500	0.4258		mg/L		85	78 - 126	7	7
Lead	ND		0.500	0.4556		mg/L		84	84 - 120	6	7

Lab Sample ID: MB 570-98754/1-A

Matrix: Solid

Analysis Batch: 99090

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 98754

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.758	mg/Kg		10/01/20 16:00	10/02/20 16:55	1
Cadmium	ND		0.505	mg/Kg		10/01/20 16:00	10/02/20 16:55	1
Chromium	ND		0.253	mg/Kg		10/01/20 16:00	10/02/20 16:55	1
Copper	ND		0.505	mg/Kg		10/01/20 16:00	10/02/20 16:55	1
Lead	ND		0.505	mg/Kg		10/01/20 16:00	10/02/20 16:55	1
Sulfur	ND		5.05	mg/Kg		10/01/20 16:00	10/02/20 16:55	1

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-39599-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-98754/2-A

Matrix: Solid

Analysis Batch: 99196

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 98754

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	25.0	22.22		mg/Kg		89	80 - 120
Cadmium	25.0	24.08		mg/Kg		96	80 - 120
Chromium	25.0	24.70		mg/Kg		99	80 - 120
Copper	25.0	25.75		mg/Kg		103	80 - 120
Lead	25.0	23.71		mg/Kg		95	80 - 120
Sulfur	25.0	29.15		mg/Kg		117	80 - 120

Lab Sample ID: LCSD 570-98754/3-A

Matrix: Solid

Analysis Batch: 99196

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 98754

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	24.9	22.48		mg/Kg		90	80 - 120	1	20
Cadmium	24.9	24.17		mg/Kg		97	80 - 120	0	20
Chromium	24.9	26.13		mg/Kg		105	80 - 120	6	20
Copper	24.9	25.99		mg/Kg		104	80 - 120	1	20
Lead	24.9	24.08		mg/Kg		97	80 - 120	2	20
Sulfur	24.9	25.14		mg/Kg		101	80 - 120	15	20

Lab Sample ID: 570-39594-E-22-B MS

Matrix: Solid

Analysis Batch: 99090

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 98754

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	6.91		25.1	30.14		mg/Kg		92	75 - 125
Cadmium	0.814		25.1	24.95		mg/Kg		96	75 - 125
Chromium	12.5		25.1	38.18		mg/Kg		102	75 - 125
Copper	26.2	F1	25.1	62.68	F1	mg/Kg		145	75 - 125
Lead	11.3		25.1	36.56		mg/Kg		100	75 - 125
Sulfur	163		25.1	235.1	4	mg/Kg		286	75 - 125

Lab Sample ID: 570-39594-E-22-C MSD

Matrix: Solid

Analysis Batch: 99090

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 98754

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	6.91		25.0	29.07		mg/Kg		89	75 - 125	4	20
Cadmium	0.814		25.0	25.26		mg/Kg		98	75 - 125	1	20
Chromium	12.5		25.0	37.62		mg/Kg		100	75 - 125	1	20
Copper	26.2	F1	25.0	56.24		mg/Kg		120	75 - 125	11	20
Lead	11.3		25.0	36.82		mg/Kg		102	75 - 125	1	20
Sulfur	163		25.0	211.9	4	mg/Kg		195	75 - 125	10	20



# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-39599-1

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 570-98059/1-A

Matrix: Solid

Analysis Batch: 98452

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 98059

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.797	mg/Kg		09/29/20 14:00	09/30/20 17:24	1

Lab Sample ID: LCS 570-98059/2-A

Matrix: Solid

Analysis Batch: 98452

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 98059

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	20.0	18.56		mg/Kg		93	78 - 120

Lab Sample ID: LCSD 570-98059/3-A

Matrix: Solid

Analysis Batch: 98452

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 98059

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	19.9	18.10		mg/Kg		91	78 - 120	3	20

Lab Sample ID: 570-39587-A-1-A MSI ^50

Matrix: Solid

Analysis Batch: 98452

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 98059

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	275	F1	965	1187		mg/Kg		95	75 - 125

Lab Sample ID: 570-39587-A-1-B MSID ^50

Matrix: Solid

Analysis Batch: 98452

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 98059

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	275	F1	980	1104		mg/Kg		85	75 - 125	7	25

Lab Sample ID: 570-39587-A-1-C MS ^50

Matrix: Solid

Analysis Batch: 98452

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 98059

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	275	F1	1010	341.5	F1	mg/Kg		7	75 - 125

Lab Sample ID: 570-39587-A-1-D MSD ^50

Matrix: Solid

Analysis Batch: 98452

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 98059

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	275	F1	1030	319.0	F1	mg/Kg		4	75 - 125	7	25

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-39599-1

## Method: 9045C - pH

Lab Sample ID: 570-39599-1 DU

Matrix: Solid

Analysis Batch: 98011

Client Sample ID: INJ04C-CONF-35.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
pH	6.7		6.7		S.U.		0.5	25

## Method: Moisture - Percent Moisture

Lab Sample ID: 570-39768-A-3 DU

Matrix: Solid

Analysis Batch: 98679

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Moisture	0.03		0.03		%		NC	10

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-39599-1

## HPLC/IC

### Analysis Batch: 97657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-39599-4	EB01	Total/NA	Water	7199	
MB 570-97657/5	Method Blank	Total/NA	Water	7199	
LCS 570-97657/6	Lab Control Sample	Total/NA	Water	7199	
LCSD 570-97657/7	Lab Control Sample Dup	Total/NA	Water	7199	
160-39568-A-3 MS	Matrix Spike	Dissolved	Water	7199	
160-39568-A-3 MSD	Matrix Spike Duplicate	Dissolved	Water	7199	

## Metals

### Prep Batch: 98603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-39599-4	EB01	Total/NA	Water	3010A	
MB 570-98603/1-A	Method Blank	Total/NA	Water	3010A	
LCS 570-98603/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 570-98603/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
570-39598-B-3-B MS	Matrix Spike	Total/NA	Water	3010A	
570-39598-B-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

### Prep Batch: 98754

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-39599-1	INJ04C-CONF-35.0	Total/NA	Solid	3050B	
570-39599-2	INJ04C-CONF-40.0	Total/NA	Solid	3050B	
570-39599-3	INJ04C-CONF-45.0	Total/NA	Solid	3050B	
MB 570-98754/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-98754/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-98754/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-39594-E-22-B MS	Matrix Spike	Total/NA	Solid	3050B	
570-39594-E-22-C MSD	Matrix Spike Duplicate	Total/NA	Solid	3050B	

### Analysis Batch: 99090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-39599-1	INJ04C-CONF-35.0	Total/NA	Solid	6010B	98754
570-39599-2	INJ04C-CONF-40.0	Total/NA	Solid	6010B	98754
570-39599-3	INJ04C-CONF-45.0	Total/NA	Solid	6010B	98754
MB 570-98754/1-A	Method Blank	Total/NA	Solid	6010B	98754
570-39594-E-22-B MS	Matrix Spike	Total/NA	Solid	6010B	98754
570-39594-E-22-C MSD	Matrix Spike Duplicate	Total/NA	Solid	6010B	98754

### Analysis Batch: 99196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-98754/2-A	Lab Control Sample	Total/NA	Solid	6010B	98754
LCSD 570-98754/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	98754

### Analysis Batch: 99213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-39599-4	EB01	Total/NA	Water	6010B	98603
MB 570-98603/1-A	Method Blank	Total/NA	Water	6010B	98603
LCS 570-98603/2-A	Lab Control Sample	Total/NA	Water	6010B	98603
LCSD 570-98603/3-A	Lab Control Sample Dup	Total/NA	Water	6010B	98603

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-39599-1

## Metals

### Analysis Batch: 99283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-39598-B-3-B MS	Matrix Spike	Total/NA	Water	6010B	98603
570-39598-B-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	6010B	98603

## General Chemistry

### Leach Batch: 98007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-39599-1	INJ04C-CONF-35.0	Total/NA	Solid	DI Leach	
570-39599-2	INJ04C-CONF-40.0	Total/NA	Solid	DI Leach	
570-39599-3	INJ04C-CONF-45.0	Total/NA	Solid	DI Leach	
570-39599-1 DU	INJ04C-CONF-35.0	Total/NA	Solid	DI Leach	

### Analysis Batch: 98011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-39599-1	INJ04C-CONF-35.0	Total/NA	Solid	9045C	98007
570-39599-2	INJ04C-CONF-40.0	Total/NA	Solid	9045C	98007
570-39599-3	INJ04C-CONF-45.0	Total/NA	Solid	9045C	98007
570-39599-1 DU	INJ04C-CONF-35.0	Total/NA	Solid	9045C	98007

### Prep Batch: 98059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-39599-1	INJ04C-CONF-35.0	Total/NA	Solid	3060A	
570-39599-2	INJ04C-CONF-40.0	Total/NA	Solid	3060A	
570-39599-3	INJ04C-CONF-45.0	Total/NA	Solid	3060A	
MB 570-98059/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-98059/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-98059/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-39587-A-1-A MSI ^50	Matrix Spike	Total/NA	Solid	3060A	
570-39587-A-1-B MSID ^50	Matrix Spike Duplicate	Total/NA	Solid	3060A	
570-39587-A-1-C MS ^50	Matrix Spike	Total/NA	Solid	3060A	
570-39587-A-1-D MSD ^50	Matrix Spike Duplicate	Total/NA	Solid	3060A	

### Analysis Batch: 98452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-39599-1	INJ04C-CONF-35.0	Total/NA	Solid	7196A	98059
570-39599-2	INJ04C-CONF-40.0	Total/NA	Solid	7196A	98059
570-39599-3	INJ04C-CONF-45.0	Total/NA	Solid	7196A	98059
MB 570-98059/1-A	Method Blank	Total/NA	Solid	7196A	98059
LCS 570-98059/2-A	Lab Control Sample	Total/NA	Solid	7196A	98059
LCSD 570-98059/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	98059
570-39587-A-1-A MSI ^50	Matrix Spike	Total/NA	Solid	7196A	98059
570-39587-A-1-B MSID ^50	Matrix Spike Duplicate	Total/NA	Solid	7196A	98059
570-39587-A-1-C MS ^50	Matrix Spike	Total/NA	Solid	7196A	98059
570-39587-A-1-D MSD ^50	Matrix Spike Duplicate	Total/NA	Solid	7196A	98059

### Analysis Batch: 98679

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-39599-1	INJ04C-CONF-35.0	Total/NA	Solid	Moisture	
570-39599-2	INJ04C-CONF-40.0	Total/NA	Solid	Moisture	
570-39599-3	INJ04C-CONF-45.0	Total/NA	Solid	Moisture	
570-39768-A-3 DU	Duplicate	Total/NA	Solid	Moisture	

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# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-39599-1

**Client Sample ID: INJ04C-CONF-35.0**

**Lab Sample ID: 570-39599-1**

**Date Collected: 09/28/20 10:40**

**Matrix: Solid**

**Date Received: 09/28/20 17:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	98754	10/01/20 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			99090	10/02/20 18:17	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	98059	09/29/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	98452	09/30/20 17:33	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	98007	09/28/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	98011	09/28/20 19:00	Y3IH	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			98679	10/01/20 11:57	WN6Y	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: INJ04C-CONF-40.0**

**Lab Sample ID: 570-39599-2**

**Date Collected: 09/28/20 10:50**

**Matrix: Solid**

**Date Received: 09/28/20 17:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.06 g	100 mL	98754	10/01/20 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			99090	10/02/20 18:20	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	98059	09/29/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	98452	09/30/20 17:34	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	98007	09/28/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	98011	09/28/20 19:00	Y3IH	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			98679	10/01/20 11:57	WN6Y	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: INJ04C-CONF-45.0**

**Lab Sample ID: 570-39599-3**

**Date Collected: 09/28/20 11:00**

**Matrix: Solid**

**Date Received: 09/28/20 17:22**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.06 g	100 mL	98754	10/01/20 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			99090	10/02/20 18:30	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	98059	09/29/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	98452	09/30/20 17:35	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.05 g	20 mL	98007	09/28/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	98011	09/28/20 19:00	Y3IH	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			98679	10/01/20 11:57	WN6Y	ECL 1
Instrument ID: NOEQUIP										

Eurofins Calscience LLC

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-39599-1

**Client Sample ID: EB01**

**Date Collected: 09/28/20 12:15**

**Date Received: 09/28/20 17:22**

**Lab Sample ID: 570-39599-4**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7199		1			97657	09/28/20 18:10	URMH	ECL 1
		Instrument ID: IC11								
Total/NA	Prep	3010A			50 mL	50 mL	98603	10/01/20 08:55	WL8G	ECL 1
Total/NA	Analysis	6010B		1			99213	10/02/20 23:37	OYW3	ECL 1
		Instrument ID: ICP8								

## Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

## Accreditation/Certification Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-39599-1

### Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-21
California	SCAQMD LAP	17LA0919	11-30-20
California	State	2944	09-30-21
Guam	State	20-003R	10-31-20
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-29-21
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-20

## Method Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-39599-1

Method	Method Description	Protocol	Laboratory
7199	Chromium, Hexavalent (IC)	SW846	ECL 1
6010B	Metals (ICP)	SW846	ECL 1
7196A	Chromium, Hexavalent	SW846	ECL 1
9045C	pH	SW846	ECL 1
Moisture	Percent Moisture	EPA	ECL 1
3010A	Preparation, Total Metals	SW846	ECL 1
3050B	Preparation, Metals	SW846	ECL 1
3060A	Alkaline Digestion (Chromium, Hexavalent)	SW846	ECL 1
DI Leach	Deionized Water Leaching Procedure	ASTM	ECL 1

### Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494



## Sample Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-39599-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-39599-1	INJ04C-CONF-35.0	Solid	09/28/20 10:40	09/28/20 17:22	
570-39599-2	INJ04C-CONF-40.0	Solid	09/28/20 10:50	09/28/20 17:22	
570-39599-3	INJ04C-CONF-45.0	Solid	09/28/20 11:00	09/28/20 17:22	
570-39599-4	EB01	Water	09/28/20 12:15	09/28/20 17:22	



## Login Sample Receipt Checklist

Client: Terraphase Engineering Inc

Job Number: 570-39599-1

**Login Number: 39599**

**List Source: Eurofins Calscience**

**List Number: 1**

**Creator: Le, Danny**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

Eurofins Calscience LLC  
7440 Lincoln Way  
Garden Grove, CA 92841  
Tel: (714)895-5494

Laboratory Job ID: 570-40133-1

Client Project/Site: PTI Southwest Soil Injection Confirmation

For:

Terraphase Engineering Inc  
18401 Von Karman Ave  
Suite 410  
Irvine, California 92612

Attn: Chris Alger

*Virendra R Patel*

Authorized for release by:  
10/9/2020 4:06:46 PM

Virendra Patel, Project Manager I  
(714)895-5494

[Virendra.Patel@eurofinset.com](mailto:Virendra.Patel@eurofinset.com)

### LINKS

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*The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



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## Definitions/Glossary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40133-1

### Qualifiers

#### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

## Case Narrative

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40133-1

**Job ID: 570-40133-1**

**Laboratory: Eurofins Calscience LLC**

### Narrative

#### Job Narrative 570-40133-1

### Comments

No additional comments.

### Receipt

The samples were received on 10/5/2020 4:50 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.3° C.

### HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### Metals

Method 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-100476 and analytical batch 570-100682 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 6010B: Due to the high concentration of Sulfur, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 570-100476 and analytical batch 570-100682 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40133-1

## Client Sample ID: INJS-4C-CONF-40.0

## Lab Sample ID: 570-40133-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	32.3	F1	0.977	mg/Kg	1	✖	6010B	Total/NA
Cadmium	1.45		0.651	mg/Kg	1	✖	6010B	Total/NA
Chromium	41.6		0.326	mg/Kg	1	✖	6010B	Total/NA
Copper	56.7		0.651	mg/Kg	1	✖	6010B	Total/NA
Lead	7.90		0.651	mg/Kg	1	✖	6010B	Total/NA
Sulfur	4150		6.51	mg/Kg	1	✖	6010B	Total/NA
pH	9.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: INJS-4C-CONF-45.0

## Lab Sample ID: 570-40133-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	36.8		1.01	mg/Kg	1	✖	6010B	Total/NA
Cadmium	0.696		0.670	mg/Kg	1	✖	6010B	Total/NA
Chromium	60.7		0.335	mg/Kg	1	✖	6010B	Total/NA
Copper	91.3		0.670	mg/Kg	1	✖	6010B	Total/NA
Lead	12.1		0.670	mg/Kg	1	✖	6010B	Total/NA
Sulfur	3860		6.70	mg/Kg	1	✖	6010B	Total/NA
pH	9.3		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: INJS-4C-CONF-50.0

## Lab Sample ID: 570-40133-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.89		0.852	mg/Kg	1	✖	6010B	Total/NA
Chromium	38.1		0.284	mg/Kg	1	✖	6010B	Total/NA
Copper	32.8		0.568	mg/Kg	1	✖	6010B	Total/NA
Lead	3.74		0.568	mg/Kg	1	✖	6010B	Total/NA
Sulfur	3040		5.68	mg/Kg	1	✖	6010B	Total/NA
pH	10.0		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: INJS-4C-CONF-55.0

## Lab Sample ID: 570-40133-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.36		0.877	mg/Kg	1	✖	6010B	Total/NA
Chromium	26.6		0.292	mg/Kg	1	✖	6010B	Total/NA
Copper	21.8		0.585	mg/Kg	1	✖	6010B	Total/NA
Lead	2.00		0.585	mg/Kg	1	✖	6010B	Total/NA
Sulfur	1850		5.85	mg/Kg	1	✖	6010B	Total/NA
pH	9.7		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: INJS-4C-CONF-60.0

## Lab Sample ID: 570-40133-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.00		0.794	mg/Kg	1	✖	6010B	Total/NA
Cadmium	1.86		0.529	mg/Kg	1	✖	6010B	Total/NA
Chromium	39.4		0.265	mg/Kg	1	✖	6010B	Total/NA
Copper	9.68		0.529	mg/Kg	1	✖	6010B	Total/NA
Lead	1.15		0.529	mg/Kg	1	✖	6010B	Total/NA
Sulfur	202		5.29	mg/Kg	1	✖	6010B	Total/NA
Cr (VI)	1.28		0.842	mg/Kg	1	✖	7196A	Total/NA
pH	9.4		0.01	S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC



## Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40133-1

**Client Sample ID: INJS-4C-CONF-65.0**

**Lab Sample ID: 570-40133-6**

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.69		0.808	mg/Kg	1	✱	6010B	Total/NA
Chromium	15.1		0.269	mg/Kg	1	✱	6010B	Total/NA
Copper	15.1		0.539	mg/Kg	1	✱	6010B	Total/NA
Lead	1.99		0.539	mg/Kg	1	✱	6010B	Total/NA
Sulfur	101		5.39	mg/Kg	1	✱	6010B	Total/NA
pH	6.9		0.01	S.U.	1		9045C	Total/NA

**Client Sample ID: EB02**

**Lab Sample ID: 570-40133-7**

No Detections.

This Detection Summary does not include radiochemical test results.

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## Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40133-1

### Method: 7199 - Chromium, Hexavalent (IC)

Client Sample ID: EB02

Date Collected: 10/05/20 16:00

Date Received: 10/05/20 16:50

Lab Sample ID: 570-40133-7

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			10/05/20 19:41	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40133-1

## Method: 6010B - Metals (ICP)

Client Sample ID: INJS-4C-CONF-40.0

Date Collected: 10/05/20 11:55

Date Received: 10/05/20 16:50

Lab Sample ID: 570-40133-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	32.3	F1	0.977	mg/Kg	✱	10/08/20 17:00	10/09/20 01:11	1
Cadmium	1.45		0.651	mg/Kg	✱	10/08/20 17:00	10/09/20 01:11	1
Chromium	41.6		0.326	mg/Kg	✱	10/08/20 17:00	10/09/20 01:11	1
Copper	56.7		0.651	mg/Kg	✱	10/08/20 17:00	10/09/20 01:11	1
Lead	7.90		0.651	mg/Kg	✱	10/08/20 17:00	10/09/20 01:11	1
Sulfur	4150		6.51	mg/Kg	✱	10/08/20 17:00	10/09/20 01:11	1

Client Sample ID: INJS-4C-CONF-45.0

Date Collected: 10/05/20 12:11

Date Received: 10/05/20 16:50

Lab Sample ID: 570-40133-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	36.8		1.01	mg/Kg	✱	10/08/20 17:00	10/09/20 01:17	1
Cadmium	0.696		0.670	mg/Kg	✱	10/08/20 17:00	10/09/20 01:17	1
Chromium	60.7		0.335	mg/Kg	✱	10/08/20 17:00	10/09/20 01:17	1
Copper	91.3		0.670	mg/Kg	✱	10/08/20 17:00	10/09/20 01:17	1
Lead	12.1		0.670	mg/Kg	✱	10/08/20 17:00	10/09/20 01:17	1
Sulfur	3860		6.70	mg/Kg	✱	10/08/20 17:00	10/09/20 01:17	1

Client Sample ID: INJS-4C-CONF-50.0

Date Collected: 10/05/20 12:22

Date Received: 10/05/20 16:50

Lab Sample ID: 570-40133-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.89		0.852	mg/Kg	✱	10/08/20 17:00	10/09/20 01:19	1
Cadmium	ND		0.568	mg/Kg	✱	10/08/20 17:00	10/09/20 01:19	1
Chromium	38.1		0.284	mg/Kg	✱	10/08/20 17:00	10/09/20 01:19	1
Copper	32.8		0.568	mg/Kg	✱	10/08/20 17:00	10/09/20 01:19	1
Lead	3.74		0.568	mg/Kg	✱	10/08/20 17:00	10/09/20 01:19	1
Sulfur	3040		5.68	mg/Kg	✱	10/08/20 17:00	10/09/20 01:19	1

Client Sample ID: INJS-4C-CONF-55.0

Date Collected: 10/05/20 13:15

Date Received: 10/05/20 16:50

Lab Sample ID: 570-40133-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.36		0.877	mg/Kg	✱	10/08/20 17:00	10/09/20 01:21	1
Cadmium	ND		0.585	mg/Kg	✱	10/08/20 17:00	10/09/20 01:21	1
Chromium	26.6		0.292	mg/Kg	✱	10/08/20 17:00	10/09/20 01:21	1
Copper	21.8		0.585	mg/Kg	✱	10/08/20 17:00	10/09/20 01:21	1
Lead	2.00		0.585	mg/Kg	✱	10/08/20 17:00	10/09/20 01:21	1
Sulfur	1850		5.85	mg/Kg	✱	10/08/20 17:00	10/09/20 01:21	1

Client Sample ID: INJS-4C-CONF-60.0

Date Collected: 10/05/20 13:25

Date Received: 10/05/20 16:50

Lab Sample ID: 570-40133-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.00		0.794	mg/Kg	✱	10/08/20 17:00	10/09/20 01:23	1
Cadmium	1.86		0.529	mg/Kg	✱	10/08/20 17:00	10/09/20 01:23	1
Chromium	39.4		0.265	mg/Kg	✱	10/08/20 17:00	10/09/20 01:23	1
Copper	9.68		0.529	mg/Kg	✱	10/08/20 17:00	10/09/20 01:23	1
Lead	1.15		0.529	mg/Kg	✱	10/08/20 17:00	10/09/20 01:23	1
Sulfur	202		5.29	mg/Kg	✱	10/08/20 17:00	10/09/20 01:23	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40133-1

## Method: 6010B - Metals (ICP)

Client Sample ID: INJS-4C-CONF-65.0

Date Collected: 10/05/20 13:45

Date Received: 10/05/20 16:50

Lab Sample ID: 570-40133-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.69		0.808	mg/Kg	☼	10/08/20 17:00	10/09/20 01:25	1
Cadmium	ND		0.539	mg/Kg	☼	10/08/20 17:00	10/09/20 01:25	1
Chromium	15.1		0.269	mg/Kg	☼	10/08/20 17:00	10/09/20 01:25	1
Copper	15.1		0.539	mg/Kg	☼	10/08/20 17:00	10/09/20 01:25	1
Lead	1.99		0.539	mg/Kg	☼	10/08/20 17:00	10/09/20 01:25	1
Sulfur	101		5.39	mg/Kg	☼	10/08/20 17:00	10/09/20 01:25	1

Client Sample ID: EB02

Date Collected: 10/05/20 16:00

Date Received: 10/05/20 16:50

Lab Sample ID: 570-40133-7

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L		10/08/20 08:55	10/08/20 22:17	1
Cadmium	ND		0.0100	mg/L		10/08/20 08:55	10/08/20 22:17	1
Chromium	ND		0.0500	mg/L		10/08/20 08:55	10/08/20 22:17	1
Copper	ND		0.0500	mg/L		10/08/20 08:55	10/08/20 22:17	1
Lead	ND		0.0500	mg/L		10/08/20 08:55	10/08/20 22:17	1



# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40133-1

## General Chemistry

Client Sample ID: INJS-4C-CONF-40.0

Date Collected: 10/05/20 11:55

Date Received: 10/05/20 16:50

Lab Sample ID: 570-40133-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.03	mg/Kg	☆	10/06/20 14:00	10/07/20 12:42	1
pH	9.5		0.01	S.U.			10/06/20 21:30	1
Percent Moisture	22.4		0.1	%			10/07/20 12:26	1

Client Sample ID: INJS-4C-CONF-45.0

Date Collected: 10/05/20 12:11

Date Received: 10/05/20 16:50

Lab Sample ID: 570-40133-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.08	mg/Kg	☆	10/06/20 14:00	10/07/20 12:43	1
pH	9.3		0.01	S.U.			10/06/20 21:30	1
Percent Moisture	26.5		0.1	%			10/07/20 12:26	1

Client Sample ID: INJS-4C-CONF-50.0

Date Collected: 10/05/20 12:22

Date Received: 10/05/20 16:50

Lab Sample ID: 570-40133-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.937	mg/Kg	☆	10/06/20 14:00	10/07/20 12:44	1
pH	10.0		0.01	S.U.			10/06/20 21:30	1
Percent Moisture	14.9		0.1	%			10/07/20 12:26	1

Client Sample ID: INJS-4C-CONF-55.0

Date Collected: 10/05/20 13:15

Date Received: 10/05/20 16:50

Lab Sample ID: 570-40133-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.954	mg/Kg	☆	10/06/20 14:00	10/07/20 12:45	1
pH	9.7		0.01	S.U.			10/06/20 21:30	1
Percent Moisture	16.1		0.1	%			10/07/20 12:26	1

Client Sample ID: INJS-4C-CONF-60.0

Date Collected: 10/05/20 13:25

Date Received: 10/05/20 16:50

Lab Sample ID: 570-40133-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	1.28		0.842	mg/Kg	☆	10/06/20 14:00	10/07/20 12:46	1
pH	9.4		0.01	S.U.			10/06/20 21:30	1
Percent Moisture	4.6		0.1	%			10/07/20 12:26	1

Client Sample ID: INJS-4C-CONF-65.0

Date Collected: 10/05/20 13:45

Date Received: 10/05/20 16:50

Lab Sample ID: 570-40133-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.876	mg/Kg	☆	10/06/20 14:00	10/07/20 12:47	1
pH	6.9		0.01	S.U.			10/06/20 21:30	1
Percent Moisture	9.0		0.1	%			10/07/20 12:26	1

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40133-1

## Method: 7199 - Chromium, Hexavalent (IC)

Lab Sample ID: MB 570-99399/5

Matrix: Water

Analysis Batch: 99399

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			10/05/20 10:43	1

Lab Sample ID: LCS 570-99399/6

Matrix: Water

Analysis Batch: 99399

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.0501	0.04999		mg/L		100	80 - 120

Lab Sample ID: LCSD 570-99399/7

Matrix: Water

Analysis Batch: 99399

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	0.0501	0.04951		mg/L		99	80 - 120	1	20

Lab Sample ID: 570-40133-7 MS

Matrix: Water

Analysis Batch: 99399

Client Sample ID: EB02

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND		0.0501	0.05133		mg/L		103	70 - 130

Lab Sample ID: 570-40133-7 MSD

Matrix: Water

Analysis Batch: 99399

Client Sample ID: EB02

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND		0.0501	0.05133		mg/L		103	70 - 130	0	25

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 570-100317/1-A

Matrix: Water

Analysis Batch: 100669

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 100317

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L		10/08/20 08:55	10/08/20 21:51	1
Cadmium	ND		0.0100	mg/L		10/08/20 08:55	10/08/20 21:51	1
Chromium	ND		0.0500	mg/L		10/08/20 08:55	10/08/20 21:51	1
Copper	ND		0.0500	mg/L		10/08/20 08:55	10/08/20 21:51	1
Lead	ND		0.0500	mg/L		10/08/20 08:55	10/08/20 21:51	1

Lab Sample ID: LCS 570-100317/2-A

Matrix: Water

Analysis Batch: 100669

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 100317

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.500	0.5078		mg/L		102	80 - 120
Cadmium	0.500	0.5379		mg/L		108	80 - 120

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40133-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-100317/2-A

Matrix: Water

Analysis Batch: 100669

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 100317

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.500	0.5368		mg/L		107	80 - 120
Copper	0.500	0.5224		mg/L		104	80 - 120
Lead	0.500	0.5518		mg/L		110	80 - 120

Lab Sample ID: LCSD 570-100317/3-A

Matrix: Water

Analysis Batch: 100669

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 100317

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	0.500	0.5329		mg/L		107	80 - 120	5	20
Cadmium	0.500	0.5450		mg/L		109	80 - 120	1	20
Chromium	0.500	0.5369		mg/L		107	80 - 120	0	20
Copper	0.500	0.5180		mg/L		104	80 - 120	1	20
Lead	0.500	0.5571		mg/L		111	80 - 120	1	20

Lab Sample ID: 570-39530-B-1-B MS

Matrix: Water

Analysis Batch: 100669

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 100317

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		0.500	0.5198		mg/L		104	80 - 140
Cadmium	ND		0.500	0.5821		mg/L		116	82 - 124
Chromium	ND		0.500	0.5641		mg/L		113	86 - 122
Copper	0.0819		0.500	0.6319		mg/L		110	78 - 126
Lead	ND		0.500	0.6023		mg/L		114	84 - 120

Lab Sample ID: 570-39530-B-1-C MSD

Matrix: Water

Analysis Batch: 100669

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 100317

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	ND		0.500	0.5034		mg/L		101	80 - 140	3	11
Cadmium	ND		0.500	0.5755		mg/L		115	82 - 124	1	7
Chromium	ND		0.500	0.5608		mg/L		112	86 - 122	1	8
Copper	0.0819		0.500	0.6297		mg/L		110	78 - 126	0	7
Lead	ND		0.500	0.6006		mg/L		113	84 - 120	0	7

Lab Sample ID: MB 570-100476/1-A

Matrix: Solid

Analysis Batch: 100682

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 100476

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.743	mg/Kg		10/08/20 17:00	10/09/20 00:53	1
Cadmium	ND		0.495	mg/Kg		10/08/20 17:00	10/09/20 00:53	1
Chromium	ND		0.248	mg/Kg		10/08/20 17:00	10/09/20 00:53	1
Copper	ND		0.495	mg/Kg		10/08/20 17:00	10/09/20 00:53	1
Lead	ND		0.495	mg/Kg		10/08/20 17:00	10/09/20 00:53	1
Sulfur	ND		4.95	mg/Kg		10/08/20 17:00	10/09/20 00:53	1

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40133-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-100476/2-A

Matrix: Solid

Analysis Batch: 100682

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 100476

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	25.0	24.62		mg/Kg		98	80 - 120
Cadmium	25.0	26.82		mg/Kg		107	80 - 120
Chromium	25.0	26.78		mg/Kg		107	80 - 120
Copper	25.0	27.03		mg/Kg		108	80 - 120
Lead	25.0	27.22		mg/Kg		109	80 - 120
Sulfur	25.0	25.59		mg/Kg		102	80 - 120

Lab Sample ID: LCSD 570-100476/3-A

Matrix: Solid

Analysis Batch: 100682

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 100476

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	24.8	25.04		mg/Kg		101	80 - 120	2	20
Cadmium	24.8	26.48		mg/Kg		107	80 - 120	1	20
Chromium	24.8	26.60		mg/Kg		107	80 - 120	1	20
Copper	24.8	26.86		mg/Kg		109	80 - 120	1	20
Lead	24.8	26.67		mg/Kg		108	80 - 120	2	20
Sulfur	24.8	25.11		mg/Kg		101	80 - 120	2	20

Lab Sample ID: 570-40133-1 MS

Matrix: Solid

Analysis Batch: 100682

Client Sample ID: INJS-4C-CONF-40.0

Prep Type: Total/NA

Prep Batch: 100476

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	32.3	F1	32.4	62.55		mg/Kg	✱	93	75 - 125
Cadmium	1.45		32.4	32.62		mg/Kg	✱	96	75 - 125
Chromium	41.6		32.4	74.55		mg/Kg	✱	102	75 - 125
Copper	56.7		32.4	95.24		mg/Kg	✱	119	75 - 125
Lead	7.90		32.4	37.73		mg/Kg	✱	92	75 - 125
Sulfur	4150		32.4	3783	4	mg/Kg	✱	-1132	75 - 125

Lab Sample ID: 570-40133-1 MSD

Matrix: Solid

Analysis Batch: 100682

Client Sample ID: INJS-4C-CONF-40.0

Prep Type: Total/NA

Prep Batch: 100476

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	32.3	F1	31.9	72.63	F1	mg/Kg	✱	126	75 - 125	15	20
Cadmium	1.45		31.9	33.22		mg/Kg	✱	100	75 - 125	2	20
Chromium	41.6		31.9	73.05		mg/Kg	✱	99	75 - 125	2	20
Copper	56.7		31.9	93.15		mg/Kg	✱	114	75 - 125	2	20
Lead	7.90		31.9	40.86		mg/Kg	✱	103	75 - 125	8	20
Sulfur	4150		31.9	4162	4	mg/Kg	✱	37	75 - 125	10	20



# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40133-1

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 570-99805/1-A  
Matrix: Solid  
Analysis Batch: 100086

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 99805

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.794	mg/Kg		10/06/20 14:00	10/07/20 12:35	1

Lab Sample ID: LCS 570-99805/2-A  
Matrix: Solid  
Analysis Batch: 100086

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 99805

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	19.8	16.77		mg/Kg		85	78 - 120

Lab Sample ID: LCSD 570-99805/3-A  
Matrix: Solid  
Analysis Batch: 100086

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 99805

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	20.0	16.47		mg/Kg		82	78 - 120	2	20

Lab Sample ID: 570-40133-5 MS  
Matrix: Solid  
Analysis Batch: 100086

Client Sample ID: INJS-4C-CONF-60.0  
Prep Type: Total/NA  
Prep Batch: 99805

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	1.28		20.7	18.82		mg/Kg	✱	85	75 - 125

Lab Sample ID: 570-40133-5 MSD  
Matrix: Solid  
Analysis Batch: 100086

Client Sample ID: INJS-4C-CONF-60.0  
Prep Type: Total/NA  
Prep Batch: 99805

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	1.28		21.0	18.86		mg/Kg	✱	84	75 - 125	0	25

Lab Sample ID: 570-40133-5 MSI  
Matrix: Solid  
Analysis Batch: 100086

Client Sample ID: INJS-4C-CONF-60.0  
Prep Type: Total/NA  
Prep Batch: 99805

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	1.28		1020	769.3		mg/Kg	✱	75	75 - 125

Lab Sample ID: 570-40133-5 MSID  
Matrix: Solid  
Analysis Batch: 100086

Client Sample ID: INJS-4C-CONF-60.0  
Prep Type: Total/NA  
Prep Batch: 99805

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	1.28		1020	781.8		mg/Kg	✱	77	75 - 125	2	25

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40133-1

## Method: 9045C - pH

Lab Sample ID: 570-40133-1 DU

Matrix: Solid

Analysis Batch: 100155

Client Sample ID: INJS-4C-CONF-40.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	9.5		9.5		S.U.		0	25

Lab Sample ID: 570-40133-4 DU

Matrix: Solid

Analysis Batch: 100155

Client Sample ID: INJS-4C-CONF-55.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	9.7		9.7		S.U.		0.1	25

## Method: Moisture - Percent Moisture

Lab Sample ID: 570-40133-6 DU

Matrix: Solid

Analysis Batch: 100078

Client Sample ID: INJS-4C-CONF-65.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	9.0		8.9		%		2	10

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40133-1

## HPLC/IC

### Analysis Batch: 99399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40133-7	EB02	Total/NA	Water	7199	
MB 570-99399/5	Method Blank	Total/NA	Water	7199	
LCS 570-99399/6	Lab Control Sample	Total/NA	Water	7199	
LCSD 570-99399/7	Lab Control Sample Dup	Total/NA	Water	7199	
570-40133-7 MS	EB02	Total/NA	Water	7199	
570-40133-7 MSD	EB02	Total/NA	Water	7199	

## Metals

### Prep Batch: 100317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40133-7	EB02	Total/NA	Water	3010A	
MB 570-100317/1-A	Method Blank	Total/NA	Water	3010A	
LCS 570-100317/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 570-100317/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
570-39530-B-1-B MS	Matrix Spike	Total/NA	Water	3010A	
570-39530-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

### Prep Batch: 100476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40133-1	INJS-4C-CONF-40.0	Total/NA	Solid	3050B	
570-40133-2	INJS-4C-CONF-45.0	Total/NA	Solid	3050B	
570-40133-3	INJS-4C-CONF-50.0	Total/NA	Solid	3050B	
570-40133-4	INJS-4C-CONF-55.0	Total/NA	Solid	3050B	
570-40133-5	INJS-4C-CONF-60.0	Total/NA	Solid	3050B	
570-40133-6	INJS-4C-CONF-65.0	Total/NA	Solid	3050B	
MB 570-100476/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-100476/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-100476/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-40133-1 MS	INJS-4C-CONF-40.0	Total/NA	Solid	3050B	
570-40133-1 MSD	INJS-4C-CONF-40.0	Total/NA	Solid	3050B	

### Analysis Batch: 100669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40133-7	EB02	Total/NA	Water	6010B	100317
MB 570-100317/1-A	Method Blank	Total/NA	Water	6010B	100317
LCS 570-100317/2-A	Lab Control Sample	Total/NA	Water	6010B	100317
LCSD 570-100317/3-A	Lab Control Sample Dup	Total/NA	Water	6010B	100317
570-39530-B-1-B MS	Matrix Spike	Total/NA	Water	6010B	100317
570-39530-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	6010B	100317

### Analysis Batch: 100682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40133-1	INJS-4C-CONF-40.0	Total/NA	Solid	6010B	100476
570-40133-2	INJS-4C-CONF-45.0	Total/NA	Solid	6010B	100476
570-40133-3	INJS-4C-CONF-50.0	Total/NA	Solid	6010B	100476
570-40133-4	INJS-4C-CONF-55.0	Total/NA	Solid	6010B	100476
570-40133-5	INJS-4C-CONF-60.0	Total/NA	Solid	6010B	100476
570-40133-6	INJS-4C-CONF-65.0	Total/NA	Solid	6010B	100476
MB 570-100476/1-A	Method Blank	Total/NA	Solid	6010B	100476
LCS 570-100476/2-A	Lab Control Sample	Total/NA	Solid	6010B	100476

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40133-1

## Metals (Continued)

### Analysis Batch: 100682 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 570-100476/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	100476
570-40133-1 MS	INJS-4C-CONF-40.0	Total/NA	Solid	6010B	100476
570-40133-1 MSD	INJS-4C-CONF-40.0	Total/NA	Solid	6010B	100476

## General Chemistry

### Prep Batch: 99805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40133-1	INJS-4C-CONF-40.0	Total/NA	Solid	3060A	
570-40133-2	INJS-4C-CONF-45.0	Total/NA	Solid	3060A	
570-40133-3	INJS-4C-CONF-50.0	Total/NA	Solid	3060A	
570-40133-4	INJS-4C-CONF-55.0	Total/NA	Solid	3060A	
570-40133-5	INJS-4C-CONF-60.0	Total/NA	Solid	3060A	
570-40133-6	INJS-4C-CONF-65.0	Total/NA	Solid	3060A	
MB 570-99805/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-99805/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-99805/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-40133-5 MS	INJS-4C-CONF-60.0	Total/NA	Solid	3060A	
570-40133-5 MSD	INJS-4C-CONF-60.0	Total/NA	Solid	3060A	
570-40133-5 MSI	INJS-4C-CONF-60.0	Total/NA	Solid	3060A	
570-40133-5 MSID	INJS-4C-CONF-60.0	Total/NA	Solid	3060A	

### Leach Batch: 99930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40133-1	INJS-4C-CONF-40.0	Total/NA	Solid	DI Leach	
570-40133-2	INJS-4C-CONF-45.0	Total/NA	Solid	DI Leach	
570-40133-3	INJS-4C-CONF-50.0	Total/NA	Solid	DI Leach	
570-40133-4	INJS-4C-CONF-55.0	Total/NA	Solid	DI Leach	
570-40133-5	INJS-4C-CONF-60.0	Total/NA	Solid	DI Leach	
570-40133-6	INJS-4C-CONF-65.0	Total/NA	Solid	DI Leach	
570-40133-1 DU	INJS-4C-CONF-40.0	Total/NA	Solid	DI Leach	
570-40133-4 DU	INJS-4C-CONF-55.0	Total/NA	Solid	DI Leach	

### Analysis Batch: 100078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40133-1	INJS-4C-CONF-40.0	Total/NA	Solid	Moisture	
570-40133-2	INJS-4C-CONF-45.0	Total/NA	Solid	Moisture	
570-40133-3	INJS-4C-CONF-50.0	Total/NA	Solid	Moisture	
570-40133-4	INJS-4C-CONF-55.0	Total/NA	Solid	Moisture	
570-40133-5	INJS-4C-CONF-60.0	Total/NA	Solid	Moisture	
570-40133-6	INJS-4C-CONF-65.0	Total/NA	Solid	Moisture	
570-40133-6 DU	INJS-4C-CONF-65.0	Total/NA	Solid	Moisture	

### Analysis Batch: 100086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40133-1	INJS-4C-CONF-40.0	Total/NA	Solid	7196A	99805
570-40133-2	INJS-4C-CONF-45.0	Total/NA	Solid	7196A	99805
570-40133-3	INJS-4C-CONF-50.0	Total/NA	Solid	7196A	99805
570-40133-4	INJS-4C-CONF-55.0	Total/NA	Solid	7196A	99805
570-40133-5	INJS-4C-CONF-60.0	Total/NA	Solid	7196A	99805
570-40133-6	INJS-4C-CONF-65.0	Total/NA	Solid	7196A	99805

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40133-1

## General Chemistry (Continued)

### Analysis Batch: 100086 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-99805/1-A	Method Blank	Total/NA	Solid	7196A	99805
LCS 570-99805/2-A	Lab Control Sample	Total/NA	Solid	7196A	99805
LCSD 570-99805/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	99805
570-40133-5 MS	INJS-4C-CONF-60.0	Total/NA	Solid	7196A	99805
570-40133-5 MSD	INJS-4C-CONF-60.0	Total/NA	Solid	7196A	99805
570-40133-5 MSI	INJS-4C-CONF-60.0	Total/NA	Solid	7196A	99805
570-40133-5 MSID	INJS-4C-CONF-60.0	Total/NA	Solid	7196A	99805

### Analysis Batch: 100155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40133-1	INJS-4C-CONF-40.0	Total/NA	Solid	9045C	99930
570-40133-2	INJS-4C-CONF-45.0	Total/NA	Solid	9045C	99930
570-40133-3	INJS-4C-CONF-50.0	Total/NA	Solid	9045C	99930
570-40133-4	INJS-4C-CONF-55.0	Total/NA	Solid	9045C	99930
570-40133-5	INJS-4C-CONF-60.0	Total/NA	Solid	9045C	99930
570-40133-6	INJS-4C-CONF-65.0	Total/NA	Solid	9045C	99930
570-40133-1 DU	INJS-4C-CONF-40.0	Total/NA	Solid	9045C	99930
570-40133-4 DU	INJS-4C-CONF-55.0	Total/NA	Solid	9045C	99930

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40133-1

**Client Sample ID: INJS-4C-CONF-40.0**

**Lab Sample ID: 570-40133-1**

**Date Collected: 10/05/20 11:55**

**Matrix: Solid**

**Date Received: 10/05/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	100 mL	100476	10/08/20 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			100682	10/09/20 01:11	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	99805	10/06/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100086	10/07/20 12:42	CO7S	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			19.96 g	20 mL	99930	10/06/20 20:17	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	100155	10/06/20 21:30	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100078	10/07/20 12:26	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: INJS-4C-CONF-45.0**

**Lab Sample ID: 570-40133-2**

**Date Collected: 10/05/20 12:11**

**Matrix: Solid**

**Date Received: 10/05/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	100476	10/08/20 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			100682	10/09/20 01:17	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	99805	10/06/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100086	10/07/20 12:43	CO7S	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			20.04 g	20 mL	99930	10/06/20 20:17	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	100155	10/06/20 21:30	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100078	10/07/20 12:26	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: INJS-4C-CONF-50.0**

**Lab Sample ID: 570-40133-3**

**Date Collected: 10/05/20 12:22**

**Matrix: Solid**

**Date Received: 10/05/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.07 g	100 mL	100476	10/08/20 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			100682	10/09/20 01:19	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	99805	10/06/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100086	10/07/20 12:44	CO7S	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			20.03 g	20 mL	99930	10/06/20 20:17	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	100155	10/06/20 21:30	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100078	10/07/20 12:26	UAPD	ECL 1
Instrument ID: NOEQUIP										

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# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40133-1

**Client Sample ID: INJS-4C-CONF-55.0**

**Lab Sample ID: 570-40133-4**

**Date Collected: 10/05/20 13:15**

**Matrix: Solid**

**Date Received: 10/05/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	100476	10/08/20 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			100682	10/09/20 01:21	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	99805	10/06/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100086	10/07/20 12:45	CO7S	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			20.02 g	20 mL	99930	10/06/20 20:17	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	100155	10/06/20 21:30	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100078	10/07/20 12:26	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: INJS-4C-CONF-60.0**

**Lab Sample ID: 570-40133-5**

**Date Collected: 10/05/20 13:25**

**Matrix: Solid**

**Date Received: 10/05/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	100 mL	100476	10/08/20 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			100682	10/09/20 01:23	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.49 g	100 mL	99805	10/06/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100086	10/07/20 12:46	CO7S	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			20.00 g	20 mL	99930	10/06/20 20:17	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	100155	10/06/20 21:30	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100078	10/07/20 12:26	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: INJS-4C-CONF-65.0**

**Lab Sample ID: 570-40133-6**

**Date Collected: 10/05/20 13:45**

**Matrix: Solid**

**Date Received: 10/05/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	100476	10/08/20 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			100682	10/09/20 01:25	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	99805	10/06/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100086	10/07/20 12:47	CO7S	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			20.02 g	20 mL	99930	10/06/20 20:17	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	100155	10/06/20 21:30	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100078	10/07/20 12:26	UAPD	ECL 1
Instrument ID: NOEQUIP										

Eurofins Calscience LLC

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40133-1

**Client Sample ID: EB02**

**Date Collected: 10/05/20 16:00**

**Date Received: 10/05/20 16:50**

**Lab Sample ID: 570-40133-7**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7199		1			99399	10/05/20 19:41	URMH	ECL 1
	Instrument ID: IC11									
Total/NA	Prep	3010A			50 mL	50 mL	100317	10/08/20 08:55	WL8G	ECL 1
Total/NA	Analysis	6010B		1			100669	10/08/20 22:17	OYW3	ECL 1
	Instrument ID: ICP8									

## Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494



## Accreditation/Certification Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40133-1

### Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-21
California	SCAQMD LAP	17LA0919	11-30-20
California	State	2944	09-30-21
Guam	State	20-003R	10-31-20
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-29-21
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-20

## Method Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40133-1

Method	Method Description	Protocol	Laboratory
7199	Chromium, Hexavalent (IC)	SW846	ECL 1
6010B	Metals (ICP)	SW846	ECL 1
7196A	Chromium, Hexavalent	SW846	ECL 1
9045C	pH	SW846	ECL 1
Moisture	Percent Moisture	EPA	ECL 1
3010A	Preparation, Total Metals	SW846	ECL 1
3050B	Preparation, Metals	SW846	ECL 1
3060A	Alkaline Digestion (Chromium, Hexavalent)	SW846	ECL 1
DI Leach	Deionized Water Leaching Procedure	ASTM	ECL 1

### Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

## Sample Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40133-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-40133-1	INJS-4C-CONF-40.0	Solid	10/05/20 11:55	10/05/20 16:50	
570-40133-2	INJS-4C-CONF-45.0	Solid	10/05/20 12:11	10/05/20 16:50	
570-40133-3	INJS-4C-CONF-50.0	Solid	10/05/20 12:22	10/05/20 16:50	
570-40133-4	INJS-4C-CONF-55.0	Solid	10/05/20 13:15	10/05/20 16:50	
570-40133-5	INJS-4C-CONF-60.0	Solid	10/05/20 13:25	10/05/20 16:50	
570-40133-6	INJS-4C-CONF-65.0	Solid	10/05/20 13:45	10/05/20 16:50	
570-40133-7	EB02	Water	10/05/20 16:00	10/05/20 16:50	





## Login Sample Receipt Checklist

Client: Terraphase Engineering Inc

Job Number: 570-40133-1

Login Number: 40133

List Source: Eurofins Calscience

List Number: 1

Creator: Patel, Jayesh

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

Eurofins Calscience LLC  
7440 Lincoln Way  
Garden Grove, CA 92841  
Tel: (714)895-5494

Laboratory Job ID: 570-40254-1

Client Project/Site: PTI Southwest Soil Injection Confirmation

For:

Terraphase Engineering Inc  
18401 Von Karman Ave  
Suite 410  
Irvine, California 92612

Attn: Chris Alger

*Virendra R Patel*

Authorized for release by:  
10/14/2020 2:20:35 PM

Virendra Patel, Project Manager I  
(714)895-5494

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### LINKS

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*The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

### Qualifiers

#### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.

#### General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count



# Case Narrative

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

**Job ID: 570-40254-1**

**Laboratory: Eurofins Calscience LLC**

## Narrative

### Job Narrative 570-40254-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 10/6/2020 6:10 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4° C.

#### HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Metals

Method 6010B: The matrix spike (MS) recoveries for preparation batch 570-100837 and analytical batch 570-101012 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 6010B: Due to the high concentration of Chromium and Sulfur the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 570-100837 and analytical batch 570-101012 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

Method 7196A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with preparation batch 570-100091 and analytical batch 570-100236 were outside control limits: SWCONF1-58.0 (570-40254-6), (570-40254-A-6-C MS) and (570-40254-A-6-D MSD). The associated laboratory control sample (LCS) recovery met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

## Client Sample ID: SWCONF1-43.0

## Lab Sample ID: 570-40254-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	34.7		1.01	mg/Kg	1	✖	6010B	Total/NA
Chromium	81.8		0.337	mg/Kg	1	✖	6010B	Total/NA
Copper	75.6		0.674	mg/Kg	1	✖	6010B	Total/NA
Lead	13.4		0.674	mg/Kg	1	✖	6010B	Total/NA
Sulfur	1400		6.74	mg/Kg	1	✖	6010B	Total/NA
pH	8.1		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF1-45.0

## Lab Sample ID: 570-40254-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.07		0.821	mg/Kg	1	✖	6010B	Total/NA
Chromium	46.4		0.274	mg/Kg	1	✖	6010B	Total/NA
Copper	21.2		0.547	mg/Kg	1	✖	6010B	Total/NA
Lead	3.96		0.547	mg/Kg	1	✖	6010B	Total/NA
Sulfur	1440		5.47	mg/Kg	1	✖	6010B	Total/NA
pH	8.6		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF1-50.0

## Lab Sample ID: 570-40254-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.81		0.863	mg/Kg	1	✖	6010B	Total/NA
Chromium	42.9		0.288	mg/Kg	1	✖	6010B	Total/NA
Copper	26.5		0.575	mg/Kg	1	✖	6010B	Total/NA
Lead	3.82		0.575	mg/Kg	1	✖	6010B	Total/NA
Sulfur	1180		5.75	mg/Kg	1	✖	6010B	Total/NA
pH	8.2		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF1-55.0

## Lab Sample ID: 570-40254-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.77		0.857	mg/Kg	1	✖	6010B	Total/NA
Chromium	41.1		0.286	mg/Kg	1	✖	6010B	Total/NA
Copper	30.5		0.572	mg/Kg	1	✖	6010B	Total/NA
Lead	4.68		0.572	mg/Kg	1	✖	6010B	Total/NA
Sulfur	3950		5.72	mg/Kg	1	✖	6010B	Total/NA
pH	11.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF1-57.0

## Lab Sample ID: 570-40254-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.9		1.01	mg/Kg	1	✖	6010B	Total/NA
Chromium	54.4		0.336	mg/Kg	1	✖	6010B	Total/NA
Copper	42.6		0.672	mg/Kg	1	✖	6010B	Total/NA
Lead	5.08		0.672	mg/Kg	1	✖	6010B	Total/NA
Sulfur	5150		6.72	mg/Kg	1	✖	6010B	Total/NA
pH	10.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF1-58.0

## Lab Sample ID: 570-40254-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.73		0.835	mg/Kg	1	✖	6010B	Total/NA
Chromium	28.8		0.278	mg/Kg	1	✖	6010B	Total/NA
Copper	14.6		0.557	mg/Kg	1	✖	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

## Client Sample ID: SWCONF1-58.0 (Continued)

Lab Sample ID: 570-40254-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Lead	1.10		0.557	mg/Kg	1	☼	6010B	Total/NA
Sulfur	150		5.57	mg/Kg	1	☼	6010B	Total/NA
Cr (VI)	1.69	F1	0.864	mg/Kg	1	☼	7196A	Total/NA
pH	8.9		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF1-60.0

Lab Sample ID: 570-40254-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.02		0.810	mg/Kg	1	☼	6010B	Total/NA
Chromium	71.3		0.270	mg/Kg	1	☼	6010B	Total/NA
Copper	15.5		0.540	mg/Kg	1	☼	6010B	Total/NA
Lead	2.43		0.540	mg/Kg	1	☼	6010B	Total/NA
Sulfur	88.3		5.40	mg/Kg	1	☼	6010B	Total/NA
Cr (VI)	11.8		0.872	mg/Kg	1	☼	7196A	Total/NA
pH	7.9		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF1-65.0

Lab Sample ID: 570-40254-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.24		0.843	mg/Kg	1	☼	6010B	Total/NA
Chromium	38.0		0.281	mg/Kg	1	☼	6010B	Total/NA
Copper	28.0		0.562	mg/Kg	1	☼	6010B	Total/NA
Lead	1.66		0.562	mg/Kg	1	☼	6010B	Total/NA
Sulfur	1450		5.62	mg/Kg	1	☼	6010B	Total/NA
pH	11.6		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: EB-03

Lab Sample ID: 570-40254-9

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

## Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

### Method: 7199 - Chromium, Hexavalent (IC)

Client Sample ID: EB-03  
Date Collected: 10/06/20 15:49  
Date Received: 10/06/20 18:10

Lab Sample ID: 570-40254-9  
Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			10/06/20 23:00	1



# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCONF1-43.0

Date Collected: 10/06/20 14:30

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40254-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	34.7		1.01	mg/Kg	✱	10/09/20 20:00	10/10/20 11:15	1
Cadmium	ND		0.674	mg/Kg	✱	10/09/20 20:00	10/10/20 11:15	1
Chromium	81.8		0.337	mg/Kg	✱	10/09/20 20:00	10/10/20 11:15	1
Copper	75.6		0.674	mg/Kg	✱	10/09/20 20:00	10/10/20 11:15	1
Lead	13.4		0.674	mg/Kg	✱	10/09/20 20:00	10/10/20 11:15	1
Sulfur	1400		6.74	mg/Kg	✱	10/09/20 20:00	10/10/20 11:15	1

Client Sample ID: SWCONF1-45.0

Date Collected: 10/06/20 14:40

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40254-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.07		0.821	mg/Kg	✱	10/09/20 20:00	10/10/20 11:27	1
Cadmium	ND		0.547	mg/Kg	✱	10/09/20 20:00	10/10/20 11:27	1
Chromium	46.4		0.274	mg/Kg	✱	10/09/20 20:00	10/10/20 11:27	1
Copper	21.2		0.547	mg/Kg	✱	10/09/20 20:00	10/10/20 11:27	1
Lead	3.96		0.547	mg/Kg	✱	10/09/20 20:00	10/10/20 11:27	1
Sulfur	1440		5.47	mg/Kg	✱	10/09/20 20:00	10/10/20 11:27	1

Client Sample ID: SWCONF1-50.0

Date Collected: 10/06/20 15:00

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40254-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.81		0.863	mg/Kg	✱	10/09/20 20:00	10/10/20 11:29	1
Cadmium	ND		0.575	mg/Kg	✱	10/09/20 20:00	10/10/20 11:29	1
Chromium	42.9		0.288	mg/Kg	✱	10/09/20 20:00	10/10/20 11:29	1
Copper	26.5		0.575	mg/Kg	✱	10/09/20 20:00	10/10/20 11:29	1
Lead	3.82		0.575	mg/Kg	✱	10/09/20 20:00	10/10/20 11:29	1
Sulfur	1180		5.75	mg/Kg	✱	10/09/20 20:00	10/10/20 11:29	1

Client Sample ID: SWCONF1-55.0

Date Collected: 10/06/20 15:10

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40254-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.77		0.857	mg/Kg	✱	10/09/20 20:00	10/10/20 11:31	1
Cadmium	ND		0.572	mg/Kg	✱	10/09/20 20:00	10/10/20 11:31	1
Chromium	41.1		0.286	mg/Kg	✱	10/09/20 20:00	10/10/20 11:31	1
Copper	30.5		0.572	mg/Kg	✱	10/09/20 20:00	10/10/20 11:31	1
Lead	4.68		0.572	mg/Kg	✱	10/09/20 20:00	10/10/20 11:31	1
Sulfur	3950		5.72	mg/Kg	✱	10/09/20 20:00	10/10/20 11:31	1

Client Sample ID: SWCONF1-57.0

Date Collected: 10/06/20 15:11

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40254-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.9		1.01	mg/Kg	✱	10/09/20 20:00	10/10/20 11:33	1
Cadmium	ND		0.672	mg/Kg	✱	10/09/20 20:00	10/10/20 11:33	1
Chromium	54.4		0.336	mg/Kg	✱	10/09/20 20:00	10/10/20 11:33	1
Copper	42.6		0.672	mg/Kg	✱	10/09/20 20:00	10/10/20 11:33	1
Lead	5.08		0.672	mg/Kg	✱	10/09/20 20:00	10/10/20 11:33	1
Sulfur	5150		6.72	mg/Kg	✱	10/09/20 20:00	10/10/20 11:33	1

Eurofins Calscience LLC

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCONF1-58.0

Date Collected: 10/06/20 15:12

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40254-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.73		0.835	mg/Kg	☼	10/09/20 20:00	10/10/20 11:35	1
Cadmium	ND		0.557	mg/Kg	☼	10/09/20 20:00	10/10/20 11:35	1
Chromium	28.8		0.278	mg/Kg	☼	10/09/20 20:00	10/10/20 11:35	1
Copper	14.6		0.557	mg/Kg	☼	10/09/20 20:00	10/10/20 11:35	1
Lead	1.10		0.557	mg/Kg	☼	10/09/20 20:00	10/10/20 11:35	1
Sulfur	150		5.57	mg/Kg	☼	10/09/20 20:00	10/10/20 11:35	1

Client Sample ID: SWCONF1-60.0

Date Collected: 10/06/20 15:25

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40254-7

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.02		0.810	mg/Kg	☼	10/09/20 20:00	10/10/20 11:37	1
Cadmium	ND		0.540	mg/Kg	☼	10/09/20 20:00	10/10/20 11:37	1
Chromium	71.3		0.270	mg/Kg	☼	10/09/20 20:00	10/10/20 11:37	1
Copper	15.5		0.540	mg/Kg	☼	10/09/20 20:00	10/10/20 11:37	1
Lead	2.43		0.540	mg/Kg	☼	10/09/20 20:00	10/10/20 11:37	1
Sulfur	88.3		5.40	mg/Kg	☼	10/09/20 20:00	10/10/20 11:37	1

Client Sample ID: SWCONF1-65.0

Date Collected: 10/06/20 15:26

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40254-8

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.24		0.843	mg/Kg	☼	10/09/20 20:00	10/10/20 11:40	1
Cadmium	ND		0.562	mg/Kg	☼	10/09/20 20:00	10/10/20 11:40	1
Chromium	38.0		0.281	mg/Kg	☼	10/09/20 20:00	10/10/20 11:40	1
Copper	28.0		0.562	mg/Kg	☼	10/09/20 20:00	10/10/20 11:40	1
Lead	1.66		0.562	mg/Kg	☼	10/09/20 20:00	10/10/20 11:40	1
Sulfur	1450		5.62	mg/Kg	☼	10/09/20 20:00	10/10/20 11:40	1

Client Sample ID: EB-03

Date Collected: 10/06/20 15:49

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40254-9

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L		10/09/20 14:15	10/09/20 21:53	1
Cadmium	ND		0.0100	mg/L		10/09/20 14:15	10/09/20 21:53	1
Chromium	ND		0.0500	mg/L		10/09/20 14:15	10/09/20 21:53	1
Copper	ND		0.0500	mg/L		10/09/20 14:15	10/09/20 21:53	1
Lead	ND		0.0500	mg/L		10/09/20 14:15	10/09/20 21:53	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

## General Chemistry

Client Sample ID: SWCONF1-43.0

Date Collected: 10/06/20 14:30

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40254-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.05	mg/Kg	☼	10/07/20 13:00	10/07/20 21:05	1
pH	8.1		0.01	S.U.			10/07/20 17:28	1
Percent Moisture	25.1		0.1	%			10/07/20 12:26	1
Percent Solids	74.9		0.1	%			10/07/20 12:26	1

Client Sample ID: SWCONF1-45.0

Date Collected: 10/06/20 14:40

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40254-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.898	mg/Kg	☼	10/07/20 13:00	10/07/20 21:06	1
pH	8.6		0.01	S.U.			10/07/20 17:28	1
Percent Moisture	10.9		0.1	%			10/07/20 12:26	1
Percent Solids	89.1		0.1	%			10/07/20 12:26	1

Client Sample ID: SWCONF1-50.0

Date Collected: 10/06/20 15:00

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40254-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.945	mg/Kg	☼	10/07/20 13:00	10/07/20 21:07	1
pH	8.2		0.01	S.U.			10/07/20 17:28	1
Percent Moisture	15.6		0.1	%			10/07/20 12:26	1
Percent Solids	84.4		0.1	%			10/07/20 12:26	1

Client Sample ID: SWCONF1-55.0

Date Collected: 10/06/20 15:10

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40254-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.947	mg/Kg	☼	10/07/20 13:00	10/07/20 21:08	1
pH	11.5		0.01	S.U.			10/07/20 17:28	1
Percent Moisture	15.5		0.1	%			10/07/20 12:26	1
Percent Solids	84.5		0.1	%			10/07/20 12:26	1

Client Sample ID: SWCONF1-57.0

Date Collected: 10/06/20 15:11

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40254-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.07	mg/Kg	☼	10/07/20 13:00	10/07/20 21:09	1
pH	10.5		0.01	S.U.			10/07/20 17:28	1
Percent Moisture	25.6		0.1	%			10/07/20 12:26	1
Percent Solids	74.4		0.1	%			10/07/20 12:26	1

Client Sample ID: SWCONF1-58.0

Date Collected: 10/06/20 15:12

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40254-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	1.69	F1	0.864	mg/Kg	☼	10/07/20 13:00	10/07/20 21:10	1
pH	8.9		0.01	S.U.			10/07/20 17:28	1
Percent Moisture	8.8		0.1	%			10/07/20 12:26	1
Percent Solids	91.2		0.1	%			10/07/20 12:26	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

## General Chemistry

Client Sample ID: SWCONF1-60.0

Date Collected: 10/06/20 15:25

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40254-7

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	11.8		0.872	mg/Kg	☼	10/07/20 13:00	10/07/20 21:11	1
pH	7.9		0.01	S.U.			10/07/20 17:28	1
Percent Moisture	8.3		0.1	%			10/07/20 12:26	1
Percent Solids	91.7		0.1	%			10/07/20 12:26	1

Client Sample ID: SWCONF1-65.0

Date Collected: 10/06/20 15:26

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40254-8

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.931	mg/Kg	☼	10/07/20 13:00	10/07/20 21:12	1
pH	11.6		0.01	S.U.			10/07/20 17:28	1
Percent Moisture	14.4		0.1	%			10/07/20 12:26	1
Percent Solids	85.6		0.1	%			10/07/20 12:26	1



# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

## Method: 7199 - Chromium, Hexavalent (IC)

Lab Sample ID: MB 570-99691/36

Matrix: Water

Analysis Batch: 99691

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			10/06/20 21:04	1

Lab Sample ID: LCS 570-99691/37

Matrix: Water

Analysis Batch: 99691

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.0501	0.04987		mg/L		100	80 - 120

Lab Sample ID: LCSD 570-99691/38

Matrix: Water

Analysis Batch: 99691

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	0.0501	0.04978		mg/L		99	80 - 120	0	20

Lab Sample ID: 570-40254-9 MS

Matrix: Water

Analysis Batch: 99691

Client Sample ID: EB-03

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND		0.0501	0.05073		mg/L		101	70 - 130

Lab Sample ID: 570-40254-9 MSD

Matrix: Water

Analysis Batch: 99691

Client Sample ID: EB-03

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND		0.0501	0.05096		mg/L		102	70 - 130	0	25

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 570-100754/1-A

Matrix: Water

Analysis Batch: 100908

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 100754

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L		10/09/20 14:15	10/09/20 21:16	1
Cadmium	ND		0.0100	mg/L		10/09/20 14:15	10/09/20 21:16	1
Chromium	ND		0.0500	mg/L		10/09/20 14:15	10/09/20 21:16	1
Copper	ND		0.0500	mg/L		10/09/20 14:15	10/09/20 21:16	1
Lead	ND		0.0500	mg/L		10/09/20 14:15	10/09/20 21:16	1

Lab Sample ID: LCS 570-100754/2-A

Matrix: Water

Analysis Batch: 100908

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 100754

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.500	0.4468		mg/L		89	80 - 120
Cadmium	0.500	0.4666		mg/L		93	80 - 120

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-100754/2-A

Matrix: Water

Analysis Batch: 100908

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 100754

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.500	0.4881		mg/L		98	80 - 120
Copper	0.500	0.5044		mg/L		101	80 - 120
Lead	0.500	0.4633		mg/L		93	80 - 120

Lab Sample ID: LCSD 570-100754/3-A

Matrix: Water

Analysis Batch: 100908

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 100754

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	0.500	0.4584		mg/L		92	80 - 120	3	20
Cadmium	0.500	0.4719		mg/L		94	80 - 120	1	20
Chromium	0.500	0.4880		mg/L		98	80 - 120	0	20
Copper	0.500	0.5072		mg/L		101	80 - 120	1	20
Lead	0.500	0.4654		mg/L		93	80 - 120	0	20

Lab Sample ID: 570-40239-G-1-B MS

Matrix: Water

Analysis Batch: 100908

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 100754

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		0.500	0.5616		mg/L		112	80 - 140
Cadmium	ND		0.500	0.5537		mg/L		110	82 - 124
Chromium	ND		0.500	0.5549		mg/L		111	86 - 122
Copper	ND		0.500	0.5814		mg/L		116	78 - 126
Lead	ND		0.500	0.5370		mg/L		104	84 - 120

Lab Sample ID: 570-40239-G-1-C MSD

Matrix: Water

Analysis Batch: 100908

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 100754

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	ND		0.500	0.5649		mg/L		113	80 - 140	1	11
Cadmium	ND		0.500	0.5578		mg/L		111	82 - 124	1	7
Chromium	ND		0.500	0.5572		mg/L		111	86 - 122	0	8
Copper	ND		0.500	0.5773		mg/L		115	78 - 126	1	7
Lead	ND		0.500	0.5326		mg/L		103	84 - 120	1	7

Lab Sample ID: MB 570-100837/1-A

Matrix: Solid

Analysis Batch: 101012

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 100837

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.754	mg/Kg		10/09/20 20:00	10/10/20 10:58	1
Cadmium	ND		0.503	mg/Kg		10/09/20 20:00	10/10/20 10:58	1
Chromium	ND		0.251	mg/Kg		10/09/20 20:00	10/10/20 10:58	1
Copper	ND		0.503	mg/Kg		10/09/20 20:00	10/10/20 10:58	1
Lead	ND		0.503	mg/Kg		10/09/20 20:00	10/10/20 10:58	1
Sulfur	ND		5.03	mg/Kg		10/09/20 20:00	10/10/20 10:58	1

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-100837/2-A

Matrix: Solid

Analysis Batch: 101012

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 100837

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	24.9	23.99		mg/Kg		96	80 - 120
Cadmium	24.9	24.28		mg/Kg		98	80 - 120
Chromium	24.9	24.65		mg/Kg		99	80 - 120
Copper	24.9	26.12		mg/Kg		105	80 - 120
Lead	24.9	24.69		mg/Kg		99	80 - 120
Sulfur	24.9	22.49		mg/Kg		90	80 - 120

Lab Sample ID: LCSD 570-100837/3-A

Matrix: Solid

Analysis Batch: 101012

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 100837

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	24.6	23.98		mg/Kg		97	80 - 120	0	20
Cadmium	24.6	23.87		mg/Kg		97	80 - 120	2	20
Chromium	24.6	24.15		mg/Kg		98	80 - 120	2	20
Copper	24.6	25.63		mg/Kg		104	80 - 120	2	20
Lead	24.6	24.56		mg/Kg		100	80 - 120	1	20
Sulfur	24.6	22.17		mg/Kg		90	80 - 120	1	20

Lab Sample ID: 570-40255-A-1-H MS

Matrix: Solid

Analysis Batch: 101012

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 100837

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	7.69		25.7	37.22		mg/Kg	✱	115	75 - 125
Cadmium	ND		25.7	24.58		mg/Kg	✱	94	75 - 125
Chromium	748		25.7	840.9	4	mg/Kg	✱	362	75 - 125
Copper	95.2	F1	25.7	129.2	F1	mg/Kg	✱	132	75 - 125
Lead	2.54		25.7	27.53		mg/Kg	✱	97	75 - 125
Sulfur	2110		25.7	2376	4	mg/Kg	✱	1020	75 - 125

Lab Sample ID: 570-40255-A-1-I MSD

Matrix: Solid

Analysis Batch: 101012

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 100837

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	7.69		25.7	36.09		mg/Kg	✱	111	75 - 125	3	20
Cadmium	ND		25.7	24.80		mg/Kg	✱	95	75 - 125	1	20
Chromium	748		25.7	747.0	4	mg/Kg	✱	-3	75 - 125	12	20
Copper	95.2	F1	25.7	119.2		mg/Kg	✱	93	75 - 125	8	20
Lead	2.54		25.7	27.18		mg/Kg	✱	96	75 - 125	1	20
Sulfur	2110		25.7	1965	4	mg/Kg	✱	-581	75 - 125	19	20

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 570-100091/1-A  
Matrix: Solid  
Analysis Batch: 100236

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 100091

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.797	mg/Kg		10/07/20 13:00	10/07/20 20:58	1

Lab Sample ID: LCS 570-100091/2-A  
Matrix: Solid  
Analysis Batch: 100236

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 100091

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	20.0	16.43		mg/Kg		82	78 - 120

Lab Sample ID: LCSD 570-100091/3-A  
Matrix: Solid  
Analysis Batch: 100236

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 100091

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	20.0	16.04		mg/Kg		80	78 - 120	2	20

Lab Sample ID: 570-40254-6 MS  
Matrix: Solid  
Analysis Batch: 100236

Client Sample ID: SWCONF1-58.0  
Prep Type: Total/NA  
Prep Batch: 100091

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	1.69	F1	21.9	13.13	F1	mg/Kg	✱	52	75 - 125

Lab Sample ID: 570-40254-6 MSD  
Matrix: Solid  
Analysis Batch: 100236

Client Sample ID: SWCONF1-58.0  
Prep Type: Total/NA  
Prep Batch: 100091

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	1.69	F1	21.8	15.21	F1	mg/Kg	✱	62	75 - 125	15	25

Lab Sample ID: 570-40254-6 MSI  
Matrix: Solid  
Analysis Batch: 100236

Client Sample ID: SWCONF1-58.0  
Prep Type: Total/NA  
Prep Batch: 100091

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	1.69	F1	1060	865.6		mg/Kg	✱	82	75 - 125

Lab Sample ID: 570-40254-6 MSID  
Matrix: Solid  
Analysis Batch: 100236

Client Sample ID: SWCONF1-58.0  
Prep Type: Total/NA  
Prep Batch: 100091

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	1.69	F1	1070	889.9		mg/Kg	✱	83	75 - 125	3	25



## QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

### Method: 9045C - pH

Lab Sample ID: 570-40233-B-1-D DU

Matrix: Solid

Analysis Batch: 100198

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.6		6.6		S.U.		0.4	25

### Method: Moisture - Percent Moisture

Lab Sample ID: 570-40254-1 DU

Matrix: Solid

Analysis Batch: 100112

Client Sample ID: SWCONF1-43.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	25.1		25.3		%		0.8	10
Percent Solids	74.9		74.7		%		0.3	10

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

## HPLC/IC

### Analysis Batch: 99691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40254-9	EB-03	Total/NA	Water	7199	
MB 570-99691/36	Method Blank	Total/NA	Water	7199	
LCS 570-99691/37	Lab Control Sample	Total/NA	Water	7199	
LCSD 570-99691/38	Lab Control Sample Dup	Total/NA	Water	7199	
570-40254-9 MS	EB-03	Total/NA	Water	7199	
570-40254-9 MSD	EB-03	Total/NA	Water	7199	

## Metals

### Prep Batch: 100754

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40254-9	EB-03	Total/NA	Water	3010A	
MB 570-100754/1-A	Method Blank	Total/NA	Water	3010A	
LCS 570-100754/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 570-100754/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
570-40239-G-1-B MS	Matrix Spike	Total/NA	Water	3010A	
570-40239-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

### Prep Batch: 100837

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40254-1	SWCONF1-43.0	Total/NA	Solid	3050B	
570-40254-2	SWCONF1-45.0	Total/NA	Solid	3050B	
570-40254-3	SWCONF1-50.0	Total/NA	Solid	3050B	
570-40254-4	SWCONF1-55.0	Total/NA	Solid	3050B	
570-40254-5	SWCONF1-57.0	Total/NA	Solid	3050B	
570-40254-6	SWCONF1-58.0	Total/NA	Solid	3050B	
570-40254-7	SWCONF1-60.0	Total/NA	Solid	3050B	
570-40254-8	SWCONF1-65.0	Total/NA	Solid	3050B	
MB 570-100837/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-100837/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-100837/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-40255-A-1-H MS	Matrix Spike	Total/NA	Solid	3050B	
570-40255-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	3050B	

### Analysis Batch: 100908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40254-9	EB-03	Total/NA	Water	6010B	100754
MB 570-100754/1-A	Method Blank	Total/NA	Water	6010B	100754
LCS 570-100754/2-A	Lab Control Sample	Total/NA	Water	6010B	100754
LCSD 570-100754/3-A	Lab Control Sample Dup	Total/NA	Water	6010B	100754
570-40239-G-1-B MS	Matrix Spike	Total/NA	Water	6010B	100754
570-40239-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	6010B	100754

### Analysis Batch: 101012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40254-1	SWCONF1-43.0	Total/NA	Solid	6010B	100837
570-40254-2	SWCONF1-45.0	Total/NA	Solid	6010B	100837
570-40254-3	SWCONF1-50.0	Total/NA	Solid	6010B	100837
570-40254-4	SWCONF1-55.0	Total/NA	Solid	6010B	100837
570-40254-5	SWCONF1-57.0	Total/NA	Solid	6010B	100837
570-40254-6	SWCONF1-58.0	Total/NA	Solid	6010B	100837

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

## Metals (Continued)

### Analysis Batch: 101012 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40254-7	SWCONF1-60.0	Total/NA	Solid	6010B	100837
570-40254-8	SWCONF1-65.0	Total/NA	Solid	6010B	100837
MB 570-100837/1-A	Method Blank	Total/NA	Solid	6010B	100837
LCS 570-100837/2-A	Lab Control Sample	Total/NA	Solid	6010B	100837
LCSD 570-100837/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	100837
570-40255-A-1-H MS	Matrix Spike	Total/NA	Solid	6010B	100837
570-40255-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	6010B	100837

## General Chemistry

### Prep Batch: 100091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40254-1	SWCONF1-43.0	Total/NA	Solid	3060A	
570-40254-2	SWCONF1-45.0	Total/NA	Solid	3060A	
570-40254-3	SWCONF1-50.0	Total/NA	Solid	3060A	
570-40254-4	SWCONF1-55.0	Total/NA	Solid	3060A	
570-40254-5	SWCONF1-57.0	Total/NA	Solid	3060A	
570-40254-6	SWCONF1-58.0	Total/NA	Solid	3060A	
570-40254-7	SWCONF1-60.0	Total/NA	Solid	3060A	
570-40254-8	SWCONF1-65.0	Total/NA	Solid	3060A	
MB 570-100091/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-100091/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-100091/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-40254-6 MS	SWCONF1-58.0	Total/NA	Solid	3060A	
570-40254-6 MSD	SWCONF1-58.0	Total/NA	Solid	3060A	
570-40254-6 MSI	SWCONF1-58.0	Total/NA	Solid	3060A	
570-40254-6 MSID	SWCONF1-58.0	Total/NA	Solid	3060A	

### Analysis Batch: 100112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40254-1	SWCONF1-43.0	Total/NA	Solid	Moisture	
570-40254-2	SWCONF1-45.0	Total/NA	Solid	Moisture	
570-40254-3	SWCONF1-50.0	Total/NA	Solid	Moisture	
570-40254-4	SWCONF1-55.0	Total/NA	Solid	Moisture	
570-40254-5	SWCONF1-57.0	Total/NA	Solid	Moisture	
570-40254-6	SWCONF1-58.0	Total/NA	Solid	Moisture	
570-40254-7	SWCONF1-60.0	Total/NA	Solid	Moisture	
570-40254-8	SWCONF1-65.0	Total/NA	Solid	Moisture	
570-40254-1 DU	SWCONF1-43.0	Total/NA	Solid	Moisture	

### Leach Batch: 100123

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40254-1	SWCONF1-43.0	Total/NA	Solid	DI Leach	
570-40254-2	SWCONF1-45.0	Total/NA	Solid	DI Leach	
570-40254-3	SWCONF1-50.0	Total/NA	Solid	DI Leach	
570-40254-4	SWCONF1-55.0	Total/NA	Solid	DI Leach	
570-40254-5	SWCONF1-57.0	Total/NA	Solid	DI Leach	
570-40254-6	SWCONF1-58.0	Total/NA	Solid	DI Leach	
570-40254-7	SWCONF1-60.0	Total/NA	Solid	DI Leach	
570-40254-8	SWCONF1-65.0	Total/NA	Solid	DI Leach	
570-40233-B-1-D DU	Duplicate	Total/NA	Solid	DI Leach	

Eurofins Calscience LLC

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

## General Chemistry

### Analysis Batch: 100198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40254-1	SWCONF1-43.0	Total/NA	Solid	9045C	100123
570-40254-2	SWCONF1-45.0	Total/NA	Solid	9045C	100123
570-40254-3	SWCONF1-50.0	Total/NA	Solid	9045C	100123
570-40254-4	SWCONF1-55.0	Total/NA	Solid	9045C	100123
570-40254-5	SWCONF1-57.0	Total/NA	Solid	9045C	100123
570-40254-6	SWCONF1-58.0	Total/NA	Solid	9045C	100123
570-40254-7	SWCONF1-60.0	Total/NA	Solid	9045C	100123
570-40254-8	SWCONF1-65.0	Total/NA	Solid	9045C	100123
570-40233-B-1-D DU	Duplicate	Total/NA	Solid	9045C	100123

### Analysis Batch: 100236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40254-1	SWCONF1-43.0	Total/NA	Solid	7196A	100091
570-40254-2	SWCONF1-45.0	Total/NA	Solid	7196A	100091
570-40254-3	SWCONF1-50.0	Total/NA	Solid	7196A	100091
570-40254-4	SWCONF1-55.0	Total/NA	Solid	7196A	100091
570-40254-5	SWCONF1-57.0	Total/NA	Solid	7196A	100091
570-40254-6	SWCONF1-58.0	Total/NA	Solid	7196A	100091
570-40254-7	SWCONF1-60.0	Total/NA	Solid	7196A	100091
570-40254-8	SWCONF1-65.0	Total/NA	Solid	7196A	100091
MB 570-100091/1-A	Method Blank	Total/NA	Solid	7196A	100091
LCS 570-100091/2-A	Lab Control Sample	Total/NA	Solid	7196A	100091
LCSD 570-100091/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	100091
570-40254-6 MS	SWCONF1-58.0	Total/NA	Solid	7196A	100091
570-40254-6 MSD	SWCONF1-58.0	Total/NA	Solid	7196A	100091
570-40254-6 MSI	SWCONF1-58.0	Total/NA	Solid	7196A	100091
570-40254-6 MSID	SWCONF1-58.0	Total/NA	Solid	7196A	100091



# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

**Client Sample ID: SWCONF1-43.0**

**Lab Sample ID: 570-40254-1**

**Date Collected: 10/06/20 14:30**

**Matrix: Solid**

**Date Received: 10/06/20 18:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	100 mL	100837	10/09/20 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101012	10/10/20 11:15	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.54 g	100 mL	100091	10/07/20 13:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100236	10/07/20 21:05	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	100123	10/07/20 14:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	100198	10/07/20 17:28	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100112	10/07/20 12:26	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF1-45.0**

**Lab Sample ID: 570-40254-2**

**Date Collected: 10/06/20 14:40**

**Matrix: Solid**

**Date Received: 10/06/20 18:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.05 g	100 mL	100837	10/09/20 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101012	10/10/20 11:27	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	100091	10/07/20 13:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100236	10/07/20 21:06	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	100123	10/07/20 14:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	100198	10/07/20 17:28	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100112	10/07/20 12:26	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF1-50.0**

**Lab Sample ID: 570-40254-3**

**Date Collected: 10/06/20 15:00**

**Matrix: Solid**

**Date Received: 10/06/20 18:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.06 g	100 mL	100837	10/09/20 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101012	10/10/20 11:29	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	100091	10/07/20 13:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100236	10/07/20 21:07	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	100123	10/07/20 14:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	100198	10/07/20 17:28	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100112	10/07/20 12:26	UAPD	ECL 1
Instrument ID: NOEQUIP										

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# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

**Client Sample ID: SWCONF1-55.0**

**Lab Sample ID: 570-40254-4**

**Date Collected: 10/06/20 15:10**

**Matrix: Solid**

**Date Received: 10/06/20 18:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.07 g	100 mL	100837	10/09/20 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101012	10/10/20 11:31	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	100091	10/07/20 13:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100236	10/07/20 21:08	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	100123	10/07/20 14:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	100198	10/07/20 17:28	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100112	10/07/20 12:26	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF1-57.0**

**Lab Sample ID: 570-40254-5**

**Date Collected: 10/06/20 15:11**

**Matrix: Solid**

**Date Received: 10/06/20 18:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	100 mL	100837	10/09/20 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101012	10/10/20 11:33	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	100091	10/07/20 13:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100236	10/07/20 21:09	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	100123	10/07/20 14:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	100198	10/07/20 17:28	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100112	10/07/20 12:26	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF1-58.0**

**Lab Sample ID: 570-40254-6**

**Date Collected: 10/06/20 15:12**

**Matrix: Solid**

**Date Received: 10/06/20 18:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.97 g	100 mL	100837	10/09/20 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101012	10/10/20 11:35	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.54 g	100 mL	100091	10/07/20 13:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100236	10/07/20 21:10	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.04 g	20 mL	100123	10/07/20 14:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	100198	10/07/20 17:28	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100112	10/07/20 12:26	UAPD	ECL 1
Instrument ID: NOEQUIP										

Eurofins Calscience LLC

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

**Client Sample ID: SWCONF1-60.0**

**Lab Sample ID: 570-40254-7**

**Date Collected: 10/06/20 15:25**

**Matrix: Solid**

**Date Received: 10/06/20 18:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	100 mL	100837	10/09/20 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101012	10/10/20 11:37	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	100091	10/07/20 13:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100236	10/07/20 21:11	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.04 g	20 mL	100123	10/07/20 14:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	100198	10/07/20 17:28	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100112	10/07/20 12:26	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF1-65.0**

**Lab Sample ID: 570-40254-8**

**Date Collected: 10/06/20 15:26**

**Matrix: Solid**

**Date Received: 10/06/20 18:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.08 g	100 mL	100837	10/09/20 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101012	10/10/20 11:40	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	100091	10/07/20 13:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100236	10/07/20 21:12	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	100123	10/07/20 14:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	100198	10/07/20 17:28	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100112	10/07/20 12:26	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: EB-03**

**Lab Sample ID: 570-40254-9**

**Date Collected: 10/06/20 15:49**

**Matrix: Water**

**Date Received: 10/06/20 18:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7199		1			99691	10/06/20 23:00	URMH	ECL 1
Instrument ID: IC11										
Total/NA	Prep	3010A			50 mL	50 mL	100754	10/09/20 14:15	WL8G	ECL 1
Total/NA	Analysis	6010B		1			100908	10/09/20 21:53	OYW3	ECL 1
Instrument ID: ICP8										

## Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Eurofins Calscience LLC

## Accreditation/Certification Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

### Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-21
California	SCAQMD LAP	17LA0919	11-30-20
California	State	2944	09-30-21
Guam	State	20-003R	10-31-20
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-29-21
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-20



## Method Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

Method	Method Description	Protocol	Laboratory
7199	Chromium, Hexavalent (IC)	SW846	ECL 1
6010B	Metals (ICP)	SW846	ECL 1
7196A	Chromium, Hexavalent	SW846	ECL 1
9045C	pH	SW846	ECL 1
Moisture	Percent Moisture	EPA	ECL 1
3010A	Preparation, Total Metals	SW846	ECL 1
3050B	Preparation, Metals	SW846	ECL 1
3060A	Alkaline Digestion (Chromium, Hexavalent)	SW846	ECL 1
DI Leach	Deionized Water Leaching Procedure	ASTM	ECL 1

### Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

## Sample Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40254-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-40254-1	SWCONF1-43.0	Solid	10/06/20 14:30	10/06/20 18:10	
570-40254-2	SWCONF1-45.0	Solid	10/06/20 14:40	10/06/20 18:10	
570-40254-3	SWCONF1-50.0	Solid	10/06/20 15:00	10/06/20 18:10	
570-40254-4	SWCONF1-55.0	Solid	10/06/20 15:10	10/06/20 18:10	
570-40254-5	SWCONF1-57.0	Solid	10/06/20 15:11	10/06/20 18:10	
570-40254-6	SWCONF1-58.0	Solid	10/06/20 15:12	10/06/20 18:10	
570-40254-7	SWCONF1-60.0	Solid	10/06/20 15:25	10/06/20 18:10	
570-40254-8	SWCONF1-65.0	Solid	10/06/20 15:26	10/06/20 18:10	
570-40254-9	EB-03	Water	10/06/20 15:49	10/06/20 18:10	



## Login Sample Receipt Checklist

Client: Terraphase Engineering Inc

Job Number: 570-40254-1

Login Number: 40254

List Source: Eurofins Calscience

List Number: 1

Creator: Patel, Jayesh

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## ANALYTICAL REPORT

Eurofins Calscience LLC  
7440 Lincoln Way  
Garden Grove, CA 92841  
Tel: (714)895-5494

Laboratory Job ID: 570-40255-1

Client Project/Site: PTI Southwest Soil Injection Confirmation

For:

Terraphase Engineering Inc  
18401 Von Karman Ave  
Suite 410  
Irvine, California 92612

Attn: Chris Alger

*Virendra R Patel*

Authorized for release by:  
10/14/2020 2:24:11 PM

Virendra Patel, Project Manager I  
(714)895-5494  
[Virendra.Patel@eurofinset.com](mailto:Virendra.Patel@eurofinset.com)

### LINKS

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[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

*The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40255-1

### Qualifiers

#### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.

#### General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40255-1

**Job ID: 570-40255-1**

**Laboratory: Eurofins Calscience LLC**

## Narrative

### Job Narrative 570-40255-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 10/6/2020 6:10 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4° C.

#### HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Metals

Method 6010B: The matrix spike (MS) recoveries for preparation batch 570-100837 and analytical batch 570-101012 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 6010B: Due to the high concentration of Chromium and Sulfur the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 570-100837 and analytical batch 570-101012 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

Method 7196A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-100427 and analytical batch 570-100838 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



## Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40255-1

### Client Sample ID: INJS-3C-CONF-30.0

### Lab Sample ID: 570-40255-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.69		0.763	mg/Kg	1	✱	6010B	Total/NA
Chromium	748		0.254	mg/Kg	1	✱	6010B	Total/NA
Copper	95.2	F1	0.509	mg/Kg	1	✱	6010B	Total/NA
Lead	2.54		0.509	mg/Kg	1	✱	6010B	Total/NA
Sulfur	2110		5.09	mg/Kg	1	✱	6010B	Total/NA
pH	9.1		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: INJS-3C-CONF-30.5

### Lab Sample ID: 570-40255-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	17.9		0.858	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.702		0.572	mg/Kg	1	✱	6010B	Total/NA
Chromium	1580		0.286	mg/Kg	1	✱	6010B	Total/NA
Copper	112		0.572	mg/Kg	1	✱	6010B	Total/NA
Sulfur	2360		5.72	mg/Kg	1	✱	6010B	Total/NA
pH	9.9		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: INJS-3C-CONF-35.0

### Lab Sample ID: 570-40255-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	15.8		0.947	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.740		0.631	mg/Kg	1	✱	6010B	Total/NA
Chromium	69.3		0.316	mg/Kg	1	✱	6010B	Total/NA
Copper	140		0.631	mg/Kg	1	✱	6010B	Total/NA
Lead	7.81		0.631	mg/Kg	1	✱	6010B	Total/NA
Sulfur	3020		6.31	mg/Kg	1	✱	6010B	Total/NA
pH	10.5		0.01	S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40255-1

## Method: 6010B - Metals (ICP)

Client Sample ID: INJS-3C-CONF-30.0

Date Collected: 10/06/20 10:05

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40255-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.69		0.763	mg/Kg	☼	10/09/20 20:00	10/10/20 11:05	1
Cadmium	ND		0.509	mg/Kg	☼	10/09/20 20:00	10/10/20 11:05	1
Chromium	748		0.254	mg/Kg	☼	10/09/20 20:00	10/10/20 11:05	1
Copper	95.2	F1	0.509	mg/Kg	☼	10/09/20 20:00	10/10/20 11:05	1
Lead	2.54		0.509	mg/Kg	☼	10/09/20 20:00	10/10/20 11:05	1
Sulfur	2110		5.09	mg/Kg	☼	10/09/20 20:00	10/10/20 11:05	1

Client Sample ID: INJS-3C-CONF-30.5

Date Collected: 10/06/20 10:06

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40255-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	17.9		0.858	mg/Kg	☼	10/09/20 20:00	10/10/20 11:11	1
Cadmium	0.702		0.572	mg/Kg	☼	10/09/20 20:00	10/10/20 11:11	1
Chromium	1580		0.286	mg/Kg	☼	10/09/20 20:00	10/10/20 11:11	1
Copper	112		0.572	mg/Kg	☼	10/09/20 20:00	10/10/20 11:11	1
Lead	ND		0.572	mg/Kg	☼	10/09/20 20:00	10/10/20 11:11	1
Sulfur	2360		5.72	mg/Kg	☼	10/09/20 20:00	10/10/20 11:11	1

Client Sample ID: INJS-3C-CONF-35.0

Date Collected: 10/06/20 10:15

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40255-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15.8		0.947	mg/Kg	☼	10/09/20 20:00	10/10/20 11:13	1
Cadmium	0.740		0.631	mg/Kg	☼	10/09/20 20:00	10/10/20 11:13	1
Chromium	69.3		0.316	mg/Kg	☼	10/09/20 20:00	10/10/20 11:13	1
Copper	140		0.631	mg/Kg	☼	10/09/20 20:00	10/10/20 11:13	1
Lead	7.81		0.631	mg/Kg	☼	10/09/20 20:00	10/10/20 11:13	1
Sulfur	3020		6.31	mg/Kg	☼	10/09/20 20:00	10/10/20 11:13	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40255-1

## General Chemistry

Client Sample ID: INJS-3C-CONF-30.0

Date Collected: 10/06/20 10:05

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40255-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	F1	0.821	mg/Kg	☼	10/08/20 14:00	10/09/20 17:45	1
pH	9.1		0.01	S.U.			10/07/20 17:28	1
Percent Moisture	3.7		0.1	%			10/07/20 12:26	1
Percent Solids	96.3		0.1	%			10/07/20 12:26	1

Client Sample ID: INJS-3C-CONF-30.5

Date Collected: 10/06/20 10:06

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40255-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.891	mg/Kg	☼	10/08/20 14:00	10/09/20 17:46	1
pH	9.9		0.01	S.U.			10/07/20 17:28	1
Percent Moisture	11.3		0.1	%			10/07/20 12:26	1
Percent Solids	88.7		0.1	%			10/07/20 12:26	1

Client Sample ID: INJS-3C-CONF-35.0

Date Collected: 10/06/20 10:15

Date Received: 10/06/20 18:10

Lab Sample ID: 570-40255-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.01	mg/Kg	☼	10/08/20 14:00	10/09/20 17:47	1
pH	10.5		0.01	S.U.			10/07/20 17:28	1
Percent Moisture	20.4		0.1	%			10/07/20 12:26	1
Percent Solids	79.6		0.1	%			10/07/20 12:26	1

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40255-1

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 570-100837/1-A

Matrix: Solid

Analysis Batch: 101012

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 100837

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.754	mg/Kg		10/09/20 20:00	10/10/20 10:58	1
Cadmium	ND		0.503	mg/Kg		10/09/20 20:00	10/10/20 10:58	1
Chromium	ND		0.251	mg/Kg		10/09/20 20:00	10/10/20 10:58	1
Copper	ND		0.503	mg/Kg		10/09/20 20:00	10/10/20 10:58	1
Lead	ND		0.503	mg/Kg		10/09/20 20:00	10/10/20 10:58	1
Sulfur	ND		5.03	mg/Kg		10/09/20 20:00	10/10/20 10:58	1

Lab Sample ID: LCS 570-100837/2-A

Matrix: Solid

Analysis Batch: 101012

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 100837

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	24.9	23.99		mg/Kg		96	80 - 120
Cadmium	24.9	24.28		mg/Kg		98	80 - 120
Chromium	24.9	24.65		mg/Kg		99	80 - 120
Copper	24.9	26.12		mg/Kg		105	80 - 120
Lead	24.9	24.69		mg/Kg		99	80 - 120
Sulfur	24.9	22.49		mg/Kg		90	80 - 120

Lab Sample ID: LCSD 570-100837/3-A

Matrix: Solid

Analysis Batch: 101012

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 100837

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	24.6	23.98		mg/Kg		97	80 - 120	0	20
Cadmium	24.6	23.87		mg/Kg		97	80 - 120	2	20
Chromium	24.6	24.15		mg/Kg		98	80 - 120	2	20
Copper	24.6	25.63		mg/Kg		104	80 - 120	2	20
Lead	24.6	24.56		mg/Kg		100	80 - 120	1	20
Sulfur	24.6	22.17		mg/Kg		90	80 - 120	1	20

Lab Sample ID: 570-40255-1 MS

Matrix: Solid

Analysis Batch: 101012

Client Sample ID: INJS-3C-CONF-30.0

Prep Type: Total/NA

Prep Batch: 100837

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	7.69		25.7	37.22		mg/Kg	✱	115	75 - 125
Cadmium	ND		25.7	24.58		mg/Kg	✱	94	75 - 125
Chromium	748		25.7	840.9	4	mg/Kg	✱	362	75 - 125
Copper	95.2	F1	25.7	129.2	F1	mg/Kg	✱	132	75 - 125
Lead	2.54		25.7	27.53		mg/Kg	✱	97	75 - 125
Sulfur	2110		25.7	2376	4	mg/Kg	✱	1020	75 - 125

Lab Sample ID: 570-40255-1 MSD

Matrix: Solid

Analysis Batch: 101012

Client Sample ID: INJS-3C-CONF-30.0

Prep Type: Total/NA

Prep Batch: 100837

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	7.69		25.7	36.09		mg/Kg	✱	111	75 - 125	3	20

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40255-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 570-40255-1 MSD

Matrix: Solid

Analysis Batch: 101012

Client Sample ID: INJS-3C-CONF-30.0

Prep Type: Total/NA

Prep Batch: 100837

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		25.7	24.80		mg/Kg	⊛	95	75 - 125	1	20
Chromium	748		25.7	747.0	4	mg/Kg	⊛	-3	75 - 125	12	20
Copper	95.2	F1	25.7	119.2		mg/Kg	⊛	93	75 - 125	8	20
Lead	2.54		25.7	27.18		mg/Kg	⊛	96	75 - 125	1	20
Sulfur	2110		25.7	1965	4	mg/Kg	⊛	-581	75 - 125	19	20

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 570-100427/1-A

Matrix: Solid

Analysis Batch: 100838

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 100427

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.797	mg/Kg		10/08/20 14:00	10/09/20 17:33	1

Lab Sample ID: LCS 570-100427/2-A

Matrix: Solid

Analysis Batch: 100838

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 100427

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	19.9	17.23		mg/Kg		86	78 - 120

Lab Sample ID: LCSD 570-100427/3-A

Matrix: Solid

Analysis Batch: 100838

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 100427

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	19.9	17.19		mg/Kg		86	78 - 120	0	20

Lab Sample ID: 570-40255-1 MS

Matrix: Solid

Analysis Batch: 100838

Client Sample ID: INJS-3C-CONF-30.0

Prep Type: Total/NA

Prep Batch: 100427

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND	F1	20.6	ND	F1	mg/Kg	⊛	0	75 - 125

Lab Sample ID: 570-40255-1 MS

Matrix: Solid

Analysis Batch: 100838

Client Sample ID: INJS-3C-CONF-30.0

Prep Type: Total/NA

Prep Batch: 100427

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND	F1	20.6	2.901	F1	mg/Kg	⊛	14	75 - 125

Lab Sample ID: 570-40255-1 MSD

Matrix: Solid

Analysis Batch: 100838

Client Sample ID: INJS-3C-CONF-30.0

Prep Type: Total/NA

Prep Batch: 100427

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	20.6	ND	F1	mg/Kg	⊛	0	75 - 125	NC	25

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40255-1

## Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: 570-40255-1 MSD

Matrix: Solid

Analysis Batch: 100838

Client Sample ID: INJS-3C-CONF-30.0

Prep Type: Total/NA

Prep Batch: 100427

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	20.6	2.979	F1	mg/Kg	✱	14	75 - 125	3	25

Lab Sample ID: 570-40255-1 MSI

Matrix: Solid

Analysis Batch: 100838

Client Sample ID: INJS-3C-CONF-30.0

Prep Type: Total/NA

Prep Batch: 100427

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1020	ND	F1	mg/Kg	✱	-1	75 - 125		

Lab Sample ID: 570-40255-1 MSID

Matrix: Solid

Analysis Batch: 100838

Client Sample ID: INJS-3C-CONF-30.0

Prep Type: Total/NA

Prep Batch: 100427

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1020	ND	F1	mg/Kg	✱	0	75 - 125	NC	25

## Method: 9045C - pH

Lab Sample ID: 570-40255-2 DU

Matrix: Solid

Analysis Batch: 100198

Client Sample ID: INJS-3C-CONF-30.5

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	9.9		9.8		S.U.		0.5	25

## Method: Moisture - Percent Moisture

Lab Sample ID: 570-40256-A-1 DU

Matrix: Solid

Analysis Batch: 100078

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	12.7		12.9		%		1	10
Percent Solids	87.3		87.1		%		0.2	10

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40255-1

## Metals

### Prep Batch: 100837

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40255-1	INJS-3C-CONF-30.0	Total/NA	Solid	3050B	
570-40255-2	INJS-3C-CONF-30.5	Total/NA	Solid	3050B	
570-40255-3	INJS-3C-CONF-35.0	Total/NA	Solid	3050B	
MB 570-100837/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-100837/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-100837/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-40255-1 MS	INJS-3C-CONF-30.0	Total/NA	Solid	3050B	
570-40255-1 MSD	INJS-3C-CONF-30.0	Total/NA	Solid	3050B	

### Analysis Batch: 101012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40255-1	INJS-3C-CONF-30.0	Total/NA	Solid	6010B	100837
570-40255-2	INJS-3C-CONF-30.5	Total/NA	Solid	6010B	100837
570-40255-3	INJS-3C-CONF-35.0	Total/NA	Solid	6010B	100837
MB 570-100837/1-A	Method Blank	Total/NA	Solid	6010B	100837
LCS 570-100837/2-A	Lab Control Sample	Total/NA	Solid	6010B	100837
LCSD 570-100837/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	100837
570-40255-1 MS	INJS-3C-CONF-30.0	Total/NA	Solid	6010B	100837
570-40255-1 MSD	INJS-3C-CONF-30.0	Total/NA	Solid	6010B	100837

## General Chemistry

### Analysis Batch: 100078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40255-1	INJS-3C-CONF-30.0	Total/NA	Solid	Moisture	
570-40255-2	INJS-3C-CONF-30.5	Total/NA	Solid	Moisture	
570-40255-3	INJS-3C-CONF-35.0	Total/NA	Solid	Moisture	
570-40256-A-1 DU	Duplicate	Total/NA	Solid	Moisture	

### Leach Batch: 100123

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40255-1	INJS-3C-CONF-30.0	Total/NA	Solid	DI Leach	
570-40255-2	INJS-3C-CONF-30.5	Total/NA	Solid	DI Leach	
570-40255-3	INJS-3C-CONF-35.0	Total/NA	Solid	DI Leach	
570-40255-2 DU	INJS-3C-CONF-30.5	Total/NA	Solid	DI Leach	

### Analysis Batch: 100198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40255-1	INJS-3C-CONF-30.0	Total/NA	Solid	9045C	100123
570-40255-2	INJS-3C-CONF-30.5	Total/NA	Solid	9045C	100123
570-40255-3	INJS-3C-CONF-35.0	Total/NA	Solid	9045C	100123
570-40255-2 DU	INJS-3C-CONF-30.5	Total/NA	Solid	9045C	100123

### Prep Batch: 100427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40255-1	INJS-3C-CONF-30.0	Total/NA	Solid	3060A	
570-40255-2	INJS-3C-CONF-30.5	Total/NA	Solid	3060A	
570-40255-3	INJS-3C-CONF-35.0	Total/NA	Solid	3060A	
MB 570-100427/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-100427/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-100427/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	

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## QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40255-1

### General Chemistry (Continued)

#### Prep Batch: 100427 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40255-1 MS	INJS-3C-CONF-30.0	Total/NA	Solid	3060A	
570-40255-1 MSD	INJS-3C-CONF-30.0	Total/NA	Solid	3060A	
570-40255-1 MSI	INJS-3C-CONF-30.0	Total/NA	Solid	3060A	
570-40255-1 MSID	INJS-3C-CONF-30.0	Total/NA	Solid	3060A	

#### Analysis Batch: 100838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40255-1	INJS-3C-CONF-30.0	Total/NA	Solid	7196A	100427
570-40255-2	INJS-3C-CONF-30.5	Total/NA	Solid	7196A	100427
570-40255-3	INJS-3C-CONF-35.0	Total/NA	Solid	7196A	100427
MB 570-100427/1-A	Method Blank	Total/NA	Solid	7196A	100427
LCS 570-100427/2-A	Lab Control Sample	Total/NA	Solid	7196A	100427
LCSD 570-100427/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	100427
570-40255-1 MS	INJS-3C-CONF-30.0	Total/NA	Solid	7196A	100427
570-40255-1 MS	INJS-3C-CONF-30.0	Total/NA	Solid	7196A	100427
570-40255-1 MSD	INJS-3C-CONF-30.0	Total/NA	Solid	7196A	100427
570-40255-1 MSD	INJS-3C-CONF-30.0	Total/NA	Solid	7196A	100427
570-40255-1 MSI	INJS-3C-CONF-30.0	Total/NA	Solid	7196A	100427
570-40255-1 MSID	INJS-3C-CONF-30.0	Total/NA	Solid	7196A	100427



# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40255-1

**Client Sample ID: INJS-3C-CONF-30.0**

**Lab Sample ID: 570-40255-1**

**Date Collected: 10/06/20 10:05**

**Matrix: Solid**

**Date Received: 10/06/20 18:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	100837	10/09/20 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101012	10/10/20 11:05	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	100427	10/08/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100838	10/09/20 17:45	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.04 g	20 mL	100123	10/07/20 14:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	100198	10/07/20 17:28	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100078	10/07/20 12:26	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: INJS-3C-CONF-30.5**

**Lab Sample ID: 570-40255-2**

**Date Collected: 10/06/20 10:06**

**Matrix: Solid**

**Date Received: 10/06/20 18:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.97 g	100 mL	100837	10/09/20 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101012	10/10/20 11:11	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	100427	10/08/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100838	10/09/20 17:46	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	100123	10/07/20 14:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	100198	10/07/20 17:28	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100078	10/07/20 12:26	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: INJS-3C-CONF-35.0**

**Lab Sample ID: 570-40255-3**

**Date Collected: 10/06/20 10:15**

**Matrix: Solid**

**Date Received: 10/06/20 18:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	100 mL	100837	10/09/20 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101012	10/10/20 11:13	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.49 g	100 mL	100427	10/08/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100838	10/09/20 17:47	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	100123	10/07/20 14:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	100198	10/07/20 17:28	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100078	10/07/20 12:26	UAPD	ECL 1
Instrument ID: NOEQUIP										

Eurofins Calscience LLC

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40255-1

**Laboratory References:**

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

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## Accreditation/Certification Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40255-1

### Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-21
California	SCAQMD LAP	17LA0919	11-30-20
California	State	2944	09-30-21
Guam	State	20-003R	10-31-20
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-29-21
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-20

## Method Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40255-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	ECL 1
7196A	Chromium, Hexavalent	SW846	ECL 1
9045C	pH	SW846	ECL 1
Moisture	Percent Moisture	EPA	ECL 1
3050B	Preparation, Metals	SW846	ECL 1
3060A	Alkaline Digestion (Chromium, Hexavalent)	SW846	ECL 1
DI Leach	Deionized Water Leaching Procedure	ASTM	ECL 1

### Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494



## Sample Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40255-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-40255-1	INJS-3C-CONF-30.0	Solid	10/06/20 10:05	10/06/20 18:10	
570-40255-2	INJS-3C-CONF-30.5	Solid	10/06/20 10:06	10/06/20 18:10	
570-40255-3	INJS-3C-CONF-35.0	Solid	10/06/20 10:15	10/06/20 18:10	



## Login Sample Receipt Checklist

Client: Terraphase Engineering Inc

Job Number: 570-40255-1

Login Number: 40255

List Source: Eurofins Calscience

List Number: 1

Creator: Patel, Jayesh

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

Eurofins Calscience LLC  
7440 Lincoln Way  
Garden Grove, CA 92841  
Tel: (714)895-5494

Laboratory Job ID: 570-40370-1

Client Project/Site: PTI Southwest Soil Injection Confirmation

For:

Terraphase Engineering Inc  
18401 Von Karman Ave  
Suite 410  
Irvine, California 92612

Attn: Chris Alger

*Virendra R Patel*

Authorized for release by:  
10/15/2020 5:45:52 PM

Virendra Patel, Project Manager I  
(714)895-5494

[Virendra.Patel@eurofinset.com](mailto:Virendra.Patel@eurofinset.com)

### LINKS

Review your project  
results through

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[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

*The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



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# Definitions/Glossary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

## Qualifiers

### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

### General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

**Job ID: 570-40370-1**

**Laboratory: Eurofins Calscience LLC**

## Narrative

### Job Narrative 570-40370-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 10/7/2020 4:35 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.5° C.

#### HPLC/IC

Method 7199: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with analytical batch 570-99963.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method 6010B: Due to the high concentration of Sulfur, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 570-100861 and analytical batch 570-101012 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

Method 6010B: The continuing calibration verification (CCV) associated with batch 570-101737 recovered above the upper control limit for Cadmium, Copper, and Lead. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: EB-04 (570-40370-10) and (MB 570-101104/1-A).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

Method 7196A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-100427 and analytical batch 570-100838 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

## Client Sample ID: SWCONF2-28.0

## Lab Sample ID: 570-40370-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.56		0.848	mg/Kg	1	✖	6010B	Total/NA
Chromium	6.75		0.283	mg/Kg	1	✖	6010B	Total/NA
Copper	8.12		0.565	mg/Kg	1	✖	6010B	Total/NA
Lead	2.16		0.565	mg/Kg	1	✖	6010B	Total/NA
Sulfur	2470		5.65	mg/Kg	1	✖	6010B	Total/NA
pH	7.8		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF2-33.0

## Lab Sample ID: 570-40370-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.33		0.886	mg/Kg	1	✖	6010B	Total/NA
Chromium	12.6		0.295	mg/Kg	1	✖	6010B	Total/NA
Copper	14.3		0.591	mg/Kg	1	✖	6010B	Total/NA
Lead	2.57		0.591	mg/Kg	1	✖	6010B	Total/NA
Sulfur	1650		5.91	mg/Kg	1	✖	6010B	Total/NA
pH	10.9		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF2-36.0

## Lab Sample ID: 570-40370-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.19		0.837	mg/Kg	1	✖	6010B	Total/NA
Chromium	9.48		0.279	mg/Kg	1	✖	6010B	Total/NA
Copper	8.28		0.558	mg/Kg	1	✖	6010B	Total/NA
Lead	1.86		0.558	mg/Kg	1	✖	6010B	Total/NA
Sulfur	2270		5.58	mg/Kg	1	✖	6010B	Total/NA
pH	10.3		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF2-36.5

## Lab Sample ID: 570-40370-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	20.9		0.942	mg/Kg	1	✖	6010B	Total/NA
Chromium	42.6		0.314	mg/Kg	1	✖	6010B	Total/NA
Copper	55.2		0.628	mg/Kg	1	✖	6010B	Total/NA
Lead	9.59		0.628	mg/Kg	1	✖	6010B	Total/NA
Sulfur	1060		6.28	mg/Kg	1	✖	6010B	Total/NA
pH	8.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF2-42.0

## Lab Sample ID: 570-40370-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	43.2		1.01	mg/Kg	1	✖	6010B	Total/NA
Chromium	64.6		0.336	mg/Kg	1	✖	6010B	Total/NA
Copper	76.5		0.671	mg/Kg	1	✖	6010B	Total/NA
Lead	10.6		0.671	mg/Kg	1	✖	6010B	Total/NA
Sulfur	1370		6.71	mg/Kg	1	✖	6010B	Total/NA
pH	8.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF2-50.0

## Lab Sample ID: 570-40370-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.93		0.860	mg/Kg	1	✖	6010B	Total/NA
Chromium	15.1		0.287	mg/Kg	1	✖	6010B	Total/NA
Copper	17.5		0.573	mg/Kg	1	✖	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC



# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

## Client Sample ID: SWCONF2-50.0 (Continued)

## Lab Sample ID: 570-40370-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Lead	2.23		0.573	mg/Kg	1	✱	6010B	Total/NA
Sulfur	955		5.73	mg/Kg	1	✱	6010B	Total/NA
pH	8.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF2-56.0

## Lab Sample ID: 570-40370-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.62		0.976	mg/Kg	1	✱	6010B	Total/NA
Chromium	27.5		0.325	mg/Kg	1	✱	6010B	Total/NA
Copper	31.5		0.651	mg/Kg	1	✱	6010B	Total/NA
Lead	2.63		0.651	mg/Kg	1	✱	6010B	Total/NA
Sulfur	3520		6.51	mg/Kg	1	✱	6010B	Total/NA
pH	9.3		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF2-56.5

## Lab Sample ID: 570-40370-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.79		0.848	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.783		0.565	mg/Kg	1	✱	6010B	Total/NA
Chromium	72.5		0.283	mg/Kg	1	✱	6010B	Total/NA
Copper	12.3		0.565	mg/Kg	1	✱	6010B	Total/NA
Lead	1.64		0.565	mg/Kg	1	✱	6010B	Total/NA
Sulfur	1680		5.65	mg/Kg	1	✱	6010B	Total/NA
pH	11.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF2-62.0

## Lab Sample ID: 570-40370-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.1		0.972	mg/Kg	1	✱	6010B	Total/NA
Cadmium	5.06		0.648	mg/Kg	1	✱	6010B	Total/NA
Chromium	82.4		0.324	mg/Kg	1	✱	6010B	Total/NA
Copper	26.3		0.648	mg/Kg	1	✱	6010B	Total/NA
Lead	2.36		0.648	mg/Kg	1	✱	6010B	Total/NA
Sulfur	2360		6.48	mg/Kg	1	✱	6010B	Total/NA
pH	11.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: EB-04

## Lab Sample ID: 570-40370-10

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

## Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

### Method: 7199 - Chromium, Hexavalent (IC)

Client Sample ID: EB-04  
Date Collected: 10/07/20 15:05  
Date Received: 10/07/20 16:35

Lab Sample ID: 570-40370-10  
Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			10/07/20 21:01	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCONF2-28.0

Date Collected: 10/07/20 09:40

Date Received: 10/07/20 16:35

Lab Sample ID: 570-40370-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.56		0.848	mg/Kg	☼	10/09/20 20:00	10/10/20 12:40	1
Cadmium	ND		0.565	mg/Kg	☼	10/09/20 20:00	10/10/20 12:40	1
Chromium	6.75		0.283	mg/Kg	☼	10/09/20 20:00	10/10/20 12:40	1
Copper	8.12		0.565	mg/Kg	☼	10/09/20 20:00	10/10/20 12:40	1
Lead	2.16		0.565	mg/Kg	☼	10/09/20 20:00	10/10/20 12:40	1
Sulfur	2470		5.65	mg/Kg	☼	10/09/20 20:00	10/10/20 12:40	1

Client Sample ID: SWCONF2-33.0

Date Collected: 10/07/20 10:10

Date Received: 10/07/20 16:35

Lab Sample ID: 570-40370-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.33		0.886	mg/Kg	☼	10/09/20 20:00	10/10/20 12:46	1
Cadmium	ND		0.591	mg/Kg	☼	10/09/20 20:00	10/10/20 12:46	1
Chromium	12.6		0.295	mg/Kg	☼	10/09/20 20:00	10/10/20 12:46	1
Copper	14.3		0.591	mg/Kg	☼	10/09/20 20:00	10/10/20 12:46	1
Lead	2.57		0.591	mg/Kg	☼	10/09/20 20:00	10/10/20 12:46	1
Sulfur	1650		5.91	mg/Kg	☼	10/09/20 20:00	10/10/20 12:46	1

Client Sample ID: SWCONF2-36.0

Date Collected: 10/07/20 10:15

Date Received: 10/07/20 16:35

Lab Sample ID: 570-40370-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.19		0.837	mg/Kg	☼	10/09/20 20:00	10/10/20 12:48	1
Cadmium	ND		0.558	mg/Kg	☼	10/09/20 20:00	10/10/20 12:48	1
Chromium	9.48		0.279	mg/Kg	☼	10/09/20 20:00	10/10/20 12:48	1
Copper	8.28		0.558	mg/Kg	☼	10/09/20 20:00	10/10/20 12:48	1
Lead	1.86		0.558	mg/Kg	☼	10/09/20 20:00	10/10/20 12:48	1
Sulfur	2270		5.58	mg/Kg	☼	10/09/20 20:00	10/10/20 12:48	1

Client Sample ID: SWCONF2-36.5

Date Collected: 10/07/20 10:16

Date Received: 10/07/20 16:35

Lab Sample ID: 570-40370-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20.9		0.942	mg/Kg	☼	10/09/20 20:00	10/10/20 12:50	1
Cadmium	ND		0.628	mg/Kg	☼	10/09/20 20:00	10/10/20 12:50	1
Chromium	42.6		0.314	mg/Kg	☼	10/09/20 20:00	10/10/20 12:50	1
Copper	55.2		0.628	mg/Kg	☼	10/09/20 20:00	10/10/20 12:50	1
Lead	9.59		0.628	mg/Kg	☼	10/09/20 20:00	10/10/20 12:50	1
Sulfur	1060		6.28	mg/Kg	☼	10/09/20 20:00	10/10/20 12:50	1

Client Sample ID: SWCONF2-42.0

Date Collected: 10/07/20 10:40

Date Received: 10/07/20 16:35

Lab Sample ID: 570-40370-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	43.2		1.01	mg/Kg	☼	10/09/20 20:00	10/10/20 13:01	1
Cadmium	ND		0.671	mg/Kg	☼	10/09/20 20:00	10/10/20 13:01	1
Chromium	64.6		0.336	mg/Kg	☼	10/09/20 20:00	10/10/20 13:01	1
Copper	76.5		0.671	mg/Kg	☼	10/09/20 20:00	10/10/20 13:01	1
Lead	10.6		0.671	mg/Kg	☼	10/09/20 20:00	10/10/20 13:01	1
Sulfur	1370		6.71	mg/Kg	☼	10/09/20 20:00	10/10/20 13:01	1

Eurofins Calscience LLC

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCONF2-50.0

Date Collected: 10/07/20 11:10

Date Received: 10/07/20 16:35

Lab Sample ID: 570-40370-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.93		0.860	mg/Kg	☼	10/09/20 20:00	10/10/20 13:03	1
Cadmium	ND		0.573	mg/Kg	☼	10/09/20 20:00	10/10/20 13:03	1
Chromium	15.1		0.287	mg/Kg	☼	10/09/20 20:00	10/10/20 13:03	1
Copper	17.5		0.573	mg/Kg	☼	10/09/20 20:00	10/10/20 13:03	1
Lead	2.23		0.573	mg/Kg	☼	10/09/20 20:00	10/10/20 13:03	1
Sulfur	955		5.73	mg/Kg	☼	10/09/20 20:00	10/10/20 13:03	1

Client Sample ID: SWCONF2-56.0

Date Collected: 10/07/20 11:20

Date Received: 10/07/20 16:35

Lab Sample ID: 570-40370-7

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.62		0.976	mg/Kg	☼	10/09/20 20:00	10/10/20 13:05	1
Cadmium	ND		0.651	mg/Kg	☼	10/09/20 20:00	10/10/20 13:05	1
Chromium	27.5		0.325	mg/Kg	☼	10/09/20 20:00	10/10/20 13:05	1
Copper	31.5		0.651	mg/Kg	☼	10/09/20 20:00	10/10/20 13:05	1
Lead	2.63		0.651	mg/Kg	☼	10/09/20 20:00	10/10/20 13:05	1
Sulfur	3520		6.51	mg/Kg	☼	10/09/20 20:00	10/10/20 13:05	1

Client Sample ID: SWCONF2-56.5

Date Collected: 10/07/20 11:21

Date Received: 10/07/20 16:35

Lab Sample ID: 570-40370-8

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.79		0.848	mg/Kg	☼	10/09/20 20:00	10/10/20 13:07	1
Cadmium	0.783		0.565	mg/Kg	☼	10/09/20 20:00	10/10/20 13:07	1
Chromium	72.5		0.283	mg/Kg	☼	10/09/20 20:00	10/10/20 13:07	1
Copper	12.3		0.565	mg/Kg	☼	10/09/20 20:00	10/10/20 13:07	1
Lead	1.64		0.565	mg/Kg	☼	10/09/20 20:00	10/10/20 13:07	1
Sulfur	1680		5.65	mg/Kg	☼	10/09/20 20:00	10/10/20 13:07	1

Client Sample ID: SWCONF2-62.0

Date Collected: 10/07/20 11:35

Date Received: 10/07/20 16:35

Lab Sample ID: 570-40370-9

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.1		0.972	mg/Kg	☼	10/09/20 20:00	10/10/20 13:09	1
Cadmium	5.06		0.648	mg/Kg	☼	10/09/20 20:00	10/10/20 13:09	1
Chromium	82.4		0.324	mg/Kg	☼	10/09/20 20:00	10/10/20 13:09	1
Copper	26.3		0.648	mg/Kg	☼	10/09/20 20:00	10/10/20 13:09	1
Lead	2.36		0.648	mg/Kg	☼	10/09/20 20:00	10/10/20 13:09	1
Sulfur	2360		6.48	mg/Kg	☼	10/09/20 20:00	10/10/20 13:09	1



# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

## General Chemistry

Client Sample ID: SWCONF2-28.0

Date Collected: 10/07/20 09:40

Date Received: 10/07/20 16:35

Lab Sample ID: 570-40370-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.873	mg/Kg	☼	10/08/20 14:00	10/09/20 17:40	1
pH	7.8		0.01	S.U.			10/08/20 19:00	1
Percent Moisture	10.2		0.1	%			10/08/20 11:37	1
Percent Solids	89.8		0.1	%			10/08/20 11:37	1

Client Sample ID: SWCONF2-33.0

Date Collected: 10/07/20 10:10

Date Received: 10/07/20 16:35

Lab Sample ID: 570-40370-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.911	mg/Kg	☼	10/08/20 14:00	10/09/20 17:41	1
pH	10.9		0.01	S.U.			10/08/20 19:00	1
Percent Moisture	13.2		0.1	%			10/08/20 11:37	1
Percent Solids	86.8		0.1	%			10/08/20 11:37	1

Client Sample ID: SWCONF2-36.0

Date Collected: 10/07/20 10:15

Date Received: 10/07/20 16:35

Lab Sample ID: 570-40370-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.902	mg/Kg	☼	10/08/20 14:00	10/09/20 17:42	1
pH	10.3		0.01	S.U.			10/08/20 19:00	1
Percent Moisture	11.3		0.1	%			10/08/20 11:37	1
Percent Solids	88.7		0.1	%			10/08/20 11:37	1

Client Sample ID: SWCONF2-36.5

Date Collected: 10/07/20 10:16

Date Received: 10/07/20 16:35

Lab Sample ID: 570-40370-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.02	mg/Kg	☼	10/08/20 14:00	10/09/20 17:43	1
pH	8.4		0.01	S.U.			10/08/20 19:00	1
Percent Moisture	23.5		0.1	%			10/08/20 11:37	1
Percent Solids	76.5		0.1	%			10/08/20 11:37	1

Client Sample ID: SWCONF2-42.0

Date Collected: 10/07/20 10:40

Date Received: 10/07/20 16:35

Lab Sample ID: 570-40370-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.09	mg/Kg	☼	10/08/20 14:00	10/09/20 17:44	1
pH	8.4		0.01	S.U.			10/08/20 19:00	1
Percent Moisture	26.2		0.1	%			10/08/20 11:37	1
Percent Solids	73.8		0.1	%			10/08/20 11:37	1

Client Sample ID: SWCONF2-50.0

Date Collected: 10/07/20 11:10

Date Received: 10/07/20 16:35

Lab Sample ID: 570-40370-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.937	mg/Kg	☼	10/09/20 14:35	10/10/20 15:00	1
pH	8.4		0.01	S.U.			10/08/20 19:00	1
Percent Moisture	15.3		0.1	%			10/08/20 11:37	1
Percent Solids	84.7		0.1	%			10/08/20 11:37	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

## General Chemistry

Client Sample ID: SWCONF2-56.0

Date Collected: 10/07/20 11:20

Date Received: 10/07/20 16:35

Lab Sample ID: 570-40370-7

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.05	mg/Kg	☼	10/09/20 14:35	10/10/20 15:03	1
pH	9.3		0.01	S.U.			10/08/20 19:00	1
Percent Moisture	24.6		0.1	%			10/08/20 11:37	1
Percent Solids	75.4		0.1	%			10/08/20 11:37	1

Client Sample ID: SWCONF2-56.5

Date Collected: 10/07/20 11:21

Date Received: 10/07/20 16:35

Lab Sample ID: 570-40370-8

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.918	mg/Kg	☼	10/09/20 14:35	10/10/20 15:04	1
pH	11.4		0.01	S.U.			10/08/20 19:00	1
Percent Moisture	12.8		0.1	%			10/08/20 11:37	1
Percent Solids	87.2		0.1	%			10/08/20 11:37	1

Client Sample ID: SWCONF2-62.0

Date Collected: 10/07/20 11:35

Date Received: 10/07/20 16:35

Lab Sample ID: 570-40370-9

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.03	mg/Kg	☼	10/09/20 14:35	10/10/20 15:01	1
pH	11.4		0.01	S.U.			10/08/20 19:00	1
Percent Moisture	22.8		0.1	%			10/08/20 11:37	1
Percent Solids	77.2		0.1	%			10/08/20 11:37	1

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

## Method: 7199 - Chromium, Hexavalent (IC)

Lab Sample ID: MB 570-99963/23

Matrix: Water

Analysis Batch: 99963

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			10/07/20 12:27	1

Lab Sample ID: LCS 570-99963/24

Matrix: Water

Analysis Batch: 99963

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.0501	0.04971		mg/L		99	80 - 120

Lab Sample ID: LCSD 570-99963/25

Matrix: Water

Analysis Batch: 99963

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	0.0501	0.04985		mg/L		100	80 - 120	0	20

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 570-100861/1-A

Matrix: Solid

Analysis Batch: 101012

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 100861

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.750	mg/Kg		10/09/20 20:00	10/10/20 12:33	1
Cadmium	ND		0.500	mg/Kg		10/09/20 20:00	10/10/20 12:33	1
Chromium	ND		0.250	mg/Kg		10/09/20 20:00	10/10/20 12:33	1
Copper	ND		0.500	mg/Kg		10/09/20 20:00	10/10/20 12:33	1
Lead	ND		0.500	mg/Kg		10/09/20 20:00	10/10/20 12:33	1
Sulfur	ND		5.00	mg/Kg		10/09/20 20:00	10/10/20 12:33	1

Lab Sample ID: LCS 570-100861/2-A

Matrix: Solid

Analysis Batch: 101012

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 100861

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	24.5	21.93		mg/Kg		89	80 - 120
Cadmium	24.5	22.60		mg/Kg		92	80 - 120
Chromium	24.5	22.81		mg/Kg		93	80 - 120
Copper	24.5	24.85		mg/Kg		101	80 - 120
Lead	24.5	22.73		mg/Kg		93	80 - 120
Sulfur	24.5	24.18		mg/Kg		99	80 - 120

Lab Sample ID: LCSD 570-100861/3-A

Matrix: Solid

Analysis Batch: 101012

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 100861

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	24.8	22.34		mg/Kg		90	80 - 120	2	20
Cadmium	24.8	22.87		mg/Kg		92	80 - 120	1	20
Chromium	24.8	23.21		mg/Kg		94	80 - 120	2	20

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCSD 570-100861/3-A

Matrix: Solid

Analysis Batch: 101012

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 100861

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Copper	24.8	24.91		mg/Kg		101	80 - 120	0	20
Lead	24.8	23.42		mg/Kg		95	80 - 120	3	20
Sulfur	24.8	22.67		mg/Kg		92	80 - 120	6	20

Lab Sample ID: 570-40370-1 MS

Matrix: Solid

Analysis Batch: 101012

Client Sample ID: SWCONF2-28.0

Prep Type: Total/NA

Prep Batch: 100861

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	4.56		28.3	35.52		mg/Kg	✱	110	75 - 125		
Cadmium	ND		28.3	28.07		mg/Kg	✱	99	75 - 125		
Chromium	6.75		28.3	34.31		mg/Kg	✱	97	75 - 125		
Copper	8.12		28.3	37.51		mg/Kg	✱	104	75 - 125		
Lead	2.16		28.3	30.42		mg/Kg	✱	100	75 - 125		
Sulfur	2470		28.3	1903	4	mg/Kg	✱	-2021	75 - 125		

Lab Sample ID: 570-40370-1 MSD

Matrix: Solid

Analysis Batch: 101012

Client Sample ID: SWCONF2-28.0

Prep Type: Total/NA

Prep Batch: 100861

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	4.56		27.6	36.11		mg/Kg	✱	114	75 - 125	2	20
Cadmium	ND		27.6	27.81		mg/Kg	✱	101	75 - 125	1	20
Chromium	6.75		27.6	34.59		mg/Kg	✱	101	75 - 125	1	20
Copper	8.12		27.6	37.81		mg/Kg	✱	108	75 - 125	1	20
Lead	2.16		27.6	29.54		mg/Kg	✱	99	75 - 125	3	20
Sulfur	2470		27.6	2069	4	mg/Kg	✱	-1468	75 - 125	8	20

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 570-100427/1-A

Matrix: Solid

Analysis Batch: 100838

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 100427

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.797	mg/Kg		10/08/20 14:00	10/09/20 17:33	1

Lab Sample ID: LCS 570-100427/2-A

Matrix: Solid

Analysis Batch: 100838

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 100427

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	19.9	17.23		mg/Kg		86	78 - 120		

Lab Sample ID: LCSD 570-100427/3-A

Matrix: Solid

Analysis Batch: 100838

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 100427

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	19.9	17.19		mg/Kg		86	78 - 120	0	20

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

## Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: 570-40255-A-1-B MSI ^25

Matrix: Solid

Analysis Batch: 100838

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 100427

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND	F1	1020	ND	F1	mg/Kg	✱	-1	75 - 125

Lab Sample ID: 570-40255-A-1-C MSID ^25

Matrix: Solid

Analysis Batch: 100838

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 100427

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	ND	F1	1020	ND	F1	mg/Kg	✱	0	75 - 125	NC	25

Lab Sample ID: 570-40255-A-1-D MS

Matrix: Solid

Analysis Batch: 100838

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 100427

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND	F1	20.6	ND	F1	mg/Kg	✱	0	75 - 125

Lab Sample ID: 570-40255-A-1-E MSD

Matrix: Solid

Analysis Batch: 100838

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 100427

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	ND	F1	20.6	ND	F1	mg/Kg	✱	0	75 - 125	NC	25

Lab Sample ID: MB 570-100765/1-A

Matrix: Solid

Analysis Batch: 100966

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 100765

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.800	mg/Kg		10/09/20 14:35	10/10/20 14:48	1

Lab Sample ID: LCS 570-100765/2-A

Matrix: Solid

Analysis Batch: 100966

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 100765

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	20.0	16.70		mg/Kg		83	78 - 120

Lab Sample ID: LCSD 570-100765/3-A

Matrix: Solid

Analysis Batch: 100966

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 100765

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	20.1	17.35		mg/Kg		86	78 - 120	4	20

Lab Sample ID: 570-40480-A-5-A MSI ^25

Matrix: Solid

Analysis Batch: 100966

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 100765

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	4.93		1020	851.2		mg/Kg	✱	83	75 - 125

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: 570-40480-A-5-B MSID ^25

Matrix: Solid

Analysis Batch: 100966

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 100765

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	4.93		1020	837.9		mg/Kg	☆	82	75 - 125	2	25

Lab Sample ID: 570-40480-A-5-C MS

Matrix: Solid

Analysis Batch: 100966

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 100765

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	4.93		20.6	21.45		mg/Kg	☆	80	75 - 125		

Lab Sample ID: 570-40480-A-5-D MSD

Matrix: Solid

Analysis Batch: 100966

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 100765

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	4.93		21.0	22.12		mg/Kg	☆	82	75 - 125	3	25

## Method: 9045C - pH

Lab Sample ID: 570-40370-7 DU

Matrix: Solid

Analysis Batch: 101614

Client Sample ID: SWCONF2-56.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	9.3		9.6		S.U.		3	25

Lab Sample ID: 570-40370-9 DU

Matrix: Solid

Analysis Batch: 101614

Client Sample ID: SWCONF2-62.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	11.4		11.5		S.U.		0.2	25

## Method: Moisture - Percent Moisture

Lab Sample ID: 570-40370-1 DU

Matrix: Solid

Analysis Batch: 100388

Client Sample ID: SWCONF2-28.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	10.2		10.1		%		2	10
Percent Solids	89.8		89.9		%		0.2	10

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

## HPLC/IC

### Analysis Batch: 99963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40370-10	EB-04	Total/NA	Water	7199	
MB 570-99963/23	Method Blank	Total/NA	Water	7199	
LCS 570-99963/24	Lab Control Sample	Total/NA	Water	7199	
LCSD 570-99963/25	Lab Control Sample Dup	Total/NA	Water	7199	

## Metals

### Prep Batch: 100861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40370-1	SWCONF2-28.0	Total/NA	Solid	3050B	
570-40370-2	SWCONF2-33.0	Total/NA	Solid	3050B	
570-40370-3	SWCONF2-36.0	Total/NA	Solid	3050B	
570-40370-4	SWCONF2-36.5	Total/NA	Solid	3050B	
570-40370-5	SWCONF2-42.0	Total/NA	Solid	3050B	
570-40370-6	SWCONF2-50.0	Total/NA	Solid	3050B	
570-40370-7	SWCONF2-56.0	Total/NA	Solid	3050B	
570-40370-8	SWCONF2-56.5	Total/NA	Solid	3050B	
570-40370-9	SWCONF2-62.0	Total/NA	Solid	3050B	
MB 570-100861/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-100861/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-100861/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-40370-1 MS	SWCONF2-28.0	Total/NA	Solid	3050B	
570-40370-1 MSD	SWCONF2-28.0	Total/NA	Solid	3050B	

### Analysis Batch: 101012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40370-1	SWCONF2-28.0	Total/NA	Solid	6010B	100861
570-40370-2	SWCONF2-33.0	Total/NA	Solid	6010B	100861
570-40370-3	SWCONF2-36.0	Total/NA	Solid	6010B	100861
570-40370-4	SWCONF2-36.5	Total/NA	Solid	6010B	100861
570-40370-5	SWCONF2-42.0	Total/NA	Solid	6010B	100861
570-40370-6	SWCONF2-50.0	Total/NA	Solid	6010B	100861
570-40370-7	SWCONF2-56.0	Total/NA	Solid	6010B	100861
570-40370-8	SWCONF2-56.5	Total/NA	Solid	6010B	100861
570-40370-9	SWCONF2-62.0	Total/NA	Solid	6010B	100861
MB 570-100861/1-A	Method Blank	Total/NA	Solid	6010B	100861
LCS 570-100861/2-A	Lab Control Sample	Total/NA	Solid	6010B	100861
LCSD 570-100861/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	100861
570-40370-1 MS	SWCONF2-28.0	Total/NA	Solid	6010B	100861
570-40370-1 MSD	SWCONF2-28.0	Total/NA	Solid	6010B	100861

## General Chemistry

### Analysis Batch: 100388

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40370-1	SWCONF2-28.0	Total/NA	Solid	Moisture	
570-40370-2	SWCONF2-33.0	Total/NA	Solid	Moisture	
570-40370-3	SWCONF2-36.0	Total/NA	Solid	Moisture	
570-40370-4	SWCONF2-36.5	Total/NA	Solid	Moisture	
570-40370-5	SWCONF2-42.0	Total/NA	Solid	Moisture	
570-40370-6	SWCONF2-50.0	Total/NA	Solid	Moisture	
570-40370-7	SWCONF2-56.0	Total/NA	Solid	Moisture	

Eurofins Calscience LLC

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

## General Chemistry (Continued)

### Analysis Batch: 100388 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40370-8	SWCONF2-56.5	Total/NA	Solid	Moisture	
570-40370-9	SWCONF2-62.0	Total/NA	Solid	Moisture	
570-40370-1 DU	SWCONF2-28.0	Total/NA	Solid	Moisture	

### Prep Batch: 100427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40370-1	SWCONF2-28.0	Total/NA	Solid	3060A	
570-40370-2	SWCONF2-33.0	Total/NA	Solid	3060A	
570-40370-3	SWCONF2-36.0	Total/NA	Solid	3060A	
570-40370-4	SWCONF2-36.5	Total/NA	Solid	3060A	
570-40370-5	SWCONF2-42.0	Total/NA	Solid	3060A	
MB 570-100427/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-100427/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-100427/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-40255-A-1-B MSI ^25	Matrix Spike	Total/NA	Solid	3060A	
570-40255-A-1-C MSID ^25	Matrix Spike Duplicate	Total/NA	Solid	3060A	
570-40255-A-1-D MS	Matrix Spike	Total/NA	Solid	3060A	
570-40255-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	3060A	

### Prep Batch: 100765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40370-6	SWCONF2-50.0	Total/NA	Solid	3060A	
570-40370-7	SWCONF2-56.0	Total/NA	Solid	3060A	
570-40370-8	SWCONF2-56.5	Total/NA	Solid	3060A	
570-40370-9	SWCONF2-62.0	Total/NA	Solid	3060A	
MB 570-100765/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-100765/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-100765/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-40480-A-5-A MSI ^25	Matrix Spike	Total/NA	Solid	3060A	
570-40480-A-5-B MSID ^25	Matrix Spike Duplicate	Total/NA	Solid	3060A	
570-40480-A-5-C MS	Matrix Spike	Total/NA	Solid	3060A	
570-40480-A-5-D MSD	Matrix Spike Duplicate	Total/NA	Solid	3060A	

### Analysis Batch: 100838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40370-1	SWCONF2-28.0	Total/NA	Solid	7196A	100427
570-40370-2	SWCONF2-33.0	Total/NA	Solid	7196A	100427
570-40370-3	SWCONF2-36.0	Total/NA	Solid	7196A	100427
570-40370-4	SWCONF2-36.5	Total/NA	Solid	7196A	100427
570-40370-5	SWCONF2-42.0	Total/NA	Solid	7196A	100427
MB 570-100427/1-A	Method Blank	Total/NA	Solid	7196A	100427
LCS 570-100427/2-A	Lab Control Sample	Total/NA	Solid	7196A	100427
LCSD 570-100427/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	100427
570-40255-A-1-B MSI ^25	Matrix Spike	Total/NA	Solid	7196A	100427
570-40255-A-1-C MSID ^25	Matrix Spike Duplicate	Total/NA	Solid	7196A	100427
570-40255-A-1-D MS	Matrix Spike	Total/NA	Solid	7196A	100427
570-40255-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	7196A	100427

### Analysis Batch: 100966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40370-6	SWCONF2-50.0	Total/NA	Solid	7196A	100765

Eurofins Calscience LLC



# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

## General Chemistry (Continued)

### Analysis Batch: 100966 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40370-7	SWCONF2-56.0	Total/NA	Solid	7196A	100765
570-40370-8	SWCONF2-56.5	Total/NA	Solid	7196A	100765
570-40370-9	SWCONF2-62.0	Total/NA	Solid	7196A	100765
MB 570-100765/1-A	Method Blank	Total/NA	Solid	7196A	100765
LCS 570-100765/2-A	Lab Control Sample	Total/NA	Solid	7196A	100765
LCSD 570-100765/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	100765
570-40480-A-5-A MSI ^25	Matrix Spike	Total/NA	Solid	7196A	100765
570-40480-A-5-B MSID ^25	Matrix Spike Duplicate	Total/NA	Solid	7196A	100765
570-40480-A-5-C MS	Matrix Spike	Total/NA	Solid	7196A	100765
570-40480-A-5-D MSD	Matrix Spike Duplicate	Total/NA	Solid	7196A	100765

### Leach Batch: 101590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40370-1	SWCONF2-28.0	Total/NA	Solid	DI Leach	
570-40370-2	SWCONF2-33.0	Total/NA	Solid	DI Leach	
570-40370-3	SWCONF2-36.0	Total/NA	Solid	DI Leach	
570-40370-4	SWCONF2-36.5	Total/NA	Solid	DI Leach	
570-40370-5	SWCONF2-42.0	Total/NA	Solid	DI Leach	
570-40370-6	SWCONF2-50.0	Total/NA	Solid	DI Leach	
570-40370-7	SWCONF2-56.0	Total/NA	Solid	DI Leach	
570-40370-8	SWCONF2-56.5	Total/NA	Solid	DI Leach	
570-40370-9	SWCONF2-62.0	Total/NA	Solid	DI Leach	
570-40370-7 DU	SWCONF2-56.0	Total/NA	Solid	DI Leach	
570-40370-9 DU	SWCONF2-62.0	Total/NA	Solid	DI Leach	

### Analysis Batch: 101614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40370-1	SWCONF2-28.0	Total/NA	Solid	9045C	101590
570-40370-2	SWCONF2-33.0	Total/NA	Solid	9045C	101590
570-40370-3	SWCONF2-36.0	Total/NA	Solid	9045C	101590
570-40370-4	SWCONF2-36.5	Total/NA	Solid	9045C	101590
570-40370-5	SWCONF2-42.0	Total/NA	Solid	9045C	101590
570-40370-6	SWCONF2-50.0	Total/NA	Solid	9045C	101590
570-40370-7	SWCONF2-56.0	Total/NA	Solid	9045C	101590
570-40370-8	SWCONF2-56.5	Total/NA	Solid	9045C	101590
570-40370-9	SWCONF2-62.0	Total/NA	Solid	9045C	101590
570-40370-7 DU	SWCONF2-56.0	Total/NA	Solid	9045C	101590
570-40370-9 DU	SWCONF2-62.0	Total/NA	Solid	9045C	101590

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

**Client Sample ID: SWCONF2-28.0**

**Lab Sample ID: 570-40370-1**

**Date Collected: 10/07/20 09:40**

**Matrix: Solid**

**Date Received: 10/07/20 16:35**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.97 g	100 mL	100861	10/09/20 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101012	10/10/20 12:40	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.55 g	100 mL	100427	10/08/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100838	10/09/20 17:40	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	101590	10/08/20 15:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	101614	10/08/20 19:00	UAPD	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100388	10/08/20 11:37	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF2-33.0**

**Lab Sample ID: 570-40370-2**

**Date Collected: 10/07/20 10:10**

**Matrix: Solid**

**Date Received: 10/07/20 16:35**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.95 g	100 mL	100861	10/09/20 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101012	10/10/20 12:46	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	100427	10/08/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100838	10/09/20 17:41	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	101590	10/08/20 15:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	101614	10/08/20 19:00	UAPD	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100388	10/08/20 11:37	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF2-36.0**

**Lab Sample ID: 570-40370-3**

**Date Collected: 10/07/20 10:15**

**Matrix: Solid**

**Date Received: 10/07/20 16:35**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	100 mL	100861	10/09/20 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101012	10/10/20 12:48	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	100427	10/08/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100838	10/09/20 17:42	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.95 g	20 mL	101590	10/08/20 15:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	101614	10/08/20 19:00	UAPD	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100388	10/08/20 11:37	UAPD	ECL 1
Instrument ID: NOEQUIP										

Eurofins Calscience LLC

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

## Client Sample ID: SWCONF2-36.5

## Lab Sample ID: 570-40370-4

Date Collected: 10/07/20 10:16

Matrix: Solid

Date Received: 10/07/20 16:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.08 g	100 mL	100861	10/09/20 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101012	10/10/20 12:50	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.55 g	100 mL	100427	10/08/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100838	10/09/20 17:43	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.96 g	20 mL	101590	10/08/20 15:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	101614	10/08/20 19:00	UAPD	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100388	10/08/20 11:37	UAPD	ECL 1
Instrument ID: NOEQUIP										

## Client Sample ID: SWCONF2-42.0

## Lab Sample ID: 570-40370-5

Date Collected: 10/07/20 10:40

Matrix: Solid

Date Received: 10/07/20 16:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	100 mL	100861	10/09/20 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101012	10/10/20 13:01	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.49 g	100 mL	100427	10/08/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100838	10/09/20 17:44	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.04 g	20 mL	101590	10/08/20 15:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	101614	10/08/20 19:00	UAPD	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100388	10/08/20 11:37	UAPD	ECL 1
Instrument ID: NOEQUIP										

## Client Sample ID: SWCONF2-50.0

## Lab Sample ID: 570-40370-6

Date Collected: 10/07/20 11:10

Matrix: Solid

Date Received: 10/07/20 16:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.06 g	100 mL	100861	10/09/20 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101012	10/10/20 13:03	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	100765	10/09/20 14:35	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100966	10/10/20 15:00	CO7S	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			19.98 g	20 mL	101590	10/08/20 15:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	101614	10/08/20 19:00	UAPD	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100388	10/08/20 11:37	UAPD	ECL 1
Instrument ID: NOEQUIP										

Eurofins Calscience LLC

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

**Client Sample ID: SWCONF2-56.0**

**Lab Sample ID: 570-40370-7**

**Date Collected: 10/07/20 11:20**

**Matrix: Solid**

**Date Received: 10/07/20 16:35**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	100861	10/09/20 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101012	10/10/20 13:05	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	100765	10/09/20 14:35	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100966	10/10/20 15:03	CO7S	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			19.99 g	20 mL	101590	10/08/20 15:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	101614	10/08/20 19:00	UAPD	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100388	10/08/20 11:37	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF2-56.5**

**Lab Sample ID: 570-40370-8**

**Date Collected: 10/07/20 11:21**

**Matrix: Solid**

**Date Received: 10/07/20 16:35**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	100861	10/09/20 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101012	10/10/20 13:07	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	100765	10/09/20 14:35	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100966	10/10/20 15:04	CO7S	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			19.99 g	20 mL	101590	10/08/20 15:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	101614	10/08/20 19:00	UAPD	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100388	10/08/20 11:37	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF2-62.0**

**Lab Sample ID: 570-40370-9**

**Date Collected: 10/07/20 11:35**

**Matrix: Solid**

**Date Received: 10/07/20 16:35**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	100 mL	100861	10/09/20 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101012	10/10/20 13:09	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	100765	10/09/20 14:35	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100966	10/10/20 15:01	CO7S	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			20.01 g	20 mL	101590	10/08/20 15:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	101614	10/08/20 19:00	UAPD	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100388	10/08/20 11:37	UAPD	ECL 1
Instrument ID: NOEQUIP										

Eurofins Calscience LLC



# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

**Client Sample ID: EB-04**  
**Date Collected: 10/07/20 15:05**  
**Date Received: 10/07/20 16:35**

**Lab Sample ID: 570-40370-10**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7199		1			99963	10/07/20 21:01	URMH	ECL 1
Instrument ID: IC11										

**Laboratory References:**  
= , , ,  
ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

## Accreditation/Certification Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

### Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-21
California	SCAQMD LAP	17LA0919	11-30-20
California	State	2944	09-30-21
Guam	State	20-003R	10-31-20
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-29-21
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-20

## Method Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

Method	Method Description	Protocol	Laboratory
7199	Chromium, Hexavalent (IC)	SW846	ECL 1
6010B	Metals (ICP)	SW846	
6010B	Metals (ICP)	SW846	ECL 1
7196A	Chromium, Hexavalent	SW846	ECL 1
9045C	pH	SW846	ECL 1
Moisture	Percent Moisture	EPA	ECL 1
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	
3050B	Preparation, Metals	SW846	ECL 1
3060A	Alkaline Digestion (Chromium, Hexavalent)	SW846	ECL 1
DI Leach	Deionized Water Leaching Procedure	ASTM	ECL 1

### Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

= , , ,

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

## Sample Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40370-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-40370-1	SWCONF2-28.0	Solid	10/07/20 09:40	10/07/20 16:35	
570-40370-2	SWCONF2-33.0	Solid	10/07/20 10:10	10/07/20 16:35	
570-40370-3	SWCONF2-36.0	Solid	10/07/20 10:15	10/07/20 16:35	
570-40370-4	SWCONF2-36.5	Solid	10/07/20 10:16	10/07/20 16:35	
570-40370-5	SWCONF2-42.0	Solid	10/07/20 10:40	10/07/20 16:35	
570-40370-6	SWCONF2-50.0	Solid	10/07/20 11:10	10/07/20 16:35	
570-40370-7	SWCONF2-56.0	Solid	10/07/20 11:20	10/07/20 16:35	
570-40370-8	SWCONF2-56.5	Solid	10/07/20 11:21	10/07/20 16:35	
570-40370-9	SWCONF2-62.0	Solid	10/07/20 11:35	10/07/20 16:35	
570-40370-10	EB-04	Water	10/07/20 15:05	10/07/20 16:35	





## Login Sample Receipt Checklist

Client: Terraphase Engineering Inc

Job Number: 570-40370-1

**Login Number: 40370**

**List Source: Eurofins Calscience**

**List Number: 1**

**Creator: Cortez Diaz, Antonio**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

Eurofins Calscience LLC  
7440 Lincoln Way  
Garden Grove, CA 92841  
Tel: (714)895-5494

Laboratory Job ID: 570-40480-1

Client Project/Site: PTI Southwest Soil Injection Confirmation

For:

Terraphase Engineering Inc  
18401 Von Karman Ave  
Suite 410  
Irvine, California 92612

Attn: Chris Alger

*Virendra R Patel*

Authorized for release by:  
10/19/2020 11:45:10 AM

Virendra Patel, Project Manager I  
(714)895-5494  
[Virendra.Patel@eurofinset.com](mailto:Virendra.Patel@eurofinset.com)

### LINKS

Review your project  
results through  
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*The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Definitions/Glossary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40480-1

## Qualifiers

### HPLC/IC

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time

### Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40480-1

**Job ID: 570-40480-1**

**Laboratory: Eurofins Calscience LLC**

## Narrative

### Job Narrative 570-40480-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 10/8/2020 4:10 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.0° C.

#### Receipt Exceptions

The container label for the following samples did not match the information listed on the Chain-of-Custody (COC): SWCONF3-41.0 (570-40480-1), SWCONF3-46.0 (570-40480-2), SWCONF3-55.0 (570-40480-3), SWCONF3-59.5 (570-40480-4) and SWCONF3-65.0 (570-40480-5). The container labels list SWCONF3-41.0, while the COC lists SWCONF-41.0. The container labels list SWCONF3-46.0, while the COC lists SWCONF-46.0.

The container labels list SWCONF3-55.0, while the COC lists SWCONF-55.

The container labels list SWCONF3-59.5, while the COC lists SWCONF-59.5.

The container labels list SWCONF3-65.0, while the COC lists SWCONF-65.0.

The clients office was contacted with the above sample receipt anomalies. The laboratory was provided written direction on how to proceed, please refer to the COC section of the report for further details.

#### HPLC/IC

Method 7199: The reference method requires samples to be preserved to a pH of 9.3 to 9.7. The following sample was received with insufficient preservation at a pH of this range: EB05 (570-40480-6). The sample(s) was preserved to the appropriate pH in the laboratory.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method 6010B: Due to the high concentration of Chromium the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 570-100965 and analytical batch 570-101367 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 6010B: The continuing calibration verification (CCV) associated with batch 570-101737 recovered above the upper control limit for Cadmium, Copper, and Lead. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: EB05 (570-40480-6).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40480-1

## Client Sample ID: SWCONF3-41.0

## Lab Sample ID: 570-40480-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	30.5		0.957	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.692		0.638	mg/Kg	1	✱	6010B	Total/NA
Chromium	155		0.319	mg/Kg	1	✱	6010B	Total/NA
Copper	63.0		0.638	mg/Kg	1	✱	6010B	Total/NA
Lead	8.32		0.638	mg/Kg	1	✱	6010B	Total/NA
pH	9.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF3-46.0

## Lab Sample ID: 570-40480-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.98		0.866	mg/Kg	1	✱	6010B	Total/NA
Chromium	74.2		0.289	mg/Kg	1	✱	6010B	Total/NA
Copper	23.7		0.577	mg/Kg	1	✱	6010B	Total/NA
Lead	4.24		0.577	mg/Kg	1	✱	6010B	Total/NA
pH	9.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF3-55.0

## Lab Sample ID: 570-40480-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.5		0.894	mg/Kg	1	✱	6010B	Total/NA
Chromium	96.3		0.298	mg/Kg	1	✱	6010B	Total/NA
Copper	39.5		0.596	mg/Kg	1	✱	6010B	Total/NA
Lead	8.84		0.596	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	35.1		0.977	mg/Kg	1	✱	7196A	Total/NA
pH	7.2		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF3-59.5

## Lab Sample ID: 570-40480-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13.8		0.980	mg/Kg	1	✱	6010B	Total/NA
Chromium	133		0.327	mg/Kg	1	✱	6010B	Total/NA
Copper	47.7		0.653	mg/Kg	1	✱	6010B	Total/NA
Lead	6.45		0.653	mg/Kg	1	✱	6010B	Total/NA
pH	11.6		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF3-65.0

## Lab Sample ID: 570-40480-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.38		0.791	mg/Kg	1	✱	6010B	Total/NA
Chromium	559		0.264	mg/Kg	1	✱	6010B	Total/NA
Copper	6.35		0.528	mg/Kg	1	✱	6010B	Total/NA
Lead	0.791		0.528	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	4.93		0.836	mg/Kg	1	✱	7196A	Total/NA
pH	6.0		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: EB05

## Lab Sample ID: 570-40480-6

No Detections.

This Detection Summary does not include radiochemical test results.

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## Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40480-1

### Method: 7199 - Chromium, Hexavalent (IC)

Client Sample ID: EB05  
Date Collected: 10/08/20 15:00  
Date Received: 10/08/20 16:10

Lab Sample ID: 570-40480-6  
Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	H	2.0	ug/L			10/09/20 20:29	1



# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40480-1

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCONF3-41.0

Date Collected: 10/08/20 10:30

Date Received: 10/08/20 16:10

Lab Sample ID: 570-40480-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	30.5		0.957	mg/Kg	✱	10/10/20 15:00	10/12/20 15:17	1
Cadmium	0.692		0.638	mg/Kg	✱	10/10/20 15:00	10/12/20 15:17	1
Chromium	155		0.319	mg/Kg	✱	10/10/20 15:00	10/12/20 15:17	1
Copper	63.0		0.638	mg/Kg	✱	10/10/20 15:00	10/12/20 15:17	1
Lead	8.32		0.638	mg/Kg	✱	10/10/20 15:00	10/12/20 15:17	1

Client Sample ID: SWCONF3-46.0

Date Collected: 10/08/20 10:35

Date Received: 10/08/20 16:10

Lab Sample ID: 570-40480-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.98		0.866	mg/Kg	✱	10/10/20 15:00	10/12/20 15:19	1
Cadmium	ND		0.577	mg/Kg	✱	10/10/20 15:00	10/12/20 15:19	1
Chromium	74.2		0.289	mg/Kg	✱	10/10/20 15:00	10/12/20 15:19	1
Copper	23.7		0.577	mg/Kg	✱	10/10/20 15:00	10/12/20 15:19	1
Lead	4.24		0.577	mg/Kg	✱	10/10/20 15:00	10/12/20 15:19	1

Client Sample ID: SWCONF3-55.0

Date Collected: 10/08/20 11:00

Date Received: 10/08/20 16:10

Lab Sample ID: 570-40480-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.5		0.894	mg/Kg	✱	10/10/20 15:00	10/12/20 15:21	1
Cadmium	ND		0.596	mg/Kg	✱	10/10/20 15:00	10/12/20 15:21	1
Chromium	96.3		0.298	mg/Kg	✱	10/10/20 15:00	10/12/20 15:21	1
Copper	39.5		0.596	mg/Kg	✱	10/10/20 15:00	10/12/20 15:21	1
Lead	8.84		0.596	mg/Kg	✱	10/10/20 15:00	10/12/20 15:21	1

Client Sample ID: SWCONF3-59.5

Date Collected: 10/08/20 11:15

Date Received: 10/08/20 16:10

Lab Sample ID: 570-40480-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13.8		0.980	mg/Kg	✱	10/10/20 15:00	10/12/20 15:23	1
Cadmium	ND		0.653	mg/Kg	✱	10/10/20 15:00	10/12/20 15:23	1
Chromium	133		0.327	mg/Kg	✱	10/10/20 15:00	10/12/20 15:23	1
Copper	47.7		0.653	mg/Kg	✱	10/10/20 15:00	10/12/20 15:23	1
Lead	6.45		0.653	mg/Kg	✱	10/10/20 15:00	10/12/20 15:23	1

Client Sample ID: SWCONF3-65.0

Date Collected: 10/08/20 11:30

Date Received: 10/08/20 16:10

Lab Sample ID: 570-40480-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.38		0.791	mg/Kg	✱	10/10/20 15:00	10/12/20 15:11	1
Cadmium	ND		0.528	mg/Kg	✱	10/10/20 15:00	10/12/20 15:11	1
Chromium	559		0.264	mg/Kg	✱	10/10/20 15:00	10/12/20 15:11	1
Copper	6.35		0.528	mg/Kg	✱	10/10/20 15:00	10/12/20 15:11	1
Lead	0.791		0.528	mg/Kg	✱	10/10/20 15:00	10/12/20 15:11	1

Client Sample ID: EB05

Date Collected: 10/08/20 15:00

Date Received: 10/08/20 16:10

Lab Sample ID: 570-40480-6

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L	—	10/12/20 09:50	10/13/20 22:21	1

Eurofins Calscience LLC

## Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40480-1

### Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: EB05

Date Collected: 10/08/20 15:00

Date Received: 10/08/20 16:10

Lab Sample ID: 570-40480-6

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	^	0.0100	mg/L		10/12/20 09:50	10/13/20 22:21	1
Chromium	ND		0.0500	mg/L		10/12/20 09:50	10/13/20 22:21	1
Copper	ND	^	0.0500	mg/L		10/12/20 09:50	10/13/20 22:21	1
Lead	ND	^	0.0500	mg/L		10/12/20 09:50	10/13/20 22:21	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40480-1

## General Chemistry

Client Sample ID: SWCONF3-41.0

Date Collected: 10/08/20 10:30

Date Received: 10/08/20 16:10

Lab Sample ID: 570-40480-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.03	mg/Kg	☼	10/09/20 14:35	10/10/20 14:55	1
pH	9.5		0.01	S.U.			10/09/20 21:10	1
Percent Moisture	22.7		0.1	%			10/10/20 09:53	1
Percent Solids	77.3		0.1	%			10/10/20 09:53	1

Client Sample ID: SWCONF3-46.0

Date Collected: 10/08/20 10:35

Date Received: 10/08/20 16:10

Lab Sample ID: 570-40480-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.917	mg/Kg	☼	10/09/20 14:35	10/10/20 14:56	1
pH	9.5		0.01	S.U.			10/09/20 21:10	1
Percent Moisture	13.8		0.1	%			10/10/20 09:53	1
Percent Solids	86.2		0.1	%			10/10/20 09:53	1

Client Sample ID: SWCONF3-55.0

Date Collected: 10/08/20 11:00

Date Received: 10/08/20 16:10

Lab Sample ID: 570-40480-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	35.1		0.977	mg/Kg	☼	10/09/20 14:35	10/10/20 14:57	1
pH	7.2		0.01	S.U.			10/09/20 21:10	1
Percent Moisture	17.8		0.1	%			10/10/20 09:53	1
Percent Solids	82.2		0.1	%			10/10/20 09:53	1

Client Sample ID: SWCONF3-59.5

Date Collected: 10/08/20 11:15

Date Received: 10/08/20 16:10

Lab Sample ID: 570-40480-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.04	mg/Kg	☼	10/09/20 14:35	10/10/20 14:58	1
pH	11.6		0.01	S.U.			10/09/20 21:10	1
Percent Moisture	22.7		0.1	%			10/10/20 09:53	1
Percent Solids	77.3		0.1	%			10/10/20 09:53	1

Client Sample ID: SWCONF3-65.0

Date Collected: 10/08/20 11:30

Date Received: 10/08/20 16:10

Lab Sample ID: 570-40480-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	4.93		0.836	mg/Kg	☼	10/09/20 14:35	10/10/20 14:59	1
pH	6.0		0.01	S.U.			10/09/20 21:10	1
Percent Moisture	4.3		0.1	%			10/10/20 09:53	1
Percent Solids	95.7		0.1	%			10/10/20 09:53	1

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40480-1

## Method: 7199 - Chromium, Hexavalent (IC)

Lab Sample ID: MB 440-627098/6

Matrix: Water

Analysis Batch: 627098

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		2.0	ug/L			10/09/20 06:57	1

Lab Sample ID: LCS 440-627098/5

Matrix: Water

Analysis Batch: 627098

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	50.0	49.50		ug/L		99	90 - 110

Lab Sample ID: 720-100132-A-2 MS

Matrix: Water

Analysis Batch: 627098

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND		50.0	49.94		ug/L		100	85 - 115

Lab Sample ID: 720-100132-A-2 MSD

Matrix: Water

Analysis Batch: 627098

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND		50.0	51.51		ug/L		103	85 - 115	3	20

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 570-100965/1-A

Matrix: Solid

Analysis Batch: 101367

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 100965

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.750	mg/Kg		10/10/20 15:00	10/12/20 14:55	1
Cadmium	ND		0.500	mg/Kg		10/10/20 15:00	10/12/20 14:55	1
Chromium	ND		0.250	mg/Kg		10/10/20 15:00	10/12/20 14:55	1
Copper	ND		0.500	mg/Kg		10/10/20 15:00	10/12/20 14:55	1
Lead	ND		0.500	mg/Kg		10/10/20 15:00	10/12/20 14:55	1

Lab Sample ID: LCS 570-100965/2-A

Matrix: Solid

Analysis Batch: 101367

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 100965

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	25.1	24.60		mg/Kg		98	80 - 120
Cadmium	25.1	24.65		mg/Kg		98	80 - 120
Chromium	25.1	24.92		mg/Kg		99	80 - 120
Copper	25.1	26.94		mg/Kg		107	80 - 120
Lead	25.1	25.26		mg/Kg		101	80 - 120

Eurofins Calscience LLC

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40480-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCSD 570-100965/3-A

Matrix: Solid

Analysis Batch: 101367

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 100965

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	24.8	23.92		mg/Kg		97	80 - 120	3	20
Cadmium	24.8	23.88		mg/Kg		96	80 - 120	3	20
Chromium	24.8	24.48		mg/Kg		99	80 - 120	2	20
Copper	24.8	26.27		mg/Kg		106	80 - 120	3	20
Lead	24.8	24.37		mg/Kg		98	80 - 120	4	20

Lab Sample ID: 570-40480-5 MS

Matrix: Solid

Analysis Batch: 101367

Client Sample ID: SWCONF3-65.0

Prep Type: Total/NA

Prep Batch: 100965

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	3.38		26.0	27.17		mg/Kg	✱	92	75 - 125		
Cadmium	ND		26.0	22.91		mg/Kg	✱	88	75 - 125		
Chromium	559		26.0	563.0	4	mg/Kg	✱	14	75 - 125		
Copper	6.35		26.0	32.54		mg/Kg	✱	101	75 - 125		
Lead	0.791		26.0	23.30		mg/Kg	✱	87	75 - 125		

Lab Sample ID: 570-40480-5 MSD

Matrix: Solid

Analysis Batch: 101367

Client Sample ID: SWCONF3-65.0

Prep Type: Total/NA

Prep Batch: 100965

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	3.38		25.7	28.32		mg/Kg	✱	97	75 - 125	4	20
Cadmium	ND		25.7	23.92		mg/Kg	✱	93	75 - 125	4	20
Chromium	559		25.7	557.2	4	mg/Kg	✱	-9	75 - 125	1	20
Copper	6.35		25.7	33.87		mg/Kg	✱	107	75 - 125	4	20
Lead	0.791		25.7	24.31		mg/Kg	✱	91	75 - 125	4	20

Lab Sample ID: MB 570-101104/1-A

Matrix: Water

Analysis Batch: 102229

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 101104

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L		10/12/20 09:50	10/15/20 15:57	1
Cadmium	ND		0.0100	mg/L		10/12/20 09:50	10/15/20 15:57	1
Chromium	ND		0.0500	mg/L		10/12/20 09:50	10/15/20 15:57	1
Copper	ND		0.0500	mg/L		10/12/20 09:50	10/15/20 15:57	1
Lead	ND		0.0500	mg/L		10/12/20 09:50	10/15/20 15:57	1

Lab Sample ID: LCS 570-101104/2-A

Matrix: Water

Analysis Batch: 102229

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 101104

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.500	0.5737		mg/L		115	80 - 120		
Cadmium	0.500	0.5768		mg/L		115	80 - 120		
Chromium	0.500	0.5196		mg/L		104	80 - 120		
Copper	0.500	0.5801		mg/L		116	80 - 120		
Lead	0.500	0.5847		mg/L		117	80 - 120		

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40480-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCSD 570-101104/3-A

Matrix: Water

Analysis Batch: 102229

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 101104

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.500	0.5402		mg/L		108	80 - 120	6	20
Cadmium	0.500	0.5813		mg/L		116	80 - 120	1	20
Chromium	0.500	0.5128		mg/L		103	80 - 120	1	20
Copper	0.500	0.5867		mg/L		117	80 - 120	1	20
Lead	0.500	0.5793		mg/L		116	80 - 120	1	20

Lab Sample ID: 570-40486-D-21-B MS

Matrix: Water

Analysis Batch: 102229

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 101104

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		0.500	0.6791		mg/L		127	80 - 140		
Cadmium	ND		0.500	0.5874		mg/L		117	82 - 124		
Chromium	ND		0.500	0.5828		mg/L		117	86 - 122		
Copper	ND		0.500	0.6082		mg/L		118	78 - 126		
Lead	ND		0.500	0.5570		mg/L		110	84 - 120		

Lab Sample ID: 570-40486-D-21-C MSD

Matrix: Water

Analysis Batch: 102229

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 101104

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		0.500	0.6079		mg/L		113	80 - 140	11	11
Cadmium	ND		0.500	0.5851		mg/L		117	82 - 124	0	7
Chromium	ND		0.500	0.5800		mg/L		116	86 - 122	0	8
Copper	ND		0.500	0.6102		mg/L		119	78 - 126	0	7
Lead	ND		0.500	0.5680		mg/L		112	84 - 120	2	7

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 570-100765/1-A

Matrix: Solid

Analysis Batch: 100966

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 100765

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.800	mg/Kg		10/09/20 14:35	10/10/20 14:48	1

Lab Sample ID: LCS 570-100765/2-A

Matrix: Solid

Analysis Batch: 100966

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 100765

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	20.0	16.70		mg/Kg		83	78 - 120		

Lab Sample ID: LCSD 570-100765/3-A

Matrix: Solid

Analysis Batch: 100966

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 100765

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	20.1	17.35		mg/Kg		86	78 - 120	4	20

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40480-1

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: 570-40480-5 MS

Matrix: Solid

Analysis Batch: 100966

Client Sample ID: SWCONF3-65.0

Prep Type: Total/NA

Prep Batch: 100765

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	4.93		20.6	21.45		mg/Kg	✱	80	75 - 125		

Lab Sample ID: 570-40480-5 MSD

Matrix: Solid

Analysis Batch: 100966

Client Sample ID: SWCONF3-65.0

Prep Type: Total/NA

Prep Batch: 100765

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	4.93		21.0	22.12		mg/Kg	✱	82	75 - 125	3	25

Lab Sample ID: 570-40480-5 MSI

Matrix: Solid

Analysis Batch: 100966

Client Sample ID: SWCONF3-65.0

Prep Type: Total/NA

Prep Batch: 100765

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	4.93		1020	851.2		mg/Kg	✱	83	75 - 125		

Lab Sample ID: 570-40480-5 MSID

Matrix: Solid

Analysis Batch: 100966

Client Sample ID: SWCONF3-65.0

Prep Type: Total/NA

Prep Batch: 100765

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	4.93		1020	837.9		mg/Kg	✱	82	75 - 125	2	25

## Method: 9045C - pH

Lab Sample ID: 570-40645-A-4-D DU

Matrix: Solid

Analysis Batch: 102220

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
pH	9.0		9.2		S.U.				3	25

Lab Sample ID: 570-40645-A-10-D DU

Matrix: Solid

Analysis Batch: 102220

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
pH	10.1		10.1		S.U.				0.1	25

## Method: Moisture - Percent Moisture

Lab Sample ID: 180-111994-A-4 DU

Matrix: Solid

Analysis Batch: 100923

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Percent Moisture	59.3		59.4		%				0.06	10
Percent Solids	40.7		40.6		%				0.09	10

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40480-1

## HPLC/IC

### Analysis Batch: 627098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40480-6	EB05	Total/NA	Water	7199	
MB 440-627098/6	Method Blank	Total/NA	Water	7199	
LCS 440-627098/5	Lab Control Sample	Total/NA	Water	7199	
720-100132-A-2 MS	Matrix Spike	Total/NA	Water	7199	
720-100132-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	7199	

## Metals

### Prep Batch: 100965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40480-1	SWCONF3-41.0	Total/NA	Solid	3050B	
570-40480-2	SWCONF3-46.0	Total/NA	Solid	3050B	
570-40480-3	SWCONF3-55.0	Total/NA	Solid	3050B	
570-40480-4	SWCONF3-59.5	Total/NA	Solid	3050B	
570-40480-5	SWCONF3-65.0	Total/NA	Solid	3050B	
MB 570-100965/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-100965/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-100965/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-40480-5 MS	SWCONF3-65.0	Total/NA	Solid	3050B	
570-40480-5 MSD	SWCONF3-65.0	Total/NA	Solid	3050B	

### Prep Batch: 101104

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40480-6	EB05	Total/NA	Water	3010A	
MB 570-101104/1-A	Method Blank	Total/NA	Water	3010A	
LCS 570-101104/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 570-101104/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
570-40486-D-21-B MS	Matrix Spike	Total/NA	Water	3010A	
570-40486-D-21-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

### Analysis Batch: 101367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40480-1	SWCONF3-41.0	Total/NA	Solid	6010B	100965
570-40480-2	SWCONF3-46.0	Total/NA	Solid	6010B	100965
570-40480-3	SWCONF3-55.0	Total/NA	Solid	6010B	100965
570-40480-4	SWCONF3-59.5	Total/NA	Solid	6010B	100965
570-40480-5	SWCONF3-65.0	Total/NA	Solid	6010B	100965
MB 570-100965/1-A	Method Blank	Total/NA	Solid	6010B	100965
LCS 570-100965/2-A	Lab Control Sample	Total/NA	Solid	6010B	100965
LCSD 570-100965/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	100965
570-40480-5 MS	SWCONF3-65.0	Total/NA	Solid	6010B	100965
570-40480-5 MSD	SWCONF3-65.0	Total/NA	Solid	6010B	100965

### Analysis Batch: 101737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40480-6	EB05	Total/NA	Water	6010B	101104

### Analysis Batch: 102229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-101104/1-A	Method Blank	Total/NA	Water	6010B	101104
LCS 570-101104/2-A	Lab Control Sample	Total/NA	Water	6010B	101104

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40480-1

## Metals (Continued)

### Analysis Batch: 102229 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 570-101104/3-A	Lab Control Sample Dup	Total/NA	Water	6010B	101104
570-40486-D-21-B MS	Matrix Spike	Total/NA	Water	6010B	101104
570-40486-D-21-C MSD	Matrix Spike Duplicate	Total/NA	Water	6010B	101104

## General Chemistry

### Prep Batch: 100765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40480-1	SWCONF3-41.0	Total/NA	Solid	3060A	
570-40480-2	SWCONF3-46.0	Total/NA	Solid	3060A	
570-40480-3	SWCONF3-55.0	Total/NA	Solid	3060A	
570-40480-4	SWCONF3-59.5	Total/NA	Solid	3060A	
570-40480-5	SWCONF3-65.0	Total/NA	Solid	3060A	
MB 570-100765/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-100765/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-100765/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-40480-5 MS	SWCONF3-65.0	Total/NA	Solid	3060A	
570-40480-5 MSD	SWCONF3-65.0	Total/NA	Solid	3060A	
570-40480-5 MSI	SWCONF3-65.0	Total/NA	Solid	3060A	
570-40480-5 MSID	SWCONF3-65.0	Total/NA	Solid	3060A	

### Analysis Batch: 100923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40480-1	SWCONF3-41.0	Total/NA	Solid	Moisture	
570-40480-2	SWCONF3-46.0	Total/NA	Solid	Moisture	
570-40480-3	SWCONF3-55.0	Total/NA	Solid	Moisture	
570-40480-4	SWCONF3-59.5	Total/NA	Solid	Moisture	
570-40480-5	SWCONF3-65.0	Total/NA	Solid	Moisture	
180-111994-A-4 DU	Duplicate	Total/NA	Solid	Moisture	

### Analysis Batch: 100966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40480-1	SWCONF3-41.0	Total/NA	Solid	7196A	100765
570-40480-2	SWCONF3-46.0	Total/NA	Solid	7196A	100765
570-40480-3	SWCONF3-55.0	Total/NA	Solid	7196A	100765
570-40480-4	SWCONF3-59.5	Total/NA	Solid	7196A	100765
570-40480-5	SWCONF3-65.0	Total/NA	Solid	7196A	100765
MB 570-100765/1-A	Method Blank	Total/NA	Solid	7196A	100765
LCS 570-100765/2-A	Lab Control Sample	Total/NA	Solid	7196A	100765
LCSD 570-100765/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	100765
570-40480-5 MS	SWCONF3-65.0	Total/NA	Solid	7196A	100765
570-40480-5 MSD	SWCONF3-65.0	Total/NA	Solid	7196A	100765
570-40480-5 MSI	SWCONF3-65.0	Total/NA	Solid	7196A	100765
570-40480-5 MSID	SWCONF3-65.0	Total/NA	Solid	7196A	100765

### Leach Batch: 101592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40480-1	SWCONF3-41.0	Total/NA	Solid	DI Leach	
570-40480-2	SWCONF3-46.0	Total/NA	Solid	DI Leach	
570-40480-3	SWCONF3-55.0	Total/NA	Solid	DI Leach	
570-40480-4	SWCONF3-59.5	Total/NA	Solid	DI Leach	

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## QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40480-1

### General Chemistry (Continued)

#### Leach Batch: 101592 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40480-5	SWCONF3-65.0	Total/NA	Solid	DI Leach	
570-40645-A-4-D DU	Duplicate	Total/NA	Solid	DI Leach	
570-40645-A-10-D DU	Duplicate	Total/NA	Solid	DI Leach	

#### Analysis Batch: 102220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40480-1	SWCONF3-41.0	Total/NA	Solid	9045C	101592
570-40480-2	SWCONF3-46.0	Total/NA	Solid	9045C	101592
570-40480-3	SWCONF3-55.0	Total/NA	Solid	9045C	101592
570-40480-4	SWCONF3-59.5	Total/NA	Solid	9045C	101592
570-40480-5	SWCONF3-65.0	Total/NA	Solid	9045C	101592
570-40645-A-4-D DU	Duplicate	Total/NA	Solid	9045C	101592
570-40645-A-10-D DU	Duplicate	Total/NA	Solid	9045C	101592



# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40480-1

## Client Sample ID: SWCONF3-41.0

## Lab Sample ID: 570-40480-1

Date Collected: 10/08/20 10:30

Matrix: Solid

Date Received: 10/08/20 16:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	100965	10/10/20 15:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101367	10/12/20 15:17	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	100765	10/09/20 14:35	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100966	10/10/20 14:55	CO7S	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			20.05 g	20 mL	101592	10/09/20 20:00	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	102220	10/09/20 21:10	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100923	10/10/20 09:53	ULIN	ECL 1
Instrument ID: NOEQUIP										

## Client Sample ID: SWCONF3-46.0

## Lab Sample ID: 570-40480-2

Date Collected: 10/08/20 10:35

Matrix: Solid

Date Received: 10/08/20 16:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	100 mL	100965	10/10/20 15:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101367	10/12/20 15:19	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	100765	10/09/20 14:35	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100966	10/10/20 14:56	CO7S	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			19.97 g	20 mL	101592	10/09/20 20:00	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	102220	10/09/20 21:10	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100923	10/10/20 09:53	ULIN	ECL 1
Instrument ID: NOEQUIP										

## Client Sample ID: SWCONF3-55.0

## Lab Sample ID: 570-40480-3

Date Collected: 10/08/20 11:00

Matrix: Solid

Date Received: 10/08/20 16:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	100965	10/10/20 15:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101367	10/12/20 15:21	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.49 g	100 mL	100765	10/09/20 14:35	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100966	10/10/20 14:57	CO7S	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			20.02 g	20 mL	101592	10/09/20 20:00	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	102220	10/09/20 21:10	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100923	10/10/20 09:53	ULIN	ECL 1
Instrument ID: NOEQUIP										

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# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40480-1

**Client Sample ID: SWCONF3-59.5**

**Lab Sample ID: 570-40480-4**

**Date Collected: 10/08/20 11:15**

**Matrix: Solid**

**Date Received: 10/08/20 16:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	100 mL	100965	10/10/20 15:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101367	10/12/20 15:23	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.49 g	100 mL	100765	10/09/20 14:35	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100966	10/10/20 14:58	CO7S	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			20.01 g	20 mL	101592	10/09/20 20:00	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	102220	10/09/20 21:10	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100923	10/10/20 09:53	ULIN	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF3-65.0**

**Lab Sample ID: 570-40480-5**

**Date Collected: 10/08/20 11:30**

**Matrix: Solid**

**Date Received: 10/08/20 16:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	100 mL	100965	10/10/20 15:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			101367	10/12/20 15:11	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	100765	10/09/20 14:35	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	100966	10/10/20 14:59	CO7S	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			20.03 g	20 mL	101592	10/09/20 20:00	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	102220	10/09/20 21:10	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			100923	10/10/20 09:53	ULIN	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: EB05**

**Lab Sample ID: 570-40480-6**

**Date Collected: 10/08/20 15:00**

**Matrix: Water**

**Date Received: 10/08/20 16:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7199		1			627098	10/09/20 20:29	MN	TAL IRV
Instrument ID: IC-22										
Total/NA	Prep	3010A			50 mL	50 mL	101104	10/12/20 09:50	WL8G	ECL 1
Total/NA	Analysis	6010B		1			101737	10/13/20 22:21	OYW3	ECL 1
Instrument ID: ICP9										

## Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

## Accreditation/Certification Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40480-1

### Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-21
California	SCAQMD LAP	17LA0919	11-30-20
California	State	2944	09-30-21
Guam	State	20-003R	10-31-20
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-29-21
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-21

### Laboratory: Eurofins Calscience Irvine

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska	State	CA01531	06-30-21
Arizona	State	AZ0671	10-13-20
California	Los Angeles County Sanitation Districts	10256	06-30-21
California	State	2706	06-30-21
Guam	State	20-004R	01-23-21
Hawaii	State	CA01531	01-29-21
Kansas	NELAP	E-10420	07-31-21
Nevada	State	CA015312021-1	07-31-21
Oregon	NELAP	4028 - 008	01-29-21
USDA	US Federal Programs	P330-18-00214	07-09-21
Washington	State	C900	09-03-21

## Method Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40480-1

Method	Method Description	Protocol	Laboratory
7199	Chromium, Hexavalent (IC)	SW846	TAL IRV
6010B	Metals (ICP)	SW846	ECL 1
7196A	Chromium, Hexavalent	SW846	ECL 1
9045C	pH	SW846	ECL 1
Moisture	Percent Moisture	EPA	ECL 1
3010A	Preparation, Total Metals	SW846	ECL 1
3050B	Preparation, Metals	SW846	ECL 1
3060A	Alkaline Digestion (Chromium, Hexavalent)	SW846	ECL 1
DI Leach	Deionized Water Leaching Procedure	ASTM	ECL 1

### Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

# Sample Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40480-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-40480-1	SWCONF3-41.0	Solid	10/08/20 10:30	10/08/20 16:10	
570-40480-2	SWCONF3-46.0	Solid	10/08/20 10:35	10/08/20 16:10	
570-40480-3	SWCONF3-55.0	Solid	10/08/20 11:00	10/08/20 16:10	
570-40480-4	SWCONF3-59.5	Solid	10/08/20 11:15	10/08/20 16:10	
570-40480-5	SWCONF3-65.0	Solid	10/08/20 11:30	10/08/20 16:10	
570-40480-6	EB05	Water	10/08/20 15:00	10/08/20 16:10	







For courier service / sample drop off information, contact us26\_sales@eurofinsus.com or call us.



570-40480 Chain of Custody

## CHAIN OF CUSTODY RECORD

DATE: 10/8/20

PAGE: 1 OF 1

[illegible]

## Login Sample Receipt Checklist

Client: Terraphase Engineering Inc

Job Number: 570-40480-1

**Login Number: 40480**

**List Source: Eurofins Calscience**

**List Number: 1**

**Creator: Ramos, Maribel**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	IDs on containers do not match the COC. Logged in per COC.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: Terraphase Engineering Inc

Job Number: 570-40480-1

Login Number: 40480

List Number: 2

Creator: Ornelas, Olga

List Source: Eurofins Irvine

List Creation: 10/09/20 03:59 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

Eurofins Calscience LLC  
7440 Lincoln Way  
Garden Grove, CA 92841  
Tel: (714)895-5494

Laboratory Job ID: 570-40645-1

Client Project/Site: PTI Southwest Soil Injection Confirmation

For:

Terraphase Engineering Inc  
18401 Von Karman Ave  
Suite 410  
Irvine, California 92612

Attn: Clare Steedman

*Virendra R Patel*

Authorized for release by:  
10/19/2020 11:51:12 AM

Virendra Patel, Project Manager I  
(714)895-5494

[Virendra.Patel@eurofinset.com](mailto:Virendra.Patel@eurofinset.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

*The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



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## Definitions/Glossary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

### Qualifiers

#### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits

#### General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

**Job ID: 570-40645-1**

**Laboratory: Eurofins Calscience LLC**

## Narrative

### Job Narrative 570-40645-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 10/9/2020 5:42 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.1° C.

#### HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Metals

Method 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-101628 and analytical batch 570-102229 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 6010B: Due to the high concentration of Chromium and Sulfur, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 570-101514 and analytical batch 570-102648 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 6010B: Due to the high concentration of Sulfur, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 570-101576 and analytical batch 570-102648 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

Method 7196A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-101451 and analytical batch 570-101821 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

## Client Sample ID: SWCONF4-41.0

## Lab Sample ID: 570-40645-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	42.7		1.02		mg/Kg	1	✱	6010B	Total/NA
Cadmium	5.67		0.678		mg/Kg	1	✱	6010B	Total/NA
Chromium	106		0.339		mg/Kg	1	✱	6010B	Total/NA
Copper	84.4		0.678		mg/Kg	1	✱	6010B	Total/NA
Lead	14.8		0.678		mg/Kg	1	✱	6010B	Total/NA
Sulfur	2110		6.78		mg/Kg	1	✱	6010B	Total/NA
pH	7.8		0.01		S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF4-46.0

## Lab Sample ID: 570-40645-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.44		0.840		mg/Kg	1	✱	6010B	Total/NA
Cadmium	2.28		0.560		mg/Kg	1	✱	6010B	Total/NA
Chromium	124		0.280		mg/Kg	1	✱	6010B	Total/NA
Copper	28.4		0.560		mg/Kg	1	✱	6010B	Total/NA
Lead	6.43		0.560		mg/Kg	1	✱	6010B	Total/NA
Sulfur	501		5.60		mg/Kg	1	✱	6010B	Total/NA
pH	7.5		0.01		S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF4-51.0

## Lab Sample ID: 570-40645-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	14.4		0.932		mg/Kg	1	✱	6010B	Total/NA
Cadmium	1.35		0.621		mg/Kg	1	✱	6010B	Total/NA
Chromium	196		0.311		mg/Kg	1	✱	6010B	Total/NA
Copper	33.4		0.621		mg/Kg	1	✱	6010B	Total/NA
Lead	6.12		0.621		mg/Kg	1	✱	6010B	Total/NA
Sulfur	3310		6.21		mg/Kg	1	✱	6010B	Total/NA
pH	10.9		0.01		S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF4-57.0

## Lab Sample ID: 570-40645-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.03		0.875		mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.854		0.583		mg/Kg	1	✱	6010B	Total/NA
Chromium	414		0.292		mg/Kg	1	✱	6010B	Total/NA
Copper	10.9		0.583		mg/Kg	1	✱	6010B	Total/NA
Lead	1.80		0.583		mg/Kg	1	✱	6010B	Total/NA
Sulfur	1150		5.83		mg/Kg	1	✱	6010B	Total/NA
pH	9.0		0.01		S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF4-58.0

## Lab Sample ID: 570-40645-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.72		0.802		mg/Kg	1	✱	6010B	Total/NA
Cadmium	1.63		0.535		mg/Kg	1	✱	6010B	Total/NA
Chromium	1280		0.267		mg/Kg	1	✱	6010B	Total/NA
Copper	10.2		0.535		mg/Kg	1	✱	6010B	Total/NA
Sulfur	725	F2	5.35		mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	9.02	F1	0.876		mg/Kg	1	✱	7196A	Total/NA
pH	7.5		0.01		S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

## Client Sample ID: SWCONF4-60.0

## Lab Sample ID: 570-40645-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.34		0.907		mg/Kg	1	✖	6010B	Total/NA
Cadmium	3.10		0.604		mg/Kg	1	✖	6010B	Total/NA
Chromium	845		0.302		mg/Kg	1	✖	6010B	Total/NA
Copper	23.1		0.604		mg/Kg	1	✖	6010B	Total/NA
Lead	2.45		0.604		mg/Kg	1	✖	6010B	Total/NA
Sulfur	411		6.04		mg/Kg	1	✖	6010B	Total/NA
Cr (VI)	13.6		0.974		mg/Kg	1	✖	7196A	Total/NA
pH	7.5		0.01		S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF5-43.0

## Lab Sample ID: 570-40645-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	54.3		0.820		mg/Kg	1	✖	6010B	Total/NA
Cadmium	1.01		0.547		mg/Kg	1	✖	6010B	Total/NA
Chromium	23.0		0.273		mg/Kg	1	✖	6010B	Total/NA
Copper	20.5		0.547		mg/Kg	1	✖	6010B	Total/NA
Lead	4.03		0.547		mg/Kg	1	✖	6010B	Total/NA
Sulfur	96.2		5.47		mg/Kg	1	✖	6010B	Total/NA
pH	7.3		0.01		S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF5-48.0

## Lab Sample ID: 570-40645-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13.6		0.852		mg/Kg	1	✖	6010B	Total/NA
Cadmium	1.08		0.568		mg/Kg	1	✖	6010B	Total/NA
Chromium	41.5		0.284		mg/Kg	1	✖	6010B	Total/NA
Copper	21.9		0.568		mg/Kg	1	✖	6010B	Total/NA
Lead	4.16		0.568		mg/Kg	1	✖	6010B	Total/NA
Sulfur	1830		5.68		mg/Kg	1	✖	6010B	Total/NA
pH	10.2		0.01		S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF5-53.0

## Lab Sample ID: 570-40645-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.4		0.842		mg/Kg	1	✖	6010B	Total/NA
Cadmium	1.16		0.561		mg/Kg	1	✖	6010B	Total/NA
Chromium	33.0		0.281		mg/Kg	1	✖	6010B	Total/NA
Copper	29.1		0.561		mg/Kg	1	✖	6010B	Total/NA
Lead	4.60		0.561		mg/Kg	1	✖	6010B	Total/NA
Sulfur	70.5		5.61		mg/Kg	1	✖	6010B	Total/NA
Cr (VI)	2.32		0.925		mg/Kg	1	✖	7196A	Total/NA
pH	7.4		0.01		S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF5-58.0

## Lab Sample ID: 570-40645-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.5		0.902		mg/Kg	1	✖	6010B	Total/NA
Cadmium	1.47		0.601		mg/Kg	1	✖	6010B	Total/NA
Chromium	40.3		0.301		mg/Kg	1	✖	6010B	Total/NA
Copper	32.9		0.601		mg/Kg	1	✖	6010B	Total/NA
Lead	6.44		0.601		mg/Kg	1	✖	6010B	Total/NA
Sulfur	1900		6.01		mg/Kg	1	✖	6010B	Total/NA
pH	10.1		0.01		S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC



## Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

### Client Sample ID: SWCONF5-60.0

### Lab Sample ID: 570-40645-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Arsenic	6.50		0.792		mg/Kg	1		✱	6010B	Total/NA
Cadmium	0.766		0.528		mg/Kg	1		✱	6010B	Total/NA
Chromium	210		0.264		mg/Kg	1		✱	6010B	Total/NA
Copper	16.0		0.528		mg/Kg	1		✱	6010B	Total/NA
Lead	2.32		0.528		mg/Kg	1		✱	6010B	Total/NA
Sulfur	1830		5.28		mg/Kg	1		✱	6010B	Total/NA
pH	11.4		0.01		S.U.	1			9045C	Total/NA

### Client Sample ID: EB06

### Lab Sample ID: 570-40645-12

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCONF4-41.0

Date Collected: 10/09/20 09:55

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-1

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	42.7		1.02		mg/Kg	☼	10/13/20 17:00	10/16/20 22:37	1
Cadmium	5.67		0.678		mg/Kg	☼	10/13/20 17:00	10/16/20 22:37	1
Chromium	106		0.339		mg/Kg	☼	10/13/20 17:00	10/16/20 22:37	1
Copper	84.4		0.678		mg/Kg	☼	10/13/20 17:00	10/16/20 22:37	1
Lead	14.8		0.678		mg/Kg	☼	10/13/20 17:00	10/16/20 22:37	1
Sulfur	2110		6.78		mg/Kg	☼	10/13/20 17:00	10/16/20 22:37	1

Client Sample ID: SWCONF4-46.0

Date Collected: 10/09/20 10:10

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-2

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.44		0.840		mg/Kg	☼	10/13/20 17:00	10/16/20 22:51	1
Cadmium	2.28		0.560		mg/Kg	☼	10/13/20 17:00	10/16/20 22:51	1
Chromium	124		0.280		mg/Kg	☼	10/13/20 17:00	10/16/20 22:51	1
Copper	28.4		0.560		mg/Kg	☼	10/13/20 17:00	10/16/20 22:51	1
Lead	6.43		0.560		mg/Kg	☼	10/13/20 17:00	10/16/20 22:51	1
Sulfur	501		5.60		mg/Kg	☼	10/13/20 17:00	10/16/20 22:51	1

Client Sample ID: SWCONF4-51.0

Date Collected: 10/09/20 10:20

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-3

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	14.4		0.932		mg/Kg	☼	10/13/20 17:00	10/16/20 22:53	1
Cadmium	1.35		0.621		mg/Kg	☼	10/13/20 17:00	10/16/20 22:53	1
Chromium	196		0.311		mg/Kg	☼	10/13/20 17:00	10/16/20 22:53	1
Copper	33.4		0.621		mg/Kg	☼	10/13/20 17:00	10/16/20 22:53	1
Lead	6.12		0.621		mg/Kg	☼	10/13/20 17:00	10/16/20 22:53	1
Sulfur	3310		6.21		mg/Kg	☼	10/13/20 17:00	10/16/20 22:53	1

Client Sample ID: SWCONF4-57.0

Date Collected: 10/09/20 10:30

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-4

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.03		0.875		mg/Kg	☼	10/13/20 17:00	10/16/20 22:56	1
Cadmium	0.854		0.583		mg/Kg	☼	10/13/20 17:00	10/16/20 22:56	1
Chromium	414		0.292		mg/Kg	☼	10/13/20 17:00	10/16/20 22:56	1
Copper	10.9		0.583		mg/Kg	☼	10/13/20 17:00	10/16/20 22:56	1
Lead	1.80		0.583		mg/Kg	☼	10/13/20 17:00	10/16/20 22:56	1
Sulfur	1150		5.83		mg/Kg	☼	10/13/20 17:00	10/16/20 22:56	1

Client Sample ID: SWCONF4-58.0

Date Collected: 10/09/20 10:40

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-5

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.72		0.802		mg/Kg	☼	10/13/20 17:00	10/16/20 22:30	1
Cadmium	1.63		0.535		mg/Kg	☼	10/13/20 17:00	10/16/20 22:30	1
Chromium	1280		0.267		mg/Kg	☼	10/13/20 17:00	10/16/20 22:30	1
Copper	10.2		0.535		mg/Kg	☼	10/13/20 17:00	10/16/20 22:30	1
Lead	ND		0.535		mg/Kg	☼	10/13/20 17:00	10/16/20 22:30	1
Sulfur	725	F2	5.35		mg/Kg	☼	10/13/20 17:00	10/16/20 22:30	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCONF4-60.0

Date Collected: 10/09/20 10:45

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-6

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.34		0.907		mg/Kg	☼	10/13/20 17:00	10/16/20 22:58	1
Cadmium	3.10		0.604		mg/Kg	☼	10/13/20 17:00	10/16/20 22:58	1
Chromium	845		0.302		mg/Kg	☼	10/13/20 17:00	10/16/20 22:58	1
Copper	23.1		0.604		mg/Kg	☼	10/13/20 17:00	10/16/20 22:58	1
Lead	2.45		0.604		mg/Kg	☼	10/13/20 17:00	10/16/20 22:58	1
Sulfur	411		6.04		mg/Kg	☼	10/13/20 17:00	10/16/20 22:58	1

Client Sample ID: SWCONF5-43.0

Date Collected: 10/09/20 14:30

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-7

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	54.3		0.820		mg/Kg	☼	10/13/20 17:00	10/16/20 23:01	1
Cadmium	1.01		0.547		mg/Kg	☼	10/13/20 17:00	10/16/20 23:01	1
Chromium	23.0		0.273		mg/Kg	☼	10/13/20 17:00	10/16/20 23:01	1
Copper	20.5		0.547		mg/Kg	☼	10/13/20 17:00	10/16/20 23:01	1
Lead	4.03		0.547		mg/Kg	☼	10/13/20 17:00	10/16/20 23:01	1
Sulfur	96.2		5.47		mg/Kg	☼	10/13/20 17:00	10/16/20 23:01	1

Client Sample ID: SWCONF5-48.0

Date Collected: 10/09/20 14:45

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-8

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13.6		0.852		mg/Kg	☼	10/13/20 17:00	10/16/20 23:03	1
Cadmium	1.08		0.568		mg/Kg	☼	10/13/20 17:00	10/16/20 23:03	1
Chromium	41.5		0.284		mg/Kg	☼	10/13/20 17:00	10/16/20 23:03	1
Copper	21.9		0.568		mg/Kg	☼	10/13/20 17:00	10/16/20 23:03	1
Lead	4.16		0.568		mg/Kg	☼	10/13/20 17:00	10/16/20 23:03	1
Sulfur	1830		5.68		mg/Kg	☼	10/13/20 17:00	10/16/20 23:03	1

Client Sample ID: SWCONF5-53.0

Date Collected: 10/09/20 15:00

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-9

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.4		0.842		mg/Kg	☼	10/13/20 17:00	10/16/20 23:05	1
Cadmium	1.16		0.561		mg/Kg	☼	10/13/20 17:00	10/16/20 23:05	1
Chromium	33.0		0.281		mg/Kg	☼	10/13/20 17:00	10/16/20 23:05	1
Copper	29.1		0.561		mg/Kg	☼	10/13/20 17:00	10/16/20 23:05	1
Lead	4.60		0.561		mg/Kg	☼	10/13/20 17:00	10/16/20 23:05	1
Sulfur	70.5		5.61		mg/Kg	☼	10/13/20 17:00	10/16/20 23:05	1

Client Sample ID: SWCONF5-58.0

Date Collected: 10/09/20 15:05

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-10

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.5		0.902		mg/Kg	☼	10/13/20 17:00	10/16/20 23:08	1
Cadmium	1.47		0.601		mg/Kg	☼	10/13/20 17:00	10/16/20 23:08	1
Chromium	40.3		0.301		mg/Kg	☼	10/13/20 17:00	10/16/20 23:08	1
Copper	32.9		0.601		mg/Kg	☼	10/13/20 17:00	10/16/20 23:08	1
Lead	6.44		0.601		mg/Kg	☼	10/13/20 17:00	10/16/20 23:08	1
Sulfur	1900		6.01		mg/Kg	☼	10/13/20 17:00	10/16/20 23:08	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCONF5-60.0

Date Collected: 10/09/20 15:15

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-11

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.50		0.792		mg/Kg	☼	10/13/20 20:39	10/17/20 00:09	1
Cadmium	0.766		0.528		mg/Kg	☼	10/13/20 20:39	10/17/20 00:09	1
Chromium	210		0.264		mg/Kg	☼	10/13/20 20:39	10/17/20 00:09	1
Copper	16.0		0.528		mg/Kg	☼	10/13/20 20:39	10/17/20 00:09	1
Lead	2.32		0.528		mg/Kg	☼	10/13/20 20:39	10/17/20 00:09	1
Sulfur	1830		5.28		mg/Kg	☼	10/13/20 20:39	10/17/20 00:09	1

Client Sample ID: EB06

Date Collected: 10/09/20 16:00

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-12

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100		mg/L		10/14/20 06:15	10/15/20 18:32	1
Cadmium	ND		0.0100		mg/L		10/14/20 06:15	10/15/20 18:32	1
Chromium	ND		0.0500		mg/L		10/14/20 06:15	10/15/20 18:32	1
Copper	ND		0.0500		mg/L		10/14/20 06:15	10/15/20 18:32	1
Lead	ND		0.0500		mg/L		10/14/20 06:15	10/15/20 18:32	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

## General Chemistry

Client Sample ID: SWCONF4-41.0

Date Collected: 10/09/20 09:55

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-1

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.08		mg/Kg	☼	10/13/20 14:00	10/14/20 15:12	1
pH	7.8		0.01		S.U.			10/09/20 21:10	1
Percent Moisture	25.9		0.1		%			10/14/20 12:08	1
Percent Solids	74.1		0.1		%			10/14/20 12:08	1

Client Sample ID: SWCONF4-46.0

Date Collected: 10/09/20 10:10

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-2

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.903		mg/Kg	☼	10/13/20 14:00	10/14/20 15:13	1
pH	7.5		0.01		S.U.			10/09/20 21:10	1
Percent Moisture	12.8		0.1		%			10/14/20 12:08	1
Percent Solids	87.2		0.1		%			10/14/20 12:08	1

Client Sample ID: SWCONF4-51.0

Date Collected: 10/09/20 10:20

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-3

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.992		mg/Kg	☼	10/13/20 14:00	10/14/20 15:19	1
pH	10.9		0.01		S.U.			10/09/20 21:10	1
Percent Moisture	20.3		0.1		%			10/14/20 12:08	1
Percent Solids	79.7		0.1		%			10/14/20 12:08	1

Client Sample ID: SWCONF4-57.0

Date Collected: 10/09/20 10:30

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-4

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.937		mg/Kg	☼	10/13/20 14:00	10/14/20 15:14	1
pH	9.0		0.01		S.U.			10/09/20 21:10	1
Percent Moisture	14.3		0.1		%			10/14/20 12:08	1
Percent Solids	85.7		0.1		%			10/14/20 12:08	1

Client Sample ID: SWCONF4-58.0

Date Collected: 10/09/20 10:40

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-5

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	9.02	F1	0.876		mg/Kg	☼	10/13/20 14:00	10/14/20 15:15	1
pH	7.5		0.01		S.U.			10/09/20 21:10	1
Percent Moisture	8.3		0.1		%			10/14/20 12:08	1
Percent Solids	91.7		0.1		%			10/14/20 12:08	1

Client Sample ID: SWCONF4-60.0

Date Collected: 10/09/20 10:45

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-6

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	13.6		0.974		mg/Kg	☼	10/13/20 14:00	10/14/20 15:16	1
pH	7.5		0.01		S.U.			10/09/20 21:10	1
Percent Moisture	18.5		0.1		%			10/14/20 12:08	1
Percent Solids	81.5		0.1		%			10/14/20 12:08	1



# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

## General Chemistry

Client Sample ID: SWCONF5-43.0

Date Collected: 10/09/20 14:30

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-7

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.899		mg/Kg	☼	10/13/20 14:00	10/14/20 15:17	1
pH	7.3		0.01		S.U.			10/09/20 21:10	1
Percent Moisture	11.7		0.1		%			10/14/20 12:08	1
Percent Solids	88.3		0.1		%			10/14/20 12:08	1

Client Sample ID: SWCONF5-48.0

Date Collected: 10/09/20 14:45

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-8

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.937		mg/Kg	☼	10/13/20 14:00	10/14/20 15:21	1
pH	10.2		0.01		S.U.			10/09/20 21:10	1
Percent Moisture	14.6		0.1		%			10/14/20 12:08	1
Percent Solids	85.4		0.1		%			10/14/20 12:08	1

Client Sample ID: SWCONF5-53.0

Date Collected: 10/09/20 15:00

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-9

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	2.32		0.925		mg/Kg	☼	10/13/20 14:00	10/14/20 15:18	1
pH	7.4		0.01		S.U.			10/09/20 21:10	1
Percent Moisture	13.5		0.1		%			10/14/20 12:08	1
Percent Solids	86.5		0.1		%			10/14/20 12:08	1

Client Sample ID: SWCONF5-58.0

Date Collected: 10/09/20 15:05

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-10

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.963		mg/Kg	☼	10/13/20 14:00	10/14/20 15:20	1
pH	10.1		0.01		S.U.			10/09/20 21:10	1
Percent Moisture	17.3		0.1		%			10/14/20 12:08	1
Percent Solids	82.7		0.1		%			10/14/20 12:08	1

Client Sample ID: SWCONF5-60.0

Date Collected: 10/09/20 15:15

Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-11

Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.882		mg/Kg	☼	10/14/20 17:00	10/15/20 19:09	1
pH	11.4		0.01		S.U.			10/09/20 21:10	1
Percent Moisture	9.0		0.1		%			10/14/20 12:08	1
Percent Solids	91.0		0.1		%			10/14/20 12:08	1

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 570-101514/1-A

Matrix: Solid

Analysis Batch: 102648

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 101514

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.743		mg/Kg		10/13/20 17:00	10/16/20 23:58	1
Cadmium	ND		0.495		mg/Kg		10/13/20 17:00	10/16/20 23:58	1
Chromium	ND		0.248		mg/Kg		10/13/20 17:00	10/16/20 23:58	1
Copper	ND		0.495		mg/Kg		10/13/20 17:00	10/16/20 23:58	1
Lead	ND		0.495		mg/Kg		10/13/20 17:00	10/16/20 23:58	1
Sulfur	ND		4.95		mg/Kg		10/13/20 17:00	10/16/20 23:58	1

Lab Sample ID: LCS 570-101514/2-A

Matrix: Solid

Analysis Batch: 102648

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 101514

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	25.0	25.66		mg/Kg		103	80 - 120
Cadmium	25.0	26.67		mg/Kg		107	80 - 120
Chromium	25.0	26.22		mg/Kg		105	80 - 120
Copper	25.0	27.21		mg/Kg		109	80 - 120
Lead	25.0	26.32		mg/Kg		105	80 - 120
Sulfur	25.0	27.35		mg/Kg		109	80 - 120

Lab Sample ID: LCSD 570-101514/3-A

Matrix: Solid

Analysis Batch: 102648

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 101514

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	24.5	24.60		mg/Kg		100	80 - 120	4	20
Cadmium	24.5	25.97		mg/Kg		106	80 - 120	3	20
Chromium	24.5	25.73		mg/Kg		105	80 - 120	2	20
Copper	24.5	26.50		mg/Kg		108	80 - 120	3	20
Lead	24.5	26.04		mg/Kg		106	80 - 120	1	20
Sulfur	24.5	25.61		mg/Kg		104	80 - 120	7	20

Lab Sample ID: 570-40645-5 MS

Matrix: Solid

Analysis Batch: 102648

Client Sample ID: SWCONF4-58.0

Prep Type: Total/NA

Prep Batch: 101514

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	4.72		27.0	31.13		mg/Kg	✱	98	75 - 125
Cadmium	1.63		27.0	28.09		mg/Kg	✱	98	75 - 125
Chromium	1280		27.0	1255	4	mg/Kg	✱	-101	75 - 125
Copper	10.2		27.0	38.29		mg/Kg	✱	104	75 - 125
Lead	ND		27.0	27.11		mg/Kg	✱	100	75 - 125
Sulfur	725	F2	27.0	317.2	4	mg/Kg	✱	-1510	75 - 125

Lab Sample ID: 570-40645-5 MSD

Matrix: Solid

Analysis Batch: 102648

Client Sample ID: SWCONF4-58.0

Prep Type: Total/NA

Prep Batch: 101514

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	4.72		26.9	30.26		mg/Kg	✱	95	75 - 125	3	20

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 570-40645-5 MSD

Matrix: Solid

Analysis Batch: 102648

Client Sample ID: SWCONF4-58.0

Prep Type: Total/NA

Prep Batch: 101514

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	1.63		26.9	27.14		mg/Kg	✱	95	75 - 125	3	20
Chromium	1280		26.9	1195	4	mg/Kg	✱	-325	75 - 125	5	20
Copper	10.2		26.9	36.61		mg/Kg	✱	98	75 - 125	4	20
Lead	ND		26.9	26.71		mg/Kg	✱	99	75 - 125	1	20
Sulfur	725	F2	26.9	416.0	4 F2	mg/Kg	✱	-1150	75 - 125	27	20

Lab Sample ID: MB 570-101576/1-A

Matrix: Solid

Analysis Batch: 102648

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 101576

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.746		mg/Kg		10/13/20 20:00	10/16/20 23:13	1
Cadmium	ND		0.498		mg/Kg		10/13/20 20:00	10/16/20 23:13	1
Chromium	ND		0.249		mg/Kg		10/13/20 20:00	10/16/20 23:13	1
Copper	ND		0.498		mg/Kg		10/13/20 20:00	10/16/20 23:13	1
Lead	ND		0.498		mg/Kg		10/13/20 20:00	10/16/20 23:13	1
Sulfur	ND		4.98		mg/Kg		10/13/20 20:00	10/16/20 23:13	1

Lab Sample ID: LCS 570-101576/2-A

Matrix: Solid

Analysis Batch: 102706

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 101576

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	25.0	25.24		mg/Kg		101	80 - 120
Cadmium	25.0	26.84		mg/Kg		107	80 - 120
Chromium	25.0	26.18		mg/Kg		105	80 - 120
Copper	25.0	26.11		mg/Kg		104	80 - 120
Lead	25.0	26.48		mg/Kg		106	80 - 120
Sulfur	25.0	26.88		mg/Kg		108	80 - 120

Lab Sample ID: LCSD 570-101576/3-A

Matrix: Solid

Analysis Batch: 102706

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 101576

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	25.1	26.74		mg/Kg		106	80 - 120	6	20
Cadmium	25.1	27.48		mg/Kg		109	80 - 120	2	20
Chromium	25.1	26.76		mg/Kg		106	80 - 120	2	20
Copper	25.1	26.53		mg/Kg		106	80 - 120	2	20
Lead	25.1	27.35		mg/Kg		109	80 - 120	3	20
Sulfur	25.1	26.99		mg/Kg		107	80 - 120	0	20

Lab Sample ID: 570-40694-A-1-C MS

Matrix: Solid

Analysis Batch: 102648

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 101576

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	11.6		25.3	36.95		mg/Kg		100	75 - 125
Cadmium	0.642		25.3	26.56		mg/Kg		103	75 - 125
Chromium	25.7		25.3	51.13		mg/Kg		101	75 - 125

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 570-40694-A-1-C MS

Matrix: Solid

Analysis Batch: 102648

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 101576

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Copper	13.7		25.3	43.06		mg/Kg		116	75 - 125
Lead	49.4		25.3	71.36		mg/Kg		87	75 - 125
Sulfur	136		25.3	173.1	4	mg/Kg		148	75 - 125

Lab Sample ID: 570-40694-A-1-D MSD

Matrix: Solid

Analysis Batch: 102648

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 101576

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	11.6		25.3	35.19		mg/Kg		93	75 - 125	5	20
Cadmium	0.642		25.3	26.54		mg/Kg		103	75 - 125	0	20
Chromium	25.7		25.3	50.76		mg/Kg		99	75 - 125	1	20
Copper	13.7		25.3	41.91		mg/Kg		112	75 - 125	3	20
Lead	49.4		25.3	74.18		mg/Kg		98	75 - 125	4	20
Sulfur	136		25.3	152.3	4	mg/Kg		66	75 - 125	13	20

Lab Sample ID: MB 570-101628/1-A

Matrix: Water

Analysis Batch: 102229

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 101628

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100		mg/L		10/14/20 06:15	10/15/20 17:32	1
Cadmium	ND		0.0100		mg/L		10/14/20 06:15	10/15/20 17:32	1
Chromium	ND		0.0500		mg/L		10/14/20 06:15	10/15/20 17:32	1
Copper	ND		0.0500		mg/L		10/14/20 06:15	10/15/20 17:32	1
Lead	ND		0.0500		mg/L		10/14/20 06:15	10/15/20 17:32	1

Lab Sample ID: LCS 570-101628/2-A

Matrix: Water

Analysis Batch: 102229

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 101628

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.500	0.4355		mg/L		87	80 - 120
Cadmium	0.500	0.5483		mg/L		110	80 - 120
Chromium	0.500	0.4775		mg/L		95	80 - 120
Copper	0.500	0.5367		mg/L		107	80 - 120
Lead	0.500	0.5775		mg/L		115	80 - 120

Lab Sample ID: 570-39971-J-5-B MS

Matrix: Water

Analysis Batch: 102229

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 101628

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND	F1	0.500	0.7214	F1	mg/L		144	80 - 140
Cadmium	ND		0.500	0.5687		mg/L		114	82 - 124
Chromium	ND		0.500	0.5325		mg/L		107	86 - 122
Copper	ND		0.500	0.5369		mg/L		107	78 - 126
Lead	ND	F2	0.500	0.5042		mg/L		97	84 - 120

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 570-39971-J-5-C MSD

Matrix: Water

Analysis Batch: 102229

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 101628

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND	F1	0.500	0.7935	F1	mg/L		159	80 - 140	10	11
Cadmium	ND		0.500	0.5950		mg/L		119	82 - 124	5	7
Chromium	ND		0.500	0.5590		mg/L		112	86 - 122	5	8
Copper	ND		0.500	0.5686		mg/L		114	78 - 126	6	7
Lead	ND	F2	0.500	0.5481	F2	mg/L		106	84 - 120	8	7

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 570-101451/1-A

Matrix: Solid

Analysis Batch: 101821

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 101451

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.800		mg/Kg		10/13/20 14:00	10/14/20 15:05	1

Lab Sample ID: LCS 570-101451/2-A

Matrix: Solid

Analysis Batch: 101821

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 101451

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	19.9	19.15		mg/Kg		96	78 - 120

Lab Sample ID: LCSD 570-101451/3-A

Matrix: Solid

Analysis Batch: 101821

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 101451

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	20.0	19.80		mg/Kg		99	78 - 120	3	20

Lab Sample ID: 570-40645-5 MS

Matrix: Solid

Analysis Batch: 101821

Client Sample ID: SWCONF4-58.0

Prep Type: Total/NA

Prep Batch: 101451

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	9.02	F1	21.7	18.64	F1	mg/Kg	✱	44	75 - 125

Lab Sample ID: 570-40645-5 MSD

Matrix: Solid

Analysis Batch: 101821

Client Sample ID: SWCONF4-58.0

Prep Type: Total/NA

Prep Batch: 101451

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	9.02	F1	21.7	20.60	F1	mg/Kg	✱	53	75 - 125	10	25

Lab Sample ID: 570-40645-5 MSI

Matrix: Solid

Analysis Batch: 101821

Client Sample ID: SWCONF4-58.0

Prep Type: Total/NA

Prep Batch: 101451

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	9.02	F1	1060	865.9		mg/Kg	✱	81	75 - 125

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

## Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: 570-40645-5 MSID

Matrix: Solid

Analysis Batch: 101821

Client Sample ID: SWCONF4-58.0

Prep Type: Total/NA

Prep Batch: 101451

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	9.02	F1	1070	785.6	F1	mg/Kg	☆	73	75 - 125	10	25

Lab Sample ID: MB 570-101842/1-A

Matrix: Solid

Analysis Batch: 102219

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 101842

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.797		mg/Kg		10/14/20 17:00	10/15/20 18:55	1

Lab Sample ID: LCS 570-101842/2-A

Matrix: Solid

Analysis Batch: 102219

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 101842

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	20.1	17.71		mg/Kg		88	78 - 120

Lab Sample ID: LCSD 570-101842/3-A

Matrix: Solid

Analysis Batch: 102219

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 101842

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	20.0	17.03		mg/Kg		85	78 - 120	4	20

Lab Sample ID: 570-40643-A-22-E MSI ^25

Matrix: Solid

Analysis Batch: 102219

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 101842

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND		968	806.2		mg/Kg		83	75 - 125

Lab Sample ID: 570-40643-A-22-F MSID ^25

Matrix: Solid

Analysis Batch: 102219

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 101842

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND		976	794.0		mg/Kg		81	75 - 125	2	25

Lab Sample ID: 570-40643-A-22-G MS

Matrix: Solid

Analysis Batch: 102219

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 101842

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND		20.1	16.69		mg/Kg		83	75 - 125

Lab Sample ID: 570-40643-A-22-H MSD

Matrix: Solid

Analysis Batch: 102219

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 101842

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND		19.9	16.76		mg/Kg		84	75 - 125	0	25

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

## Method: 9045C - pH

Lab Sample ID: 570-40645-4 DU

Matrix: Solid

Analysis Batch: 102220

Client Sample ID: SWCONF4-57.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	9.0		9.2		S.U.		3	25

Lab Sample ID: 570-40645-10 DU

Matrix: Solid

Analysis Batch: 102220

Client Sample ID: SWCONF5-58.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	10.1		10.1		S.U.		0.1	25

## Method: Moisture - Percent Moisture

Lab Sample ID: 570-40645-1 DU

Matrix: Solid

Analysis Batch: 101758

Client Sample ID: SWCONF4-41.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	25.9		25.5		%		2	10
Percent Solids	74.1		74.5		%		0.6	10

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

## Metals

### Prep Batch: 101514

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40645-1	SWCONF4-41.0	Total/NA	Solid	3050B	
570-40645-2	SWCONF4-46.0	Total/NA	Solid	3050B	
570-40645-3	SWCONF4-51.0	Total/NA	Solid	3050B	
570-40645-4	SWCONF4-57.0	Total/NA	Solid	3050B	
570-40645-5	SWCONF4-58.0	Total/NA	Solid	3050B	
570-40645-6	SWCONF4-60.0	Total/NA	Solid	3050B	
570-40645-7	SWCONF5-43.0	Total/NA	Solid	3050B	
570-40645-8	SWCONF5-48.0	Total/NA	Solid	3050B	
570-40645-9	SWCONF5-53.0	Total/NA	Solid	3050B	
570-40645-10	SWCONF5-58.0	Total/NA	Solid	3050B	
MB 570-101514/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-101514/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-101514/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-40645-5 MS	SWCONF4-58.0	Total/NA	Solid	3050B	
570-40645-5 MSD	SWCONF4-58.0	Total/NA	Solid	3050B	

### Prep Batch: 101576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40645-11	SWCONF5-60.0	Total/NA	Solid	3050B	
MB 570-101576/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-101576/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-101576/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-40694-A-1-C MS	Matrix Spike	Total/NA	Solid	3050B	
570-40694-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	3050B	

### Prep Batch: 101628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40645-12	EB06	Total/NA	Water	3010A	
MB 570-101628/1-A	Method Blank	Total/NA	Water	3010A	
LCS 570-101628/2-A	Lab Control Sample	Total/NA	Water	3010A	
570-39971-J-5-B MS	Matrix Spike	Total/NA	Water	3010A	
570-39971-J-5-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

### Analysis Batch: 102229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40645-12	EB06	Total/NA	Water	6010B	101628
MB 570-101628/1-A	Method Blank	Total/NA	Water	6010B	101628
LCS 570-101628/2-A	Lab Control Sample	Total/NA	Water	6010B	101628
570-39971-J-5-B MS	Matrix Spike	Total/NA	Water	6010B	101628
570-39971-J-5-C MSD	Matrix Spike Duplicate	Total/NA	Water	6010B	101628

### Analysis Batch: 102648

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40645-1	SWCONF4-41.0	Total/NA	Solid	6010B	101514
570-40645-2	SWCONF4-46.0	Total/NA	Solid	6010B	101514
570-40645-3	SWCONF4-51.0	Total/NA	Solid	6010B	101514
570-40645-4	SWCONF4-57.0	Total/NA	Solid	6010B	101514
570-40645-5	SWCONF4-58.0	Total/NA	Solid	6010B	101514
570-40645-6	SWCONF4-60.0	Total/NA	Solid	6010B	101514
570-40645-7	SWCONF5-43.0	Total/NA	Solid	6010B	101514
570-40645-8	SWCONF5-48.0	Total/NA	Solid	6010B	101514

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

## Metals (Continued)

### Analysis Batch: 102648 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40645-9	SWCONF5-53.0	Total/NA	Solid	6010B	101514
570-40645-10	SWCONF5-58.0	Total/NA	Solid	6010B	101514
570-40645-11	SWCONF5-60.0	Total/NA	Solid	6010B	101576
MB 570-101514/1-A	Method Blank	Total/NA	Solid	6010B	101514
MB 570-101576/1-A	Method Blank	Total/NA	Solid	6010B	101576
LCS 570-101514/2-A	Lab Control Sample	Total/NA	Solid	6010B	101514
LCSD 570-101514/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	101514
570-40645-5 MS	SWCONF4-58.0	Total/NA	Solid	6010B	101514
570-40645-5 MSD	SWCONF4-58.0	Total/NA	Solid	6010B	101514
570-40694-A-1-C MS	Matrix Spike	Total/NA	Solid	6010B	101576
570-40694-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	6010B	101576

### Analysis Batch: 102706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-101576/2-A	Lab Control Sample	Total/NA	Solid	6010B	101576
LCSD 570-101576/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	101576

## General Chemistry

### Prep Batch: 101451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40645-1	SWCONF4-41.0	Total/NA	Solid	3060A	
570-40645-2	SWCONF4-46.0	Total/NA	Solid	3060A	
570-40645-3	SWCONF4-51.0	Total/NA	Solid	3060A	
570-40645-4	SWCONF4-57.0	Total/NA	Solid	3060A	
570-40645-5	SWCONF4-58.0	Total/NA	Solid	3060A	
570-40645-6	SWCONF4-60.0	Total/NA	Solid	3060A	
570-40645-7	SWCONF5-43.0	Total/NA	Solid	3060A	
570-40645-8	SWCONF5-48.0	Total/NA	Solid	3060A	
570-40645-9	SWCONF5-53.0	Total/NA	Solid	3060A	
570-40645-10	SWCONF5-58.0	Total/NA	Solid	3060A	
MB 570-101451/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-101451/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-101451/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-40645-5 MS	SWCONF4-58.0	Total/NA	Solid	3060A	
570-40645-5 MSD	SWCONF4-58.0	Total/NA	Solid	3060A	
570-40645-5 MSI	SWCONF4-58.0	Total/NA	Solid	3060A	
570-40645-5 MSID	SWCONF4-58.0	Total/NA	Solid	3060A	

### Leach Batch: 101592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40645-1	SWCONF4-41.0	Total/NA	Solid	DI Leach	
570-40645-2	SWCONF4-46.0	Total/NA	Solid	DI Leach	
570-40645-3	SWCONF4-51.0	Total/NA	Solid	DI Leach	
570-40645-4	SWCONF4-57.0	Total/NA	Solid	DI Leach	
570-40645-5	SWCONF4-58.0	Total/NA	Solid	DI Leach	
570-40645-6	SWCONF4-60.0	Total/NA	Solid	DI Leach	
570-40645-7	SWCONF5-43.0	Total/NA	Solid	DI Leach	
570-40645-8	SWCONF5-48.0	Total/NA	Solid	DI Leach	
570-40645-9	SWCONF5-53.0	Total/NA	Solid	DI Leach	
570-40645-10	SWCONF5-58.0	Total/NA	Solid	DI Leach	

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

## General Chemistry (Continued)

### Leach Batch: 101592 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40645-11	SWCONF5-60.0	Total/NA	Solid	DI Leach	
570-40645-4 DU	SWCONF4-57.0	Total/NA	Solid	DI Leach	
570-40645-10 DU	SWCONF5-58.0	Total/NA	Solid	DI Leach	

### Analysis Batch: 101758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40645-1	SWCONF4-41.0	Total/NA	Solid	Moisture	
570-40645-2	SWCONF4-46.0	Total/NA	Solid	Moisture	
570-40645-3	SWCONF4-51.0	Total/NA	Solid	Moisture	
570-40645-4	SWCONF4-57.0	Total/NA	Solid	Moisture	
570-40645-5	SWCONF4-58.0	Total/NA	Solid	Moisture	
570-40645-6	SWCONF4-60.0	Total/NA	Solid	Moisture	
570-40645-7	SWCONF5-43.0	Total/NA	Solid	Moisture	
570-40645-8	SWCONF5-48.0	Total/NA	Solid	Moisture	
570-40645-9	SWCONF5-53.0	Total/NA	Solid	Moisture	
570-40645-10	SWCONF5-58.0	Total/NA	Solid	Moisture	
570-40645-11	SWCONF5-60.0	Total/NA	Solid	Moisture	
570-40645-1 DU	SWCONF4-41.0	Total/NA	Solid	Moisture	

### Analysis Batch: 101821

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40645-1	SWCONF4-41.0	Total/NA	Solid	7196A	101451
570-40645-2	SWCONF4-46.0	Total/NA	Solid	7196A	101451
570-40645-3	SWCONF4-51.0	Total/NA	Solid	7196A	101451
570-40645-4	SWCONF4-57.0	Total/NA	Solid	7196A	101451
570-40645-5	SWCONF4-58.0	Total/NA	Solid	7196A	101451
570-40645-6	SWCONF4-60.0	Total/NA	Solid	7196A	101451
570-40645-7	SWCONF5-43.0	Total/NA	Solid	7196A	101451
570-40645-8	SWCONF5-48.0	Total/NA	Solid	7196A	101451
570-40645-9	SWCONF5-53.0	Total/NA	Solid	7196A	101451
570-40645-10	SWCONF5-58.0	Total/NA	Solid	7196A	101451
MB 570-101451/1-A	Method Blank	Total/NA	Solid	7196A	101451
LCS 570-101451/2-A	Lab Control Sample	Total/NA	Solid	7196A	101451
LCSD 570-101451/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	101451
570-40645-5 MS	SWCONF4-58.0	Total/NA	Solid	7196A	101451
570-40645-5 MSD	SWCONF4-58.0	Total/NA	Solid	7196A	101451
570-40645-5 MSI	SWCONF4-58.0	Total/NA	Solid	7196A	101451
570-40645-5 MSID	SWCONF4-58.0	Total/NA	Solid	7196A	101451

### Prep Batch: 101842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40645-11	SWCONF5-60.0	Total/NA	Solid	3060A	
MB 570-101842/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-101842/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-101842/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-40643-A-22-E MSI ^25	Matrix Spike	Total/NA	Solid	3060A	
570-40643-A-22-F MSID ^25	Matrix Spike Duplicate	Total/NA	Solid	3060A	
570-40643-A-22-G MS	Matrix Spike	Total/NA	Solid	3060A	
570-40643-A-22-H MSD	Matrix Spike Duplicate	Total/NA	Solid	3060A	

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

## General Chemistry

### Analysis Batch: 102219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40645-11	SWCONF5-60.0	Total/NA	Solid	7196A	101842
MB 570-101842/1-A	Method Blank	Total/NA	Solid	7196A	101842
LCS 570-101842/2-A	Lab Control Sample	Total/NA	Solid	7196A	101842
LCSD 570-101842/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	101842
570-40643-A-22-E MSI ^25	Matrix Spike	Total/NA	Solid	7196A	101842
570-40643-A-22-F MSID ^25	Matrix Spike Duplicate	Total/NA	Solid	7196A	101842
570-40643-A-22-G MS	Matrix Spike	Total/NA	Solid	7196A	101842
570-40643-A-22-H MSD	Matrix Spike Duplicate	Total/NA	Solid	7196A	101842

### Analysis Batch: 102220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40645-1	SWCONF4-41.0	Total/NA	Solid	9045C	101592
570-40645-2	SWCONF4-46.0	Total/NA	Solid	9045C	101592
570-40645-3	SWCONF4-51.0	Total/NA	Solid	9045C	101592
570-40645-4	SWCONF4-57.0	Total/NA	Solid	9045C	101592
570-40645-5	SWCONF4-58.0	Total/NA	Solid	9045C	101592
570-40645-6	SWCONF4-60.0	Total/NA	Solid	9045C	101592
570-40645-7	SWCONF5-43.0	Total/NA	Solid	9045C	101592
570-40645-8	SWCONF5-48.0	Total/NA	Solid	9045C	101592
570-40645-9	SWCONF5-53.0	Total/NA	Solid	9045C	101592
570-40645-10	SWCONF5-58.0	Total/NA	Solid	9045C	101592
570-40645-11	SWCONF5-60.0	Total/NA	Solid	9045C	101592
570-40645-4 DU	SWCONF4-57.0	Total/NA	Solid	9045C	101592
570-40645-10 DU	SWCONF5-58.0	Total/NA	Solid	9045C	101592

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

**Client Sample ID: SWCONF4-41.0**

**Lab Sample ID: 570-40645-1**

**Date Collected: 10/09/20 09:55**

**Matrix: Solid**

**Date Received: 10/09/20 17:42**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	100 mL	101514	10/13/20 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			102648	10/16/20 22:37	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	101451	10/13/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	101821	10/14/20 15:12	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.03 g	20 mL	101592	10/09/20 20:00	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	102220	10/09/20 21:10	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			101758	10/14/20 12:08	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF4-46.0**

**Lab Sample ID: 570-40645-2**

**Date Collected: 10/09/20 10:10**

**Matrix: Solid**

**Date Received: 10/09/20 17:42**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.05 g	100 mL	101514	10/13/20 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			102648	10/16/20 22:51	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.54 g	100 mL	101451	10/13/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	101821	10/14/20 15:13	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.04 g	20 mL	101592	10/09/20 20:00	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	102220	10/09/20 21:10	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			101758	10/14/20 12:08	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF4-51.0**

**Lab Sample ID: 570-40645-3**

**Date Collected: 10/09/20 10:20**

**Matrix: Solid**

**Date Received: 10/09/20 17:42**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	100 mL	101514	10/13/20 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			102648	10/16/20 22:53	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	101451	10/13/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	101821	10/14/20 15:19	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.95 g	20 mL	101592	10/09/20 20:00	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	102220	10/09/20 21:10	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			101758	10/14/20 12:08	UAPD	ECL 1
Instrument ID: NOEQUIP										

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# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

**Client Sample ID: SWCONF4-57.0**

**Lab Sample ID: 570-40645-4**

**Date Collected: 10/09/20 10:30**

**Matrix: Solid**

**Date Received: 10/09/20 17:42**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	100 mL	101514	10/13/20 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			102648	10/16/20 22:56	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.49 g	100 mL	101451	10/13/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	101821	10/14/20 15:14	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.96 g	20 mL	101592	10/09/20 20:00	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	102220	10/09/20 21:10	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			101758	10/14/20 12:08	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF4-58.0**

**Lab Sample ID: 570-40645-5**

**Date Collected: 10/09/20 10:40**

**Matrix: Solid**

**Date Received: 10/09/20 17:42**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	101514	10/13/20 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			102648	10/16/20 22:30	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.49 g	100 mL	101451	10/13/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	101821	10/14/20 15:15	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.05 g	20 mL	101592	10/09/20 20:00	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	102220	10/09/20 21:10	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			101758	10/14/20 12:08	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF4-60.0**

**Lab Sample ID: 570-40645-6**

**Date Collected: 10/09/20 10:45**

**Matrix: Solid**

**Date Received: 10/09/20 17:42**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	101514	10/13/20 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			102648	10/16/20 22:58	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	101451	10/13/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	101821	10/14/20 15:16	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	101592	10/09/20 20:00	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	102220	10/09/20 21:10	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			101758	10/14/20 12:08	UAPD	ECL 1
Instrument ID: NOEQUIP										

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# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

**Client Sample ID: SWCONF5-43.0**

**Lab Sample ID: 570-40645-7**

**Date Collected: 10/09/20 14:30**

**Matrix: Solid**

**Date Received: 10/09/20 17:42**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.07 g	100 mL	101514	10/13/20 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			102648	10/16/20 23:01	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	101451	10/13/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	101821	10/14/20 15:17	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.03 g	20 mL	101592	10/09/20 20:00	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	102220	10/09/20 21:10	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			101758	10/14/20 12:08	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF5-48.0**

**Lab Sample ID: 570-40645-8**

**Date Collected: 10/09/20 14:45**

**Matrix: Solid**

**Date Received: 10/09/20 17:42**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.06 g	100 mL	101514	10/13/20 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			102648	10/16/20 23:03	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	101451	10/13/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	101821	10/14/20 15:21	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	101592	10/09/20 20:00	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	102220	10/09/20 21:10	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			101758	10/14/20 12:08	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF5-53.0**

**Lab Sample ID: 570-40645-9**

**Date Collected: 10/09/20 15:00**

**Matrix: Solid**

**Date Received: 10/09/20 17:42**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.06 g	100 mL	101514	10/13/20 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			102648	10/16/20 23:05	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	101451	10/13/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	101821	10/14/20 15:18	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	101592	10/09/20 20:00	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	102220	10/09/20 21:10	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			101758	10/14/20 12:08	UAPD	ECL 1
Instrument ID: NOEQUIP										

Eurofins Calscience LLC

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

**Client Sample ID: SWCONF5-58.0**

**Lab Sample ID: 570-40645-10**

**Date Collected: 10/09/20 15:05**

**Matrix: Solid**

**Date Received: 10/09/20 17:42**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	100 mL	101514	10/13/20 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			102648	10/16/20 23:08	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	101451	10/13/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	101821	10/14/20 15:20	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	101592	10/09/20 20:00	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	102220	10/09/20 21:10	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			101758	10/14/20 12:08	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF5-60.0**

**Lab Sample ID: 570-40645-11**

**Date Collected: 10/09/20 15:15**

**Matrix: Solid**

**Date Received: 10/09/20 17:42**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.08 g	100 mL	101576	10/13/20 20:39	SP7J	ECL 1
Total/NA	Analysis	6010B		1			102648	10/17/20 00:09	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.49 g	100 mL	101842	10/14/20 17:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	102219	10/15/20 19:09	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.04 g	20 mL	101592	10/09/20 20:00	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	102220	10/09/20 21:10	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			101758	10/14/20 12:08	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: EB06**

**Lab Sample ID: 570-40645-12**

**Date Collected: 10/09/20 16:00**

**Matrix: Water**

**Date Received: 10/09/20 17:42**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	101628	10/14/20 06:15	WL8G	ECL 1
Total/NA	Analysis	6010B		1			102229	10/15/20 18:32	OYW3	ECL 1
Instrument ID: ICP9										

## Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494



## Accreditation/Certification Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

### Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-21
California	SCAQMD LAP	17LA0919	11-30-20
California	State	2944	09-30-21
Guam	State	20-003R	10-31-20
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-29-21
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-21

## Method Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	ECL 1
7196A	Chromium, Hexavalent	SW846	ECL 1
9045C	pH	SW846	ECL 1
Moisture	Percent Moisture	EPA	ECL 1
3010A	Preparation, Total Metals	SW846	ECL 1
3050B	Preparation, Metals	SW846	ECL 1
3060A	Alkaline Digestion (Chromium, Hexavalent)	SW846	ECL 1
DI Leach	Deionized Water Leaching Procedure	ASTM	ECL 1

### Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

## Sample Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-40645-1	SWCONF4-41.0	Solid	10/09/20 09:55	10/09/20 17:42	
570-40645-2	SWCONF4-46.0	Solid	10/09/20 10:10	10/09/20 17:42	
570-40645-3	SWCONF4-51.0	Solid	10/09/20 10:20	10/09/20 17:42	
570-40645-4	SWCONF4-57.0	Solid	10/09/20 10:30	10/09/20 17:42	
570-40645-5	SWCONF4-58.0	Solid	10/09/20 10:40	10/09/20 17:42	
570-40645-6	SWCONF4-60.0	Solid	10/09/20 10:45	10/09/20 17:42	
570-40645-7	SWCONF5-43.0	Solid	10/09/20 14:30	10/09/20 17:42	
570-40645-8	SWCONF5-48.0	Solid	10/09/20 14:45	10/09/20 17:42	
570-40645-9	SWCONF5-53.0	Solid	10/09/20 15:00	10/09/20 17:42	
570-40645-10	SWCONF5-58.0	Solid	10/09/20 15:05	10/09/20 17:42	
570-40645-11	SWCONF5-60.0	Solid	10/09/20 15:15	10/09/20 17:42	
570-40645-12	EB06	Water	10/09/20 16:00	10/09/20 17:42	











[illegible]

2. 2000, 112

10/19/2020

## Login Sample Receipt Checklist

Client: Terraphase Engineering Inc

Job Number: 570-40645-1

Login Number: 40645

List Source: Eurofins Calscience

List Number: 1

Creator: Patel, Jayesh

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

Eurofins Calscience LLC  
7440 Lincoln Way  
Garden Grove, CA 92841  
Tel: (714)895-5494

Laboratory Job ID: 570-40645-2

Client Project/Site: PTI Southwest Soil Injection Confirmation

For:

Terraphase Engineering Inc  
18401 Von Karman Ave  
Suite 410  
Irvine, California 92612

Attn: Clare Steedman

*Virendra R Patel*

Authorized for release by:  
10/12/2020 11:03:37 AM

Virendra Patel, Project Manager I  
(714)895-5494

[Virendra.Patel@eurofinset.com](mailto:Virendra.Patel@eurofinset.com)

### LINKS

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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



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## Definitions/Glossary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-2

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

## Case Narrative

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-2

**Job ID: 570-40645-2**

**Laboratory: Eurofins Calscience LLC**

### Narrative

**Job Narrative**  
**570-40645-2**

### Comments

No additional comments.

### Receipt

The samples were received on 10/9/2020 5:42 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.1° C.

### HPLC/IC

Method 7199: The method reporting limit check (MRL) for analytical batch 440-627231 recovered outside control limits for the Hexavalent chromium. These analyte were biased high in the MRL and were not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-2

**Client Sample ID: EB06**

**Lab Sample ID: 570-40645-12**

☐ No Detections.

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This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

## Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-2

### Method: 7199 - Chromium, Hexavalent (IC)

Client Sample ID: EB06  
Date Collected: 10/09/20 16:00  
Date Received: 10/09/20 17:42

Lab Sample ID: 570-40645-12  
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		2.0	0.25	ug/L			10/10/20 16:00	1



# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-2

## Method: 7199 - Chromium, Hexavalent (IC)

Lab Sample ID: MB 440-627231/7

Matrix: Water

Analysis Batch: 627231

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		2.0	0.25	ug/L			10/10/20 16:25	1

Lab Sample ID: LCS 440-627231/6

Matrix: Water

Analysis Batch: 627231

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	50.0	49.53		ug/L		99	90 - 110

Lab Sample ID: 570-40645-12 MS

Matrix: Water

Analysis Batch: 627231

Client Sample ID: EB06

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND		50.0	50.05		ug/L		100	85 - 115

Lab Sample ID: 570-40645-12 MSD

Matrix: Water

Analysis Batch: 627231

Client Sample ID: EB06

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND		50.0	48.75		ug/L		97	85 - 115	3	20

## QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-2

### HPLC/IC

#### Analysis Batch: 627231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40645-12	EB06	Total/NA	Water	7199	
MB 440-627231/7	Method Blank	Total/NA	Water	7199	
LCS 440-627231/6	Lab Control Sample	Total/NA	Water	7199	
570-40645-12 MS	EB06	Total/NA	Water	7199	
570-40645-12 MSD	EB06	Total/NA	Water	7199	

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-2

**Client Sample ID: EB06**

**Lab Sample ID: 570-40645-12**

**Date Collected: 10/09/20 16:00**

**Matrix: Water**

**Date Received: 10/09/20 17:42**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7199		1			627231	10/10/20 16:00	NTN	TAL IRV
Instrument ID: IC-22										

## Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

## Accreditation/Certification Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-2

### Laboratory: Eurofins Calscience Irvine

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska	State	CA01531	06-30-21
Arizona	State	AZ0671	10-13-20
California	Los Angeles County Sanitation Districts	10256	06-30-21
California	State	2706	06-30-21
Guam	State	20-004R	01-23-21
Hawaii	State	CA01531	01-29-21
Kansas	NELAP	E-10420	07-31-21
Nevada	State	CA015312021-1	07-31-21
Oregon	NELAP	4028 - 008	01-29-21
USDA	US Federal Programs	P330-18-00214	07-09-21
Washington	State	C900	09-03-21

## Method Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-2

Method	Method Description	Protocol	Laboratory
7199	Chromium, Hexavalent (IC)	SW846	TAL IRV

### Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022



## Sample Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40645-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-40645-12	EB06	Water	10/09/20 16:00	10/09/20 17:42	

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Calscience



570-40645 Chain of Custody

CHAIN OF CUSTODY RECORD

DATE: 10/9/20  
PAGE: 1 OF 2

7440 Lincoln Way, Garden Grove, CA 92841-1427 • (714) 895-5494

For courier service / sample drop off information, contact us26\_sales@eurofinsus.com or call us.

LABORATORY CLIENT: Terraphase Engineering, Inc.						CLIENT PROJECT NAME / NUMBER: PTI Southwest Soil Injection Confirmation / 0197.010.006						P.O. NO.:																																			
ADDRESS: 1404 Franklin Street Suite 600						PROJECT CONTACT: Chris Alger (Terraphase), Virendra Patel (ECI)						SAMPLER(S): (PRINT) West Shillings																																			
CITY: Oakland			STATE: CA			ZIP: 94612																																									
TEL: 510-645-1850 x58			E-MAIL: Chris.Alger@terraphase.com			REQUESTED ANALYSES																																									
TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"): <input type="checkbox"/> SAME DAY <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input type="checkbox"/> 5 DAYS <input checked="" type="checkbox"/> STANDARD												Soil Analyses												Water Analyses																							
<input type="checkbox"/> COELT EDF												GLOBAL ID:												LOG CODE: TEIO																							
SPECIAL INSTRUCTIONS: • Please provide results in generic EDD and ESDat formats • Please email results to: Chris Alger, Clare Steedman, EDD@terraphase.com • Results in dry weight.												Unpreserved Preserved Field Filtered												EPA 6010B Cd, Cr, Cu, Pb, As Cr(VI) ■ 7196 □ 7199 □ 218.6 pH 9045C Moisture Content PCBs (8082)												EPA 6010B Cd, Cr, Cu, Pb, As Cr(VI) □ 7196 ■ 7199 □ 218.6 PCBs (8082)											
LAB USE ONLY	SAMPLE ID	DATE	TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	EPA 6010B Cd, Cr, Cu, Pb, As	Cr(VI) ■ 7196 □ 7199 □ 218.6	pH 9045C	Moisture Content	PCBs (8082)	EPA 6010B Cd, Cr, Cu, Pb, As	Cr(VI) □ 7196 ■ 7199 □ 218.6	PCBs (8082)																															
1	SWCONF4-410	10/9/20	0955	S	1	X			X	X	X	X																																			
2	SWCONF4-460		1010			X			X	X	X	X																																			
3	SWCONF4-510		1020			X			X	X	X	X																																			
	<del>SWCONF4-560</del>					<del>X</del>			<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>																																			
4	SWCONF4-510		1030			X			X	X	X	X																																			
5	SWCONF4-560		1040			X			X	X	X	X																																			
6	SWCONF4-600		1045			X			X	X	X	X																																			
7	SWCONF5-430		1430			X			X	X	X	X																																			
8	SWCONF5-460		1445			X			X	X	X	X																																			
9	SWCONF5-530		1500			X			X	X	X	X																																			
Relinquished by: (Signature)						Received by: (Signature/Affiliation)						Date: 10/9/20			Time: 1655																																
Relinquished by: (Signature)						Received by: (Signature/Affiliation)						Date: 10-9-2020			Time: 17:42																																
Relinquished by: (Signature)						Received by: (Signature/Affiliation)						Date:			Time:																																



## Login Sample Receipt Checklist

Client: Terraphase Engineering Inc

Job Number: 570-40645-2

Login Number: 40645

List Source: Eurofins Calscience

List Number: 1

Creator: Patel, Jayesh

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: Terraphase Engineering Inc

Job Number: 570-40645-2

**Login Number: 40645**

**List Number: 2**

**Creator: Lagunas, Jorge L**

**List Source: Eurofins Irvine**

**List Creation: 10/10/20 10:49 AM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## ANALYTICAL REPORT

Eurofins Calscience LLC  
7440 Lincoln Way  
Garden Grove, CA 92841  
Tel: (714)895-5494

Laboratory Job ID: 570-40781-1

Client Project/Site: PTI Southwest Soil Injection Confirmation

For:

Terraphase Engineering Inc  
18401 Von Karman Ave  
Suite 410  
Irvine, California 92612

Attn: Clare Steedman

*Virendra R Patel*

Authorized for release by:  
10/19/2020 4:08:42 PM

Virendra Patel, Project Manager I  
(714)895-5494

[Virendra.Patel@eurofinset.com](mailto:Virendra.Patel@eurofinset.com)

### LINKS

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results through

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[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

*The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40781-1

### Qualifiers

#### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

## Case Narrative

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40781-1

**Job ID: 570-40781-1**

**Laboratory: Eurofins Calscience LLC**

### Narrative

#### Job Narrative 570-40781-1

### Comments

No additional comments.

### Receipt

The samples were received on 10/12/2020 4:45 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.7° C.

### HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### Metals

Method 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-101628 and analytical batch 570-102229 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 6010B: Due to the high concentration of Sulfur, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 570-101822 and analytical batch 570-102512 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40781-1

## Client Sample ID: SWCONF6-43.0

## Lab Sample ID: 570-40781-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.95		0.816	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.973		0.544	mg/Kg	1	✱	6010B	Total/NA
Chromium	22.1		0.272	mg/Kg	1	✱	6010B	Total/NA
Copper	23.0		0.544	mg/Kg	1	✱	6010B	Total/NA
Lead	4.08		0.544	mg/Kg	1	✱	6010B	Total/NA
Sulfur	3030		5.44	mg/Kg	1	✱	6010B	Total/NA
pH	10.8		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF6-48.0

## Lab Sample ID: 570-40781-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.0		0.836	mg/Kg	1	✱	6010B	Total/NA
Cadmium	1.10		0.557	mg/Kg	1	✱	6010B	Total/NA
Chromium	22.2		0.279	mg/Kg	1	✱	6010B	Total/NA
Copper	20.0		0.557	mg/Kg	1	✱	6010B	Total/NA
Lead	4.93		0.557	mg/Kg	1	✱	6010B	Total/NA
Sulfur	3850		5.57	mg/Kg	1	✱	6010B	Total/NA
pH	10.1		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF6-53.0

## Lab Sample ID: 570-40781-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	14.2		0.858	mg/Kg	1	✱	6010B	Total/NA
Cadmium	1.39		0.572	mg/Kg	1	✱	6010B	Total/NA
Chromium	36.5		0.286	mg/Kg	1	✱	6010B	Total/NA
Copper	32.7		0.572	mg/Kg	1	✱	6010B	Total/NA
Lead	7.27		0.572	mg/Kg	1	✱	6010B	Total/NA
Sulfur	4250		5.72	mg/Kg	1	✱	6010B	Total/NA
pH	10.3		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF6-58.0

## Lab Sample ID: 570-40781-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	14.4		0.950	mg/Kg	1	✱	6010B	Total/NA
Cadmium	1.69		0.634	mg/Kg	1	✱	6010B	Total/NA
Chromium	46.8		0.317	mg/Kg	1	✱	6010B	Total/NA
Copper	47.4		0.634	mg/Kg	1	✱	6010B	Total/NA
Lead	8.17		0.634	mg/Kg	1	✱	6010B	Total/NA
Sulfur	6480		63.4	mg/Kg	10	✱	6010B	Total/NA
pH	10.1		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF6-59.0

## Lab Sample ID: 570-40781-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.39		0.907	mg/Kg	1	✱	6010B	Total/NA
Cadmium	1.13		0.605	mg/Kg	1	✱	6010B	Total/NA
Chromium	33.3		0.302	mg/Kg	1	✱	6010B	Total/NA
Copper	28.2		0.605	mg/Kg	1	✱	6010B	Total/NA
Lead	3.90		0.605	mg/Kg	1	✱	6010B	Total/NA
Sulfur	198		6.05	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	3.96		0.974	mg/Kg	1	✱	7196A	Total/NA
pH	7.3		0.01	S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC



## Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40781-1

### Client Sample ID: SWCONF6-63.0

### Lab Sample ID: 570-40781-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.77		0.780	mg/Kg	1	✳	6010B	Total/NA
Cadmium	0.668		0.520	mg/Kg	1	✳	6010B	Total/NA
Chromium	16.4		0.260	mg/Kg	1	✳	6010B	Total/NA
Copper	11.1		0.520	mg/Kg	1	✳	6010B	Total/NA
Lead	2.55		0.520	mg/Kg	1	✳	6010B	Total/NA
Sulfur	36.6		5.20	mg/Kg	1	✳	6010B	Total/NA
Cr (VI)	1.52		0.841	mg/Kg	1	✳	7196A	Total/NA
pH	7.1		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: EB07

### Lab Sample ID: 570-40781-7

No Detections.

This Detection Summary does not include radiochemical test results.

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## Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40781-1

### Method: 7199 - Chromium, Hexavalent (IC)

Client Sample ID: EB07

Date Collected: 10/12/20 11:30

Date Received: 10/12/20 16:45

Lab Sample ID: 570-40781-7

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			10/12/20 20:14	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40781-1

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCONF6-43.0

Date Collected: 10/12/20 10:25

Date Received: 10/12/20 16:45

Lab Sample ID: 570-40781-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.95		0.816	mg/Kg	✱	10/14/20 16:30	10/16/20 21:32	1
Cadmium	0.973		0.544	mg/Kg	✱	10/14/20 16:30	10/16/20 21:32	1
Chromium	22.1		0.272	mg/Kg	✱	10/14/20 16:30	10/16/20 21:32	1
Copper	23.0		0.544	mg/Kg	✱	10/14/20 16:30	10/16/20 21:32	1
Lead	4.08		0.544	mg/Kg	✱	10/14/20 16:30	10/16/20 21:32	1
Sulfur	3030		5.44	mg/Kg	✱	10/14/20 16:30	10/16/20 21:32	1

Client Sample ID: SWCONF6-48.0

Date Collected: 10/12/20 10:35

Date Received: 10/12/20 16:45

Lab Sample ID: 570-40781-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.0		0.836	mg/Kg	✱	10/14/20 16:30	10/16/20 21:40	1
Cadmium	1.10		0.557	mg/Kg	✱	10/14/20 16:30	10/16/20 21:40	1
Chromium	22.2		0.279	mg/Kg	✱	10/14/20 16:30	10/16/20 21:40	1
Copper	20.0		0.557	mg/Kg	✱	10/14/20 16:30	10/16/20 21:40	1
Lead	4.93		0.557	mg/Kg	✱	10/14/20 16:30	10/16/20 21:40	1
Sulfur	3850		5.57	mg/Kg	✱	10/14/20 16:30	10/16/20 21:40	1

Client Sample ID: SWCONF6-53.0

Date Collected: 10/12/20 10:50

Date Received: 10/12/20 16:45

Lab Sample ID: 570-40781-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	14.2		0.858	mg/Kg	✱	10/14/20 16:30	10/16/20 21:42	1
Cadmium	1.39		0.572	mg/Kg	✱	10/14/20 16:30	10/16/20 21:42	1
Chromium	36.5		0.286	mg/Kg	✱	10/14/20 16:30	10/16/20 21:42	1
Copper	32.7		0.572	mg/Kg	✱	10/14/20 16:30	10/16/20 21:42	1
Lead	7.27		0.572	mg/Kg	✱	10/14/20 16:30	10/16/20 21:42	1
Sulfur	4250		5.72	mg/Kg	✱	10/14/20 16:30	10/16/20 21:42	1

Client Sample ID: SWCONF6-58.0

Date Collected: 10/12/20 11:00

Date Received: 10/12/20 16:45

Lab Sample ID: 570-40781-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	14.4		0.950	mg/Kg	✱	10/14/20 16:30	10/16/20 21:44	1
Cadmium	1.69		0.634	mg/Kg	✱	10/14/20 16:30	10/16/20 21:44	1
Chromium	46.8		0.317	mg/Kg	✱	10/14/20 16:30	10/16/20 21:44	1
Copper	47.4		0.634	mg/Kg	✱	10/14/20 16:30	10/16/20 21:44	1
Lead	8.17		0.634	mg/Kg	✱	10/14/20 16:30	10/16/20 21:44	1
Sulfur	6480		63.4	mg/Kg	✱	10/14/20 16:30	10/17/20 12:19	10

Client Sample ID: SWCONF6-59.0

Date Collected: 10/12/20 11:01

Date Received: 10/12/20 16:45

Lab Sample ID: 570-40781-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.39		0.907	mg/Kg	✱	10/14/20 16:30	10/16/20 21:47	1
Cadmium	1.13		0.605	mg/Kg	✱	10/14/20 16:30	10/16/20 21:47	1
Chromium	33.3		0.302	mg/Kg	✱	10/14/20 16:30	10/16/20 21:47	1
Copper	28.2		0.605	mg/Kg	✱	10/14/20 16:30	10/16/20 21:47	1
Lead	3.90		0.605	mg/Kg	✱	10/14/20 16:30	10/16/20 21:47	1
Sulfur	198		6.05	mg/Kg	✱	10/14/20 16:30	10/16/20 21:47	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40781-1

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCONF6-63.0

Date Collected: 10/12/20 11:15

Date Received: 10/12/20 16:45

Lab Sample ID: 570-40781-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.77		0.780	mg/Kg	☼	10/14/20 16:30	10/16/20 21:49	1
Cadmium	0.668		0.520	mg/Kg	☼	10/14/20 16:30	10/16/20 21:49	1
Chromium	16.4		0.260	mg/Kg	☼	10/14/20 16:30	10/16/20 21:49	1
Copper	11.1		0.520	mg/Kg	☼	10/14/20 16:30	10/16/20 21:49	1
Lead	2.55		0.520	mg/Kg	☼	10/14/20 16:30	10/16/20 21:49	1
Sulfur	36.6		5.20	mg/Kg	☼	10/14/20 16:30	10/16/20 21:49	1

Client Sample ID: EB07

Date Collected: 10/12/20 11:30

Date Received: 10/12/20 16:45

Lab Sample ID: 570-40781-7

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L		10/14/20 06:15	10/17/20 14:36	1
Cadmium	ND		0.0100	mg/L		10/14/20 06:15	10/17/20 14:36	1
Chromium	ND		0.0500	mg/L		10/14/20 06:15	10/17/20 14:36	1
Copper	ND		0.0500	mg/L		10/14/20 06:15	10/17/20 14:36	1
Lead	ND		0.0500	mg/L		10/14/20 06:15	10/17/20 14:36	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40781-1

## General Chemistry

Client Sample ID: SWCONF6-43.0

Date Collected: 10/12/20 10:25

Date Received: 10/12/20 16:45

Lab Sample ID: 570-40781-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.860	mg/Kg	☼	10/16/20 14:00	10/17/20 16:07	1
pH	10.8		0.01	S.U.			10/13/20 15:40	1
Percent Moisture	7.7		0.1	%			10/14/20 13:12	1
Percent Solids	92.3		0.1	%			10/14/20 13:12	1

Client Sample ID: SWCONF6-48.0

Date Collected: 10/12/20 10:35

Date Received: 10/12/20 16:45

Lab Sample ID: 570-40781-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.899	mg/Kg	☼	10/16/20 14:00	10/17/20 16:08	1
pH	10.1		0.01	S.U.			10/13/20 15:40	1
Percent Moisture	12.0		0.1	%			10/14/20 13:12	1
Percent Solids	88.0		0.1	%			10/14/20 13:12	1

Client Sample ID: SWCONF6-53.0

Date Collected: 10/12/20 10:50

Date Received: 10/12/20 16:45

Lab Sample ID: 570-40781-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.934	mg/Kg	☼	10/16/20 14:00	10/17/20 16:09	1
pH	10.3		0.01	S.U.			10/13/20 15:40	1
Percent Moisture	14.3		0.1	%			10/14/20 13:12	1
Percent Solids	85.7		0.1	%			10/14/20 13:12	1

Client Sample ID: SWCONF6-58.0

Date Collected: 10/12/20 11:00

Date Received: 10/12/20 16:45

Lab Sample ID: 570-40781-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.06	mg/Kg	☼	10/16/20 14:00	10/17/20 16:10	1
pH	10.1		0.01	S.U.			10/13/20 15:40	1
Percent Moisture	24.5		0.1	%			10/14/20 13:12	1
Percent Solids	75.5		0.1	%			10/14/20 13:12	1

Client Sample ID: SWCONF6-59.0

Date Collected: 10/12/20 11:01

Date Received: 10/12/20 16:45

Lab Sample ID: 570-40781-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	3.96		0.974	mg/Kg	☼	10/16/20 14:00	10/17/20 16:11	1
pH	7.3		0.01	S.U.			10/13/20 15:40	1
Percent Moisture	18.2		0.1	%			10/14/20 13:12	1
Percent Solids	81.8		0.1	%			10/14/20 13:12	1

Client Sample ID: SWCONF6-63.0

Date Collected: 10/12/20 11:15

Date Received: 10/12/20 16:45

Lab Sample ID: 570-40781-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	1.52		0.841	mg/Kg	☼	10/16/20 14:00	10/17/20 16:12	1
pH	7.1		0.01	S.U.			10/13/20 15:40	1
Percent Moisture	5.2		0.1	%			10/14/20 13:12	1
Percent Solids	94.8		0.1	%			10/14/20 13:12	1



# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40781-1

## Method: 7199 - Chromium, Hexavalent (IC)

Lab Sample ID: MB 570-101192/14  
Matrix: Water  
Analysis Batch: 101192

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			10/12/20 17:15	1

Lab Sample ID: LCS 570-101192/15  
Matrix: Water  
Analysis Batch: 101192

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.0501	0.05131		mg/L		103	80 - 120

Lab Sample ID: LCSD 570-101192/16  
Matrix: Water  
Analysis Batch: 101192

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	0.0501	0.05144		mg/L		103	80 - 120	0	20

Lab Sample ID: 570-40781-7 MS  
Matrix: Water  
Analysis Batch: 101192

Client Sample ID: EB07  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND		0.0501	0.05142		mg/L		103	70 - 130

Lab Sample ID: 570-40781-7 MSD  
Matrix: Water  
Analysis Batch: 101192

Client Sample ID: EB07  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND		0.0501	0.05149		mg/L		103	70 - 130	0	25

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 570-101628/1-A  
Matrix: Water  
Analysis Batch: 102229

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 101628

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L		10/14/20 06:15	10/15/20 17:32	1
Cadmium	ND		0.0100	mg/L		10/14/20 06:15	10/15/20 17:32	1
Chromium	ND		0.0500	mg/L		10/14/20 06:15	10/15/20 17:32	1
Copper	ND		0.0500	mg/L		10/14/20 06:15	10/15/20 17:32	1
Lead	ND		0.0500	mg/L		10/14/20 06:15	10/15/20 17:32	1

Lab Sample ID: LCS 570-101628/2-A  
Matrix: Water  
Analysis Batch: 102543

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 101628

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.500	0.5133		mg/L		103	80 - 120
Cadmium	0.500	0.5227		mg/L		105	80 - 120

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40781-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-101628/2-A

Matrix: Water

Analysis Batch: 102543

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 101628

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.500	0.5113		mg/L		102	80 - 120
Copper	0.500	0.5340		mg/L		107	80 - 120
Lead	0.500	0.5150		mg/L		103	80 - 120

Lab Sample ID: LCSD 570-101628/3-A

Matrix: Water

Analysis Batch: 102543

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 101628

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	0.500	0.5004		mg/L		100	80 - 120	3	20
Cadmium	0.500	0.5223		mg/L		104	80 - 120	0	20
Chromium	0.500	0.5150		mg/L		103	80 - 120	1	20
Copper	0.500	0.5364		mg/L		107	80 - 120	0	20
Lead	0.500	0.5161		mg/L		103	80 - 120	0	20

Lab Sample ID: 570-39971-J-5-B MS

Matrix: Water

Analysis Batch: 102229

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 101628

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND	F1	0.500	0.7214	F1	mg/L		144	80 - 140
Cadmium	ND		0.500	0.5687		mg/L		114	82 - 124
Chromium	ND		0.500	0.5325		mg/L		107	86 - 122
Copper	ND		0.500	0.5369		mg/L		107	78 - 126
Lead	ND	F2	0.500	0.5042		mg/L		97	84 - 120

Lab Sample ID: 570-39971-J-5-C MSD

Matrix: Water

Analysis Batch: 102229

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 101628

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	ND	F1	0.500	0.7935	F1	mg/L		159	80 - 140	10	11
Cadmium	ND		0.500	0.5950		mg/L		119	82 - 124	5	7
Chromium	ND		0.500	0.5590		mg/L		112	86 - 122	5	8
Copper	ND		0.500	0.5686		mg/L		114	78 - 126	6	7
Lead	ND	F2	0.500	0.5481	F2	mg/L		106	84 - 120	8	7

Lab Sample ID: MB 570-101822/1-A

Matrix: Solid

Analysis Batch: 102706

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 101822

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.754	mg/Kg		10/14/20 16:30	10/17/20 12:33	1
Cadmium	ND		0.503	mg/Kg		10/14/20 16:30	10/17/20 12:33	1
Chromium	ND		0.251	mg/Kg		10/14/20 16:30	10/17/20 12:33	1
Copper	ND		0.503	mg/Kg		10/14/20 16:30	10/17/20 12:33	1
Lead	ND		0.503	mg/Kg		10/14/20 16:30	10/17/20 12:33	1
Sulfur	ND		5.03	mg/Kg		10/14/20 16:30	10/17/20 12:33	1

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40781-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-101822/2-A

Matrix: Solid

Analysis Batch: 102741

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 101822

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	24.6	25.56		mg/Kg		104	80 - 120
Cadmium	24.6	25.72		mg/Kg		104	80 - 120
Chromium	24.6	24.96		mg/Kg		101	80 - 120
Copper	24.6	25.31		mg/Kg		103	80 - 120
Lead	24.6	26.31		mg/Kg		107	80 - 120
Sulfur	24.6	22.45		mg/Kg		91	80 - 120

Lab Sample ID: LCSD 570-101822/3-A

Matrix: Solid

Analysis Batch: 102741

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 101822

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	25.1	26.40		mg/Kg		105	80 - 120	3	20
Cadmium	25.1	26.27		mg/Kg		105	80 - 120	2	20
Chromium	25.1	25.58		mg/Kg		102	80 - 120	2	20
Copper	25.1	25.99		mg/Kg		103	80 - 120	3	20
Lead	25.1	26.49		mg/Kg		105	80 - 120	1	20
Sulfur	25.1	21.07		mg/Kg		84	80 - 120	6	20

Lab Sample ID: 570-40781-1 MS

Matrix: Solid

Analysis Batch: 102512

Client Sample ID: SWCONF6-43.0

Prep Type: Total/NA

Prep Batch: 101822

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	8.95		27.4	36.76		mg/Kg	✱	102	75 - 125
Cadmium	0.973		27.4	28.01		mg/Kg	✱	99	75 - 125
Chromium	22.1		27.4	50.10		mg/Kg	✱	102	75 - 125
Copper	23.0		27.4	52.03		mg/Kg	✱	106	75 - 125
Lead	4.08		27.4	31.11		mg/Kg	✱	99	75 - 125
Sulfur	3030		27.4	2992	4	mg/Kg	✱	-138	75 - 125

Lab Sample ID: 570-40781-1 MSD

Matrix: Solid

Analysis Batch: 102512

Client Sample ID: SWCONF6-43.0

Prep Type: Total/NA

Prep Batch: 101822

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	8.95		27.5	38.92		mg/Kg	✱	109	75 - 125	6	20
Cadmium	0.973		27.5	27.71		mg/Kg	✱	97	75 - 125	1	20
Chromium	22.1		27.5	49.85		mg/Kg	✱	101	75 - 125	0	20
Copper	23.0		27.5	51.45		mg/Kg	✱	104	75 - 125	1	20
Lead	4.08		27.5	30.86		mg/Kg	✱	97	75 - 125	1	20
Sulfur	3030		27.5	2937	4	mg/Kg	✱	-338	75 - 125	2	20

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40781-1

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 570-102443/1-A  
Matrix: Solid  
Analysis Batch: 102704

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 102443

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.800	mg/Kg		10/16/20 14:00	10/17/20 16:00	1

Lab Sample ID: LCS 570-102443/2-A  
Matrix: Solid  
Analysis Batch: 102704

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 102443

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	20.1	17.18		mg/Kg		85	78 - 120

Lab Sample ID: LCSD 570-102443/3-A  
Matrix: Solid  
Analysis Batch: 102704

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 102443

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	20.0	17.70		mg/Kg		88	78 - 120	3	20

Lab Sample ID: 570-40781-6 MS  
Matrix: Solid  
Analysis Batch: 102704

Client Sample ID: SWCONF6-63.0  
Prep Type: Total/NA  
Prep Batch: 102443

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	1.52		21.1	20.97		mg/Kg	✱	92	75 - 125

Lab Sample ID: 570-40781-6 MSD  
Matrix: Solid  
Analysis Batch: 102704

Client Sample ID: SWCONF6-63.0  
Prep Type: Total/NA  
Prep Batch: 102443

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	1.52		20.8	19.30		mg/Kg	✱	86	75 - 125	8	25

Lab Sample ID: 570-40781-6 MSI  
Matrix: Solid  
Analysis Batch: 102704

Client Sample ID: SWCONF6-63.0  
Prep Type: Total/NA  
Prep Batch: 102443

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	1.52		1030	844.8		mg/Kg	✱	82	75 - 125

Lab Sample ID: 570-40781-6 MSID  
Matrix: Solid  
Analysis Batch: 102704

Client Sample ID: SWCONF6-63.0  
Prep Type: Total/NA  
Prep Batch: 102443

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	1.52		1020	849.0		mg/Kg	✱	83	75 - 125	0	25

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40781-1

## Method: 9045C - pH

Lab Sample ID: 570-40781-6 DU

Matrix: Solid

Analysis Batch: 102433

Client Sample ID: SWCONF6-63.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
pH	7.1		7.0		S.U.		0.9	25

## Method: Moisture - Percent Moisture

Lab Sample ID: 570-40781-1 DU

Matrix: Solid

Analysis Batch: 101775

Client Sample ID: SWCONF6-43.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Moisture	7.7		7.8		%		0.9	10
Percent Solids	92.3		92.2		%		0.08	10



# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40781-1

## HPLC/IC

### Analysis Batch: 101192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40781-7	EB07	Total/NA	Water	7199	
MB 570-101192/14	Method Blank	Total/NA	Water	7199	
LCS 570-101192/15	Lab Control Sample	Total/NA	Water	7199	
LCSD 570-101192/16	Lab Control Sample Dup	Total/NA	Water	7199	
570-40781-7 MS	EB07	Total/NA	Water	7199	
570-40781-7 MSD	EB07	Total/NA	Water	7199	

## Metals

### Prep Batch: 101628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40781-7	EB07	Total/NA	Water	3010A	
MB 570-101628/1-A	Method Blank	Total/NA	Water	3010A	
LCS 570-101628/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 570-101628/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
570-39971-J-5-B MS	Matrix Spike	Total/NA	Water	3010A	
570-39971-J-5-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

### Prep Batch: 101822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40781-1	SWCONF6-43.0	Total/NA	Solid	3050B	
570-40781-2	SWCONF6-48.0	Total/NA	Solid	3050B	
570-40781-3	SWCONF6-53.0	Total/NA	Solid	3050B	
570-40781-4	SWCONF6-58.0	Total/NA	Solid	3050B	
570-40781-5	SWCONF6-59.0	Total/NA	Solid	3050B	
570-40781-6	SWCONF6-63.0	Total/NA	Solid	3050B	
MB 570-101822/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-101822/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-101822/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-40781-1 MS	SWCONF6-43.0	Total/NA	Solid	3050B	
570-40781-1 MSD	SWCONF6-43.0	Total/NA	Solid	3050B	

### Analysis Batch: 102229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-101628/1-A	Method Blank	Total/NA	Water	6010B	101628
570-39971-J-5-B MS	Matrix Spike	Total/NA	Water	6010B	101628
570-39971-J-5-C MSD	Matrix Spike Duplicate	Total/NA	Water	6010B	101628

### Analysis Batch: 102512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40781-1	SWCONF6-43.0	Total/NA	Solid	6010B	101822
570-40781-2	SWCONF6-48.0	Total/NA	Solid	6010B	101822
570-40781-3	SWCONF6-53.0	Total/NA	Solid	6010B	101822
570-40781-4	SWCONF6-58.0	Total/NA	Solid	6010B	101822
570-40781-5	SWCONF6-59.0	Total/NA	Solid	6010B	101822
570-40781-6	SWCONF6-63.0	Total/NA	Solid	6010B	101822
570-40781-1 MS	SWCONF6-43.0	Total/NA	Solid	6010B	101822
570-40781-1 MSD	SWCONF6-43.0	Total/NA	Solid	6010B	101822

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40781-1

## Metals

### Analysis Batch: 102543

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-101628/2-A	Lab Control Sample	Total/NA	Water	6010B	101628
LCSD 570-101628/3-A	Lab Control Sample Dup	Total/NA	Water	6010B	101628

### Analysis Batch: 102706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40781-4	SWCONF6-58.0	Total/NA	Solid	6010B	101822
MB 570-101822/1-A	Method Blank	Total/NA	Solid	6010B	101822

### Analysis Batch: 102724

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40781-7	EB07	Total/NA	Water	6010B	101628

### Analysis Batch: 102741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-101822/2-A	Lab Control Sample	Total/NA	Solid	6010B	101822
LCSD 570-101822/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	101822

## General Chemistry

### Analysis Batch: 101775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40781-1	SWCONF6-43.0	Total/NA	Solid	Moisture	
570-40781-2	SWCONF6-48.0	Total/NA	Solid	Moisture	
570-40781-3	SWCONF6-53.0	Total/NA	Solid	Moisture	
570-40781-4	SWCONF6-58.0	Total/NA	Solid	Moisture	
570-40781-5	SWCONF6-59.0	Total/NA	Solid	Moisture	
570-40781-6	SWCONF6-63.0	Total/NA	Solid	Moisture	
570-40781-1 DU	SWCONF6-43.0	Total/NA	Solid	Moisture	

### Leach Batch: 102432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40781-1	SWCONF6-43.0	Total/NA	Solid	DI Leach	
570-40781-2	SWCONF6-48.0	Total/NA	Solid	DI Leach	
570-40781-3	SWCONF6-53.0	Total/NA	Solid	DI Leach	
570-40781-4	SWCONF6-58.0	Total/NA	Solid	DI Leach	
570-40781-5	SWCONF6-59.0	Total/NA	Solid	DI Leach	
570-40781-6	SWCONF6-63.0	Total/NA	Solid	DI Leach	
570-40781-6 DU	SWCONF6-63.0	Total/NA	Solid	DI Leach	

### Analysis Batch: 102433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40781-1	SWCONF6-43.0	Total/NA	Solid	9045C	102432
570-40781-2	SWCONF6-48.0	Total/NA	Solid	9045C	102432
570-40781-3	SWCONF6-53.0	Total/NA	Solid	9045C	102432
570-40781-4	SWCONF6-58.0	Total/NA	Solid	9045C	102432
570-40781-5	SWCONF6-59.0	Total/NA	Solid	9045C	102432
570-40781-6	SWCONF6-63.0	Total/NA	Solid	9045C	102432
570-40781-6 DU	SWCONF6-63.0	Total/NA	Solid	9045C	102432

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40781-1

## General Chemistry

### Prep Batch: 102443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40781-1	SWCONF6-43.0	Total/NA	Solid	3060A	
570-40781-2	SWCONF6-48.0	Total/NA	Solid	3060A	
570-40781-3	SWCONF6-53.0	Total/NA	Solid	3060A	
570-40781-4	SWCONF6-58.0	Total/NA	Solid	3060A	
570-40781-5	SWCONF6-59.0	Total/NA	Solid	3060A	
570-40781-6	SWCONF6-63.0	Total/NA	Solid	3060A	
MB 570-102443/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-102443/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-102443/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-40781-6 MS	SWCONF6-63.0	Total/NA	Solid	3060A	
570-40781-6 MSD	SWCONF6-63.0	Total/NA	Solid	3060A	
570-40781-6 MSI	SWCONF6-63.0	Total/NA	Solid	3060A	
570-40781-6 MSID	SWCONF6-63.0	Total/NA	Solid	3060A	

### Analysis Batch: 102704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-40781-1	SWCONF6-43.0	Total/NA	Solid	7196A	102443
570-40781-2	SWCONF6-48.0	Total/NA	Solid	7196A	102443
570-40781-3	SWCONF6-53.0	Total/NA	Solid	7196A	102443
570-40781-4	SWCONF6-58.0	Total/NA	Solid	7196A	102443
570-40781-5	SWCONF6-59.0	Total/NA	Solid	7196A	102443
570-40781-6	SWCONF6-63.0	Total/NA	Solid	7196A	102443
MB 570-102443/1-A	Method Blank	Total/NA	Solid	7196A	102443
LCS 570-102443/2-A	Lab Control Sample	Total/NA	Solid	7196A	102443
LCSD 570-102443/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	102443
570-40781-6 MS	SWCONF6-63.0	Total/NA	Solid	7196A	102443
570-40781-6 MSD	SWCONF6-63.0	Total/NA	Solid	7196A	102443
570-40781-6 MSI	SWCONF6-63.0	Total/NA	Solid	7196A	102443
570-40781-6 MSID	SWCONF6-63.0	Total/NA	Solid	7196A	102443

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40781-1

**Client Sample ID: SWCONF6-43.0**

**Lab Sample ID: 570-40781-1**

**Date Collected: 10/12/20 10:25**

**Matrix: Solid**

**Date Received: 10/12/20 16:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	100 mL	101822	10/14/20 16:30	SP7J	ECL 1
Total/NA	Analysis	6010B		1			102512	10/16/20 21:32	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	102443	10/16/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	102704	10/17/20 16:07	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	102432	10/13/20 14:00	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	102433	10/13/20 15:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			101775	10/14/20 13:12	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF6-48.0**

**Lab Sample ID: 570-40781-2**

**Date Collected: 10/12/20 10:35**

**Matrix: Solid**

**Date Received: 10/12/20 16:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	101822	10/14/20 16:30	SP7J	ECL 1
Total/NA	Analysis	6010B		1			102512	10/16/20 21:40	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	102443	10/16/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	102704	10/17/20 16:08	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.05 g	20 mL	102432	10/13/20 14:00	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	102433	10/13/20 15:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			101775	10/14/20 13:12	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF6-53.0**

**Lab Sample ID: 570-40781-3**

**Date Collected: 10/12/20 10:50**

**Matrix: Solid**

**Date Received: 10/12/20 16:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	101822	10/14/20 16:30	SP7J	ECL 1
Total/NA	Analysis	6010B		1			102512	10/16/20 21:42	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	102443	10/16/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	102704	10/17/20 16:09	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.05 g	20 mL	102432	10/13/20 14:00	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	102433	10/13/20 15:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			101775	10/14/20 13:12	UAPD	ECL 1
Instrument ID: NOEQUIP										

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# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40781-1

**Client Sample ID: SWCONF6-58.0**

**Lab Sample ID: 570-40781-4**

**Date Collected: 10/12/20 11:00**

**Matrix: Solid**

**Date Received: 10/12/20 16:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.09 g	100 mL	101822	10/14/20 16:30	SP7J	ECL 1
Total/NA	Analysis	6010B		1			102512	10/16/20 21:44	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3050B			2.09 g	100 mL	101822	10/14/20 16:30	SP7J	ECL 1
Total/NA	Analysis	6010B		10			102706	10/17/20 12:19	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	102443	10/16/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	102704	10/17/20 16:10	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	102432	10/13/20 14:00	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	102433	10/13/20 15:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			101775	10/14/20 13:12	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF6-59.0**

**Lab Sample ID: 570-40781-5**

**Date Collected: 10/12/20 11:01**

**Matrix: Solid**

**Date Received: 10/12/20 16:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	100 mL	101822	10/14/20 16:30	SP7J	ECL 1
Total/NA	Analysis	6010B		1			102512	10/16/20 21:47	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	102443	10/16/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	102704	10/17/20 16:11	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	102432	10/13/20 14:00	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	102433	10/13/20 15:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			101775	10/14/20 13:12	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF6-63.0**

**Lab Sample ID: 570-40781-6**

**Date Collected: 10/12/20 11:15**

**Matrix: Solid**

**Date Received: 10/12/20 16:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	101822	10/14/20 16:30	SP7J	ECL 1
Total/NA	Analysis	6010B		1			102512	10/16/20 21:49	OYW3	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	102443	10/16/20 14:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	102704	10/17/20 16:12	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	102432	10/13/20 14:00	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	102433	10/13/20 15:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										

Eurofins Calscience LLC



# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40781-1

**Client Sample ID: SWCONF6-63.0**

**Date Collected: 10/12/20 11:15**

**Date Received: 10/12/20 16:45**

**Lab Sample ID: 570-40781-6**

**Matrix: Solid**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			101775	10/14/20 13:12	UAPD	ECL 1

**Client Sample ID: EB07**

**Date Collected: 10/12/20 11:30**

**Date Received: 10/12/20 16:45**

**Lab Sample ID: 570-40781-7**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7199		1			101192	10/12/20 20:14	URMH	ECL 1
		Instrument ID: IC11								
Total/NA	Prep	3010A			50 mL	50 mL	101628	10/14/20 06:15	WL8G	ECL 1
Total/NA	Analysis	6010B		1			102724	10/17/20 14:36	OYW3	ECL 1
		Instrument ID: ICP8								

## Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

## Accreditation/Certification Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40781-1

### Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-21
California	SCAQMD LAP	17LA0919	11-30-20
California	State	2944	09-30-21
Guam	State	20-003R	10-31-20
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-29-21
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-21

## Method Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40781-1

Method	Method Description	Protocol	Laboratory
7199	Chromium, Hexavalent (IC)	SW846	ECL 1
6010B	Metals (ICP)	SW846	ECL 1
7196A	Chromium, Hexavalent	SW846	ECL 1
9045C	pH	SW846	ECL 1
Moisture	Percent Moisture	EPA	ECL 1
3010A	Preparation, Total Metals	SW846	ECL 1
3050B	Preparation, Metals	SW846	ECL 1
3060A	Alkaline Digestion (Chromium, Hexavalent)	SW846	ECL 1
DI Leach	Deionized Water Leaching Procedure	ASTM	ECL 1

### Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

## Sample Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-40781-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-40781-1	SWCONF6-43.0	Solid	10/12/20 10:25	10/12/20 16:45	
570-40781-2	SWCONF6-48.0	Solid	10/12/20 10:35	10/12/20 16:45	
570-40781-3	SWCONF6-53.0	Solid	10/12/20 10:50	10/12/20 16:45	
570-40781-4	SWCONF6-58.0	Solid	10/12/20 11:00	10/12/20 16:45	
570-40781-5	SWCONF6-59.0	Solid	10/12/20 11:01	10/12/20 16:45	
570-40781-6	SWCONF6-63.0	Solid	10/12/20 11:15	10/12/20 16:45	
570-40781-7	EB07	Water	10/12/20 11:30	10/12/20 16:45	

**Christine, Mark B.**

---

**From:** Westin Skillings <wes.skillings@terraphase.com>  
**Sent:** Monday, October 12, 2020 5:32 PM  
**To:** Christine, Mark B.; Chris Alger; Clare Steedman; Electronic Data Deliverables; Miranda Bona  
**Subject:** RE: Eurofins Calscience sample confirmation files from 570-40781-1 PTI Southwest Soil Injection Confirmation/0197.010  
**Attachments:** COC 570-40781 (202010121712).pdf

EXTERNAL EMAIL\*

Thanks Mark,

Please add Sulfur to the list of 6010B Metals for all soil samples. I corrected and attached the coc. Sulfur is noted by "S".

Best,  
WS

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**From:** Mark Christine <noreply@eurofinsslimsservices.com>  
**Sent:** Monday, October 12, 2020 5:26 PM  
**To:** Chris Alger <chris.alger@terraphase.com>; Clare Steedman <clare.steedman@terraphase.com>; Electronic Data Deliverables <EDD@terraphase.com>; Miranda Bona <miranda.bona@terraphase.com>; Westin Skillings <wes.skillings@terraphase.com>  
**Subject:** Eurofins Calscience sample confirmation files from 570-40781-1 PTI Southwest Soil Injection Confirmation/0197.010

Hello,

Attached please find the sample confirmation files for job 570-40781-1; PTI Southwest Soil Injection Confirmation/0197.010

Please feel free to contact me or your PM Virendra Patel if you have any questions.

Thank you.

**Mark B Christine**  
Project Manager Assistant

Eurofins Calscience LLC

E-mail: [Mark.Christine@Eurofinset.com](mailto:Mark.Christine@Eurofinset.com)  
[www.eurofinsus.com/env](http://www.eurofinsus.com/env)





Reference: [570-136803]  
Attachments: 2

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## Login Sample Receipt Checklist

Client: Terraphase Engineering Inc

Job Number: 570-40781-1

Login Number: 40781

List Source: Eurofins Calscience

List Number: 1

Creator: Patel, Jayesh

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

Eurofins Calscience LLC  
7440 Lincoln Way  
Garden Grove, CA 92841  
Tel: (714)895-5494

Laboratory Job ID: 570-46795-1

Laboratory Sample Delivery Group: 0197.010 006

Client Project/Site: PTI Southwest Soil Injection Confirmation

**For:**

Terraphase Engineering Inc  
18401 Von Karman Ave  
Suite 410  
Irvine, California 92612

Attn: Clare Steedman

*Virendra R Patel*

---

Authorized for release by:  
1/6/2021 1:55:21 PM

Virendra Patel, Project Manager I  
(714)895-5494

[Virendra.Patel@eurofinset.com](mailto:Virendra.Patel@eurofinset.com)

### LINKS

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*Results relate only to the items tested and the sample(s) as received by the laboratory.*





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## Definitions/Glossary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

### Qualifiers

#### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.

#### General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

## Case Narrative

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

**Job ID: 570-46795-1**

**Laboratory: Eurofins Calscience LLC**

### Narrative

#### Job Narrative 570-46795-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 12/21/2020 4:50 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.6° C.

#### HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Metals

Method 6010B: Due to the high concentration of Copper the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 570-120372 and analytical batch 570-120490 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-120371 and analytical batch 570-120490 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

Method 7196A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-118508 and analytical batch 570-118694 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 7196A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-119204 and analytical batch 570-119510 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 7196A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-119507 and analytical batch 570-119860 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method Moisture: The sample duplicate (DUP) precision for analytical batch 570-118188 was outside control limits. Sample matrix interference is suspected.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

### Client Sample ID: SWCON F7-25.0

### Lab Sample ID: 570-46795-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.97		2.60	mg/Kg	1	✱	6010B	Total/NA
Chromium	12.6	F1	1.04	mg/Kg	1	✱	6010B	Total/NA
Copper	40.9	F1	1.04	mg/Kg	1	✱	6010B	Total/NA
pH	9.0		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCON F7-26.0

### Lab Sample ID: 570-46795-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.52		3.27	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.805		0.654	mg/Kg	1	✱	6010B	Total/NA
Chromium	21.5		1.31	mg/Kg	1	✱	6010B	Total/NA
Copper	34.4		1.31	mg/Kg	1	✱	6010B	Total/NA
pH	9.9		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCON F7-30.0

### Lab Sample ID: 570-46795-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	12.6		2.89	mg/Kg	1	✱	6010B	Total/NA
Cadmium	1.23		0.577	mg/Kg	1	✱	6010B	Total/NA
Chromium	26.9		1.15	mg/Kg	1	✱	6010B	Total/NA
Copper	38.2		1.15	mg/Kg	1	✱	6010B	Total/NA
pH	7.1		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCON F7-35.0

### Lab Sample ID: 570-46795-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	10.7		1.03	mg/Kg	1	✱	6010B	Total/NA
Copper	52.3		1.03	mg/Kg	1	✱	6010B	Total/NA
pH	7.7		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCON F7-40.0

### Lab Sample ID: 570-46795-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	13.3		1.08	mg/Kg	1	✱	6010B	Total/NA
Copper	20.3		1.08	mg/Kg	1	✱	6010B	Total/NA
pH	9.8		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCON F7-40.5

### Lab Sample ID: 570-46795-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	18.9		3.24	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.878		0.647	mg/Kg	1	✱	6010B	Total/NA
Chromium	39.8		1.29	mg/Kg	1	✱	6010B	Total/NA
Copper	55.2		1.29	mg/Kg	1	✱	6010B	Total/NA
Lead	9.40		6.47	mg/Kg	1	✱	6010B	Total/NA
pH	9.6		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCON F7-45.0

### Lab Sample ID: 570-46795-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.50		3.07	mg/Kg	1	✱	6010B	Total/NA
Chromium	36.1		1.23	mg/Kg	1	✱	6010B	Total/NA
Copper	35.8		1.23	mg/Kg	1	✱	6010B	Total/NA
pH	8.1		0.01	S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## Client Sample ID: SWCON F7-50.0

## Lab Sample ID: 570-46795-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.25		2.87	mg/Kg	1	✱	6010B	Total/NA
Chromium	25.4		1.15	mg/Kg	1	✱	6010B	Total/NA
Copper	22.5		1.15	mg/Kg	1	✱	6010B	Total/NA
pH	7.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCON F7-54.5

## Lab Sample ID: 570-46795-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.1		3.00	mg/Kg	1	✱	6010B	Total/NA
Chromium	23.1		1.20	mg/Kg	1	✱	6010B	Total/NA
Copper	26.7		1.20	mg/Kg	1	✱	6010B	Total/NA
pH	10.2		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCON F7-55.0

## Lab Sample ID: 570-46795-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.02		2.83	mg/Kg	1	✱	6010B	Total/NA
Chromium	19.2		1.13	mg/Kg	1	✱	6010B	Total/NA
Copper	21.6		1.13	mg/Kg	1	✱	6010B	Total/NA
pH	7.1		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCON F7-59.0

## Lab Sample ID: 570-46795-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.52		2.81	mg/Kg	1	✱	6010B	Total/NA
Chromium	20.7		1.12	mg/Kg	1	✱	6010B	Total/NA
Copper	19.8		1.12	mg/Kg	1	✱	6010B	Total/NA
pH	7.9		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCON F7-60.0

## Lab Sample ID: 570-46795-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.05		3.17	mg/Kg	1	✱	6010B	Total/NA
Chromium	35.7		1.27	mg/Kg	1	✱	6010B	Total/NA
Copper	38.4		1.27	mg/Kg	1	✱	6010B	Total/NA
pH	9.2		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCON F7-65.0

## Lab Sample ID: 570-46795-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.69		2.64	mg/Kg	1	✱	6010B	Total/NA
Chromium	28.7		1.06	mg/Kg	1	✱	6010B	Total/NA
Copper	20.4		1.06	mg/Kg	1	✱	6010B	Total/NA
pH	8.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCON F7-70.0

## Lab Sample ID: 570-46795-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	88.4		1.06	mg/Kg	1	✱	6010B	Total/NA
Copper	5.51		1.06	mg/Kg	1	✱	6010B	Total/NA
pH	8.1		0.01	S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC



# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## Client Sample ID: SWCON F8-27.0

## Lab Sample ID: 570-46795-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	86.3		1.05	mg/Kg	1	✱	6010B	Total/NA
Copper	235		1.05	mg/Kg	1	✱	6010B	Total/NA
pH	9.2		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCON F8-25.0

## Lab Sample ID: 570-46795-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.07		2.55	mg/Kg	1	✱	6010B	Total/NA
Chromium	19.0		1.02	mg/Kg	1	✱	6010B	Total/NA
Copper	160		1.02	mg/Kg	1	✱	6010B	Total/NA
pH	9.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCON F8-27.5

## Lab Sample ID: 570-46795-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.8		3.25	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.717		0.650	mg/Kg	1	✱	6010B	Total/NA
Chromium	293		1.30	mg/Kg	1	✱	6010B	Total/NA
Copper	949		1.30	mg/Kg	1	✱	6010B	Total/NA
Lead	18.1		6.50	mg/Kg	1	✱	6010B	Total/NA
pH	9.7		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCON F8-30.0

## Lab Sample ID: 570-46795-18

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.84		2.75	mg/Kg	1	✱	6010B	Total/NA
Chromium	46.2		1.10	mg/Kg	1	✱	6010B	Total/NA
Copper	70.4		1.10	mg/Kg	1	✱	6010B	Total/NA
Lead	6.58		5.51	mg/Kg	1	✱	6010B	Total/NA
pH	9.8		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCON F8-35.0

## Lab Sample ID: 570-46795-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	5.55		0.989	mg/Kg	1	✱	6010B	Total/NA
Copper	166		0.989	mg/Kg	1	✱	6010B	Total/NA
pH	4.7		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCON F8-40.0

## Lab Sample ID: 570-46795-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	4.97		1.01	mg/Kg	1	✱	6010B	Total/NA
Copper	75.9		1.01	mg/Kg	1	✱	6010B	Total/NA
pH	6.3		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCON F08-45.0

## Lab Sample ID: 570-46795-21

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	12.4		0.996	mg/Kg	1	✱	6010B	Total/NA
Copper	132		0.996	mg/Kg	1	✱	6010B	Total/NA
pH	7.1		0.01	S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## Client Sample ID: SWCON F08-50.0

## Lab Sample ID: 570-46795-22

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.16		2.76	mg/Kg	1	✱	6010B	Total/NA
Chromium	66.1		1.10	mg/Kg	1	✱	6010B	Total/NA
Copper	444		1.10	mg/Kg	1	✱	6010B	Total/NA
Lead	6.44		5.52	mg/Kg	1	✱	6010B	Total/NA
pH	9.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCON F08-51.5

## Lab Sample ID: 570-46795-23

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.00		3.08	mg/Kg	1	✱	6010B	Total/NA
Chromium	71.7		1.23	mg/Kg	1	✱	6010B	Total/NA
Copper	469		1.23	mg/Kg	1	✱	6010B	Total/NA
Lead	7.18		6.16	mg/Kg	1	✱	6010B	Total/NA
pH	6.7		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCON F08-55.0

## Lab Sample ID: 570-46795-24

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.26		2.96	mg/Kg	1	✱	6010B	Total/NA
Chromium	17.7		1.18	mg/Kg	1	✱	6010B	Total/NA
Copper	560		1.18	mg/Kg	1	✱	6010B	Total/NA
pH	4.2		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCON F08-60.0

## Lab Sample ID: 570-46795-25

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	21.2		1.17	mg/Kg	1	✱	6010B	Total/NA
Copper	94.1		1.17	mg/Kg	1	✱	6010B	Total/NA
pH	9.0		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCON F08-61.0

## Lab Sample ID: 570-46795-26

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.37		3.27	mg/Kg	1	✱	6010B	Total/NA
Chromium	28.4		1.31	mg/Kg	1	✱	6010B	Total/NA
Copper	265		1.31	mg/Kg	1	✱	6010B	Total/NA
pH	10.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCON F08-61.5

## Lab Sample ID: 570-46795-27

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	37.7		1.00	mg/Kg	1	✱	6010B	Total/NA
Copper	11.5		1.00	mg/Kg	1	✱	6010B	Total/NA
pH	9.7		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCON F08-65.0

## Lab Sample ID: 570-46795-28

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	99.8		1.02	mg/Kg	1	✱	6010B	Total/NA
Copper	8.73		1.02	mg/Kg	1	✱	6010B	Total/NA
pH	10.2		0.01	S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

## Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

### Client Sample ID: SWCON F08-70.0

### Lab Sample ID: 570-46795-29

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	26.6		1.09	mg/Kg	1	✧	6010B	Total/NA
Copper	1030		1.09	mg/Kg	1	✧	6010B	Total/NA
pH	10.0		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: EB01

### Lab Sample ID: 570-46795-30

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

## Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

### Method: 7199 - Chromium, Hexavalent (IC)

Client Sample ID: EB01

Date Collected: 12/21/20 15:30

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-30

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			12/21/20 23:12	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCON F7-25.0

Date Collected: 12/21/20 08:30

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.97		2.60	mg/Kg	☆	01/05/21 16:00	01/06/21 10:23	1
Cadmium	ND		0.520	mg/Kg	☆	01/05/21 16:00	01/06/21 10:23	1
Chromium	12.6	F1	1.04	mg/Kg	☆	01/05/21 16:00	01/06/21 10:23	1
Copper	40.9	F1	1.04	mg/Kg	☆	01/05/21 16:00	01/06/21 10:23	1
Lead	ND		5.20	mg/Kg	☆	01/05/21 16:00	01/06/21 10:23	1

Client Sample ID: SWCON F7-26.0

Date Collected: 12/21/20 08:32

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.52		3.27	mg/Kg	☆	01/05/21 16:00	01/06/21 10:29	1
Cadmium	0.805		0.654	mg/Kg	☆	01/05/21 16:00	01/06/21 10:29	1
Chromium	21.5		1.31	mg/Kg	☆	01/05/21 16:00	01/06/21 10:29	1
Copper	34.4		1.31	mg/Kg	☆	01/05/21 16:00	01/06/21 10:29	1
Lead	ND		6.54	mg/Kg	☆	01/05/21 16:00	01/06/21 10:29	1

Client Sample ID: SWCON F7-30.0

Date Collected: 12/21/20 08:45

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12.6		2.89	mg/Kg	☆	01/05/21 16:00	01/06/21 10:31	1
Cadmium	1.23		0.577	mg/Kg	☆	01/05/21 16:00	01/06/21 10:31	1
Chromium	26.9		1.15	mg/Kg	☆	01/05/21 16:00	01/06/21 10:31	1
Copper	38.2		1.15	mg/Kg	☆	01/05/21 16:00	01/06/21 10:31	1
Lead	ND		5.77	mg/Kg	☆	01/05/21 16:00	01/06/21 10:31	1

Client Sample ID: SWCON F7-35.0

Date Collected: 12/21/20 08:50

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.57	mg/Kg	☆	01/05/21 16:00	01/06/21 10:33	1
Cadmium	ND		0.514	mg/Kg	☆	01/05/21 16:00	01/06/21 10:33	1
Chromium	10.7		1.03	mg/Kg	☆	01/05/21 16:00	01/06/21 10:33	1
Copper	52.3		1.03	mg/Kg	☆	01/05/21 16:00	01/06/21 10:33	1
Lead	ND		5.14	mg/Kg	☆	01/05/21 16:00	01/06/21 10:33	1

Client Sample ID: SWCON F7-40.0

Date Collected: 12/21/20 08:52

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.69	mg/Kg	☆	01/05/21 16:00	01/06/21 10:35	1
Cadmium	ND		0.539	mg/Kg	☆	01/05/21 16:00	01/06/21 10:35	1
Chromium	13.3		1.08	mg/Kg	☆	01/05/21 16:00	01/06/21 10:35	1
Copper	20.3		1.08	mg/Kg	☆	01/05/21 16:00	01/06/21 10:35	1
Lead	ND		5.39	mg/Kg	☆	01/05/21 16:00	01/06/21 10:35	1

Client Sample ID: SWCON F7-40.5

Date Collected: 12/21/20 08:55

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	18.9		3.24	mg/Kg	☆	01/05/21 16:00	01/06/21 10:37	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCON F7-40.5

Date Collected: 12/21/20 08:55

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.878		0.647	mg/Kg	☆	01/05/21 16:00	01/06/21 10:37	1
Chromium	39.8		1.29	mg/Kg	☆	01/05/21 16:00	01/06/21 10:37	1
Copper	55.2		1.29	mg/Kg	☆	01/05/21 16:00	01/06/21 10:37	1
Lead	9.40		6.47	mg/Kg	☆	01/05/21 16:00	01/06/21 10:37	1

Client Sample ID: SWCON F7-45.0

Date Collected: 12/21/20 09:00

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-7

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.50		3.07	mg/Kg	☆	01/05/21 16:00	01/06/21 10:39	1
Cadmium	ND		0.614	mg/Kg	☆	01/05/21 16:00	01/06/21 10:39	1
Chromium	36.1		1.23	mg/Kg	☆	01/05/21 16:00	01/06/21 10:39	1
Copper	35.8		1.23	mg/Kg	☆	01/05/21 16:00	01/06/21 10:39	1
Lead	ND		6.14	mg/Kg	☆	01/05/21 16:00	01/06/21 10:39	1

Client Sample ID: SWCON F7-50.0

Date Collected: 12/21/20 09:05

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-8

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.25		2.87	mg/Kg	☆	01/05/21 16:00	01/06/21 10:41	1
Cadmium	ND		0.573	mg/Kg	☆	01/05/21 16:00	01/06/21 10:41	1
Chromium	25.4		1.15	mg/Kg	☆	01/05/21 16:00	01/06/21 10:41	1
Copper	22.5		1.15	mg/Kg	☆	01/05/21 16:00	01/06/21 10:41	1
Lead	ND		5.73	mg/Kg	☆	01/05/21 16:00	01/06/21 10:41	1

Client Sample ID: SWCON F7-54.5

Date Collected: 12/21/20 09:10

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-9

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.1		3.00	mg/Kg	☆	01/05/21 16:00	01/06/21 10:55	1
Cadmium	ND		0.600	mg/Kg	☆	01/05/21 16:00	01/06/21 10:55	1
Chromium	23.1		1.20	mg/Kg	☆	01/05/21 16:00	01/06/21 10:55	1
Copper	26.7		1.20	mg/Kg	☆	01/05/21 16:00	01/06/21 10:55	1
Lead	ND		6.00	mg/Kg	☆	01/05/21 16:00	01/06/21 10:55	1

Client Sample ID: SWCON F7-55.0

Date Collected: 12/21/20 09:15

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-10

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.02		2.83	mg/Kg	☆	01/05/21 16:00	01/06/21 10:57	1
Cadmium	ND		0.566	mg/Kg	☆	01/05/21 16:00	01/06/21 10:57	1
Chromium	19.2		1.13	mg/Kg	☆	01/05/21 16:00	01/06/21 10:57	1
Copper	21.6		1.13	mg/Kg	☆	01/05/21 16:00	01/06/21 10:57	1
Lead	ND		5.66	mg/Kg	☆	01/05/21 16:00	01/06/21 10:57	1

Client Sample ID: SWCON F7-59.0

Date Collected: 12/21/20 09:17

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-11

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.52		2.81	mg/Kg	☆	01/05/21 16:00	01/06/21 10:59	1
Cadmium	ND		0.561	mg/Kg	☆	01/05/21 16:00	01/06/21 10:59	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCON F7-59.0

Date Collected: 12/21/20 09:17

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-11

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	20.7		1.12	mg/Kg	☆	01/05/21 16:00	01/06/21 10:59	1
Copper	19.8		1.12	mg/Kg	☆	01/05/21 16:00	01/06/21 10:59	1
Lead	ND		5.61	mg/Kg	☆	01/05/21 16:00	01/06/21 10:59	1

Client Sample ID: SWCON F7-60.0

Date Collected: 12/21/20 09:20

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-12

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.05		3.17	mg/Kg	☆	01/05/21 16:00	01/06/21 11:02	1
Cadmium	ND		0.634	mg/Kg	☆	01/05/21 16:00	01/06/21 11:02	1
Chromium	35.7		1.27	mg/Kg	☆	01/05/21 16:00	01/06/21 11:02	1
Copper	38.4		1.27	mg/Kg	☆	01/05/21 16:00	01/06/21 11:02	1
Lead	ND		6.34	mg/Kg	☆	01/05/21 16:00	01/06/21 11:02	1

Client Sample ID: SWCON F7-65.0

Date Collected: 12/21/20 09:25

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-13

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.69		2.64	mg/Kg	☆	01/05/21 16:00	01/06/21 11:04	1
Cadmium	ND		0.528	mg/Kg	☆	01/05/21 16:00	01/06/21 11:04	1
Chromium	28.7		1.06	mg/Kg	☆	01/05/21 16:00	01/06/21 11:04	1
Copper	20.4		1.06	mg/Kg	☆	01/05/21 16:00	01/06/21 11:04	1
Lead	ND		5.28	mg/Kg	☆	01/05/21 16:00	01/06/21 11:04	1

Client Sample ID: SWCON F7-70.0

Date Collected: 12/21/20 09:30

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-14

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.65	mg/Kg	☆	01/05/21 16:00	01/06/21 11:06	1
Cadmium	ND		0.531	mg/Kg	☆	01/05/21 16:00	01/06/21 11:06	1
Chromium	88.4		1.06	mg/Kg	☆	01/05/21 16:00	01/06/21 11:06	1
Copper	5.51		1.06	mg/Kg	☆	01/05/21 16:00	01/06/21 11:06	1
Lead	ND		5.31	mg/Kg	☆	01/05/21 16:00	01/06/21 11:06	1

Client Sample ID: SWCON F8-27.0

Date Collected: 12/21/20 12:40

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-15

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.62	mg/Kg	☆	01/05/21 16:00	01/06/21 11:07	1
Cadmium	ND		0.524	mg/Kg	☆	01/05/21 16:00	01/06/21 11:07	1
Chromium	86.3		1.05	mg/Kg	☆	01/05/21 16:00	01/06/21 11:07	1
Copper	235		1.05	mg/Kg	☆	01/05/21 16:00	01/06/21 11:07	1
Lead	ND		5.24	mg/Kg	☆	01/05/21 16:00	01/06/21 11:07	1

Client Sample ID: SWCON F8-25.0

Date Collected: 12/21/20 12:30

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-16

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.07		2.55	mg/Kg	☆	01/05/21 16:00	01/06/21 11:09	1
Cadmium	ND		0.509	mg/Kg	☆	01/05/21 16:00	01/06/21 11:09	1
Chromium	19.0		1.02	mg/Kg	☆	01/05/21 16:00	01/06/21 11:09	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCON F8-25.0

Date Collected: 12/21/20 12:30

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-16

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	160		1.02	mg/Kg	☆	01/05/21 16:00	01/06/21 11:09	1
Lead	ND		5.09	mg/Kg	☆	01/05/21 16:00	01/06/21 11:09	1

Client Sample ID: SWCON F8-27.5

Date Collected: 12/21/20 13:05

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-17

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.8		3.25	mg/Kg	☆	01/05/21 16:00	01/06/21 11:11	1
Cadmium	0.717		0.650	mg/Kg	☆	01/05/21 16:00	01/06/21 11:11	1
Chromium	293		1.30	mg/Kg	☆	01/05/21 16:00	01/06/21 11:11	1
Copper	949		1.30	mg/Kg	☆	01/05/21 16:00	01/06/21 11:11	1
Lead	18.1		6.50	mg/Kg	☆	01/05/21 16:00	01/06/21 11:11	1

Client Sample ID: SWCON F8-30.0

Date Collected: 12/21/20 13:00

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-18

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.84		2.75	mg/Kg	☆	01/05/21 16:00	01/06/21 11:13	1
Cadmium	ND		0.551	mg/Kg	☆	01/05/21 16:00	01/06/21 11:13	1
Chromium	46.2		1.10	mg/Kg	☆	01/05/21 16:00	01/06/21 11:13	1
Copper	70.4		1.10	mg/Kg	☆	01/05/21 16:00	01/06/21 11:13	1
Lead	6.58		5.51	mg/Kg	☆	01/05/21 16:00	01/06/21 11:13	1

Client Sample ID: SWCON F8-35.0

Date Collected: 12/21/20 13:55

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-19

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.47	mg/Kg	☆	01/05/21 16:00	01/06/21 11:22	1
Cadmium	ND		0.495	mg/Kg	☆	01/05/21 16:00	01/06/21 11:22	1
Chromium	5.55		0.989	mg/Kg	☆	01/05/21 16:00	01/06/21 11:22	1
Copper	166		0.989	mg/Kg	☆	01/05/21 16:00	01/06/21 11:22	1
Lead	ND		4.95	mg/Kg	☆	01/05/21 16:00	01/06/21 11:22	1

Client Sample ID: SWCON F8-40.0

Date Collected: 12/21/20 14:02

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-20

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.54	mg/Kg	☆	01/05/21 16:00	01/06/21 11:24	1
Cadmium	ND		0.507	mg/Kg	☆	01/05/21 16:00	01/06/21 11:24	1
Chromium	4.97		1.01	mg/Kg	☆	01/05/21 16:00	01/06/21 11:24	1
Copper	75.9		1.01	mg/Kg	☆	01/05/21 16:00	01/06/21 11:24	1
Lead	ND		5.07	mg/Kg	☆	01/05/21 16:00	01/06/21 11:24	1

Client Sample ID: SWCON F08-45.0

Date Collected: 12/21/20 14:15

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-21

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.49	mg/Kg	☆	01/05/21 16:00	01/06/21 08:41	1
Cadmium	ND		0.498	mg/Kg	☆	01/05/21 16:00	01/06/21 08:41	1
Chromium	12.4		0.996	mg/Kg	☆	01/05/21 16:00	01/06/21 08:41	1
Copper	132		0.996	mg/Kg	☆	01/05/21 16:00	01/06/21 08:41	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCON F08-45.0

Date Collected: 12/21/20 14:15

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-21

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		4.98	mg/Kg	☆	01/05/21 16:00	01/06/21 08:41	1

Client Sample ID: SWCON F08-50.0

Date Collected: 12/21/20 14:25

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-22

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.16		2.76	mg/Kg	☆	01/05/21 16:00	01/06/21 09:20	1
Cadmium	ND		0.552	mg/Kg	☆	01/05/21 16:00	01/06/21 09:20	1
Chromium	66.1		1.10	mg/Kg	☆	01/05/21 16:00	01/06/21 09:20	1
Copper	444		1.10	mg/Kg	☆	01/05/21 16:00	01/06/21 09:20	1
Lead	6.44		5.52	mg/Kg	☆	01/05/21 16:00	01/06/21 09:20	1

Client Sample ID: SWCON F08-51.5

Date Collected: 12/21/20 14:26

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-23

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.00		3.08	mg/Kg	☆	01/05/21 16:00	01/06/21 09:22	1
Cadmium	ND		0.616	mg/Kg	☆	01/05/21 16:00	01/06/21 09:22	1
Chromium	71.7		1.23	mg/Kg	☆	01/05/21 16:00	01/06/21 09:22	1
Copper	469		1.23	mg/Kg	☆	01/05/21 16:00	01/06/21 09:22	1
Lead	7.18		6.16	mg/Kg	☆	01/05/21 16:00	01/06/21 09:22	1

Client Sample ID: SWCON F08-55.0

Date Collected: 12/21/20 14:32

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-24

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.26		2.96	mg/Kg	☆	01/05/21 16:00	01/06/21 09:24	1
Cadmium	ND		0.591	mg/Kg	☆	01/05/21 16:00	01/06/21 09:24	1
Chromium	17.7		1.18	mg/Kg	☆	01/05/21 16:00	01/06/21 09:24	1
Copper	560		1.18	mg/Kg	☆	01/05/21 16:00	01/06/21 09:24	1
Lead	ND		5.91	mg/Kg	☆	01/05/21 16:00	01/06/21 09:24	1

Client Sample ID: SWCON F08-60.0

Date Collected: 12/21/20 14:36

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-25

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.92	mg/Kg	☆	01/05/21 16:00	01/06/21 09:26	1
Cadmium	ND		0.583	mg/Kg	☆	01/05/21 16:00	01/06/21 09:26	1
Chromium	21.2		1.17	mg/Kg	☆	01/05/21 16:00	01/06/21 09:26	1
Copper	94.1		1.17	mg/Kg	☆	01/05/21 16:00	01/06/21 09:26	1
Lead	ND		5.83	mg/Kg	☆	01/05/21 16:00	01/06/21 09:26	1

Client Sample ID: SWCON F08-61.0

Date Collected: 12/21/20 14:41

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-26

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.37		3.27	mg/Kg	☆	01/05/21 16:00	01/06/21 09:28	1
Cadmium	ND		0.655	mg/Kg	☆	01/05/21 16:00	01/06/21 09:28	1
Chromium	28.4		1.31	mg/Kg	☆	01/05/21 16:00	01/06/21 09:28	1
Copper	265		1.31	mg/Kg	☆	01/05/21 16:00	01/06/21 09:28	1
Lead	ND		6.55	mg/Kg	☆	01/05/21 16:00	01/06/21 09:28	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCON F08-61.5

Date Collected: 12/21/20 14:42

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-27

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.51	mg/Kg	✱	01/05/21 16:00	01/06/21 09:30	1
Cadmium	ND		0.502	mg/Kg	✱	01/05/21 16:00	01/06/21 09:30	1
Chromium	37.7		1.00	mg/Kg	✱	01/05/21 16:00	01/06/21 09:30	1
Copper	11.5		1.00	mg/Kg	✱	01/05/21 16:00	01/06/21 09:30	1
Lead	ND		5.02	mg/Kg	✱	01/05/21 16:00	01/06/21 09:30	1

Client Sample ID: SWCON F08-65.0

Date Collected: 12/21/20 14:45

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-28

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.55	mg/Kg	✱	01/05/21 16:00	01/06/21 09:32	1
Cadmium	ND		0.510	mg/Kg	✱	01/05/21 16:00	01/06/21 09:32	1
Chromium	99.8		1.02	mg/Kg	✱	01/05/21 16:00	01/06/21 09:32	1
Copper	8.73		1.02	mg/Kg	✱	01/05/21 16:00	01/06/21 09:32	1
Lead	ND		5.10	mg/Kg	✱	01/05/21 16:00	01/06/21 09:32	1

Client Sample ID: SWCON F08-70.0

Date Collected: 12/21/20 14:49

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-29

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.72	mg/Kg	✱	01/05/21 16:00	01/06/21 09:33	1
Cadmium	ND		0.544	mg/Kg	✱	01/05/21 16:00	01/06/21 09:33	1
Chromium	26.6		1.09	mg/Kg	✱	01/05/21 16:00	01/06/21 09:33	1
Copper	1030		1.09	mg/Kg	✱	01/05/21 16:00	01/06/21 09:33	1
Lead	ND		5.44	mg/Kg	✱	01/05/21 16:00	01/06/21 09:33	1

Client Sample ID: EB01

Date Collected: 12/21/20 15:30

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-30

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L		01/04/21 14:00	01/06/21 11:56	1
Cadmium	ND		0.0100	mg/L		01/04/21 14:00	01/06/21 11:56	1
Chromium	ND		0.0500	mg/L		01/04/21 14:00	01/06/21 11:56	1
Copper	ND		0.0500	mg/L		01/04/21 14:00	01/06/21 11:56	1
Lead	ND		0.0500	mg/L		01/04/21 14:00	01/06/21 11:56	1



# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## General Chemistry

Client Sample ID: SWCON F7-25.0

Date Collected: 12/21/20 08:30

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	F1	0.835	mg/Kg	☼	12/23/20 13:59	12/24/20 16:49	1
pH	9.0		0.01	S.U.			12/22/20 16:40	1
Percent Moisture	4.2		0.1	%			12/22/20 15:23	1
Percent Solids	95.8		0.1	%			12/22/20 15:23	1

Client Sample ID: SWCON F7-26.0

Date Collected: 12/21/20 08:32

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.02	mg/Kg	☼	12/23/20 13:59	12/24/20 16:50	1
pH	9.9		0.01	S.U.			12/22/20 16:40	1
Percent Moisture	22.4		0.1	%			12/22/20 15:23	1
Percent Solids	77.6		0.1	%			12/22/20 15:23	1

Client Sample ID: SWCON F7-30.0

Date Collected: 12/21/20 08:45

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.953	mg/Kg	☼	12/23/20 13:59	12/24/20 16:51	1
pH	7.1		0.01	S.U.			12/22/20 16:40	1
Percent Moisture	17.1		0.1	%			12/22/20 15:23	1
Percent Solids	82.9		0.1	%			12/22/20 15:23	1

Client Sample ID: SWCON F7-35.0

Date Collected: 12/21/20 08:50

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.841	mg/Kg	☼	12/23/20 13:59	12/24/20 16:52	1
pH	7.7		0.01	S.U.			12/22/20 16:40	1
Percent Moisture	5.6		0.1	%			12/22/20 15:23	1
Percent Solids	94.4		0.1	%			12/22/20 15:23	1

Client Sample ID: SWCON F7-40.0

Date Collected: 12/21/20 08:52

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.849	mg/Kg	☼	12/23/20 13:59	12/24/20 16:53	1
pH	9.8		0.01	S.U.			12/22/20 16:40	1
Percent Moisture	5.8		0.1	%			12/22/20 15:23	1
Percent Solids	94.2		0.1	%			12/22/20 15:23	1

Client Sample ID: SWCON F7-40.5

Date Collected: 12/21/20 08:55

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.03	mg/Kg	☼	12/23/20 13:59	12/24/20 16:54	1
pH	9.6		0.01	S.U.			12/22/20 16:40	1
Percent Moisture	23.1		0.1	%			12/22/20 15:23	1
Percent Solids	76.9		0.1	%			12/22/20 15:23	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## General Chemistry

Client Sample ID: SWCON F7-45.0

Date Collected: 12/21/20 09:00

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-7

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.934	mg/Kg	☼	12/29/20 13:23	12/30/20 12:56	1
pH	8.1		0.01	S.U.			12/22/20 16:40	1
Percent Moisture	14.3		0.1	%			12/22/20 15:23	1
Percent Solids	85.7		0.1	%			12/22/20 15:23	1

Client Sample ID: SWCON F7-50.0

Date Collected: 12/21/20 09:05

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-8

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.954	mg/Kg	☼	12/29/20 13:23	12/30/20 12:55	1
pH	7.5		0.01	S.U.			12/22/20 16:40	1
Percent Moisture	16.5		0.1	%			12/22/20 15:23	1
Percent Solids	83.5		0.1	%			12/22/20 15:23	1

Client Sample ID: SWCON F7-54.5

Date Collected: 12/21/20 09:10

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-9

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.00	mg/Kg	☼	12/29/20 13:23	12/30/20 12:54	1
pH	10.2		0.01	S.U.			12/22/20 16:40	1
Percent Moisture	19.8		0.1	%			12/22/20 15:23	1
Percent Solids	80.2		0.1	%			12/22/20 15:23	1

Client Sample ID: SWCON F7-55.0

Date Collected: 12/21/20 09:15

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-10

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.919	mg/Kg	☼	12/29/20 13:23	12/30/20 12:53	1
pH	7.1		0.01	S.U.			12/22/20 16:40	1
Percent Moisture	12.9		0.1	%			12/22/20 15:58	1
Percent Solids	87.1		0.1	%			12/22/20 15:58	1

Client Sample ID: SWCON F7-59.0

Date Collected: 12/21/20 09:17

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-11

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	F1	0.862	mg/Kg	☼	12/29/20 13:23	12/30/20 12:52	1
pH	7.9		0.01	S.U.			12/22/20 16:40	1
Percent Moisture	7.2		0.1	%			12/22/20 15:58	1
Percent Solids	92.8		0.1	%			12/22/20 15:58	1

Client Sample ID: SWCON F7-60.0

Date Collected: 12/21/20 09:20

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-12

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.984	mg/Kg	☼	12/29/20 13:23	12/30/20 12:57	1
pH	9.2		0.01	S.U.			12/22/20 16:40	1
Percent Moisture	20.3		0.1	%			12/22/20 15:58	1
Percent Solids	79.7		0.1	%			12/22/20 15:58	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## General Chemistry

Client Sample ID: SWCON F7-65.0

Date Collected: 12/21/20 09:25

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-13

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.839	mg/Kg	☼	12/29/20 13:23	12/30/20 12:58	1
pH	8.4		0.01	S.U.			12/22/20 16:40	1
Percent Moisture	4.3		0.1	%			12/22/20 15:58	1
Percent Solids	95.7		0.1	%			12/22/20 15:58	1

Client Sample ID: SWCON F7-70.0

Date Collected: 12/21/20 09:30

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-14

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.827	mg/Kg	☼	12/29/20 13:23	12/30/20 12:59	1
pH	8.1		0.01	S.U.			12/22/20 16:40	1
Percent Moisture	2.9		0.1	%			12/22/20 15:58	1
Percent Solids	97.1		0.1	%			12/22/20 15:58	1

Client Sample ID: SWCON F8-27.0

Date Collected: 12/21/20 12:40

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-15

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.823	mg/Kg	☼	12/29/20 13:23	12/30/20 13:00	1
pH	9.2		0.01	S.U.			12/22/20 16:40	1
Percent Moisture	3.2		0.1	%			12/22/20 15:58	1
Percent Solids	96.8		0.1	%			12/22/20 15:58	1

Client Sample ID: SWCON F8-25.0

Date Collected: 12/21/20 12:30

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-16

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.828	mg/Kg	☼	12/29/20 13:23	12/30/20 13:01	1
pH	9.4		0.01	S.U.			12/22/20 16:40	1
Percent Moisture	4.2		0.1	%			12/22/20 15:58	1
Percent Solids	95.8		0.1	%			12/22/20 15:58	1

Client Sample ID: SWCON F8-27.5

Date Collected: 12/21/20 13:05

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-17

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.02	mg/Kg	☼	12/29/20 13:23	12/30/20 13:11	1
pH	9.7		0.01	S.U.			12/22/20 16:40	1
Percent Moisture	22.7		0.1	%			12/22/20 15:58	1
Percent Solids	77.3		0.1	%			12/22/20 15:58	1

Client Sample ID: SWCON F8-30.0

Date Collected: 12/21/20 13:00

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-18

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.845	mg/Kg	☼	12/29/20 13:23	12/30/20 13:12	1
pH	9.8		0.01	S.U.			12/22/20 16:40	1
Percent Moisture	4.9		0.1	%			12/22/20 15:58	1
Percent Solids	95.1		0.1	%			12/22/20 15:58	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## General Chemistry

Client Sample ID: SWCON F8-35.0

Date Collected: 12/21/20 13:55

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-19

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.816	mg/Kg	☼	12/29/20 13:23	12/30/20 13:13	1
pH	4.7		0.01	S.U.			12/22/20 16:40	1
Percent Moisture	2.3		0.1	%			12/22/20 15:58	1
Percent Solids	97.7		0.1	%			12/22/20 15:58	1

Client Sample ID: SWCON F8-40.0

Date Collected: 12/21/20 14:02

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-20

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	F1 F2	0.820	mg/Kg	☼	12/29/20 13:23	12/30/20 13:10	1
pH	6.3		0.01	S.U.			12/22/20 16:40	1
Percent Moisture	2.4		0.1	%			12/22/20 15:58	1
Percent Solids	97.6		0.1	%			12/22/20 15:58	1

Client Sample ID: SWCON F08-45.0

Date Collected: 12/21/20 14:15

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-21

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.815	mg/Kg	☼	12/29/20 13:23	12/30/20 13:14	1
pH	7.1		0.01	S.U.			12/22/20 19:44	1
Percent Moisture	3.0		0.1	%			12/22/20 15:58	1
Percent Solids	97.0		0.1	%			12/22/20 15:58	1

Client Sample ID: SWCON F08-50.0

Date Collected: 12/21/20 14:25

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-22

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.843	mg/Kg	☼	12/29/20 13:23	12/30/20 13:15	1
pH	9.5		0.01	S.U.			12/22/20 19:44	1
Percent Moisture	4.7		0.1	%			12/22/20 15:58	1
Percent Solids	95.3		0.1	%			12/22/20 15:58	1

Client Sample ID: SWCON F08-51.5

Date Collected: 12/21/20 14:26

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-23

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.932	mg/Kg	☼	12/29/20 13:23	12/30/20 13:16	1
pH	6.7		0.01	S.U.			12/22/20 19:44	1
Percent Moisture	14.5		0.1	%			12/22/20 15:58	1
Percent Solids	85.5		0.1	%			12/22/20 15:58	1

Client Sample ID: SWCON F08-55.0

Date Collected: 12/21/20 14:32

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-24

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.970	mg/Kg	☼	12/29/20 13:23	12/30/20 13:17	1
pH	4.2		0.01	S.U.			12/22/20 19:44	1
Percent Moisture	17.5		0.1	%			12/22/20 15:58	1
Percent Solids	82.5		0.1	%			12/22/20 15:58	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## General Chemistry

Client Sample ID: SWCON F08-60.0

Date Collected: 12/21/20 14:36

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-25

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.924	mg/Kg	☼	12/29/20 13:23	12/30/20 13:18	1
pH	9.0		0.01	S.U.			12/22/20 19:44	1
Percent Moisture	15.1		0.1	%			12/22/20 15:58	1
Percent Solids	84.9		0.1	%			12/22/20 15:58	1

Client Sample ID: SWCON F08-61.0

Date Collected: 12/21/20 14:41

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-26

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.01	mg/Kg	☼	12/29/20 13:23	12/30/20 13:19	1
pH	10.5		0.01	S.U.			12/22/20 19:44	1
Percent Moisture	21.7		0.1	%			12/22/20 15:58	1
Percent Solids	78.3		0.1	%			12/22/20 15:58	1

Client Sample ID: SWCON F08-61.5

Date Collected: 12/21/20 14:42

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-27

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	F1	0.832	mg/Kg	☼	12/30/20 13:52	12/31/20 16:19	1
pH	9.7		0.01	S.U.			12/22/20 19:44	1
Percent Moisture	3.8		0.1	%			12/22/20 15:58	1
Percent Solids	96.2		0.1	%			12/22/20 15:58	1

Client Sample ID: SWCON F08-65.0

Date Collected: 12/21/20 14:45

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-28

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.846	mg/Kg	☼	12/30/20 13:52	12/31/20 16:20	1
pH	10.2		0.01	S.U.			12/22/20 19:44	1
Percent Moisture	6.2		0.1	%			12/22/20 15:58	1
Percent Solids	93.8		0.1	%			12/22/20 15:58	1

Client Sample ID: SWCON F08-70.0

Date Collected: 12/21/20 14:49

Date Received: 12/21/20 16:50

Lab Sample ID: 570-46795-29

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.870	mg/Kg	☼	12/30/20 13:52	12/31/20 16:21	1
pH	10.0		0.01	S.U.			12/22/20 19:44	1
Percent Moisture	7.7		0.1	%			12/22/20 15:58	1
Percent Solids	92.3		0.1	%			12/22/20 15:58	1



# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## Method: 7199 - Chromium, Hexavalent (IC)

Lab Sample ID: MB 570-117735/12

Matrix: Water

Analysis Batch: 117735

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			12/21/20 18:18	1

Lab Sample ID: LCS 570-117735/13

Matrix: Water

Analysis Batch: 117735

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.0501	0.05176		mg/L		103	80 - 120

Lab Sample ID: LCSD 570-117735/14

Matrix: Water

Analysis Batch: 117735

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	0.0501	0.04993		mg/L		100	80 - 120	4	20

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 570-120118/1-A

Matrix: Water

Analysis Batch: 120310

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 120118

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L		01/04/21 14:00	01/05/21 09:50	1
Cadmium	ND		0.0100	mg/L		01/04/21 14:00	01/05/21 09:50	1
Chromium	ND		0.0500	mg/L		01/04/21 14:00	01/05/21 09:50	1
Copper	ND		0.0500	mg/L		01/04/21 14:00	01/05/21 09:50	1
Lead	ND		0.0500	mg/L		01/04/21 14:00	01/05/21 09:50	1

Lab Sample ID: LCS 570-120118/2-A

Matrix: Water

Analysis Batch: 120310

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 120118

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.500	0.4532		mg/L		91	80 - 120
Cadmium	0.500	0.5012		mg/L		100	80 - 120
Chromium	0.500	0.5036		mg/L		101	80 - 120
Copper	0.500	0.4888		mg/L		98	80 - 120
Lead	0.500	0.5029		mg/L		101	80 - 120

Lab Sample ID: LCSD 570-120118/3-A

Matrix: Water

Analysis Batch: 120310

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 120118

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.500	0.4673		mg/L		93	80 - 120	3	20
Cadmium	0.500	0.5014		mg/L		100	80 - 120	0	20
Chromium	0.500	0.5019		mg/L		100	80 - 120	0	20
Copper	0.500	0.4861		mg/L		97	80 - 120	1	20
Lead	0.500	0.4987		mg/L		100	80 - 120	1	20

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## Method: 6010B - Metals (ICP)

Lab Sample ID: 570-47355-F-1-B MS

Matrix: Water

Analysis Batch: 120310

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 120118

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		0.500	0.4879		mg/L		98	80 - 140
Cadmium	ND		0.500	0.5144		mg/L		103	82 - 124
Chromium	ND		0.500	0.5624		mg/L		103	86 - 122
Copper	ND		0.500	0.5298		mg/L		103	78 - 126
Lead	ND		0.500	0.5623		mg/L		106	84 - 120

Lab Sample ID: 570-47355-F-1-C MSD

Matrix: Water

Analysis Batch: 120310

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 120118

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		0.500	0.4748		mg/L		95	80 - 140	3	11
Cadmium	ND		0.500	0.5155		mg/L		103	82 - 124	0	7
Chromium	ND		0.500	0.5673		mg/L		104	86 - 122	1	8
Copper	ND		0.500	0.5302		mg/L		103	78 - 126	0	7
Lead	ND		0.500	0.5520		mg/L		103	84 - 120	2	7

Lab Sample ID: MB 570-120371/1-A

Matrix: Solid

Analysis Batch: 120490

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 120371

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.51	mg/Kg		01/05/21 16:00	01/06/21 10:02	1
Cadmium	ND		0.503	mg/Kg		01/05/21 16:00	01/06/21 10:02	1
Chromium	ND		1.01	mg/Kg		01/05/21 16:00	01/06/21 10:02	1
Copper	ND		1.01	mg/Kg		01/05/21 16:00	01/06/21 10:02	1
Lead	ND		5.03	mg/Kg		01/05/21 16:00	01/06/21 10:02	1

Lab Sample ID: LCS 570-120371/2-A

Matrix: Solid

Analysis Batch: 120490

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 120371

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	24.6	23.46		mg/Kg		95	80 - 120
Cadmium	24.6	24.58		mg/Kg		100	80 - 120
Chromium	24.6	24.43		mg/Kg		99	80 - 120
Copper	24.6	26.58		mg/Kg		108	80 - 120
Lead	24.6	25.10		mg/Kg		102	80 - 120

Lab Sample ID: LCSD 570-120371/3-A

Matrix: Solid

Analysis Batch: 120490

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 120371

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	24.8	23.27		mg/Kg		94	80 - 120	1	20
Cadmium	24.8	24.67		mg/Kg		100	80 - 120	0	20
Chromium	24.8	24.65		mg/Kg		100	80 - 120	1	20
Copper	24.8	26.77		mg/Kg		108	80 - 120	1	20
Lead	24.8	24.86		mg/Kg		100	80 - 120	1	20

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 570-46795-1 MS

Matrix: Solid

Analysis Batch: 120490

Client Sample ID: SWCON F7-25.0

Prep Type: Total/NA

Prep Batch: 120371

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2.97		25.8	23.90		mg/Kg	☼	81	75 - 125
Cadmium	ND		25.8	21.12		mg/Kg	☼	82	75 - 125
Chromium	12.6	F1	25.8	51.39	F1	mg/Kg	☼	150	75 - 125
Copper	40.9	F1	25.8	99.14	F1	mg/Kg	☼	225	75 - 125
Lead	ND		25.8	29.69		mg/Kg	☼	102	75 - 125

Lab Sample ID: 570-46795-1 MSD

Matrix: Solid

Analysis Batch: 120490

Client Sample ID: SWCON F7-25.0

Prep Type: Total/NA

Prep Batch: 120371

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	2.97		27.1	24.74		mg/Kg	☼	80	75 - 125	3	20
Cadmium	ND		27.1	22.58		mg/Kg	☼	83	75 - 125	7	20
Chromium	12.6	F1	27.1	55.49	F1	mg/Kg	☼	159	75 - 125	8	20
Copper	40.9	F1	27.1	105.1	F1	mg/Kg	☼	237	75 - 125	6	20
Lead	ND		27.1	32.13		mg/Kg	☼	106	75 - 125	8	20

Lab Sample ID: MB 570-120372/1-A

Matrix: Solid

Analysis Batch: 120490

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 120372

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.49	mg/Kg		01/05/21 16:00	01/06/21 08:34	1
Cadmium	ND		0.498	mg/Kg		01/05/21 16:00	01/06/21 08:34	1
Chromium	ND		0.995	mg/Kg		01/05/21 16:00	01/06/21 08:34	1
Copper	ND		0.995	mg/Kg		01/05/21 16:00	01/06/21 08:34	1
Lead	ND		4.98	mg/Kg		01/05/21 16:00	01/06/21 08:34	1

Lab Sample ID: LCS 570-120372/2-A

Matrix: Solid

Analysis Batch: 120490

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 120372

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	24.8	21.07		mg/Kg		85	80 - 120
Cadmium	24.8	21.55		mg/Kg		87	80 - 120
Chromium	24.8	22.13		mg/Kg		89	80 - 120
Copper	24.8	23.91		mg/Kg		97	80 - 120
Lead	24.8	22.30		mg/Kg		90	80 - 120

Lab Sample ID: LCSD 570-120372/3-A

Matrix: Solid

Analysis Batch: 120490

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 120372

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	24.9	22.29		mg/Kg		90	80 - 120	6	20
Cadmium	24.9	23.46		mg/Kg		94	80 - 120	9	20
Chromium	24.9	23.87		mg/Kg		96	80 - 120	8	20
Copper	24.9	25.70		mg/Kg		103	80 - 120	7	20
Lead	24.9	24.40		mg/Kg		98	80 - 120	9	20

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 570-46795-21 MS

Matrix: Solid

Analysis Batch: 120490

Client Sample ID: SWCON F08-45.0

Prep Type: Total/NA

Prep Batch: 120372

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		25.4	20.77		mg/Kg	✱	82	75 - 125
Cadmium	ND		25.4	19.43		mg/Kg	✱	76	75 - 125
Chromium	12.4		25.4	32.52		mg/Kg	✱	79	75 - 125
Copper	132		25.4	144.7	4	mg/Kg	✱	51	75 - 125
Lead	ND		25.4	22.42		mg/Kg	✱	79	75 - 125

Lab Sample ID: 570-46795-21 MSD

Matrix: Solid

Analysis Batch: 120490

Client Sample ID: SWCON F08-45.0

Prep Type: Total/NA

Prep Batch: 120372

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	ND		24.9	19.95		mg/Kg	✱	80	75 - 125	4	20
Cadmium	ND		24.9	20.06		mg/Kg	✱	80	75 - 125	3	20
Chromium	12.4		24.9	33.23		mg/Kg	✱	84	75 - 125	2	20
Copper	132		24.9	148.8	4	mg/Kg	✱	69	75 - 125	3	20
Lead	ND		24.9	22.69		mg/Kg	✱	81	75 - 125	1	20

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 570-118508/1-A

Matrix: Solid

Analysis Batch: 118694

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 118508

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.800	mg/Kg		12/23/20 13:59	12/24/20 16:42	1

Lab Sample ID: LCS 570-118508/2-A

Matrix: Solid

Analysis Batch: 118694

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 118508

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	20.0	18.22		mg/Kg		91	78 - 120

Lab Sample ID: LCSD 570-118508/3-A

Matrix: Solid

Analysis Batch: 118694

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 118508

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	20.1	19.40		mg/Kg		96	78 - 120	6	20

Lab Sample ID: 570-46795-1 MS

Matrix: Solid

Analysis Batch: 118694

Client Sample ID: SWCON F7-25.0

Prep Type: Total/NA

Prep Batch: 118508

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND	F1	20.9	ND	F1	mg/Kg	✱	0	75 - 125

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: 570-46795-1 MSD

Matrix: Solid

Analysis Batch: 118694

Client Sample ID: SWCON F7-25.0

Prep Type: Total/NA

Prep Batch: 118508

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	21.0	ND	F1	mg/Kg	✱	0	75 - 125	NC	25

Lab Sample ID: 570-46795-1 MSI

Matrix: Solid

Analysis Batch: 118694

Client Sample ID: SWCON F7-25.0

Prep Type: Total/NA

Prep Batch: 118508

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1020	514.7	F1	mg/Kg	✱	50	75 - 125		

Lab Sample ID: 570-46795-1 MSID

Matrix: Solid

Analysis Batch: 118694

Client Sample ID: SWCON F7-25.0

Prep Type: Total/NA

Prep Batch: 118508

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1020	512.5	F1	mg/Kg	✱	50	75 - 125	0	25

Lab Sample ID: MB 570-119204/1-A

Matrix: Solid

Analysis Batch: 119510

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 119204

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.803	mg/Kg		12/29/20 13:23	12/30/20 12:43	1

Lab Sample ID: LCS 570-119204/2-A

Matrix: Solid

Analysis Batch: 119510

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 119204

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	20.0	18.31		mg/Kg		91	78 - 120		

Lab Sample ID: LCSD 570-119204/3-A

Matrix: Solid

Analysis Batch: 119510

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 119204

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	19.9	18.32		mg/Kg		92	78 - 120	0	20

Lab Sample ID: 570-46795-11 MS

Matrix: Solid

Analysis Batch: 119510

Client Sample ID: SWCON F7-59.0

Prep Type: Total/NA

Prep Batch: 119204

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	21.2	ND	F1	mg/Kg	✱	0	75 - 125		

Lab Sample ID: 570-46795-11 MSD

Matrix: Solid

Analysis Batch: 119510

Client Sample ID: SWCON F7-59.0

Prep Type: Total/NA

Prep Batch: 119204

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	21.4	ND	F1	mg/Kg	✱	0	75 - 125	NC	25

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: 570-46795-11 MSI

Matrix: Solid

Analysis Batch: 119510

Client Sample ID: SWCON F7-59.0

Prep Type: Total/NA

Prep Batch: 119204

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND	F1	1060	455.7	F1	mg/Kg	✱	43	75 - 125

Lab Sample ID: 570-46795-11 MSID

Matrix: Solid

Analysis Batch: 119510

Client Sample ID: SWCON F7-59.0

Prep Type: Total/NA

Prep Batch: 119204

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	ND	F1	1050	439.5	F1	mg/Kg	✱	42	75 - 125	4	25

Lab Sample ID: 570-46795-20 MS

Matrix: Solid

Analysis Batch: 119510

Client Sample ID: SWCON F8-40.0

Prep Type: Total/NA

Prep Batch: 119204

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND	F1 F2	20.3	8.922	F1	mg/Kg	✱	44	75 - 125

Lab Sample ID: 570-46795-20 MSD

Matrix: Solid

Analysis Batch: 119510

Client Sample ID: SWCON F8-40.0

Prep Type: Total/NA

Prep Batch: 119204

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	ND	F1 F2	20.1	10.34	F1	mg/Kg	✱	51	75 - 125	15	25

Lab Sample ID: 570-46795-20 MSI

Matrix: Solid

Analysis Batch: 119510

Client Sample ID: SWCON F8-40.0

Prep Type: Total/NA

Prep Batch: 119204

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND	F1 F2	992	811.3		mg/Kg	✱	82	75 - 125

Lab Sample ID: 570-46795-20 MSID

Matrix: Solid

Analysis Batch: 119510

Client Sample ID: SWCON F8-40.0

Prep Type: Total/NA

Prep Batch: 119204

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	ND	F1 F2	984	1133	F2	mg/Kg	✱	115	75 - 125	33	25

Lab Sample ID: MB 570-119507/1-A

Matrix: Solid

Analysis Batch: 119860

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 119507

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.794	mg/Kg		12/30/20 13:52	12/31/20 16:10	1

Lab Sample ID: LCS 570-119507/2-A

Matrix: Solid

Analysis Batch: 119860

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 119507

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	20.0	17.52		mg/Kg		88	78 - 120

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: LCSD 570-119507/3-A

Matrix: Solid

Analysis Batch: 119860

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 119507

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	19.9	17.61		mg/Kg		89	78 - 120	0	20

Lab Sample ID: 570-46795-27 MS

Matrix: Solid

Analysis Batch: 119860

Client Sample ID: SWCON F08-61.5

Prep Type: Total/NA

Prep Batch: 119507

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	20.8	ND	F1	mg/Kg	✱	0	75 - 125		

Lab Sample ID: 570-46795-27 MSD

Matrix: Solid

Analysis Batch: 119860

Client Sample ID: SWCON F08-61.5

Prep Type: Total/NA

Prep Batch: 119507

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	20.8	ND	F1	mg/Kg	✱	0	75 - 125	NC	25

Lab Sample ID: 570-46795-27 MSI

Matrix: Solid

Analysis Batch: 119860

Client Sample ID: SWCON F08-61.5

Prep Type: Total/NA

Prep Batch: 119507

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1020	308.5	F1	mg/Kg	✱	30	75 - 125		

Lab Sample ID: 570-46795-27 MSID

Matrix: Solid

Analysis Batch: 119860

Client Sample ID: SWCON F08-61.5

Prep Type: Total/NA

Prep Batch: 119507

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1020	367.8	F1	mg/Kg	✱	36	75 - 125	18	25

## Method: 9045C - pH

Lab Sample ID: 570-46795-20 DU

Matrix: Solid

Analysis Batch: 118223

Client Sample ID: SWCON F8-40.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.3		6.2		S.U.		2	25

Lab Sample ID: 570-46795-21 DU

Matrix: Solid

Analysis Batch: 118295

Client Sample ID: SWCON F08-45.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.1		7.5		S.U.		5	25

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## Method: Moisture - Percent Moisture

Lab Sample ID: 570-46698-A-1 DU

Matrix: Solid

Analysis Batch: 118188

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	81.1		80.9		%		0.3	10
Percent Solids	18.9		19.1		%		1	10

Lab Sample ID: 570-46795-10 DU

Matrix: Solid

Analysis Batch: 118207

Client Sample ID: SWCON F7-55.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	12.9		12.2		%		6	10
Percent Solids	87.1		87.8		%		0.8	10

Lab Sample ID: 570-46795-20 DU

Matrix: Solid

Analysis Batch: 118207

Client Sample ID: SWCON F8-40.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	2.4		2.5		%		5	10
Percent Solids	97.6		97.5		%		0.1	10

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## HPLC/IC

### Analysis Batch: 117735

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46795-30	EB01	Total/NA	Water	7199	
MB 570-117735/12	Method Blank	Total/NA	Water	7199	
LCS 570-117735/13	Lab Control Sample	Total/NA	Water	7199	
LCSD 570-117735/14	Lab Control Sample Dup	Total/NA	Water	7199	

## Metals

### Prep Batch: 120118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46795-30	EB01	Total/NA	Water	3010A	
MB 570-120118/1-A	Method Blank	Total/NA	Water	3010A	
LCS 570-120118/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 570-120118/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
570-47355-F-1-B MS	Matrix Spike	Total/NA	Water	3010A	
570-47355-F-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

### Analysis Batch: 120310

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-120118/1-A	Method Blank	Total/NA	Water	6010B	120118
LCS 570-120118/2-A	Lab Control Sample	Total/NA	Water	6010B	120118
LCSD 570-120118/3-A	Lab Control Sample Dup	Total/NA	Water	6010B	120118
570-47355-F-1-B MS	Matrix Spike	Total/NA	Water	6010B	120118
570-47355-F-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	6010B	120118

### Prep Batch: 120371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46795-1	SWCON F7-25.0	Total/NA	Solid	3050B	
570-46795-2	SWCON F7-26.0	Total/NA	Solid	3050B	
570-46795-3	SWCON F7-30.0	Total/NA	Solid	3050B	
570-46795-4	SWCON F7-35.0	Total/NA	Solid	3050B	
570-46795-5	SWCON F7-40.0	Total/NA	Solid	3050B	
570-46795-6	SWCON F7-40.5	Total/NA	Solid	3050B	
570-46795-7	SWCON F7-45.0	Total/NA	Solid	3050B	
570-46795-8	SWCON F7-50.0	Total/NA	Solid	3050B	
570-46795-9	SWCON F7-54.5	Total/NA	Solid	3050B	
570-46795-10	SWCON F7-55.0	Total/NA	Solid	3050B	
570-46795-11	SWCON F7-59.0	Total/NA	Solid	3050B	
570-46795-12	SWCON F7-60.0	Total/NA	Solid	3050B	
570-46795-13	SWCON F7-65.0	Total/NA	Solid	3050B	
570-46795-14	SWCON F7-70.0	Total/NA	Solid	3050B	
570-46795-15	SWCON F8-27.0	Total/NA	Solid	3050B	
570-46795-16	SWCON F8-25.0	Total/NA	Solid	3050B	
570-46795-17	SWCON F8-27.5	Total/NA	Solid	3050B	
570-46795-18	SWCON F8-30.0	Total/NA	Solid	3050B	
570-46795-19	SWCON F8-35.0	Total/NA	Solid	3050B	
570-46795-20	SWCON F8-40.0	Total/NA	Solid	3050B	
MB 570-120371/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-120371/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-120371/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-46795-1 MS	SWCON F7-25.0	Total/NA	Solid	3050B	
570-46795-1 MSD	SWCON F7-25.0	Total/NA	Solid	3050B	

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## Metals

### Prep Batch: 120372

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46795-21	SWCON F08-45.0	Total/NA	Solid	3050B	
570-46795-22	SWCON F08-50.0	Total/NA	Solid	3050B	
570-46795-23	SWCON F08-51.5	Total/NA	Solid	3050B	
570-46795-24	SWCON F08-55.0	Total/NA	Solid	3050B	
570-46795-25	SWCON F08-60.0	Total/NA	Solid	3050B	
570-46795-26	SWCON F08-61.0	Total/NA	Solid	3050B	
570-46795-27	SWCON F08-61.5	Total/NA	Solid	3050B	
570-46795-28	SWCON F08-65.0	Total/NA	Solid	3050B	
570-46795-29	SWCON F08-70.0	Total/NA	Solid	3050B	
MB 570-120372/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-120372/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-120372/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-46795-21 MS	SWCON F08-45.0	Total/NA	Solid	3050B	
570-46795-21 MSD	SWCON F08-45.0	Total/NA	Solid	3050B	

### Analysis Batch: 120490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46795-1	SWCON F7-25.0	Total/NA	Solid	6010B	120371
570-46795-2	SWCON F7-26.0	Total/NA	Solid	6010B	120371
570-46795-3	SWCON F7-30.0	Total/NA	Solid	6010B	120371
570-46795-4	SWCON F7-35.0	Total/NA	Solid	6010B	120371
570-46795-5	SWCON F7-40.0	Total/NA	Solid	6010B	120371
570-46795-6	SWCON F7-40.5	Total/NA	Solid	6010B	120371
570-46795-7	SWCON F7-45.0	Total/NA	Solid	6010B	120371
570-46795-8	SWCON F7-50.0	Total/NA	Solid	6010B	120371
570-46795-9	SWCON F7-54.5	Total/NA	Solid	6010B	120371
570-46795-10	SWCON F7-55.0	Total/NA	Solid	6010B	120371
570-46795-11	SWCON F7-59.0	Total/NA	Solid	6010B	120371
570-46795-12	SWCON F7-60.0	Total/NA	Solid	6010B	120371
570-46795-13	SWCON F7-65.0	Total/NA	Solid	6010B	120371
570-46795-14	SWCON F7-70.0	Total/NA	Solid	6010B	120371
570-46795-15	SWCON F8-27.0	Total/NA	Solid	6010B	120371
570-46795-16	SWCON F8-25.0	Total/NA	Solid	6010B	120371
570-46795-17	SWCON F8-27.5	Total/NA	Solid	6010B	120371
570-46795-18	SWCON F8-30.0	Total/NA	Solid	6010B	120371
570-46795-19	SWCON F8-35.0	Total/NA	Solid	6010B	120371
570-46795-20	SWCON F8-40.0	Total/NA	Solid	6010B	120371
570-46795-21	SWCON F08-45.0	Total/NA	Solid	6010B	120372
570-46795-22	SWCON F08-50.0	Total/NA	Solid	6010B	120372
570-46795-23	SWCON F08-51.5	Total/NA	Solid	6010B	120372
570-46795-24	SWCON F08-55.0	Total/NA	Solid	6010B	120372
570-46795-25	SWCON F08-60.0	Total/NA	Solid	6010B	120372
570-46795-26	SWCON F08-61.0	Total/NA	Solid	6010B	120372
570-46795-27	SWCON F08-61.5	Total/NA	Solid	6010B	120372
570-46795-28	SWCON F08-65.0	Total/NA	Solid	6010B	120372
570-46795-29	SWCON F08-70.0	Total/NA	Solid	6010B	120372
MB 570-120371/1-A	Method Blank	Total/NA	Solid	6010B	120371
MB 570-120372/1-A	Method Blank	Total/NA	Solid	6010B	120372
LCS 570-120371/2-A	Lab Control Sample	Total/NA	Solid	6010B	120371
LCS 570-120372/2-A	Lab Control Sample	Total/NA	Solid	6010B	120372
LCSD 570-120371/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	120371

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## Metals (Continued)

### Analysis Batch: 120490 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 570-120372/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	120372
570-46795-1 MS	SWCON F7-25.0	Total/NA	Solid	6010B	120371
570-46795-1 MSD	SWCON F7-25.0	Total/NA	Solid	6010B	120371
570-46795-21 MS	SWCON F08-45.0	Total/NA	Solid	6010B	120372
570-46795-21 MSD	SWCON F08-45.0	Total/NA	Solid	6010B	120372

### Analysis Batch: 120534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46795-30	EB01	Total/NA	Water	6010B	120118

## General Chemistry

### Leach Batch: 118153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46795-1	SWCON F7-25.0	Total/NA	Solid	DI Leach	
570-46795-2	SWCON F7-26.0	Total/NA	Solid	DI Leach	
570-46795-3	SWCON F7-30.0	Total/NA	Solid	DI Leach	
570-46795-4	SWCON F7-35.0	Total/NA	Solid	DI Leach	
570-46795-5	SWCON F7-40.0	Total/NA	Solid	DI Leach	
570-46795-6	SWCON F7-40.5	Total/NA	Solid	DI Leach	
570-46795-7	SWCON F7-45.0	Total/NA	Solid	DI Leach	
570-46795-8	SWCON F7-50.0	Total/NA	Solid	DI Leach	
570-46795-9	SWCON F7-54.5	Total/NA	Solid	DI Leach	
570-46795-10	SWCON F7-55.0	Total/NA	Solid	DI Leach	
570-46795-11	SWCON F7-59.0	Total/NA	Solid	DI Leach	
570-46795-12	SWCON F7-60.0	Total/NA	Solid	DI Leach	
570-46795-13	SWCON F7-65.0	Total/NA	Solid	DI Leach	
570-46795-14	SWCON F7-70.0	Total/NA	Solid	DI Leach	
570-46795-15	SWCON F8-27.0	Total/NA	Solid	DI Leach	
570-46795-16	SWCON F8-25.0	Total/NA	Solid	DI Leach	
570-46795-17	SWCON F8-27.5	Total/NA	Solid	DI Leach	
570-46795-18	SWCON F8-30.0	Total/NA	Solid	DI Leach	
570-46795-19	SWCON F8-35.0	Total/NA	Solid	DI Leach	
570-46795-20	SWCON F8-40.0	Total/NA	Solid	DI Leach	
570-46795-20 DU	SWCON F8-40.0	Total/NA	Solid	DI Leach	

### Analysis Batch: 118188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46795-1	SWCON F7-25.0	Total/NA	Solid	Moisture	
570-46795-2	SWCON F7-26.0	Total/NA	Solid	Moisture	
570-46795-3	SWCON F7-30.0	Total/NA	Solid	Moisture	
570-46795-4	SWCON F7-35.0	Total/NA	Solid	Moisture	
570-46795-5	SWCON F7-40.0	Total/NA	Solid	Moisture	
570-46795-6	SWCON F7-40.5	Total/NA	Solid	Moisture	
570-46795-7	SWCON F7-45.0	Total/NA	Solid	Moisture	
570-46795-8	SWCON F7-50.0	Total/NA	Solid	Moisture	
570-46795-9	SWCON F7-54.5	Total/NA	Solid	Moisture	
570-46698-A-1 DU	Duplicate	Total/NA	Solid	Moisture	

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## General Chemistry

### Analysis Batch: 118207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46795-10	SWCON F7-55.0	Total/NA	Solid	Moisture	
570-46795-11	SWCON F7-59.0	Total/NA	Solid	Moisture	
570-46795-12	SWCON F7-60.0	Total/NA	Solid	Moisture	
570-46795-13	SWCON F7-65.0	Total/NA	Solid	Moisture	
570-46795-14	SWCON F7-70.0	Total/NA	Solid	Moisture	
570-46795-15	SWCON F8-27.0	Total/NA	Solid	Moisture	
570-46795-16	SWCON F8-25.0	Total/NA	Solid	Moisture	
570-46795-17	SWCON F8-27.5	Total/NA	Solid	Moisture	
570-46795-18	SWCON F8-30.0	Total/NA	Solid	Moisture	
570-46795-19	SWCON F8-35.0	Total/NA	Solid	Moisture	
570-46795-20	SWCON F8-40.0	Total/NA	Solid	Moisture	
570-46795-21	SWCON F08-45.0	Total/NA	Solid	Moisture	
570-46795-22	SWCON F08-50.0	Total/NA	Solid	Moisture	
570-46795-23	SWCON F08-51.5	Total/NA	Solid	Moisture	
570-46795-24	SWCON F08-55.0	Total/NA	Solid	Moisture	
570-46795-25	SWCON F08-60.0	Total/NA	Solid	Moisture	
570-46795-26	SWCON F08-61.0	Total/NA	Solid	Moisture	
570-46795-27	SWCON F08-61.5	Total/NA	Solid	Moisture	
570-46795-28	SWCON F08-65.0	Total/NA	Solid	Moisture	
570-46795-29	SWCON F08-70.0	Total/NA	Solid	Moisture	
570-46795-10 DU	SWCON F7-55.0	Total/NA	Solid	Moisture	
570-46795-20 DU	SWCON F8-40.0	Total/NA	Solid	Moisture	

### Analysis Batch: 118223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46795-1	SWCON F7-25.0	Total/NA	Solid	9045C	118153
570-46795-2	SWCON F7-26.0	Total/NA	Solid	9045C	118153
570-46795-3	SWCON F7-30.0	Total/NA	Solid	9045C	118153
570-46795-4	SWCON F7-35.0	Total/NA	Solid	9045C	118153
570-46795-5	SWCON F7-40.0	Total/NA	Solid	9045C	118153
570-46795-6	SWCON F7-40.5	Total/NA	Solid	9045C	118153
570-46795-7	SWCON F7-45.0	Total/NA	Solid	9045C	118153
570-46795-8	SWCON F7-50.0	Total/NA	Solid	9045C	118153
570-46795-9	SWCON F7-54.5	Total/NA	Solid	9045C	118153
570-46795-10	SWCON F7-55.0	Total/NA	Solid	9045C	118153
570-46795-11	SWCON F7-59.0	Total/NA	Solid	9045C	118153
570-46795-12	SWCON F7-60.0	Total/NA	Solid	9045C	118153
570-46795-13	SWCON F7-65.0	Total/NA	Solid	9045C	118153
570-46795-14	SWCON F7-70.0	Total/NA	Solid	9045C	118153
570-46795-15	SWCON F8-27.0	Total/NA	Solid	9045C	118153
570-46795-16	SWCON F8-25.0	Total/NA	Solid	9045C	118153
570-46795-17	SWCON F8-27.5	Total/NA	Solid	9045C	118153
570-46795-18	SWCON F8-30.0	Total/NA	Solid	9045C	118153
570-46795-19	SWCON F8-35.0	Total/NA	Solid	9045C	118153
570-46795-20	SWCON F8-40.0	Total/NA	Solid	9045C	118153
570-46795-20 DU	SWCON F8-40.0	Total/NA	Solid	9045C	118153

### Leach Batch: 118224

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46795-21	SWCON F08-45.0	Total/NA	Solid	DI Leach	
570-46795-22	SWCON F08-50.0	Total/NA	Solid	DI Leach	

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## General Chemistry (Continued)

### Leach Batch: 118224 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46795-23	SWCON F08-51.5	Total/NA	Solid	DI Leach	
570-46795-24	SWCON F08-55.0	Total/NA	Solid	DI Leach	
570-46795-25	SWCON F08-60.0	Total/NA	Solid	DI Leach	
570-46795-26	SWCON F08-61.0	Total/NA	Solid	DI Leach	
570-46795-27	SWCON F08-61.5	Total/NA	Solid	DI Leach	
570-46795-28	SWCON F08-65.0	Total/NA	Solid	DI Leach	
570-46795-29	SWCON F08-70.0	Total/NA	Solid	DI Leach	
570-46795-21 DU	SWCON F08-45.0	Total/NA	Solid	DI Leach	

### Analysis Batch: 118295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46795-21	SWCON F08-45.0	Total/NA	Solid	9045C	118224
570-46795-22	SWCON F08-50.0	Total/NA	Solid	9045C	118224
570-46795-23	SWCON F08-51.5	Total/NA	Solid	9045C	118224
570-46795-24	SWCON F08-55.0	Total/NA	Solid	9045C	118224
570-46795-25	SWCON F08-60.0	Total/NA	Solid	9045C	118224
570-46795-26	SWCON F08-61.0	Total/NA	Solid	9045C	118224
570-46795-27	SWCON F08-61.5	Total/NA	Solid	9045C	118224
570-46795-28	SWCON F08-65.0	Total/NA	Solid	9045C	118224
570-46795-29	SWCON F08-70.0	Total/NA	Solid	9045C	118224
570-46795-21 DU	SWCON F08-45.0	Total/NA	Solid	9045C	118224

### Prep Batch: 118508

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46795-1	SWCON F7-25.0	Total/NA	Solid	3060A	
570-46795-2	SWCON F7-26.0	Total/NA	Solid	3060A	
570-46795-3	SWCON F7-30.0	Total/NA	Solid	3060A	
570-46795-4	SWCON F7-35.0	Total/NA	Solid	3060A	
570-46795-5	SWCON F7-40.0	Total/NA	Solid	3060A	
570-46795-6	SWCON F7-40.5	Total/NA	Solid	3060A	
MB 570-118508/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-118508/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-118508/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-46795-1 MS	SWCON F7-25.0	Total/NA	Solid	3060A	
570-46795-1 MSD	SWCON F7-25.0	Total/NA	Solid	3060A	
570-46795-1 MSI	SWCON F7-25.0	Total/NA	Solid	3060A	
570-46795-1 MSID	SWCON F7-25.0	Total/NA	Solid	3060A	

### Analysis Batch: 118694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46795-1	SWCON F7-25.0	Total/NA	Solid	7196A	118508
570-46795-2	SWCON F7-26.0	Total/NA	Solid	7196A	118508
570-46795-3	SWCON F7-30.0	Total/NA	Solid	7196A	118508
570-46795-4	SWCON F7-35.0	Total/NA	Solid	7196A	118508
570-46795-5	SWCON F7-40.0	Total/NA	Solid	7196A	118508
570-46795-6	SWCON F7-40.5	Total/NA	Solid	7196A	118508
MB 570-118508/1-A	Method Blank	Total/NA	Solid	7196A	118508
LCS 570-118508/2-A	Lab Control Sample	Total/NA	Solid	7196A	118508
LCSD 570-118508/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	118508
570-46795-1 MS	SWCON F7-25.0	Total/NA	Solid	7196A	118508
570-46795-1 MSD	SWCON F7-25.0	Total/NA	Solid	7196A	118508

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## General Chemistry (Continued)

### Analysis Batch: 118694 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46795-1 MSI	SWCON F7-25.0	Total/NA	Solid	7196A	118508
570-46795-1 MSID	SWCON F7-25.0	Total/NA	Solid	7196A	118508

### Prep Batch: 119204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46795-7	SWCON F7-45.0	Total/NA	Solid	3060A	
570-46795-8	SWCON F7-50.0	Total/NA	Solid	3060A	
570-46795-9	SWCON F7-54.5	Total/NA	Solid	3060A	
570-46795-10	SWCON F7-55.0	Total/NA	Solid	3060A	
570-46795-11	SWCON F7-59.0	Total/NA	Solid	3060A	
570-46795-12	SWCON F7-60.0	Total/NA	Solid	3060A	
570-46795-13	SWCON F7-65.0	Total/NA	Solid	3060A	
570-46795-14	SWCON F7-70.0	Total/NA	Solid	3060A	
570-46795-15	SWCON F8-27.0	Total/NA	Solid	3060A	
570-46795-16	SWCON F8-25.0	Total/NA	Solid	3060A	
570-46795-17	SWCON F8-27.5	Total/NA	Solid	3060A	
570-46795-18	SWCON F8-30.0	Total/NA	Solid	3060A	
570-46795-19	SWCON F8-35.0	Total/NA	Solid	3060A	
570-46795-20	SWCON F8-40.0	Total/NA	Solid	3060A	
570-46795-21	SWCON F08-45.0	Total/NA	Solid	3060A	
570-46795-22	SWCON F08-50.0	Total/NA	Solid	3060A	
570-46795-23	SWCON F08-51.5	Total/NA	Solid	3060A	
570-46795-24	SWCON F08-55.0	Total/NA	Solid	3060A	
570-46795-25	SWCON F08-60.0	Total/NA	Solid	3060A	
570-46795-26	SWCON F08-61.0	Total/NA	Solid	3060A	
MB 570-119204/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-119204/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-119204/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-46795-11 MS	SWCON F7-59.0	Total/NA	Solid	3060A	
570-46795-11 MSD	SWCON F7-59.0	Total/NA	Solid	3060A	
570-46795-11 MSI	SWCON F7-59.0	Total/NA	Solid	3060A	
570-46795-11 MSID	SWCON F7-59.0	Total/NA	Solid	3060A	
570-46795-20 MS	SWCON F8-40.0	Total/NA	Solid	3060A	
570-46795-20 MSD	SWCON F8-40.0	Total/NA	Solid	3060A	
570-46795-20 MSI	SWCON F8-40.0	Total/NA	Solid	3060A	
570-46795-20 MSID	SWCON F8-40.0	Total/NA	Solid	3060A	

### Prep Batch: 119507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46795-27	SWCON F08-61.5	Total/NA	Solid	3060A	
570-46795-28	SWCON F08-65.0	Total/NA	Solid	3060A	
570-46795-29	SWCON F08-70.0	Total/NA	Solid	3060A	
MB 570-119507/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-119507/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-119507/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-46795-27 MS	SWCON F08-61.5	Total/NA	Solid	3060A	
570-46795-27 MSD	SWCON F08-61.5	Total/NA	Solid	3060A	
570-46795-27 MSI	SWCON F08-61.5	Total/NA	Solid	3060A	
570-46795-27 MSID	SWCON F08-61.5	Total/NA	Solid	3060A	

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## General Chemistry

### Analysis Batch: 119510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46795-7	SWCON F7-45.0	Total/NA	Solid	7196A	119204
570-46795-8	SWCON F7-50.0	Total/NA	Solid	7196A	119204
570-46795-9	SWCON F7-54.5	Total/NA	Solid	7196A	119204
570-46795-10	SWCON F7-55.0	Total/NA	Solid	7196A	119204
570-46795-11	SWCON F7-59.0	Total/NA	Solid	7196A	119204
570-46795-12	SWCON F7-60.0	Total/NA	Solid	7196A	119204
570-46795-13	SWCON F7-65.0	Total/NA	Solid	7196A	119204
570-46795-14	SWCON F7-70.0	Total/NA	Solid	7196A	119204
570-46795-15	SWCON F8-27.0	Total/NA	Solid	7196A	119204
570-46795-16	SWCON F8-25.0	Total/NA	Solid	7196A	119204
570-46795-17	SWCON F8-27.5	Total/NA	Solid	7196A	119204
570-46795-18	SWCON F8-30.0	Total/NA	Solid	7196A	119204
570-46795-19	SWCON F8-35.0	Total/NA	Solid	7196A	119204
570-46795-20	SWCON F8-40.0	Total/NA	Solid	7196A	119204
570-46795-21	SWCON F08-45.0	Total/NA	Solid	7196A	119204
570-46795-22	SWCON F08-50.0	Total/NA	Solid	7196A	119204
570-46795-23	SWCON F08-51.5	Total/NA	Solid	7196A	119204
570-46795-24	SWCON F08-55.0	Total/NA	Solid	7196A	119204
570-46795-25	SWCON F08-60.0	Total/NA	Solid	7196A	119204
570-46795-26	SWCON F08-61.0	Total/NA	Solid	7196A	119204
MB 570-119204/1-A	Method Blank	Total/NA	Solid	7196A	119204
LCS 570-119204/2-A	Lab Control Sample	Total/NA	Solid	7196A	119204
LCSD 570-119204/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	119204
570-46795-11 MS	SWCON F7-59.0	Total/NA	Solid	7196A	119204
570-46795-11 MSD	SWCON F7-59.0	Total/NA	Solid	7196A	119204
570-46795-11 MSI	SWCON F7-59.0	Total/NA	Solid	7196A	119204
570-46795-11 MSID	SWCON F7-59.0	Total/NA	Solid	7196A	119204
570-46795-20 MS	SWCON F8-40.0	Total/NA	Solid	7196A	119204
570-46795-20 MSD	SWCON F8-40.0	Total/NA	Solid	7196A	119204
570-46795-20 MSI	SWCON F8-40.0	Total/NA	Solid	7196A	119204
570-46795-20 MSID	SWCON F8-40.0	Total/NA	Solid	7196A	119204

### Analysis Batch: 119860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46795-27	SWCON F08-61.5	Total/NA	Solid	7196A	119507
570-46795-28	SWCON F08-65.0	Total/NA	Solid	7196A	119507
570-46795-29	SWCON F08-70.0	Total/NA	Solid	7196A	119507
MB 570-119507/1-A	Method Blank	Total/NA	Solid	7196A	119507
LCS 570-119507/2-A	Lab Control Sample	Total/NA	Solid	7196A	119507
LCSD 570-119507/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	119507
570-46795-27 MS	SWCON F08-61.5	Total/NA	Solid	7196A	119507
570-46795-27 MSD	SWCON F08-61.5	Total/NA	Solid	7196A	119507
570-46795-27 MSI	SWCON F08-61.5	Total/NA	Solid	7196A	119507
570-46795-27 MSID	SWCON F08-61.5	Total/NA	Solid	7196A	119507



# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

## Client Sample ID: SWCON F7-25.0

## Lab Sample ID: 570-46795-1

Date Collected: 12/21/20 08:30

Matrix: Solid

Date Received: 12/21/20 16:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	100 mL	120371	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 10:23	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	118508	12/23/20 13:59	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	118694	12/24/20 16:49	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	118153	12/22/20 13:34	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118223	12/22/20 16:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118188	12/22/20 15:23	UAPD	ECL 1
Instrument ID: BAL87										

## Client Sample ID: SWCON F7-26.0

## Lab Sample ID: 570-46795-2

Date Collected: 12/21/20 08:32

Matrix: Solid

Date Received: 12/21/20 16:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.97 g	100 mL	120371	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 10:29	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	118508	12/23/20 13:59	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	118694	12/24/20 16:50	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.04 g	20 mL	118153	12/22/20 13:34	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118223	12/22/20 16:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118188	12/22/20 15:23	UAPD	ECL 1
Instrument ID: BAL87										

## Client Sample ID: SWCON F7-30.0

## Lab Sample ID: 570-46795-3

Date Collected: 12/21/20 08:45

Matrix: Solid

Date Received: 12/21/20 16:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.09 g	100 mL	120371	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 10:31	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	118508	12/23/20 13:59	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	118694	12/24/20 16:51	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.05 g	20 mL	118153	12/22/20 13:34	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118223	12/22/20 16:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118188	12/22/20 15:23	UAPD	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

**Client Sample ID: SWCON F7-35.0**

**Lab Sample ID: 570-46795-4**

**Date Collected: 12/21/20 08:50**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.06 g	100 mL	120371	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 10:33	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	118508	12/23/20 13:59	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	118694	12/24/20 16:52	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	118153	12/22/20 13:34	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118223	12/22/20 16:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118188	12/22/20 15:23	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCON F7-40.0**

**Lab Sample ID: 570-46795-5**

**Date Collected: 12/21/20 08:52**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.97 g	100 mL	120371	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 10:35	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	118508	12/23/20 13:59	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	118694	12/24/20 16:53	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.97 g	20 mL	118153	12/22/20 13:34	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118223	12/22/20 16:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118188	12/22/20 15:23	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCON F7-40.5**

**Lab Sample ID: 570-46795-6**

**Date Collected: 12/21/20 08:55**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	100 mL	120371	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 10:37	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	118508	12/23/20 13:59	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	118694	12/24/20 16:54	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.04 g	20 mL	118153	12/22/20 13:34	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118223	12/22/20 16:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118188	12/22/20 15:23	UAPD	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

**Client Sample ID: SWCON F7-45.0**

**Lab Sample ID: 570-46795-7**

**Date Collected: 12/21/20 09:00**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.90 g	100 mL	120371	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 10:39	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	119204	12/29/20 13:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119510	12/30/20 12:56	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	118153	12/22/20 13:34	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118223	12/22/20 16:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118188	12/22/20 15:23	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCON F7-50.0**

**Lab Sample ID: 570-46795-8**

**Date Collected: 12/21/20 09:05**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.09 g	100 mL	120371	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 10:41	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	119204	12/29/20 13:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119510	12/30/20 12:55	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	118153	12/22/20 13:34	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118223	12/22/20 16:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118188	12/22/20 15:23	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCON F7-54.5**

**Lab Sample ID: 570-46795-9**

**Date Collected: 12/21/20 09:10**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.08 g	100 mL	120371	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 10:55	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.49 g	100 mL	119204	12/29/20 13:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119510	12/30/20 12:54	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.05 g	20 mL	118153	12/22/20 13:34	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118223	12/22/20 16:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118188	12/22/20 15:23	UAPD	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

**Client Sample ID: SWCON F7-55.0**

**Lab Sample ID: 570-46795-10**

**Date Collected: 12/21/20 09:15**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	120371	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 10:57	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	119204	12/29/20 13:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119510	12/30/20 12:53	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	118153	12/22/20 13:34	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118223	12/22/20 16:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118207	12/22/20 15:58	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCON F7-59.0**

**Lab Sample ID: 570-46795-11**

**Date Collected: 12/21/20 09:17**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.92 g	100 mL	120371	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 10:59	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	119204	12/29/20 13:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119510	12/30/20 12:52	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	118153	12/22/20 13:34	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118223	12/22/20 16:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118207	12/22/20 15:58	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCON F7-60.0**

**Lab Sample ID: 570-46795-12**

**Date Collected: 12/21/20 09:20**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	100 mL	120371	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 11:02	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.55 g	100 mL	119204	12/29/20 13:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119510	12/30/20 12:57	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	118153	12/22/20 13:34	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118223	12/22/20 16:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118207	12/22/20 15:58	UAPD	ECL 1
Instrument ID: NOEQUIP										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

**Client Sample ID: SWCON F7-65.0**

**Lab Sample ID: 570-46795-13**

**Date Collected: 12/21/20 09:25**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	100 mL	120371	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 11:04	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.49 g	100 mL	119204	12/29/20 13:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119510	12/30/20 12:58	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	118153	12/22/20 13:34	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118223	12/22/20 16:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118207	12/22/20 15:58	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCON F7-70.0**

**Lab Sample ID: 570-46795-14**

**Date Collected: 12/21/20 09:30**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.94 g	100 mL	120371	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 11:06	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.49 g	100 mL	119204	12/29/20 13:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119510	12/30/20 12:59	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.03 g	20 mL	118153	12/22/20 13:34	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118223	12/22/20 16:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118207	12/22/20 15:58	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCON F8-27.0**

**Lab Sample ID: 570-46795-15**

**Date Collected: 12/21/20 12:40**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.97 g	100 mL	120371	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 11:07	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	119204	12/29/20 13:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119510	12/30/20 13:00	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	118153	12/22/20 13:34	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118223	12/22/20 16:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118207	12/22/20 15:58	UAPD	ECL 1
Instrument ID: NOEQUIP										



# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

**Client Sample ID: SWCON F8-25.0**

**Lab Sample ID: 570-46795-16**

**Date Collected: 12/21/20 12:30**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.05 g	100 mL	120371	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 11:09	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	119204	12/29/20 13:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119510	12/30/20 13:01	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.96 g	20 mL	118153	12/22/20 13:34	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118223	12/22/20 16:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118207	12/22/20 15:58	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCON F8-27.5**

**Lab Sample ID: 570-46795-17**

**Date Collected: 12/21/20 13:05**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	100 mL	120371	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 11:11	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	119204	12/29/20 13:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119510	12/30/20 13:11	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	118153	12/22/20 13:34	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118223	12/22/20 16:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118207	12/22/20 15:58	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCON F8-30.0**

**Lab Sample ID: 570-46795-18**

**Date Collected: 12/21/20 13:00**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.91 g	100 mL	120371	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 11:13	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.49 g	100 mL	119204	12/29/20 13:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119510	12/30/20 13:12	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.96 g	20 mL	118153	12/22/20 13:34	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118223	12/22/20 16:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118207	12/22/20 15:58	UAPD	ECL 1
Instrument ID: NOEQUIP										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

**Client Sample ID: SWCON F8-35.0**

**Lab Sample ID: 570-46795-19**

**Date Collected: 12/21/20 13:55**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.07 g	100 mL	120371	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 11:22	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	119204	12/29/20 13:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119510	12/30/20 13:13	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	118153	12/22/20 13:34	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118223	12/22/20 16:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118207	12/22/20 15:58	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCON F8-40.0**

**Lab Sample ID: 570-46795-20**

**Date Collected: 12/21/20 14:02**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	100 mL	120371	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 11:24	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	119204	12/29/20 13:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119510	12/30/20 13:10	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.97 g	20 mL	118153	12/22/20 13:34	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118223	12/22/20 16:40	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118207	12/22/20 15:58	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCON F08-45.0**

**Lab Sample ID: 570-46795-21**

**Date Collected: 12/21/20 14:15**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.07 g	100 mL	120372	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 08:41	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	119204	12/29/20 13:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119510	12/30/20 13:14	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.97 g	20 mL	118224	12/22/20 16:43	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118295	12/22/20 19:44	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118207	12/22/20 15:58	UAPD	ECL 1
Instrument ID: NOEQUIP										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

**Client Sample ID: SWCON F08-50.0**

**Lab Sample ID: 570-46795-22**

**Date Collected: 12/21/20 14:25**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.90 g	100 mL	120372	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 09:20	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.49 g	100 mL	119204	12/29/20 13:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119510	12/30/20 13:15	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	118224	12/22/20 16:43	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118295	12/22/20 19:44	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118207	12/22/20 15:58	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCON F08-51.5**

**Lab Sample ID: 570-46795-23**

**Date Collected: 12/21/20 14:26**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.90 g	100 mL	120372	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 09:22	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	119204	12/29/20 13:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119510	12/30/20 13:16	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	118224	12/22/20 16:43	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118295	12/22/20 19:44	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118207	12/22/20 15:58	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCON F08-55.0**

**Lab Sample ID: 570-46795-24**

**Date Collected: 12/21/20 14:32**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.05 g	100 mL	120372	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 09:24	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	119204	12/29/20 13:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119510	12/30/20 13:17	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	118224	12/22/20 16:43	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118295	12/22/20 19:44	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118207	12/22/20 15:58	UAPD	ECL 1
Instrument ID: NOEQUIP										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

**Client Sample ID: SWCON F08-60.0**

**Lab Sample ID: 570-46795-25**

**Date Collected: 12/21/20 14:36**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	100 mL	120372	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 09:26	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.55 g	100 mL	119204	12/29/20 13:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119510	12/30/20 13:18	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.03 g	20 mL	118224	12/22/20 16:43	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118295	12/22/20 19:44	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118207	12/22/20 15:58	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCON F08-61.0**

**Lab Sample ID: 570-46795-26**

**Date Collected: 12/21/20 14:41**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.95 g	100 mL	120372	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 09:28	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.54 g	100 mL	119204	12/29/20 13:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119510	12/30/20 13:19	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	118224	12/22/20 16:43	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118295	12/22/20 19:44	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118207	12/22/20 15:58	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCON F08-61.5**

**Lab Sample ID: 570-46795-27**

**Date Collected: 12/21/20 14:42**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.07 g	100 mL	120372	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 09:30	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	119507	12/30/20 13:52	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119860	12/31/20 16:19	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	118224	12/22/20 16:43	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118295	12/22/20 19:44	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118207	12/22/20 15:58	UAPD	ECL 1
Instrument ID: NOEQUIP										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

**Client Sample ID: SWCON F08-65.0**

**Lab Sample ID: 570-46795-28**

**Date Collected: 12/21/20 14:45**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.09 g	100 mL	120372	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 09:32	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	119507	12/30/20 13:52	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119860	12/31/20 16:20	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	118224	12/22/20 16:43	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118295	12/22/20 19:44	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118207	12/22/20 15:58	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCON F08-70.0**

**Lab Sample ID: 570-46795-29**

**Date Collected: 12/21/20 14:49**

**Matrix: Solid**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	100 mL	120372	01/05/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			120490	01/06/21 09:33	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.49 g	100 mL	119507	12/30/20 13:52	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119860	12/31/20 16:21	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.97 g	20 mL	118224	12/22/20 16:43	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118295	12/22/20 19:44	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118207	12/22/20 15:58	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: EB01**

**Lab Sample ID: 570-46795-30**

**Date Collected: 12/21/20 15:30**

**Matrix: Water**

**Date Received: 12/21/20 16:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7199		1			117735	12/21/20 23:12	URMH	ECL 1
Instrument ID: IC16										
Total/NA	Prep	3010A			50 mL	50 mL	120118	01/04/21 14:00	WL8G	ECL 1
Total/NA	Analysis	6010B		1			120534	01/06/21 11:56	ULPF	ECL 1
Instrument ID: ICP8										

## Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494



## Accreditation/Certification Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

### Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-21
California	SCAQMD LAP	17LA0919	11-30-21
California	State	2944	09-30-21
Guam	State	20-003R	10-31-20 *
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-29-21
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-21

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Calscience LLC

## Method Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

Method	Method Description	Protocol	Laboratory
7199	Chromium, Hexavalent (IC)	SW846	ECL 1
6010B	Metals (ICP)	SW846	ECL 1
7196A	Chromium, Hexavalent	SW846	ECL 1
9045C	pH	SW846	ECL 1
Moisture	Percent Moisture	EPA	ECL 1
3010A	Preparation, Total Metals	SW846	ECL 1
3050B	Preparation, Metals	SW846	ECL 1
3060A	Alkaline Digestion (Chromium, Hexavalent)	SW846	ECL 1
DI Leach	Deionized Water Leaching Procedure	ASTM	ECL 1

### Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

# Sample Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46795-1  
SDG: 0197.010 006

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-46795-1	SWCON F7-25.0	Solid	12/21/20 08:30	12/21/20 16:50	
570-46795-2	SWCON F7-26.0	Solid	12/21/20 08:32	12/21/20 16:50	
570-46795-3	SWCON F7-30.0	Solid	12/21/20 08:45	12/21/20 16:50	
570-46795-4	SWCON F7-35.0	Solid	12/21/20 08:50	12/21/20 16:50	
570-46795-5	SWCON F7-40.0	Solid	12/21/20 08:52	12/21/20 16:50	
570-46795-6	SWCON F7-40.5	Solid	12/21/20 08:55	12/21/20 16:50	
570-46795-7	SWCON F7-45.0	Solid	12/21/20 09:00	12/21/20 16:50	
570-46795-8	SWCON F7-50.0	Solid	12/21/20 09:05	12/21/20 16:50	
570-46795-9	SWCON F7-54.5	Solid	12/21/20 09:10	12/21/20 16:50	
570-46795-10	SWCON F7-55.0	Solid	12/21/20 09:15	12/21/20 16:50	
570-46795-11	SWCON F7-59.0	Solid	12/21/20 09:17	12/21/20 16:50	
570-46795-12	SWCON F7-60.0	Solid	12/21/20 09:20	12/21/20 16:50	
570-46795-13	SWCON F7-65.0	Solid	12/21/20 09:25	12/21/20 16:50	
570-46795-14	SWCON F7-70.0	Solid	12/21/20 09:30	12/21/20 16:50	
570-46795-15	SWCON F8-27.0	Solid	12/21/20 12:40	12/21/20 16:50	
570-46795-16	SWCON F8-25.0	Solid	12/21/20 12:30	12/21/20 16:50	
570-46795-17	SWCON F8-27.5	Solid	12/21/20 13:05	12/21/20 16:50	
570-46795-18	SWCON F8-30.0	Solid	12/21/20 13:00	12/21/20 16:50	
570-46795-19	SWCON F8-35.0	Solid	12/21/20 13:55	12/21/20 16:50	
570-46795-20	SWCON F8-40.0	Solid	12/21/20 14:02	12/21/20 16:50	
570-46795-21	SWCON F08-45.0	Solid	12/21/20 14:15	12/21/20 16:50	
570-46795-22	SWCON F08-50.0	Solid	12/21/20 14:25	12/21/20 16:50	
570-46795-23	SWCON F08-51.5	Solid	12/21/20 14:26	12/21/20 16:50	
570-46795-24	SWCON F08-55.0	Solid	12/21/20 14:32	12/21/20 16:50	
570-46795-25	SWCON F08-60.0	Solid	12/21/20 14:36	12/21/20 16:50	
570-46795-26	SWCON F08-61.0	Solid	12/21/20 14:41	12/21/20 16:50	
570-46795-27	SWCON F08-61.5	Solid	12/21/20 14:42	12/21/20 16:50	
570-46795-28	SWCON F08-65.0	Solid	12/21/20 14:45	12/21/20 16:50	
570-46795-29	SWCON F08-70.0	Solid	12/21/20 14:49	12/21/20 16:50	
570-46795-30	EB01	Water	12/21/20 15:30	12/21/20 16:50	



# Calscience

7440 Lincoln Way, Garden Grove, CA 92841-1427 • (714) 895-5494  
For courier service / sample drop off information, contact us26 [sales@eurofinsus.com](mailto:sales@eurofinsus.com) or call us.

LABORATORY CLIENT:  
Terraphase Engineering,<sup>1</sup> Inc.

ADDRESS  
1404 Franklin Street Suite 600

CITY: Oakland

[illegible]

**E-MAIL.**

1

\_\_\_\_\_

Chris.Alger@terraphase.com

**TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):**

☐ SAME DAY    ☐ 24 HR    ☐ 48 HR    ☐ 72 HR    ☐ 5 DAYS    ☒ STANDARD

GLOBAL ID:

LOG CODE.

**SPECIAL INSTRUCTIONS:**

- Please provide results in generic EDD and ESData formats
- Please email results to: Chris Alger, Clare Steedman, EDD@terrphase.com
- Results in dry weight

LAB USE ONLY	SAMPLE ID	SAMPLING		MATRIX	NO. OF CONT.	Unpres.	Preserv.	Field Fl
		DATE	TIME					
2/1	SWCON F08-45.00	12/21/20	1415	S	1	X		
2/2	SWCON F08-50.00	CS 12-22-20	1425			X		
2/3	SWCON F08-51.5		1426			X		
2/4	SWCON F08-55.00		1432			X		
2/5	SWCON F08-60.00		1436			X		
2/6	SWCON F08-61.0		1441			X		
2/7	SWCON F08-61.5		1442			X		
2/8	SWCON F08-65.0		1445			X		
2/9	SWCON F08-70.0		1449			X		
3/0	5601	12/21/20	1530	W	2	X		X

Relinquished by (Signature)

Relinquished by: (Signature)

Relinquished by (Signature)

Received by: (Signature/Affiliation)

Received by\* (Signature/Affiliation)

Received by: (Signature/Affiliation)

**CLIENT PROJECT NAME / NUMBER:**

PTI Southwest Soil Injection Confirmation / 0197.010.006

**PROJECT CONTACT:**

Chris Alger (Terraphase), Virendra Patel (ECI)

**P.O. NO.**

SAMPLER(S): (PRINT)

Skilling Team

## REQUESTED ANALYSES

## Soil Analyses

## Water Analyses

[illegible]

This revised COC was received from Clare Steedman (Terraphase). Sample IDs were adjusted to remove an extra digit for sample #21, #22, #24 and #25.

-Virendra (ECI)

Date:	Time
-------	------

Date*	Time*
-------	-------

Date	Time
------	------



Calscience



570-46795 Chain of Custody

46795

CHAIN OF CUSTODY RECORD

DATE: 12/21/20  
PAGE: 1 OF 3

7440 Lincoln Way, Garden Grove, CA 92841-1427 • (714) 895-5494

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LABORATORY CLIENT: Terraphase Engineering, Inc.						CLIENT PROJECT NAME / NUMBER: PTI Southwest Soil Injection Confirmation / 0197.010 006						P.O. NO.																							
ADDRESS 1404 Franklin Street Suite 600						PROJECT CONTACT: Chris Alger (Terraphase), Virendra Patel (ECI)						SAMPLER(S): (PRINT) West Skillings																							
CITY: Oakland			STATE: CA			ZIP: 94612																													
TEL. 510-645-1850 x58			E-MAIL. Chris.Alger@terraphase.com			REQUESTED ANALYSES																													
TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"): <input type="checkbox"/> SAME DAY <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input type="checkbox"/> 5 DAYS <input checked="" type="checkbox"/> STANDARD						Soil Analyses						Water Analyses																							
<input type="checkbox"/> COELT EDF						GLOBAL ID:						LOG CODE. TEIO																							
SPECIAL INSTRUCTIONS • Please provide results in generic EDD and ESDat formats • Please email results to Chris Alger, Clare Steedman, EDD@terraphase.com • Results in dry weight						Unpreserved Preserved Field Filtered						EPA 6010B Cd, Cr, Cu, Pb, As Cr(VI) ■ 7196 □ 7199 □ 218.6 pH 9045C Moisture Content PCBs (8082)																							
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LAB USE ONLY						SAMPLE ID						SAMPLING						MATRIX						NO. OF CONT.											
						DATE						TIME																							
1						SWCONF7-25.0						12/21/20						0830						S						1					
2						SWCONF7-26.0												0832																	
3						SWCONF7-30.0												0845																	
4						SWCONF7-35.0												0850																	
5						SWCONF7-40.0												0852																	
6						SWCONF7-40.5												0855																	
7						SWCONF7-45.0												0900																	
8						SWCONF7-50.0												0905																	
9						SWCONF7-54.5												0910																	
10						SWCONF7-55.4						✓						0915						✓						✓					
Relinquished by: (Signature)						Received by: (Signature/Affiliation)						Date 12/21/20						Time 1650																	
Relinquished by: (Signature)						Received by: (Signature/Affiliation)						Date						Time:																	
Relinquished by: (Signature)						Received by: (Signature/Affiliation)						Date.						Time.																	





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# CHAIN OF CUSTODY RECORD

DATE: 12/21/20  
PAGE: 2 OF 3

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ADDRESS: 1404 Franklin Street Suite 600						PROJECT CONTACT: Chris Alger (Terraphase), Virendra Patel (ECI)						SAMPLER(S): (PRINT) <i>Wes Skellings</i>																	
CITY: Oakland			STATE: CA			ZIP: 94612																							
TEL: 510-645-1850 x58			E-MAIL: Chris.Alger@terraphase.com			REQUESTED ANALYSES																							
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LAB USE ONLY						SAMPLE ID						SAMPLING						MATRIX						NO. OF CONT.					
						DATE						TIME																	
11 SWCONF7 -59.0						12/21/20						0917						S						1					
12 SWCONF7 -60.0												0920																	
13 SWCONF7 -65.0												0925																	
14 SWCONF7 -70.0												0930																	
15 SWCONF8 -27.0												1240																	
16 SWCONF8 -25.0												1230																	
17 SWCONF8 -27.5												13:05																	
18 SWCONF8 -30.0												1300																	
19 SWCONF8 -35.0												1355																	
20 SWCONF8 -40.0												14:02																	
Relinquished by: (Signature) <i>[Signature]</i>						Received by: (Signature/Affiliation) <i>[Signature]</i>						Date 12/21/20						Time 1650											
Relinquished by: (Signature)						Received by: (Signature/Affiliation)						Date						Time											
Relinquished by: (Signature)						Received by: (Signature/Affiliation)						Date						Time											



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# CHAIN OF CUSTODY RECORD

46795

WO# / LAB USE ONLY

DATE: 12/21/20

PAGE: 3 OF 3

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## Login Sample Receipt Checklist

Client: Terraphase Engineering Inc

Job Number: 570-46795-1

SDG Number: 0197.010 006

**Login Number: 46795**

**List Number: 1**

**Creator: Cortez Diaz, Antonio**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

Eurofins Calscience LLC  
7440 Lincoln Way  
Garden Grove, CA 92841  
Tel: (714)895-5494

Laboratory Job ID: 570-46871-1

Client Project/Site: PTI Southwest Soil Injection Confirmation

For:

Terraphase Engineering Inc  
18401 Von Karman Ave  
Suite 410  
Irvine, California 92612

Attn: Chris Alger

*Virendra R Patel*

Authorized for release by:  
1/8/2021 12:53:05 PM

Virendra Patel, Project Manager I  
(714)895-5494  
[Virendra.Patel@eurofinset.com](mailto:Virendra.Patel@eurofinset.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

*The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



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## Definitions/Glossary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

### Qualifiers

#### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.

#### General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

**Job ID: 570-46871-1**

**Laboratory: Eurofins Calscience LLC**

## Narrative

### Job Narrative 570-46871-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 12/22/2020 3:13 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.1° C.

#### HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Metals

Method 6010B: Due to the high concentration of Chromium the matrix spike(MS) for preparation batch 570-120530 and analytical batch 570-120712 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

Method 6010B: The matrix spike (MS) recoveries for Copper preparation batch 570-120530 and analytical batch 570-120712 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 6010B: The matrix spike duplicate (MSD) recoveries for Chromium preparation batch 570-120530 and analytical batch 570-120712 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 6010B: Due to the high concentration of Chromium ,Copper, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 570-120536 and analytical batch 570-120909 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

Method 7196A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-119507 and analytical batch 570-119860 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 7196A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-119815 and analytical batch 570-119944 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method Moisture: The sample duplicate (DUP) precision for analytical batch 570-118301 was outside control limits. Sample non-homogeneity is suspected.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## Client Sample ID: SWCONF10-25.0

## Lab Sample ID: 570-46871-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.21		2.58	mg/Kg	1	✖	6010B	Total/NA
Chromium	104	F1	1.03	mg/Kg	1	✖	6010B	Total/NA
Copper	101	F1	1.03	mg/Kg	1	✖	6010B	Total/NA
Lead	10.1		5.16	mg/Kg	1	✖	6010B	Total/NA
pH	9.3		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF10-27.5

## Lab Sample ID: 570-46871-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.95		2.65	mg/Kg	1	✖	6010B	Total/NA
Cadmium	0.530		0.529	mg/Kg	1	✖	6010B	Total/NA
Chromium	813		1.06	mg/Kg	1	✖	6010B	Total/NA
Copper	120		1.06	mg/Kg	1	✖	6010B	Total/NA
Lead	41.1		5.29	mg/Kg	1	✖	6010B	Total/NA
pH	9.7		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF10-28.0

## Lab Sample ID: 570-46871-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.40		3.02	mg/Kg	1	✖	6010B	Total/NA
Cadmium	0.648		0.603	mg/Kg	1	✖	6010B	Total/NA
Chromium	523		1.21	mg/Kg	1	✖	6010B	Total/NA
Copper	184		1.21	mg/Kg	1	✖	6010B	Total/NA
Lead	6.55		6.03	mg/Kg	1	✖	6010B	Total/NA
pH	9.3		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF10-30.0

## Lab Sample ID: 570-46871-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.5		3.21	mg/Kg	1	✖	6010B	Total/NA
Cadmium	0.670		0.643	mg/Kg	1	✖	6010B	Total/NA
Chromium	430		1.29	mg/Kg	1	✖	6010B	Total/NA
Copper	315		1.29	mg/Kg	1	✖	6010B	Total/NA
pH	9.9		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF10-35.0

## Lab Sample ID: 570-46871-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.03		2.59	mg/Kg	1	✖	6010B	Total/NA
Chromium	86.6		1.04	mg/Kg	1	✖	6010B	Total/NA
Copper	174		1.04	mg/Kg	1	✖	6010B	Total/NA
pH	9.7		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF10-40.0

## Lab Sample ID: 570-46871-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	28.1		1.04	mg/Kg	1	✖	6010B	Total/NA
Copper	56.4		1.04	mg/Kg	1	✖	6010B	Total/NA
pH	9.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF10-45.0

## Lab Sample ID: 570-46871-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.16		2.57	mg/Kg	1	✖	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## Client Sample ID: SWCONF10-45.0 (Continued)

## Lab Sample ID: 570-46871-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	61.2		1.03	mg/Kg	1	✖	6010B	Total/NA
Copper	208		1.03	mg/Kg	1	✖	6010B	Total/NA
Lead	6.88		5.14	mg/Kg	1	✖	6010B	Total/NA
pH	9.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF10-50.0

## Lab Sample ID: 570-46871-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	16.4		1.03	mg/Kg	1	✖	6010B	Total/NA
Copper	271		1.03	mg/Kg	1	✖	6010B	Total/NA
pH	8.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF10-55.0

## Lab Sample ID: 570-46871-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.32		2.67	mg/Kg	1	✖	6010B	Total/NA
Chromium	55.5		1.07	mg/Kg	1	✖	6010B	Total/NA
Copper	486		1.07	mg/Kg	1	✖	6010B	Total/NA
pH	9.8		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF10-55.5

## Lab Sample ID: 570-46871-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.69		2.88	mg/Kg	1	✖	6010B	Total/NA
Chromium	24.9		1.15	mg/Kg	1	✖	6010B	Total/NA
Copper	268		1.15	mg/Kg	1	✖	6010B	Total/NA
Lead	8.08		5.76	mg/Kg	1	✖	6010B	Total/NA
pH	10.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF10-60.0

## Lab Sample ID: 570-46871-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.13		2.90	mg/Kg	1	✖	6010B	Total/NA
Chromium	29.0		1.16	mg/Kg	1	✖	6010B	Total/NA
Copper	246		1.16	mg/Kg	1	✖	6010B	Total/NA
pH	9.1		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF10-62.5

## Lab Sample ID: 570-46871-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.92		3.26	mg/Kg	1	✖	6010B	Total/NA
Chromium	42.2		1.30	mg/Kg	1	✖	6010B	Total/NA
Copper	675		1.30	mg/Kg	1	✖	6010B	Total/NA
pH	9.8		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF10-63.0

## Lab Sample ID: 570-46871-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	52.4		1.03	mg/Kg	1	✖	6010B	Total/NA
Copper	165		1.03	mg/Kg	1	✖	6010B	Total/NA
pH	9.9		0.01	S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## Client Sample ID: SWCONF10-65.0

## Lab Sample ID: 570-46871-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.93		2.70	mg/Kg	1	✖	6010B	Total/NA
Chromium	13.8		1.08	mg/Kg	1	✖	6010B	Total/NA
Copper	16.1		1.08	mg/Kg	1	✖	6010B	Total/NA
pH	10		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF10-70.0

## Lab Sample ID: 570-46871-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	166		1.13	mg/Kg	1	✖	6010B	Total/NA
Copper	10.9		1.13	mg/Kg	1	✖	6010B	Total/NA
Cr (VI)	1.17		0.877	mg/Kg	1	✖	7196A	Total/NA
pH	7.7		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF11-10.0

## Lab Sample ID: 570-46871-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.60		2.76	mg/Kg	1	✖	6010B	Total/NA
Chromium	27.2		1.11	mg/Kg	1	✖	6010B	Total/NA
Copper	23.7		1.11	mg/Kg	1	✖	6010B	Total/NA
pH	9.9		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF11-15.0

## Lab Sample ID: 570-46871-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.66		2.57	mg/Kg	1	✖	6010B	Total/NA
Chromium	12.0		1.03	mg/Kg	1	✖	6010B	Total/NA
Copper	13.1		1.03	mg/Kg	1	✖	6010B	Total/NA
pH	10.2		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF11-20.0

## Lab Sample ID: 570-46871-18

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.54		2.52	mg/Kg	1	✖	6010B	Total/NA
Chromium	48.4		1.01	mg/Kg	1	✖	6010B	Total/NA
Copper	39.1		1.01	mg/Kg	1	✖	6010B	Total/NA
Lead	10.4		5.05	mg/Kg	1	✖	6010B	Total/NA
pH	9.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF11-25.0

## Lab Sample ID: 570-46871-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.81		2.63	mg/Kg	1	✖	6010B	Total/NA
Chromium	12.0		1.05	mg/Kg	1	✖	6010B	Total/NA
Copper	12.6		1.05	mg/Kg	1	✖	6010B	Total/NA
pH	10.3		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF11-27.5

## Lab Sample ID: 570-46871-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.37		2.55	mg/Kg	1	✖	6010B	Total/NA
Chromium	783		1.02	mg/Kg	1	✖	6010B	Total/NA
Copper	69.0		1.02	mg/Kg	1	✖	6010B	Total/NA
pH	9.9		0.01	S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC



# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## Client Sample ID: SWCONF11-28.0

## Lab Sample ID: 570-46871-21

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	15.1		3.15	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.714		0.630	mg/Kg	1	✱	6010B	Total/NA
Chromium	3420		1.26	mg/Kg	1	✱	6010B	Total/NA
Copper	491		1.26	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	7.23		1.05	mg/Kg	1	✱	7196A	Total/NA
pH	3.6		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF11-30.0

## Lab Sample ID: 570-46871-22

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.0		3.25	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.673		0.651	mg/Kg	1	✱	6010B	Total/NA
Chromium	1380		1.30	mg/Kg	1	✱	6010B	Total/NA
Copper	353		1.30	mg/Kg	1	✱	6010B	Total/NA
pH	10.2		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF11-35.0

## Lab Sample ID: 570-46871-23

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.52		3.01	mg/Kg	1	✱	6010B	Total/NA
Chromium	887		1.21	mg/Kg	1	✱	6010B	Total/NA
Copper	370		1.21	mg/Kg	1	✱	6010B	Total/NA
pH	10.2		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF11-40.0

## Lab Sample ID: 570-46871-24

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.69		2.66	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.598		0.532	mg/Kg	1	✱	6010B	Total/NA
Chromium	199		1.06	mg/Kg	1	✱	6010B	Total/NA
Copper	684		1.06	mg/Kg	1	✱	6010B	Total/NA
pH	9.3		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF11-40.5

## Lab Sample ID: 570-46871-25

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	31.2		3.45	mg/Kg	1	✱	6010B	Total/NA
Cadmium	1.27		0.691	mg/Kg	1	✱	6010B	Total/NA
Chromium	1330		1.38	mg/Kg	1	✱	6010B	Total/NA
Copper	923		1.38	mg/Kg	1	✱	6010B	Total/NA
Lead	9.53		6.91	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	7.05		1.07	mg/Kg	1	✱	7196A	Total/NA
pH	3.8		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF11-45.0

## Lab Sample ID: 570-46871-26

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.24		2.80	mg/Kg	1	✱	6010B	Total/NA
Chromium	120		1.12	mg/Kg	1	✱	6010B	Total/NA
Copper	27.8		1.12	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	4.41		0.924	mg/Kg	1	✱	7196A	Total/NA
pH	7.4		0.01	S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## Client Sample ID: SWCONF11-50.0

## Lab Sample ID: 570-46871-27

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.66		2.88	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.608		0.576	mg/Kg	1	✱	6010B	Total/NA
Chromium	163		1.15	mg/Kg	1	✱	6010B	Total/NA
Copper	27.8		1.15	mg/Kg	1	✱	6010B	Total/NA
pH	9.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF11-55.0

## Lab Sample ID: 570-46871-28

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.09		3.02	mg/Kg	1	✱	6010B	Total/NA
Cadmium	2.32		0.605	mg/Kg	1	✱	6010B	Total/NA
Chromium	143		1.21	mg/Kg	1	✱	6010B	Total/NA
Copper	86.8		1.21	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	14.4		0.950	mg/Kg	1	✱	7196A	Total/NA
pH	7.9		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF11-59.5

## Lab Sample ID: 570-46871-29

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.54		2.65	mg/Kg	1	✱	6010B	Total/NA
Chromium	45.7		1.06	mg/Kg	1	✱	6010B	Total/NA
Copper	78.3		1.06	mg/Kg	1	✱	6010B	Total/NA
pH	9.9		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF11-60.0

## Lab Sample ID: 570-46871-30

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.8		3.51	mg/Kg	1	✱	6010B	Total/NA
Cadmium	1.63		0.702	mg/Kg	1	✱	6010B	Total/NA
Chromium	202		1.40	mg/Kg	1	✱	6010B	Total/NA
Copper	328		1.40	mg/Kg	1	✱	6010B	Total/NA
Lead	7.24		7.02	mg/Kg	1	✱	6010B	Total/NA
pH	9.9		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF11-65.0

## Lab Sample ID: 570-46871-31

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.58		2.61	mg/Kg	1	✱	6010B	Total/NA
Chromium	141		1.04	mg/Kg	1	✱	6010B	Total/NA
Copper	97.3		1.04	mg/Kg	1	✱	6010B	Total/NA
pH	10.6		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF11-70.0

## Lab Sample ID: 570-46871-32

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.87		2.64	mg/Kg	1	✱	6010B	Total/NA
Chromium	514		1.05	mg/Kg	1	✱	6010B	Total/NA
Copper	153		1.05	mg/Kg	1	✱	6010B	Total/NA
pH	10.1		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: EB02

## Lab Sample ID: 570-46871-33

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

## Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

### Method: 7199 - Chromium, Hexavalent (IC)

Client Sample ID: EB02

Date Collected: 12/22/20 13:05

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-33

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			12/22/20 23:13	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCONF10-25.0

Date Collected: 12/22/20 08:00

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.21		2.58	mg/Kg	☆	01/06/21 11:20	01/06/21 18:18	1
Cadmium	ND		0.516	mg/Kg	☆	01/06/21 11:20	01/06/21 18:18	1
Chromium	104	F1	1.03	mg/Kg	☆	01/06/21 11:20	01/06/21 18:18	1
Copper	101	F1	1.03	mg/Kg	☆	01/06/21 11:20	01/06/21 18:18	1
Lead	10.1		5.16	mg/Kg	☆	01/06/21 11:20	01/06/21 18:18	1

Client Sample ID: SWCONF10-27.5

Date Collected: 12/22/20 08:10

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.95		2.65	mg/Kg	☆	01/06/21 11:20	01/06/21 18:24	1
Cadmium	0.530		0.529	mg/Kg	☆	01/06/21 11:20	01/06/21 18:24	1
Chromium	813		1.06	mg/Kg	☆	01/06/21 11:20	01/06/21 18:24	1
Copper	120		1.06	mg/Kg	☆	01/06/21 11:20	01/06/21 18:24	1
Lead	41.1		5.29	mg/Kg	☆	01/06/21 11:20	01/06/21 18:24	1

Client Sample ID: SWCONF10-28.0

Date Collected: 12/22/20 08:11

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.40		3.02	mg/Kg	☆	01/06/21 11:20	01/06/21 18:26	1
Cadmium	0.648		0.603	mg/Kg	☆	01/06/21 11:20	01/06/21 18:26	1
Chromium	523		1.21	mg/Kg	☆	01/06/21 11:20	01/06/21 18:26	1
Copper	184		1.21	mg/Kg	☆	01/06/21 11:20	01/06/21 18:26	1
Lead	6.55		6.03	mg/Kg	☆	01/06/21 11:20	01/06/21 18:26	1

Client Sample ID: SWCONF10-30.0

Date Collected: 12/22/20 08:15

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.5		3.21	mg/Kg	☆	01/06/21 11:20	01/06/21 18:28	1
Cadmium	0.670		0.643	mg/Kg	☆	01/06/21 11:20	01/06/21 18:28	1
Chromium	430		1.29	mg/Kg	☆	01/06/21 11:20	01/06/21 18:28	1
Copper	315		1.29	mg/Kg	☆	01/06/21 11:20	01/06/21 18:28	1
Lead	ND		6.43	mg/Kg	☆	01/06/21 11:20	01/06/21 18:28	1

Client Sample ID: SWCONF10-35.0

Date Collected: 12/22/20 08:20

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.03		2.59	mg/Kg	☆	01/06/21 11:20	01/06/21 18:30	1
Cadmium	ND		0.518	mg/Kg	☆	01/06/21 11:20	01/06/21 18:30	1
Chromium	86.6		1.04	mg/Kg	☆	01/06/21 11:20	01/06/21 18:30	1
Copper	174		1.04	mg/Kg	☆	01/06/21 11:20	01/06/21 18:30	1
Lead	ND		5.18	mg/Kg	☆	01/06/21 11:20	01/06/21 18:30	1

Client Sample ID: SWCONF10-40.0

Date Collected: 12/22/20 08:30

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.60	mg/Kg	☆	01/06/21 11:20	01/06/21 18:32	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF10-40.0

Date Collected: 12/22/20 08:30

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.521	mg/Kg	☆	01/06/21 11:20	01/06/21 18:32	1
Chromium	28.1		1.04	mg/Kg	☆	01/06/21 11:20	01/06/21 18:32	1
Copper	56.4		1.04	mg/Kg	☆	01/06/21 11:20	01/06/21 18:32	1
Lead	ND		5.21	mg/Kg	☆	01/06/21 11:20	01/06/21 18:32	1

Client Sample ID: SWCONF10-45.0

Date Collected: 12/22/20 08:35

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-7

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.16		2.57	mg/Kg	☆	01/06/21 11:20	01/06/21 18:34	1
Cadmium	ND		0.514	mg/Kg	☆	01/06/21 11:20	01/06/21 18:34	1
Chromium	61.2		1.03	mg/Kg	☆	01/06/21 11:20	01/06/21 18:34	1
Copper	208		1.03	mg/Kg	☆	01/06/21 11:20	01/06/21 18:34	1
Lead	6.88		5.14	mg/Kg	☆	01/06/21 11:20	01/06/21 18:34	1

Client Sample ID: SWCONF10-50.0

Date Collected: 12/22/20 08:40

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-8

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.58	mg/Kg	☆	01/06/21 11:20	01/06/21 18:35	1
Cadmium	ND		0.516	mg/Kg	☆	01/06/21 11:20	01/06/21 18:35	1
Chromium	16.4		1.03	mg/Kg	☆	01/06/21 11:20	01/06/21 18:35	1
Copper	271		1.03	mg/Kg	☆	01/06/21 11:20	01/06/21 18:35	1
Lead	ND		5.16	mg/Kg	☆	01/06/21 11:20	01/06/21 18:35	1

Client Sample ID: SWCONF10-55.0

Date Collected: 12/22/20 08:45

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-9

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.32		2.67	mg/Kg	☆	01/06/21 11:20	01/06/21 18:47	1
Cadmium	ND		0.534	mg/Kg	☆	01/06/21 11:20	01/06/21 18:47	1
Chromium	55.5		1.07	mg/Kg	☆	01/06/21 11:20	01/06/21 18:47	1
Copper	486		1.07	mg/Kg	☆	01/06/21 11:20	01/06/21 18:47	1
Lead	ND		5.34	mg/Kg	☆	01/06/21 11:20	01/06/21 18:47	1

Client Sample ID: SWCONF10-55.5

Date Collected: 12/22/20 08:47

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-10

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.69		2.88	mg/Kg	☆	01/06/21 11:20	01/06/21 18:49	1
Cadmium	ND		0.576	mg/Kg	☆	01/06/21 11:20	01/06/21 18:49	1
Chromium	24.9		1.15	mg/Kg	☆	01/06/21 11:20	01/06/21 18:49	1
Copper	268		1.15	mg/Kg	☆	01/06/21 11:20	01/06/21 18:49	1
Lead	8.08		5.76	mg/Kg	☆	01/06/21 11:20	01/06/21 18:49	1

Client Sample ID: SWCONF10-60.0

Date Collected: 12/22/20 09:00

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-11

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.13		2.90	mg/Kg	☆	01/06/21 11:20	01/06/21 18:51	1
Cadmium	ND		0.580	mg/Kg	☆	01/06/21 11:20	01/06/21 18:51	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF10-60.0

Date Collected: 12/22/20 09:00

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-11

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	29.0		1.16	mg/Kg	☆	01/06/21 11:20	01/06/21 18:51	1
Copper	246		1.16	mg/Kg	☆	01/06/21 11:20	01/06/21 18:51	1
Lead	ND		5.80	mg/Kg	☆	01/06/21 11:20	01/06/21 18:51	1

Client Sample ID: SWCONF10-62.5

Date Collected: 12/22/20 09:01

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-12

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.92		3.26	mg/Kg	☆	01/06/21 11:20	01/06/21 18:53	1
Cadmium	ND		0.651	mg/Kg	☆	01/06/21 11:20	01/06/21 18:53	1
Chromium	42.2		1.30	mg/Kg	☆	01/06/21 11:20	01/06/21 18:53	1
Copper	675		1.30	mg/Kg	☆	01/06/21 11:20	01/06/21 18:53	1
Lead	ND		6.51	mg/Kg	☆	01/06/21 11:20	01/06/21 18:53	1

Client Sample ID: SWCONF10-63.0

Date Collected: 12/22/20 09:02

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-13

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.57	mg/Kg	☆	01/06/21 11:20	01/06/21 18:55	1
Cadmium	ND		0.513	mg/Kg	☆	01/06/21 11:20	01/06/21 18:55	1
Chromium	52.4		1.03	mg/Kg	☆	01/06/21 11:20	01/06/21 18:55	1
Copper	165		1.03	mg/Kg	☆	01/06/21 11:20	01/06/21 18:55	1
Lead	ND		5.13	mg/Kg	☆	01/06/21 11:20	01/06/21 18:55	1

Client Sample ID: SWCONF10-65.0

Date Collected: 12/22/20 09:10

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-14

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.93		2.70	mg/Kg	☆	01/06/21 11:20	01/06/21 18:57	1
Cadmium	ND		0.540	mg/Kg	☆	01/06/21 11:20	01/06/21 18:57	1
Chromium	13.8		1.08	mg/Kg	☆	01/06/21 11:20	01/06/21 18:57	1
Copper	16.1		1.08	mg/Kg	☆	01/06/21 11:20	01/06/21 18:57	1
Lead	ND		5.40	mg/Kg	☆	01/06/21 11:20	01/06/21 18:57	1

Client Sample ID: SWCONF10-70.0

Date Collected: 12/22/20 09:11

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-15

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.82	mg/Kg	☆	01/06/21 11:20	01/06/21 18:59	1
Cadmium	ND		0.564	mg/Kg	☆	01/06/21 11:20	01/06/21 18:59	1
Chromium	166		1.13	mg/Kg	☆	01/06/21 11:20	01/06/21 18:59	1
Copper	10.9		1.13	mg/Kg	☆	01/06/21 11:20	01/06/21 18:59	1
Lead	ND		5.64	mg/Kg	☆	01/06/21 11:20	01/06/21 18:59	1

Client Sample ID: SWCONF11-10.0

Date Collected: 12/22/20 10:45

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-16

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.60		2.76	mg/Kg	☆	01/06/21 11:20	01/06/21 19:00	1
Cadmium	ND		0.553	mg/Kg	☆	01/06/21 11:20	01/06/21 19:00	1
Chromium	27.2		1.11	mg/Kg	☆	01/06/21 11:20	01/06/21 19:00	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF11-10.0

Date Collected: 12/22/20 10:45

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-16

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	23.7		1.11	mg/Kg	☆	01/06/21 11:20	01/06/21 19:00	1
Lead	ND		5.53	mg/Kg	☆	01/06/21 11:20	01/06/21 19:00	1

Client Sample ID: SWCONF11-15.0

Date Collected: 12/22/20 10:47

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-17

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.66		2.57	mg/Kg	☆	01/06/21 11:20	01/06/21 19:02	1
Cadmium	ND		0.513	mg/Kg	☆	01/06/21 11:20	01/06/21 19:02	1
Chromium	12.0		1.03	mg/Kg	☆	01/06/21 11:20	01/06/21 19:02	1
Copper	13.1		1.03	mg/Kg	☆	01/06/21 11:20	01/06/21 19:02	1
Lead	ND		5.13	mg/Kg	☆	01/06/21 11:20	01/06/21 19:02	1

Client Sample ID: SWCONF11-20.0

Date Collected: 12/22/20 10:50

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-18

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.54		2.52	mg/Kg	☆	01/06/21 11:20	01/06/21 19:04	1
Cadmium	ND		0.505	mg/Kg	☆	01/06/21 11:20	01/06/21 19:04	1
Chromium	48.4		1.01	mg/Kg	☆	01/06/21 11:20	01/06/21 19:04	1
Copper	39.1		1.01	mg/Kg	☆	01/06/21 11:20	01/06/21 19:04	1
Lead	10.4		5.05	mg/Kg	☆	01/06/21 11:20	01/06/21 19:04	1

Client Sample ID: SWCONF11-25.0

Date Collected: 12/22/20 10:55

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-19

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.81		2.63	mg/Kg	☆	01/06/21 11:20	01/06/21 19:18	1
Cadmium	ND		0.527	mg/Kg	☆	01/06/21 11:20	01/06/21 19:18	1
Chromium	12.0		1.05	mg/Kg	☆	01/06/21 11:20	01/06/21 19:18	1
Copper	12.6		1.05	mg/Kg	☆	01/06/21 11:20	01/06/21 19:18	1
Lead	ND		5.27	mg/Kg	☆	01/06/21 11:20	01/06/21 19:18	1

Client Sample ID: SWCONF11-27.5

Date Collected: 12/22/20 11:00

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-20

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.37		2.55	mg/Kg	☆	01/06/21 11:20	01/06/21 19:20	1
Cadmium	ND		0.509	mg/Kg	☆	01/06/21 11:20	01/06/21 19:20	1
Chromium	783		1.02	mg/Kg	☆	01/06/21 11:20	01/06/21 19:20	1
Copper	69.0		1.02	mg/Kg	☆	01/06/21 11:20	01/06/21 19:20	1
Lead	ND		5.09	mg/Kg	☆	01/06/21 11:20	01/06/21 19:20	1

Client Sample ID: SWCONF11-28.0

Date Collected: 12/22/20 11:01

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-21

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15.1		3.15	mg/Kg	☆	01/06/21 11:40	01/07/21 13:23	1
Cadmium	0.714		0.630	mg/Kg	☆	01/06/21 11:40	01/07/21 13:23	1
Chromium	3420		1.26	mg/Kg	☆	01/06/21 11:40	01/07/21 13:23	1
Copper	491		1.26	mg/Kg	☆	01/06/21 11:40	01/07/21 13:23	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF11-28.0

Date Collected: 12/22/20 11:01

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-21

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		6.30	mg/Kg	☆	01/06/21 11:40	01/07/21 13:23	1

Client Sample ID: SWCONF11-30.0

Date Collected: 12/22/20 11:05

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-22

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.0		3.25	mg/Kg	☆	01/06/21 11:40	01/07/21 13:30	1
Cadmium	0.673		0.651	mg/Kg	☆	01/06/21 11:40	01/07/21 13:30	1
Chromium	1380		1.30	mg/Kg	☆	01/06/21 11:40	01/07/21 13:30	1
Copper	353		1.30	mg/Kg	☆	01/06/21 11:40	01/07/21 13:30	1
Lead	ND		6.51	mg/Kg	☆	01/06/21 11:40	01/07/21 13:30	1

Client Sample ID: SWCONF11-35.0

Date Collected: 12/22/20 11:10

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-23

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.52		3.01	mg/Kg	☆	01/06/21 11:40	01/07/21 13:32	1
Cadmium	ND		0.603	mg/Kg	☆	01/06/21 11:40	01/07/21 13:32	1
Chromium	887		1.21	mg/Kg	☆	01/06/21 11:40	01/07/21 13:32	1
Copper	370		1.21	mg/Kg	☆	01/06/21 11:40	01/07/21 13:32	1
Lead	ND		6.03	mg/Kg	☆	01/06/21 11:40	01/07/21 13:32	1

Client Sample ID: SWCONF11-40.0

Date Collected: 12/22/20 11:12

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-24

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.69		2.66	mg/Kg	☆	01/06/21 11:40	01/07/21 13:34	1
Cadmium	0.598		0.532	mg/Kg	☆	01/06/21 11:40	01/07/21 13:34	1
Chromium	199		1.06	mg/Kg	☆	01/06/21 11:40	01/07/21 13:34	1
Copper	684		1.06	mg/Kg	☆	01/06/21 11:40	01/07/21 13:34	1
Lead	ND		5.32	mg/Kg	☆	01/06/21 11:40	01/07/21 13:34	1

Client Sample ID: SWCONF11-40.5

Date Collected: 12/22/20 11:13

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-25

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	31.2		3.45	mg/Kg	☆	01/06/21 11:40	01/07/21 13:49	1
Cadmium	1.27		0.691	mg/Kg	☆	01/06/21 11:40	01/07/21 13:49	1
Chromium	1330		1.38	mg/Kg	☆	01/06/21 11:40	01/07/21 13:49	1
Copper	923		1.38	mg/Kg	☆	01/06/21 11:40	01/07/21 13:49	1
Lead	9.53		6.91	mg/Kg	☆	01/06/21 11:40	01/07/21 13:49	1

Client Sample ID: SWCONF11-45.0

Date Collected: 12/22/20 11:20

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-26

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.24		2.80	mg/Kg	☆	01/06/21 11:40	01/07/21 13:52	1
Cadmium	ND		0.560	mg/Kg	☆	01/06/21 11:40	01/07/21 13:52	1
Chromium	120		1.12	mg/Kg	☆	01/06/21 11:40	01/07/21 13:52	1
Copper	27.8		1.12	mg/Kg	☆	01/06/21 11:40	01/07/21 13:52	1
Lead	ND		5.60	mg/Kg	☆	01/06/21 11:40	01/07/21 13:52	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCONF11-50.0

Date Collected: 12/22/20 11:30

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-27

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.66		2.88	mg/Kg	☆	01/06/21 11:40	01/07/21 13:54	1
Cadmium	0.608		0.576	mg/Kg	☆	01/06/21 11:40	01/07/21 13:54	1
Chromium	163		1.15	mg/Kg	☆	01/06/21 11:40	01/07/21 13:54	1
Copper	27.8		1.15	mg/Kg	☆	01/06/21 11:40	01/07/21 13:54	1
Lead	ND		5.76	mg/Kg	☆	01/06/21 11:40	01/07/21 13:54	1

Client Sample ID: SWCONF11-55.0

Date Collected: 12/22/20 11:35

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-28

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.09		3.02	mg/Kg	☆	01/06/21 11:40	01/07/21 13:56	1
Cadmium	2.32		0.605	mg/Kg	☆	01/06/21 11:40	01/07/21 13:56	1
Chromium	143		1.21	mg/Kg	☆	01/06/21 11:40	01/07/21 13:56	1
Copper	86.8		1.21	mg/Kg	☆	01/06/21 11:40	01/07/21 13:56	1
Lead	ND		6.05	mg/Kg	☆	01/06/21 11:40	01/07/21 13:56	1

Client Sample ID: SWCONF11-59.5

Date Collected: 12/22/20 11:40

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-29

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.54		2.65	mg/Kg	☆	01/06/21 11:40	01/07/21 13:58	1
Cadmium	ND		0.530	mg/Kg	☆	01/06/21 11:40	01/07/21 13:58	1
Chromium	45.7		1.06	mg/Kg	☆	01/06/21 11:40	01/07/21 13:58	1
Copper	78.3		1.06	mg/Kg	☆	01/06/21 11:40	01/07/21 13:58	1
Lead	ND		5.30	mg/Kg	☆	01/06/21 11:40	01/07/21 13:58	1

Client Sample ID: SWCONF11-60.0

Date Collected: 12/22/20 11:42

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-30

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.8		3.51	mg/Kg	☆	01/06/21 11:40	01/07/21 14:00	1
Cadmium	1.63		0.702	mg/Kg	☆	01/06/21 11:40	01/07/21 14:00	1
Chromium	202		1.40	mg/Kg	☆	01/06/21 11:40	01/07/21 14:00	1
Copper	328		1.40	mg/Kg	☆	01/06/21 11:40	01/07/21 14:00	1
Lead	7.24		7.02	mg/Kg	☆	01/06/21 11:40	01/07/21 14:00	1

Client Sample ID: SWCONF11-65.0

Date Collected: 12/22/20 11:45

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-31

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.58		2.61	mg/Kg	☆	01/06/21 11:40	01/07/21 14:02	1
Cadmium	ND		0.522	mg/Kg	☆	01/06/21 11:40	01/07/21 14:02	1
Chromium	141		1.04	mg/Kg	☆	01/06/21 11:40	01/07/21 14:02	1
Copper	97.3		1.04	mg/Kg	☆	01/06/21 11:40	01/07/21 14:02	1
Lead	ND		5.22	mg/Kg	☆	01/06/21 11:40	01/07/21 14:02	1

Client Sample ID: SWCONF11-70.0

Date Collected: 12/22/20 11:50

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-32

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.87		2.64	mg/Kg	☆	01/06/21 11:40	01/07/21 14:04	1

Eurofins Calscience LLC

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF11-70.0

Date Collected: 12/22/20 11:50

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-32

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.527	mg/Kg	☼	01/06/21 11:40	01/07/21 14:04	1
Chromium	514		1.05	mg/Kg	☼	01/06/21 11:40	01/07/21 14:04	1
Copper	153		1.05	mg/Kg	☼	01/06/21 11:40	01/07/21 14:04	1
Lead	ND		5.27	mg/Kg	☼	01/06/21 11:40	01/07/21 14:04	1

Client Sample ID: EB02

Date Collected: 12/22/20 13:05

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-33

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L		01/04/21 14:00	01/06/21 11:58	1
Cadmium	ND		0.0100	mg/L		01/04/21 14:00	01/06/21 11:58	1
Chromium	ND		0.0500	mg/L		01/04/21 14:00	01/06/21 11:58	1
Copper	ND		0.0500	mg/L		01/04/21 14:00	01/06/21 11:58	1
Lead	ND		0.0500	mg/L		01/04/21 14:00	01/06/21 11:58	1



# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## General Chemistry

Client Sample ID: SWCONF10-25.0

Date Collected: 12/22/20 08:00

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.817	mg/Kg	☼	12/30/20 13:52	12/31/20 16:22	1
pH	9.3		0.01	S.U.			12/22/20 19:44	1
Percent Moisture	3.7		0.1	%			12/22/20 21:25	1
Percent Solids	96.3		0.1	%			12/22/20 21:25	1

Client Sample ID: SWCONF10-27.5

Date Collected: 12/22/20 08:10

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.847	mg/Kg	☼	12/30/20 13:52	12/31/20 16:23	1
pH	9.7		0.01	S.U.			12/22/20 19:44	1
Percent Moisture	7.4		0.1	%			12/22/20 21:25	1
Percent Solids	92.6		0.1	%			12/22/20 21:25	1

Client Sample ID: SWCONF10-28.0

Date Collected: 12/22/20 08:11

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.972	mg/Kg	☼	12/30/20 13:52	12/31/20 16:24	1
pH	9.3		0.01	S.U.			12/22/20 19:44	1
Percent Moisture	18.7		0.1	%			12/22/20 21:25	1
Percent Solids	81.3		0.1	%			12/22/20 21:25	1

Client Sample ID: SWCONF10-30.0

Date Collected: 12/22/20 08:15

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.02	mg/Kg	☼	12/30/20 13:52	12/31/20 16:25	1
pH	9.9		0.01	S.U.			12/22/20 19:44	1
Percent Moisture	21.8		0.1	%			12/22/20 21:25	1
Percent Solids	78.2		0.1	%			12/22/20 21:25	1

Client Sample ID: SWCONF10-35.0

Date Collected: 12/22/20 08:20

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.831	mg/Kg	☼	12/30/20 13:52	12/31/20 16:26	1
pH	9.7		0.01	S.U.			12/22/20 19:44	1
Percent Moisture	4.9		0.1	%			12/22/20 21:25	1
Percent Solids	95.1		0.1	%			12/22/20 21:25	1

Client Sample ID: SWCONF10-40.0

Date Collected: 12/22/20 08:30

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.825	mg/Kg	☼	12/30/20 13:52	12/31/20 16:27	1
pH	9.5		0.01	S.U.			12/22/20 19:44	1
Percent Moisture	3.0		0.1	%			12/22/20 21:25	1
Percent Solids	97.0		0.1	%			12/22/20 21:25	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## General Chemistry

Client Sample ID: SWCONF10-45.0

Date Collected: 12/22/20 08:35

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-7

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.821	mg/Kg	☼	12/30/20 13:52	12/31/20 16:28	1
pH	9.4		0.01	S.U.			12/22/20 19:44	1
Percent Moisture	4.1		0.1	%			12/22/20 21:25	1
Percent Solids	95.9		0.1	%			12/22/20 21:25	1

Client Sample ID: SWCONF10-50.0

Date Collected: 12/22/20 08:40

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-8

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	F1	0.826	mg/Kg	☼	12/30/20 13:52	12/31/20 16:37	1
pH	8.5		0.01	S.U.			12/22/20 19:44	1
Percent Moisture	3.6		0.1	%			12/22/20 21:25	1
Percent Solids	96.4		0.1	%			12/22/20 21:25	1

Client Sample ID: SWCONF10-55.0

Date Collected: 12/22/20 08:45

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-9

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.864	mg/Kg	☼	12/30/20 13:52	12/31/20 16:38	1
pH	9.8		0.01	S.U.			12/22/20 19:44	1
Percent Moisture	7.7		0.1	%			12/22/20 21:25	1
Percent Solids	92.3		0.1	%			12/22/20 21:25	1

Client Sample ID: SWCONF10-55.5

Date Collected: 12/22/20 08:47

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-10

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.926	mg/Kg	☼	12/30/20 13:52	12/31/20 16:39	1
pH	10.4		0.01	S.U.			12/22/20 19:44	1
Percent Moisture	13.6		0.1	%			12/22/20 21:25	1
Percent Solids	86.4		0.1	%			12/22/20 21:25	1

Client Sample ID: SWCONF10-60.0

Date Collected: 12/22/20 09:00

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-11

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.935	mg/Kg	☼	12/30/20 13:52	12/31/20 16:40	1
pH	9.1		0.01	S.U.			12/23/20 16:50	1
Percent Moisture	15.5		0.1	%			12/22/20 21:25	1
Percent Solids	84.5		0.1	%			12/22/20 21:25	1

Client Sample ID: SWCONF10-62.5

Date Collected: 12/22/20 09:01

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-12

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.06	mg/Kg	☼	12/30/20 13:52	12/31/20 16:41	1
pH	9.8		0.01	S.U.			12/23/20 16:50	1
Percent Moisture	25.5		0.1	%			12/22/20 21:25	1
Percent Solids	74.5		0.1	%			12/22/20 21:25	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## General Chemistry

Client Sample ID: SWCONF10-63.0

Date Collected: 12/22/20 09:02

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-13

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.821	mg/Kg	☼	12/30/20 13:52	12/31/20 16:42	1
pH	9.9		0.01	S.U.			12/23/20 16:50	1
Percent Moisture	4.5		0.1	%			12/22/20 21:25	1
Percent Solids	95.5		0.1	%			12/22/20 21:25	1

Client Sample ID: SWCONF10-65.0

Date Collected: 12/22/20 09:10

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-14

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.845	mg/Kg	☼	12/30/20 13:52	12/31/20 16:43	1
pH	10		0.01	S.U.			12/23/20 16:50	1
Percent Moisture	6.1		0.1	%			12/22/20 21:25	1
Percent Solids	93.9		0.1	%			12/22/20 21:25	1

Client Sample ID: SWCONF10-70.0

Date Collected: 12/22/20 09:11

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-15

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	1.17		0.877	mg/Kg	☼	12/30/20 13:52	12/31/20 16:44	1
pH	7.7		0.01	S.U.			12/23/20 16:50	1
Percent Moisture	9.5		0.1	%			12/22/20 21:25	1
Percent Solids	90.5		0.1	%			12/22/20 21:25	1

Client Sample ID: SWCONF11-10.0

Date Collected: 12/22/20 10:45

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-16

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.915	mg/Kg	☼	12/30/20 13:52	12/31/20 16:45	1
pH	9.9		0.01	S.U.			12/23/20 16:50	1
Percent Moisture	12.2		0.1	%			12/22/20 21:25	1
Percent Solids	87.8		0.1	%			12/22/20 21:25	1

Client Sample ID: SWCONF11-15.0

Date Collected: 12/22/20 10:47

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-17

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.838	mg/Kg	☼	12/30/20 13:52	12/31/20 16:46	1
pH	10.2		0.01	S.U.			12/23/20 16:50	1
Percent Moisture	5.0		0.1	%			12/22/20 21:25	1
Percent Solids	95.0		0.1	%			12/22/20 21:25	1

Client Sample ID: SWCONF11-20.0

Date Collected: 12/22/20 10:50

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-18

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.833	mg/Kg	☼	12/31/20 14:23	01/02/21 17:03	1
pH	9.4		0.01	S.U.			12/23/20 16:50	1
Percent Moisture	4.8		0.1	%			12/22/20 21:25	1
Percent Solids	95.2		0.1	%			12/22/20 21:25	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## General Chemistry

Client Sample ID: SWCONF11-25.0

Date Collected: 12/22/20 10:55

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-19

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.844	mg/Kg	☼	12/31/20 14:23	01/02/21 17:04	1
pH	10.3		0.01	S.U.			12/23/20 16:50	1
Percent Moisture	6.0		0.1	%			12/22/20 21:25	1
Percent Solids	94.0		0.1	%			12/22/20 21:25	1

Client Sample ID: SWCONF11-27.5

Date Collected: 12/22/20 11:00

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-20

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.826	mg/Kg	☼	12/31/20 14:23	01/02/21 17:05	1
pH	9.9		0.01	S.U.			12/23/20 16:50	1
Percent Moisture	4.7		0.1	%			12/23/20 13:46	1
Percent Solids	95.3		0.1	%			12/23/20 13:46	1

Client Sample ID: SWCONF11-28.0

Date Collected: 12/22/20 11:01

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-21

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	7.23		1.05	mg/Kg	☼	12/31/20 14:23	01/02/21 17:06	1
pH	3.6		0.01	S.U.			12/23/20 16:50	1
Percent Moisture	23.7		0.1	%			12/23/20 13:46	1
Percent Solids	76.3		0.1	%			12/23/20 13:46	1

Client Sample ID: SWCONF11-30.0

Date Collected: 12/22/20 11:05

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-22

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.02	mg/Kg	☼	12/31/20 14:23	01/02/21 17:07	1
pH	10.2		0.01	S.U.			12/23/20 16:50	1
Percent Moisture	22.0		0.1	%			12/23/20 13:46	1
Percent Solids	78.0		0.1	%			12/23/20 13:46	1

Client Sample ID: SWCONF11-35.0

Date Collected: 12/22/20 11:10

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-23

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.967	mg/Kg	☼	12/31/20 14:23	01/02/21 17:10	1
pH	10.2		0.01	S.U.			12/23/20 16:50	1
Percent Moisture	18.3		0.1	%			12/23/20 13:46	1
Percent Solids	81.7		0.1	%			12/23/20 13:46	1

Client Sample ID: SWCONF11-40.0

Date Collected: 12/22/20 11:12

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-24

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.840	mg/Kg	☼	12/31/20 14:23	01/02/21 17:11	1
pH	9.3		0.01	S.U.			12/23/20 16:50	1
Percent Moisture	5.1		0.1	%			12/23/20 13:46	1
Percent Solids	94.9		0.1	%			12/23/20 13:46	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## General Chemistry

Client Sample ID: SWCONF11-40.5

Date Collected: 12/22/20 11:13

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-25

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	7.05		1.07	mg/Kg	☼	12/31/20 14:23	01/02/21 17:12	1
pH	3.8		0.01	S.U.			12/23/20 16:50	1
Percent Moisture	26.2		0.1	%			12/23/20 13:46	1
Percent Solids	73.8		0.1	%			12/23/20 13:46	1

Client Sample ID: SWCONF11-45.0

Date Collected: 12/22/20 11:20

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-26

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	4.41		0.924	mg/Kg	☼	12/31/20 14:23	01/02/21 17:13	1
pH	7.4		0.01	S.U.			12/23/20 16:50	1
Percent Moisture	13.4		0.1	%			12/23/20 13:46	1
Percent Solids	86.6		0.1	%			12/23/20 13:46	1

Client Sample ID: SWCONF11-50.0

Date Collected: 12/22/20 11:30

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-27

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.932	mg/Kg	☼	12/31/20 14:23	01/02/21 17:14	1
pH	9.4		0.01	S.U.			12/23/20 16:50	1
Percent Moisture	14.5		0.1	%			12/23/20 13:46	1
Percent Solids	85.5		0.1	%			12/23/20 13:46	1

Client Sample ID: SWCONF11-55.0

Date Collected: 12/22/20 11:35

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-28

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	14.4		0.950	mg/Kg	☼	12/31/20 14:23	01/02/21 17:15	1
pH	7.9		0.01	S.U.			12/23/20 16:50	1
Percent Moisture	16.5		0.1	%			12/23/20 13:46	1
Percent Solids	83.5		0.1	%			12/23/20 13:46	1

Client Sample ID: SWCONF11-59.5

Date Collected: 12/22/20 11:40

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-29

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	F1	0.863	mg/Kg	☼	12/31/20 14:23	01/02/21 17:16	1
pH	9.9		0.01	S.U.			12/23/20 16:50	1
Percent Moisture	8.8		0.1	%			12/23/20 13:46	1
Percent Solids	91.2		0.1	%			12/23/20 13:46	1

Client Sample ID: SWCONF11-60.0

Date Collected: 12/22/20 11:42

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-30

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.11	mg/Kg	☼	12/31/20 14:23	01/02/21 17:17	1
pH	9.9		0.01	S.U.			12/23/20 16:50	1
Percent Moisture	28.4		0.1	%			12/23/20 13:46	1
Percent Solids	71.6		0.1	%			12/23/20 13:46	1



# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## General Chemistry

Client Sample ID: SWCONF11-65.0

Date Collected: 12/22/20 11:45

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-31

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.861	mg/Kg	☼	12/31/20 14:23	01/02/21 17:18	1
pH	10.6		0.01	S.U.			12/23/20 22:45	1
Percent Moisture	7.8		0.1	%			12/23/20 13:46	1
Percent Solids	92.2		0.1	%			12/23/20 13:46	1

Client Sample ID: SWCONF11-70.0

Date Collected: 12/22/20 11:50

Date Received: 12/22/20 15:13

Lab Sample ID: 570-46871-32

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.877	mg/Kg	☼	12/31/20 14:23	01/02/21 17:19	1
pH	10.1		0.01	S.U.			12/23/20 22:45	1
Percent Moisture	8.8		0.1	%			12/23/20 13:46	1
Percent Solids	91.2		0.1	%			12/23/20 13:46	1

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## Method: 7199 - Chromium, Hexavalent (IC)

Lab Sample ID: MB 570-118119/15

Matrix: Water

Analysis Batch: 118119

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			12/22/20 15:24	1

Lab Sample ID: LCS 570-118119/16

Matrix: Water

Analysis Batch: 118119

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.0501	0.04974		mg/L		99	80 - 120

Lab Sample ID: LCSD 570-118119/17

Matrix: Water

Analysis Batch: 118119

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	0.0501	0.04952		mg/L		99	80 - 120	0	20

Lab Sample ID: 570-46860-I-7 MS

Matrix: Water

Analysis Batch: 118119

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND		0.0501	0.04963		mg/L		99	70 - 130

Lab Sample ID: 570-46860-I-7 MSD

Matrix: Water

Analysis Batch: 118119

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND		0.0501	0.05053		mg/L		101	70 - 130	2	25

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 570-120118/1-A

Matrix: Water

Analysis Batch: 120310

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 120118

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L		01/04/21 14:00	01/05/21 09:50	1
Cadmium	ND		0.0100	mg/L		01/04/21 14:00	01/05/21 09:50	1
Chromium	ND		0.0500	mg/L		01/04/21 14:00	01/05/21 09:50	1
Copper	ND		0.0500	mg/L		01/04/21 14:00	01/05/21 09:50	1
Lead	ND		0.0500	mg/L		01/04/21 14:00	01/05/21 09:50	1

Lab Sample ID: LCS 570-120118/2-A

Matrix: Water

Analysis Batch: 120310

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 120118

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.500	0.4532		mg/L		91	80 - 120
Cadmium	0.500	0.5012		mg/L		100	80 - 120

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-120118/2-A  
Matrix: Water  
Analysis Batch: 120310

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 120118

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.500	0.5036		mg/L		101	80 - 120
Copper	0.500	0.4888		mg/L		98	80 - 120
Lead	0.500	0.5029		mg/L		101	80 - 120

Lab Sample ID: LCSD 570-120118/3-A  
Matrix: Water  
Analysis Batch: 120310

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 120118

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	0.500	0.4673		mg/L		93	80 - 120	3	20
Cadmium	0.500	0.5014		mg/L		100	80 - 120	0	20
Chromium	0.500	0.5019		mg/L		100	80 - 120	0	20
Copper	0.500	0.4861		mg/L		97	80 - 120	1	20
Lead	0.500	0.4987		mg/L		100	80 - 120	1	20

Lab Sample ID: 570-47355-F-1-B MS  
Matrix: Water  
Analysis Batch: 120310

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 120118

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		0.500	0.4879		mg/L		98	80 - 140
Cadmium	ND		0.500	0.5144		mg/L		103	82 - 124
Chromium	ND		0.500	0.5624		mg/L		103	86 - 122
Copper	ND		0.500	0.5298		mg/L		103	78 - 126
Lead	ND		0.500	0.5623		mg/L		106	84 - 120

Lab Sample ID: 570-47355-F-1-C MSD  
Matrix: Water  
Analysis Batch: 120310

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 120118

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	ND		0.500	0.4748		mg/L		95	80 - 140	3	11
Cadmium	ND		0.500	0.5155		mg/L		103	82 - 124	0	7
Chromium	ND		0.500	0.5673		mg/L		104	86 - 122	1	8
Copper	ND		0.500	0.5302		mg/L		103	78 - 126	0	7
Lead	ND		0.500	0.5520		mg/L		103	84 - 120	2	7

Lab Sample ID: MB 570-120530/1-A  
Matrix: Solid  
Analysis Batch: 120712

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 120530

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.49	mg/Kg		01/06/21 11:20	01/06/21 18:02	1
Cadmium	ND		0.498	mg/Kg		01/06/21 11:20	01/06/21 18:02	1
Chromium	ND		0.995	mg/Kg		01/06/21 11:20	01/06/21 18:02	1
Copper	ND		0.995	mg/Kg		01/06/21 11:20	01/06/21 18:02	1
Lead	ND		4.98	mg/Kg		01/06/21 11:20	01/06/21 18:02	1

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-120530/2-A

Matrix: Solid

Analysis Batch: 120712

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 120530

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	25.1	22.08		mg/Kg		88	80 - 120
Cadmium	25.1	24.78		mg/Kg		99	80 - 120
Chromium	25.1	25.45		mg/Kg		101	80 - 120
Copper	25.1	27.85		mg/Kg		111	80 - 120
Lead	25.1	24.85		mg/Kg		99	80 - 120

Lab Sample ID: LCSD 570-120530/3-A

Matrix: Solid

Analysis Batch: 120712

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 120530

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	25.3	22.15		mg/Kg		88	80 - 120	0	20
Cadmium	25.3	24.73		mg/Kg		98	80 - 120	0	20
Chromium	25.3	25.95		mg/Kg		103	80 - 120	2	20
Copper	25.3	28.58		mg/Kg		113	80 - 120	3	20
Lead	25.3	25.03		mg/Kg		99	80 - 120	1	20

Lab Sample ID: 570-46871-1 MS

Matrix: Solid

Analysis Batch: 120712

Client Sample ID: SWCONF10-25.0

Prep Type: Total/NA

Prep Batch: 120530

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	3.21		25.7	26.67		mg/Kg	✱	91	75 - 125
Cadmium	ND		25.7	24.94		mg/Kg	✱	97	75 - 125
Chromium	104	F1	25.7	139.6	4	mg/Kg	✱	138	75 - 125
Copper	101	F1	25.7	147.2	F1	mg/Kg	✱	182	75 - 125
Lead	10.1		25.7	34.50		mg/Kg	✱	95	75 - 125

Lab Sample ID: 570-46871-1 MSD

Matrix: Solid

Analysis Batch: 120712

Client Sample ID: SWCONF10-25.0

Prep Type: Total/NA

Prep Batch: 120530

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	3.21		26.2	26.06		mg/Kg	✱	87	75 - 125	2	20
Cadmium	ND		26.2	25.48		mg/Kg	✱	97	75 - 125	2	20
Chromium	104	F1	26.2	120.4	F1	mg/Kg	✱	62	75 - 125	15	20
Copper	101	F1	26.2	123.4		mg/Kg	✱	87	75 - 125	18	20
Lead	10.1		26.2	33.74		mg/Kg	✱	90	75 - 125	2	20

Lab Sample ID: MB 570-120536/1-A

Matrix: Solid

Analysis Batch: 120909

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 120536

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.50	mg/Kg		01/06/21 11:40	01/07/21 13:16	1
Cadmium	ND		0.500	mg/Kg		01/06/21 11:40	01/07/21 13:16	1
Chromium	ND		1.00	mg/Kg		01/06/21 11:40	01/07/21 13:16	1
Copper	ND		1.00	mg/Kg		01/06/21 11:40	01/07/21 13:16	1
Lead	ND		5.00	mg/Kg		01/06/21 11:40	01/07/21 13:16	1

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-120536/2-A

Matrix: Solid

Analysis Batch: 120909

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 120536

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	25.4	22.95		mg/Kg		90	80 - 120
Cadmium	25.4	24.33		mg/Kg		96	80 - 120
Chromium	25.4	24.82		mg/Kg		98	80 - 120
Copper	25.4	27.00		mg/Kg		106	80 - 120
Lead	25.4	25.19		mg/Kg		99	80 - 120

Lab Sample ID: LCSD 570-120536/3-A

Matrix: Solid

Analysis Batch: 120909

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 120536

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	24.9	22.12		mg/Kg		89	80 - 120	4	20
Cadmium	24.9	23.59		mg/Kg		95	80 - 120	3	20
Chromium	24.9	23.99		mg/Kg		96	80 - 120	3	20
Copper	24.9	26.00		mg/Kg		105	80 - 120	4	20
Lead	24.9	24.44		mg/Kg		98	80 - 120	3	20

Lab Sample ID: 570-46871-21 MS

Matrix: Solid

Analysis Batch: 120909

Client Sample ID: SWCONF11-28.0

Prep Type: Total/NA

Prep Batch: 120536

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	15.1		33.1	46.35		mg/Kg	✱	94	75 - 125
Cadmium	0.714		33.1	32.33		mg/Kg	✱	96	75 - 125
Chromium	3420		33.1	3206	4	mg/Kg	✱	-660	75 - 125
Copper	491		33.1	602.9	4	mg/Kg	✱	337	75 - 125
Lead	ND		33.1	32.27		mg/Kg	✱	92	75 - 125

Lab Sample ID: 570-46871-21 MSD

Matrix: Solid

Analysis Batch: 120909

Client Sample ID: SWCONF11-28.0

Prep Type: Total/NA

Prep Batch: 120536

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	15.1		31.7	47.90		mg/Kg	✱	104	75 - 125	3	20
Cadmium	0.714		31.7	32.31		mg/Kg	✱	100	75 - 125	0	20
Chromium	3420		31.7	3465	4	mg/Kg	✱	128	75 - 125	8	20
Copper	491		31.7	605.0	4	mg/Kg	✱	359	75 - 125	0	20
Lead	ND		31.7	33.06		mg/Kg	✱	99	75 - 125	2	20

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 570-119507/1-A

Matrix: Solid

Analysis Batch: 119860

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 119507

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.794	mg/Kg		12/30/20 13:52	12/31/20 16:10	1

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: LCS 570-119507/2-A

Matrix: Solid

Analysis Batch: 119860

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 119507

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	20.0	17.52		mg/Kg		88	78 - 120

Lab Sample ID: LCSD 570-119507/3-A

Matrix: Solid

Analysis Batch: 119860

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 119507

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	19.9	17.61		mg/Kg		89	78 - 120	0	20

Lab Sample ID: 570-46871-8 MS

Matrix: Solid

Analysis Batch: 119860

Client Sample ID: SWCONF10-50.0

Prep Type: Total/NA

Prep Batch: 119507

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND	F1	20.8	ND	F1	mg/Kg	✱	0	75 - 125

Lab Sample ID: 570-46871-8 MSD

Matrix: Solid

Analysis Batch: 119860

Client Sample ID: SWCONF10-50.0

Prep Type: Total/NA

Prep Batch: 119507

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	20.4	ND	F1	mg/Kg	✱	0	75 - 125	NC	25

Lab Sample ID: 570-46871-8 MSI

Matrix: Solid

Analysis Batch: 119860

Client Sample ID: SWCONF10-50.0

Prep Type: Total/NA

Prep Batch: 119507

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND	F1	1010	665.2	F1	mg/Kg	✱	66	75 - 125

Lab Sample ID: 570-46871-8 MSID

Matrix: Solid

Analysis Batch: 119860

Client Sample ID: SWCONF10-50.0

Prep Type: Total/NA

Prep Batch: 119507

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1010	590.5	F1	mg/Kg	✱	59	75 - 125	12	25

Lab Sample ID: MB 570-119815/1-A

Matrix: Solid

Analysis Batch: 119944

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 119815

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.800	mg/Kg		12/31/20 14:23	01/02/21 16:49	1

Lab Sample ID: LCS 570-119815/2-A

Matrix: Solid

Analysis Batch: 119944

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 119815

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	19.9	16.16		mg/Kg		81	78 - 120

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: LCSD 570-119815/3-A  
Matrix: Solid  
Analysis Batch: 119944

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 119815

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	20.1	17.34		mg/Kg		86	78 - 120	7	20

Lab Sample ID: 570-46871-29 MS  
Matrix: Solid  
Analysis Batch: 119944

Client Sample ID: SWCONF11-59.5  
Prep Type: Total/NA  
Prep Batch: 119815

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	22.0	ND	F1	mg/Kg	✱	0	75 - 125		

Lab Sample ID: 570-46871-29 MSD  
Matrix: Solid  
Analysis Batch: 119944

Client Sample ID: SWCONF11-59.5  
Prep Type: Total/NA  
Prep Batch: 119815

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	22.0	ND	F1	mg/Kg	✱	0	75 - 125	NC	25

Lab Sample ID: 570-46871-29 MSI  
Matrix: Solid  
Analysis Batch: 119944

Client Sample ID: SWCONF11-59.5  
Prep Type: Total/NA  
Prep Batch: 119815

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1070	197.5	F1	mg/Kg	✱	18	75 - 125		

Lab Sample ID: 570-46871-29 MSID  
Matrix: Solid  
Analysis Batch: 119944

Client Sample ID: SWCONF11-59.5  
Prep Type: Total/NA  
Prep Batch: 119815

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1060	177.5	F1	mg/Kg	✱	17	75 - 125	11	25

## Method: 9045C - pH

Lab Sample ID: 570-46795-A-21-B DU  
Matrix: Solid  
Analysis Batch: 118295

Client Sample ID: Duplicate  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.1		7.5		S.U.		5	25

Lab Sample ID: 570-46871-11 DU  
Matrix: Solid  
Analysis Batch: 118569

Client Sample ID: SWCONF10-60.0  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	9.1		10.0		S.U.		10	25

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## Method: 9045C - pH (Continued)

Lab Sample ID: 570-46871-31 DU

Matrix: Solid

Analysis Batch: 118641

Client Sample ID: SWCONF11-65.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
pH	10.6		10.6		S.U.		0.06	25

## Method: Moisture - Percent Moisture

Lab Sample ID: 570-46871-10 DU

Matrix: Solid

Analysis Batch: 118301

Client Sample ID: SWCONF10-55.5

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Moisture	13.6		13.3		%		2	10
Percent Solids	86.4		86.7		%		0.4	10

Lab Sample ID: 570-46871-20 DU

Matrix: Solid

Analysis Batch: 118497

Client Sample ID: SWCONF11-27.5

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Moisture	4.7		4.8		%		3	10
Percent Solids	95.3		95.2		%		0.2	10

Lab Sample ID: 570-46871-30 DU

Matrix: Solid

Analysis Batch: 118497

Client Sample ID: SWCONF11-60.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Moisture	28.4		28.0		%		2	10
Percent Solids	71.6		72.0		%		0.7	10

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## HPLC/IC

### Analysis Batch: 118119

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46871-33	EB02	Total/NA	Water	7199	
MB 570-118119/15	Method Blank	Total/NA	Water	7199	
LCS 570-118119/16	Lab Control Sample	Total/NA	Water	7199	
LCSD 570-118119/17	Lab Control Sample Dup	Total/NA	Water	7199	
570-46860-I-7 MS	Matrix Spike	Total/NA	Water	7199	
570-46860-I-7 MSD	Matrix Spike Duplicate	Total/NA	Water	7199	

## Metals

### Prep Batch: 120118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46871-33	EB02	Total/NA	Water	3010A	
MB 570-120118/1-A	Method Blank	Total/NA	Water	3010A	
LCS 570-120118/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 570-120118/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
570-47355-F-1-B MS	Matrix Spike	Total/NA	Water	3010A	
570-47355-F-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

### Analysis Batch: 120310

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-120118/1-A	Method Blank	Total/NA	Water	6010B	120118
LCS 570-120118/2-A	Lab Control Sample	Total/NA	Water	6010B	120118
LCSD 570-120118/3-A	Lab Control Sample Dup	Total/NA	Water	6010B	120118
570-47355-F-1-B MS	Matrix Spike	Total/NA	Water	6010B	120118
570-47355-F-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	6010B	120118

### Prep Batch: 120530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46871-1	SWCONF10-25.0	Total/NA	Solid	3050B	
570-46871-2	SWCONF10-27.5	Total/NA	Solid	3050B	
570-46871-3	SWCONF10-28.0	Total/NA	Solid	3050B	
570-46871-4	SWCONF10-30.0	Total/NA	Solid	3050B	
570-46871-5	SWCONF10-35.0	Total/NA	Solid	3050B	
570-46871-6	SWCONF10-40.0	Total/NA	Solid	3050B	
570-46871-7	SWCONF10-45.0	Total/NA	Solid	3050B	
570-46871-8	SWCONF10-50.0	Total/NA	Solid	3050B	
570-46871-9	SWCONF10-55.0	Total/NA	Solid	3050B	
570-46871-10	SWCONF10-55.5	Total/NA	Solid	3050B	
570-46871-11	SWCONF10-60.0	Total/NA	Solid	3050B	
570-46871-12	SWCONF10-62.5	Total/NA	Solid	3050B	
570-46871-13	SWCONF10-63.0	Total/NA	Solid	3050B	
570-46871-14	SWCONF10-65.0	Total/NA	Solid	3050B	
570-46871-15	SWCONF10-70.0	Total/NA	Solid	3050B	
570-46871-16	SWCONF11-10.0	Total/NA	Solid	3050B	
570-46871-17	SWCONF11-15.0	Total/NA	Solid	3050B	
570-46871-18	SWCONF11-20.0	Total/NA	Solid	3050B	
570-46871-19	SWCONF11-25.0	Total/NA	Solid	3050B	
570-46871-20	SWCONF11-27.5	Total/NA	Solid	3050B	
MB 570-120530/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-120530/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-120530/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## Metals (Continued)

### Prep Batch: 120530 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46871-1 MS	SWCONF10-25.0	Total/NA	Solid	3050B	
570-46871-1 MSD	SWCONF10-25.0	Total/NA	Solid	3050B	

### Analysis Batch: 120534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46871-33	EB02	Total/NA	Water	6010B	120118

### Prep Batch: 120536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46871-21	SWCONF11-28.0	Total/NA	Solid	3050B	
570-46871-22	SWCONF11-30.0	Total/NA	Solid	3050B	
570-46871-23	SWCONF11-35.0	Total/NA	Solid	3050B	
570-46871-24	SWCONF11-40.0	Total/NA	Solid	3050B	
570-46871-25	SWCONF11-40.5	Total/NA	Solid	3050B	
570-46871-26	SWCONF11-45.0	Total/NA	Solid	3050B	
570-46871-27	SWCONF11-50.0	Total/NA	Solid	3050B	
570-46871-28	SWCONF11-55.0	Total/NA	Solid	3050B	
570-46871-29	SWCONF11-59.5	Total/NA	Solid	3050B	
570-46871-30	SWCONF11-60.0	Total/NA	Solid	3050B	
570-46871-31	SWCONF11-65.0	Total/NA	Solid	3050B	
570-46871-32	SWCONF11-70.0	Total/NA	Solid	3050B	
MB 570-120536/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-120536/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-120536/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-46871-21 MS	SWCONF11-28.0	Total/NA	Solid	3050B	
570-46871-21 MSD	SWCONF11-28.0	Total/NA	Solid	3050B	

### Analysis Batch: 120712

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46871-1	SWCONF10-25.0	Total/NA	Solid	6010B	120530
570-46871-2	SWCONF10-27.5	Total/NA	Solid	6010B	120530
570-46871-3	SWCONF10-28.0	Total/NA	Solid	6010B	120530
570-46871-4	SWCONF10-30.0	Total/NA	Solid	6010B	120530
570-46871-5	SWCONF10-35.0	Total/NA	Solid	6010B	120530
570-46871-6	SWCONF10-40.0	Total/NA	Solid	6010B	120530
570-46871-7	SWCONF10-45.0	Total/NA	Solid	6010B	120530
570-46871-8	SWCONF10-50.0	Total/NA	Solid	6010B	120530
570-46871-9	SWCONF10-55.0	Total/NA	Solid	6010B	120530
570-46871-10	SWCONF10-55.5	Total/NA	Solid	6010B	120530
570-46871-11	SWCONF10-60.0	Total/NA	Solid	6010B	120530
570-46871-12	SWCONF10-62.5	Total/NA	Solid	6010B	120530
570-46871-13	SWCONF10-63.0	Total/NA	Solid	6010B	120530
570-46871-14	SWCONF10-65.0	Total/NA	Solid	6010B	120530
570-46871-15	SWCONF10-70.0	Total/NA	Solid	6010B	120530
570-46871-16	SWCONF11-10.0	Total/NA	Solid	6010B	120530
570-46871-17	SWCONF11-15.0	Total/NA	Solid	6010B	120530
570-46871-18	SWCONF11-20.0	Total/NA	Solid	6010B	120530
570-46871-19	SWCONF11-25.0	Total/NA	Solid	6010B	120530
570-46871-20	SWCONF11-27.5	Total/NA	Solid	6010B	120530
MB 570-120530/1-A	Method Blank	Total/NA	Solid	6010B	120530
LCS 570-120530/2-A	Lab Control Sample	Total/NA	Solid	6010B	120530

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## Metals (Continued)

### Analysis Batch: 120712 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 570-120530/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	120530
570-46871-1 MS	SWCONF10-25.0	Total/NA	Solid	6010B	120530
570-46871-1 MSD	SWCONF10-25.0	Total/NA	Solid	6010B	120530

### Analysis Batch: 120909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46871-21	SWCONF11-28.0	Total/NA	Solid	6010B	120536
570-46871-22	SWCONF11-30.0	Total/NA	Solid	6010B	120536
570-46871-23	SWCONF11-35.0	Total/NA	Solid	6010B	120536
570-46871-24	SWCONF11-40.0	Total/NA	Solid	6010B	120536
570-46871-25	SWCONF11-40.5	Total/NA	Solid	6010B	120536
570-46871-26	SWCONF11-45.0	Total/NA	Solid	6010B	120536
570-46871-27	SWCONF11-50.0	Total/NA	Solid	6010B	120536
570-46871-28	SWCONF11-55.0	Total/NA	Solid	6010B	120536
570-46871-29	SWCONF11-59.5	Total/NA	Solid	6010B	120536
570-46871-30	SWCONF11-60.0	Total/NA	Solid	6010B	120536
570-46871-31	SWCONF11-65.0	Total/NA	Solid	6010B	120536
570-46871-32	SWCONF11-70.0	Total/NA	Solid	6010B	120536
MB 570-120536/1-A	Method Blank	Total/NA	Solid	6010B	120536
LCS 570-120536/2-A	Lab Control Sample	Total/NA	Solid	6010B	120536
LCSD 570-120536/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	120536
570-46871-21 MS	SWCONF11-28.0	Total/NA	Solid	6010B	120536
570-46871-21 MSD	SWCONF11-28.0	Total/NA	Solid	6010B	120536

## General Chemistry

### Leach Batch: 118224

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46871-1	SWCONF10-25.0	Total/NA	Solid	DI Leach	
570-46871-2	SWCONF10-27.5	Total/NA	Solid	DI Leach	
570-46871-3	SWCONF10-28.0	Total/NA	Solid	DI Leach	
570-46871-4	SWCONF10-30.0	Total/NA	Solid	DI Leach	
570-46871-5	SWCONF10-35.0	Total/NA	Solid	DI Leach	
570-46871-6	SWCONF10-40.0	Total/NA	Solid	DI Leach	
570-46871-7	SWCONF10-45.0	Total/NA	Solid	DI Leach	
570-46871-8	SWCONF10-50.0	Total/NA	Solid	DI Leach	
570-46871-9	SWCONF10-55.0	Total/NA	Solid	DI Leach	
570-46871-10	SWCONF10-55.5	Total/NA	Solid	DI Leach	
570-46795-A-21-B DU	Duplicate	Total/NA	Solid	DI Leach	

### Leach Batch: 118249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46871-11	SWCONF10-60.0	Total/NA	Solid	DI Leach	
570-46871-12	SWCONF10-62.5	Total/NA	Solid	DI Leach	
570-46871-13	SWCONF10-63.0	Total/NA	Solid	DI Leach	
570-46871-14	SWCONF10-65.0	Total/NA	Solid	DI Leach	
570-46871-15	SWCONF10-70.0	Total/NA	Solid	DI Leach	
570-46871-16	SWCONF11-10.0	Total/NA	Solid	DI Leach	
570-46871-17	SWCONF11-15.0	Total/NA	Solid	DI Leach	
570-46871-18	SWCONF11-20.0	Total/NA	Solid	DI Leach	
570-46871-19	SWCONF11-25.0	Total/NA	Solid	DI Leach	

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## General Chemistry (Continued)

### Leach Batch: 118249 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46871-20	SWCONF11-27.5	Total/NA	Solid	DI Leach	
570-46871-21	SWCONF11-28.0	Total/NA	Solid	DI Leach	
570-46871-22	SWCONF11-30.0	Total/NA	Solid	DI Leach	
570-46871-23	SWCONF11-35.0	Total/NA	Solid	DI Leach	
570-46871-24	SWCONF11-40.0	Total/NA	Solid	DI Leach	
570-46871-25	SWCONF11-40.5	Total/NA	Solid	DI Leach	
570-46871-26	SWCONF11-45.0	Total/NA	Solid	DI Leach	
570-46871-27	SWCONF11-50.0	Total/NA	Solid	DI Leach	
570-46871-28	SWCONF11-55.0	Total/NA	Solid	DI Leach	
570-46871-29	SWCONF11-59.5	Total/NA	Solid	DI Leach	
570-46871-30	SWCONF11-60.0	Total/NA	Solid	DI Leach	
570-46871-11 DU	SWCONF10-60.0	Total/NA	Solid	DI Leach	

### Analysis Batch: 118295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46871-1	SWCONF10-25.0	Total/NA	Solid	9045C	118224
570-46871-2	SWCONF10-27.5	Total/NA	Solid	9045C	118224
570-46871-3	SWCONF10-28.0	Total/NA	Solid	9045C	118224
570-46871-4	SWCONF10-30.0	Total/NA	Solid	9045C	118224
570-46871-5	SWCONF10-35.0	Total/NA	Solid	9045C	118224
570-46871-6	SWCONF10-40.0	Total/NA	Solid	9045C	118224
570-46871-7	SWCONF10-45.0	Total/NA	Solid	9045C	118224
570-46871-8	SWCONF10-50.0	Total/NA	Solid	9045C	118224
570-46871-9	SWCONF10-55.0	Total/NA	Solid	9045C	118224
570-46871-10	SWCONF10-55.5	Total/NA	Solid	9045C	118224
570-46795-A-21-B DU	Duplicate	Total/NA	Solid	9045C	118224

### Analysis Batch: 118301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46871-1	SWCONF10-25.0	Total/NA	Solid	Moisture	
570-46871-2	SWCONF10-27.5	Total/NA	Solid	Moisture	
570-46871-3	SWCONF10-28.0	Total/NA	Solid	Moisture	
570-46871-4	SWCONF10-30.0	Total/NA	Solid	Moisture	
570-46871-5	SWCONF10-35.0	Total/NA	Solid	Moisture	
570-46871-6	SWCONF10-40.0	Total/NA	Solid	Moisture	
570-46871-7	SWCONF10-45.0	Total/NA	Solid	Moisture	
570-46871-8	SWCONF10-50.0	Total/NA	Solid	Moisture	
570-46871-9	SWCONF10-55.0	Total/NA	Solid	Moisture	
570-46871-10	SWCONF10-55.5	Total/NA	Solid	Moisture	
570-46871-11	SWCONF10-60.0	Total/NA	Solid	Moisture	
570-46871-12	SWCONF10-62.5	Total/NA	Solid	Moisture	
570-46871-13	SWCONF10-63.0	Total/NA	Solid	Moisture	
570-46871-14	SWCONF10-65.0	Total/NA	Solid	Moisture	
570-46871-15	SWCONF10-70.0	Total/NA	Solid	Moisture	
570-46871-16	SWCONF11-10.0	Total/NA	Solid	Moisture	
570-46871-17	SWCONF11-15.0	Total/NA	Solid	Moisture	
570-46871-18	SWCONF11-20.0	Total/NA	Solid	Moisture	
570-46871-19	SWCONF11-25.0	Total/NA	Solid	Moisture	
570-46871-10 DU	SWCONF10-55.5	Total/NA	Solid	Moisture	

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## General Chemistry

### Analysis Batch: 118497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46871-20	SWCONF11-27.5	Total/NA	Solid	Moisture	
570-46871-21	SWCONF11-28.0	Total/NA	Solid	Moisture	
570-46871-22	SWCONF11-30.0	Total/NA	Solid	Moisture	
570-46871-23	SWCONF11-35.0	Total/NA	Solid	Moisture	
570-46871-24	SWCONF11-40.0	Total/NA	Solid	Moisture	
570-46871-25	SWCONF11-40.5	Total/NA	Solid	Moisture	
570-46871-26	SWCONF11-45.0	Total/NA	Solid	Moisture	
570-46871-27	SWCONF11-50.0	Total/NA	Solid	Moisture	
570-46871-28	SWCONF11-55.0	Total/NA	Solid	Moisture	
570-46871-29	SWCONF11-59.5	Total/NA	Solid	Moisture	
570-46871-30	SWCONF11-60.0	Total/NA	Solid	Moisture	
570-46871-31	SWCONF11-65.0	Total/NA	Solid	Moisture	
570-46871-32	SWCONF11-70.0	Total/NA	Solid	Moisture	
570-46871-20 DU	SWCONF11-27.5	Total/NA	Solid	Moisture	
570-46871-30 DU	SWCONF11-60.0	Total/NA	Solid	Moisture	

### Leach Batch: 118566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46871-31	SWCONF11-65.0	Total/NA	Solid	DI Leach	
570-46871-32	SWCONF11-70.0	Total/NA	Solid	DI Leach	
570-46871-31 DU	SWCONF11-65.0	Total/NA	Solid	DI Leach	

### Analysis Batch: 118569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46871-11	SWCONF10-60.0	Total/NA	Solid	9045C	118249
570-46871-12	SWCONF10-62.5	Total/NA	Solid	9045C	118249
570-46871-13	SWCONF10-63.0	Total/NA	Solid	9045C	118249
570-46871-14	SWCONF10-65.0	Total/NA	Solid	9045C	118249
570-46871-15	SWCONF10-70.0	Total/NA	Solid	9045C	118249
570-46871-16	SWCONF11-10.0	Total/NA	Solid	9045C	118249
570-46871-17	SWCONF11-15.0	Total/NA	Solid	9045C	118249
570-46871-18	SWCONF11-20.0	Total/NA	Solid	9045C	118249
570-46871-19	SWCONF11-25.0	Total/NA	Solid	9045C	118249
570-46871-20	SWCONF11-27.5	Total/NA	Solid	9045C	118249
570-46871-21	SWCONF11-28.0	Total/NA	Solid	9045C	118249
570-46871-22	SWCONF11-30.0	Total/NA	Solid	9045C	118249
570-46871-23	SWCONF11-35.0	Total/NA	Solid	9045C	118249
570-46871-24	SWCONF11-40.0	Total/NA	Solid	9045C	118249
570-46871-25	SWCONF11-40.5	Total/NA	Solid	9045C	118249
570-46871-26	SWCONF11-45.0	Total/NA	Solid	9045C	118249
570-46871-27	SWCONF11-50.0	Total/NA	Solid	9045C	118249
570-46871-28	SWCONF11-55.0	Total/NA	Solid	9045C	118249
570-46871-29	SWCONF11-59.5	Total/NA	Solid	9045C	118249
570-46871-30	SWCONF11-60.0	Total/NA	Solid	9045C	118249
570-46871-11 DU	SWCONF10-60.0	Total/NA	Solid	9045C	118249

### Analysis Batch: 118641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46871-31	SWCONF11-65.0	Total/NA	Solid	9045C	118566
570-46871-32	SWCONF11-70.0	Total/NA	Solid	9045C	118566
570-46871-31 DU	SWCONF11-65.0	Total/NA	Solid	9045C	118566

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## General Chemistry

### Prep Batch: 119507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46871-1	SWCONF10-25.0	Total/NA	Solid	3060A	
570-46871-2	SWCONF10-27.5	Total/NA	Solid	3060A	
570-46871-3	SWCONF10-28.0	Total/NA	Solid	3060A	
570-46871-4	SWCONF10-30.0	Total/NA	Solid	3060A	
570-46871-5	SWCONF10-35.0	Total/NA	Solid	3060A	
570-46871-6	SWCONF10-40.0	Total/NA	Solid	3060A	
570-46871-7	SWCONF10-45.0	Total/NA	Solid	3060A	
570-46871-8	SWCONF10-50.0	Total/NA	Solid	3060A	
570-46871-9	SWCONF10-55.0	Total/NA	Solid	3060A	
570-46871-10	SWCONF10-55.5	Total/NA	Solid	3060A	
570-46871-11	SWCONF10-60.0	Total/NA	Solid	3060A	
570-46871-12	SWCONF10-62.5	Total/NA	Solid	3060A	
570-46871-13	SWCONF10-63.0	Total/NA	Solid	3060A	
570-46871-14	SWCONF10-65.0	Total/NA	Solid	3060A	
570-46871-15	SWCONF10-70.0	Total/NA	Solid	3060A	
570-46871-16	SWCONF11-10.0	Total/NA	Solid	3060A	
570-46871-17	SWCONF11-15.0	Total/NA	Solid	3060A	
MB 570-119507/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-119507/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-119507/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-46871-8 MS	SWCONF10-50.0	Total/NA	Solid	3060A	
570-46871-8 MSD	SWCONF10-50.0	Total/NA	Solid	3060A	
570-46871-8 MSI	SWCONF10-50.0	Total/NA	Solid	3060A	
570-46871-8 MSID	SWCONF10-50.0	Total/NA	Solid	3060A	

### Prep Batch: 119815

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46871-18	SWCONF11-20.0	Total/NA	Solid	3060A	
570-46871-19	SWCONF11-25.0	Total/NA	Solid	3060A	
570-46871-20	SWCONF11-27.5	Total/NA	Solid	3060A	
570-46871-21	SWCONF11-28.0	Total/NA	Solid	3060A	
570-46871-22	SWCONF11-30.0	Total/NA	Solid	3060A	
570-46871-23	SWCONF11-35.0	Total/NA	Solid	3060A	
570-46871-24	SWCONF11-40.0	Total/NA	Solid	3060A	
570-46871-25	SWCONF11-40.5	Total/NA	Solid	3060A	
570-46871-26	SWCONF11-45.0	Total/NA	Solid	3060A	
570-46871-27	SWCONF11-50.0	Total/NA	Solid	3060A	
570-46871-28	SWCONF11-55.0	Total/NA	Solid	3060A	
570-46871-29	SWCONF11-59.5	Total/NA	Solid	3060A	
570-46871-30	SWCONF11-60.0	Total/NA	Solid	3060A	
570-46871-31	SWCONF11-65.0	Total/NA	Solid	3060A	
570-46871-32	SWCONF11-70.0	Total/NA	Solid	3060A	
MB 570-119815/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-119815/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-119815/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-46871-29 MS	SWCONF11-59.5	Total/NA	Solid	3060A	
570-46871-29 MSD	SWCONF11-59.5	Total/NA	Solid	3060A	
570-46871-29 MSI	SWCONF11-59.5	Total/NA	Solid	3060A	
570-46871-29 MSID	SWCONF11-59.5	Total/NA	Solid	3060A	

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## General Chemistry

### Analysis Batch: 119860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46871-1	SWCONF10-25.0	Total/NA	Solid	7196A	119507
570-46871-2	SWCONF10-27.5	Total/NA	Solid	7196A	119507
570-46871-3	SWCONF10-28.0	Total/NA	Solid	7196A	119507
570-46871-4	SWCONF10-30.0	Total/NA	Solid	7196A	119507
570-46871-5	SWCONF10-35.0	Total/NA	Solid	7196A	119507
570-46871-6	SWCONF10-40.0	Total/NA	Solid	7196A	119507
570-46871-7	SWCONF10-45.0	Total/NA	Solid	7196A	119507
570-46871-8	SWCONF10-50.0	Total/NA	Solid	7196A	119507
570-46871-9	SWCONF10-55.0	Total/NA	Solid	7196A	119507
570-46871-10	SWCONF10-55.5	Total/NA	Solid	7196A	119507
570-46871-11	SWCONF10-60.0	Total/NA	Solid	7196A	119507
570-46871-12	SWCONF10-62.5	Total/NA	Solid	7196A	119507
570-46871-13	SWCONF10-63.0	Total/NA	Solid	7196A	119507
570-46871-14	SWCONF10-65.0	Total/NA	Solid	7196A	119507
570-46871-15	SWCONF10-70.0	Total/NA	Solid	7196A	119507
570-46871-16	SWCONF11-10.0	Total/NA	Solid	7196A	119507
570-46871-17	SWCONF11-15.0	Total/NA	Solid	7196A	119507
MB 570-119507/1-A	Method Blank	Total/NA	Solid	7196A	119507
LCS 570-119507/2-A	Lab Control Sample	Total/NA	Solid	7196A	119507
LCSD 570-119507/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	119507
570-46871-8 MS	SWCONF10-50.0	Total/NA	Solid	7196A	119507
570-46871-8 MSD	SWCONF10-50.0	Total/NA	Solid	7196A	119507
570-46871-8 MSI	SWCONF10-50.0	Total/NA	Solid	7196A	119507
570-46871-8 MSID	SWCONF10-50.0	Total/NA	Solid	7196A	119507

### Analysis Batch: 119944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46871-18	SWCONF11-20.0	Total/NA	Solid	7196A	119815
570-46871-19	SWCONF11-25.0	Total/NA	Solid	7196A	119815
570-46871-20	SWCONF11-27.5	Total/NA	Solid	7196A	119815
570-46871-21	SWCONF11-28.0	Total/NA	Solid	7196A	119815
570-46871-22	SWCONF11-30.0	Total/NA	Solid	7196A	119815
570-46871-23	SWCONF11-35.0	Total/NA	Solid	7196A	119815
570-46871-24	SWCONF11-40.0	Total/NA	Solid	7196A	119815
570-46871-25	SWCONF11-40.5	Total/NA	Solid	7196A	119815
570-46871-26	SWCONF11-45.0	Total/NA	Solid	7196A	119815
570-46871-27	SWCONF11-50.0	Total/NA	Solid	7196A	119815
570-46871-28	SWCONF11-55.0	Total/NA	Solid	7196A	119815
570-46871-29	SWCONF11-59.5	Total/NA	Solid	7196A	119815
570-46871-30	SWCONF11-60.0	Total/NA	Solid	7196A	119815
570-46871-31	SWCONF11-65.0	Total/NA	Solid	7196A	119815
570-46871-32	SWCONF11-70.0	Total/NA	Solid	7196A	119815
MB 570-119815/1-A	Method Blank	Total/NA	Solid	7196A	119815
LCS 570-119815/2-A	Lab Control Sample	Total/NA	Solid	7196A	119815
LCSD 570-119815/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	119815
570-46871-29 MS	SWCONF11-59.5	Total/NA	Solid	7196A	119815
570-46871-29 MSD	SWCONF11-59.5	Total/NA	Solid	7196A	119815
570-46871-29 MSI	SWCONF11-59.5	Total/NA	Solid	7196A	119815
570-46871-29 MSID	SWCONF11-59.5	Total/NA	Solid	7196A	119815



# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

## Client Sample ID: SWCONF10-25.0

## Lab Sample ID: 570-46871-1

Date Collected: 12/22/20 08:00

Matrix: Solid

Date Received: 12/22/20 15:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	100 mL	120530	01/06/21 11:20	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120712	01/06/21 18:18	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.54 g	100 mL	119507	12/30/20 13:52	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119860	12/31/20 16:22	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	118224	12/22/20 16:43	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118295	12/22/20 19:44	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118301	12/22/20 21:25	UAPD	ECL 1
Instrument ID: BAL87										

## Client Sample ID: SWCONF10-27.5

## Lab Sample ID: 570-46871-2

Date Collected: 12/22/20 08:10

Matrix: Solid

Date Received: 12/22/20 15:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	120530	01/06/21 11:20	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120712	01/06/21 18:24	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.55 g	100 mL	119507	12/30/20 13:52	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119860	12/31/20 16:23	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.96 g	20 mL	118224	12/22/20 16:43	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118295	12/22/20 19:44	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118301	12/22/20 21:25	UAPD	ECL 1
Instrument ID: BAL87										

## Client Sample ID: SWCONF10-28.0

## Lab Sample ID: 570-46871-3

Date Collected: 12/22/20 08:11

Matrix: Solid

Date Received: 12/22/20 15:13

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	120530	01/06/21 11:20	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120712	01/06/21 18:26	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	119507	12/30/20 13:52	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119860	12/31/20 16:24	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.03 g	20 mL	118224	12/22/20 16:43	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118295	12/22/20 19:44	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118301	12/22/20 21:25	UAPD	ECL 1
Instrument ID: BAL87										

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# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

**Client Sample ID: SWCONF10-30.0**

**Lab Sample ID: 570-46871-4**

**Date Collected: 12/22/20 08:15**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	100 mL	120530	01/06/21 11:20	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120712	01/06/21 18:28	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	119507	12/30/20 13:52	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119860	12/31/20 16:25	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	118224	12/22/20 16:43	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118295	12/22/20 19:44	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118301	12/22/20 21:25	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF10-35.0**

**Lab Sample ID: 570-46871-5**

**Date Collected: 12/22/20 08:20**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	120530	01/06/21 11:20	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120712	01/06/21 18:30	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	119507	12/30/20 13:52	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119860	12/31/20 16:26	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.03 g	20 mL	118224	12/22/20 16:43	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118295	12/22/20 19:44	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118301	12/22/20 21:25	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF10-40.0**

**Lab Sample ID: 570-46871-6**

**Date Collected: 12/22/20 08:30**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	100 mL	120530	01/06/21 11:20	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120712	01/06/21 18:32	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	119507	12/30/20 13:52	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119860	12/31/20 16:27	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.96 g	20 mL	118224	12/22/20 16:43	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118295	12/22/20 19:44	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118301	12/22/20 21:25	UAPD	ECL 1
Instrument ID: BAL87										

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# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

**Client Sample ID: SWCONF10-45.0**

**Lab Sample ID: 570-46871-7**

**Date Collected: 12/22/20 08:35**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	120530	01/06/21 11:20	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120712	01/06/21 18:34	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.54 g	100 mL	119507	12/30/20 13:52	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119860	12/31/20 16:28	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.97 g	20 mL	118224	12/22/20 16:43	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118295	12/22/20 19:44	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118301	12/22/20 21:25	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF10-50.0**

**Lab Sample ID: 570-46871-8**

**Date Collected: 12/22/20 08:40**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	100 mL	120530	01/06/21 11:20	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120712	01/06/21 18:35	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	119507	12/30/20 13:52	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119860	12/31/20 16:37	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.05 g	20 mL	118224	12/22/20 16:43	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118295	12/22/20 19:44	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118301	12/22/20 21:25	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF10-55.0**

**Lab Sample ID: 570-46871-9**

**Date Collected: 12/22/20 08:45**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	120530	01/06/21 11:20	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120712	01/06/21 18:47	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	119507	12/30/20 13:52	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119860	12/31/20 16:38	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	118224	12/22/20 16:43	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118295	12/22/20 19:44	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118301	12/22/20 21:25	UAPD	ECL 1
Instrument ID: BAL87										

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# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

**Client Sample ID: SWCONF10-55.5**

**Lab Sample ID: 570-46871-10**

**Date Collected: 12/22/20 08:47**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	100 mL	120530	01/06/21 11:20	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120712	01/06/21 18:49	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	119507	12/30/20 13:52	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119860	12/31/20 16:39	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.97 g	20 mL	118224	12/22/20 16:43	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118295	12/22/20 19:44	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118301	12/22/20 21:25	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF10-60.0**

**Lab Sample ID: 570-46871-11**

**Date Collected: 12/22/20 09:00**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	120530	01/06/21 11:20	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120712	01/06/21 18:51	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	119507	12/30/20 13:52	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119860	12/31/20 16:40	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.96 g	20 mL	118249	12/22/20 17:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118569	12/23/20 16:50	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118301	12/22/20 21:25	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF10-62.5**

**Lab Sample ID: 570-46871-12**

**Date Collected: 12/22/20 09:01**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.06 g	100 mL	120530	01/06/21 11:20	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120712	01/06/21 18:53	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	119507	12/30/20 13:52	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119860	12/31/20 16:41	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.04 g	20 mL	118249	12/22/20 17:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118569	12/23/20 16:50	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118301	12/22/20 21:25	UAPD	ECL 1
Instrument ID: BAL87										

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# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

**Client Sample ID: SWCONF10-63.0**

**Lab Sample ID: 570-46871-13**

**Date Collected: 12/22/20 09:02**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	120530	01/06/21 11:20	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120712	01/06/21 18:55	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.55 g	100 mL	119507	12/30/20 13:52	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119860	12/31/20 16:42	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	118249	12/22/20 17:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118569	12/23/20 16:50	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118301	12/22/20 21:25	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF10-65.0**

**Lab Sample ID: 570-46871-14**

**Date Collected: 12/22/20 09:10**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.97 g	100 mL	120530	01/06/21 11:20	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120712	01/06/21 18:57	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	119507	12/30/20 13:52	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119860	12/31/20 16:43	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.03 g	20 mL	118249	12/22/20 17:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118569	12/23/20 16:50	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118301	12/22/20 21:25	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF10-70.0**

**Lab Sample ID: 570-46871-15**

**Date Collected: 12/22/20 09:11**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.96 g	100 mL	120530	01/06/21 11:20	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120712	01/06/21 18:59	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	119507	12/30/20 13:52	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119860	12/31/20 16:44	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	118249	12/22/20 17:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118569	12/23/20 16:50	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118301	12/22/20 21:25	UAPD	ECL 1
Instrument ID: BAL87										

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# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

**Client Sample ID: SWCONF11-10.0**

**Lab Sample ID: 570-46871-16**

**Date Collected: 12/22/20 10:45**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.06 g	100 mL	120530	01/06/21 11:20	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120712	01/06/21 19:00	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.49 g	100 mL	119507	12/30/20 13:52	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119860	12/31/20 16:45	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	118249	12/22/20 17:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118569	12/23/20 16:50	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118301	12/22/20 21:25	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF11-15.0**

**Lab Sample ID: 570-46871-17**

**Date Collected: 12/22/20 10:47**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.05 g	100 mL	120530	01/06/21 11:20	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120712	01/06/21 19:02	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	119507	12/30/20 13:52	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119860	12/31/20 16:46	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	118249	12/22/20 17:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118569	12/23/20 16:50	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118301	12/22/20 21:25	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF11-20.0**

**Lab Sample ID: 570-46871-18**

**Date Collected: 12/22/20 10:50**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.08 g	100 mL	120530	01/06/21 11:20	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120712	01/06/21 19:04	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	119815	12/31/20 14:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119944	01/02/21 17:03	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	118249	12/22/20 17:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118569	12/23/20 16:50	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118301	12/22/20 21:25	UAPD	ECL 1
Instrument ID: BAL87										

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# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

**Client Sample ID: SWCONF11-25.0**

**Lab Sample ID: 570-46871-19**

**Date Collected: 12/22/20 10:55**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	100 mL	120530	01/06/21 11:20	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120712	01/06/21 19:18	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	119815	12/31/20 14:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119944	01/02/21 17:04	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	118249	12/22/20 17:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118569	12/23/20 16:50	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118301	12/22/20 21:25	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF11-27.5**

**Lab Sample ID: 570-46871-20**

**Date Collected: 12/22/20 11:00**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.06 g	100 mL	120530	01/06/21 11:20	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120712	01/06/21 19:20	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.54 g	100 mL	119815	12/31/20 14:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119944	01/02/21 17:05	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	118249	12/22/20 17:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118569	12/23/20 16:50	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118497	12/23/20 13:46	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF11-28.0**

**Lab Sample ID: 570-46871-21**

**Date Collected: 12/22/20 11:01**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.08 g	100 mL	120536	01/06/21 11:40	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120909	01/07/21 13:23	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	119815	12/31/20 14:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119944	01/02/21 17:06	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.95 g	20 mL	118249	12/22/20 17:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118569	12/23/20 16:50	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118497	12/23/20 13:46	UAPD	ECL 1
Instrument ID: NOEQUIP										

Eurofins Calscience LLC

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

**Client Sample ID: SWCONF11-30.0**

**Lab Sample ID: 570-46871-22**

**Date Collected: 12/22/20 11:05**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.97 g	100 mL	120536	01/06/21 11:40	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120909	01/07/21 13:30	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	119815	12/31/20 14:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119944	01/02/21 17:07	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	118249	12/22/20 17:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118569	12/23/20 16:50	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118497	12/23/20 13:46	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF11-35.0**

**Lab Sample ID: 570-46871-23**

**Date Collected: 12/22/20 11:10**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	120536	01/06/21 11:40	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120909	01/07/21 13:32	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	119815	12/31/20 14:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119944	01/02/21 17:10	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.97 g	20 mL	118249	12/22/20 17:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118569	12/23/20 16:50	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118497	12/23/20 13:46	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF11-40.0**

**Lab Sample ID: 570-46871-24**

**Date Collected: 12/22/20 11:12**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	100 mL	120536	01/06/21 11:40	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120909	01/07/21 13:34	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	119815	12/31/20 14:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119944	01/02/21 17:11	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.96 g	20 mL	118249	12/22/20 17:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118569	12/23/20 16:50	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118497	12/23/20 13:46	UAPD	ECL 1
Instrument ID: NOEQUIP										

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# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

**Client Sample ID: SWCONF11-40.5**

**Lab Sample ID: 570-46871-25**

**Date Collected: 12/22/20 11:13**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.96 g	100 mL	120536	01/06/21 11:40	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120909	01/07/21 13:49	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	119815	12/31/20 14:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119944	01/02/21 17:12	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	118249	12/22/20 17:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118569	12/23/20 16:50	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118497	12/23/20 13:46	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF11-45.0**

**Lab Sample ID: 570-46871-26**

**Date Collected: 12/22/20 11:20**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.06 g	100 mL	120536	01/06/21 11:40	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120909	01/07/21 13:52	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	119815	12/31/20 14:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119944	01/02/21 17:13	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	118249	12/22/20 17:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118569	12/23/20 16:50	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118497	12/23/20 13:46	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF11-50.0**

**Lab Sample ID: 570-46871-27**

**Date Collected: 12/22/20 11:30**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	120536	01/06/21 11:40	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120909	01/07/21 13:54	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	119815	12/31/20 14:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119944	01/02/21 17:14	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.96 g	20 mL	118249	12/22/20 17:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118569	12/23/20 16:50	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118497	12/23/20 13:46	UAPD	ECL 1
Instrument ID: NOEQUIP										

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# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

**Client Sample ID: SWCONF11-55.0**

**Lab Sample ID: 570-46871-28**

**Date Collected: 12/22/20 11:35**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	100 mL	120536	01/06/21 11:40	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120909	01/07/21 13:56	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	119815	12/31/20 14:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119944	01/02/21 17:15	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.97 g	20 mL	118249	12/22/20 17:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118569	12/23/20 16:50	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118497	12/23/20 13:46	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF11-59.5**

**Lab Sample ID: 570-46871-29**

**Date Collected: 12/22/20 11:40**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.07 g	100 mL	120536	01/06/21 11:40	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120909	01/07/21 13:58	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.54 g	100 mL	119815	12/31/20 14:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119944	01/02/21 17:16	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	118249	12/22/20 17:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118569	12/23/20 16:50	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118497	12/23/20 13:46	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF11-60.0**

**Lab Sample ID: 570-46871-30**

**Date Collected: 12/22/20 11:42**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	100 mL	120536	01/06/21 11:40	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120909	01/07/21 14:00	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	119815	12/31/20 14:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119944	01/02/21 17:17	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	118249	12/22/20 17:23	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118569	12/23/20 16:50	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118497	12/23/20 13:46	UAPD	ECL 1
Instrument ID: NOEQUIP										

Eurofins Calscience LLC



# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

**Client Sample ID: SWCONF11-65.0**

**Lab Sample ID: 570-46871-31**

**Date Collected: 12/22/20 11:45**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.08 g	100 mL	120536	01/06/21 11:40	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120909	01/07/21 14:02	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	119815	12/31/20 14:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119944	01/02/21 17:18	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.03 g	20 mL	118566	12/23/20 17:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118641	12/23/20 22:45	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118497	12/23/20 13:46	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: SWCONF11-70.0**

**Lab Sample ID: 570-46871-32**

**Date Collected: 12/22/20 11:50**

**Matrix: Solid**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.08 g	100 mL	120536	01/06/21 11:40	TKQ6	ECL 1
Total/NA	Analysis	6010B		1			120909	01/07/21 14:04	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	119815	12/31/20 14:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119944	01/02/21 17:19	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	118566	12/23/20 17:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118641	12/23/20 22:45	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118497	12/23/20 13:46	UAPD	ECL 1
Instrument ID: NOEQUIP										

**Client Sample ID: EB02**

**Lab Sample ID: 570-46871-33**

**Date Collected: 12/22/20 13:05**

**Matrix: Water**

**Date Received: 12/22/20 15:13**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7199		1			118119	12/22/20 23:13	URMH	ECL 1
Instrument ID: IC16										
Total/NA	Prep	3010A			50 mL	50 mL	120118	01/04/21 14:00	WL8G	ECL 1
Total/NA	Analysis	6010B		1			120534	01/06/21 11:58	ULPF	ECL 1
Instrument ID: ICP8										

## Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

Eurofins Calscience LLC

## Accreditation/Certification Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

### Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-21
California	SCAQMD LAP	17LA0919	11-30-21
California	State	2944	09-30-21
Guam	State	20-003R	10-31-20 *
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-29-21
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-21

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Calscience LLC

## Method Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

Method	Method Description	Protocol	Laboratory
7199	Chromium, Hexavalent (IC)	SW846	ECL 1
6010B	Metals (ICP)	SW846	ECL 1
7196A	Chromium, Hexavalent	SW846	ECL 1
9045C	pH	SW846	ECL 1
Moisture	Percent Moisture	EPA	ECL 1
3010A	Preparation, Total Metals	SW846	ECL 1
3050B	Preparation, Metals	SW846	ECL 1
3060A	Alkaline Digestion (Chromium, Hexavalent)	SW846	ECL 1
DI Leach	Deionized Water Leaching Procedure	ASTM	ECL 1

### Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

# Sample Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-46871-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-46871-1	SWCONF10-25.0	Solid	12/22/20 08:00	12/22/20 15:13	
570-46871-2	SWCONF10-27.5	Solid	12/22/20 08:10	12/22/20 15:13	
570-46871-3	SWCONF10-28.0	Solid	12/22/20 08:11	12/22/20 15:13	
570-46871-4	SWCONF10-30.0	Solid	12/22/20 08:15	12/22/20 15:13	
570-46871-5	SWCONF10-35.0	Solid	12/22/20 08:20	12/22/20 15:13	
570-46871-6	SWCONF10-40.0	Solid	12/22/20 08:30	12/22/20 15:13	
570-46871-7	SWCONF10-45.0	Solid	12/22/20 08:35	12/22/20 15:13	
570-46871-8	SWCONF10-50.0	Solid	12/22/20 08:40	12/22/20 15:13	
570-46871-9	SWCONF10-55.0	Solid	12/22/20 08:45	12/22/20 15:13	
570-46871-10	SWCONF10-55.5	Solid	12/22/20 08:47	12/22/20 15:13	
570-46871-11	SWCONF10-60.0	Solid	12/22/20 09:00	12/22/20 15:13	
570-46871-12	SWCONF10-62.5	Solid	12/22/20 09:01	12/22/20 15:13	
570-46871-13	SWCONF10-63.0	Solid	12/22/20 09:02	12/22/20 15:13	
570-46871-14	SWCONF10-65.0	Solid	12/22/20 09:10	12/22/20 15:13	
570-46871-15	SWCONF10-70.0	Solid	12/22/20 09:11	12/22/20 15:13	
570-46871-16	SWCONF11-10.0	Solid	12/22/20 10:45	12/22/20 15:13	
570-46871-17	SWCONF11-15.0	Solid	12/22/20 10:47	12/22/20 15:13	
570-46871-18	SWCONF11-20.0	Solid	12/22/20 10:50	12/22/20 15:13	
570-46871-19	SWCONF11-25.0	Solid	12/22/20 10:55	12/22/20 15:13	
570-46871-20	SWCONF11-27.5	Solid	12/22/20 11:00	12/22/20 15:13	
570-46871-21	SWCONF11-28.0	Solid	12/22/20 11:01	12/22/20 15:13	
570-46871-22	SWCONF11-30.0	Solid	12/22/20 11:05	12/22/20 15:13	
570-46871-23	SWCONF11-35.0	Solid	12/22/20 11:10	12/22/20 15:13	
570-46871-24	SWCONF11-40.0	Solid	12/22/20 11:12	12/22/20 15:13	
570-46871-25	SWCONF11-40.5	Solid	12/22/20 11:13	12/22/20 15:13	
570-46871-26	SWCONF11-45.0	Solid	12/22/20 11:20	12/22/20 15:13	
570-46871-27	SWCONF11-50.0	Solid	12/22/20 11:30	12/22/20 15:13	
570-46871-28	SWCONF11-55.0	Solid	12/22/20 11:35	12/22/20 15:13	
570-46871-29	SWCONF11-59.5	Solid	12/22/20 11:40	12/22/20 15:13	
570-46871-30	SWCONF11-60.0	Solid	12/22/20 11:42	12/22/20 15:13	
570-46871-31	SWCONF11-65.0	Solid	12/22/20 11:45	12/22/20 15:13	
570-46871-32	SWCONF11-70.0	Solid	12/22/20 11:50	12/22/20 15:13	
570-46871-33	EB02	Water	12/22/20 13:05	12/22/20 15:13	







Calscience

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# CHAIN OF CUSTODY RECORD

DATE: 12/22/20  
PAGE: 2 OF 4

LABORATORY CLIENT: Terraphase Engineering, Inc.						CLIENT PROJECT NAME / NUMBER: PTI Southwest Soil Injection Confirmation / 0197.010.006						P.O. NO.																																																																																																																																																																																																																																																																																																																																																																					
ADDRESS: 1404 Franklin Street Suite 600						PROJECT CONTACT: Chris Alger (Terraphase), Virendra Patel (ECI)						SAMPLER(S): (PRINT) West Shillings																																																																																																																																																																																																																																																																																																																																																																					
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TEL: 510-645-1850 x58			E-MAIL: Chris.Alger@terraphase.com																																																																																																																																																																																																																																																																																																																																																																														
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<ul style="list-style-type: none"> <li>Please provide results in generic EDD and ESDat formats</li> <li>Please email results to Chris Alger, Clare Steedman, EDD@terraphase.com</li> <li>Results in dry weight.</li> </ul>																																																																																																																																																																																																																																																																																																																																																																																	
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OF CONT.</th> <th colspan="3"></th> <th colspan="6">Soil Analyses</th> <th colspan="6">Water Analyses</th> </tr> <tr> <th>DATE</th> <th>TIME</th> <th>Unpreserved</th> <th>Preserved</th> <th>Field Filtered</th> <th>EPA 6010B Cd, Cr, Cu, Pb, As</th> <th>Cr(VI) ■ 7196 □ 7199 □ 218.6</th> <th>pH 9045C</th> <th>Moisture Content</th> <th>PCBs (8082)</th> <th></th> <th></th> <th></th> <th></th> <th>EPA 6010B Cd, Cr, Cu, Pb, As</th> <th>Cr(VI) □ 7196 ■ 7199 □ 218.6</th> <th>PCBs (8082)</th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>11</td> <td>SWCONF10- 600</td> <td>12/22/20</td> <td>0900</td> <td>S</td> <td>1</td> <td>X</td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>12</td> <td>SWCONF10- 125</td> <td></td> <td>0901</td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>13</td> <td>SWCONF10- 620</td> <td></td> <td>0902</td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>14</td> <td>SWCONF10- 650</td> <td></td> <td>0910</td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>15</td> <td>SWCONF10- 700</td> <td></td> <td>0911</td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>16</td> <td>SWCONF11- 10.0</td> <td></td> <td>1045</td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>17</td> <td>SWCONF11- 15.0</td> <td></td> <td>1047</td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>18</td> <td>SWCONF11- 20.0</td> <td></td> <td>1050</td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>19</td> <td>SWCONF11- 25.0</td> <td></td> <td>1055</td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>20</td> <td>SWCONF11- 27.5</td> <td></td> <td>1100</td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>																		LAB USE ONLY	SAMPLE ID	SAMPLING		MATRIX	NO. 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## Login Sample Receipt Checklist

Client: Terraphase Engineering Inc

Job Number: 570-46871-1

**Login Number: 46871**

**List Source: Eurofins Calscience**

**List Number: 1**

**Creator: Ramos, Maribel**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

Eurofins Calscience LLC  
7440 Lincoln Way  
Garden Grove, CA 92841  
Tel: (714)895-5494

Laboratory Job ID: 570-47020-1

Laboratory Sample Delivery Group: 0197.010.006

Client Project/Site: PTI Southwest Soil Injection Confirmation

**For:**

Terraphase Engineering Inc  
18401 Von Karman Ave  
Suite 410  
Irvine, California 92612

Attn: Clare Steedman

*Virendra R Patel*

---

Authorized for release by:  
1/8/2021 5:02:01 PM

Virendra Patel, Project Manager I  
(714)895-5494

[Virendra.Patel@eurofinset.com](mailto:Virendra.Patel@eurofinset.com)

### LINKS

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*The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



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## Definitions/Glossary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

### Qualifiers

#### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.
L	A negative instrument reading had an absolute value greater than the reporting limit

#### General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

**Job ID: 570-47020-1**

**Laboratory: Eurofins Calscience LLC**

## Narrative

### Job Narrative 570-47020-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 12/23/2020 3:50 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.3° C.

#### HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Metals

Method 6010B: Due to the high concentration of Chromium and Copper, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 570-120648 and analytical batch 570-121162 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

Method 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Arsenic preparation batch 570-120648 and analytical batch 570-121162 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 6010B: The absolute response for Arsenic was greater than the method reporting limit (RL) in the following samples: SWCONF12-10.0 (570-47020-1), SWCONF12-25.5 (570-47020-4), SWCONF12-26.0 (570-47020-5), SWCONF12-30.0 (570-47020-6), SWCONF15-15.0 (570-47020-22), SWCONF15-20.0 (570-47020-23), SWCONF15-27.0 (570-47020-26) and SWCONF15-50.0 (570-47020-31).

The instrument raw data has been manually reviewed and the result can be reported as ND.

Method 6010B: Due to the high concentration of Chromium, Copper and Lead, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 570-120652 and analytical batch 570-121162 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

Method 7196A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with preparation batch 570-118398 and 570-120179 and analytical batch 570-120621 were outside control limits: SWCONF12-70.0 (570-47020-20), (570-46886-A-1-AF), (570-46886-A-1-AD MS), (570-46886-A-1-AE MSD), (570-47020-A-20-C MS), (570-47020-A-20-D MSD), (570-47020-A-20-E MSI ^25) and (570-47020-A-20-F MSID ^25). The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method 7196A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with preparation batch 570-119889 and analytical batch 570-120194 were outside control limits: SWCONF12-35.0 (570-47020-9), (570-47020-A-9-D MS), (570-47020-A-9-E MSD), (570-47020-A-9-B MSI) and (570-47020-A-9-C MSID). The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method 7196A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with preparation batch 570-120364 and analytical batch 570-120884 were outside control limits: SWCONF15-50.0 (570-47020-31), (570-47020-A-31-E MS) and (570-47020-A-31-F MSD). The associated laboratory control sample (LCS) recovery met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Lab Admin

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Client Sample ID: SWCONF12-10.0

## Lab Sample ID: 570-47020-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	4420		1.14	mg/Kg	1	✱	6010B	Total/NA
Copper	547		1.14	mg/Kg	1	✱	6010B	Total/NA
pH	8.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF12-15.0

## Lab Sample ID: 570-47020-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	590		1.11	mg/Kg	1	✱	6010B	Total/NA
Copper	249		1.11	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	5.17		0.880	mg/Kg	1	✱	7196A	Total/NA
pH	3.8		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF12-20.0

## Lab Sample ID: 570-47020-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	271		1.02	mg/Kg	1	✱	6010B	Total/NA
Copper	142		1.02	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	2.24		0.830	mg/Kg	1	✱	7196A	Total/NA
pH	4.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF12-25.5

## Lab Sample ID: 570-47020-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	4890		1.30	mg/Kg	1	✱	6010B	Total/NA
Copper	597		1.30	mg/Kg	1	✱	6010B	Total/NA
Lead	19.8		6.49	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	7.90		1.09	mg/Kg	1	✱	7196A	Total/NA
pH	3.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF12-26.0

## Lab Sample ID: 570-47020-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	1570		1.22	mg/Kg	1	✱	6010B	Total/NA
Copper	264		1.22	mg/Kg	1	✱	6010B	Total/NA
Lead	7.97		6.10	mg/Kg	1	✱	6010B	Total/NA
pH	9.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF12-30.0

## Lab Sample ID: 570-47020-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	3080		1.22	mg/Kg	1	✱	6010B	Total/NA
Copper	486		1.22	mg/Kg	1	✱	6010B	Total/NA
Lead	10.7		6.08	mg/Kg	1	✱	6010B	Total/NA
pH	10.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF12-32.5

## Lab Sample ID: 570-47020-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	1900		1.31	mg/Kg	1	✱	6010B	Total/NA
Copper	322		1.31	mg/Kg	1	✱	6010B	Total/NA
Lead	8.57		6.55	mg/Kg	1	✱	6010B	Total/NA
pH	9.5		0.01	S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Client Sample ID: SWCONF12-33.0

## Lab Sample ID: 570-47020-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	660		1.05	mg/Kg	1	✱	6010B	Total/NA
Copper	131		1.05	mg/Kg	1	✱	6010B	Total/NA
pH	9.6		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF12-35.0

## Lab Sample ID: 570-47020-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	292		1.04	mg/Kg	1	✱	6010B	Total/NA
Copper	184		1.04	mg/Kg	1	✱	6010B	Total/NA
pH	9.3		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF12-40.0

## Lab Sample ID: 570-47020-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	747		1.03	mg/Kg	1	✱	6010B	Total/NA
Copper	276		1.03	mg/Kg	1	✱	6010B	Total/NA
Lead	8.51		5.14	mg/Kg	1	✱	6010B	Total/NA
pH	9.9		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF12-45.0

## Lab Sample ID: 570-47020-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	158		1.04	mg/Kg	1	✱	6010B	Total/NA
Copper	160		1.04	mg/Kg	1	✱	6010B	Total/NA
pH	9.3		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF12-50.0

## Lab Sample ID: 570-47020-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.945		0.507	mg/Kg	1	✱	6010B	Total/NA
Chromium	23.1		1.01	mg/Kg	1	✱	6010B	Total/NA
Copper	490		1.01	mg/Kg	1	✱	6010B	Total/NA
pH	8.0		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF12-55.0

## Lab Sample ID: 570-47020-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.633		0.537	mg/Kg	1	✱	6010B	Total/NA
Chromium	84.6		1.07	mg/Kg	1	✱	6010B	Total/NA
Copper	242		1.07	mg/Kg	1	✱	6010B	Total/NA
Lead	10.8		5.37	mg/Kg	1	✱	6010B	Total/NA
pH	9.7		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF12-57.0

## Lab Sample ID: 570-47020-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	208		1.15	mg/Kg	1	✱	6010B	Total/NA
Copper	249		1.15	mg/Kg	1	✱	6010B	Total/NA
Lead	12.1		5.77	mg/Kg	1	✱	6010B	Total/NA
pH	10		0.01	S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC



# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Client Sample ID: SWCONF12-57.5

## Lab Sample ID: 570-47020-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.914		0.642	mg/Kg	1	✱	6010B	Total/NA
Chromium	599		1.28	mg/Kg	1	✱	6010B	Total/NA
Copper	224		1.28	mg/Kg	1	✱	6010B	Total/NA
Lead	80.1		6.42	mg/Kg	1	✱	6010B	Total/NA
pH	10.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF12-60.0

## Lab Sample ID: 570-47020-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.741		0.585	mg/Kg	1	✱	6010B	Total/NA
Chromium	23.9		1.17	mg/Kg	1	✱	6010B	Total/NA
Copper	100		1.17	mg/Kg	1	✱	6010B	Total/NA
pH	10.2		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF12-62.5

## Lab Sample ID: 570-47020-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.75		3.43	mg/Kg	1	✱	6010B	Total/NA
Cadmium	1.18		0.686	mg/Kg	1	✱	6010B	Total/NA
Chromium	33.9		1.37	mg/Kg	1	✱	6010B	Total/NA
Copper	258		1.37	mg/Kg	1	✱	6010B	Total/NA
Lead	13.1		6.86	mg/Kg	1	✱	6010B	Total/NA
pH	10.1		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF12-63.0

## Lab Sample ID: 570-47020-18

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	128		1.08	mg/Kg	1	✱	6010B	Total/NA
Copper	322		1.08	mg/Kg	1	✱	6010B	Total/NA
Lead	9.58		5.41	mg/Kg	1	✱	6010B	Total/NA
pH	9.9		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF12-65.0

## Lab Sample ID: 570-47020-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	76.8		1.05	mg/Kg	1	✱	6010B	Total/NA
Copper	63.9		1.05	mg/Kg	1	✱	6010B	Total/NA
Lead	5.36		5.25	mg/Kg	1	✱	6010B	Total/NA
pH	10.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF12-70.0

## Lab Sample ID: 570-47020-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.91		2.56	mg/Kg	1	✱	6010B	Total/NA
Chromium	125		1.02	mg/Kg	1	✱	6010B	Total/NA
Copper	91.5		1.02	mg/Kg	1	✱	6010B	Total/NA
Lead	12.4		5.12	mg/Kg	1	✱	6010B	Total/NA
pH	10.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF15-10.0

## Lab Sample ID: 570-47020-21

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.73		2.97	mg/Kg	1	✱	6010B	Total/NA
Cadmium	2.54		0.595	mg/Kg	1	✱	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Client Sample ID: SWCONF15-10.0 (Continued)

## Lab Sample ID: 570-47020-21

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	1940		1.19	mg/Kg	1	✱	6010B	Total/NA
Copper	891		1.19	mg/Kg	1	✱	6010B	Total/NA
Lead	340		5.95	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	2.70		0.946	mg/Kg	1	✱	7196A	Total/NA
pH	9.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF15-15.0

## Lab Sample ID: 570-47020-22

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	1810		1.23	mg/Kg	1	✱	6010B	Total/NA
Copper	168		1.23	mg/Kg	1	✱	6010B	Total/NA
Lead	50.7		6.17	mg/Kg	1	✱	6010B	Total/NA
pH	8.3		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF15-20.0

## Lab Sample ID: 570-47020-23

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	945		1.07	mg/Kg	1	✱	6010B	Total/NA
Copper	54.5		1.07	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	516		21.6	mg/Kg	25	✱	7196A	Total/NA
pH	4.3		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF15-25.0

## Lab Sample ID: 570-47020-24

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	1070		1.12	mg/Kg	1	✱	6010B	Total/NA
Copper	60.4		1.12	mg/Kg	1	✱	6010B	Total/NA
pH	9.6		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF15-26.5

## Lab Sample ID: 570-47020-25

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.957		0.555	mg/Kg	1	✱	6010B	Total/NA
Chromium	717		1.11	mg/Kg	1	✱	6010B	Total/NA
Copper	240		1.11	mg/Kg	1	✱	6010B	Total/NA
Lead	57.0		5.55	mg/Kg	1	✱	6010B	Total/NA
pH	9.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF15-27.0

## Lab Sample ID: 570-47020-26

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	4400		1.29	mg/Kg	1	✱	6010B	Total/NA
Copper	249		1.29	mg/Kg	1	✱	6010B	Total/NA
Lead	7.93		6.47	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	740		24.9	mg/Kg	25	✱	7196A	Total/NA
pH	4.6		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF15-30.0

## Lab Sample ID: 570-47020-27

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	3190		1.30	mg/Kg	1	✱	6010B	Total/NA
Copper	563		1.30	mg/Kg	1	✱	6010B	Total/NA
Lead	8.15		6.52	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	102		5.33	mg/Kg	5	✱	7196A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Client Sample ID: SWCONF15-30.0 (Continued)

## Lab Sample ID: 570-47020-27

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
pH	3.6		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF15-35.0

## Lab Sample ID: 570-47020-28

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	162		1.01	mg/Kg	1	✖	6010B	Total/NA
Copper	102		1.01	mg/Kg	1	✖	6010B	Total/NA
Cr (VI)	10.4		0.824	mg/Kg	1	✖	7196A	Total/NA
pH	4.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF15-40.0

## Lab Sample ID: 570-47020-29

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	259		1.04	mg/Kg	1	✖	6010B	Total/NA
Copper	172		1.04	mg/Kg	1	✖	6010B	Total/NA
Cr (VI)	14.5		0.819	mg/Kg	1	✖	7196A	Total/NA
pH	4.9		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF15-45.0

## Lab Sample ID: 570-47020-30

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	237		1.06	mg/Kg	1	✖	6010B	Total/NA
Copper	225		1.06	mg/Kg	1	✖	6010B	Total/NA
Cr (VI)	6.17		0.829	mg/Kg	1	✖	7196A	Total/NA
pH	6.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF15-50.0

## Lab Sample ID: 570-47020-31

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	578		1.02	mg/Kg	1	✖	6010B	Total/NA
Copper	392		1.02	mg/Kg	1	✖	6010B	Total/NA
pH	6.6		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF15-55.0

## Lab Sample ID: 570-47020-32

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	292		1.05	mg/Kg	1	✖	6010B	Total/NA
Copper	638		1.05	mg/Kg	1	✖	6010B	Total/NA
Lead	7.49		5.27	mg/Kg	1	✖	6010B	Total/NA
pH	10.6		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF15-57.5

## Lab Sample ID: 570-47020-33

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	252		1.17	mg/Kg	1	✖	6010B	Total/NA
Copper	258		1.17	mg/Kg	1	✖	6010B	Total/NA
Lead	8.70		5.87	mg/Kg	1	✖	6010B	Total/NA
pH	11.1		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF15-58.0

## Lab Sample ID: 570-47020-34

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13.2		3.13	mg/Kg	1	✖	6010B	Total/NA
Cadmium	1.39		0.626	mg/Kg	1	✖	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Client Sample ID: SWCONF15-58.0 (Continued)

## Lab Sample ID: 570-47020-34

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	185		1.25	mg/Kg	1	✱	6010B	Total/NA
Copper	277		1.25	mg/Kg	1	✱	6010B	Total/NA
Lead	39.6		6.26	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	1.14		0.948	mg/Kg	1	✱	7196A	Total/NA
pH	6.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF15-60.0

## Lab Sample ID: 570-47020-35

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.64		2.90	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.946		0.581	mg/Kg	1	✱	6010B	Total/NA
Chromium	526		1.16	mg/Kg	1	✱	6010B	Total/NA
Copper	253		1.16	mg/Kg	1	✱	6010B	Total/NA
Lead	13.4		5.81	mg/Kg	1	✱	6010B	Total/NA
pH	8.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF15-65.0

## Lab Sample ID: 570-47020-36

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.624		0.523	mg/Kg	1	✱	6010B	Total/NA
Chromium	377		1.05	mg/Kg	1	✱	6010B	Total/NA
Copper	379		1.05	mg/Kg	1	✱	6010B	Total/NA
Lead	13.7		5.23	mg/Kg	1	✱	6010B	Total/NA
pH	10.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF15-70.0

## Lab Sample ID: 570-47020-37

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	186		1.07	mg/Kg	1	✱	6010B	Total/NA
Copper	163		1.07	mg/Kg	1	✱	6010B	Total/NA
Lead	8.32		5.37	mg/Kg	1	✱	6010B	Total/NA
pH	10.6		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF15-62.5

## Lab Sample ID: 570-47020-38

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.769		0.676	mg/Kg	1	✱	6010B	Total/NA
Chromium	392		1.35	mg/Kg	1	✱	6010B	Total/NA
Copper	127		1.35	mg/Kg	1	✱	6010B	Total/NA
Lead	8.66		6.76	mg/Kg	1	✱	6010B	Total/NA
pH	10.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF15-63.0

## Lab Sample ID: 570-47020-39

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	182		1.06	mg/Kg	1	✱	6010B	Total/NA
Copper	365		1.06	mg/Kg	1	✱	6010B	Total/NA
Lead	7.76		5.31	mg/Kg	1	✱	6010B	Total/NA
pH	10.0		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: EB03

## Lab Sample ID: 570-47020-40

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

## Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

### Method: 7199 - Chromium, Hexavalent (IC)

Client Sample ID: EB03

Date Collected: 12/23/20 14:20

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-40

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			12/23/20 20:46	1



# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCONF12-10.0

Date Collected: 12/23/20 08:00

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	F1 L	2.86	mg/Kg	✱	01/06/21 20:00	01/08/21 12:40	1
Cadmium	ND		0.571	mg/Kg	✱	01/06/21 20:00	01/08/21 12:40	1
Chromium	4420		1.14	mg/Kg	✱	01/06/21 20:00	01/08/21 12:40	1
Copper	547		1.14	mg/Kg	✱	01/06/21 20:00	01/08/21 12:40	1
Lead	ND		5.71	mg/Kg	✱	01/06/21 20:00	01/08/21 12:40	1

Client Sample ID: SWCONF12-15.0

Date Collected: 12/23/20 08:05

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.77	mg/Kg	✱	01/06/21 20:00	01/08/21 12:57	1
Cadmium	ND		0.555	mg/Kg	✱	01/06/21 20:00	01/08/21 12:57	1
Chromium	590		1.11	mg/Kg	✱	01/06/21 20:00	01/08/21 12:57	1
Copper	249		1.11	mg/Kg	✱	01/06/21 20:00	01/08/21 12:57	1
Lead	ND		5.55	mg/Kg	✱	01/06/21 20:00	01/08/21 12:57	1

Client Sample ID: SWCONF12-20.0

Date Collected: 12/23/20 08:15

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.55	mg/Kg	✱	01/06/21 20:00	01/08/21 13:00	1
Cadmium	ND		0.510	mg/Kg	✱	01/06/21 20:00	01/08/21 13:00	1
Chromium	271		1.02	mg/Kg	✱	01/06/21 20:00	01/08/21 13:00	1
Copper	142		1.02	mg/Kg	✱	01/06/21 20:00	01/08/21 13:00	1
Lead	ND		5.10	mg/Kg	✱	01/06/21 20:00	01/08/21 13:00	1

Client Sample ID: SWCONF12-25.5

Date Collected: 12/23/20 08:20

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	L	3.25	mg/Kg	✱	01/06/21 20:00	01/08/21 13:03	1
Cadmium	ND		0.649	mg/Kg	✱	01/06/21 20:00	01/08/21 13:03	1
Chromium	4890		1.30	mg/Kg	✱	01/06/21 20:00	01/08/21 13:03	1
Copper	597		1.30	mg/Kg	✱	01/06/21 20:00	01/08/21 13:03	1
Lead	19.8		6.49	mg/Kg	✱	01/06/21 20:00	01/08/21 13:03	1

Client Sample ID: SWCONF12-26.0

Date Collected: 12/23/20 08:21

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	L	3.05	mg/Kg	✱	01/06/21 20:00	01/08/21 13:07	1
Cadmium	ND		0.610	mg/Kg	✱	01/06/21 20:00	01/08/21 13:07	1
Chromium	1570		1.22	mg/Kg	✱	01/06/21 20:00	01/08/21 13:07	1
Copper	264		1.22	mg/Kg	✱	01/06/21 20:00	01/08/21 13:07	1
Lead	7.97		6.10	mg/Kg	✱	01/06/21 20:00	01/08/21 13:07	1

Client Sample ID: SWCONF12-30.0

Date Collected: 12/23/20 08:30

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	L	3.04	mg/Kg	✱	01/06/21 20:00	01/08/21 13:10	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF12-30.0

Date Collected: 12/23/20 08:30

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.608	mg/Kg	☆	01/06/21 20:00	01/08/21 13:10	1
Chromium	3080		1.22	mg/Kg	☆	01/06/21 20:00	01/08/21 13:10	1
Copper	486		1.22	mg/Kg	☆	01/06/21 20:00	01/08/21 13:10	1
Lead	10.7		6.08	mg/Kg	☆	01/06/21 20:00	01/08/21 13:10	1

Client Sample ID: SWCONF12-32.5

Date Collected: 12/23/20 08:44

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-7

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.27	mg/Kg	☆	01/06/21 20:00	01/08/21 13:13	1
Cadmium	ND		0.655	mg/Kg	☆	01/06/21 20:00	01/08/21 13:13	1
Chromium	1900		1.31	mg/Kg	☆	01/06/21 20:00	01/08/21 13:13	1
Copper	322		1.31	mg/Kg	☆	01/06/21 20:00	01/08/21 13:13	1
Lead	8.57		6.55	mg/Kg	☆	01/06/21 20:00	01/08/21 13:13	1

Client Sample ID: SWCONF12-33.0

Date Collected: 12/23/20 08:45

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-8

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.64	mg/Kg	☆	01/06/21 20:00	01/08/21 13:16	1
Cadmium	ND		0.527	mg/Kg	☆	01/06/21 20:00	01/08/21 13:16	1
Chromium	660		1.05	mg/Kg	☆	01/06/21 20:00	01/08/21 13:16	1
Copper	131		1.05	mg/Kg	☆	01/06/21 20:00	01/08/21 13:16	1
Lead	ND		5.27	mg/Kg	☆	01/06/21 20:00	01/08/21 13:16	1

Client Sample ID: SWCONF12-35.0

Date Collected: 12/23/20 08:48

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-9

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.61	mg/Kg	☆	01/06/21 20:00	01/08/21 13:19	1
Cadmium	ND		0.521	mg/Kg	☆	01/06/21 20:00	01/08/21 13:19	1
Chromium	292		1.04	mg/Kg	☆	01/06/21 20:00	01/08/21 13:19	1
Copper	184		1.04	mg/Kg	☆	01/06/21 20:00	01/08/21 13:19	1
Lead	ND		5.21	mg/Kg	☆	01/06/21 20:00	01/08/21 13:19	1

Client Sample ID: SWCONF12-40.0

Date Collected: 12/23/20 08:58

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-10

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.57	mg/Kg	☆	01/06/21 20:00	01/08/21 13:22	1
Cadmium	ND		0.514	mg/Kg	☆	01/06/21 20:00	01/08/21 13:22	1
Chromium	747		1.03	mg/Kg	☆	01/06/21 20:00	01/08/21 13:22	1
Copper	276		1.03	mg/Kg	☆	01/06/21 20:00	01/08/21 13:22	1
Lead	8.51		5.14	mg/Kg	☆	01/06/21 20:00	01/08/21 13:22	1

Client Sample ID: SWCONF12-45.0

Date Collected: 12/23/20 09:08

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-11

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.60	mg/Kg	☆	01/06/21 20:00	01/08/21 13:25	1
Cadmium	ND		0.519	mg/Kg	☆	01/06/21 20:00	01/08/21 13:25	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF12-45.0

Date Collected: 12/23/20 09:08

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-11

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	158		1.04	mg/Kg	☆	01/06/21 20:00	01/08/21 13:25	1
Copper	160		1.04	mg/Kg	☆	01/06/21 20:00	01/08/21 13:25	1
Lead	ND		5.19	mg/Kg	☆	01/06/21 20:00	01/08/21 13:25	1

Client Sample ID: SWCONF12-50.0

Date Collected: 12/23/20 09:12

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-12

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.54	mg/Kg	☆	01/06/21 20:00	01/08/21 13:35	1
Cadmium	0.945		0.507	mg/Kg	☆	01/06/21 20:00	01/08/21 13:35	1
Chromium	23.1		1.01	mg/Kg	☆	01/06/21 20:00	01/08/21 13:35	1
Copper	490		1.01	mg/Kg	☆	01/06/21 20:00	01/08/21 13:35	1
Lead	ND		5.07	mg/Kg	☆	01/06/21 20:00	01/08/21 13:35	1

Client Sample ID: SWCONF12-55.0

Date Collected: 12/23/20 09:25

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-13

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.68	mg/Kg	☆	01/06/21 20:00	01/08/21 13:38	1
Cadmium	0.633		0.537	mg/Kg	☆	01/06/21 20:00	01/08/21 13:38	1
Chromium	84.6		1.07	mg/Kg	☆	01/06/21 20:00	01/08/21 13:38	1
Copper	242		1.07	mg/Kg	☆	01/06/21 20:00	01/08/21 13:38	1
Lead	10.8		5.37	mg/Kg	☆	01/06/21 20:00	01/08/21 13:38	1

Client Sample ID: SWCONF12-57.0

Date Collected: 12/23/20 09:26

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-14

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.88	mg/Kg	☆	01/06/21 20:00	01/08/21 13:41	1
Cadmium	ND		0.577	mg/Kg	☆	01/06/21 20:00	01/08/21 13:41	1
Chromium	208		1.15	mg/Kg	☆	01/06/21 20:00	01/08/21 13:41	1
Copper	249		1.15	mg/Kg	☆	01/06/21 20:00	01/08/21 13:41	1
Lead	12.1		5.77	mg/Kg	☆	01/06/21 20:00	01/08/21 13:41	1

Client Sample ID: SWCONF12-57.5

Date Collected: 12/23/20 09:27

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-15

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.21	mg/Kg	☆	01/06/21 20:00	01/08/21 13:44	1
Cadmium	0.914		0.642	mg/Kg	☆	01/06/21 20:00	01/08/21 13:44	1
Chromium	599		1.28	mg/Kg	☆	01/06/21 20:00	01/08/21 13:44	1
Copper	224		1.28	mg/Kg	☆	01/06/21 20:00	01/08/21 13:44	1
Lead	80.1		6.42	mg/Kg	☆	01/06/21 20:00	01/08/21 13:44	1

Client Sample ID: SWCONF12-60.0

Date Collected: 12/23/20 09:33

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-16

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.93	mg/Kg	☆	01/06/21 20:00	01/08/21 13:47	1
Cadmium	0.741		0.585	mg/Kg	☆	01/06/21 20:00	01/08/21 13:47	1
Chromium	23.9		1.17	mg/Kg	☆	01/06/21 20:00	01/08/21 13:47	1

Eurofins Calscience LLC

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF12-60.0

Date Collected: 12/23/20 09:33

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-16

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	100		1.17	mg/Kg	☆	01/06/21 20:00	01/08/21 13:47	1
Lead	ND		5.85	mg/Kg	☆	01/06/21 20:00	01/08/21 13:47	1

Client Sample ID: SWCONF12-62.5

Date Collected: 12/23/20 09:40

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-17

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.75		3.43	mg/Kg	☆	01/06/21 20:00	01/08/21 13:50	1
Cadmium	1.18		0.686	mg/Kg	☆	01/06/21 20:00	01/08/21 13:50	1
Chromium	33.9		1.37	mg/Kg	☆	01/06/21 20:00	01/08/21 13:50	1
Copper	258		1.37	mg/Kg	☆	01/06/21 20:00	01/08/21 13:50	1
Lead	13.1		6.86	mg/Kg	☆	01/06/21 20:00	01/08/21 13:50	1

Client Sample ID: SWCONF12-63.0

Date Collected: 12/23/20 09:42

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-18

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.70	mg/Kg	☆	01/06/21 20:00	01/08/21 13:53	1
Cadmium	ND		0.541	mg/Kg	☆	01/06/21 20:00	01/08/21 13:53	1
Chromium	128		1.08	mg/Kg	☆	01/06/21 20:00	01/08/21 13:53	1
Copper	322		1.08	mg/Kg	☆	01/06/21 20:00	01/08/21 13:53	1
Lead	9.58		5.41	mg/Kg	☆	01/06/21 20:00	01/08/21 13:53	1

Client Sample ID: SWCONF12-65.0

Date Collected: 12/23/20 09:44

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-19

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.62	mg/Kg	☆	01/06/21 20:00	01/08/21 13:56	1
Cadmium	ND		0.525	mg/Kg	☆	01/06/21 20:00	01/08/21 13:56	1
Chromium	76.8		1.05	mg/Kg	☆	01/06/21 20:00	01/08/21 13:56	1
Copper	63.9		1.05	mg/Kg	☆	01/06/21 20:00	01/08/21 13:56	1
Lead	5.36		5.25	mg/Kg	☆	01/06/21 20:00	01/08/21 13:56	1

Client Sample ID: SWCONF12-70.0

Date Collected: 12/23/20 09:45

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-20

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.91		2.56	mg/Kg	☆	01/06/21 20:00	01/08/21 13:59	1
Cadmium	ND		0.512	mg/Kg	☆	01/06/21 20:00	01/08/21 13:59	1
Chromium	125		1.02	mg/Kg	☆	01/06/21 20:00	01/08/21 13:59	1
Copper	91.5		1.02	mg/Kg	☆	01/06/21 20:00	01/08/21 13:59	1
Lead	12.4		5.12	mg/Kg	☆	01/06/21 20:00	01/08/21 13:59	1

Client Sample ID: SWCONF15-10.0

Date Collected: 12/23/20 12:25

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-21

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.73		2.97	mg/Kg	☆	01/06/21 20:00	01/08/21 14:40	1
Cadmium	2.54		0.595	mg/Kg	☆	01/06/21 20:00	01/08/21 14:40	1
Chromium	1940		1.19	mg/Kg	☆	01/06/21 20:00	01/08/21 14:40	1
Copper	891		1.19	mg/Kg	☆	01/06/21 20:00	01/08/21 14:40	1

Eurofins Calscience LLC

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF15-10.0

Date Collected: 12/23/20 12:25

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-21

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	340		5.95	mg/Kg	☆	01/06/21 20:00	01/08/21 14:40	1

Client Sample ID: SWCONF15-15.0

Date Collected: 12/23/20 12:30

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-22

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	L	3.08	mg/Kg	☆	01/06/21 20:00	01/08/21 14:49	1
Cadmium	ND		0.617	mg/Kg	☆	01/06/21 20:00	01/08/21 14:49	1
Chromium	1810		1.23	mg/Kg	☆	01/06/21 20:00	01/08/21 14:49	1
Copper	168		1.23	mg/Kg	☆	01/06/21 20:00	01/08/21 14:49	1
Lead	50.7		6.17	mg/Kg	☆	01/06/21 20:00	01/08/21 14:49	1

Client Sample ID: SWCONF15-20.0

Date Collected: 12/23/20 12:25

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-23

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	L	2.68	mg/Kg	☆	01/06/21 20:00	01/08/21 14:52	1
Cadmium	ND		0.535	mg/Kg	☆	01/06/21 20:00	01/08/21 14:52	1
Chromium	945		1.07	mg/Kg	☆	01/06/21 20:00	01/08/21 14:52	1
Copper	54.5		1.07	mg/Kg	☆	01/06/21 20:00	01/08/21 14:52	1
Lead	ND		5.35	mg/Kg	☆	01/06/21 20:00	01/08/21 14:52	1

Client Sample ID: SWCONF15-25.0

Date Collected: 12/23/20 12:50

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-24

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.80	mg/Kg	☆	01/06/21 20:00	01/08/21 14:55	1
Cadmium	ND		0.559	mg/Kg	☆	01/06/21 20:00	01/08/21 14:55	1
Chromium	1070		1.12	mg/Kg	☆	01/06/21 20:00	01/08/21 14:55	1
Copper	60.4		1.12	mg/Kg	☆	01/06/21 20:00	01/08/21 14:55	1
Lead	ND		5.59	mg/Kg	☆	01/06/21 20:00	01/08/21 14:55	1

Client Sample ID: SWCONF15-26.5

Date Collected: 12/23/20 12:51

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-25

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.77	mg/Kg	☆	01/06/21 20:00	01/08/21 14:58	1
Cadmium	0.957		0.555	mg/Kg	☆	01/06/21 20:00	01/08/21 14:58	1
Chromium	717		1.11	mg/Kg	☆	01/06/21 20:00	01/08/21 14:58	1
Copper	240		1.11	mg/Kg	☆	01/06/21 20:00	01/08/21 14:58	1
Lead	57.0		5.55	mg/Kg	☆	01/06/21 20:00	01/08/21 14:58	1

Client Sample ID: SWCONF15-27.0

Date Collected: 12/23/20 12:52

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-26

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	L	3.24	mg/Kg	☆	01/06/21 20:00	01/08/21 15:07	1
Cadmium	ND		0.647	mg/Kg	☆	01/06/21 20:00	01/08/21 15:07	1
Chromium	4400		1.29	mg/Kg	☆	01/06/21 20:00	01/08/21 15:07	1
Copper	249		1.29	mg/Kg	☆	01/06/21 20:00	01/08/21 15:07	1
Lead	7.93		6.47	mg/Kg	☆	01/06/21 20:00	01/08/21 15:07	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCONF15-30.0

Date Collected: 12/23/20 12:55

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-27

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	L	3.26	mg/Kg	☆	01/06/21 20:00	01/08/21 15:10	1
Cadmium	ND		0.652	mg/Kg	☆	01/06/21 20:00	01/08/21 15:10	1
Chromium	3190		1.30	mg/Kg	☆	01/06/21 20:00	01/08/21 15:10	1
Copper	563		1.30	mg/Kg	☆	01/06/21 20:00	01/08/21 15:10	1
Lead	8.15		6.52	mg/Kg	☆	01/06/21 20:00	01/08/21 15:10	1

Client Sample ID: SWCONF15-35.0

Date Collected: 12/23/20 12:57

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-28

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.53	mg/Kg	☆	01/06/21 20:00	01/08/21 15:13	1
Cadmium	ND		0.507	mg/Kg	☆	01/06/21 20:00	01/08/21 15:13	1
Chromium	162		1.01	mg/Kg	☆	01/06/21 20:00	01/08/21 15:13	1
Copper	102		1.01	mg/Kg	☆	01/06/21 20:00	01/08/21 15:13	1
Lead	ND		5.07	mg/Kg	☆	01/06/21 20:00	01/08/21 15:13	1

Client Sample ID: SWCONF15-40.0

Date Collected: 12/23/20 13:00

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-29

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.61	mg/Kg	☆	01/06/21 20:00	01/08/21 15:16	1
Cadmium	ND		0.521	mg/Kg	☆	01/06/21 20:00	01/08/21 15:16	1
Chromium	259		1.04	mg/Kg	☆	01/06/21 20:00	01/08/21 15:16	1
Copper	172		1.04	mg/Kg	☆	01/06/21 20:00	01/08/21 15:16	1
Lead	ND		5.21	mg/Kg	☆	01/06/21 20:00	01/08/21 15:16	1

Client Sample ID: SWCONF15-45.0

Date Collected: 12/23/20 13:05

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-30

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.64	mg/Kg	☆	01/06/21 20:00	01/08/21 15:20	1
Cadmium	ND		0.529	mg/Kg	☆	01/06/21 20:00	01/08/21 15:20	1
Chromium	237		1.06	mg/Kg	☆	01/06/21 20:00	01/08/21 15:20	1
Copper	225		1.06	mg/Kg	☆	01/06/21 20:00	01/08/21 15:20	1
Lead	ND		5.29	mg/Kg	☆	01/06/21 20:00	01/08/21 15:20	1

Client Sample ID: SWCONF15-50.0

Date Collected: 12/23/20 13:10

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-31

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	L	2.56	mg/Kg	☆	01/06/21 20:00	01/08/21 15:23	1
Cadmium	ND		0.512	mg/Kg	☆	01/06/21 20:00	01/08/21 15:23	1
Chromium	578		1.02	mg/Kg	☆	01/06/21 20:00	01/08/21 15:23	1
Copper	392		1.02	mg/Kg	☆	01/06/21 20:00	01/08/21 15:23	1
Lead	ND		5.12	mg/Kg	☆	01/06/21 20:00	01/08/21 15:23	1

Client Sample ID: SWCONF15-55.0

Date Collected: 12/23/20 13:13

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-32

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.64	mg/Kg	☆	01/06/21 20:00	01/08/21 15:26	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF15-55.0

Date Collected: 12/23/20 13:13

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-32

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.527	mg/Kg	☆	01/06/21 20:00	01/08/21 15:26	1
Chromium	292		1.05	mg/Kg	☆	01/06/21 20:00	01/08/21 15:26	1
Copper	638		1.05	mg/Kg	☆	01/06/21 20:00	01/08/21 15:26	1
Lead	7.49		5.27	mg/Kg	☆	01/06/21 20:00	01/08/21 15:26	1

Client Sample ID: SWCONF15-57.5

Date Collected: 12/23/20 13:20

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-33

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.94	mg/Kg	☆	01/06/21 20:00	01/08/21 15:29	1
Cadmium	ND		0.587	mg/Kg	☆	01/06/21 20:00	01/08/21 15:29	1
Chromium	252		1.17	mg/Kg	☆	01/06/21 20:00	01/08/21 15:29	1
Copper	258		1.17	mg/Kg	☆	01/06/21 20:00	01/08/21 15:29	1
Lead	8.70		5.87	mg/Kg	☆	01/06/21 20:00	01/08/21 15:29	1

Client Sample ID: SWCONF15-58.0

Date Collected: 12/23/20 13:23

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-34

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13.2		3.13	mg/Kg	☆	01/06/21 20:00	01/08/21 15:32	1
Cadmium	1.39		0.626	mg/Kg	☆	01/06/21 20:00	01/08/21 15:32	1
Chromium	185		1.25	mg/Kg	☆	01/06/21 20:00	01/08/21 15:32	1
Copper	277		1.25	mg/Kg	☆	01/06/21 20:00	01/08/21 15:32	1
Lead	39.6		6.26	mg/Kg	☆	01/06/21 20:00	01/08/21 15:32	1

Client Sample ID: SWCONF15-60.0

Date Collected: 12/23/20 13:25

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-35

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.64		2.90	mg/Kg	☆	01/06/21 20:00	01/08/21 15:34	1
Cadmium	0.946		0.581	mg/Kg	☆	01/06/21 20:00	01/08/21 15:34	1
Chromium	526		1.16	mg/Kg	☆	01/06/21 20:00	01/08/21 15:34	1
Copper	253		1.16	mg/Kg	☆	01/06/21 20:00	01/08/21 15:34	1
Lead	13.4		5.81	mg/Kg	☆	01/06/21 20:00	01/08/21 15:34	1

Client Sample ID: SWCONF15-65.0

Date Collected: 12/23/20 13:30

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-36

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.62	mg/Kg	☆	01/06/21 20:00	01/08/21 15:43	1
Cadmium	0.624		0.523	mg/Kg	☆	01/06/21 20:00	01/08/21 15:43	1
Chromium	377		1.05	mg/Kg	☆	01/06/21 20:00	01/08/21 15:43	1
Copper	379		1.05	mg/Kg	☆	01/06/21 20:00	01/08/21 15:43	1
Lead	13.7		5.23	mg/Kg	☆	01/06/21 20:00	01/08/21 15:43	1

Client Sample ID: SWCONF15-70.0

Date Collected: 12/23/20 13:31

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-37

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.68	mg/Kg	☆	01/06/21 20:00	01/08/21 15:46	1
Cadmium	ND		0.537	mg/Kg	☆	01/06/21 20:00	01/08/21 15:46	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF15-70.0

Date Collected: 12/23/20 13:31

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-37

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	186		1.07	mg/Kg	✱	01/06/21 20:00	01/08/21 15:46	1
Copper	163		1.07	mg/Kg	✱	01/06/21 20:00	01/08/21 15:46	1
Lead	8.32		5.37	mg/Kg	✱	01/06/21 20:00	01/08/21 15:46	1

Client Sample ID: SWCONF15-62.5

Date Collected: 12/23/20 13:35

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-38

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.38	mg/Kg	✱	01/06/21 20:00	01/08/21 15:49	1
Cadmium	0.769		0.676	mg/Kg	✱	01/06/21 20:00	01/08/21 15:49	1
Chromium	392		1.35	mg/Kg	✱	01/06/21 20:00	01/08/21 15:49	1
Copper	127		1.35	mg/Kg	✱	01/06/21 20:00	01/08/21 15:49	1
Lead	8.66		6.76	mg/Kg	✱	01/06/21 20:00	01/08/21 15:49	1

Client Sample ID: SWCONF15-63.0

Date Collected: 12/23/20 13:37

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-39

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.66	mg/Kg	✱	01/06/21 20:00	01/08/21 15:52	1
Cadmium	ND		0.531	mg/Kg	✱	01/06/21 20:00	01/08/21 15:52	1
Chromium	182		1.06	mg/Kg	✱	01/06/21 20:00	01/08/21 15:52	1
Copper	365		1.06	mg/Kg	✱	01/06/21 20:00	01/08/21 15:52	1
Lead	7.76		5.31	mg/Kg	✱	01/06/21 20:00	01/08/21 15:52	1

## Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

### Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: EB03

Date Collected: 12/23/20 14:20

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-40

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L		01/08/21 06:30	01/08/21 13:17	1
Cadmium	ND		0.0100	mg/L		01/08/21 06:30	01/08/21 13:17	1
Chromium	ND		0.0500	mg/L		01/08/21 06:30	01/08/21 13:17	1
Copper	ND		0.0500	mg/L		01/08/21 06:30	01/08/21 13:17	1
Lead	ND		0.0500	mg/L		01/08/21 06:30	01/08/21 13:17	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF12-10.0

Date Collected: 12/23/20 08:00

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.904	mg/Kg	☼	12/31/20 14:23	01/02/21 16:59	1
pH	8.5		0.01	S.U.			12/23/20 22:45	1
Percent Moisture	12.9		0.1	%			12/23/20 20:03	1
Percent Solids	87.1		0.1	%			12/23/20 20:03	1

Client Sample ID: SWCONF12-15.0

Date Collected: 12/23/20 08:05

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	5.17		0.880	mg/Kg	☼	12/31/20 14:23	01/02/21 17:00	1
pH	3.8		0.01	S.U.			12/23/20 22:45	1
Percent Moisture	9.8		0.1	%			12/23/20 20:03	1
Percent Solids	90.2		0.1	%			12/23/20 20:03	1

Client Sample ID: SWCONF12-20.0

Date Collected: 12/23/20 08:15

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	2.24		0.830	mg/Kg	☼	12/31/20 14:23	01/02/21 17:01	1
pH	4.4		0.01	S.U.			12/23/20 22:45	1
Percent Moisture	3.9		0.1	%			12/23/20 20:40	1
Percent Solids	96.1		0.1	%			12/23/20 20:40	1

Client Sample ID: SWCONF12-25.5

Date Collected: 12/23/20 08:20

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	7.90		1.09	mg/Kg	☼	12/31/20 14:23	01/02/21 17:02	1
pH	3.4		0.01	S.U.			12/23/20 22:45	1
Percent Moisture	26.3		0.1	%			12/23/20 20:40	1
Percent Solids	73.7		0.1	%			12/23/20 20:40	1

Client Sample ID: SWCONF12-26.0

Date Collected: 12/23/20 08:21

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.956	mg/Kg	☼	01/02/21 11:07	01/04/21 20:35	1
pH	9.5		0.01	S.U.			12/23/20 22:45	1
Percent Moisture	16.3		0.1	%			12/23/20 20:40	1
Percent Solids	83.7		0.1	%			12/23/20 20:40	1

Client Sample ID: SWCONF12-30.0

Date Collected: 12/23/20 08:30

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.00	mg/Kg	☼	01/02/21 11:07	01/04/21 20:34	1
pH	10.5		0.01	S.U.			12/23/20 22:45	1
Percent Moisture	21.0		0.1	%			12/23/20 20:40	1
Percent Solids	79.0		0.1	%			12/23/20 20:40	1



# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF12-32.5

Date Collected: 12/23/20 08:44

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-7

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.994	mg/Kg	☼	01/02/21 11:07	01/04/21 20:33	1
pH	9.5		0.01	S.U.			12/23/20 22:45	1
Percent Moisture	20.5		0.1	%			12/23/20 20:40	1
Percent Solids	79.5		0.1	%			12/23/20 20:40	1

Client Sample ID: SWCONF12-33.0

Date Collected: 12/23/20 08:45

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-8

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.864	mg/Kg	☼	01/02/21 11:07	01/04/21 20:32	1
pH	9.6		0.01	S.U.			12/23/20 22:45	1
Percent Moisture	7.5		0.1	%			12/23/20 20:40	1
Percent Solids	92.5		0.1	%			12/23/20 20:40	1

Client Sample ID: SWCONF12-35.0

Date Collected: 12/23/20 08:48

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-9

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	F1	0.823	mg/Kg	☼	01/02/21 11:07	01/04/21 20:31	1
pH	9.3		0.01	S.U.			12/23/20 22:45	1
Percent Moisture	3.6		0.1	%			12/23/20 20:40	1
Percent Solids	96.4		0.1	%			12/23/20 20:40	1

Client Sample ID: SWCONF12-40.0

Date Collected: 12/23/20 08:58

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-10

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.834	mg/Kg	☼	01/02/21 11:07	01/04/21 20:36	1
pH	9.9		0.01	S.U.			12/23/20 22:45	1
Percent Moisture	4.1		0.1	%			12/23/20 20:40	1
Percent Solids	95.9		0.1	%			12/23/20 20:40	1

Client Sample ID: SWCONF12-45.0

Date Collected: 12/23/20 09:08

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-11

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.814	mg/Kg	☼	01/02/21 11:07	01/04/21 20:37	1
pH	9.3		0.01	S.U.			12/23/20 22:45	1
Percent Moisture	3.2		0.1	%			12/23/20 20:40	1
Percent Solids	96.8		0.1	%			12/23/20 20:40	1

Client Sample ID: SWCONF12-50.0

Date Collected: 12/23/20 09:12

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-12

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.828	mg/Kg	☼	01/02/21 11:07	01/04/21 20:38	1
pH	8.0		0.01	S.U.			12/23/20 22:45	1
Percent Moisture	3.8		0.1	%			12/23/20 20:40	1
Percent Solids	96.2		0.1	%			12/23/20 20:40	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF12-55.0

Date Collected: 12/23/20 09:25

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-13

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.884	mg/Kg	☼	01/02/21 11:07	01/04/21 20:39	1
pH	9.7		0.01	S.U.			12/23/20 22:45	1
Percent Moisture	9.1		0.1	%			12/23/20 20:40	1
Percent Solids	90.9		0.1	%			12/23/20 20:40	1

Client Sample ID: SWCONF12-57.0

Date Collected: 12/23/20 09:26

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-14

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.905	mg/Kg	☼	01/02/21 11:07	01/04/21 20:40	1
pH	10		0.01	S.U.			12/23/20 22:45	1
Percent Moisture	12.0		0.1	%			12/23/20 20:40	1
Percent Solids	88.0		0.1	%			12/23/20 20:40	1

Client Sample ID: SWCONF12-57.5

Date Collected: 12/23/20 09:27

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-15

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.985	mg/Kg	☼	01/05/21 13:00	01/06/21 16:38	1
pH	10.4		0.01	S.U.			12/23/20 22:45	1
Percent Moisture	18.8		0.1	%			12/23/20 20:40	1
Percent Solids	81.2		0.1	%			12/23/20 20:40	1

Client Sample ID: SWCONF12-60.0

Date Collected: 12/23/20 09:33

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-16

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.958	mg/Kg	☼	01/05/21 13:00	01/06/21 16:39	1
pH	10.2		0.01	S.U.			12/23/20 22:45	1
Percent Moisture	15.4		0.1	%			12/23/20 20:40	1
Percent Solids	84.6		0.1	%			12/23/20 20:40	1

Client Sample ID: SWCONF12-62.5

Date Collected: 12/23/20 09:40

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-17

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.07	mg/Kg	☼	01/05/21 13:00	01/06/21 16:40	1
pH	10.1		0.01	S.U.			12/23/20 22:45	1
Percent Moisture	25.7		0.1	%			12/23/20 20:40	1
Percent Solids	74.3		0.1	%			12/23/20 20:40	1

Client Sample ID: SWCONF12-63.0

Date Collected: 12/23/20 09:42

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-18

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.872	mg/Kg	☼	01/05/21 13:00	01/06/21 16:41	1
pH	9.9		0.01	S.U.			12/23/20 22:54	1
Percent Moisture	7.5		0.1	%			12/23/20 20:40	1
Percent Solids	92.5		0.1	%			12/23/20 20:40	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF12-65.0

Date Collected: 12/23/20 09:44

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-19

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.830	mg/Kg	☼	01/05/21 13:00	01/06/21 16:42	1
pH	10.5		0.01	S.U.			12/23/20 22:54	1
Percent Moisture	4.7		0.1	%			12/23/20 20:40	1
Percent Solids	95.3		0.1	%			12/23/20 20:40	1

Client Sample ID: SWCONF12-70.0

Date Collected: 12/23/20 09:45

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-20

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	F1	0.828	mg/Kg	☼	01/05/21 13:00	01/06/21 16:43	1
pH	10.5		0.01	S.U.			12/23/20 22:54	1
Percent Moisture	4.2		0.1	%			12/23/20 20:40	1
Percent Solids	95.8		0.1	%			12/23/20 20:40	1

Client Sample ID: SWCONF15-10.0

Date Collected: 12/23/20 12:25

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-21

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	2.70		0.946	mg/Kg	☼	01/05/21 15:00	01/07/21 15:07	1
pH	9.5		0.01	S.U.			12/23/20 22:54	1
Percent Moisture	15.1		0.1	%			12/23/20 20:40	1
Percent Solids	84.9		0.1	%			12/23/20 20:40	1

Client Sample ID: SWCONF15-15.0

Date Collected: 12/23/20 12:30

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-22

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.962	mg/Kg	☼	01/05/21 15:00	01/07/21 15:06	1
pH	8.3		0.01	S.U.			12/23/20 22:54	1
Percent Moisture	16.8		0.1	%			12/23/20 20:40	1
Percent Solids	83.2		0.1	%			12/23/20 20:40	1

Client Sample ID: SWCONF15-20.0

Date Collected: 12/23/20 12:25

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-23

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	516		21.6	mg/Kg	☼	01/05/21 15:00	01/07/21 15:05	25
pH	4.3		0.01	S.U.			12/23/20 22:54	1
Percent Moisture	8.0		0.1	%			12/23/20 21:03	1
Percent Solids	92.0		0.1	%			12/23/20 21:03	1

Client Sample ID: SWCONF15-25.0

Date Collected: 12/23/20 12:50

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-24

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.889	mg/Kg	☼	01/05/21 15:00	01/07/21 15:04	1
pH	9.6		0.01	S.U.			12/23/20 22:54	1
Percent Moisture	9.7		0.1	%			12/23/20 21:03	1
Percent Solids	90.3		0.1	%			12/23/20 21:03	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF15-26.5

Date Collected: 12/23/20 12:51

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-25

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.894	mg/Kg	☼	01/05/21 15:00	01/07/21 15:03	1
pH	9.4		0.01	S.U.			12/23/20 22:54	1
Percent Moisture	11.2		0.1	%			12/23/20 21:03	1
Percent Solids	88.8		0.1	%			12/23/20 21:03	1

Client Sample ID: SWCONF15-27.0

Date Collected: 12/23/20 12:52

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-26

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	740		24.9	mg/Kg	☼	01/05/21 15:00	01/07/21 15:02	25
pH	4.6		0.01	S.U.			12/23/20 22:54	1
Percent Moisture	20.7		0.1	%			12/23/20 21:03	1
Percent Solids	79.3		0.1	%			12/23/20 21:03	1

Client Sample ID: SWCONF15-30.0

Date Collected: 12/23/20 12:55

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-27

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	102		5.33	mg/Kg	☼	01/05/21 15:00	01/07/21 15:01	5
pH	3.6		0.01	S.U.			12/23/20 22:54	1
Percent Moisture	25.6		0.1	%			12/23/20 21:03	1
Percent Solids	74.4		0.1	%			12/23/20 21:03	1

Client Sample ID: SWCONF15-35.0

Date Collected: 12/23/20 12:57

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-28

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	10.4		0.824	mg/Kg	☼	01/05/21 15:00	01/07/21 15:00	1
pH	4.5		0.01	S.U.			12/23/20 22:54	1
Percent Moisture	3.2		0.1	%			12/23/20 21:03	1
Percent Solids	96.8		0.1	%			12/23/20 21:03	1

Client Sample ID: SWCONF15-40.0

Date Collected: 12/23/20 13:00

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-29

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	14.5		0.819	mg/Kg	☼	01/05/21 15:00	01/07/21 14:59	1
pH	4.9		0.01	S.U.			12/23/20 22:54	1
Percent Moisture	3.1		0.1	%			12/23/20 21:03	1
Percent Solids	96.9		0.1	%			12/23/20 21:03	1

Client Sample ID: SWCONF15-45.0

Date Collected: 12/23/20 13:05

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-30

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	6.17		0.829	mg/Kg	☼	01/05/21 15:00	01/07/21 14:58	1
pH	6.4		0.01	S.U.			12/23/20 22:54	1
Percent Moisture	3.5		0.1	%			12/23/20 21:03	1
Percent Solids	96.5		0.1	%			12/23/20 21:03	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF15-50.0

Date Collected: 12/23/20 13:10

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-31

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	F1	0.807	mg/Kg	☼	01/05/21 15:05	01/07/21 15:16	1
pH	6.6		0.01	S.U.			12/23/20 22:54	1
Percent Moisture	2.4		0.1	%			12/23/20 21:03	1
Percent Solids	97.6		0.1	%			12/23/20 21:03	1

Client Sample ID: SWCONF15-55.0

Date Collected: 12/23/20 13:13

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-32

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.862	mg/Kg	☼	01/05/21 15:05	01/07/21 15:17	1
pH	10.6		0.01	S.U.			12/23/20 22:54	1
Percent Moisture	7.5		0.1	%			12/23/20 21:03	1
Percent Solids	92.5		0.1	%			12/23/20 21:03	1

Client Sample ID: SWCONF15-57.5

Date Collected: 12/23/20 13:20

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-33

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.960	mg/Kg	☼	01/05/21 15:05	01/07/21 15:18	1
pH	11.1		0.01	S.U.			12/23/20 22:54	1
Percent Moisture	17.4		0.1	%			12/23/20 21:03	1
Percent Solids	82.6		0.1	%			12/23/20 21:03	1

Client Sample ID: SWCONF15-58.0

Date Collected: 12/23/20 13:23

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-34

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	1.14		0.948	mg/Kg	☼	01/05/21 15:05	01/07/21 15:19	1
pH	6.5		0.01	S.U.			12/23/20 22:54	1
Percent Moisture	16.0		0.1	%			12/23/20 21:03	1
Percent Solids	84.0		0.1	%			12/23/20 21:03	1

Client Sample ID: SWCONF15-60.0

Date Collected: 12/23/20 13:25

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-35

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.933	mg/Kg	☼	01/05/21 16:38	01/07/21 15:20	1
pH	8.4		0.01	S.U.			12/23/20 22:54	1
Percent Moisture	13.9		0.1	%			12/23/20 21:03	1
Percent Solids	86.1		0.1	%			12/23/20 21:03	1

Client Sample ID: SWCONF15-65.0

Date Collected: 12/23/20 13:30

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-36

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.861	mg/Kg	☼	01/05/21 16:38	01/07/21 15:21	1
pH	10.4		0.01	S.U.			12/23/20 22:54	1
Percent Moisture	8.6		0.1	%			12/23/20 21:03	1
Percent Solids	91.4		0.1	%			12/23/20 21:03	1



# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF15-70.0

Date Collected: 12/23/20 13:31

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-37

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.842	mg/Kg	☼	01/05/21 16:38	01/07/21 15:22	1
pH	10.6		0.01	S.U.			12/23/20 22:54	1
Percent Moisture	4.9		0.1	%			12/23/20 21:03	1
Percent Solids	95.1		0.1	%			12/23/20 21:03	1

Client Sample ID: SWCONF15-62.5

Date Collected: 12/23/20 13:35

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-38

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.05	mg/Kg	☼	01/05/21 16:38	01/07/21 15:23	1
pH	10.5		0.01	S.U.			12/24/20 15:48	1
Percent Moisture	24.5		0.1	%			12/23/20 21:03	1
Percent Solids	75.5		0.1	%			12/23/20 21:03	1

Client Sample ID: SWCONF15-63.0

Date Collected: 12/23/20 13:37

Date Received: 12/23/20 15:50

Lab Sample ID: 570-47020-39

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.856	mg/Kg	☼	01/05/21 16:38	01/07/21 15:24	1
pH	10.0		0.01	S.U.			12/24/20 15:48	1
Percent Moisture	7.7		0.1	%			12/23/20 21:03	1
Percent Solids	92.3		0.1	%			12/23/20 21:03	1

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Method: 7199 - Chromium, Hexavalent (IC)

Lab Sample ID: MB 570-118331/31  
Matrix: Water  
Analysis Batch: 118331

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			12/23/20 16:04	1

Lab Sample ID: LCS 570-118331/32  
Matrix: Water  
Analysis Batch: 118331

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.0501	0.04946		mg/L		99	80 - 120

Lab Sample ID: LCSD 570-118331/33  
Matrix: Water  
Analysis Batch: 118331

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	0.0501	0.04964		mg/L		99	80 - 120	0	20

Lab Sample ID: 570-46933-A-2 MS  
Matrix: Water  
Analysis Batch: 118331

Client Sample ID: Matrix Spike  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.018		0.0501	0.06609		mg/L		95	70 - 130

Lab Sample ID: 570-46933-A-2 MSD  
Matrix: Water  
Analysis Batch: 118331

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	0.018		0.0501	0.06714		mg/L		97	70 - 130	2	25

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 570-120648/1-A  
Matrix: Solid  
Analysis Batch: 121162

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 120648

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.51	mg/Kg		01/06/21 20:00	01/08/21 12:31	1
Cadmium	ND		0.503	mg/Kg		01/06/21 20:00	01/08/21 12:31	1
Chromium	ND		1.01	mg/Kg		01/06/21 20:00	01/08/21 12:31	1
Copper	ND		1.01	mg/Kg		01/06/21 20:00	01/08/21 12:31	1
Lead	ND		5.03	mg/Kg		01/06/21 20:00	01/08/21 12:31	1

Lab Sample ID: LCS 570-120648/2-A  
Matrix: Solid  
Analysis Batch: 121162

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 120648

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	24.6	24.56		mg/Kg		100	80 - 120
Cadmium	24.6	25.26		mg/Kg		103	80 - 120

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-120648/2-A

Matrix: Solid

Analysis Batch: 121162

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 120648

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	24.6	24.36		mg/Kg		99	80 - 120
Copper	24.6	26.06		mg/Kg		106	80 - 120
Lead	24.6	25.43		mg/Kg		103	80 - 120

Lab Sample ID: LCSD 570-120648/3-A

Matrix: Solid

Analysis Batch: 121162

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 120648

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	24.9	24.17		mg/Kg		97	80 - 120	2	20
Cadmium	24.9	25.06		mg/Kg		101	80 - 120	1	20
Chromium	24.9	24.63		mg/Kg		99	80 - 120	1	20
Copper	24.9	25.76		mg/Kg		104	80 - 120	1	20
Lead	24.9	25.23		mg/Kg		101	80 - 120	1	20

Lab Sample ID: 570-47020-1 MS

Matrix: Solid

Analysis Batch: 121162

Client Sample ID: SWCONF12-10.0

Prep Type: Total/NA

Prep Batch: 120648

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND	F1 L	28.3	ND	F1	mg/Kg	⊛	0	75 - 125
Cadmium	ND		28.3	26.12		mg/Kg	⊛	92	75 - 125
Chromium	4420		28.3	4996	4	mg/Kg	⊛	2039	75 - 125
Copper	547		28.3	568.6	4	mg/Kg	⊛	75	75 - 125
Lead	ND		28.3	29.04		mg/Kg	⊛	93	75 - 125

Lab Sample ID: 570-47020-1 MSD

Matrix: Solid

Analysis Batch: 121162

Client Sample ID: SWCONF12-10.0

Prep Type: Total/NA

Prep Batch: 120648

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	ND	F1 L	29.1	ND	F1	mg/Kg	⊛	0	75 - 125	NC	20
Cadmium	ND		29.1	28.20		mg/Kg	⊛	97	75 - 125	8	20
Chromium	4420		29.1	5662	4	mg/Kg	⊛	4263	75 - 125	12	20
Copper	547		29.1	612.7	4	mg/Kg	⊛	224	75 - 125	7	20
Lead	ND		29.1	31.15		mg/Kg	⊛	98	75 - 125	7	20

Lab Sample ID: MB 570-120652/1-A

Matrix: Solid

Analysis Batch: 121162

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 120652

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.48	mg/Kg		01/06/21 20:00	01/08/21 14:31	1
Cadmium	ND		0.495	mg/Kg		01/06/21 20:00	01/08/21 14:31	1
Chromium	ND		0.990	mg/Kg		01/06/21 20:00	01/08/21 14:31	1
Copper	ND		0.990	mg/Kg		01/06/21 20:00	01/08/21 14:31	1
Lead	ND		4.95	mg/Kg		01/06/21 20:00	01/08/21 14:31	1

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-120652/2-A

Matrix: Solid

Analysis Batch: 121162

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 120652

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	24.8	23.96		mg/Kg		97	80 - 120
Cadmium	24.8	24.55		mg/Kg		99	80 - 120
Chromium	24.8	23.18		mg/Kg		94	80 - 120
Copper	24.8	24.93		mg/Kg		101	80 - 120
Lead	24.8	25.31		mg/Kg		102	80 - 120

Lab Sample ID: LCSD 570-120652/3-A

Matrix: Solid

Analysis Batch: 121162

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 120652

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	25.1	24.86		mg/Kg		99	80 - 120	4	20
Cadmium	25.1	25.15		mg/Kg		100	80 - 120	2	20
Chromium	25.1	22.26		mg/Kg		89	80 - 120	4	20
Copper	25.1	25.58		mg/Kg		102	80 - 120	3	20
Lead	25.1	26.00		mg/Kg		103	80 - 120	3	20

Lab Sample ID: 570-47020-21 MS

Matrix: Solid

Analysis Batch: 121162

Client Sample ID: SWCONF15-10.0

Prep Type: Total/NA

Prep Batch: 120652

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	8.73		28.9	33.72		mg/Kg	✱	87	75 - 125
Cadmium	2.54		28.9	29.54		mg/Kg	✱	94	75 - 125
Chromium	1940		28.9	1425	4	mg/Kg	✱	-1799	75 - 125
Copper	891		28.9	919.9	4	mg/Kg	✱	100	75 - 125
Lead	340		28.9	374.3	4	mg/Kg	✱	119	75 - 125

Lab Sample ID: 570-47020-21 MSD

Matrix: Solid

Analysis Batch: 121162

Client Sample ID: SWCONF15-10.0

Prep Type: Total/NA

Prep Batch: 120652

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	8.73		30.0	34.42		mg/Kg	✱	85	75 - 125	2	20
Cadmium	2.54		30.0	30.12		mg/Kg	✱	92	75 - 125	2	20
Chromium	1940		30.0	1365	4	mg/Kg	✱	-1926	75 - 125	4	20
Copper	891		30.0	931.8	4	mg/Kg	✱	136	75 - 125	1	20
Lead	340		30.0	380.4	4	mg/Kg	✱	135	75 - 125	2	20

Lab Sample ID: MB 570-121002/1-A

Matrix: Water

Analysis Batch: 121007

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 121002

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L		01/08/21 06:30	01/08/21 13:19	1
Cadmium	ND		0.0100	mg/L		01/08/21 06:30	01/08/21 13:19	1
Chromium	ND		0.0500	mg/L		01/08/21 06:30	01/08/21 13:19	1
Copper	ND		0.0500	mg/L		01/08/21 06:30	01/08/21 13:19	1
Lead	ND		0.0500	mg/L		01/08/21 06:30	01/08/21 13:19	1

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-121002/2-A  
Matrix: Water  
Analysis Batch: 121007

Client Sample ID: Lab Control Sample  
Prep Type: Total Recoverable  
Prep Batch: 121002

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.500	0.4860		mg/L		97	80 - 120
Cadmium	0.500	0.5120		mg/L		102	80 - 120
Chromium	0.500	0.5205		mg/L		104	80 - 120
Copper	0.500	0.5485		mg/L		110	80 - 120
Lead	0.500	0.5005		mg/L		100	80 - 120

Lab Sample ID: LCSD 570-121002/3-A  
Matrix: Water  
Analysis Batch: 121007

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total Recoverable  
Prep Batch: 121002

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	0.500	0.5005		mg/L		100	80 - 120	3	20
Cadmium	0.500	0.5189		mg/L		104	80 - 120	1	20
Chromium	0.500	0.5200		mg/L		104	80 - 120	0	20
Copper	0.500	0.5502		mg/L		110	80 - 120	0	20
Lead	0.500	0.5115		mg/L		102	80 - 120	2	20

Lab Sample ID: 570-47782-D-11-B MS  
Matrix: Water  
Analysis Batch: 121007

Client Sample ID: Matrix Spike  
Prep Type: Dissolved  
Prep Batch: 121002

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND	L	0.500	0.4357		mg/L		87	80 - 140
Cadmium	ND		0.500	0.4880		mg/L		98	82 - 124
Chromium	ND		0.500	0.5058		mg/L		101	86 - 122
Copper	ND		0.500	0.5709		mg/L		114	78 - 126
Lead	ND		0.500	0.5248		mg/L		98	84 - 120

Lab Sample ID: 570-47782-D-11-C MSD  
Matrix: Water  
Analysis Batch: 121007

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Dissolved  
Prep Batch: 121002

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	ND	L	0.500	0.4338		mg/L		87	80 - 140	0	11
Cadmium	ND		0.500	0.4831		mg/L		97	82 - 124	1	7
Chromium	ND		0.500	0.5029		mg/L		101	86 - 122	1	8
Copper	ND		0.500	0.5666		mg/L		113	78 - 126	1	7
Lead	ND		0.500	0.5126		mg/L		96	84 - 120	2	7

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 570-119815/1-A  
Matrix: Solid  
Analysis Batch: 119944

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 119815

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.800	mg/Kg		12/31/20 14:23	01/02/21 16:49	1



# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: LCS 570-119815/2-A  
Matrix: Solid  
Analysis Batch: 119944

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 119815

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	19.9	16.16		mg/Kg		81	78 - 120

Lab Sample ID: LCSD 570-119815/3-A  
Matrix: Solid  
Analysis Batch: 119944

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 119815

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	20.1	17.34		mg/Kg		86	78 - 120	7	20

Lab Sample ID: 570-46886-A-1-U MSI ^25  
Matrix: Solid  
Analysis Batch: 119944

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 119815

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND		1250	1028		mg/Kg	✱	83	75 - 125

Lab Sample ID: 570-46886-A-1-V MSID ^25  
Matrix: Solid  
Analysis Batch: 119944

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 119815

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	ND		1230	995.0		mg/Kg	✱	81	75 - 125	3	25

Lab Sample ID: 570-46886-A-1-W MS  
Matrix: Solid  
Analysis Batch: 119944

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 119815

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND		25.0	21.01		mg/Kg	✱	84	75 - 125

Lab Sample ID: 570-46886-A-1-X MSD  
Matrix: Solid  
Analysis Batch: 119944

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 119815

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	ND		24.9	19.16		mg/Kg	✱	77	75 - 125	9	25

Lab Sample ID: MB 570-119889/1-A  
Matrix: Solid  
Analysis Batch: 120194

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 119889

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.794	mg/Kg		01/02/21 11:07	01/04/21 20:22	1

Lab Sample ID: LCS 570-119889/2-A  
Matrix: Solid  
Analysis Batch: 120194

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 119889

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	19.9	18.01		mg/Kg		90	78 - 120

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: LCSD 570-119889/3-A

Matrix: Solid

Analysis Batch: 120194

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 119889

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	19.9	16.98		mg/Kg		85	78 - 120	6	20

Lab Sample ID: 570-47020-9 MS

Matrix: Solid

Analysis Batch: 120194

Client Sample ID: SWCONF12-35.0

Prep Type: Total/NA

Prep Batch: 119889

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	20.5	ND	F1	mg/Kg	✱	3	75 - 125		

Lab Sample ID: 570-47020-9 MSD

Matrix: Solid

Analysis Batch: 120194

Client Sample ID: SWCONF12-35.0

Prep Type: Total/NA

Prep Batch: 119889

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	20.4	ND	F1	mg/Kg	✱	2	75 - 125	10	25

Lab Sample ID: 570-47020-9 MSI

Matrix: Solid

Analysis Batch: 120194

Client Sample ID: SWCONF12-35.0

Prep Type: Total/NA

Prep Batch: 119889

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1000	604.9	F1	mg/Kg	✱	60	75 - 125		

Lab Sample ID: 570-47020-9 MSID

Matrix: Solid

Analysis Batch: 120194

Client Sample ID: SWCONF12-35.0

Prep Type: Total/NA

Prep Batch: 119889

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1010	660.6	F1	mg/Kg	✱	65	75 - 125	9	25

Lab Sample ID: MB 570-120179/1-A

Matrix: Solid

Analysis Batch: 120621

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 120179

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.787	mg/Kg		01/05/21 13:00	01/06/21 16:26	1

Lab Sample ID: LCS 570-120179/2-A

Matrix: Solid

Analysis Batch: 120621

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 120179

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	20.2	17.82		mg/Kg		88	78 - 120		

Lab Sample ID: LCSD 570-120179/3-A

Matrix: Solid

Analysis Batch: 120621

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 120179

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	20.0	17.73		mg/Kg		89	78 - 120	1	20

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: 570-47020-20 MS

Matrix: Solid

Analysis Batch: 120621

Client Sample ID: SWCONF12-70.0

Prep Type: Total/NA

Prep Batch: 120179

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND	F1	20.8	ND	F1	mg/Kg	✱	0	75 - 125

Lab Sample ID: 570-47020-20 MSD

Matrix: Solid

Analysis Batch: 120621

Client Sample ID: SWCONF12-70.0

Prep Type: Total/NA

Prep Batch: 120179

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	ND	F1	21.1	ND	F1	mg/Kg	✱	0	75 - 125	NC	25

Lab Sample ID: 570-47020-20 MSI

Matrix: Solid

Analysis Batch: 120621

Client Sample ID: SWCONF12-70.0

Prep Type: Total/NA

Prep Batch: 120179

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND	F1	1010	305.9	F1	mg/Kg	✱	30	75 - 125

Lab Sample ID: 570-47020-20 MSID

Matrix: Solid

Analysis Batch: 120621

Client Sample ID: SWCONF12-70.0

Prep Type: Total/NA

Prep Batch: 120179

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	ND	F1	1000	285.1	F1	mg/Kg	✱	28	75 - 125	7	25

Lab Sample ID: MB 570-120364/1-A

Matrix: Solid

Analysis Batch: 120884

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 120364

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.794	mg/Kg		01/05/21 15:00	01/07/21 14:49	1

Lab Sample ID: LCS 570-120364/2-A

Matrix: Solid

Analysis Batch: 120884

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 120364

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	20.0	17.81		mg/Kg		89	78 - 120

Lab Sample ID: LCSD 570-120364/3-A

Matrix: Solid

Analysis Batch: 120884

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 120364

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	19.9	17.65		mg/Kg		89	78 - 120	1	20

Lab Sample ID: 570-47020-30 MS

Matrix: Solid

Analysis Batch: 120884

Client Sample ID: SWCONF15-45.0

Prep Type: Total/NA

Prep Batch: 120364

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	6.17		20.8	21.98		mg/Kg	✱	76	75 - 125

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: 570-47020-30 MSD

Matrix: Solid

Analysis Batch: 120884

Client Sample ID: SWCONF15-45.0

Prep Type: Total/NA

Prep Batch: 120364

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	6.17		20.6	21.85		mg/Kg	☆	76	75 - 125	1	25

Lab Sample ID: 570-47020-30 MSI

Matrix: Solid

Analysis Batch: 120884

Client Sample ID: SWCONF15-45.0

Prep Type: Total/NA

Prep Batch: 120364

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	6.17		1010	856.6		mg/Kg	☆	84	75 - 125		

Lab Sample ID: 570-47020-30 MSID

Matrix: Solid

Analysis Batch: 120884

Client Sample ID: SWCONF15-45.0

Prep Type: Total/NA

Prep Batch: 120364

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	6.17		1010	930.7		mg/Kg	☆	92	75 - 125	8	25

Lab Sample ID: 570-47020-31 MS

Matrix: Solid

Analysis Batch: 120884

Client Sample ID: SWCONF15-50.0

Prep Type: Total/NA

Prep Batch: 120364

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	20.2	10.02	F1	mg/Kg	☆	47	75 - 125		

Lab Sample ID: 570-47020-31 MSD

Matrix: Solid

Analysis Batch: 120884

Client Sample ID: SWCONF15-50.0

Prep Type: Total/NA

Prep Batch: 120364

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	20.2	10.10	F1	mg/Kg	☆	47	75 - 125	1	25

Lab Sample ID: 570-47020-31 MSI

Matrix: Solid

Analysis Batch: 120884

Client Sample ID: SWCONF15-50.0

Prep Type: Total/NA

Prep Batch: 120364

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1000	857.4		mg/Kg	☆	86	75 - 125		

Lab Sample ID: 570-47020-31 MSID

Matrix: Solid

Analysis Batch: 120884

Client Sample ID: SWCONF15-50.0

Prep Type: Total/NA

Prep Batch: 120364

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1010	863.7		mg/Kg	☆	86	75 - 125	1	25

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Method: 9045C - pH

Lab Sample ID: 570-46871-A-31-B DU  
Matrix: Solid  
Analysis Batch: 118641

Client Sample ID: Duplicate  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
pH	10.6		10.6		S.U.		0.06	25

Lab Sample ID: 570-47020-18 DU  
Matrix: Solid  
Analysis Batch: 118642

Client Sample ID: SWCONF12-63.0  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
pH	9.9		10.4		S.U.		5	25

Lab Sample ID: 570-47020-38 DU  
Matrix: Solid  
Analysis Batch: 118687

Client Sample ID: SWCONF15-62.5  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
pH	10.5		10.4		S.U.		1	25

## Method: Moisture - Percent Moisture

Lab Sample ID: 440-276473-C-3 DU  
Matrix: Solid  
Analysis Batch: 118621

Client Sample ID: Duplicate  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Moisture	6.3		6.9		%		10	10
Percent Solids	93.7		93.1		%		0.7	10

Lab Sample ID: 570-47020-3 DU  
Matrix: Solid  
Analysis Batch: 118634

Client Sample ID: SWCONF12-20.0  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Moisture	3.9		4.0		%		0.3	10
Percent Solids	96.1		96.0		%		0	10

Lab Sample ID: 570-47020-13 DU  
Matrix: Solid  
Analysis Batch: 118634

Client Sample ID: SWCONF12-55.0  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Moisture	9.1		9.9		%		9	10
Percent Solids	90.9		90.1		%		0.9	10

Lab Sample ID: 570-47020-23 DU  
Matrix: Solid  
Analysis Batch: 118635

Client Sample ID: SWCONF15-20.0  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Moisture	8.0		7.3		%		9	10
Percent Solids	92.0		92.7		%		0.7	10



## QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

### Method: Moisture - Percent Moisture (Continued)

Lab Sample ID: 570-47020-33 DU

Matrix: Solid

Analysis Batch: 118635

Client Sample ID: SWCONF15-57.5

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	17.4		17.3		%		0.6	10
Percent Solids	82.6		82.7		%		0.1	10

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## HPLC/IC

### Analysis Batch: 118331

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-40	EB03	Total/NA	Water	7199	
MB 570-118331/31	Method Blank	Total/NA	Water	7199	
LCS 570-118331/32	Lab Control Sample	Total/NA	Water	7199	
LCSD 570-118331/33	Lab Control Sample Dup	Total/NA	Water	7199	
570-46933-A-2 MS	Matrix Spike	Total/NA	Water	7199	
570-46933-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	7199	

## Metals

### Prep Batch: 120648

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-1	SWCONF12-10.0	Total/NA	Solid	3050B	
570-47020-2	SWCONF12-15.0	Total/NA	Solid	3050B	
570-47020-3	SWCONF12-20.0	Total/NA	Solid	3050B	
570-47020-4	SWCONF12-25.5	Total/NA	Solid	3050B	
570-47020-5	SWCONF12-26.0	Total/NA	Solid	3050B	
570-47020-6	SWCONF12-30.0	Total/NA	Solid	3050B	
570-47020-7	SWCONF12-32.5	Total/NA	Solid	3050B	
570-47020-8	SWCONF12-33.0	Total/NA	Solid	3050B	
570-47020-9	SWCONF12-35.0	Total/NA	Solid	3050B	
570-47020-10	SWCONF12-40.0	Total/NA	Solid	3050B	
570-47020-11	SWCONF12-45.0	Total/NA	Solid	3050B	
570-47020-12	SWCONF12-50.0	Total/NA	Solid	3050B	
570-47020-13	SWCONF12-55.0	Total/NA	Solid	3050B	
570-47020-14	SWCONF12-57.0	Total/NA	Solid	3050B	
570-47020-15	SWCONF12-57.5	Total/NA	Solid	3050B	
570-47020-16	SWCONF12-60.0	Total/NA	Solid	3050B	
570-47020-17	SWCONF12-62.5	Total/NA	Solid	3050B	
570-47020-18	SWCONF12-63.0	Total/NA	Solid	3050B	
570-47020-19	SWCONF12-65.0	Total/NA	Solid	3050B	
570-47020-20	SWCONF12-70.0	Total/NA	Solid	3050B	
MB 570-120648/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-120648/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-120648/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-47020-1 MS	SWCONF12-10.0	Total/NA	Solid	3050B	
570-47020-1 MSD	SWCONF12-10.0	Total/NA	Solid	3050B	

### Prep Batch: 120652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-21	SWCONF15-10.0	Total/NA	Solid	3050B	
570-47020-22	SWCONF15-15.0	Total/NA	Solid	3050B	
570-47020-23	SWCONF15-20.0	Total/NA	Solid	3050B	
570-47020-24	SWCONF15-25.0	Total/NA	Solid	3050B	
570-47020-25	SWCONF15-26.5	Total/NA	Solid	3050B	
570-47020-26	SWCONF15-27.0	Total/NA	Solid	3050B	
570-47020-27	SWCONF15-30.0	Total/NA	Solid	3050B	
570-47020-28	SWCONF15-35.0	Total/NA	Solid	3050B	
570-47020-29	SWCONF15-40.0	Total/NA	Solid	3050B	
570-47020-30	SWCONF15-45.0	Total/NA	Solid	3050B	
570-47020-31	SWCONF15-50.0	Total/NA	Solid	3050B	
570-47020-32	SWCONF15-55.0	Total/NA	Solid	3050B	

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Metals (Continued)

### Prep Batch: 120652 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-33	SWCONF15-57.5	Total/NA	Solid	3050B	
570-47020-34	SWCONF15-58.0	Total/NA	Solid	3050B	
570-47020-35	SWCONF15-60.0	Total/NA	Solid	3050B	
570-47020-36	SWCONF15-65.0	Total/NA	Solid	3050B	
570-47020-37	SWCONF15-70.0	Total/NA	Solid	3050B	
570-47020-38	SWCONF15-62.5	Total/NA	Solid	3050B	
570-47020-39	SWCONF15-63.0	Total/NA	Solid	3050B	
MB 570-120652/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-120652/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-120652/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-47020-21 MS	SWCONF15-10.0	Total/NA	Solid	3050B	
570-47020-21 MSD	SWCONF15-10.0	Total/NA	Solid	3050B	

### Prep Batch: 121002

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-40	EB03	Dissolved	Water	3005A	
MB 570-121002/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 570-121002/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 570-121002/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
570-47782-D-11-B MS	Matrix Spike	Dissolved	Water	3005A	
570-47782-D-11-C MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	

### Analysis Batch: 121007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-40	EB03	Dissolved	Water	6010B	121002
MB 570-121002/1-A	Method Blank	Total Recoverable	Water	6010B	121002
LCS 570-121002/2-A	Lab Control Sample	Total Recoverable	Water	6010B	121002
LCSD 570-121002/3-A	Lab Control Sample Dup	Total Recoverable	Water	6010B	121002
570-47782-D-11-B MS	Matrix Spike	Dissolved	Water	6010B	121002
570-47782-D-11-C MSD	Matrix Spike Duplicate	Dissolved	Water	6010B	121002

### Analysis Batch: 121162

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-1	SWCONF12-10.0	Total/NA	Solid	6010B	120648
570-47020-2	SWCONF12-15.0	Total/NA	Solid	6010B	120648
570-47020-3	SWCONF12-20.0	Total/NA	Solid	6010B	120648
570-47020-4	SWCONF12-25.5	Total/NA	Solid	6010B	120648
570-47020-5	SWCONF12-26.0	Total/NA	Solid	6010B	120648
570-47020-6	SWCONF12-30.0	Total/NA	Solid	6010B	120648
570-47020-7	SWCONF12-32.5	Total/NA	Solid	6010B	120648
570-47020-8	SWCONF12-33.0	Total/NA	Solid	6010B	120648
570-47020-9	SWCONF12-35.0	Total/NA	Solid	6010B	120648
570-47020-10	SWCONF12-40.0	Total/NA	Solid	6010B	120648
570-47020-11	SWCONF12-45.0	Total/NA	Solid	6010B	120648
570-47020-12	SWCONF12-50.0	Total/NA	Solid	6010B	120648
570-47020-13	SWCONF12-55.0	Total/NA	Solid	6010B	120648
570-47020-14	SWCONF12-57.0	Total/NA	Solid	6010B	120648
570-47020-15	SWCONF12-57.5	Total/NA	Solid	6010B	120648
570-47020-16	SWCONF12-60.0	Total/NA	Solid	6010B	120648
570-47020-17	SWCONF12-62.5	Total/NA	Solid	6010B	120648
570-47020-18	SWCONF12-63.0	Total/NA	Solid	6010B	120648

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Metals (Continued)

### Analysis Batch: 121162 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-19	SWCONF12-65.0	Total/NA	Solid	6010B	120648
570-47020-20	SWCONF12-70.0	Total/NA	Solid	6010B	120648
570-47020-21	SWCONF15-10.0	Total/NA	Solid	6010B	120652
570-47020-22	SWCONF15-15.0	Total/NA	Solid	6010B	120652
570-47020-23	SWCONF15-20.0	Total/NA	Solid	6010B	120652
570-47020-24	SWCONF15-25.0	Total/NA	Solid	6010B	120652
570-47020-25	SWCONF15-26.5	Total/NA	Solid	6010B	120652
570-47020-26	SWCONF15-27.0	Total/NA	Solid	6010B	120652
570-47020-27	SWCONF15-30.0	Total/NA	Solid	6010B	120652
570-47020-28	SWCONF15-35.0	Total/NA	Solid	6010B	120652
570-47020-29	SWCONF15-40.0	Total/NA	Solid	6010B	120652
570-47020-30	SWCONF15-45.0	Total/NA	Solid	6010B	120652
570-47020-31	SWCONF15-50.0	Total/NA	Solid	6010B	120652
570-47020-32	SWCONF15-55.0	Total/NA	Solid	6010B	120652
570-47020-33	SWCONF15-57.5	Total/NA	Solid	6010B	120652
570-47020-34	SWCONF15-58.0	Total/NA	Solid	6010B	120652
570-47020-35	SWCONF15-60.0	Total/NA	Solid	6010B	120652
570-47020-36	SWCONF15-65.0	Total/NA	Solid	6010B	120652
570-47020-37	SWCONF15-70.0	Total/NA	Solid	6010B	120652
570-47020-38	SWCONF15-62.5	Total/NA	Solid	6010B	120652
570-47020-39	SWCONF15-63.0	Total/NA	Solid	6010B	120652
MB 570-120648/1-A	Method Blank	Total/NA	Solid	6010B	120648
MB 570-120652/1-A	Method Blank	Total/NA	Solid	6010B	120652
LCS 570-120648/2-A	Lab Control Sample	Total/NA	Solid	6010B	120648
LCS 570-120652/2-A	Lab Control Sample	Total/NA	Solid	6010B	120652
LCSD 570-120648/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	120648
LCSD 570-120652/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	120652
570-47020-1 MS	SWCONF12-10.0	Total/NA	Solid	6010B	120648
570-47020-1 MSD	SWCONF12-10.0	Total/NA	Solid	6010B	120648
570-47020-21 MS	SWCONF15-10.0	Total/NA	Solid	6010B	120652
570-47020-21 MSD	SWCONF15-10.0	Total/NA	Solid	6010B	120652

## General Chemistry

### Cleanup Batch: 118398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-46886-A-1-U MSI ^25	Matrix Spike	Total/NA	Solid	Homogenize Prep	
570-46886-A-1-V MSID ^25	Matrix Spike Duplicate	Total/NA	Solid	Homogenize Prep	
570-46886-A-1-W MS	Matrix Spike	Total/NA	Solid	Homogenize Prep	
570-46886-A-1-X MSD	Matrix Spike Duplicate	Total/NA	Solid	Homogenize Prep	

### Leach Batch: 118566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-1	SWCONF12-10.0	Total/NA	Solid	DI Leach	
570-47020-2	SWCONF12-15.0	Total/NA	Solid	DI Leach	
570-47020-3	SWCONF12-20.0	Total/NA	Solid	DI Leach	
570-47020-4	SWCONF12-25.5	Total/NA	Solid	DI Leach	
570-47020-5	SWCONF12-26.0	Total/NA	Solid	DI Leach	

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## General Chemistry (Continued)

### Leach Batch: 118566 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-6	SWCONF12-30.0	Total/NA	Solid	DI Leach	
570-47020-7	SWCONF12-32.5	Total/NA	Solid	DI Leach	
570-47020-8	SWCONF12-33.0	Total/NA	Solid	DI Leach	
570-47020-9	SWCONF12-35.0	Total/NA	Solid	DI Leach	
570-47020-10	SWCONF12-40.0	Total/NA	Solid	DI Leach	
570-47020-11	SWCONF12-45.0	Total/NA	Solid	DI Leach	
570-47020-12	SWCONF12-50.0	Total/NA	Solid	DI Leach	
570-47020-13	SWCONF12-55.0	Total/NA	Solid	DI Leach	
570-47020-14	SWCONF12-57.0	Total/NA	Solid	DI Leach	
570-47020-15	SWCONF12-57.5	Total/NA	Solid	DI Leach	
570-47020-16	SWCONF12-60.0	Total/NA	Solid	DI Leach	
570-47020-17	SWCONF12-62.5	Total/NA	Solid	DI Leach	
570-46871-A-31-B DU	Duplicate	Total/NA	Solid	DI Leach	

### Analysis Batch: 118621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-1	SWCONF12-10.0	Total/NA	Solid	Moisture	
570-47020-2	SWCONF12-15.0	Total/NA	Solid	Moisture	
440-276473-C-3 DU	Duplicate	Total/NA	Solid	Moisture	

### Analysis Batch: 118634

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-3	SWCONF12-20.0	Total/NA	Solid	Moisture	
570-47020-4	SWCONF12-25.5	Total/NA	Solid	Moisture	
570-47020-5	SWCONF12-26.0	Total/NA	Solid	Moisture	
570-47020-6	SWCONF12-30.0	Total/NA	Solid	Moisture	
570-47020-7	SWCONF12-32.5	Total/NA	Solid	Moisture	
570-47020-8	SWCONF12-33.0	Total/NA	Solid	Moisture	
570-47020-9	SWCONF12-35.0	Total/NA	Solid	Moisture	
570-47020-10	SWCONF12-40.0	Total/NA	Solid	Moisture	
570-47020-11	SWCONF12-45.0	Total/NA	Solid	Moisture	
570-47020-12	SWCONF12-50.0	Total/NA	Solid	Moisture	
570-47020-13	SWCONF12-55.0	Total/NA	Solid	Moisture	
570-47020-14	SWCONF12-57.0	Total/NA	Solid	Moisture	
570-47020-15	SWCONF12-57.5	Total/NA	Solid	Moisture	
570-47020-16	SWCONF12-60.0	Total/NA	Solid	Moisture	
570-47020-17	SWCONF12-62.5	Total/NA	Solid	Moisture	
570-47020-18	SWCONF12-63.0	Total/NA	Solid	Moisture	
570-47020-19	SWCONF12-65.0	Total/NA	Solid	Moisture	
570-47020-20	SWCONF12-70.0	Total/NA	Solid	Moisture	
570-47020-21	SWCONF15-10.0	Total/NA	Solid	Moisture	
570-47020-22	SWCONF15-15.0	Total/NA	Solid	Moisture	
570-47020-3 DU	SWCONF12-20.0	Total/NA	Solid	Moisture	
570-47020-13 DU	SWCONF12-55.0	Total/NA	Solid	Moisture	

### Analysis Batch: 118635

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-23	SWCONF15-20.0	Total/NA	Solid	Moisture	
570-47020-24	SWCONF15-25.0	Total/NA	Solid	Moisture	
570-47020-25	SWCONF15-26.5	Total/NA	Solid	Moisture	
570-47020-26	SWCONF15-27.0	Total/NA	Solid	Moisture	

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## General Chemistry (Continued)

### Analysis Batch: 118635 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-27	SWCONF15-30.0	Total/NA	Solid	Moisture	
570-47020-28	SWCONF15-35.0	Total/NA	Solid	Moisture	
570-47020-29	SWCONF15-40.0	Total/NA	Solid	Moisture	
570-47020-30	SWCONF15-45.0	Total/NA	Solid	Moisture	
570-47020-31	SWCONF15-50.0	Total/NA	Solid	Moisture	
570-47020-32	SWCONF15-55.0	Total/NA	Solid	Moisture	
570-47020-33	SWCONF15-57.5	Total/NA	Solid	Moisture	
570-47020-34	SWCONF15-58.0	Total/NA	Solid	Moisture	
570-47020-35	SWCONF15-60.0	Total/NA	Solid	Moisture	
570-47020-36	SWCONF15-65.0	Total/NA	Solid	Moisture	
570-47020-37	SWCONF15-70.0	Total/NA	Solid	Moisture	
570-47020-38	SWCONF15-62.5	Total/NA	Solid	Moisture	
570-47020-39	SWCONF15-63.0	Total/NA	Solid	Moisture	
570-47020-23 DU	SWCONF15-20.0	Total/NA	Solid	Moisture	
570-47020-33 DU	SWCONF15-57.5	Total/NA	Solid	Moisture	

### Leach Batch: 118636

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-18	SWCONF12-63.0	Total/NA	Solid	DI Leach	
570-47020-19	SWCONF12-65.0	Total/NA	Solid	DI Leach	
570-47020-20	SWCONF12-70.0	Total/NA	Solid	DI Leach	
570-47020-21	SWCONF15-10.0	Total/NA	Solid	DI Leach	
570-47020-22	SWCONF15-15.0	Total/NA	Solid	DI Leach	
570-47020-23	SWCONF15-20.0	Total/NA	Solid	DI Leach	
570-47020-24	SWCONF15-25.0	Total/NA	Solid	DI Leach	
570-47020-25	SWCONF15-26.5	Total/NA	Solid	DI Leach	
570-47020-26	SWCONF15-27.0	Total/NA	Solid	DI Leach	
570-47020-27	SWCONF15-30.0	Total/NA	Solid	DI Leach	
570-47020-28	SWCONF15-35.0	Total/NA	Solid	DI Leach	
570-47020-29	SWCONF15-40.0	Total/NA	Solid	DI Leach	
570-47020-30	SWCONF15-45.0	Total/NA	Solid	DI Leach	
570-47020-31	SWCONF15-50.0	Total/NA	Solid	DI Leach	
570-47020-32	SWCONF15-55.0	Total/NA	Solid	DI Leach	
570-47020-33	SWCONF15-57.5	Total/NA	Solid	DI Leach	
570-47020-34	SWCONF15-58.0	Total/NA	Solid	DI Leach	
570-47020-35	SWCONF15-60.0	Total/NA	Solid	DI Leach	
570-47020-36	SWCONF15-65.0	Total/NA	Solid	DI Leach	
570-47020-37	SWCONF15-70.0	Total/NA	Solid	DI Leach	
570-47020-18 DU	SWCONF12-63.0	Total/NA	Solid	DI Leach	

### Analysis Batch: 118641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-1	SWCONF12-10.0	Total/NA	Solid	9045C	118566
570-47020-2	SWCONF12-15.0	Total/NA	Solid	9045C	118566
570-47020-3	SWCONF12-20.0	Total/NA	Solid	9045C	118566
570-47020-4	SWCONF12-25.5	Total/NA	Solid	9045C	118566
570-47020-5	SWCONF12-26.0	Total/NA	Solid	9045C	118566
570-47020-6	SWCONF12-30.0	Total/NA	Solid	9045C	118566
570-47020-7	SWCONF12-32.5	Total/NA	Solid	9045C	118566
570-47020-8	SWCONF12-33.0	Total/NA	Solid	9045C	118566
570-47020-9	SWCONF12-35.0	Total/NA	Solid	9045C	118566

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## General Chemistry (Continued)

### Analysis Batch: 118641 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-10	SWCONF12-40.0	Total/NA	Solid	9045C	118566
570-47020-11	SWCONF12-45.0	Total/NA	Solid	9045C	118566
570-47020-12	SWCONF12-50.0	Total/NA	Solid	9045C	118566
570-47020-13	SWCONF12-55.0	Total/NA	Solid	9045C	118566
570-47020-14	SWCONF12-57.0	Total/NA	Solid	9045C	118566
570-47020-15	SWCONF12-57.5	Total/NA	Solid	9045C	118566
570-47020-16	SWCONF12-60.0	Total/NA	Solid	9045C	118566
570-47020-17	SWCONF12-62.5	Total/NA	Solid	9045C	118566
570-46871-A-31-B DU	Duplicate	Total/NA	Solid	9045C	118566

### Analysis Batch: 118642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-18	SWCONF12-63.0	Total/NA	Solid	9045C	118636
570-47020-19	SWCONF12-65.0	Total/NA	Solid	9045C	118636
570-47020-20	SWCONF12-70.0	Total/NA	Solid	9045C	118636
570-47020-21	SWCONF15-10.0	Total/NA	Solid	9045C	118636
570-47020-22	SWCONF15-15.0	Total/NA	Solid	9045C	118636
570-47020-23	SWCONF15-20.0	Total/NA	Solid	9045C	118636
570-47020-24	SWCONF15-25.0	Total/NA	Solid	9045C	118636
570-47020-25	SWCONF15-26.5	Total/NA	Solid	9045C	118636
570-47020-26	SWCONF15-27.0	Total/NA	Solid	9045C	118636
570-47020-27	SWCONF15-30.0	Total/NA	Solid	9045C	118636
570-47020-28	SWCONF15-35.0	Total/NA	Solid	9045C	118636
570-47020-29	SWCONF15-40.0	Total/NA	Solid	9045C	118636
570-47020-30	SWCONF15-45.0	Total/NA	Solid	9045C	118636
570-47020-31	SWCONF15-50.0	Total/NA	Solid	9045C	118636
570-47020-32	SWCONF15-55.0	Total/NA	Solid	9045C	118636
570-47020-33	SWCONF15-57.5	Total/NA	Solid	9045C	118636
570-47020-34	SWCONF15-58.0	Total/NA	Solid	9045C	118636
570-47020-35	SWCONF15-60.0	Total/NA	Solid	9045C	118636
570-47020-36	SWCONF15-65.0	Total/NA	Solid	9045C	118636
570-47020-37	SWCONF15-70.0	Total/NA	Solid	9045C	118636
570-47020-18 DU	SWCONF12-63.0	Total/NA	Solid	9045C	118636

### Leach Batch: 118669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-38	SWCONF15-62.5	Total/NA	Solid	DI Leach	
570-47020-39	SWCONF15-63.0	Total/NA	Solid	DI Leach	
570-47020-38 DU	SWCONF15-62.5	Total/NA	Solid	DI Leach	

### Analysis Batch: 118687

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-38	SWCONF15-62.5	Total/NA	Solid	9045C	118669
570-47020-39	SWCONF15-63.0	Total/NA	Solid	9045C	118669
570-47020-38 DU	SWCONF15-62.5	Total/NA	Solid	9045C	118669

### Prep Batch: 119815

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-1	SWCONF12-10.0	Total/NA	Solid	3060A	
570-47020-2	SWCONF12-15.0	Total/NA	Solid	3060A	
570-47020-3	SWCONF12-20.0	Total/NA	Solid	3060A	

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## General Chemistry (Continued)

### Prep Batch: 119815 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-4	SWCONF12-25.5	Total/NA	Solid	3060A	
MB 570-119815/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-119815/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-119815/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-46886-A-1-U MSI ^25	Matrix Spike	Total/NA	Solid	3060A	118398
570-46886-A-1-V MSID ^25	Matrix Spike Duplicate	Total/NA	Solid	3060A	118398
570-46886-A-1-W MS	Matrix Spike	Total/NA	Solid	3060A	118398
570-46886-A-1-X MSD	Matrix Spike Duplicate	Total/NA	Solid	3060A	118398

### Prep Batch: 119889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-5	SWCONF12-26.0	Total/NA	Solid	3060A	
570-47020-6	SWCONF12-30.0	Total/NA	Solid	3060A	
570-47020-7	SWCONF12-32.5	Total/NA	Solid	3060A	
570-47020-8	SWCONF12-33.0	Total/NA	Solid	3060A	
570-47020-9	SWCONF12-35.0	Total/NA	Solid	3060A	
570-47020-10	SWCONF12-40.0	Total/NA	Solid	3060A	
570-47020-11	SWCONF12-45.0	Total/NA	Solid	3060A	
570-47020-12	SWCONF12-50.0	Total/NA	Solid	3060A	
570-47020-13	SWCONF12-55.0	Total/NA	Solid	3060A	
570-47020-14	SWCONF12-57.0	Total/NA	Solid	3060A	
MB 570-119889/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-119889/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-119889/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-47020-9 MS	SWCONF12-35.0	Total/NA	Solid	3060A	
570-47020-9 MSD	SWCONF12-35.0	Total/NA	Solid	3060A	
570-47020-9 MSI	SWCONF12-35.0	Total/NA	Solid	3060A	
570-47020-9 MSID	SWCONF12-35.0	Total/NA	Solid	3060A	

### Analysis Batch: 119944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-1	SWCONF12-10.0	Total/NA	Solid	7196A	119815
570-47020-2	SWCONF12-15.0	Total/NA	Solid	7196A	119815
570-47020-3	SWCONF12-20.0	Total/NA	Solid	7196A	119815
570-47020-4	SWCONF12-25.5	Total/NA	Solid	7196A	119815
MB 570-119815/1-A	Method Blank	Total/NA	Solid	7196A	119815
LCS 570-119815/2-A	Lab Control Sample	Total/NA	Solid	7196A	119815
LCSD 570-119815/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	119815
570-46886-A-1-U MSI ^25	Matrix Spike	Total/NA	Solid	7196A	119815
570-46886-A-1-V MSID ^25	Matrix Spike Duplicate	Total/NA	Solid	7196A	119815
570-46886-A-1-W MS	Matrix Spike	Total/NA	Solid	7196A	119815
570-46886-A-1-X MSD	Matrix Spike Duplicate	Total/NA	Solid	7196A	119815

### Prep Batch: 120179

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-15	SWCONF12-57.5	Total/NA	Solid	3060A	
570-47020-16	SWCONF12-60.0	Total/NA	Solid	3060A	
570-47020-17	SWCONF12-62.5	Total/NA	Solid	3060A	
570-47020-18	SWCONF12-63.0	Total/NA	Solid	3060A	
570-47020-19	SWCONF12-65.0	Total/NA	Solid	3060A	
570-47020-20	SWCONF12-70.0	Total/NA	Solid	3060A	

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## General Chemistry (Continued)

### Prep Batch: 120179 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-120179/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-120179/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-120179/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-47020-20 MS	SWCONF12-70.0	Total/NA	Solid	3060A	
570-47020-20 MSD	SWCONF12-70.0	Total/NA	Solid	3060A	
570-47020-20 MSI	SWCONF12-70.0	Total/NA	Solid	3060A	
570-47020-20 MSID	SWCONF12-70.0	Total/NA	Solid	3060A	

### Analysis Batch: 120194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-5	SWCONF12-26.0	Total/NA	Solid	7196A	119889
570-47020-6	SWCONF12-30.0	Total/NA	Solid	7196A	119889
570-47020-7	SWCONF12-32.5	Total/NA	Solid	7196A	119889
570-47020-8	SWCONF12-33.0	Total/NA	Solid	7196A	119889
570-47020-9	SWCONF12-35.0	Total/NA	Solid	7196A	119889
570-47020-10	SWCONF12-40.0	Total/NA	Solid	7196A	119889
570-47020-11	SWCONF12-45.0	Total/NA	Solid	7196A	119889
570-47020-12	SWCONF12-50.0	Total/NA	Solid	7196A	119889
570-47020-13	SWCONF12-55.0	Total/NA	Solid	7196A	119889
570-47020-14	SWCONF12-57.0	Total/NA	Solid	7196A	119889
MB 570-119889/1-A	Method Blank	Total/NA	Solid	7196A	119889
LCS 570-119889/2-A	Lab Control Sample	Total/NA	Solid	7196A	119889
LCSD 570-119889/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	119889
570-47020-9 MS	SWCONF12-35.0	Total/NA	Solid	7196A	119889
570-47020-9 MSD	SWCONF12-35.0	Total/NA	Solid	7196A	119889
570-47020-9 MSI	SWCONF12-35.0	Total/NA	Solid	7196A	119889
570-47020-9 MSID	SWCONF12-35.0	Total/NA	Solid	7196A	119889

### Prep Batch: 120364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-21	SWCONF15-10.0	Total/NA	Solid	3060A	
570-47020-22	SWCONF15-15.0	Total/NA	Solid	3060A	
570-47020-23	SWCONF15-20.0	Total/NA	Solid	3060A	
570-47020-24	SWCONF15-25.0	Total/NA	Solid	3060A	
570-47020-25	SWCONF15-26.5	Total/NA	Solid	3060A	
570-47020-26	SWCONF15-27.0	Total/NA	Solid	3060A	
570-47020-27	SWCONF15-30.0	Total/NA	Solid	3060A	
570-47020-28	SWCONF15-35.0	Total/NA	Solid	3060A	
570-47020-29	SWCONF15-40.0	Total/NA	Solid	3060A	
570-47020-30	SWCONF15-45.0	Total/NA	Solid	3060A	
570-47020-31	SWCONF15-50.0	Total/NA	Solid	3060A	
570-47020-32	SWCONF15-55.0	Total/NA	Solid	3060A	
570-47020-33	SWCONF15-57.5	Total/NA	Solid	3060A	
570-47020-34	SWCONF15-58.0	Total/NA	Solid	3060A	
570-47020-35	SWCONF15-60.0	Total/NA	Solid	3060A	
570-47020-36	SWCONF15-65.0	Total/NA	Solid	3060A	
570-47020-37	SWCONF15-70.0	Total/NA	Solid	3060A	
570-47020-38	SWCONF15-62.5	Total/NA	Solid	3060A	
570-47020-39	SWCONF15-63.0	Total/NA	Solid	3060A	
MB 570-120364/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-120364/2-A	Lab Control Sample	Total/NA	Solid	3060A	

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## General Chemistry (Continued)

### Prep Batch: 120364 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 570-120364/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-47020-30 MS	SWCONF15-45.0	Total/NA	Solid	3060A	
570-47020-30 MSD	SWCONF15-45.0	Total/NA	Solid	3060A	
570-47020-30 MSI	SWCONF15-45.0	Total/NA	Solid	3060A	
570-47020-30 MSID	SWCONF15-45.0	Total/NA	Solid	3060A	
570-47020-31 MS	SWCONF15-50.0	Total/NA	Solid	3060A	
570-47020-31 MSD	SWCONF15-50.0	Total/NA	Solid	3060A	
570-47020-31 MSI	SWCONF15-50.0	Total/NA	Solid	3060A	
570-47020-31 MSID	SWCONF15-50.0	Total/NA	Solid	3060A	

### Analysis Batch: 120621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-15	SWCONF12-57.5	Total/NA	Solid	7196A	120179
570-47020-16	SWCONF12-60.0	Total/NA	Solid	7196A	120179
570-47020-17	SWCONF12-62.5	Total/NA	Solid	7196A	120179
570-47020-18	SWCONF12-63.0	Total/NA	Solid	7196A	120179
570-47020-19	SWCONF12-65.0	Total/NA	Solid	7196A	120179
570-47020-20	SWCONF12-70.0	Total/NA	Solid	7196A	120179
MB 570-120179/1-A	Method Blank	Total/NA	Solid	7196A	120179
LCS 570-120179/2-A	Lab Control Sample	Total/NA	Solid	7196A	120179
LCSD 570-120179/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	120179
570-47020-20 MS	SWCONF12-70.0	Total/NA	Solid	7196A	120179
570-47020-20 MSD	SWCONF12-70.0	Total/NA	Solid	7196A	120179
570-47020-20 MSI	SWCONF12-70.0	Total/NA	Solid	7196A	120179
570-47020-20 MSID	SWCONF12-70.0	Total/NA	Solid	7196A	120179

### Analysis Batch: 120884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-21	SWCONF15-10.0	Total/NA	Solid	7196A	120364
570-47020-22	SWCONF15-15.0	Total/NA	Solid	7196A	120364
570-47020-23	SWCONF15-20.0	Total/NA	Solid	7196A	120364
570-47020-24	SWCONF15-25.0	Total/NA	Solid	7196A	120364
570-47020-25	SWCONF15-26.5	Total/NA	Solid	7196A	120364
570-47020-26	SWCONF15-27.0	Total/NA	Solid	7196A	120364
570-47020-27	SWCONF15-30.0	Total/NA	Solid	7196A	120364
570-47020-28	SWCONF15-35.0	Total/NA	Solid	7196A	120364
570-47020-29	SWCONF15-40.0	Total/NA	Solid	7196A	120364
570-47020-30	SWCONF15-45.0	Total/NA	Solid	7196A	120364
570-47020-31	SWCONF15-50.0	Total/NA	Solid	7196A	120364
570-47020-32	SWCONF15-55.0	Total/NA	Solid	7196A	120364
570-47020-33	SWCONF15-57.5	Total/NA	Solid	7196A	120364
570-47020-34	SWCONF15-58.0	Total/NA	Solid	7196A	120364
570-47020-35	SWCONF15-60.0	Total/NA	Solid	7196A	120364
570-47020-36	SWCONF15-65.0	Total/NA	Solid	7196A	120364
570-47020-37	SWCONF15-70.0	Total/NA	Solid	7196A	120364
570-47020-38	SWCONF15-62.5	Total/NA	Solid	7196A	120364
570-47020-39	SWCONF15-63.0	Total/NA	Solid	7196A	120364
MB 570-120364/1-A	Method Blank	Total/NA	Solid	7196A	120364
LCS 570-120364/2-A	Lab Control Sample	Total/NA	Solid	7196A	120364
LCSD 570-120364/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	120364
570-47020-30 MS	SWCONF15-45.0	Total/NA	Solid	7196A	120364

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## QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

### General Chemistry (Continued)

#### Analysis Batch: 120884 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47020-30 MSD	SWCONF15-45.0	Total/NA	Solid	7196A	120364
570-47020-30 MSI	SWCONF15-45.0	Total/NA	Solid	7196A	120364
570-47020-30 MSID	SWCONF15-45.0	Total/NA	Solid	7196A	120364
570-47020-31 MS	SWCONF15-50.0	Total/NA	Solid	7196A	120364
570-47020-31 MSD	SWCONF15-50.0	Total/NA	Solid	7196A	120364
570-47020-31 MSI	SWCONF15-50.0	Total/NA	Solid	7196A	120364
570-47020-31 MSID	SWCONF15-50.0	Total/NA	Solid	7196A	120364

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

## Client Sample ID: SWCONF12-10.0

## Lab Sample ID: 570-47020-1

Date Collected: 12/23/20 08:00

Matrix: Solid

Date Received: 12/23/20 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	100 mL	120648	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 12:40	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.54 g	100 mL	119815	12/31/20 14:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119944	01/02/21 16:59	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.95 g	20 mL	118566	12/23/20 17:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118641	12/23/20 22:45	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118621	12/23/20 20:03	UAPD	ECL 1
Instrument ID: BAL87										

## Client Sample ID: SWCONF12-15.0

## Lab Sample ID: 570-47020-2

Date Collected: 12/23/20 08:05

Matrix: Solid

Date Received: 12/23/20 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	100 mL	120648	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 12:57	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.52 g	100 mL	119815	12/31/20 14:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119944	01/02/21 17:00	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	118566	12/23/20 17:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118641	12/23/20 22:45	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118621	12/23/20 20:03	UAPD	ECL 1
Instrument ID: BAL87										

## Client Sample ID: SWCONF12-20.0

## Lab Sample ID: 570-47020-3

Date Collected: 12/23/20 08:15

Matrix: Solid

Date Received: 12/23/20 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	120648	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 13:00	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.51 g	100 mL	119815	12/31/20 14:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119944	01/02/21 17:01	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	118566	12/23/20 17:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118641	12/23/20 22:45	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118634	12/23/20 20:40	UAPD	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF12-25.5**

**Lab Sample ID: 570-47020-4**

**Date Collected: 12/23/20 08:20**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.09 g	100 mL	120648	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 13:03	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.50 g	100 mL	119815	12/31/20 14:23	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	119944	01/02/21 17:02	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	118566	12/23/20 17:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118641	12/23/20 22:45	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118634	12/23/20 20:40	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF12-26.0**

**Lab Sample ID: 570-47020-5**

**Date Collected: 12/23/20 08:21**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.96 g	100 mL	120648	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 13:07	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.50 g	100 mL	119889	01/02/21 11:07	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120194	01/04/21 20:35	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	118566	12/23/20 17:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118641	12/23/20 22:45	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118634	12/23/20 20:40	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF12-30.0**

**Lab Sample ID: 570-47020-6**

**Date Collected: 12/23/20 08:30**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.08 g	100 mL	120648	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 13:10	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.53 g	100 mL	119889	01/02/21 11:07	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120194	01/04/21 20:34	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.97 g	20 mL	118566	12/23/20 17:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118641	12/23/20 22:45	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118634	12/23/20 20:40	UAPD	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF12-32.5**

**Lab Sample ID: 570-47020-7**

**Date Collected: 12/23/20 08:44**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.92 g	100 mL	120648	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 13:13	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.53 g	100 mL	119889	01/02/21 11:07	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120194	01/04/21 20:33	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.04 g	20 mL	118566	12/23/20 17:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118641	12/23/20 22:45	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118634	12/23/20 20:40	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF12-33.0**

**Lab Sample ID: 570-47020-8**

**Date Collected: 12/23/20 08:45**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.05 g	100 mL	120648	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 13:16	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.50 g	100 mL	119889	01/02/21 11:07	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120194	01/04/21 20:32	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	118566	12/23/20 17:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118641	12/23/20 22:45	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118634	12/23/20 20:40	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF12-35.0**

**Lab Sample ID: 570-47020-9**

**Date Collected: 12/23/20 08:48**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	100 mL	120648	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 13:19	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.52 g	100 mL	119889	01/02/21 11:07	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120194	01/04/21 20:31	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.95 g	20 mL	118566	12/23/20 17:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118641	12/23/20 22:45	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118634	12/23/20 20:40	UAPD	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF12-40.0**

**Lab Sample ID: 570-47020-10**

**Date Collected: 12/23/20 08:58**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	120648	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 13:22	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.50 g	100 mL	119889	01/02/21 11:07	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120194	01/04/21 20:36	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	118566	12/23/20 17:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118641	12/23/20 22:45	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118634	12/23/20 20:40	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF12-45.0**

**Lab Sample ID: 570-47020-11**

**Date Collected: 12/23/20 09:08**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	100 mL	120648	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 13:25	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.54 g	100 mL	119889	01/02/21 11:07	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120194	01/04/21 20:37	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	118566	12/23/20 17:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118641	12/23/20 22:45	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118634	12/23/20 20:40	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF12-50.0**

**Lab Sample ID: 570-47020-12**

**Date Collected: 12/23/20 09:12**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.05 g	100 mL	120648	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 13:35	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.51 g	100 mL	119889	01/02/21 11:07	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120194	01/04/21 20:38	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	118566	12/23/20 17:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118641	12/23/20 22:45	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118634	12/23/20 20:40	UAPD	ECL 1
Instrument ID: BAL87										



# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF12-55.0**

**Lab Sample ID: 570-47020-13**

**Date Collected: 12/23/20 09:25**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.05 g	100 mL	120648	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 13:38	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.49 g	100 mL	119889	01/02/21 11:07	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120194	01/04/21 20:39	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.03 g	20 mL	118566	12/23/20 17:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118641	12/23/20 22:45	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118634	12/23/20 20:40	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF12-57.0**

**Lab Sample ID: 570-47020-14**

**Date Collected: 12/23/20 09:26**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.97 g	100 mL	120648	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 13:41	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.51 g	100 mL	119889	01/02/21 11:07	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120194	01/04/21 20:40	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.03 g	20 mL	118566	12/23/20 17:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118641	12/23/20 22:45	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118634	12/23/20 20:40	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF12-57.5**

**Lab Sample ID: 570-47020-15**

**Date Collected: 12/23/20 09:27**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.92 g	100 mL	120648	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 13:44	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.50 g	100 mL	120179	01/05/21 13:00	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120621	01/06/21 16:38	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.96 g	20 mL	118566	12/23/20 17:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118641	12/23/20 22:45	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118634	12/23/20 20:40	UAPD	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF12-60.0**

**Lab Sample ID: 570-47020-16**

**Date Collected: 12/23/20 09:33**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	100 mL	120648	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 13:47	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.47 g	100 mL	120179	01/05/21 13:00	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120621	01/06/21 16:39	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	118566	12/23/20 17:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118641	12/23/20 22:45	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118634	12/23/20 20:40	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF12-62.5**

**Lab Sample ID: 570-47020-17**

**Date Collected: 12/23/20 09:40**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.96 g	100 mL	120648	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 13:50	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.51 g	100 mL	120179	01/05/21 13:00	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120621	01/06/21 16:40	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.05 g	20 mL	118566	12/23/20 17:30	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118641	12/23/20 22:45	WN6Y	ECL 1
Instrument ID: NOEQUIP										
Total/NA	Analysis	Moisture		1			118634	12/23/20 20:40	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF12-63.0**

**Lab Sample ID: 570-47020-18**

**Date Collected: 12/23/20 09:42**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	100 mL	120648	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 13:53	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.48 g	100 mL	120179	01/05/21 13:00	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120621	01/06/21 16:41	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	118636	12/23/20 21:28	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118642	12/23/20 22:54	WN6Y	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			118634	12/23/20 20:40	UAPD	ECL 1
Instrument ID: BAL87										

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# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF12-65.0**

**Lab Sample ID: 570-47020-19**

**Date Collected: 12/23/20 09:44**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	100 mL	120648	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 13:56	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.53 g	100 mL	120179	01/05/21 13:00	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120621	01/06/21 16:42	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.96 g	20 mL	118636	12/23/20 21:28	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118642	12/23/20 22:54	WN6Y	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			118634	12/23/20 20:40	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF12-70.0**

**Lab Sample ID: 570-47020-20**

**Date Collected: 12/23/20 09:45**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	120648	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 13:59	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.52 g	100 mL	120179	01/05/21 13:00	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120621	01/06/21 16:43	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.05 g	20 mL	118636	12/23/20 21:28	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118642	12/23/20 22:54	WN6Y	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			118634	12/23/20 20:40	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF15-10.0**

**Lab Sample ID: 570-47020-21**

**Date Collected: 12/23/20 12:25**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	100 mL	120652	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 14:40	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.49 g	100 mL	120364	01/05/21 15:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120884	01/07/21 15:07	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	118636	12/23/20 21:28	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118642	12/23/20 22:54	WN6Y	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			118634	12/23/20 20:40	UAPD	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF15-15.0**

**Lab Sample ID: 570-47020-22**

**Date Collected: 12/23/20 12:30**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.95 g	100 mL	120652	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 14:49	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.50 g	100 mL	120364	01/05/21 15:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120884	01/07/21 15:06	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.03 g	20 mL	118636	12/23/20 21:28	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118642	12/23/20 22:54	WN6Y	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			118634	12/23/20 20:40	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF15-20.0**

**Lab Sample ID: 570-47020-23**

**Date Collected: 12/23/20 12:25**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	120652	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 14:52	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.52 g	100 mL	120364	01/05/21 15:00	CO7S	ECL 1
Total/NA	Analysis	7196A		25	100 mL	100 mL	120884	01/07/21 15:05	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	118636	12/23/20 21:28	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118642	12/23/20 22:54	WN6Y	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			118635	12/23/20 21:03	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF15-25.0**

**Lab Sample ID: 570-47020-24**

**Date Collected: 12/23/20 12:50**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	100 mL	120652	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 14:55	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.49 g	100 mL	120364	01/05/21 15:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120884	01/07/21 15:04	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	118636	12/23/20 21:28	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118642	12/23/20 22:54	WN6Y	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			118635	12/23/20 21:03	UAPD	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF15-26.5**

**Lab Sample ID: 570-47020-25**

**Date Collected: 12/23/20 12:51**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	120652	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 14:58	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.52 g	100 mL	120364	01/05/21 15:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120884	01/07/21 15:03	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.95 g	20 mL	118636	12/23/20 21:28	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118642	12/23/20 22:54	WN6Y	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			118635	12/23/20 21:03	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF15-27.0**

**Lab Sample ID: 570-47020-26**

**Date Collected: 12/23/20 12:52**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.95 g	100 mL	120652	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 15:07	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.53 g	100 mL	120364	01/05/21 15:00	CO7S	ECL 1
Total/NA	Analysis	7196A		25	100 mL	100 mL	120884	01/07/21 15:02	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	118636	12/23/20 21:28	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118642	12/23/20 22:54	WN6Y	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			118635	12/23/20 21:03	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF15-30.0**

**Lab Sample ID: 570-47020-27**

**Date Collected: 12/23/20 12:55**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.06 g	100 mL	120652	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 15:10	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.52 g	100 mL	120364	01/05/21 15:00	CO7S	ECL 1
Total/NA	Analysis	7196A		5	100 mL	100 mL	120884	01/07/21 15:01	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	118636	12/23/20 21:28	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118642	12/23/20 22:54	WN6Y	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			118635	12/23/20 21:03	UAPD	ECL 1
Instrument ID: BAL87										



# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF15-35.0**

**Lab Sample ID: 570-47020-28**

**Date Collected: 12/23/20 12:57**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	120652	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 15:13	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.51 g	100 mL	120364	01/05/21 15:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120884	01/07/21 15:00	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	118636	12/23/20 21:28	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118642	12/23/20 22:54	WN6Y	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			118635	12/23/20 21:03	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF15-40.0**

**Lab Sample ID: 570-47020-29**

**Date Collected: 12/23/20 13:00**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	100 mL	120652	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 15:16	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.52 g	100 mL	120364	01/05/21 15:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120884	01/07/21 14:59	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.97 g	20 mL	118636	12/23/20 21:28	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118642	12/23/20 22:54	WN6Y	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			118635	12/23/20 21:03	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF15-45.0**

**Lab Sample ID: 570-47020-30**

**Date Collected: 12/23/20 13:05**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.96 g	100 mL	120652	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 15:20	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.50 g	100 mL	120364	01/05/21 15:00	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120884	01/07/21 14:58	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	118636	12/23/20 21:28	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118642	12/23/20 22:54	WN6Y	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			118635	12/23/20 21:03	UAPD	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF15-50.0**

**Lab Sample ID: 570-47020-31**

**Date Collected: 12/23/20 13:10**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	100 mL	120652	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 15:23	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.54 g	100 mL	120364	01/05/21 15:05	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120884	01/07/21 15:16	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	118636	12/23/20 21:28	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118642	12/23/20 22:54	WN6Y	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			118635	12/23/20 21:03	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF15-55.0**

**Lab Sample ID: 570-47020-32**

**Date Collected: 12/23/20 13:13**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.05 g	100 mL	120652	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 15:26	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.51 g	100 mL	120364	01/05/21 15:05	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120884	01/07/21 15:17	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	118636	12/23/20 21:28	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118642	12/23/20 22:54	WN6Y	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			118635	12/23/20 21:03	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF15-57.5**

**Lab Sample ID: 570-47020-33**

**Date Collected: 12/23/20 13:20**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.06 g	100 mL	120652	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 15:29	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.52 g	100 mL	120364	01/05/21 15:05	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120884	01/07/21 15:18	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	118636	12/23/20 21:28	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118642	12/23/20 22:54	WN6Y	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			118635	12/23/20 21:03	UAPD	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF15-58.0**

**Lab Sample ID: 570-47020-34**

**Date Collected: 12/23/20 13:23**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.90 g	100 mL	120652	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 15:32	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.51 g	100 mL	120364	01/05/21 15:05	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120884	01/07/21 15:19	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.96 g	20 mL	118636	12/23/20 21:28	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118642	12/23/20 22:54	WN6Y	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			118635	12/23/20 21:03	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF15-60.0**

**Lab Sample ID: 570-47020-35**

**Date Collected: 12/23/20 13:25**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	100 mL	120652	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 15:34	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.49 g	100 mL	120364	01/05/21 16:38	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120884	01/07/21 15:20	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.03 g	20 mL	118636	12/23/20 21:28	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118642	12/23/20 22:54	WN6Y	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			118635	12/23/20 21:03	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF15-65.0**

**Lab Sample ID: 570-47020-36**

**Date Collected: 12/23/20 13:30**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.09 g	100 mL	120652	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 15:43	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.54 g	100 mL	120364	01/05/21 16:38	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120884	01/07/21 15:21	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.96 g	20 mL	118636	12/23/20 21:28	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118642	12/23/20 22:54	WN6Y	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			118635	12/23/20 21:03	UAPD	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF15-70.0**

**Lab Sample ID: 570-47020-37**

**Date Collected: 12/23/20 13:31**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.96 g	100 mL	120652	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 15:46	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.50 g	100 mL	120364	01/05/21 16:38	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120884	01/07/21 15:22	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.96 g	20 mL	118636	12/23/20 21:28	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118642	12/23/20 22:54	WN6Y	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			118635	12/23/20 21:03	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF15-62.5**

**Lab Sample ID: 570-47020-38**

**Date Collected: 12/23/20 13:35**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.96 g	100 mL	120652	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 15:49	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.53 g	100 mL	120364	01/05/21 16:38	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120884	01/07/21 15:23	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	118669	12/24/20 10:57	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118687	12/24/20 15:48	WN6Y	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			118635	12/23/20 21:03	UAPD	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF15-63.0**

**Lab Sample ID: 570-47020-39**

**Date Collected: 12/23/20 13:37**

**Matrix: Solid**

**Date Received: 12/23/20 15:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	120652	01/06/21 20:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121162	01/08/21 15:52	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.53 g	100 mL	120364	01/05/21 16:38	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	120884	01/07/21 15:24	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	118669	12/24/20 10:57	WN6Y	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	118687	12/24/20 15:48	WN6Y	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			118635	12/23/20 21:03	UAPD	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

**Client Sample ID: EB03**

**Date Collected: 12/23/20 14:20**

**Date Received: 12/23/20 15:50**

**Lab Sample ID: 570-47020-40**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7199		1			118331	12/23/20 20:46	URMH	ECL 1
		Instrument ID: IC16								
Dissolved	Prep	3005A			50 mL	50 mL	121002	01/08/21 06:30	WL8G	ECL 1
Dissolved	Analysis	6010B		1			121007	01/08/21 13:17	ULPF	ECL 1
		Instrument ID: ICP8								

## Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494



## Accreditation/Certification Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

### Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-21
California	SCAQMD LAP	17LA0919	11-30-21
California	State	2944	09-30-21
Guam	State	20-003R	10-31-20 *
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-29-21
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-21

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Calscience LLC

## Method Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

Method	Method Description	Protocol	Laboratory
7199	Chromium, Hexavalent (IC)	SW846	ECL 1
6010B	Metals (ICP)	SW846	ECL 1
7196A	Chromium, Hexavalent	SW846	ECL 1
9045C	pH	SW846	ECL 1
Moisture	Percent Moisture	EPA	ECL 1
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	ECL 1
3050B	Preparation, Metals	SW846	ECL 1
3060A	Alkaline Digestion (Chromium, Hexavalent)	SW846	ECL 1
DI Leach	Deionized Water Leaching Procedure	ASTM	ECL 1

### Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

# Sample Summary

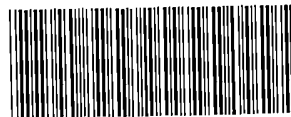
Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47020-1  
SDG: 0197.010.006

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-47020-1	SWCONF12-10.0	Solid	12/23/20 08:00	12/23/20 15:50	
570-47020-2	SWCONF12-15.0	Solid	12/23/20 08:05	12/23/20 15:50	
570-47020-3	SWCONF12-20.0	Solid	12/23/20 08:15	12/23/20 15:50	
570-47020-4	SWCONF12-25.5	Solid	12/23/20 08:20	12/23/20 15:50	
570-47020-5	SWCONF12-26.0	Solid	12/23/20 08:21	12/23/20 15:50	
570-47020-6	SWCONF12-30.0	Solid	12/23/20 08:30	12/23/20 15:50	
570-47020-7	SWCONF12-32.5	Solid	12/23/20 08:44	12/23/20 15:50	
570-47020-8	SWCONF12-33.0	Solid	12/23/20 08:45	12/23/20 15:50	
570-47020-9	SWCONF12-35.0	Solid	12/23/20 08:48	12/23/20 15:50	
570-47020-10	SWCONF12-40.0	Solid	12/23/20 08:58	12/23/20 15:50	
570-47020-11	SWCONF12-45.0	Solid	12/23/20 09:08	12/23/20 15:50	
570-47020-12	SWCONF12-50.0	Solid	12/23/20 09:12	12/23/20 15:50	
570-47020-13	SWCONF12-55.0	Solid	12/23/20 09:25	12/23/20 15:50	
570-47020-14	SWCONF12-57.0	Solid	12/23/20 09:26	12/23/20 15:50	
570-47020-15	SWCONF12-57.5	Solid	12/23/20 09:27	12/23/20 15:50	
570-47020-16	SWCONF12-60.0	Solid	12/23/20 09:33	12/23/20 15:50	
570-47020-17	SWCONF12-62.5	Solid	12/23/20 09:40	12/23/20 15:50	
570-47020-18	SWCONF12-63.0	Solid	12/23/20 09:42	12/23/20 15:50	
570-47020-19	SWCONF12-65.0	Solid	12/23/20 09:44	12/23/20 15:50	
570-47020-20	SWCONF12-70.0	Solid	12/23/20 09:45	12/23/20 15:50	
570-47020-21	SWCONF15-10.0	Solid	12/23/20 12:25	12/23/20 15:50	
570-47020-22	SWCONF15-15.0	Solid	12/23/20 12:30	12/23/20 15:50	
570-47020-23	SWCONF15-20.0	Solid	12/23/20 12:25	12/23/20 15:50	
570-47020-24	SWCONF15-25.0	Solid	12/23/20 12:50	12/23/20 15:50	
570-47020-25	SWCONF15-26.5	Solid	12/23/20 12:51	12/23/20 15:50	
570-47020-26	SWCONF15-27.0	Solid	12/23/20 12:52	12/23/20 15:50	
570-47020-27	SWCONF15-30.0	Solid	12/23/20 12:55	12/23/20 15:50	
570-47020-28	SWCONF15-35.0	Solid	12/23/20 12:57	12/23/20 15:50	
570-47020-29	SWCONF15-40.0	Solid	12/23/20 13:00	12/23/20 15:50	
570-47020-30	SWCONF15-45.0	Solid	12/23/20 13:05	12/23/20 15:50	
570-47020-31	SWCONF15-50.0	Solid	12/23/20 13:10	12/23/20 15:50	
570-47020-32	SWCONF15-55.0	Solid	12/23/20 13:13	12/23/20 15:50	
570-47020-33	SWCONF15-57.5	Solid	12/23/20 13:20	12/23/20 15:50	
570-47020-34	SWCONF15-58.0	Solid	12/23/20 13:23	12/23/20 15:50	
570-47020-35	SWCONF15-60.0	Solid	12/23/20 13:25	12/23/20 15:50	
570-47020-36	SWCONF15-65.0	Solid	12/23/20 13:30	12/23/20 15:50	
570-47020-37	SWCONF15-70.0	Solid	12/23/20 13:31	12/23/20 15:50	
570-47020-38	SWCONF15-62.5	Solid	12/23/20 13:35	12/23/20 15:50	
570-47020-39	SWCONF15-63.0	Solid	12/23/20 13:37	12/23/20 15:50	
570-47020-40	EB03	Water	12/23/20 14:20	12/23/20 15:50	



Calscience



570-47020 Chain of Custody

# 47020 CHAIN OF CUSTODY RECORD

DATE: 12/23/20

PAGE: 1 OF 4

7440 Lincoln Way, Garden Grove, CA 92641-1427 • (714) 895-5494

For courier service / sample drop off information, contact us26\_sales@eurofinsus.com or call us

LABORATORY CLIENT: Terraphase Engineering, Inc.						CLIENT PROJECT NAME / NUMBER: PTI Southwest Soil Injection Confirmation / 0197 010 006						P.O. NO.												
ADDRESS 1404 Franklin Street Suite 600						PROJECT CONTACT: Chris Alger (Terraphase), Virendra Patel (ECI)						SAMPLER(S): (PRINT) West Skellins												
CITY: Oakland		STATE: CA		ZIP: 94612																				
TEL. 510-645-1850 x58		E-MAIL: Chris.Alger@terraphase.com				REQUESTED ANALYSES																		
TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD") <input type="checkbox"/> SAME DAY <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input type="checkbox"/> 5 DAYS <input checked="" type="checkbox"/> STANDARD						Soil Analyses						Water Analyses												
<input type="checkbox"/> COELT EDF		GLOBAL ID:		LOG CODE: TEIO		EPA 6010B Cd, Cr, Cu, Pb, As Cr(VI) <input type="checkbox"/> 7196 <input type="checkbox"/> 7199 <input type="checkbox"/> 218 6 pH 9045C Moisture Content PCBs (8082)						EPA 6010B Cd, Cr, Cu, Pb, As Cr(VI) <input type="checkbox"/> 7196 <input checked="" type="checkbox"/> 7199 <input type="checkbox"/> 218 6 PCBs (8082)												
SPECIAL INSTRUCTIONS <ul style="list-style-type: none"> <li>Please provide results in generic EDD and ESDat formats</li> <li>Please email results to Chris Alger, Clare Steedman, EDD@terraphase.com</li> <li>Results in dry weight.</li> </ul>						Unpreserved		Preserved		Field Filtered														
LAB USE ONLY	SAMPLE ID	SAMPLING DATE TIME		MATRIX	NO. OF CONT.																			
1	SWCONF12-10.0	12/23/20	0800	S	1	X			X	X	X	X												
2	SWCONF12-15.0		0805			X			X	X	X	X												
3	SWCONF12-20.0		0815			X			X	X	X	X												
4	SWCONF12-25.5		0820			X			X	X	X	X												
5	SWCONF12-26.0		0821			X			X	X	X	X												
6	SWCONF12-30.0		0830			X			X	X	X	X												
7	SWCONF12-32.5		0844			X			X	X	X	X												
8	SWCONF12-33.0		0845			X			X	X	X	X												
9	SWCONF12-35.0		0848			X			X	X	X	X												
10	SWCONF12-40.0		0856			X			X	X	X	X												
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Relinquished by: (Signature)						Received by: (Signature/Affiliation)						Date		Time										



Calscience

7440 Lincoln Way, Garden Grove, CA 92841-1427 • (714) 895-5494

For courier service / sample drop off information, contact us26\_sales@eurofinsus.com or call us.

47020  
CHAIN OF CUSTODY RECORD

DATE: 12/23/20  
PAGE: 2 OF 4

LABORATORY CLIENT: Terraphase Engineering, Inc.						CLIENT PROJECT NAME / NUMBER: PTI Southwest Soil Injection Confirmation / 0197.010.006						P.O. NO.																																																																																																																																																																																																																																																												
ADDRESS: 1404 Franklin Street Suite 600						PROJECT CONTACT: Chris Alger (Terraphase), Virendra Patel (ECI)						SAMPLER(S): (PRINT) West Skillinst																																																																																																																																																																																																																																																												
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TEL: 510-645-1850 x58			E-MAIL: Chris.Alger@terraphase.com																																																																																																																																																																																																																																																																					
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## Login Sample Receipt Checklist

Client: Terraphase Engineering Inc

Job Number: 570-47020-1

SDG Number: 0197.010.006

**Login Number: 47020**

**List Number: 1**

**Creator: Cortez Diaz, Antonio**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

Eurofins Calscience LLC  
7440 Lincoln Way  
Garden Grove, CA 92841  
Tel: (714)895-5494

Laboratory Job ID: 570-47162-1

Laboratory Sample Delivery Group: 0197.010.006

Client Project/Site: PTI Southwest Soil Injection Confirmation

**For:**

Terraphase Engineering Inc  
18401 Von Karman Ave  
Suite 410  
Irvine, California 92612

Attn: Clare Steedman

*Virendra R Patel*

Authorized for release by:  
1/11/2021 3:04:33 PM

Virendra Patel, Project Manager I  
(714)895-5494

[Virendra.Patel@eurofinset.com](mailto:Virendra.Patel@eurofinset.com)

### LINKS

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*The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Definitions/Glossary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

## Qualifiers

### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
L	A negative instrument reading had an absolute value greater than the reporting limit

### General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

## Case Narrative

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

**Job ID: 570-47162-1**

**Laboratory: Eurofins Calscience LLC**

### Narrative

#### Job Narrative 570-47162-1

### Comments

No additional comments.

### Receipt

The samples were received on 12/28/2020 1:05 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.6° C.

### HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### Metals

Method 6010B: Due to the high concentration of Chromium, Copper, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 570-120907 and analytical batch 570-121421 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

Method 6010B: The absolute response for Arsenic was greater than the method reporting limit (RL) in the following sample: SWCONF13-15.0 (570-47162-15).

The instrument raw data has been manually reviewed and the result can be reported as ND.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### General Chemistry

Method 7196A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-120589 and analytical batch 570-121218 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

## Client Sample ID: SWCONF13-67.0

## Lab Sample ID: 570-47162-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.19		2.93	mg/Kg	1	✱	6010B	Total/NA
Chromium	193		1.17	mg/Kg	1	✱	6010B	Total/NA
Copper	586		1.17	mg/Kg	1	✱	6010B	Total/NA
pH	7.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF13-45.0

## Lab Sample ID: 570-47162-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	297		1.06	mg/Kg	1	✱	6010B	Total/NA
Copper	333		1.06	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	3.45		0.823	mg/Kg	1	✱	7196A	Total/NA
pH	5.6		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF13-33.0

## Lab Sample ID: 570-47162-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	734		1.07	mg/Kg	1	✱	6010B	Total/NA
Copper	89.4		1.07	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	5.18		0.859	mg/Kg	1	✱	7196A	Total/NA
pH	4.6		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF13-51.5

## Lab Sample ID: 570-47162-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	15.0		3.38	mg/Kg	1	✱	6010B	Total/NA
Cadmium	1.44		0.677	mg/Kg	1	✱	6010B	Total/NA
Chromium	1210		1.35	mg/Kg	1	✱	6010B	Total/NA
Copper	741		1.35	mg/Kg	1	✱	6010B	Total/NA
Lead	16.2		6.77	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	3.48		1.08	mg/Kg	1	✱	7196A	Total/NA
pH	4.2		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF13-51.0

## Lab Sample ID: 570-47162-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	356		1.10	mg/Kg	1	✱	6010B	Total/NA
Copper	803		1.10	mg/Kg	1	✱	6010B	Total/NA
Lead	5.83		5.49	mg/Kg	1	✱	6010B	Total/NA
pH	9.1		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF13-40.0

## Lab Sample ID: 570-47162-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	201		1.06	mg/Kg	1	✱	6010B	Total/NA
Copper	145		1.06	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	3.58		0.862	mg/Kg	1	✱	7196A	Total/NA
pH	5.6		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF13-30.0

## Lab Sample ID: 570-47162-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	2350		1.16	mg/Kg	1	✱	6010B	Total/NA
Copper	301		1.16	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	19.1		0.960	mg/Kg	1	✱	7196A	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

## Client Sample ID: SWCONF13-30.0 (Continued)

## Lab Sample ID: 570-47162-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
pH	3.6		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF13-32.5

## Lab Sample ID: 570-47162-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	2710		1.28	mg/Kg	1	✖	6010B	Total/NA
Copper	383		1.28	mg/Kg	1	✖	6010B	Total/NA
Lead	7.06		6.40	mg/Kg	1	✖	6010B	Total/NA
pH	7.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF13-66.5

## Lab Sample ID: 570-47162-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.79		3.37	mg/Kg	1	✖	6010B	Total/NA
Cadmium	1.21		0.674	mg/Kg	1	✖	6010B	Total/NA
Chromium	38.4		1.35	mg/Kg	1	✖	6010B	Total/NA
Copper	229		1.35	mg/Kg	1	✖	6010B	Total/NA
Lead	7.09		6.74	mg/Kg	1	✖	6010B	Total/NA
pH	9.6		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF13-35.0

## Lab Sample ID: 570-47162-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	339		1.00	mg/Kg	1	✖	6010B	Total/NA
Copper	118		1.00	mg/Kg	1	✖	6010B	Total/NA
Cr (VI)	1.12		0.828	mg/Kg	1	✖	7196A	Total/NA
pH	7.7		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF13-60.0

## Lab Sample ID: 570-47162-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.00		2.83	mg/Kg	1	✖	6010B	Total/NA
Cadmium	1.31		0.565	mg/Kg	1	✖	6010B	Total/NA
Chromium	48.5		1.13	mg/Kg	1	✖	6010B	Total/NA
Copper	155		1.13	mg/Kg	1	✖	6010B	Total/NA
Lead	7.41		5.65	mg/Kg	1	✖	6010B	Total/NA
pH	7.7		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF13-55.0

## Lab Sample ID: 570-47162-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.09		3.01	mg/Kg	1	✖	6010B	Total/NA
Cadmium	1.43		0.602	mg/Kg	1	✖	6010B	Total/NA
Chromium	52.8		1.20	mg/Kg	1	✖	6010B	Total/NA
Copper	171		1.20	mg/Kg	1	✖	6010B	Total/NA
Lead	8.02		6.02	mg/Kg	1	✖	6010B	Total/NA
Cr (VI)	0.999		0.991	mg/Kg	1	✖	7196A	Total/NA
pH	7.7		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF13-27.0

## Lab Sample ID: 570-47162-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	4070		1.28	mg/Kg	1	✖	6010B	Total/NA
Copper	458		1.28	mg/Kg	1	✖	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

## Client Sample ID: SWCONF13-27.0 (Continued)

## Lab Sample ID: 570-47162-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Lead	8.98		6.41	mg/Kg	1	✖	6010B	Total/NA
pH	8.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF13-10.0

## Lab Sample ID: 570-47162-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	1130		1.16	mg/Kg	1	✖	6010B	Total/NA
Copper	114		1.16	mg/Kg	1	✖	6010B	Total/NA
Lead	22.2		5.82	mg/Kg	1	✖	6010B	Total/NA
pH	7.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF13-15.0

## Lab Sample ID: 570-47162-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	2220		1.11	mg/Kg	1	✖	6010B	Total/NA
Copper	132		1.11	mg/Kg	1	✖	6010B	Total/NA
Lead	12.2		5.54	mg/Kg	1	✖	6010B	Total/NA
pH	9.1		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF13-20.0

## Lab Sample ID: 570-47162-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	964		1.08	mg/Kg	1	✖	6010B	Total/NA
Copper	89.4		1.08	mg/Kg	1	✖	6010B	Total/NA
Lead	9.70		5.42	mg/Kg	1	✖	6010B	Total/NA
pH	8.7		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF13-26.5

## Lab Sample ID: 570-47162-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	977		1.12	mg/Kg	1	✖	6010B	Total/NA
Copper	196		1.12	mg/Kg	1	✖	6010B	Total/NA
Lead	19.8		5.60	mg/Kg	1	✖	6010B	Total/NA
pH	9.8		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF13-25.0

## Lab Sample ID: 570-47162-18

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	713		1.06	mg/Kg	1	✖	6010B	Total/NA
Copper	186		1.06	mg/Kg	1	✖	6010B	Total/NA
pH	9.0		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF13-70.0

## Lab Sample ID: 570-47162-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	135		1.24	mg/Kg	1	✖	6010B	Total/NA
Copper	97.2		1.24	mg/Kg	1	✖	6010B	Total/NA
pH	10		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF13-75.0

## Lab Sample ID: 570-47162-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	120		1.32	mg/Kg	1	✖	6010B	Total/NA
Copper	114		1.32	mg/Kg	1	✖	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC



## Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF13-75.0 (Continued)**

**Lab Sample ID: 570-47162-20**

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
pH	10.3		0.01	S.U.	1		9045C	Total/NA

**Client Sample ID: EB04**

**Lab Sample ID: 570-47162-21**

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

## Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

### Method: 7199 - Chromium, Hexavalent (IC)

Client Sample ID: EB04

Date Collected: 12/28/20 11:15

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-21

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			12/28/20 20:42	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCONF13-67.0

Date Collected: 12/28/20 10:30

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.19		2.93	mg/Kg	☆	01/07/21 17:00	01/08/21 18:52	1
Cadmium	ND		0.585	mg/Kg	☆	01/07/21 17:00	01/08/21 18:52	1
Chromium	193		1.17	mg/Kg	☆	01/07/21 17:00	01/08/21 18:52	1
Copper	586		1.17	mg/Kg	☆	01/07/21 17:00	01/08/21 18:52	1
Lead	ND		5.85	mg/Kg	☆	01/07/21 17:00	01/08/21 18:52	1

Client Sample ID: SWCONF13-45.0

Date Collected: 12/28/20 09:30

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.66	mg/Kg	☆	01/07/21 17:00	01/08/21 19:01	1
Cadmium	ND		0.531	mg/Kg	☆	01/07/21 17:00	01/08/21 19:01	1
Chromium	297		1.06	mg/Kg	☆	01/07/21 17:00	01/08/21 19:01	1
Copper	333		1.06	mg/Kg	☆	01/07/21 17:00	01/08/21 19:01	1
Lead	ND		5.31	mg/Kg	☆	01/07/21 17:00	01/08/21 19:01	1

Client Sample ID: SWCONF13-33.0

Date Collected: 12/28/20 09:08

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.67	mg/Kg	☆	01/07/21 17:00	01/08/21 19:04	1
Cadmium	ND		0.534	mg/Kg	☆	01/07/21 17:00	01/08/21 19:04	1
Chromium	734		1.07	mg/Kg	☆	01/07/21 17:00	01/08/21 19:04	1
Copper	89.4		1.07	mg/Kg	☆	01/07/21 17:00	01/08/21 19:04	1
Lead	ND		5.34	mg/Kg	☆	01/07/21 17:00	01/08/21 19:04	1

Client Sample ID: SWCONF13-51.5

Date Collected: 12/28/20 09:45

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15.0		3.38	mg/Kg	☆	01/07/21 17:00	01/08/21 19:13	1
Cadmium	1.44		0.677	mg/Kg	☆	01/07/21 17:00	01/08/21 19:13	1
Chromium	1210		1.35	mg/Kg	☆	01/07/21 17:00	01/08/21 19:13	1
Copper	741		1.35	mg/Kg	☆	01/07/21 17:00	01/08/21 19:13	1
Lead	16.2		6.77	mg/Kg	☆	01/07/21 17:00	01/08/21 19:13	1

Client Sample ID: SWCONF13-51.0

Date Collected: 12/28/20 09:45

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.75	mg/Kg	☆	01/07/21 17:00	01/08/21 19:22	1
Cadmium	ND		0.549	mg/Kg	☆	01/07/21 17:00	01/08/21 19:22	1
Chromium	356		1.10	mg/Kg	☆	01/07/21 17:00	01/08/21 19:22	1
Copper	803		1.10	mg/Kg	☆	01/07/21 17:00	01/08/21 19:22	1
Lead	5.83		5.49	mg/Kg	☆	01/07/21 17:00	01/08/21 19:22	1

Client Sample ID: SWCONF13-40.0

Date Collected: 12/28/20 09:30

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.65	mg/Kg	☆	01/07/21 17:00	01/08/21 19:25	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF13-40.0

Date Collected: 12/28/20 09:30

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.531	mg/Kg	☆	01/07/21 17:00	01/08/21 19:25	1
Chromium	201		1.06	mg/Kg	☆	01/07/21 17:00	01/08/21 19:25	1
Copper	145		1.06	mg/Kg	☆	01/07/21 17:00	01/08/21 19:25	1
Lead	ND		5.31	mg/Kg	☆	01/07/21 17:00	01/08/21 19:25	1

Client Sample ID: SWCONF13-30.0

Date Collected: 12/28/20 09:07

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-7

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.90	mg/Kg	☆	01/07/21 17:00	01/08/21 19:28	1
Cadmium	ND		0.581	mg/Kg	☆	01/07/21 17:00	01/08/21 19:28	1
Chromium	2350		1.16	mg/Kg	☆	01/07/21 17:00	01/08/21 19:28	1
Copper	301		1.16	mg/Kg	☆	01/07/21 17:00	01/08/21 19:28	1
Lead	ND		5.81	mg/Kg	☆	01/07/21 17:00	01/08/21 19:28	1

Client Sample ID: SWCONF13-32.5

Date Collected: 12/28/20 09:08

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-8

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.20	mg/Kg	☆	01/07/21 17:00	01/08/21 19:31	1
Cadmium	ND		0.640	mg/Kg	☆	01/07/21 17:00	01/08/21 19:31	1
Chromium	2710		1.28	mg/Kg	☆	01/07/21 17:00	01/08/21 19:31	1
Copper	383		1.28	mg/Kg	☆	01/07/21 17:00	01/08/21 19:31	1
Lead	7.06		6.40	mg/Kg	☆	01/07/21 17:00	01/08/21 19:31	1

Client Sample ID: SWCONF13-66.5

Date Collected: 12/28/20 10:10

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-9

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.79		3.37	mg/Kg	☆	01/07/21 17:00	01/08/21 19:34	1
Cadmium	1.21		0.674	mg/Kg	☆	01/07/21 17:00	01/08/21 19:34	1
Chromium	38.4		1.35	mg/Kg	☆	01/07/21 17:00	01/08/21 19:34	1
Copper	229		1.35	mg/Kg	☆	01/07/21 17:00	01/08/21 19:34	1
Lead	7.09		6.74	mg/Kg	☆	01/07/21 17:00	01/08/21 19:34	1

Client Sample ID: SWCONF13-35.0

Date Collected: 12/28/20 09:15

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-10

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.50	mg/Kg	☆	01/07/21 17:00	01/08/21 19:37	1
Cadmium	ND		0.500	mg/Kg	☆	01/07/21 17:00	01/08/21 19:37	1
Chromium	339		1.00	mg/Kg	☆	01/07/21 17:00	01/08/21 19:37	1
Copper	118		1.00	mg/Kg	☆	01/07/21 17:00	01/08/21 19:37	1
Lead	ND		5.00	mg/Kg	☆	01/07/21 17:00	01/08/21 19:37	1

Client Sample ID: SWCONF13-60.0

Date Collected: 12/28/20 10:05

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-11

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.00		2.83	mg/Kg	☆	01/07/21 17:00	01/08/21 19:40	1
Cadmium	1.31		0.565	mg/Kg	☆	01/07/21 17:00	01/08/21 19:40	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF13-60.0

Date Collected: 12/28/20 10:05

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-11

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	48.5		1.13	mg/Kg	☆	01/07/21 17:00	01/08/21 19:40	1
Copper	155		1.13	mg/Kg	☆	01/07/21 17:00	01/08/21 19:40	1
Lead	7.41		5.65	mg/Kg	☆	01/07/21 17:00	01/08/21 19:40	1

Client Sample ID: SWCONF13-55.0

Date Collected: 12/28/20 10:00

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-12

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.09		3.01	mg/Kg	☆	01/07/21 17:00	01/08/21 19:43	1
Cadmium	1.43		0.602	mg/Kg	☆	01/07/21 17:00	01/08/21 19:43	1
Chromium	52.8		1.20	mg/Kg	☆	01/07/21 17:00	01/08/21 19:43	1
Copper	171		1.20	mg/Kg	☆	01/07/21 17:00	01/08/21 19:43	1
Lead	8.02		6.02	mg/Kg	☆	01/07/21 17:00	01/08/21 19:43	1

Client Sample ID: SWCONF13-27.0

Date Collected: 12/28/20 09:04

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-13

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.20	mg/Kg	☆	01/07/21 17:00	01/08/21 19:47	1
Cadmium	ND		0.641	mg/Kg	☆	01/07/21 17:00	01/08/21 19:47	1
Chromium	4070		1.28	mg/Kg	☆	01/07/21 17:00	01/08/21 19:47	1
Copper	458		1.28	mg/Kg	☆	01/07/21 17:00	01/08/21 19:47	1
Lead	8.98		6.41	mg/Kg	☆	01/07/21 17:00	01/08/21 19:47	1

Client Sample ID: SWCONF13-10.0

Date Collected: 12/28/20 08:46

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-14

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.91	mg/Kg	☆	01/07/21 17:00	01/08/21 19:50	1
Cadmium	ND		0.582	mg/Kg	☆	01/07/21 17:00	01/08/21 19:50	1
Chromium	1130		1.16	mg/Kg	☆	01/07/21 17:00	01/08/21 19:50	1
Copper	114		1.16	mg/Kg	☆	01/07/21 17:00	01/08/21 19:50	1
Lead	22.2		5.82	mg/Kg	☆	01/07/21 17:00	01/08/21 19:50	1

Client Sample ID: SWCONF13-15.0

Date Collected: 12/28/20 08:49

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-15

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	L	2.77	mg/Kg	☆	01/07/21 17:00	01/08/21 19:59	1
Cadmium	ND		0.554	mg/Kg	☆	01/07/21 17:00	01/08/21 19:59	1
Chromium	2220		1.11	mg/Kg	☆	01/07/21 17:00	01/08/21 19:59	1
Copper	132		1.11	mg/Kg	☆	01/07/21 17:00	01/08/21 19:59	1
Lead	12.2		5.54	mg/Kg	☆	01/07/21 17:00	01/08/21 19:59	1

Client Sample ID: SWCONF13-20.0

Date Collected: 12/28/20 08:55

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-16

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.71	mg/Kg	☆	01/07/21 17:00	01/08/21 20:02	1
Cadmium	ND		0.542	mg/Kg	☆	01/07/21 17:00	01/08/21 20:02	1
Chromium	964		1.08	mg/Kg	☆	01/07/21 17:00	01/08/21 20:02	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF13-20.0

Date Collected: 12/28/20 08:55

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-16

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	89.4		1.08	mg/Kg	☆	01/07/21 17:00	01/08/21 20:02	1
Lead	9.70		5.42	mg/Kg	☆	01/07/21 17:00	01/08/21 20:02	1

Client Sample ID: SWCONF13-26.5

Date Collected: 12/28/20 09:02

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-17

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.80	mg/Kg	☆	01/07/21 17:00	01/08/21 20:05	1
Cadmium	ND		0.560	mg/Kg	☆	01/07/21 17:00	01/08/21 20:05	1
Chromium	977		1.12	mg/Kg	☆	01/07/21 17:00	01/08/21 20:05	1
Copper	196		1.12	mg/Kg	☆	01/07/21 17:00	01/08/21 20:05	1
Lead	19.8		5.60	mg/Kg	☆	01/07/21 17:00	01/08/21 20:05	1

Client Sample ID: SWCONF13-25.0

Date Collected: 12/28/20 09:00

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-18

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.64	mg/Kg	☆	01/07/21 17:00	01/08/21 20:08	1
Cadmium	ND		0.529	mg/Kg	☆	01/07/21 17:00	01/08/21 20:08	1
Chromium	713		1.06	mg/Kg	☆	01/07/21 17:00	01/08/21 20:08	1
Copper	186		1.06	mg/Kg	☆	01/07/21 17:00	01/08/21 20:08	1
Lead	ND		5.29	mg/Kg	☆	01/07/21 17:00	01/08/21 20:08	1

Client Sample ID: SWCONF13-70.0

Date Collected: 12/28/20 10:30

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-19

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.11	mg/Kg	☆	01/07/21 17:00	01/08/21 20:11	1
Cadmium	ND		0.622	mg/Kg	☆	01/07/21 17:00	01/08/21 20:11	1
Chromium	135		1.24	mg/Kg	☆	01/07/21 17:00	01/08/21 20:11	1
Copper	97.2		1.24	mg/Kg	☆	01/07/21 17:00	01/08/21 20:11	1
Lead	ND		6.22	mg/Kg	☆	01/07/21 17:00	01/08/21 20:11	1

Client Sample ID: SWCONF13-75.0

Date Collected: 12/28/20 10:31

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-20

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.30	mg/Kg	☆	01/07/21 17:00	01/08/21 20:14	1
Cadmium	ND		0.660	mg/Kg	☆	01/07/21 17:00	01/08/21 20:14	1
Chromium	120		1.32	mg/Kg	☆	01/07/21 17:00	01/08/21 20:14	1
Copper	114		1.32	mg/Kg	☆	01/07/21 17:00	01/08/21 20:14	1
Lead	ND		6.60	mg/Kg	☆	01/07/21 17:00	01/08/21 20:14	1

Client Sample ID: EB04

Date Collected: 12/28/20 11:15

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-21

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L	☆	01/07/21 14:50	01/08/21 10:40	1
Cadmium	ND		0.0100	mg/L	☆	01/07/21 14:50	01/08/21 10:40	1
Chromium	ND		0.0500	mg/L	☆	01/07/21 14:50	01/08/21 10:40	1
Copper	ND		0.0500	mg/L	☆	01/07/21 14:50	01/08/21 10:40	1

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## Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

### Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: EB04

Date Collected: 12/28/20 11:15

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-21

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0500	mg/L		01/07/21 14:50	01/08/21 10:40	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF13-67.0

Date Collected: 12/28/20 10:30

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.917	mg/Kg	☼	01/06/21 14:50	01/08/21 19:42	1
pH	7.5		0.01	S.U.			12/28/20 19:00	1
Percent Moisture	12.4		0.1	%			12/29/20 15:10	1
Percent Solids	87.6		0.1	%			12/29/20 15:10	1

Client Sample ID: SWCONF13-45.0

Date Collected: 12/28/20 09:30

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	3.45		0.823	mg/Kg	☼	01/06/21 14:50	01/08/21 19:43	1
pH	5.6		0.01	S.U.			12/28/20 19:00	1
Percent Moisture	4.0		0.1	%			12/29/20 15:10	1
Percent Solids	96.0		0.1	%			12/29/20 15:10	1

Client Sample ID: SWCONF13-33.0

Date Collected: 12/28/20 09:08

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	5.18		0.859	mg/Kg	☼	01/06/21 14:50	01/08/21 19:44	1
pH	4.6		0.01	S.U.			12/28/20 19:00	1
Percent Moisture	6.4		0.1	%			12/29/20 15:10	1
Percent Solids	93.6		0.1	%			12/29/20 15:10	1

Client Sample ID: SWCONF13-51.5

Date Collected: 12/28/20 09:45

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	3.48		1.08	mg/Kg	☼	01/06/21 14:50	01/08/21 19:45	1
pH	4.2		0.01	S.U.			12/28/20 19:00	1
Percent Moisture	26.8		0.1	%			12/29/20 15:10	1
Percent Solids	73.2		0.1	%			12/29/20 15:10	1

Client Sample ID: SWCONF13-51.0

Date Collected: 12/28/20 09:45

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.840	mg/Kg	☼	01/06/21 14:50	01/08/21 19:46	1
pH	9.1		0.01	S.U.			12/28/20 19:00	1
Percent Moisture	4.7		0.1	%			12/29/20 15:10	1
Percent Solids	95.3		0.1	%			12/29/20 15:10	1

Client Sample ID: SWCONF13-40.0

Date Collected: 12/28/20 09:30

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	3.58		0.862	mg/Kg	☼	01/06/21 14:50	01/08/21 19:47	1
pH	5.6		0.01	S.U.			12/28/20 19:00	1
Percent Moisture	7.1		0.1	%			12/29/20 15:10	1
Percent Solids	92.9		0.1	%			12/29/20 15:10	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF13-30.0

Date Collected: 12/28/20 09:07

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-7

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	19.1		0.960	mg/Kg	☼	01/06/21 14:50	01/08/21 19:48	1
pH	3.6		0.01	S.U.			12/28/20 19:00	1
Percent Moisture	17.6		0.1	%			12/29/20 15:10	1
Percent Solids	82.4		0.1	%			12/29/20 15:10	1

Client Sample ID: SWCONF13-32.5

Date Collected: 12/28/20 09:08

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-8

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.02	mg/Kg	☼	01/06/21 14:50	01/08/21 19:49	1
pH	7.5		0.01	S.U.			12/28/20 19:00	1
Percent Moisture	22.6		0.1	%			12/29/20 15:48	1
Percent Solids	77.4		0.1	%			12/29/20 15:48	1

Client Sample ID: SWCONF13-66.5

Date Collected: 12/28/20 10:10

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-9

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.04	mg/Kg	☼	01/06/21 14:50	01/08/21 19:50	1
pH	9.6		0.01	S.U.			12/28/20 19:00	1
Percent Moisture	23.1		0.1	%			12/29/20 15:48	1
Percent Solids	76.9		0.1	%			12/29/20 15:48	1

Client Sample ID: SWCONF13-35.0

Date Collected: 12/28/20 09:15

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-10

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	1.12		0.828	mg/Kg	☼	01/06/21 14:50	01/08/21 19:51	1
pH	7.7		0.01	S.U.			12/28/20 19:00	1
Percent Moisture	3.3		0.1	%			12/29/20 15:48	1
Percent Solids	96.7		0.1	%			12/29/20 15:48	1

Client Sample ID: SWCONF13-60.0

Date Collected: 12/28/20 10:05

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-11

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.949	mg/Kg	☼	01/06/21 14:50	01/08/21 19:54	1
pH	7.7		0.01	S.U.			12/28/20 19:00	1
Percent Moisture	15.4		0.1	%			12/29/20 15:48	1
Percent Solids	84.6		0.1	%			12/29/20 15:48	1

Client Sample ID: SWCONF13-55.0

Date Collected: 12/28/20 10:00

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-12

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.999		0.991	mg/Kg	☼	01/06/21 14:50	01/08/21 19:55	1
pH	7.7		0.01	S.U.			12/28/20 19:00	1
Percent Moisture	20.5		0.1	%			12/29/20 15:48	1
Percent Solids	79.5		0.1	%			12/29/20 15:48	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF13-27.0

Date Collected: 12/28/20 09:04

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-13

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.990	mg/Kg	☼	01/06/21 14:50	01/08/21 19:56	1
pH	8.4		0.01	S.U.			12/28/20 19:00	1
Percent Moisture	19.5		0.1	%			12/29/20 15:48	1
Percent Solids	80.5		0.1	%			12/29/20 15:48	1

Client Sample ID: SWCONF13-10.0

Date Collected: 12/28/20 08:46

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-14

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.950	mg/Kg	☼	01/06/21 14:50	01/08/21 19:57	1
pH	7.5		0.01	S.U.			12/28/20 19:00	1
Percent Moisture	15.8		0.1	%			12/29/20 15:48	1
Percent Solids	84.2		0.1	%			12/29/20 15:48	1

Client Sample ID: SWCONF13-15.0

Date Collected: 12/28/20 08:49

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-15

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.885	mg/Kg	☼	01/06/21 14:50	01/08/21 19:58	1
pH	9.1		0.01	S.U.			12/28/20 19:00	1
Percent Moisture	10.7		0.1	%			12/29/20 15:48	1
Percent Solids	89.3		0.1	%			12/29/20 15:48	1

Client Sample ID: SWCONF13-20.0

Date Collected: 12/28/20 08:55

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-16

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	F1	0.845	mg/Kg	☼	01/06/21 14:50	01/08/21 19:59	1
pH	8.7		0.01	S.U.			12/28/20 19:00	1
Percent Moisture	5.3		0.1	%			12/29/20 15:48	1
Percent Solids	94.7		0.1	%			12/29/20 15:48	1

Client Sample ID: SWCONF13-26.5

Date Collected: 12/28/20 09:02

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-17

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.880	mg/Kg	☼	01/06/21 14:50	01/08/21 20:00	1
pH	9.8		0.01	S.U.			12/28/20 19:00	1
Percent Moisture	9.4		0.1	%			12/29/20 15:48	1
Percent Solids	90.6		0.1	%			12/29/20 15:48	1

Client Sample ID: SWCONF13-25.0

Date Collected: 12/28/20 09:00

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-18

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.847	mg/Kg	☼	01/06/21 14:50	01/08/21 20:01	1
pH	9.0		0.01	S.U.			12/28/20 19:00	1
Percent Moisture	5.9		0.1	%			12/29/20 15:48	1
Percent Solids	94.1		0.1	%			12/29/20 15:48	1



# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF13-70.0

Date Collected: 12/28/20 10:30

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-19

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.976	mg/Kg	☼	01/06/21 14:50	01/08/21 20:02	1
pH	10		0.01	S.U.			12/28/20 19:00	1
Percent Moisture	19.7		0.1	%			12/29/20 15:48	1
Percent Solids	80.3		0.1	%			12/29/20 15:48	1

Client Sample ID: SWCONF13-75.0

Date Collected: 12/28/20 10:31

Date Received: 12/28/20 13:05

Lab Sample ID: 570-47162-20

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.03	mg/Kg	☼	01/06/21 14:50	01/08/21 20:03	1
pH	10.3		0.01	S.U.			12/28/20 19:00	1
Percent Moisture	23.9		0.1	%			12/29/20 15:48	1
Percent Solids	76.1		0.1	%			12/29/20 15:48	1

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

## Method: 7199 - Chromium, Hexavalent (IC)

Lab Sample ID: MB 570-118812/17  
Matrix: Water  
Analysis Batch: 118812

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			12/28/20 16:34	1

Lab Sample ID: LCS 570-118812/18  
Matrix: Water  
Analysis Batch: 118812

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.0501	0.04837		mg/L		97	80 - 120

Lab Sample ID: LCSD 570-118812/19  
Matrix: Water  
Analysis Batch: 118812

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	0.0501	0.04833		mg/L		97	80 - 120	0	20

Lab Sample ID: 570-47182-G-1 MS  
Matrix: Water  
Analysis Batch: 118812

Client Sample ID: Matrix Spike  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND		0.0501	0.04799		mg/L		96	70 - 130

Lab Sample ID: 570-47182-G-1 MSD  
Matrix: Water  
Analysis Batch: 118812

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND		0.0501	0.04875		mg/L		97	70 - 130	2	25

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 570-120862/1-A  
Matrix: Water  
Analysis Batch: 121007

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 120862

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L		01/07/21 14:50	01/08/21 10:21	1
Cadmium	ND		0.0100	mg/L		01/07/21 14:50	01/08/21 10:21	1
Chromium	ND		0.0500	mg/L		01/07/21 14:50	01/08/21 10:21	1
Copper	ND		0.0500	mg/L		01/07/21 14:50	01/08/21 10:21	1
Lead	ND		0.0500	mg/L		01/07/21 14:50	01/08/21 10:21	1

Lab Sample ID: LCS 570-120862/2-A  
Matrix: Water  
Analysis Batch: 121007

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 120862

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.500	0.4522		mg/L		90	80 - 120
Cadmium	0.500	0.4734		mg/L		95	80 - 120

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-120862/2-A

Matrix: Water

Analysis Batch: 121007

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 120862

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.500	0.4818		mg/L		96	80 - 120
Copper	0.500	0.5200		mg/L		104	80 - 120
Lead	0.500	0.4819		mg/L		96	80 - 120

Lab Sample ID: LCSD 570-120862/3-A

Matrix: Water

Analysis Batch: 121007

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 120862

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.500	0.4546		mg/L		91	80 - 120	1	20
Cadmium	0.500	0.4814		mg/L		96	80 - 120	2	20
Chromium	0.500	0.4824		mg/L		96	80 - 120	0	20
Copper	0.500	0.5187		mg/L		104	80 - 120	0	20
Lead	0.500	0.4893		mg/L		98	80 - 120	2	20

Lab Sample ID: 570-46755-D-1-C MS

Matrix: Water

Analysis Batch: 121007

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 120862

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		0.500	0.5714		mg/L		114	80 - 140
Cadmium	ND		0.500	0.5598		mg/L		111	82 - 124
Chromium	ND		0.500	0.5629		mg/L		113	86 - 122
Copper	ND		0.500	0.6077		mg/L		122	78 - 126
Lead	ND		0.500	0.5885		mg/L		113	84 - 120

Lab Sample ID: 570-46755-D-1-D MSD

Matrix: Water

Analysis Batch: 121007

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 120862

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		0.500	0.5465		mg/L		109	80 - 140	4	11
Cadmium	ND		0.500	0.5614		mg/L		112	82 - 124	0	7
Chromium	ND		0.500	0.5593		mg/L		112	86 - 122	1	8
Copper	ND		0.500	0.6067		mg/L		121	78 - 126	0	7
Lead	ND		0.500	0.5854		mg/L		112	84 - 120	1	7

Lab Sample ID: MB 570-120907/1-A

Matrix: Solid

Analysis Batch: 121421

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 120907

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.48	mg/Kg		01/07/21 17:00	01/08/21 18:43	1
Cadmium	ND		0.495	mg/Kg		01/07/21 17:00	01/08/21 18:43	1
Chromium	ND		0.990	mg/Kg		01/07/21 17:00	01/08/21 18:43	1
Copper	ND		0.990	mg/Kg		01/07/21 17:00	01/08/21 18:43	1
Lead	ND		4.95	mg/Kg		01/07/21 17:00	01/08/21 18:43	1

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-120907/2-A  
Matrix: Solid  
Analysis Batch: 121421

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 120907

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	25.1	26.72		mg/Kg		106	80 - 120
Cadmium	25.1	26.70		mg/Kg		106	80 - 120
Chromium	25.1	26.20		mg/Kg		104	80 - 120
Copper	25.1	27.84		mg/Kg		111	80 - 120
Lead	25.1	26.86		mg/Kg		107	80 - 120

Lab Sample ID: LCSD 570-120907/3-A  
Matrix: Solid  
Analysis Batch: 121421

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 120907

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	24.9	26.76		mg/Kg		108	80 - 120	0	20
Cadmium	24.9	26.61		mg/Kg		107	80 - 120	0	20
Chromium	24.9	25.48		mg/Kg		102	80 - 120	3	20
Copper	24.9	27.85		mg/Kg		112	80 - 120	0	20
Lead	24.9	27.21		mg/Kg		109	80 - 120	1	20

Lab Sample ID: 570-47162-1 MS  
Matrix: Solid  
Analysis Batch: 121421

Client Sample ID: SWCONF13-67.0  
Prep Type: Total/NA  
Prep Batch: 120907

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	3.19		27.7	32.34		mg/Kg	✱	105	75 - 125
Cadmium	ND		27.7	29.57		mg/Kg	✱	105	75 - 125
Chromium	193		27.7	260.1	4	mg/Kg	✱	241	75 - 125
Copper	586		27.7	657.8	4	mg/Kg	✱	261	75 - 125
Lead	ND		27.7	38.25		mg/Kg	✱	119	75 - 125

Lab Sample ID: 570-47162-1 MSD  
Matrix: Solid  
Analysis Batch: 121421

Client Sample ID: SWCONF13-67.0  
Prep Type: Total/NA  
Prep Batch: 120907

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	3.19		28.1	32.81		mg/Kg	✱	105	75 - 125	1	20
Cadmium	ND		28.1	29.53		mg/Kg	✱	103	75 - 125	0	20
Chromium	193		28.1	281.7	4	mg/Kg	✱	315	75 - 125	8	20
Copper	586		28.1	659.1	4	mg/Kg	✱	261	75 - 125	0	20
Lead	ND		28.1	38.37		mg/Kg	✱	117	75 - 125	0	20

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 570-120589/1-A  
Matrix: Solid  
Analysis Batch: 121218

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 120589

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.794	mg/Kg		01/06/21 14:50	01/08/21 19:33	1

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

## Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: LCS 570-120589/2-A  
Matrix: Solid  
Analysis Batch: 121218

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 120589

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	19.9	18.99		mg/Kg		96	78 - 120

Lab Sample ID: LCSD 570-120589/3-A  
Matrix: Solid  
Analysis Batch: 121218

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 120589

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	19.7	18.43		mg/Kg		94	78 - 120	3	20

Lab Sample ID: 570-47162-2 MS  
Matrix: Solid  
Analysis Batch: 121218

Client Sample ID: SWCONF13-45.0  
Prep Type: Total/NA  
Prep Batch: 120589

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	3.45		20.8	20.12		mg/Kg	✱	80	75 - 125

Lab Sample ID: 570-47162-2 MSD  
Matrix: Solid  
Analysis Batch: 121218

Client Sample ID: SWCONF13-45.0  
Prep Type: Total/NA  
Prep Batch: 120589

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	3.45		20.5	20.07		mg/Kg	✱	81	75 - 125	0	25

Lab Sample ID: 570-47162-2 MSI  
Matrix: Solid  
Analysis Batch: 121218

Client Sample ID: SWCONF13-45.0  
Prep Type: Total/NA  
Prep Batch: 120589

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	3.45		1020	934.6		mg/Kg	✱	92	75 - 125

Lab Sample ID: 570-47162-2 MSID  
Matrix: Solid  
Analysis Batch: 121218

Client Sample ID: SWCONF13-45.0  
Prep Type: Total/NA  
Prep Batch: 120589

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	3.45		1010	914.3		mg/Kg	✱	90	75 - 125	2	25

Lab Sample ID: 570-47162-16 MS  
Matrix: Solid  
Analysis Batch: 121218

Client Sample ID: SWCONF13-20.0  
Prep Type: Total/NA  
Prep Batch: 120589

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND	F1	21.1	ND	F1	mg/Kg	✱	0	75 - 125

Lab Sample ID: 570-47162-16 MSD  
Matrix: Solid  
Analysis Batch: 121218

Client Sample ID: SWCONF13-20.0  
Prep Type: Total/NA  
Prep Batch: 120589

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	ND	F1	21.1	ND	F1	mg/Kg	✱	0	75 - 125	NC	25

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: 570-47162-16 MSI  
Matrix: Solid  
Analysis Batch: 121218

Client Sample ID: SWCONF13-20.0  
Prep Type: Total/NA  
Prep Batch: 120589

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND	F1	1030	ND	F1	mg/Kg	✱	-0.06	75 - 125

Lab Sample ID: 570-47162-16 MSID  
Matrix: Solid  
Analysis Batch: 121218

Client Sample ID: SWCONF13-20.0  
Prep Type: Total/NA  
Prep Batch: 120589

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1020	ND	F1	mg/Kg	✱	0	75 - 125	NC	25

## Method: 9045C - pH

Lab Sample ID: 570-47162-1 DU  
Matrix: Solid  
Analysis Batch: 119031

Client Sample ID: SWCONF13-67.0  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.5		7.6		S.U.		0.5	25

## Method: Moisture - Percent Moisture

Lab Sample ID: 570-47162-1 DU  
Matrix: Solid  
Analysis Batch: 119237

Client Sample ID: SWCONF13-67.0  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	12.4		12.7		%		3	10
Percent Solids	87.6		87.3		%		0.4	10

Lab Sample ID: 570-47162-8 DU  
Matrix: Solid  
Analysis Batch: 119243

Client Sample ID: SWCONF13-32.5  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	22.6		21.9		%		3	10
Percent Solids	77.4		78.1		%		0.9	10

Lab Sample ID: 570-47162-18 DU  
Matrix: Solid  
Analysis Batch: 119243

Client Sample ID: SWCONF13-25.0  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	5.9		5.7		%		3	10
Percent Solids	94.1		94.3		%		0.2	10

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

## HPLC/IC

### Analysis Batch: 118812

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47162-21	EB04	Total/NA	Water	7199	
MB 570-118812/17	Method Blank	Total/NA	Water	7199	
LCS 570-118812/18	Lab Control Sample	Total/NA	Water	7199	
LCSD 570-118812/19	Lab Control Sample Dup	Total/NA	Water	7199	
570-47182-G-1 MS	Matrix Spike	Total/NA	Water	7199	
570-47182-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	7199	

## Metals

### Prep Batch: 120862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47162-21	EB04	Total/NA	Water	3010A	
MB 570-120862/1-A	Method Blank	Total/NA	Water	3010A	
LCS 570-120862/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 570-120862/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
570-46755-D-1-C MS	Matrix Spike	Total/NA	Water	3010A	
570-46755-D-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

### Prep Batch: 120907

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47162-1	SWCONF13-67.0	Total/NA	Solid	3050B	
570-47162-2	SWCONF13-45.0	Total/NA	Solid	3050B	
570-47162-3	SWCONF13-33.0	Total/NA	Solid	3050B	
570-47162-4	SWCONF13-51.5	Total/NA	Solid	3050B	
570-47162-5	SWCONF13-51.0	Total/NA	Solid	3050B	
570-47162-6	SWCONF13-40.0	Total/NA	Solid	3050B	
570-47162-7	SWCONF13-30.0	Total/NA	Solid	3050B	
570-47162-8	SWCONF13-32.5	Total/NA	Solid	3050B	
570-47162-9	SWCONF13-66.5	Total/NA	Solid	3050B	
570-47162-10	SWCONF13-35.0	Total/NA	Solid	3050B	
570-47162-11	SWCONF13-60.0	Total/NA	Solid	3050B	
570-47162-12	SWCONF13-55.0	Total/NA	Solid	3050B	
570-47162-13	SWCONF13-27.0	Total/NA	Solid	3050B	
570-47162-14	SWCONF13-10.0	Total/NA	Solid	3050B	
570-47162-15	SWCONF13-15.0	Total/NA	Solid	3050B	
570-47162-16	SWCONF13-20.0	Total/NA	Solid	3050B	
570-47162-17	SWCONF13-26.5	Total/NA	Solid	3050B	
570-47162-18	SWCONF13-25.0	Total/NA	Solid	3050B	
570-47162-19	SWCONF13-70.0	Total/NA	Solid	3050B	
570-47162-20	SWCONF13-75.0	Total/NA	Solid	3050B	
MB 570-120907/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-120907/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-120907/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-47162-1 MS	SWCONF13-67.0	Total/NA	Solid	3050B	
570-47162-1 MSD	SWCONF13-67.0	Total/NA	Solid	3050B	

### Analysis Batch: 121007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47162-21	EB04	Total/NA	Water	6010B	120862
MB 570-120862/1-A	Method Blank	Total/NA	Water	6010B	120862
LCS 570-120862/2-A	Lab Control Sample	Total/NA	Water	6010B	120862

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

## Metals (Continued)

### Analysis Batch: 121007 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 570-120862/3-A	Lab Control Sample Dup	Total/NA	Water	6010B	120862
570-46755-D-1-C MS	Matrix Spike	Total/NA	Water	6010B	120862
570-46755-D-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	6010B	120862

### Analysis Batch: 121421

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47162-1	SWCONF13-67.0	Total/NA	Solid	6010B	120907
570-47162-2	SWCONF13-45.0	Total/NA	Solid	6010B	120907
570-47162-3	SWCONF13-33.0	Total/NA	Solid	6010B	120907
570-47162-4	SWCONF13-51.5	Total/NA	Solid	6010B	120907
570-47162-5	SWCONF13-51.0	Total/NA	Solid	6010B	120907
570-47162-6	SWCONF13-40.0	Total/NA	Solid	6010B	120907
570-47162-7	SWCONF13-30.0	Total/NA	Solid	6010B	120907
570-47162-8	SWCONF13-32.5	Total/NA	Solid	6010B	120907
570-47162-9	SWCONF13-66.5	Total/NA	Solid	6010B	120907
570-47162-10	SWCONF13-35.0	Total/NA	Solid	6010B	120907
570-47162-11	SWCONF13-60.0	Total/NA	Solid	6010B	120907
570-47162-12	SWCONF13-55.0	Total/NA	Solid	6010B	120907
570-47162-13	SWCONF13-27.0	Total/NA	Solid	6010B	120907
570-47162-14	SWCONF13-10.0	Total/NA	Solid	6010B	120907
570-47162-15	SWCONF13-15.0	Total/NA	Solid	6010B	120907
570-47162-16	SWCONF13-20.0	Total/NA	Solid	6010B	120907
570-47162-17	SWCONF13-26.5	Total/NA	Solid	6010B	120907
570-47162-18	SWCONF13-25.0	Total/NA	Solid	6010B	120907
570-47162-19	SWCONF13-70.0	Total/NA	Solid	6010B	120907
570-47162-20	SWCONF13-75.0	Total/NA	Solid	6010B	120907
MB 570-120907/1-A	Method Blank	Total/NA	Solid	6010B	120907
LCS 570-120907/2-A	Lab Control Sample	Total/NA	Solid	6010B	120907
LCSD 570-120907/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	120907
570-47162-1 MS	SWCONF13-67.0	Total/NA	Solid	6010B	120907
570-47162-1 MSD	SWCONF13-67.0	Total/NA	Solid	6010B	120907

## General Chemistry

### Leach Batch: 119025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47162-1	SWCONF13-67.0	Total/NA	Solid	DI Leach	
570-47162-2	SWCONF13-45.0	Total/NA	Solid	DI Leach	
570-47162-3	SWCONF13-33.0	Total/NA	Solid	DI Leach	
570-47162-4	SWCONF13-51.5	Total/NA	Solid	DI Leach	
570-47162-5	SWCONF13-51.0	Total/NA	Solid	DI Leach	
570-47162-6	SWCONF13-40.0	Total/NA	Solid	DI Leach	
570-47162-7	SWCONF13-30.0	Total/NA	Solid	DI Leach	
570-47162-8	SWCONF13-32.5	Total/NA	Solid	DI Leach	
570-47162-9	SWCONF13-66.5	Total/NA	Solid	DI Leach	
570-47162-10	SWCONF13-35.0	Total/NA	Solid	DI Leach	
570-47162-11	SWCONF13-60.0	Total/NA	Solid	DI Leach	
570-47162-12	SWCONF13-55.0	Total/NA	Solid	DI Leach	
570-47162-13	SWCONF13-27.0	Total/NA	Solid	DI Leach	
570-47162-14	SWCONF13-10.0	Total/NA	Solid	DI Leach	
570-47162-15	SWCONF13-15.0	Total/NA	Solid	DI Leach	

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

## General Chemistry (Continued)

### Leach Batch: 119025 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47162-16	SWCONF13-20.0	Total/NA	Solid	DI Leach	
570-47162-17	SWCONF13-26.5	Total/NA	Solid	DI Leach	
570-47162-18	SWCONF13-25.0	Total/NA	Solid	DI Leach	
570-47162-19	SWCONF13-70.0	Total/NA	Solid	DI Leach	
570-47162-20	SWCONF13-75.0	Total/NA	Solid	DI Leach	
570-47162-1 DU	SWCONF13-67.0	Total/NA	Solid	DI Leach	

### Analysis Batch: 119031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47162-1	SWCONF13-67.0	Total/NA	Solid	9045C	119025
570-47162-2	SWCONF13-45.0	Total/NA	Solid	9045C	119025
570-47162-3	SWCONF13-33.0	Total/NA	Solid	9045C	119025
570-47162-4	SWCONF13-51.5	Total/NA	Solid	9045C	119025
570-47162-5	SWCONF13-51.0	Total/NA	Solid	9045C	119025
570-47162-6	SWCONF13-40.0	Total/NA	Solid	9045C	119025
570-47162-7	SWCONF13-30.0	Total/NA	Solid	9045C	119025
570-47162-8	SWCONF13-32.5	Total/NA	Solid	9045C	119025
570-47162-9	SWCONF13-66.5	Total/NA	Solid	9045C	119025
570-47162-10	SWCONF13-35.0	Total/NA	Solid	9045C	119025
570-47162-11	SWCONF13-60.0	Total/NA	Solid	9045C	119025
570-47162-12	SWCONF13-55.0	Total/NA	Solid	9045C	119025
570-47162-13	SWCONF13-27.0	Total/NA	Solid	9045C	119025
570-47162-14	SWCONF13-10.0	Total/NA	Solid	9045C	119025
570-47162-15	SWCONF13-15.0	Total/NA	Solid	9045C	119025
570-47162-16	SWCONF13-20.0	Total/NA	Solid	9045C	119025
570-47162-17	SWCONF13-26.5	Total/NA	Solid	9045C	119025
570-47162-18	SWCONF13-25.0	Total/NA	Solid	9045C	119025
570-47162-19	SWCONF13-70.0	Total/NA	Solid	9045C	119025
570-47162-20	SWCONF13-75.0	Total/NA	Solid	9045C	119025
570-47162-1 DU	SWCONF13-67.0	Total/NA	Solid	9045C	119025

### Analysis Batch: 119237

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47162-1	SWCONF13-67.0	Total/NA	Solid	Moisture	
570-47162-2	SWCONF13-45.0	Total/NA	Solid	Moisture	
570-47162-3	SWCONF13-33.0	Total/NA	Solid	Moisture	
570-47162-4	SWCONF13-51.5	Total/NA	Solid	Moisture	
570-47162-5	SWCONF13-51.0	Total/NA	Solid	Moisture	
570-47162-6	SWCONF13-40.0	Total/NA	Solid	Moisture	
570-47162-7	SWCONF13-30.0	Total/NA	Solid	Moisture	
570-47162-1 DU	SWCONF13-67.0	Total/NA	Solid	Moisture	

### Analysis Batch: 119243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47162-8	SWCONF13-32.5	Total/NA	Solid	Moisture	
570-47162-9	SWCONF13-66.5	Total/NA	Solid	Moisture	
570-47162-10	SWCONF13-35.0	Total/NA	Solid	Moisture	
570-47162-11	SWCONF13-60.0	Total/NA	Solid	Moisture	
570-47162-12	SWCONF13-55.0	Total/NA	Solid	Moisture	
570-47162-13	SWCONF13-27.0	Total/NA	Solid	Moisture	
570-47162-14	SWCONF13-10.0	Total/NA	Solid	Moisture	

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

## General Chemistry (Continued)

### Analysis Batch: 119243 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47162-15	SWCONF13-15.0	Total/NA	Solid	Moisture	
570-47162-16	SWCONF13-20.0	Total/NA	Solid	Moisture	
570-47162-17	SWCONF13-26.5	Total/NA	Solid	Moisture	
570-47162-18	SWCONF13-25.0	Total/NA	Solid	Moisture	
570-47162-19	SWCONF13-70.0	Total/NA	Solid	Moisture	
570-47162-20	SWCONF13-75.0	Total/NA	Solid	Moisture	
570-47162-8 DU	SWCONF13-32.5	Total/NA	Solid	Moisture	
570-47162-18 DU	SWCONF13-25.0	Total/NA	Solid	Moisture	

### Prep Batch: 120589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47162-1	SWCONF13-67.0	Total/NA	Solid	3060A	
570-47162-2	SWCONF13-45.0	Total/NA	Solid	3060A	
570-47162-3	SWCONF13-33.0	Total/NA	Solid	3060A	
570-47162-4	SWCONF13-51.5	Total/NA	Solid	3060A	
570-47162-5	SWCONF13-51.0	Total/NA	Solid	3060A	
570-47162-6	SWCONF13-40.0	Total/NA	Solid	3060A	
570-47162-7	SWCONF13-30.0	Total/NA	Solid	3060A	
570-47162-8	SWCONF13-32.5	Total/NA	Solid	3060A	
570-47162-9	SWCONF13-66.5	Total/NA	Solid	3060A	
570-47162-10	SWCONF13-35.0	Total/NA	Solid	3060A	
570-47162-11	SWCONF13-60.0	Total/NA	Solid	3060A	
570-47162-12	SWCONF13-55.0	Total/NA	Solid	3060A	
570-47162-13	SWCONF13-27.0	Total/NA	Solid	3060A	
570-47162-14	SWCONF13-10.0	Total/NA	Solid	3060A	
570-47162-15	SWCONF13-15.0	Total/NA	Solid	3060A	
570-47162-16	SWCONF13-20.0	Total/NA	Solid	3060A	
570-47162-17	SWCONF13-26.5	Total/NA	Solid	3060A	
570-47162-18	SWCONF13-25.0	Total/NA	Solid	3060A	
570-47162-19	SWCONF13-70.0	Total/NA	Solid	3060A	
570-47162-20	SWCONF13-75.0	Total/NA	Solid	3060A	
MB 570-120589/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-120589/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-120589/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-47162-2 MS	SWCONF13-45.0	Total/NA	Solid	3060A	
570-47162-2 MSD	SWCONF13-45.0	Total/NA	Solid	3060A	
570-47162-2 MSI	SWCONF13-45.0	Total/NA	Solid	3060A	
570-47162-2 MSID	SWCONF13-45.0	Total/NA	Solid	3060A	
570-47162-16 MS	SWCONF13-20.0	Total/NA	Solid	3060A	
570-47162-16 MSD	SWCONF13-20.0	Total/NA	Solid	3060A	
570-47162-16 MSI	SWCONF13-20.0	Total/NA	Solid	3060A	
570-47162-16 MSID	SWCONF13-20.0	Total/NA	Solid	3060A	

### Analysis Batch: 121218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47162-1	SWCONF13-67.0	Total/NA	Solid	7196A	120589
570-47162-2	SWCONF13-45.0	Total/NA	Solid	7196A	120589
570-47162-3	SWCONF13-33.0	Total/NA	Solid	7196A	120589
570-47162-4	SWCONF13-51.5	Total/NA	Solid	7196A	120589
570-47162-5	SWCONF13-51.0	Total/NA	Solid	7196A	120589
570-47162-6	SWCONF13-40.0	Total/NA	Solid	7196A	120589

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## QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

### General Chemistry (Continued)

#### Analysis Batch: 121218 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47162-7	SWCONF13-30.0	Total/NA	Solid	7196A	120589
570-47162-8	SWCONF13-32.5	Total/NA	Solid	7196A	120589
570-47162-9	SWCONF13-66.5	Total/NA	Solid	7196A	120589
570-47162-10	SWCONF13-35.0	Total/NA	Solid	7196A	120589
570-47162-11	SWCONF13-60.0	Total/NA	Solid	7196A	120589
570-47162-12	SWCONF13-55.0	Total/NA	Solid	7196A	120589
570-47162-13	SWCONF13-27.0	Total/NA	Solid	7196A	120589
570-47162-14	SWCONF13-10.0	Total/NA	Solid	7196A	120589
570-47162-15	SWCONF13-15.0	Total/NA	Solid	7196A	120589
570-47162-16	SWCONF13-20.0	Total/NA	Solid	7196A	120589
570-47162-17	SWCONF13-26.5	Total/NA	Solid	7196A	120589
570-47162-18	SWCONF13-25.0	Total/NA	Solid	7196A	120589
570-47162-19	SWCONF13-70.0	Total/NA	Solid	7196A	120589
570-47162-20	SWCONF13-75.0	Total/NA	Solid	7196A	120589
MB 570-120589/1-A	Method Blank	Total/NA	Solid	7196A	120589
LCS 570-120589/2-A	Lab Control Sample	Total/NA	Solid	7196A	120589
LCSD 570-120589/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	120589
570-47162-2 MS	SWCONF13-45.0	Total/NA	Solid	7196A	120589
570-47162-2 MSD	SWCONF13-45.0	Total/NA	Solid	7196A	120589
570-47162-2 MSI	SWCONF13-45.0	Total/NA	Solid	7196A	120589
570-47162-2 MSID	SWCONF13-45.0	Total/NA	Solid	7196A	120589
570-47162-16 MS	SWCONF13-20.0	Total/NA	Solid	7196A	120589
570-47162-16 MSD	SWCONF13-20.0	Total/NA	Solid	7196A	120589
570-47162-16 MSI	SWCONF13-20.0	Total/NA	Solid	7196A	120589
570-47162-16 MSID	SWCONF13-20.0	Total/NA	Solid	7196A	120589

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF13-67.0**

**Lab Sample ID: 570-47162-1**

**Date Collected: 12/28/20 10:30**

**Matrix: Solid**

**Date Received: 12/28/20 13:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.95 g	100 mL	120907	01/07/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121421	01/08/21 18:52	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.49 g	100 mL	120589	01/06/21 14:50	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121218	01/08/21 19:42	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	119025	12/28/20 18:25	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119031	12/28/20 19:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119237	12/29/20 15:10	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF13-45.0**

**Lab Sample ID: 570-47162-2**

**Date Collected: 12/28/20 09:30**

**Matrix: Solid**

**Date Received: 12/28/20 13:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.96 g	100 mL	120907	01/07/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121421	01/08/21 19:01	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.53 g	100 mL	120589	01/06/21 14:50	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121218	01/08/21 19:43	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	119025	12/28/20 18:25	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119031	12/28/20 19:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119237	12/29/20 15:10	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF13-33.0**

**Lab Sample ID: 570-47162-3**

**Date Collected: 12/28/20 09:08**

**Matrix: Solid**

**Date Received: 12/28/20 13:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	100 mL	120907	01/07/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121421	01/08/21 19:04	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.49 g	100 mL	120589	01/06/21 14:50	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121218	01/08/21 19:44	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.03 g	20 mL	119025	12/28/20 18:25	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119031	12/28/20 19:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119237	12/29/20 15:10	SR3N	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF13-51.5**

**Lab Sample ID: 570-47162-4**

**Date Collected: 12/28/20 09:45**

**Matrix: Solid**

**Date Received: 12/28/20 13:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	100 mL	120907	01/07/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121421	01/08/21 19:13	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.53 g	100 mL	120589	01/06/21 14:50	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121218	01/08/21 19:45	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.04 g	20 mL	119025	12/28/20 18:25	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119031	12/28/20 19:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119237	12/29/20 15:10	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF13-51.0**

**Lab Sample ID: 570-47162-5**

**Date Collected: 12/28/20 09:45**

**Matrix: Solid**

**Date Received: 12/28/20 13:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.91 g	100 mL	120907	01/07/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121421	01/08/21 19:22	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.50 g	100 mL	120589	01/06/21 14:50	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121218	01/08/21 19:46	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	119025	12/28/20 18:25	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119031	12/28/20 19:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119237	12/29/20 15:10	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF13-40.0**

**Lab Sample ID: 570-47162-6**

**Date Collected: 12/28/20 09:30**

**Matrix: Solid**

**Date Received: 12/28/20 13:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	120907	01/07/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121421	01/08/21 19:25	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.50 g	100 mL	120589	01/06/21 14:50	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121218	01/08/21 19:47	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.03 g	20 mL	119025	12/28/20 18:25	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119031	12/28/20 19:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119237	12/29/20 15:10	SR3N	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF13-30.0**

**Lab Sample ID: 570-47162-7**

**Date Collected: 12/28/20 09:07**

**Matrix: Solid**

**Date Received: 12/28/20 13:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.09 g	100 mL	120907	01/07/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121421	01/08/21 19:28	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.53 g	100 mL	120589	01/06/21 14:50	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121218	01/08/21 19:48	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	119025	12/28/20 18:25	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119031	12/28/20 19:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119237	12/29/20 15:10	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF13-32.5**

**Lab Sample ID: 570-47162-8**

**Date Collected: 12/28/20 09:08**

**Matrix: Solid**

**Date Received: 12/28/20 13:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	100 mL	120907	01/07/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121421	01/08/21 19:31	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.54 g	100 mL	120589	01/06/21 14:50	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121218	01/08/21 19:49	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	119025	12/28/20 18:25	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119031	12/28/20 19:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119243	12/29/20 15:48	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF13-66.5**

**Lab Sample ID: 570-47162-9**

**Date Collected: 12/28/20 10:10**

**Matrix: Solid**

**Date Received: 12/28/20 13:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.93 g	100 mL	120907	01/07/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121421	01/08/21 19:34	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.50 g	100 mL	120589	01/06/21 14:50	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121218	01/08/21 19:50	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	119025	12/28/20 18:25	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119031	12/28/20 19:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119243	12/29/20 15:48	SR3N	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF13-35.0**

**Lab Sample ID: 570-47162-10**

**Date Collected: 12/28/20 09:15**

**Matrix: Solid**

**Date Received: 12/28/20 13:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.07 g	100 mL	120907	01/07/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121421	01/08/21 19:37	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.50 g	100 mL	120589	01/06/21 14:50	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121218	01/08/21 19:51	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	119025	12/28/20 18:25	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119031	12/28/20 19:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119243	12/29/20 15:48	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF13-60.0**

**Lab Sample ID: 570-47162-11**

**Date Collected: 12/28/20 10:05**

**Matrix: Solid**

**Date Received: 12/28/20 13:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.09 g	100 mL	120907	01/07/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121421	01/08/21 19:40	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.49 g	100 mL	120589	01/06/21 14:50	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121218	01/08/21 19:54	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	119025	12/28/20 18:25	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119031	12/28/20 19:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119243	12/29/20 15:48	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF13-55.0**

**Lab Sample ID: 570-47162-12**

**Date Collected: 12/28/20 10:00**

**Matrix: Solid**

**Date Received: 12/28/20 13:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.09 g	100 mL	120907	01/07/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121421	01/08/21 19:43	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.54 g	100 mL	120589	01/06/21 14:50	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121218	01/08/21 19:55	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.03 g	20 mL	119025	12/28/20 18:25	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119031	12/28/20 19:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119243	12/29/20 15:48	SR3N	ECL 1
Instrument ID: BAL87										



# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF13-27.0**

**Lab Sample ID: 570-47162-13**

**Date Collected: 12/28/20 09:04**

**Matrix: Solid**

**Date Received: 12/28/20 13:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.94 g	100 mL	120907	01/07/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121421	01/08/21 19:47	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.51 g	100 mL	120589	01/06/21 14:50	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121218	01/08/21 19:56	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	119025	12/28/20 18:25	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119031	12/28/20 19:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119243	12/29/20 15:48	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF13-10.0**

**Lab Sample ID: 570-47162-14**

**Date Collected: 12/28/20 08:46**

**Matrix: Solid**

**Date Received: 12/28/20 13:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	120907	01/07/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121421	01/08/21 19:50	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.50 g	100 mL	120589	01/06/21 14:50	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121218	01/08/21 19:57	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	119025	12/28/20 18:25	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119031	12/28/20 19:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119243	12/29/20 15:48	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF13-15.0**

**Lab Sample ID: 570-47162-15**

**Date Collected: 12/28/20 08:49**

**Matrix: Solid**

**Date Received: 12/28/20 13:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	100 mL	120907	01/07/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121421	01/08/21 19:59	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.53 g	100 mL	120589	01/06/21 14:50	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121218	01/08/21 19:58	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.04 g	20 mL	119025	12/28/20 18:25	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119031	12/28/20 19:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119243	12/29/20 15:48	SR3N	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF13-20.0**

**Lab Sample ID: 570-47162-16**

**Date Collected: 12/28/20 08:55**

**Matrix: Solid**

**Date Received: 12/28/20 13:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.95 g	100 mL	120907	01/07/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121421	01/08/21 20:02	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.50 g	100 mL	120589	01/06/21 14:50	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121218	01/08/21 19:59	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	119025	12/28/20 18:25	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119031	12/28/20 19:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119243	12/29/20 15:48	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF13-26.5**

**Lab Sample ID: 570-47162-17**

**Date Collected: 12/28/20 09:02**

**Matrix: Solid**

**Date Received: 12/28/20 13:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.97 g	100 mL	120907	01/07/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121421	01/08/21 20:05	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.51 g	100 mL	120589	01/06/21 14:50	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121218	01/08/21 20:00	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	119025	12/28/20 18:25	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119031	12/28/20 19:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119243	12/29/20 15:48	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF13-25.0**

**Lab Sample ID: 570-47162-18**

**Date Collected: 12/28/20 09:00**

**Matrix: Solid**

**Date Received: 12/28/20 13:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	100 mL	120907	01/07/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121421	01/08/21 20:08	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.51 g	100 mL	120589	01/06/21 14:50	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121218	01/08/21 20:01	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	119025	12/28/20 18:25	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119031	12/28/20 19:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119243	12/29/20 15:48	SR3N	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF13-70.0**

**Lab Sample ID: 570-47162-19**

**Date Collected: 12/28/20 10:30**

**Matrix: Solid**

**Date Received: 12/28/20 13:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	100 mL	120907	01/07/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121421	01/08/21 20:11	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.55 g	100 mL	120589	01/06/21 14:50	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121218	01/08/21 20:02	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	119025	12/28/20 18:25	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119031	12/28/20 19:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119243	12/29/20 15:48	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF13-75.0**

**Lab Sample ID: 570-47162-20**

**Date Collected: 12/28/20 10:31**

**Matrix: Solid**

**Date Received: 12/28/20 13:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	100 mL	120907	01/07/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121421	01/08/21 20:14	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.54 g	100 mL	120589	01/06/21 14:50	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121218	01/08/21 20:03	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	119025	12/28/20 18:25	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119031	12/28/20 19:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119243	12/29/20 15:48	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: EB04**

**Lab Sample ID: 570-47162-21**

**Date Collected: 12/28/20 11:15**

**Matrix: Water**

**Date Received: 12/28/20 13:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7199		1			118812	12/28/20 20:42	URMH	ECL 1
Instrument ID: IC16										
Total/NA	Prep	3010A			50 mL	50 mL	120862	01/07/21 14:50	WL8G	ECL 1
Total/NA	Analysis	6010B		1			121007	01/08/21 10:40	ULPF	ECL 1
Instrument ID: ICP8										

## Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

## Accreditation/Certification Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

### Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-21
California	SCAQMD LAP	17LA0919	11-30-21
California	State	2944	09-30-21
Guam	State	20-003R	10-31-20 *
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-29-21
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-21

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Calscience LLC

## Method Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

Method	Method Description	Protocol	Laboratory
7199	Chromium, Hexavalent (IC)	SW846	ECL 1
6010B	Metals (ICP)	SW846	ECL 1
7196A	Chromium, Hexavalent	SW846	ECL 1
9045C	pH	SW846	ECL 1
Moisture	Percent Moisture	EPA	ECL 1
3010A	Preparation, Total Metals	SW846	ECL 1
3050B	Preparation, Metals	SW846	ECL 1
3060A	Alkaline Digestion (Chromium, Hexavalent)	SW846	ECL 1
DI Leach	Deionized Water Leaching Procedure	ASTM	ECL 1

### Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494



## Sample Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47162-1  
SDG: 0197.010.006

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-47162-1	SWCONF13-67.0	Solid	12/28/20 10:30	12/28/20 13:05	
570-47162-2	SWCONF13-45.0	Solid	12/28/20 09:30	12/28/20 13:05	
570-47162-3	SWCONF13-33.0	Solid	12/28/20 09:08	12/28/20 13:05	
570-47162-4	SWCONF13-51.5	Solid	12/28/20 09:45	12/28/20 13:05	
570-47162-5	SWCONF13-51.0	Solid	12/28/20 09:45	12/28/20 13:05	
570-47162-6	SWCONF13-40.0	Solid	12/28/20 09:30	12/28/20 13:05	
570-47162-7	SWCONF13-30.0	Solid	12/28/20 09:07	12/28/20 13:05	
570-47162-8	SWCONF13-32.5	Solid	12/28/20 09:08	12/28/20 13:05	
570-47162-9	SWCONF13-66.5	Solid	12/28/20 10:10	12/28/20 13:05	
570-47162-10	SWCONF13-35.0	Solid	12/28/20 09:15	12/28/20 13:05	
570-47162-11	SWCONF13-60.0	Solid	12/28/20 10:05	12/28/20 13:05	
570-47162-12	SWCONF13-55.0	Solid	12/28/20 10:00	12/28/20 13:05	
570-47162-13	SWCONF13-27.0	Solid	12/28/20 09:04	12/28/20 13:05	
570-47162-14	SWCONF13-10.0	Solid	12/28/20 08:46	12/28/20 13:05	
570-47162-15	SWCONF13-15.0	Solid	12/28/20 08:49	12/28/20 13:05	
570-47162-16	SWCONF13-20.0	Solid	12/28/20 08:55	12/28/20 13:05	
570-47162-17	SWCONF13-26.5	Solid	12/28/20 09:02	12/28/20 13:05	
570-47162-18	SWCONF13-25.0	Solid	12/28/20 09:00	12/28/20 13:05	
570-47162-19	SWCONF13-70.0	Solid	12/28/20 10:30	12/28/20 13:05	
570-47162-20	SWCONF13-75.0	Solid	12/28/20 10:31	12/28/20 13:05	
570-47162-21	EB04	Water	12/28/20 11:15	12/28/20 13:05	







## Login Sample Receipt Checklist

Client: Terraphase Engineering Inc

Job Number: 570-47162-1

SDG Number: 0197.010.006

**Login Number: 47162**

**List Number: 1**

**Creator: Cortez Diaz, Antonio**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## ANALYTICAL REPORT

Eurofins Calscience LLC  
7440 Lincoln Way  
Garden Grove, CA 92841  
Tel: (714)895-5494

Laboratory Job ID: 570-47359-1

Laboratory Sample Delivery Group: 0197.010.006

Client Project/Site: PTI Southwest Soil Injection Confirmation

**For:**

Terraphase Engineering Inc  
18401 Von Karman Ave  
Suite 410  
Irvine, California 92612

Attn: Clare Steedman

*Virendra R Patel*

Authorized for release by:  
1/13/2021 12:06:00 PM

Virendra Patel, Project Manager I  
(714)895-5494

[Virendra.Patel@eurofinset.com](mailto:Virendra.Patel@eurofinset.com)

### LINKS

Review your project  
results through

**TotalAccess**

Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

*The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

### Qualifiers

#### General Chemistry

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F3	Duplicate RPD exceeds the control limit

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

**Job ID: 570-47359-1**

**Laboratory: Eurofins Calscience LLC**

## Narrative

### Job Narrative 570-47359-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 12/29/2020 5:55 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.1° C.

#### Receipt Exceptions

The container labels for the following samples did not match the information listed on the Chain-of-Custody (COC). The container labels list collection date 12/29/20, while the COC lists collection date 12/28/20.

SWCONF18-39.5 (570-47359-11), SWCONF18-45.0 (570-47359-12), SWCONF18-50.0 (570-47359-13), SWCONF18-50.5 (570-47359-14), SWCONF18-55.0 (570-47359-15), SWCONF18-60.0 (570-47359-16), SWCONF18-60.5 (570-47359-17), SWCONF18-65.0 (570-47359-18), SWCONF18-70.0 (570-47359-19) and SWCONF16-10.0 (570-47359-20)

The clients office was contacted with the above sample receipt anomalies. The laboratory was provided written direction on how to proceed, please refer to the COC section of the report for further details.

#### HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### General Chemistry

Method Moisture: The sample duplicate precision for the following sample associated with analytical batch 570-119486 was outside control limits: (570-47359-A-7 DU). Non-homogeneity of the sample matrix is suspected. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## Client Sample ID: SWCONF18-10.0

## Lab Sample ID: 570-47359-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16.7		2.83	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.979		0.565	mg/Kg	1	✱	6010B	Total/NA
Chromium	27.3		1.13	mg/Kg	1	✱	6010B	Total/NA
Copper	35.4		1.13	mg/Kg	1	✱	6010B	Total/NA
Lead	7.09		5.65	mg/Kg	1	✱	6010B	Total/NA
pH	10.7		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF18-15.0

## Lab Sample ID: 570-47359-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.04		2.67	mg/Kg	1	✱	6010B	Total/NA
Chromium	14.4		1.07	mg/Kg	1	✱	6010B	Total/NA
Copper	15.5		1.07	mg/Kg	1	✱	6010B	Total/NA
pH	9.9		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF18-20.0

## Lab Sample ID: 570-47359-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.41		2.75	mg/Kg	1	✱	6010B	Total/NA
Chromium	14.3		1.10	mg/Kg	1	✱	6010B	Total/NA
Copper	15.0		1.10	mg/Kg	1	✱	6010B	Total/NA
pH	9.8		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF18-25.0

## Lab Sample ID: 570-47359-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.34		2.64	mg/Kg	1	✱	6010B	Total/NA
Chromium	10.1		1.06	mg/Kg	1	✱	6010B	Total/NA
Copper	11.0		1.06	mg/Kg	1	✱	6010B	Total/NA
pH	8.1		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF18-27.5

## Lab Sample ID: 570-47359-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.06		2.53	mg/Kg	1	✱	6010B	Total/NA
Chromium	346		1.01	mg/Kg	1	✱	6010B	Total/NA
Copper	28.8		1.01	mg/Kg	1	✱	6010B	Total/NA
pH	9.1		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF18-28.0

## Lab Sample ID: 570-47359-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	23.0		3.30	mg/Kg	1	✱	6010B	Total/NA
Cadmium	1.11		0.661	mg/Kg	1	✱	6010B	Total/NA
Chromium	2140		1.32	mg/Kg	1	✱	6010B	Total/NA
Copper	274		1.32	mg/Kg	1	✱	6010B	Total/NA
pH	7.2		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF18-30.0

## Lab Sample ID: 570-47359-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.12		2.75	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.595		0.550	mg/Kg	1	✱	6010B	Total/NA
Chromium	568		1.10	mg/Kg	1	✱	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC



## Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

### Client Sample ID: SWCONF18-30.0 (Continued)

### Lab Sample ID: 570-47359-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Copper	87.8		1.10	mg/Kg	1	✱	6010B	Total/NA
pH	7.1		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCONF18-34.0

### Lab Sample ID: 570-47359-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.2		2.90	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.977		0.580	mg/Kg	1	✱	6010B	Total/NA
Chromium	462		1.16	mg/Kg	1	✱	6010B	Total/NA
Copper	176		1.16	mg/Kg	1	✱	6010B	Total/NA
pH	4.6		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCONF18-34.5

### Lab Sample ID: 570-47359-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	102		1.11	mg/Kg	1	✱	6010B	Total/NA
Copper	56.6		1.11	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	5.58		0.867	mg/Kg	1	✱	7196A	Total/NA
pH	4.9		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCONF18-35.0

### Lab Sample ID: 570-47359-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	33.6		0.994	mg/Kg	1	✱	6010B	Total/NA
Copper	119		0.994	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	1.64		0.820	mg/Kg	1	✱	7196A	Total/NA
pH	5.5		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCONF18-39.5

### Lab Sample ID: 570-47359-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	29.4		0.991	mg/Kg	1	✱	6010B	Total/NA
Copper	51.0		0.991	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	2.45		0.822	mg/Kg	1	✱	7196A	Total/NA
pH	6.4		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCONF18-45.0

### Lab Sample ID: 570-47359-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.78		2.56	mg/Kg	1	✱	6010B	Total/NA
Chromium	98.6		1.02	mg/Kg	1	✱	6010B	Total/NA
Copper	189		1.02	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	5.80		0.822	mg/Kg	1	✱	7196A	Total/NA
pH	6.5		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCONF18-50.0

### Lab Sample ID: 570-47359-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.84		2.58	mg/Kg	1	✱	6010B	Total/NA
Chromium	200		1.03	mg/Kg	1	✱	6010B	Total/NA
Copper	245		1.03	mg/Kg	1	✱	6010B	Total/NA
Lead	5.80		5.16	mg/Kg	1	✱	6010B	Total/NA
pH	8.3		0.01	S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## Client Sample ID: SWCONF18-50.5

## Lab Sample ID: 570-47359-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	37.8		3.32	mg/Kg	1	✱	6010B	Total/NA
Cadmium	2.25		0.663	mg/Kg	1	✱	6010B	Total/NA
Chromium	606		1.33	mg/Kg	1	✱	6010B	Total/NA
Copper	523		1.33	mg/Kg	1	✱	6010B	Total/NA
Lead	10.7		6.63	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	72.8		10.7	mg/Kg	10	✱	7196A	Total/NA
pH	4.7		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF18-55.0

## Lab Sample ID: 570-47359-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	22.0		2.84	mg/Kg	1	✱	6010B	Total/NA
Cadmium	7.82		0.567	mg/Kg	1	✱	6010B	Total/NA
Chromium	273		1.13	mg/Kg	1	✱	6010B	Total/NA
Copper	30.8		1.13	mg/Kg	1	✱	6010B	Total/NA
pH	8.3		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF18-60.0

## Lab Sample ID: 570-47359-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.7		3.08	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.991		0.616	mg/Kg	1	✱	6010B	Total/NA
Chromium	80.7		1.23	mg/Kg	1	✱	6010B	Total/NA
Copper	41.2		1.23	mg/Kg	1	✱	6010B	Total/NA
pH	7.2		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF18-60.5

## Lab Sample ID: 570-47359-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.32		2.97	mg/Kg	1	✱	6010B	Total/NA
Cadmium	2.19		0.594	mg/Kg	1	✱	6010B	Total/NA
Chromium	66.7		1.19	mg/Kg	1	✱	6010B	Total/NA
Copper	31.1		1.19	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	5.57		0.977	mg/Kg	1	✱	7196A	Total/NA
pH	7.1		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF18-65.0

## Lab Sample ID: 570-47359-18

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	549		1.06	mg/Kg	1	✱	6010B	Total/NA
Copper	58.8		1.06	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	4.16		0.844	mg/Kg	1	✱	7196A	Total/NA
pH	7.1		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF18-70.0

## Lab Sample ID: 570-47359-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.61		2.53	mg/Kg	1	✱	6010B	Total/NA
Chromium	633		1.01	mg/Kg	1	✱	6010B	Total/NA
Copper	77.9		1.01	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	6.21		0.846	mg/Kg	1	✱	7196A	Total/NA
pH	7.0		0.01	S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

## Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

### Client Sample ID: SWCONF16-10.0

### Lab Sample ID: 570-47359-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.2		2.76	mg/Kg	1	✱	6010B	Total/NA
Chromium	548		1.10	mg/Kg	1	✱	6010B	Total/NA
Copper	59.6		1.10	mg/Kg	1	✱	6010B	Total/NA
Lead	14.1		5.52	mg/Kg	1	✱	6010B	Total/NA
pH	9.5		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCONF16-15.0

### Lab Sample ID: 570-47359-21

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.24		2.80	mg/Kg	1	✱	6010B	Total/NA
Chromium	965		1.12	mg/Kg	1	✱	6010B	Total/NA
Copper	69.0		1.12	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	135		43.9	mg/Kg	50	✱	7196A	Total/NA
pH	4.0		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCONF16-20.0

### Lab Sample ID: 570-47359-22

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.24		2.68	mg/Kg	1	✱	6010B	Total/NA
Chromium	700		1.07	mg/Kg	1	✱	6010B	Total/NA
Copper	68.1		1.07	mg/Kg	1	✱	6010B	Total/NA
pH	4.4		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCONF16-25.0

### Lab Sample ID: 570-47359-23

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.24		2.51	mg/Kg	1	✱	6010B	Total/NA
Chromium	625		1.00	mg/Kg	1	✱	6010B	Total/NA
Copper	78.6		1.00	mg/Kg	1	✱	6010B	Total/NA
pH	7.9		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCONF16-27.0

### Lab Sample ID: 570-47359-24

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.84		2.87	mg/Kg	1	✱	6010B	Total/NA
Chromium	454		1.15	mg/Kg	1	✱	6010B	Total/NA
Copper	43.2		1.15	mg/Kg	1	✱	6010B	Total/NA
pH	9.0		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCONF16-27.5

### Lab Sample ID: 570-47359-25

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.26		3.34	mg/Kg	1	✱	6010B	Total/NA
Cadmium	1.19		0.667	mg/Kg	1	✱	6010B	Total/NA
Chromium	5040		1.33	mg/Kg	1	✱	6010B	Total/NA
Copper	196		1.33	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	1090		52.2	mg/Kg	50	✱	7196A	Total/NA
pH	4.1		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCONF16-30.0

### Lab Sample ID: 570-47359-26

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13.9		2.95	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.741		0.591	mg/Kg	1	✱	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

## Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

### Client Sample ID: SWCONF16-30.0 (Continued)

### Lab Sample ID: 570-47359-26

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	1790		1.18	mg/Kg	1	✱	6010B	Total/NA
Copper	306		1.18	mg/Kg	1	✱	6010B	Total/NA
pH	10.6		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCONF16-32.5

### Lab Sample ID: 570-47359-27

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	14.3		3.01	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.665		0.601	mg/Kg	1	✱	6010B	Total/NA
Chromium	1180		1.20	mg/Kg	1	✱	6010B	Total/NA
Copper	274		1.20	mg/Kg	1	✱	6010B	Total/NA
pH	10		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCONF16-33.0

### Lab Sample ID: 570-47359-28

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	201		1.08	mg/Kg	1	✱	6010B	Total/NA
Copper	116		1.08	mg/Kg	1	✱	6010B	Total/NA
pH	7.1		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCONF16-35.0

### Lab Sample ID: 570-47359-29

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.02		2.57	mg/Kg	1	✱	6010B	Total/NA
Chromium	147		1.03	mg/Kg	1	✱	6010B	Total/NA
Copper	185		1.03	mg/Kg	1	✱	6010B	Total/NA
pH	9.3		0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: EB05

### Lab Sample ID: 570-47359-30

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

## Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

### Method: 7199 - Chromium, Hexavalent (IC)

Client Sample ID: EB05

Date Collected: 12/29/20 16:41

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-30

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			12/29/20 21:50	1



# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCONF18-10.0

Date Collected: 12/29/20 10:30

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16.7		2.83	mg/Kg	☆	01/08/21 17:00	01/11/21 16:47	1
Cadmium	0.979		0.565	mg/Kg	☆	01/08/21 17:00	01/11/21 16:47	1
Chromium	27.3		1.13	mg/Kg	☆	01/08/21 17:00	01/11/21 16:47	1
Copper	35.4		1.13	mg/Kg	☆	01/08/21 17:00	01/11/21 16:47	1
Lead	7.09		5.65	mg/Kg	☆	01/08/21 17:00	01/11/21 16:47	1

Client Sample ID: SWCONF18-15.0

Date Collected: 12/29/20 10:40

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.04		2.67	mg/Kg	☆	01/08/21 17:00	01/11/21 22:25	1
Cadmium	ND		0.534	mg/Kg	☆	01/08/21 17:00	01/11/21 22:25	1
Chromium	14.4		1.07	mg/Kg	☆	01/08/21 17:00	01/11/21 22:25	1
Copper	15.5		1.07	mg/Kg	☆	01/08/21 17:00	01/11/21 22:25	1
Lead	ND		5.34	mg/Kg	☆	01/08/21 17:00	01/11/21 22:25	1

Client Sample ID: SWCONF18-20.0

Date Collected: 12/29/20 10:50

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.41		2.75	mg/Kg	☆	01/08/21 17:00	01/11/21 22:27	1
Cadmium	ND		0.551	mg/Kg	☆	01/08/21 17:00	01/11/21 22:27	1
Chromium	14.3		1.10	mg/Kg	☆	01/08/21 17:00	01/11/21 22:27	1
Copper	15.0		1.10	mg/Kg	☆	01/08/21 17:00	01/11/21 22:27	1
Lead	ND		5.51	mg/Kg	☆	01/08/21 17:00	01/11/21 22:27	1

Client Sample ID: SWCONF18-25.0

Date Collected: 12/29/20 11:10

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.34		2.64	mg/Kg	☆	01/08/21 17:00	01/11/21 22:29	1
Cadmium	ND		0.529	mg/Kg	☆	01/08/21 17:00	01/11/21 22:29	1
Chromium	10.1		1.06	mg/Kg	☆	01/08/21 17:00	01/11/21 22:29	1
Copper	11.0		1.06	mg/Kg	☆	01/08/21 17:00	01/11/21 22:29	1
Lead	ND		5.29	mg/Kg	☆	01/08/21 17:00	01/11/21 22:29	1

Client Sample ID: SWCONF18-27.5

Date Collected: 12/29/20 11:20

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.06		2.53	mg/Kg	☆	01/08/21 17:00	01/11/21 22:31	1
Cadmium	ND		0.505	mg/Kg	☆	01/08/21 17:00	01/11/21 22:31	1
Chromium	346		1.01	mg/Kg	☆	01/08/21 17:00	01/11/21 22:31	1
Copper	28.8		1.01	mg/Kg	☆	01/08/21 17:00	01/11/21 22:31	1
Lead	ND		5.05	mg/Kg	☆	01/08/21 17:00	01/11/21 22:31	1

Client Sample ID: SWCONF18-28.0

Date Collected: 12/29/20 11:21

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	23.0		3.30	mg/Kg	☆	01/08/21 17:00	01/11/21 22:33	1

Eurofins Calscience LLC

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF18-28.0

Date Collected: 12/29/20 11:21

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	1.11		0.661	mg/Kg	☆	01/08/21 17:00	01/11/21 22:33	1
Chromium	2140		1.32	mg/Kg	☆	01/08/21 17:00	01/11/21 22:33	1
Copper	274		1.32	mg/Kg	☆	01/08/21 17:00	01/11/21 22:33	1
Lead	ND		6.61	mg/Kg	☆	01/08/21 17:00	01/11/21 22:33	1

Client Sample ID: SWCONF18-30.0

Date Collected: 12/29/20 11:25

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-7

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.12		2.75	mg/Kg	☆	01/08/21 17:00	01/11/21 22:35	1
Cadmium	0.595		0.550	mg/Kg	☆	01/08/21 17:00	01/11/21 22:35	1
Chromium	568		1.10	mg/Kg	☆	01/08/21 17:00	01/11/21 22:35	1
Copper	87.8		1.10	mg/Kg	☆	01/08/21 17:00	01/11/21 22:35	1
Lead	ND		5.50	mg/Kg	☆	01/08/21 17:00	01/11/21 22:35	1

Client Sample ID: SWCONF18-34.0

Date Collected: 12/29/20 11:30

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-8

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.2		2.90	mg/Kg	☆	01/08/21 17:00	01/11/21 22:37	1
Cadmium	0.977		0.580	mg/Kg	☆	01/08/21 17:00	01/11/21 22:37	1
Chromium	462		1.16	mg/Kg	☆	01/08/21 17:00	01/11/21 22:37	1
Copper	176		1.16	mg/Kg	☆	01/08/21 17:00	01/11/21 22:37	1
Lead	ND		5.80	mg/Kg	☆	01/08/21 17:00	01/11/21 22:37	1

Client Sample ID: SWCONF18-34.5

Date Collected: 12/29/20 11:35

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-9

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.78	mg/Kg	☆	01/08/21 17:00	01/11/21 22:39	1
Cadmium	ND		0.555	mg/Kg	☆	01/08/21 17:00	01/11/21 22:39	1
Chromium	102		1.11	mg/Kg	☆	01/08/21 17:00	01/11/21 22:39	1
Copper	56.6		1.11	mg/Kg	☆	01/08/21 17:00	01/11/21 22:39	1
Lead	ND		5.55	mg/Kg	☆	01/08/21 17:00	01/11/21 22:39	1

Client Sample ID: SWCONF18-35.0

Date Collected: 12/29/20 11:36

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-10

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.48	mg/Kg	☆	01/08/21 17:00	01/11/21 22:41	1
Cadmium	ND		0.497	mg/Kg	☆	01/08/21 17:00	01/11/21 22:41	1
Chromium	33.6		0.994	mg/Kg	☆	01/08/21 17:00	01/11/21 22:41	1
Copper	119		0.994	mg/Kg	☆	01/08/21 17:00	01/11/21 22:41	1
Lead	ND		4.97	mg/Kg	☆	01/08/21 17:00	01/11/21 22:41	1

Client Sample ID: SWCONF18-39.5

Date Collected: 12/29/20 11:50

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-11

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.48	mg/Kg	☆	01/08/21 17:00	01/11/21 22:43	1
Cadmium	ND		0.495	mg/Kg	☆	01/08/21 17:00	01/11/21 22:43	1

Eurofins Calscience LLC

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF18-39.5

Date Collected: 12/29/20 11:50

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-11

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	29.4		0.991	mg/Kg	☆	01/08/21 17:00	01/11/21 22:43	1
Copper	51.0		0.991	mg/Kg	☆	01/08/21 17:00	01/11/21 22:43	1
Lead	ND		4.95	mg/Kg	☆	01/08/21 17:00	01/11/21 22:43	1

Client Sample ID: SWCONF18-45.0

Date Collected: 12/29/20 12:00

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-12

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.78		2.56	mg/Kg	☆	01/08/21 17:00	01/11/21 22:55	1
Cadmium	ND		0.512	mg/Kg	☆	01/08/21 17:00	01/11/21 22:55	1
Chromium	98.6		1.02	mg/Kg	☆	01/08/21 17:00	01/11/21 22:55	1
Copper	189		1.02	mg/Kg	☆	01/08/21 17:00	01/11/21 22:55	1
Lead	ND		5.12	mg/Kg	☆	01/08/21 17:00	01/11/21 22:55	1

Client Sample ID: SWCONF18-50.0

Date Collected: 12/29/20 12:12

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-13

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.84		2.58	mg/Kg	☆	01/08/21 17:00	01/11/21 22:57	1
Cadmium	ND		0.516	mg/Kg	☆	01/08/21 17:00	01/11/21 22:57	1
Chromium	200		1.03	mg/Kg	☆	01/08/21 17:00	01/11/21 22:57	1
Copper	245		1.03	mg/Kg	☆	01/08/21 17:00	01/11/21 22:57	1
Lead	5.80		5.16	mg/Kg	☆	01/08/21 17:00	01/11/21 22:57	1

Client Sample ID: SWCONF18-50.5

Date Collected: 12/29/20 12:13

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-14

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	37.8		3.32	mg/Kg	☆	01/08/21 17:00	01/11/21 22:59	1
Cadmium	2.25		0.663	mg/Kg	☆	01/08/21 17:00	01/11/21 22:59	1
Chromium	606		1.33	mg/Kg	☆	01/08/21 17:00	01/11/21 22:59	1
Copper	523		1.33	mg/Kg	☆	01/08/21 17:00	01/11/21 22:59	1
Lead	10.7		6.63	mg/Kg	☆	01/08/21 17:00	01/11/21 22:59	1

Client Sample ID: SWCONF18-55.0

Date Collected: 12/29/20 12:30

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-15

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	22.0		2.84	mg/Kg	☆	01/08/21 17:00	01/11/21 23:01	1
Cadmium	7.82		0.567	mg/Kg	☆	01/08/21 17:00	01/11/21 23:01	1
Chromium	273		1.13	mg/Kg	☆	01/08/21 17:00	01/11/21 23:01	1
Copper	30.8		1.13	mg/Kg	☆	01/08/21 17:00	01/11/21 23:01	1
Lead	ND		5.67	mg/Kg	☆	01/08/21 17:00	01/11/21 23:01	1

Client Sample ID: SWCONF18-60.0

Date Collected: 12/29/20 12:50

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-16

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.7		3.08	mg/Kg	☆	01/08/21 17:00	01/11/21 23:03	1
Cadmium	0.991		0.616	mg/Kg	☆	01/08/21 17:00	01/11/21 23:03	1
Chromium	80.7		1.23	mg/Kg	☆	01/08/21 17:00	01/11/21 23:03	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF18-60.0

Date Collected: 12/29/20 12:50

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-16

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	41.2		1.23	mg/Kg	☆	01/08/21 17:00	01/11/21 23:03	1
Lead	ND		6.16	mg/Kg	☆	01/08/21 17:00	01/11/21 23:03	1

Client Sample ID: SWCONF18-60.5

Date Collected: 12/29/20 12:52

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-17

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.32		2.97	mg/Kg	☆	01/08/21 17:00	01/11/21 23:05	1
Cadmium	2.19		0.594	mg/Kg	☆	01/08/21 17:00	01/11/21 23:05	1
Chromium	66.7		1.19	mg/Kg	☆	01/08/21 17:00	01/11/21 23:05	1
Copper	31.1		1.19	mg/Kg	☆	01/08/21 17:00	01/11/21 23:05	1
Lead	ND		5.94	mg/Kg	☆	01/08/21 17:00	01/11/21 23:05	1

Client Sample ID: SWCONF18-65.0

Date Collected: 12/29/20 13:05

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-18

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.65	mg/Kg	☆	01/08/21 17:00	01/11/21 23:07	1
Cadmium	ND		0.530	mg/Kg	☆	01/08/21 17:00	01/11/21 23:07	1
Chromium	549		1.06	mg/Kg	☆	01/08/21 17:00	01/11/21 23:07	1
Copper	58.8		1.06	mg/Kg	☆	01/08/21 17:00	01/11/21 23:07	1
Lead	ND		5.30	mg/Kg	☆	01/08/21 17:00	01/11/21 23:07	1

Client Sample ID: SWCONF18-70.0

Date Collected: 12/29/20 13:15

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-19

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.61		2.53	mg/Kg	☆	01/08/21 17:00	01/11/21 23:09	1
Cadmium	ND		0.506	mg/Kg	☆	01/08/21 17:00	01/11/21 23:09	1
Chromium	633		1.01	mg/Kg	☆	01/08/21 17:00	01/11/21 23:09	1
Copper	77.9		1.01	mg/Kg	☆	01/08/21 17:00	01/11/21 23:09	1
Lead	ND		5.06	mg/Kg	☆	01/08/21 17:00	01/11/21 23:09	1

Client Sample ID: SWCONF16-10.0

Date Collected: 12/29/20 15:25

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-20

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.2		2.76	mg/Kg	☆	01/08/21 17:00	01/11/21 23:11	1
Cadmium	ND		0.552	mg/Kg	☆	01/08/21 17:00	01/11/21 23:11	1
Chromium	548		1.10	mg/Kg	☆	01/08/21 17:00	01/11/21 23:11	1
Copper	59.6		1.10	mg/Kg	☆	01/08/21 17:00	01/11/21 23:11	1
Lead	14.1		5.52	mg/Kg	☆	01/08/21 17:00	01/11/21 23:11	1

Client Sample ID: SWCONF16-15.0

Date Collected: 12/29/20 15:45

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-21

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.24		2.80	mg/Kg	☆	01/08/21 17:12	01/11/21 16:39	1
Cadmium	ND		0.559	mg/Kg	☆	01/08/21 17:12	01/11/21 16:39	1
Chromium	965		1.12	mg/Kg	☆	01/08/21 17:12	01/11/21 16:39	1
Copper	69.0		1.12	mg/Kg	☆	01/08/21 17:12	01/11/21 16:39	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF16-15.0

Date Collected: 12/29/20 15:45

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-21

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		5.59	mg/Kg	☆	01/08/21 17:12	01/11/21 16:39	1

Client Sample ID: SWCONF16-20.0

Date Collected: 12/29/20 15:55

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-22

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.24		2.68	mg/Kg	☆	01/08/21 17:12	01/11/21 16:49	1
Cadmium	ND		0.536	mg/Kg	☆	01/08/21 17:12	01/11/21 16:49	1
Chromium	700		1.07	mg/Kg	☆	01/08/21 17:12	01/11/21 16:49	1
Copper	68.1		1.07	mg/Kg	☆	01/08/21 17:12	01/11/21 16:49	1
Lead	ND		5.36	mg/Kg	☆	01/08/21 17:12	01/11/21 16:49	1

Client Sample ID: SWCONF16-25.0

Date Collected: 12/29/20 16:05

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-23

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.24		2.51	mg/Kg	☆	01/08/21 17:12	01/11/21 16:54	1
Cadmium	ND		0.502	mg/Kg	☆	01/08/21 17:12	01/11/21 16:54	1
Chromium	625		1.00	mg/Kg	☆	01/08/21 17:12	01/11/21 16:54	1
Copper	78.6		1.00	mg/Kg	☆	01/08/21 17:12	01/11/21 16:54	1
Lead	ND		5.02	mg/Kg	☆	01/08/21 17:12	01/11/21 16:54	1

Client Sample ID: SWCONF16-27.0

Date Collected: 12/29/20 16:08

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-24

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.84		2.87	mg/Kg	☆	01/08/21 17:12	01/11/21 16:56	1
Cadmium	ND		0.575	mg/Kg	☆	01/08/21 17:12	01/11/21 16:56	1
Chromium	454		1.15	mg/Kg	☆	01/08/21 17:12	01/11/21 16:56	1
Copper	43.2		1.15	mg/Kg	☆	01/08/21 17:12	01/11/21 16:56	1
Lead	ND		5.75	mg/Kg	☆	01/08/21 17:12	01/11/21 16:56	1

Client Sample ID: SWCONF16-27.5

Date Collected: 12/29/20 16:10

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-25

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.26		3.34	mg/Kg	☆	01/08/21 17:12	01/11/21 16:58	1
Cadmium	1.19		0.667	mg/Kg	☆	01/08/21 17:12	01/11/21 16:58	1
Chromium	5040		1.33	mg/Kg	☆	01/08/21 17:12	01/11/21 16:58	1
Copper	196		1.33	mg/Kg	☆	01/08/21 17:12	01/11/21 16:58	1
Lead	ND		6.67	mg/Kg	☆	01/08/21 17:12	01/11/21 16:58	1

Client Sample ID: SWCONF16-30.0

Date Collected: 12/29/20 16:15

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-26

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13.9		2.95	mg/Kg	☆	01/08/21 17:12	01/11/21 17:00	1
Cadmium	0.741		0.591	mg/Kg	☆	01/08/21 17:12	01/11/21 17:00	1
Chromium	1790		1.18	mg/Kg	☆	01/08/21 17:12	01/11/21 17:00	1
Copper	306		1.18	mg/Kg	☆	01/08/21 17:12	01/11/21 17:00	1
Lead	ND		5.91	mg/Kg	☆	01/08/21 17:12	01/11/21 17:00	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCONF16-32.5

Date Collected: 12/29/20 16:23

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-27

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	14.3		3.01	mg/Kg	✱	01/08/21 17:12	01/11/21 17:02	1
Cadmium	0.665		0.601	mg/Kg	✱	01/08/21 17:12	01/11/21 17:02	1
Chromium	1180		1.20	mg/Kg	✱	01/08/21 17:12	01/11/21 17:02	1
Copper	274		1.20	mg/Kg	✱	01/08/21 17:12	01/11/21 17:02	1
Lead	ND		6.01	mg/Kg	✱	01/08/21 17:12	01/11/21 17:02	1

Client Sample ID: SWCONF16-33.0

Date Collected: 12/29/20 16:25

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-28

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.70	mg/Kg	✱	01/08/21 17:12	01/11/21 17:04	1
Cadmium	ND		0.541	mg/Kg	✱	01/08/21 17:12	01/11/21 17:04	1
Chromium	201		1.08	mg/Kg	✱	01/08/21 17:12	01/11/21 17:04	1
Copper	116		1.08	mg/Kg	✱	01/08/21 17:12	01/11/21 17:04	1
Lead	ND		5.41	mg/Kg	✱	01/08/21 17:12	01/11/21 17:04	1

Client Sample ID: SWCONF16-35.0

Date Collected: 12/29/20 16:27

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-29

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.02		2.57	mg/Kg	✱	01/08/21 17:12	01/11/21 17:06	1
Cadmium	ND		0.514	mg/Kg	✱	01/08/21 17:12	01/11/21 17:06	1
Chromium	147		1.03	mg/Kg	✱	01/08/21 17:12	01/11/21 17:06	1
Copper	185		1.03	mg/Kg	✱	01/08/21 17:12	01/11/21 17:06	1
Lead	ND		5.14	mg/Kg	✱	01/08/21 17:12	01/11/21 17:06	1

Client Sample ID: EB05

Date Collected: 12/29/20 16:41

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-30

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L		01/11/21 06:30	01/11/21 10:18	1
Cadmium	ND		0.0100	mg/L		01/11/21 06:30	01/11/21 10:18	1
Chromium	ND		0.0500	mg/L		01/11/21 06:30	01/11/21 10:18	1
Copper	ND		0.0500	mg/L		01/11/21 06:30	01/11/21 10:18	1
Lead	ND		0.0500	mg/L		01/11/21 06:30	01/11/21 10:18	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF18-10.0

Date Collected: 12/29/20 10:30

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.918	mg/Kg	☼	01/08/21 13:25	01/09/21 15:19	1
pH	10.7		0.01	S.U.			12/29/20 23:10	1
Percent Moisture	12.8		0.1	%			12/30/20 13:03	1
Percent Solids	87.2		0.1	%			12/30/20 13:03	1

Client Sample ID: SWCONF18-15.0

Date Collected: 12/29/20 10:40

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.858	mg/Kg	☼	01/08/21 13:25	01/09/21 15:20	1
pH	9.9		0.01	S.U.			12/29/20 23:10	1
Percent Moisture	6.4		0.1	%			12/30/20 13:03	1
Percent Solids	93.6		0.1	%			12/30/20 13:03	1

Client Sample ID: SWCONF18-20.0

Date Collected: 12/29/20 10:50

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.849	mg/Kg	☼	01/08/21 13:25	01/09/21 15:23	1
pH	9.8		0.01	S.U.			12/29/20 23:10	1
Percent Moisture	6.9		0.1	%			12/30/20 13:03	1
Percent Solids	93.1		0.1	%			12/30/20 13:03	1

Client Sample ID: SWCONF18-25.0

Date Collected: 12/29/20 11:10

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.835	mg/Kg	☼	01/08/21 13:25	01/09/21 15:24	1
pH	8.1		0.01	S.U.			12/29/20 23:10	1
Percent Moisture	4.5		0.1	%			12/30/20 13:03	1
Percent Solids	95.5		0.1	%			12/30/20 13:03	1

Client Sample ID: SWCONF18-27.5

Date Collected: 12/29/20 11:20

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.842	mg/Kg	☼	01/08/21 13:25	01/09/21 15:25	1
pH	9.1		0.01	S.U.			12/29/20 23:10	1
Percent Moisture	5.3		0.1	%			12/30/20 13:03	1
Percent Solids	94.7		0.1	%			12/30/20 13:03	1

Client Sample ID: SWCONF18-28.0

Date Collected: 12/29/20 11:21

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.04	mg/Kg	☼	01/08/21 13:25	01/09/21 15:26	1
pH	7.2		0.01	S.U.			12/29/20 23:10	1
Percent Moisture	24.4		0.1	%			12/30/20 13:03	1
Percent Solids	75.6		0.1	%			12/30/20 13:03	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF18-30.0

Date Collected: 12/29/20 11:25

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-7

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.881	mg/Kg	☆	01/08/21 13:25	01/09/21 15:27	1
pH	7.1		0.01	S.U.			12/29/20 23:10	1
Percent Moisture	9.2		0.1	%			12/30/20 13:03	1
Percent Solids	90.8		0.1	%			12/30/20 13:03	1

Client Sample ID: SWCONF18-34.0

Date Collected: 12/29/20 11:30

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-8

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.967	mg/Kg	☆	01/08/21 13:25	01/09/21 15:28	1
pH	4.6		0.01	S.U.			12/29/20 23:10	1
Percent Moisture	17.6		0.1	%			12/30/20 13:03	1
Percent Solids	82.4		0.1	%			12/30/20 13:03	1

Client Sample ID: SWCONF18-34.5

Date Collected: 12/29/20 11:35

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-9

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	5.58		0.867	mg/Kg	☆	01/08/21 13:25	01/09/21 15:29	1
pH	4.9		0.01	S.U.			12/29/20 23:10	1
Percent Moisture	8.1		0.1	%			12/30/20 13:03	1
Percent Solids	91.9		0.1	%			12/30/20 13:03	1

Client Sample ID: SWCONF18-35.0

Date Collected: 12/29/20 11:36

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-10

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	1.64		0.820	mg/Kg	☆	01/08/21 13:25	01/09/21 15:30	1
pH	5.5		0.01	S.U.			12/29/20 23:10	1
Percent Moisture	3.2		0.1	%			12/30/20 13:03	1
Percent Solids	96.8		0.1	%			12/30/20 13:03	1

Client Sample ID: SWCONF18-39.5

Date Collected: 12/29/20 11:50

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-11

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	2.45		0.822	mg/Kg	☆	01/11/21 18:00	01/12/21 17:37	1
pH	6.4		0.01	S.U.			12/29/20 23:10	1
Percent Moisture	3.4		0.1	%			12/30/20 13:03	1
Percent Solids	96.6		0.1	%			12/30/20 13:03	1

Client Sample ID: SWCONF18-45.0

Date Collected: 12/29/20 12:00

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-12

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	5.80		0.822	mg/Kg	☆	01/11/21 18:00	01/12/21 17:38	1
pH	6.5		0.01	S.U.			12/29/20 23:10	1
Percent Moisture	3.9		0.1	%			12/30/20 13:03	1
Percent Solids	96.1		0.1	%			12/30/20 13:03	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF18-50.0

Date Collected: 12/29/20 12:12

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-13

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.859	mg/Kg	☼	01/11/21 18:00	01/12/21 17:39	1
pH	8.3		0.01	S.U.			12/29/20 23:10	1
Percent Moisture	6.9		0.1	%			12/30/20 13:03	1
Percent Solids	93.1		0.1	%			12/30/20 13:03	1

Client Sample ID: SWCONF18-50.5

Date Collected: 12/29/20 12:13

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-14

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	72.8		10.7	mg/Kg	☼	01/11/21 18:00	01/12/21 17:40	10
pH	4.7		0.01	S.U.			12/29/20 23:10	1
Percent Moisture	24.6		0.1	%			12/30/20 13:03	1
Percent Solids	75.4		0.1	%			12/30/20 13:03	1

Client Sample ID: SWCONF18-55.0

Date Collected: 12/29/20 12:30

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-15

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.928	mg/Kg	☼	01/11/21 18:00	01/12/21 17:41	1
pH	8.3		0.01	S.U.			12/29/20 23:10	1
Percent Moisture	14.8		0.1	%			12/30/20 13:03	1
Percent Solids	85.2		0.1	%			12/30/20 13:03	1

Client Sample ID: SWCONF18-60.0

Date Collected: 12/29/20 12:50

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-16

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.01	mg/Kg	☼	01/11/21 18:00	01/12/21 17:42	1
pH	7.2		0.01	S.U.			12/29/20 23:10	1
Percent Moisture	22.0		0.1	%			12/30/20 13:03	1
Percent Solids	78.0		0.1	%			12/30/20 13:03	1

Client Sample ID: SWCONF18-60.5

Date Collected: 12/29/20 12:52

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-17

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	5.57		0.977	mg/Kg	☼	01/11/21 18:00	01/12/21 17:43	1
pH	7.1		0.01	S.U.			12/29/20 23:10	1
Percent Moisture	17.8		0.1	%			12/30/20 13:30	1
Percent Solids	82.2		0.1	%			12/30/20 13:30	1

Client Sample ID: SWCONF18-65.0

Date Collected: 12/29/20 13:05

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-18

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	4.16		0.844	mg/Kg	☼	01/11/21 18:00	01/12/21 17:44	1
pH	7.1		0.01	S.U.			12/29/20 23:10	1
Percent Moisture	5.3		0.1	%			12/30/20 13:30	1
Percent Solids	94.7		0.1	%			12/30/20 13:30	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF18-70.0

Date Collected: 12/29/20 13:15

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-19

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	6.21		0.846	mg/Kg	☆	01/11/21 18:00	01/12/21 17:45	1
pH	7.0		0.01	S.U.			12/29/20 23:10	1
Percent Moisture	5.5		0.1	%			12/30/20 13:30	1
Percent Solids	94.5		0.1	%			12/30/20 13:30	1

Client Sample ID: SWCONF16-10.0

Date Collected: 12/29/20 15:25

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-20

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.913	mg/Kg	☆	01/11/21 18:00	01/12/21 17:46	1
pH	9.5		0.01	S.U.			12/29/20 23:10	1
Percent Moisture	12.0		0.1	%			12/30/20 13:30	1
Percent Solids	88.0		0.1	%			12/30/20 13:30	1

Client Sample ID: SWCONF16-15.0

Date Collected: 12/29/20 15:45

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-21

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	135		43.9	mg/Kg	☆	01/11/21 18:00	01/12/21 17:49	50
pH	4.0		0.01	S.U.			12/30/20 20:00	1
Percent Moisture	7.8		0.1	%			12/30/20 13:30	1
Percent Solids	92.2		0.1	%			12/30/20 13:30	1

Client Sample ID: SWCONF16-20.0

Date Collected: 12/29/20 15:55

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-22

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.843	mg/Kg	☆	01/11/21 18:00	01/12/21 17:50	1
pH	4.4		0.01	S.U.			12/30/20 20:00	1
Percent Moisture	4.3		0.1	%			12/30/20 13:30	1
Percent Solids	95.7		0.1	%			12/30/20 13:30	1

Client Sample ID: SWCONF16-25.0

Date Collected: 12/29/20 16:05

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-23

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.822	mg/Kg	☆	01/11/21 18:00	01/12/21 17:51	1
pH	7.9		0.01	S.U.			12/30/20 20:00	1
Percent Moisture	3.9		0.1	%			12/30/20 13:30	1
Percent Solids	96.1		0.1	%			12/30/20 13:30	1

Client Sample ID: SWCONF16-27.0

Date Collected: 12/29/20 16:08

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-24

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.889	mg/Kg	☆	01/11/21 18:00	01/12/21 17:52	1
pH	9.0		0.01	S.U.			12/30/20 20:00	1
Percent Moisture	10.7		0.1	%			12/30/20 13:30	1
Percent Solids	89.3		0.1	%			12/30/20 13:30	1



# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF16-27.5

Date Collected: 12/29/20 16:10

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-25

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	1090		52.2	mg/Kg	☆	01/11/21 18:00	01/12/21 17:53	50
pH	4.1		0.01	S.U.			12/30/20 20:00	1
Percent Moisture	22.4		0.1	%			12/30/20 13:30	1
Percent Solids	77.6		0.1	%			12/30/20 13:30	1

Client Sample ID: SWCONF16-30.0

Date Collected: 12/29/20 16:15

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-26

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.950	mg/Kg	☆	01/11/21 18:00	01/12/21 17:54	1
pH	10.6		0.01	S.U.			12/30/20 20:00	1
Percent Moisture	14.1		0.1	%			12/30/20 13:30	1
Percent Solids	85.9		0.1	%			12/30/20 13:30	1

Client Sample ID: SWCONF16-32.5

Date Collected: 12/29/20 16:23

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-27

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.950	mg/Kg	☆	01/11/21 18:00	01/12/21 17:55	1
pH	10		0.01	S.U.			12/30/20 20:00	1
Percent Moisture	16.8		0.1	%			12/30/20 13:30	1
Percent Solids	83.2		0.1	%			12/30/20 13:30	1

Client Sample ID: SWCONF16-33.0

Date Collected: 12/29/20 16:25

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-28

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.825	mg/Kg	☆	01/11/21 18:00	01/12/21 17:56	1
pH	7.1		0.01	S.U.			12/30/20 20:00	1
Percent Moisture	4.2		0.1	%			12/30/20 13:30	1
Percent Solids	95.8		0.1	%			12/30/20 13:30	1

Client Sample ID: SWCONF16-35.0

Date Collected: 12/29/20 16:27

Date Received: 12/29/20 21:05

Lab Sample ID: 570-47359-29

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.829	mg/Kg	☆	01/11/21 18:00	01/12/21 17:57	1
pH	9.3		0.01	S.U.			12/30/20 20:00	1
Percent Moisture	2.7		0.1	%			12/30/20 13:30	1
Percent Solids	97.3		0.1	%			12/30/20 13:30	1

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## Method: 7199 - Chromium, Hexavalent (IC)

Lab Sample ID: MB 570-119057/5  
Matrix: Water  
Analysis Batch: 119057

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			12/29/20 08:58	1

Lab Sample ID: LCS 570-119057/6  
Matrix: Water  
Analysis Batch: 119057

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.0501	0.04950		mg/L		99	80 - 120

Lab Sample ID: LCSD 570-119057/7  
Matrix: Water  
Analysis Batch: 119057

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	0.0501	0.04942		mg/L		99	80 - 120	0	20

Lab Sample ID: 570-47310-H-1 MS  
Matrix: Water  
Analysis Batch: 119057

Client Sample ID: Matrix Spike  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.0010		0.0501	0.04959		mg/L		97	70 - 130

Lab Sample ID: 570-47310-H-1 MSD  
Matrix: Water  
Analysis Batch: 119057

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	0.0010		0.0501	0.04973		mg/L		97	70 - 130	0	25

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 570-121127/1-A  
Matrix: Solid  
Analysis Batch: 121430

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 121127

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.46	mg/Kg		01/08/21 15:00	01/11/21 11:22	1
Cadmium	ND		0.493	mg/Kg		01/08/21 15:00	01/11/21 11:22	1
Chromium	ND		0.985	mg/Kg		01/08/21 15:00	01/11/21 11:22	1
Copper	ND		0.985	mg/Kg		01/08/21 15:00	01/11/21 11:22	1
Lead	ND		4.93	mg/Kg		01/08/21 15:00	01/11/21 11:22	1

Lab Sample ID: LCS 570-121127/2-A  
Matrix: Solid  
Analysis Batch: 121430

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 121127

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	24.9	24.31		mg/Kg		98	80 - 120
Cadmium	24.9	24.74		mg/Kg		99	80 - 120

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-121127/2-A

Matrix: Solid

Analysis Batch: 121430

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 121127

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	24.9	25.33		mg/Kg		102	80 - 120
Copper	24.9	28.05		mg/Kg		113	80 - 120
Lead	24.9	25.45		mg/Kg		102	80 - 120

Lab Sample ID: LCSD 570-121127/3-A

Matrix: Solid

Analysis Batch: 121430

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 121127

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	25.1	25.09		mg/Kg		100	80 - 120	3	20
Cadmium	25.1	24.95		mg/Kg		99	80 - 120	1	20
Chromium	25.1	25.88		mg/Kg		103	80 - 120	2	20
Copper	25.1	28.39		mg/Kg		113	80 - 120	1	20
Lead	25.1	25.97		mg/Kg		103	80 - 120	2	20

Lab Sample ID: 570-47851-A-1-G MS

Matrix: Solid

Analysis Batch: 121430

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 121127

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	9.71		24.4	32.27		mg/Kg		92	75 - 125
Cadmium	0.622		24.4	24.93		mg/Kg		100	75 - 125
Chromium	27.3		24.4	53.27		mg/Kg		107	75 - 125
Copper	41.1		24.4	70.53		mg/Kg		121	75 - 125
Lead	ND		24.4	28.09		mg/Kg		100	75 - 125

Lab Sample ID: 570-47851-A-1-H MSD

Matrix: Solid

Analysis Batch: 121430

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 121127

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	9.71		24.9	32.19		mg/Kg		90	75 - 125	0	20
Cadmium	0.622		24.9	25.42		mg/Kg		100	75 - 125	2	20
Chromium	27.3		24.9	55.10		mg/Kg		112	75 - 125	3	20
Copper	41.1		24.9	72.31		mg/Kg		125	75 - 125	3	20
Lead	ND		24.9	29.42		mg/Kg		104	75 - 125	5	20

Lab Sample ID: MB 570-121163/1-A

Matrix: Solid

Analysis Batch: 121550

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 121163

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.46	mg/Kg		01/08/21 17:00	01/11/21 16:38	1
Cadmium	ND		0.493	mg/Kg		01/08/21 17:00	01/11/21 16:38	1
Chromium	ND		0.985	mg/Kg		01/08/21 17:00	01/11/21 16:38	1
Copper	ND		0.985	mg/Kg		01/08/21 17:00	01/11/21 16:38	1
Lead	ND		4.93	mg/Kg		01/08/21 17:00	01/11/21 16:38	1

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-121163/2-A

Matrix: Solid

Analysis Batch: 121550

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 121163

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	24.6	28.08		mg/Kg		114	80 - 120
Cadmium	24.6	28.16		mg/Kg		114	80 - 120
Chromium	24.6	25.50		mg/Kg		104	80 - 120
Copper	24.6	29.20		mg/Kg		119	80 - 120
Lead	24.6	28.16		mg/Kg		114	80 - 120

Lab Sample ID: LCSD 570-121163/3-A

Matrix: Solid

Analysis Batch: 121550

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 121163

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	25.3	28.53		mg/Kg		113	80 - 120	2	20
Cadmium	25.3	28.55		mg/Kg		113	80 - 120	1	20
Chromium	25.3	27.12		mg/Kg		107	80 - 120	6	20
Copper	25.3	29.65		mg/Kg		117	80 - 120	2	20
Lead	25.3	29.39		mg/Kg		116	80 - 120	4	20

Lab Sample ID: 570-47359-1 MS

Matrix: Solid

Analysis Batch: 121550

Client Sample ID: SWCONF18-10.0

Prep Type: Total/NA

Prep Batch: 121163

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	16.7		28.0	48.77		mg/Kg	✱	114	75 - 125
Cadmium	0.979		28.0	31.85		mg/Kg	✱	110	75 - 125
Chromium	27.3		28.0	58.43		mg/Kg	✱	111	75 - 125
Copper	35.4		28.0	69.21		mg/Kg	✱	121	75 - 125
Lead	7.09		28.0	39.20		mg/Kg	✱	115	75 - 125

Lab Sample ID: 570-47359-1 MSD

Matrix: Solid

Analysis Batch: 121550

Client Sample ID: SWCONF18-10.0

Prep Type: Total/NA

Prep Batch: 121163

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	16.7		28.5	48.00		mg/Kg	✱	110	75 - 125	2	20
Cadmium	0.979		28.5	31.54		mg/Kg	✱	107	75 - 125	1	20
Chromium	27.3		28.5	61.13		mg/Kg	✱	119	75 - 125	5	20
Copper	35.4		28.5	68.58		mg/Kg	✱	116	75 - 125	1	20
Lead	7.09		28.5	38.44		mg/Kg	✱	110	75 - 125	2	20

Lab Sample ID: MB 570-121371/1-A

Matrix: Water

Analysis Batch: 121441

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 121371

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L		01/11/21 06:30	01/11/21 10:21	1
Cadmium	ND		0.0100	mg/L		01/11/21 06:30	01/11/21 10:21	1
Chromium	ND		0.0500	mg/L		01/11/21 06:30	01/11/21 10:21	1
Copper	ND		0.0500	mg/L		01/11/21 06:30	01/11/21 10:21	1
Lead	ND		0.0500	mg/L		01/11/21 06:30	01/11/21 10:21	1

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-121371/2-A  
Matrix: Water  
Analysis Batch: 121441

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 121371

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.500	0.5246		mg/L		105	80 - 120
Cadmium	0.500	0.5210		mg/L		104	80 - 120
Chromium	0.500	0.5245		mg/L		105	80 - 120
Copper	0.500	0.5692		mg/L		114	80 - 120
Lead	0.500	0.5418		mg/L		108	80 - 120

Lab Sample ID: LCSD 570-121371/3-A  
Matrix: Water  
Analysis Batch: 121441

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 121371

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	0.500	0.4989		mg/L		100	80 - 120	5	20
Cadmium	0.500	0.5231		mg/L		105	80 - 120	0	20
Chromium	0.500	0.5252		mg/L		105	80 - 120	0	20
Copper	0.500	0.5661		mg/L		113	80 - 120	1	20
Lead	0.500	0.5430		mg/L		109	80 - 120	0	20

Lab Sample ID: 570-47758-H-1-B MS  
Matrix: Water  
Analysis Batch: 121441

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 121371

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		0.500	0.5371		mg/L		107	80 - 140
Cadmium	ND		0.500	0.5293		mg/L		105	82 - 124
Chromium	ND		0.500	0.5293		mg/L		106	86 - 122
Copper	ND		0.500	0.5237		mg/L		105	78 - 126
Lead	ND		0.500	0.5399		mg/L		104	84 - 120

Lab Sample ID: 570-47758-H-1-C MSD  
Matrix: Water  
Analysis Batch: 121441

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 121371

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	ND		0.500	0.5128		mg/L		103	80 - 140	5	11
Cadmium	ND		0.500	0.5241		mg/L		104	82 - 124	1	7
Chromium	ND		0.500	0.5263		mg/L		105	86 - 122	1	8
Copper	ND		0.500	0.5234		mg/L		105	78 - 126	0	7
Lead	ND		0.500	0.5376		mg/L		104	84 - 120	0	7

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 570-121117/1-A  
Matrix: Solid  
Analysis Batch: 121306

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 121117

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.787	mg/Kg		01/08/21 13:25	01/09/21 15:02	1



# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: LCS 570-121117/2-A  
Matrix: Solid  
Analysis Batch: 121306

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 121117

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	20.0	18.00		mg/Kg		90	78 - 120

Lab Sample ID: LCSD 570-121117/3-A  
Matrix: Solid  
Analysis Batch: 121306

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 121117

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	19.9	16.96		mg/Kg		85	78 - 120	6	20

Lab Sample ID: 570-47359-10 MS  
Matrix: Solid  
Analysis Batch: 121306

Client Sample ID: SWCONF18-35.0  
Prep Type: Total/NA  
Prep Batch: 121117

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	1.64		20.8	17.51		mg/Kg	✱	76	75 - 125

Lab Sample ID: 570-47359-10 MSD  
Matrix: Solid  
Analysis Batch: 121306

Client Sample ID: SWCONF18-35.0  
Prep Type: Total/NA  
Prep Batch: 121117

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	1.64		20.4	18.64		mg/Kg	✱	83	75 - 125	6	25

Lab Sample ID: 570-47359-10 MSI  
Matrix: Solid  
Analysis Batch: 121306

Client Sample ID: SWCONF18-35.0  
Prep Type: Total/NA  
Prep Batch: 121117

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	1.64		1000	822.3		mg/Kg	✱	82	75 - 125

Lab Sample ID: 570-47359-10 MSID  
Matrix: Solid  
Analysis Batch: 121306

Client Sample ID: SWCONF18-35.0  
Prep Type: Total/NA  
Prep Batch: 121117

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	1.64		1020	794.1		mg/Kg	✱	78	75 - 125	3	25

Lab Sample ID: MB 570-121563/1-A  
Matrix: Solid  
Analysis Batch: 121809

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 121563

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.800	mg/Kg		01/11/21 18:00	01/12/21 17:28	1

Lab Sample ID: LCS 570-121563/2-A  
Matrix: Solid  
Analysis Batch: 121809

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 121563

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	19.9	17.79		mg/Kg		89	78 - 120

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: LCSD 570-121563/3-A

Matrix: Solid

Analysis Batch: 121809

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 121563

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	19.8	16.42		mg/Kg		83	78 - 120	8	20

Lab Sample ID: 570-47359-11 MS

Matrix: Solid

Analysis Batch: 121809

Client Sample ID: SWCONF18-39.5

Prep Type: Total/NA

Prep Batch: 121563

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	2.45		20.6	20.71		mg/Kg	✱	89	75 - 125		

Lab Sample ID: 570-47359-11 MSD

Matrix: Solid

Analysis Batch: 121809

Client Sample ID: SWCONF18-39.5

Prep Type: Total/NA

Prep Batch: 121563

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	2.45		20.4	19.80		mg/Kg	✱	85	75 - 125	4	25

Lab Sample ID: 570-47359-11 MSI

Matrix: Solid

Analysis Batch: 121809

Client Sample ID: SWCONF18-39.5

Prep Type: Total/NA

Prep Batch: 121563

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	2.45		1010	841.1		mg/Kg	✱	83	75 - 125		

Lab Sample ID: 570-47359-11 MSID

Matrix: Solid

Analysis Batch: 121809

Client Sample ID: SWCONF18-39.5

Prep Type: Total/NA

Prep Batch: 121563

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	2.45		1010	897.8		mg/Kg	✱	89	75 - 125	7	25

Lab Sample ID: 570-47359-21 MS

Matrix: Solid

Analysis Batch: 121809

Client Sample ID: SWCONF16-15.0

Prep Type: Total/NA

Prep Batch: 121563

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	135		21.8	71.20	4	mg/Kg	✱	-292	75 - 125		

Lab Sample ID: 570-47359-21 MSD

Matrix: Solid

Analysis Batch: 121809

Client Sample ID: SWCONF16-15.0

Prep Type: Total/NA

Prep Batch: 121563

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	135		21.3	85.72	4	mg/Kg	✱	-231	75 - 125	19	25

Lab Sample ID: 570-47359-21 MSI

Matrix: Solid

Analysis Batch: 121809

Client Sample ID: SWCONF16-15.0

Prep Type: Total/NA

Prep Batch: 121563

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	135		1050	1043		mg/Kg	✱	86	75 - 125		

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: 570-47359-21 MSID

Matrix: Solid

Analysis Batch: 121809

Client Sample ID: SWCONF16-15.0

Prep Type: Total/NA

Prep Batch: 121563

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	135		1050	1014		mg/Kg	☆	83	75 - 125	3	25

## Method: 9045C - pH

Lab Sample ID: 570-47359-1 DU

Matrix: Solid

Analysis Batch: 119568

Client Sample ID: SWCONF18-10.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	10.7		10.7		S.U.		0.7	25

Lab Sample ID: 570-47359-21 DU

Matrix: Solid

Analysis Batch: 119626

Client Sample ID: SWCONF16-15.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	4.0		3.9		S.U.		1	25

## Method: Moisture - Percent Moisture

Lab Sample ID: 570-47359-7 DU

Matrix: Solid

Analysis Batch: 119486

Client Sample ID: SWCONF18-30.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	9.2		10.2	F3	%		11	10
Percent Solids	90.8		89.8		%		1	10

Lab Sample ID: 570-47359-17 DU

Matrix: Solid

Analysis Batch: 119498

Client Sample ID: SWCONF18-60.5

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	17.8		17.2		%		4	10
Percent Solids	82.2		82.8		%		0.8	10

Lab Sample ID: 570-47359-27 DU

Matrix: Solid

Analysis Batch: 119498

Client Sample ID: SWCONF16-32.5

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	16.8		17.2		%		2	10
Percent Solids	83.2		82.8		%		0.5	10

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## HPLC/IC

### Analysis Batch: 119057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47359-30	EB05	Total/NA	Water	7199	
MB 570-119057/5	Method Blank	Total/NA	Water	7199	
LCS 570-119057/6	Lab Control Sample	Total/NA	Water	7199	
LCSD 570-119057/7	Lab Control Sample Dup	Total/NA	Water	7199	
570-47310-H-1 MS	Matrix Spike	Total/NA	Water	7199	
570-47310-H-1 MSD	Matrix Spike Duplicate	Total/NA	Water	7199	

## Metals

### Prep Batch: 121127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47359-21	SWCONF16-15.0	Total/NA	Solid	3050B	
570-47359-22	SWCONF16-20.0	Total/NA	Solid	3050B	
570-47359-23	SWCONF16-25.0	Total/NA	Solid	3050B	
570-47359-24	SWCONF16-27.0	Total/NA	Solid	3050B	
570-47359-25	SWCONF16-27.5	Total/NA	Solid	3050B	
570-47359-26	SWCONF16-30.0	Total/NA	Solid	3050B	
570-47359-27	SWCONF16-32.5	Total/NA	Solid	3050B	
570-47359-28	SWCONF16-33.0	Total/NA	Solid	3050B	
570-47359-29	SWCONF16-35.0	Total/NA	Solid	3050B	
MB 570-121127/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-121127/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-121127/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-47851-A-1-G MS	Matrix Spike	Total/NA	Solid	3050B	
570-47851-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	3050B	

### Prep Batch: 121163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47359-1	SWCONF18-10.0	Total/NA	Solid	3050B	
570-47359-2	SWCONF18-15.0	Total/NA	Solid	3050B	
570-47359-3	SWCONF18-20.0	Total/NA	Solid	3050B	
570-47359-4	SWCONF18-25.0	Total/NA	Solid	3050B	
570-47359-5	SWCONF18-27.5	Total/NA	Solid	3050B	
570-47359-6	SWCONF18-28.0	Total/NA	Solid	3050B	
570-47359-7	SWCONF18-30.0	Total/NA	Solid	3050B	
570-47359-8	SWCONF18-34.0	Total/NA	Solid	3050B	
570-47359-9	SWCONF18-34.5	Total/NA	Solid	3050B	
570-47359-10	SWCONF18-35.0	Total/NA	Solid	3050B	
570-47359-11	SWCONF18-39.5	Total/NA	Solid	3050B	
570-47359-12	SWCONF18-45.0	Total/NA	Solid	3050B	
570-47359-13	SWCONF18-50.0	Total/NA	Solid	3050B	
570-47359-14	SWCONF18-50.5	Total/NA	Solid	3050B	
570-47359-15	SWCONF18-55.0	Total/NA	Solid	3050B	
570-47359-16	SWCONF18-60.0	Total/NA	Solid	3050B	
570-47359-17	SWCONF18-60.5	Total/NA	Solid	3050B	
570-47359-18	SWCONF18-65.0	Total/NA	Solid	3050B	
570-47359-19	SWCONF18-70.0	Total/NA	Solid	3050B	
570-47359-20	SWCONF16-10.0	Total/NA	Solid	3050B	
MB 570-121163/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-121163/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-121163/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## Metals (Continued)

### Prep Batch: 121163 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47359-1 MS	SWCONF18-10.0	Total/NA	Solid	3050B	
570-47359-1 MSD	SWCONF18-10.0	Total/NA	Solid	3050B	

### Prep Batch: 121371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47359-30	EB05	Total/NA	Water	3010A	
MB 570-121371/1-A	Method Blank	Total/NA	Water	3010A	
LCS 570-121371/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 570-121371/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
570-47758-H-1-B MS	Matrix Spike	Total/NA	Water	3010A	
570-47758-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

### Analysis Batch: 121430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47359-21	SWCONF16-15.0	Total/NA	Solid	6010B	121127
570-47359-22	SWCONF16-20.0	Total/NA	Solid	6010B	121127
570-47359-23	SWCONF16-25.0	Total/NA	Solid	6010B	121127
570-47359-24	SWCONF16-27.0	Total/NA	Solid	6010B	121127
570-47359-25	SWCONF16-27.5	Total/NA	Solid	6010B	121127
570-47359-26	SWCONF16-30.0	Total/NA	Solid	6010B	121127
570-47359-27	SWCONF16-32.5	Total/NA	Solid	6010B	121127
570-47359-28	SWCONF16-33.0	Total/NA	Solid	6010B	121127
570-47359-29	SWCONF16-35.0	Total/NA	Solid	6010B	121127
MB 570-121127/1-A	Method Blank	Total/NA	Solid	6010B	121127
LCS 570-121127/2-A	Lab Control Sample	Total/NA	Solid	6010B	121127
LCSD 570-121127/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	121127
570-47851-A-1-G MS	Matrix Spike	Total/NA	Solid	6010B	121127
570-47851-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	6010B	121127

### Analysis Batch: 121441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47359-30	EB05	Total/NA	Water	6010B	121371
MB 570-121371/1-A	Method Blank	Total/NA	Water	6010B	121371
LCS 570-121371/2-A	Lab Control Sample	Total/NA	Water	6010B	121371
LCSD 570-121371/3-A	Lab Control Sample Dup	Total/NA	Water	6010B	121371
570-47758-H-1-B MS	Matrix Spike	Total/NA	Water	6010B	121371
570-47758-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	6010B	121371

### Analysis Batch: 121550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47359-1	SWCONF18-10.0	Total/NA	Solid	6010B	121163
MB 570-121163/1-A	Method Blank	Total/NA	Solid	6010B	121163
LCS 570-121163/2-A	Lab Control Sample	Total/NA	Solid	6010B	121163
LCSD 570-121163/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	121163
570-47359-1 MS	SWCONF18-10.0	Total/NA	Solid	6010B	121163
570-47359-1 MSD	SWCONF18-10.0	Total/NA	Solid	6010B	121163

### Analysis Batch: 121623

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47359-2	SWCONF18-15.0	Total/NA	Solid	6010B	121163
570-47359-3	SWCONF18-20.0	Total/NA	Solid	6010B	121163

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## Metals (Continued)

### Analysis Batch: 121623 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47359-4	SWCONF18-25.0	Total/NA	Solid	6010B	121163
570-47359-5	SWCONF18-27.5	Total/NA	Solid	6010B	121163
570-47359-6	SWCONF18-28.0	Total/NA	Solid	6010B	121163
570-47359-7	SWCONF18-30.0	Total/NA	Solid	6010B	121163
570-47359-8	SWCONF18-34.0	Total/NA	Solid	6010B	121163
570-47359-9	SWCONF18-34.5	Total/NA	Solid	6010B	121163
570-47359-10	SWCONF18-35.0	Total/NA	Solid	6010B	121163
570-47359-11	SWCONF18-39.5	Total/NA	Solid	6010B	121163
570-47359-12	SWCONF18-45.0	Total/NA	Solid	6010B	121163
570-47359-13	SWCONF18-50.0	Total/NA	Solid	6010B	121163
570-47359-14	SWCONF18-50.5	Total/NA	Solid	6010B	121163
570-47359-15	SWCONF18-55.0	Total/NA	Solid	6010B	121163
570-47359-16	SWCONF18-60.0	Total/NA	Solid	6010B	121163
570-47359-17	SWCONF18-60.5	Total/NA	Solid	6010B	121163
570-47359-18	SWCONF18-65.0	Total/NA	Solid	6010B	121163
570-47359-19	SWCONF18-70.0	Total/NA	Solid	6010B	121163
570-47359-20	SWCONF16-10.0	Total/NA	Solid	6010B	121163

## General Chemistry

### Analysis Batch: 119486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47359-1	SWCONF18-10.0	Total/NA	Solid	Moisture	
570-47359-2	SWCONF18-15.0	Total/NA	Solid	Moisture	
570-47359-3	SWCONF18-20.0	Total/NA	Solid	Moisture	
570-47359-4	SWCONF18-25.0	Total/NA	Solid	Moisture	
570-47359-5	SWCONF18-27.5	Total/NA	Solid	Moisture	
570-47359-6	SWCONF18-28.0	Total/NA	Solid	Moisture	
570-47359-7	SWCONF18-30.0	Total/NA	Solid	Moisture	
570-47359-8	SWCONF18-34.0	Total/NA	Solid	Moisture	
570-47359-9	SWCONF18-34.5	Total/NA	Solid	Moisture	
570-47359-10	SWCONF18-35.0	Total/NA	Solid	Moisture	
570-47359-11	SWCONF18-39.5	Total/NA	Solid	Moisture	
570-47359-12	SWCONF18-45.0	Total/NA	Solid	Moisture	
570-47359-13	SWCONF18-50.0	Total/NA	Solid	Moisture	
570-47359-14	SWCONF18-50.5	Total/NA	Solid	Moisture	
570-47359-15	SWCONF18-55.0	Total/NA	Solid	Moisture	
570-47359-16	SWCONF18-60.0	Total/NA	Solid	Moisture	
570-47359-7 DU	SWCONF18-30.0	Total/NA	Solid	Moisture	

### Analysis Batch: 119498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47359-17	SWCONF18-60.5	Total/NA	Solid	Moisture	
570-47359-18	SWCONF18-65.0	Total/NA	Solid	Moisture	
570-47359-19	SWCONF18-70.0	Total/NA	Solid	Moisture	
570-47359-20	SWCONF16-10.0	Total/NA	Solid	Moisture	
570-47359-21	SWCONF16-15.0	Total/NA	Solid	Moisture	
570-47359-22	SWCONF16-20.0	Total/NA	Solid	Moisture	
570-47359-23	SWCONF16-25.0	Total/NA	Solid	Moisture	
570-47359-24	SWCONF16-27.0	Total/NA	Solid	Moisture	
570-47359-25	SWCONF16-27.5	Total/NA	Solid	Moisture	

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## General Chemistry (Continued)

### Analysis Batch: 119498 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47359-26	SWCONF16-30.0	Total/NA	Solid	Moisture	
570-47359-27	SWCONF16-32.5	Total/NA	Solid	Moisture	
570-47359-28	SWCONF16-33.0	Total/NA	Solid	Moisture	
570-47359-29	SWCONF16-35.0	Total/NA	Solid	Moisture	
570-47359-17 DU	SWCONF18-60.5	Total/NA	Solid	Moisture	
570-47359-27 DU	SWCONF16-32.5	Total/NA	Solid	Moisture	

### Leach Batch: 119509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47359-1	SWCONF18-10.0	Total/NA	Solid	DI Leach	
570-47359-2	SWCONF18-15.0	Total/NA	Solid	DI Leach	
570-47359-3	SWCONF18-20.0	Total/NA	Solid	DI Leach	
570-47359-4	SWCONF18-25.0	Total/NA	Solid	DI Leach	
570-47359-5	SWCONF18-27.5	Total/NA	Solid	DI Leach	
570-47359-6	SWCONF18-28.0	Total/NA	Solid	DI Leach	
570-47359-7	SWCONF18-30.0	Total/NA	Solid	DI Leach	
570-47359-8	SWCONF18-34.0	Total/NA	Solid	DI Leach	
570-47359-9	SWCONF18-34.5	Total/NA	Solid	DI Leach	
570-47359-10	SWCONF18-35.0	Total/NA	Solid	DI Leach	
570-47359-11	SWCONF18-39.5	Total/NA	Solid	DI Leach	
570-47359-12	SWCONF18-45.0	Total/NA	Solid	DI Leach	
570-47359-13	SWCONF18-50.0	Total/NA	Solid	DI Leach	
570-47359-14	SWCONF18-50.5	Total/NA	Solid	DI Leach	
570-47359-15	SWCONF18-55.0	Total/NA	Solid	DI Leach	
570-47359-16	SWCONF18-60.0	Total/NA	Solid	DI Leach	
570-47359-17	SWCONF18-60.5	Total/NA	Solid	DI Leach	
570-47359-18	SWCONF18-65.0	Total/NA	Solid	DI Leach	
570-47359-19	SWCONF18-70.0	Total/NA	Solid	DI Leach	
570-47359-20	SWCONF16-10.0	Total/NA	Solid	DI Leach	
570-47359-1 DU	SWCONF18-10.0	Total/NA	Solid	DI Leach	

### Leach Batch: 119523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47359-21	SWCONF16-15.0	Total/NA	Solid	DI Leach	
570-47359-22	SWCONF16-20.0	Total/NA	Solid	DI Leach	
570-47359-23	SWCONF16-25.0	Total/NA	Solid	DI Leach	
570-47359-24	SWCONF16-27.0	Total/NA	Solid	DI Leach	
570-47359-25	SWCONF16-27.5	Total/NA	Solid	DI Leach	
570-47359-26	SWCONF16-30.0	Total/NA	Solid	DI Leach	
570-47359-27	SWCONF16-32.5	Total/NA	Solid	DI Leach	
570-47359-28	SWCONF16-33.0	Total/NA	Solid	DI Leach	
570-47359-29	SWCONF16-35.0	Total/NA	Solid	DI Leach	
570-47359-21 DU	SWCONF16-15.0	Total/NA	Solid	DI Leach	

### Analysis Batch: 119568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47359-1	SWCONF18-10.0	Total/NA	Solid	9045C	119509
570-47359-2	SWCONF18-15.0	Total/NA	Solid	9045C	119509
570-47359-3	SWCONF18-20.0	Total/NA	Solid	9045C	119509
570-47359-4	SWCONF18-25.0	Total/NA	Solid	9045C	119509
570-47359-5	SWCONF18-27.5	Total/NA	Solid	9045C	119509

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## General Chemistry (Continued)

### Analysis Batch: 119568 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47359-6	SWCONF18-28.0	Total/NA	Solid	9045C	119509
570-47359-7	SWCONF18-30.0	Total/NA	Solid	9045C	119509
570-47359-8	SWCONF18-34.0	Total/NA	Solid	9045C	119509
570-47359-9	SWCONF18-34.5	Total/NA	Solid	9045C	119509
570-47359-10	SWCONF18-35.0	Total/NA	Solid	9045C	119509
570-47359-11	SWCONF18-39.5	Total/NA	Solid	9045C	119509
570-47359-12	SWCONF18-45.0	Total/NA	Solid	9045C	119509
570-47359-13	SWCONF18-50.0	Total/NA	Solid	9045C	119509
570-47359-14	SWCONF18-50.5	Total/NA	Solid	9045C	119509
570-47359-15	SWCONF18-55.0	Total/NA	Solid	9045C	119509
570-47359-16	SWCONF18-60.0	Total/NA	Solid	9045C	119509
570-47359-17	SWCONF18-60.5	Total/NA	Solid	9045C	119509
570-47359-18	SWCONF18-65.0	Total/NA	Solid	9045C	119509
570-47359-19	SWCONF18-70.0	Total/NA	Solid	9045C	119509
570-47359-20	SWCONF16-10.0	Total/NA	Solid	9045C	119509
570-47359-1 DU	SWCONF18-10.0	Total/NA	Solid	9045C	119509

### Analysis Batch: 119626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47359-21	SWCONF16-15.0	Total/NA	Solid	9045C	119523
570-47359-22	SWCONF16-20.0	Total/NA	Solid	9045C	119523
570-47359-23	SWCONF16-25.0	Total/NA	Solid	9045C	119523
570-47359-24	SWCONF16-27.0	Total/NA	Solid	9045C	119523
570-47359-25	SWCONF16-27.5	Total/NA	Solid	9045C	119523
570-47359-26	SWCONF16-30.0	Total/NA	Solid	9045C	119523
570-47359-27	SWCONF16-32.5	Total/NA	Solid	9045C	119523
570-47359-28	SWCONF16-33.0	Total/NA	Solid	9045C	119523
570-47359-29	SWCONF16-35.0	Total/NA	Solid	9045C	119523
570-47359-21 DU	SWCONF16-15.0	Total/NA	Solid	9045C	119523

### Prep Batch: 121117

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47359-1	SWCONF18-10.0	Total/NA	Solid	3060A	
570-47359-2	SWCONF18-15.0	Total/NA	Solid	3060A	
570-47359-3	SWCONF18-20.0	Total/NA	Solid	3060A	
570-47359-4	SWCONF18-25.0	Total/NA	Solid	3060A	
570-47359-5	SWCONF18-27.5	Total/NA	Solid	3060A	
570-47359-6	SWCONF18-28.0	Total/NA	Solid	3060A	
570-47359-7	SWCONF18-30.0	Total/NA	Solid	3060A	
570-47359-8	SWCONF18-34.0	Total/NA	Solid	3060A	
570-47359-9	SWCONF18-34.5	Total/NA	Solid	3060A	
570-47359-10	SWCONF18-35.0	Total/NA	Solid	3060A	
MB 570-121117/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-121117/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-121117/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-47359-10 MS	SWCONF18-35.0	Total/NA	Solid	3060A	
570-47359-10 MSD	SWCONF18-35.0	Total/NA	Solid	3060A	
570-47359-10 MSI	SWCONF18-35.0	Total/NA	Solid	3060A	
570-47359-10 MSID	SWCONF18-35.0	Total/NA	Solid	3060A	

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## General Chemistry

### Analysis Batch: 121306

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47359-1	SWCONF18-10.0	Total/NA	Solid	7196A	121117
570-47359-2	SWCONF18-15.0	Total/NA	Solid	7196A	121117
570-47359-3	SWCONF18-20.0	Total/NA	Solid	7196A	121117
570-47359-4	SWCONF18-25.0	Total/NA	Solid	7196A	121117
570-47359-5	SWCONF18-27.5	Total/NA	Solid	7196A	121117
570-47359-6	SWCONF18-28.0	Total/NA	Solid	7196A	121117
570-47359-7	SWCONF18-30.0	Total/NA	Solid	7196A	121117
570-47359-8	SWCONF18-34.0	Total/NA	Solid	7196A	121117
570-47359-9	SWCONF18-34.5	Total/NA	Solid	7196A	121117
570-47359-10	SWCONF18-35.0	Total/NA	Solid	7196A	121117
MB 570-121117/1-A	Method Blank	Total/NA	Solid	7196A	121117
LCS 570-121117/2-A	Lab Control Sample	Total/NA	Solid	7196A	121117
LCSD 570-121117/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	121117
570-47359-10 MS	SWCONF18-35.0	Total/NA	Solid	7196A	121117
570-47359-10 MSD	SWCONF18-35.0	Total/NA	Solid	7196A	121117
570-47359-10 MSI	SWCONF18-35.0	Total/NA	Solid	7196A	121117
570-47359-10 MSID	SWCONF18-35.0	Total/NA	Solid	7196A	121117

### Prep Batch: 121563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47359-11	SWCONF18-39.5	Total/NA	Solid	3060A	
570-47359-12	SWCONF18-45.0	Total/NA	Solid	3060A	
570-47359-13	SWCONF18-50.0	Total/NA	Solid	3060A	
570-47359-14	SWCONF18-50.5	Total/NA	Solid	3060A	
570-47359-15	SWCONF18-55.0	Total/NA	Solid	3060A	
570-47359-16	SWCONF18-60.0	Total/NA	Solid	3060A	
570-47359-17	SWCONF18-60.5	Total/NA	Solid	3060A	
570-47359-18	SWCONF18-65.0	Total/NA	Solid	3060A	
570-47359-19	SWCONF18-70.0	Total/NA	Solid	3060A	
570-47359-20	SWCONF16-10.0	Total/NA	Solid	3060A	
570-47359-21	SWCONF16-15.0	Total/NA	Solid	3060A	
570-47359-22	SWCONF16-20.0	Total/NA	Solid	3060A	
570-47359-23	SWCONF16-25.0	Total/NA	Solid	3060A	
570-47359-24	SWCONF16-27.0	Total/NA	Solid	3060A	
570-47359-25	SWCONF16-27.5	Total/NA	Solid	3060A	
570-47359-26	SWCONF16-30.0	Total/NA	Solid	3060A	
570-47359-27	SWCONF16-32.5	Total/NA	Solid	3060A	
570-47359-28	SWCONF16-33.0	Total/NA	Solid	3060A	
570-47359-29	SWCONF16-35.0	Total/NA	Solid	3060A	
MB 570-121563/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-121563/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-121563/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-47359-11 MS	SWCONF18-39.5	Total/NA	Solid	3060A	
570-47359-11 MSD	SWCONF18-39.5	Total/NA	Solid	3060A	
570-47359-11 MSI	SWCONF18-39.5	Total/NA	Solid	3060A	
570-47359-11 MSID	SWCONF18-39.5	Total/NA	Solid	3060A	
570-47359-21 MS	SWCONF16-15.0	Total/NA	Solid	3060A	
570-47359-21 MSD	SWCONF16-15.0	Total/NA	Solid	3060A	
570-47359-21 MSI	SWCONF16-15.0	Total/NA	Solid	3060A	
570-47359-21 MSID	SWCONF16-15.0	Total/NA	Solid	3060A	

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## General Chemistry

### Analysis Batch: 121809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47359-11	SWCONF18-39.5	Total/NA	Solid	7196A	121563
570-47359-12	SWCONF18-45.0	Total/NA	Solid	7196A	121563
570-47359-13	SWCONF18-50.0	Total/NA	Solid	7196A	121563
570-47359-14	SWCONF18-50.5	Total/NA	Solid	7196A	121563
570-47359-15	SWCONF18-55.0	Total/NA	Solid	7196A	121563
570-47359-16	SWCONF18-60.0	Total/NA	Solid	7196A	121563
570-47359-17	SWCONF18-60.5	Total/NA	Solid	7196A	121563
570-47359-18	SWCONF18-65.0	Total/NA	Solid	7196A	121563
570-47359-19	SWCONF18-70.0	Total/NA	Solid	7196A	121563
570-47359-20	SWCONF16-10.0	Total/NA	Solid	7196A	121563
570-47359-21	SWCONF16-15.0	Total/NA	Solid	7196A	121563
570-47359-22	SWCONF16-20.0	Total/NA	Solid	7196A	121563
570-47359-23	SWCONF16-25.0	Total/NA	Solid	7196A	121563
570-47359-24	SWCONF16-27.0	Total/NA	Solid	7196A	121563
570-47359-25	SWCONF16-27.5	Total/NA	Solid	7196A	121563
570-47359-26	SWCONF16-30.0	Total/NA	Solid	7196A	121563
570-47359-27	SWCONF16-32.5	Total/NA	Solid	7196A	121563
570-47359-28	SWCONF16-33.0	Total/NA	Solid	7196A	121563
570-47359-29	SWCONF16-35.0	Total/NA	Solid	7196A	121563
MB 570-121563/1-A	Method Blank	Total/NA	Solid	7196A	121563
LCS 570-121563/2-A	Lab Control Sample	Total/NA	Solid	7196A	121563
LCSD 570-121563/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	121563
570-47359-11 MS	SWCONF18-39.5	Total/NA	Solid	7196A	121563
570-47359-11 MSD	SWCONF18-39.5	Total/NA	Solid	7196A	121563
570-47359-11 MSI	SWCONF18-39.5	Total/NA	Solid	7196A	121563
570-47359-11 MSID	SWCONF18-39.5	Total/NA	Solid	7196A	121563
570-47359-21 MS	SWCONF16-15.0	Total/NA	Solid	7196A	121563
570-47359-21 MSD	SWCONF16-15.0	Total/NA	Solid	7196A	121563
570-47359-21 MSI	SWCONF16-15.0	Total/NA	Solid	7196A	121563
570-47359-21 MSID	SWCONF16-15.0	Total/NA	Solid	7196A	121563



# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## Client Sample ID: SWCONF18-10.0

## Lab Sample ID: 570-47359-1

Date Collected: 12/29/20 10:30

Matrix: Solid

Date Received: 12/29/20 21:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	121163	01/08/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121550	01/11/21 16:47	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.50 g	100 mL	121117	01/08/21 13:25	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121306	01/09/21 15:19	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.03 g	20 mL	119509	12/29/20 21:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119568	12/29/20 23:10	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119486	12/30/20 13:03	SR3N	ECL 1
Instrument ID: BAL87										

## Client Sample ID: SWCONF18-15.0

## Lab Sample ID: 570-47359-2

Date Collected: 12/29/20 10:40

Matrix: Solid

Date Received: 12/29/20 21:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	100 mL	121163	01/08/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121623	01/11/21 22:25	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.49 g	100 mL	121117	01/08/21 13:25	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121306	01/09/21 15:20	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	119509	12/29/20 21:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119568	12/29/20 23:10	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119486	12/30/20 13:03	SR3N	ECL 1
Instrument ID: BAL87										

## Client Sample ID: SWCONF18-20.0

## Lab Sample ID: 570-47359-3

Date Collected: 12/29/20 10:50

Matrix: Solid

Date Received: 12/29/20 21:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.95 g	100 mL	121163	01/08/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121623	01/11/21 22:27	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	121117	01/08/21 13:25	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121306	01/09/21 15:23	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.03 g	20 mL	119509	12/29/20 21:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119568	12/29/20 23:10	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119486	12/30/20 13:03	SR3N	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

## Client Sample ID: SWCONF18-25.0

## Lab Sample ID: 570-47359-4

Date Collected: 12/29/20 11:10

Matrix: Solid

Date Received: 12/29/20 21:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	100 mL	121163	01/08/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121623	01/11/21 22:29	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	121117	01/08/21 13:25	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121306	01/09/21 15:24	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	119509	12/29/20 21:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119568	12/29/20 23:10	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119486	12/30/20 13:03	SR3N	ECL 1
Instrument ID: BAL87										

## Client Sample ID: SWCONF18-27.5

## Lab Sample ID: 570-47359-5

Date Collected: 12/29/20 11:20

Matrix: Solid

Date Received: 12/29/20 21:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.09 g	100 mL	121163	01/08/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121623	01/11/21 22:31	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	121117	01/08/21 13:25	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121306	01/09/21 15:25	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	119509	12/29/20 21:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119568	12/29/20 23:10	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119486	12/30/20 13:03	SR3N	ECL 1
Instrument ID: BAL87										

## Client Sample ID: SWCONF18-28.0

## Lab Sample ID: 570-47359-6

Date Collected: 12/29/20 11:21

Matrix: Solid

Date Received: 12/29/20 21:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	100 mL	121163	01/08/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121623	01/11/21 22:33	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.54 g	100 mL	121117	01/08/21 13:25	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121306	01/09/21 15:26	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	119509	12/29/20 21:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119568	12/29/20 23:10	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119486	12/30/20 13:03	SR3N	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF18-30.0**

**Lab Sample ID: 570-47359-7**

**Date Collected: 12/29/20 11:25**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	100 mL	121163	01/08/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121623	01/11/21 22:35	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	121117	01/08/21 13:25	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121306	01/09/21 15:27	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	119509	12/29/20 21:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119568	12/29/20 23:10	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119486	12/30/20 13:03	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF18-34.0**

**Lab Sample ID: 570-47359-8**

**Date Collected: 12/29/20 11:30**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.09 g	100 mL	121163	01/08/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121623	01/11/21 22:37	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	121117	01/08/21 13:25	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121306	01/09/21 15:28	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	119509	12/29/20 21:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119568	12/29/20 23:10	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119486	12/30/20 13:03	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF18-34.5**

**Lab Sample ID: 570-47359-9**

**Date Collected: 12/29/20 11:35**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.96 g	100 mL	121163	01/08/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121623	01/11/21 22:39	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	121117	01/08/21 13:25	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121306	01/09/21 15:29	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	119509	12/29/20 21:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119568	12/29/20 23:10	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119486	12/30/20 13:03	SR3N	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF18-35.0**

**Lab Sample ID: 570-47359-10**

**Date Collected: 12/29/20 11:36**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.08 g	100 mL	121163	01/08/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121623	01/11/21 22:41	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	121117	01/08/21 13:25	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121306	01/09/21 15:30	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	119509	12/29/20 21:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119568	12/29/20 23:10	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119486	12/30/20 13:03	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF18-39.5**

**Lab Sample ID: 570-47359-11**

**Date Collected: 12/29/20 11:50**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.09 g	100 mL	121163	01/08/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121623	01/11/21 22:43	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	121563	01/11/21 18:00	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121809	01/12/21 17:37	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	119509	12/29/20 21:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119568	12/29/20 23:10	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119486	12/30/20 13:03	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF18-45.0**

**Lab Sample ID: 570-47359-12**

**Date Collected: 12/29/20 12:00**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	121163	01/08/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121623	01/11/21 22:55	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	121563	01/11/21 18:00	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121809	01/12/21 17:38	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	119509	12/29/20 21:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119568	12/29/20 23:10	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119486	12/30/20 13:03	SR3N	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF18-50.0**

**Lab Sample ID: 570-47359-13**

**Date Collected: 12/29/20 12:12**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.08 g	100 mL	121163	01/08/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121623	01/11/21 22:57	EMS	ECL 1
		Instrument ID: ICP8								
Total/NA	Prep	3060A			2.50 g	100 mL	121563	01/11/21 18:00	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121809	01/12/21 17:39	CO7S	ECL 1
		Instrument ID: UV9								
Total/NA	Leach	DI Leach			20.02 g	20 mL	119509	12/29/20 21:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119568	12/29/20 23:10	Y3IH	ECL 1
		Instrument ID: PH4								
Total/NA	Analysis	Moisture		1			119486	12/30/20 13:03	SR3N	ECL 1
		Instrument ID: BAL87								

**Client Sample ID: SWCONF18-50.5**

**Lab Sample ID: 570-47359-14**

**Date Collected: 12/29/20 12:13**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	100 mL	121163	01/08/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121623	01/11/21 22:59	EMS	ECL 1
		Instrument ID: ICP8								
Total/NA	Prep	3060A			2.49 g	100 mL	121563	01/11/21 18:00	UAPD	ECL 1
Total/NA	Analysis	7196A		10	100 mL	100 mL	121809	01/12/21 17:40	CO7S	ECL 1
		Instrument ID: UV9								
Total/NA	Leach	DI Leach			20.02 g	20 mL	119509	12/29/20 21:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119568	12/29/20 23:10	Y3IH	ECL 1
		Instrument ID: PH4								
Total/NA	Analysis	Moisture		1			119486	12/30/20 13:03	SR3N	ECL 1
		Instrument ID: BAL87								

**Client Sample ID: SWCONF18-55.0**

**Lab Sample ID: 570-47359-15**

**Date Collected: 12/29/20 12:30**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.07 g	100 mL	121163	01/08/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121623	01/11/21 23:01	EMS	ECL 1
		Instrument ID: ICP8								
Total/NA	Prep	3060A			2.53 g	100 mL	121563	01/11/21 18:00	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121809	01/12/21 17:41	CO7S	ECL 1
		Instrument ID: UV9								
Total/NA	Leach	DI Leach			20.02 g	20 mL	119509	12/29/20 21:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119568	12/29/20 23:10	Y3IH	ECL 1
		Instrument ID: PH4								
Total/NA	Analysis	Moisture		1			119486	12/30/20 13:03	SR3N	ECL 1
		Instrument ID: BAL87								



# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF18-60.0**

**Lab Sample ID: 570-47359-16**

**Date Collected: 12/29/20 12:50**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.08 g	100 mL	121163	01/08/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121623	01/11/21 23:03	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.54 g	100 mL	121563	01/11/21 18:00	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121809	01/12/21 17:42	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	119509	12/29/20 21:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119568	12/29/20 23:10	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119486	12/30/20 13:03	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF18-60.5**

**Lab Sample ID: 570-47359-17**

**Date Collected: 12/29/20 12:52**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.05 g	100 mL	121163	01/08/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121623	01/11/21 23:05	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.49 g	100 mL	121563	01/11/21 18:00	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121809	01/12/21 17:43	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	119509	12/29/20 21:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119568	12/29/20 23:10	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119498	12/30/20 13:30	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF18-65.0**

**Lab Sample ID: 570-47359-18**

**Date Collected: 12/29/20 13:05**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	100 mL	121163	01/08/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121623	01/11/21 23:07	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	121563	01/11/21 18:00	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121809	01/12/21 17:44	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	119509	12/29/20 21:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119568	12/29/20 23:10	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119498	12/30/20 13:30	SR3N	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF18-70.0**

**Lab Sample ID: 570-47359-19**

**Date Collected: 12/29/20 13:15**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.09 g	100 mL	121163	01/08/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121623	01/11/21 23:09	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	121563	01/11/21 18:00	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121809	01/12/21 17:45	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	119509	12/29/20 21:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119568	12/29/20 23:10	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119498	12/30/20 13:30	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF16-10.0**

**Lab Sample ID: 570-47359-20**

**Date Collected: 12/29/20 15:25**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.06 g	100 mL	121163	01/08/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121623	01/11/21 23:11	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.49 g	100 mL	121563	01/11/21 18:00	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121809	01/12/21 17:46	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.04 g	20 mL	119509	12/29/20 21:30	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119568	12/29/20 23:10	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119498	12/30/20 13:30	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF16-15.0**

**Lab Sample ID: 570-47359-21**

**Date Collected: 12/29/20 15:45**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.94 g	100 mL	121127	01/08/21 17:12	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121430	01/11/21 16:39	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.47 g	100 mL	121563	01/11/21 18:00	UAPD	ECL 1
Total/NA	Analysis	7196A		50	100 mL	100 mL	121809	01/12/21 17:49	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	119523	12/30/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119626	12/30/20 20:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119498	12/30/20 13:30	SR3N	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF16-20.0**

**Lab Sample ID: 570-47359-22**

**Date Collected: 12/29/20 15:55**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.95 g	100 mL	121127	01/08/21 17:12	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121430	01/11/21 16:49	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.48 g	100 mL	121563	01/11/21 18:00	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121809	01/12/21 17:50	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	119523	12/30/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119626	12/30/20 20:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119498	12/30/20 13:30	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF16-25.0**

**Lab Sample ID: 570-47359-23**

**Date Collected: 12/29/20 16:05**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.07 g	100 mL	121127	01/08/21 17:12	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121430	01/11/21 16:54	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	121563	01/11/21 18:00	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121809	01/12/21 17:51	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	119523	12/30/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119626	12/30/20 20:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119498	12/30/20 13:30	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF16-27.0**

**Lab Sample ID: 570-47359-24**

**Date Collected: 12/29/20 16:08**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.95 g	100 mL	121127	01/08/21 17:12	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121430	01/11/21 16:56	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	121563	01/11/21 18:00	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121809	01/12/21 17:52	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.03 g	20 mL	119523	12/30/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119626	12/30/20 20:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119498	12/30/20 13:30	SR3N	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF16-27.5**

**Lab Sample ID: 570-47359-25**

**Date Collected: 12/29/20 16:10**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.93 g	100 mL	121127	01/08/21 17:12	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121430	01/11/21 16:58	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.47 g	100 mL	121563	01/11/21 18:00	UAPD	ECL 1
Total/NA	Analysis	7196A		50	100 mL	100 mL	121809	01/12/21 17:53	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.05 g	20 mL	119523	12/30/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119626	12/30/20 20:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119498	12/30/20 13:30	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF16-30.0**

**Lab Sample ID: 570-47359-26**

**Date Collected: 12/29/20 16:15**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.97 g	100 mL	121127	01/08/21 17:12	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121430	01/11/21 17:00	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.45 g	100 mL	121563	01/11/21 18:00	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121809	01/12/21 17:54	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	119523	12/30/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119626	12/30/20 20:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119498	12/30/20 13:30	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF16-32.5**

**Lab Sample ID: 570-47359-27**

**Date Collected: 12/29/20 16:23**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	100 mL	121127	01/08/21 17:12	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121430	01/11/21 17:02	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	121563	01/11/21 18:00	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121809	01/12/21 17:55	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	119523	12/30/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119626	12/30/20 20:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119498	12/30/20 13:30	SR3N	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF16-33.0**

**Lab Sample ID: 570-47359-28**

**Date Collected: 12/29/20 16:25**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.93 g	100 mL	121127	01/08/21 17:12	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121430	01/11/21 17:04	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	121563	01/11/21 18:00	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121809	01/12/21 17:56	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	119523	12/30/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119626	12/30/20 20:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119498	12/30/20 13:30	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF16-35.0**

**Lab Sample ID: 570-47359-29**

**Date Collected: 12/29/20 16:27**

**Matrix: Solid**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	100 mL	121127	01/08/21 17:12	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121430	01/11/21 17:06	ULPF	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.48 g	100 mL	121563	01/11/21 18:00	UAPD	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	121809	01/12/21 17:57	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	119523	12/30/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119626	12/30/20 20:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119498	12/30/20 13:30	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: EB05**

**Lab Sample ID: 570-47359-30**

**Date Collected: 12/29/20 16:41**

**Matrix: Water**

**Date Received: 12/29/20 21:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7199		1			119057	12/29/20 21:50	URMH	ECL 1
Instrument ID: IC16										
Total/NA	Prep	3010A			50 mL	50 mL	121371	01/11/21 06:30	WL8G	ECL 1
Total/NA	Analysis	6010B		1			121441	01/11/21 10:18	ULPF	ECL 1
Instrument ID: ICP8										

## Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494



## Accreditation/Certification Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

### Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-21
California	SCAQMD LAP	17LA0919	11-30-21
California	State	2944	09-30-21
Guam	State	20-003R	10-31-20 *
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-29-21
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-21

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Calscience LLC

## Method Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

Method	Method Description	Protocol	Laboratory
7199	Chromium, Hexavalent (IC)	SW846	ECL 1
6010B	Metals (ICP)	SW846	ECL 1
7196A	Chromium, Hexavalent	SW846	ECL 1
9045C	pH	SW846	ECL 1
Moisture	Percent Moisture	EPA	ECL 1
3010A	Preparation, Total Metals	SW846	ECL 1
3050B	Preparation, Metals	SW846	ECL 1
3060A	Alkaline Digestion (Chromium, Hexavalent)	SW846	ECL 1
DI Leach	Deionized Water Leaching Procedure	ASTM	ECL 1

### Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

## Sample Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47359-1  
SDG: 0197.010.006

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-47359-1	SWCONF18-10.0	Solid	12/29/20 10:30	12/29/20 21:05	
570-47359-2	SWCONF18-15.0	Solid	12/29/20 10:40	12/29/20 21:05	
570-47359-3	SWCONF18-20.0	Solid	12/29/20 10:50	12/29/20 21:05	
570-47359-4	SWCONF18-25.0	Solid	12/29/20 11:10	12/29/20 21:05	
570-47359-5	SWCONF18-27.5	Solid	12/29/20 11:20	12/29/20 21:05	
570-47359-6	SWCONF18-28.0	Solid	12/29/20 11:21	12/29/20 21:05	
570-47359-7	SWCONF18-30.0	Solid	12/29/20 11:25	12/29/20 21:05	
570-47359-8	SWCONF18-34.0	Solid	12/29/20 11:30	12/29/20 21:05	
570-47359-9	SWCONF18-34.5	Solid	12/29/20 11:35	12/29/20 21:05	
570-47359-10	SWCONF18-35.0	Solid	12/29/20 11:36	12/29/20 21:05	
570-47359-11	SWCONF18-39.5	Solid	12/29/20 11:50	12/29/20 21:05	
570-47359-12	SWCONF18-45.0	Solid	12/29/20 12:00	12/29/20 21:05	
570-47359-13	SWCONF18-50.0	Solid	12/29/20 12:12	12/29/20 21:05	
570-47359-14	SWCONF18-50.5	Solid	12/29/20 12:13	12/29/20 21:05	
570-47359-15	SWCONF18-55.0	Solid	12/29/20 12:30	12/29/20 21:05	
570-47359-16	SWCONF18-60.0	Solid	12/29/20 12:50	12/29/20 21:05	
570-47359-17	SWCONF18-60.5	Solid	12/29/20 12:52	12/29/20 21:05	
570-47359-18	SWCONF18-65.0	Solid	12/29/20 13:05	12/29/20 21:05	
570-47359-19	SWCONF18-70.0	Solid	12/29/20 13:15	12/29/20 21:05	
570-47359-20	SWCONF16-10.0	Solid	12/29/20 15:25	12/29/20 21:05	
570-47359-21	SWCONF16-15.0	Solid	12/29/20 15:45	12/29/20 21:05	
570-47359-22	SWCONF16-20.0	Solid	12/29/20 15:55	12/29/20 21:05	
570-47359-23	SWCONF16-25.0	Solid	12/29/20 16:05	12/29/20 21:05	
570-47359-24	SWCONF16-27.0	Solid	12/29/20 16:08	12/29/20 21:05	
570-47359-25	SWCONF16-27.5	Solid	12/29/20 16:10	12/29/20 21:05	
570-47359-26	SWCONF16-30.0	Solid	12/29/20 16:15	12/29/20 21:05	
570-47359-27	SWCONF16-32.5	Solid	12/29/20 16:23	12/29/20 21:05	
570-47359-28	SWCONF16-33.0	Solid	12/29/20 16:25	12/29/20 21:05	
570-47359-29	SWCONF16-35.0	Solid	12/29/20 16:27	12/29/20 21:05	
570-47359-30	EB05	Water	12/29/20 16:41	12/29/20 21:05	





Calscience



570-47359 Chain of Custody

# CHAIN OF CUSTODY RECORD

47359

DATE: 12/29/20  
PAGE: 1 OF 3

7440 Lincoln Way, Garden Grove, CA 92841-1427 • (714) 895-5494

For courier service / sample drop off information, contact us 26\_sales@eurofinsus.com or call us.

LABORATORY CLIENT: Terraphase Engineering, Inc.						CLIENT PROJECT NAME / NUMBER: PTI Southwest Soil Injection Confirmation / 0197.010.006						P.O. NO.																							
ADDRESS: 1404 Franklin Street Suite 600						PROJECT CONTACT: Chris Alger (Terraphase), Virendra Patel (ECI)						SAMPLER(S): (PRINT) West Skilling																							
CITY: Oakland			STATE: CA			ZIP: 94612																													
TEL: 510-645-1850 x58			E-MAIL: Chris.Alger@terraphase.com			REQUESTED ANALYSES																													
TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"): <input type="checkbox"/> SAME DAY <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input type="checkbox"/> 5 DAYS <input checked="" type="checkbox"/> STANDARD						Soil Analyses						Water Analyses																							
<input type="checkbox"/> COELT EDF						GLOBAL ID:						LOG CODE: TEIO																							
SPECIAL INSTRUCTIONS <ul style="list-style-type: none"><li>Please provide results in generic EDD and ESDat formats</li><li>Please email results to: Chris Alger, Clare Steedman, EDD@terraphase.com</li><li>Results in dry weight.</li></ul>						Unpreserved Preserved Field Filtered						EPA 6010B Cd, Cr, Cu, Pb, As Cr(VI) ■ 7196 □ 7199 □ 218.6 pH 9045C Moisture Content PCBs (8082)						EPA 6010B Cd, Cr, Cu, Pb, As Cr(VI) □ 7196 ■ 7199 □ 218.6 PCBs (8082)																	
LAB USE ONLY						SAMPLE ID						SAMPLING						MATRIX						NO. OF CONT.											
						DATE						TIME																							
1						SWCONF18-10.0						12/29/20						1030						S						1					
2						SWCONF18-15.0												1040																	
3						SWCONF18-20.0												1050																	
4						SWCONF18-25.0												1110																	
5						SWCONF18-27.5												1120																	
6						SWCONF18-28.0												1121																	
7						SWCONF18-30.0												1125																	
8						SWCONF18-34.0												1130																	
9						SWCONF18-34.5												1135																	
10						SWCONF18-35.0												1136																	
Relinquished by: (Signature)						Received by: (Signature/Affiliation)						Date						Time																	
Relinquished by: (Signature)						Received by: (Signature/Affiliation)						Date						Time																	
Relinquished by: (Signature)						Received by: (Signature/Affiliation)						Date						Time																	







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# CHAIN OF CUSTODY RECORD

DATE: 12/29/20  
PAGE: 3 OF 3

LABORATORY CLIENT: Terraphase Engineering, Inc.						CLIENT PROJECT NAME / NUMBER: PTI Southwest Soil Injection Confirmation / 0197.010.006						P.O. NO.					
ADDRESS: 1404 Franklin Street Suite 600						PROJECT CONTACT: Chris Alger (Terraphase), Virendra Patel (ECI)						SAMPLER(S): (PRINT) West Shillings					
CITY: Oakland			STATE: CA			ZIP: 94612											
TEL: 510-645-1850 x58			E-MAIL: Chris.Alger@terraphase.com			REQUESTED ANALYSES											
TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):						Soil Analyses						Water Analyses					
<input type="checkbox"/> SAME DAY <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input type="checkbox"/> 5 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> COELT EDF						GLOBAL ID: LOG CODE: TEIO SPECIAL INSTRUCTIONS: • Please provide results in generic EDD and ESDat formats • Please email results to Chris Alger, Clare Steedman, EDD@terraphase.com • Results in dry weight											
						Unpreserved Preserved Field Filtered EPA 6010B Cd, Cr, Cu, Pb, As Cr(VI) ■ 7196 □ 7199 □ 218 6 pH 9045C Moisture Content PCBs (8082)						EPA 6010B Cd, Cr, Cu, Pb, As Cr(VI) □ 7196 ■ 7199 □ 218 6 PCBs (8082)					
LAB USE ONLY	SAMPLE ID	SAMPLING		MATRIX	NO. OF CONT	Unpreserved	Preserved	Field Filtered	EPA 6010B Cd, Cr, Cu, Pb, As	Cr(VI) ■ 7196 □ 7199 □ 218 6	pH 9045C	Moisture Content	PCBs (8082)	EPA 6010B Cd, Cr, Cu, Pb, As	Cr(VI) □ 7196 ■ 7199 □ 218 6	PCBs (8082)	
		DATE	TIME														
	21 SWCONF16-15.0	12/29/20	1545	S	2	X			X	X	X	X					
	22 SWCONF16-20.0	12/29/20	1555	S	2	X			X	X	X	X					
	23 SWCONF16-25.0	12/29/20	1605	S	2	X			X	X	X	X					
	24 SWCONF16-27.0	12/29/20	1608	S	2	X			X	X	X	X					
	25 SWCONF16-27.5	12/29/20	1610	S	2	X			X	X	X	X					
	26 SWCONF16-30.0	12/29/20	1615	S	2	X			X	X	X	X					
	27 SWCONF16-32.5	12/29/20	1623	S	2	X			X	X	X	X					
	28 SWCONF16-33.0	12/29/20	1625	S	2	X			X	X	X	X					
	29 SWCONF16-35.0	12/29/20	1627	S	2	X			X	X	X	X					
	30 EROS	12/29/20	1641	W	2	X	X							X	X		
Relinquished by: (Signature) [Signature]						Received by: (Signature/Affiliation) [Signature] ECI						Date: 12/29/21		Time: 1755			
Relinquished by: (Signature)						Received by: (Signature/Affiliation)						Date:		Time:			
Relinquished by: (Signature)						Received by: (Signature/Affiliation)						Date:		Time:			

## Login Sample Receipt Checklist

Client: Terraphase Engineering Inc

Job Number: 570-47359-1

SDG Number: 0197.010.006

**Login Number: 47359**

**List Number: 1**

**Creator: Cortez Diaz, Antonio**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

Eurofins Calscience LLC  
7440 Lincoln Way  
Garden Grove, CA 92841  
Tel: (714)895-5494

Laboratory Job ID: 570-47443-1

Laboratory Sample Delivery Group: 0197.010.006

Client Project/Site: PTI Southwest Soil Injection Confirmation

**For:**

Terraphase Engineering Inc  
18401 Von Karman Ave  
Suite 410  
Irvine, California 92612

Attn: Clare Steedman

*Virendra R Patel*

Authorized for release by:  
1/18/2021 4:00:49 PM

Virendra Patel, Project Manager I  
(714)895-5494

[Virendra.Patel@eurofinset.com](mailto:Virendra.Patel@eurofinset.com)

### LINKS

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results through  
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*The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



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## Definitions/Glossary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

### Qualifiers

#### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

#### General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
H	Sample was prepped or analyzed beyond the specified holding time

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

**Job ID: 570-47443-1**

**Laboratory: Eurofins Calscience LLC**

## Narrative

### Job Narrative 570-47443-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 12/30/2020 5:45 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.2° C.

#### HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Metals

Method 6010B: Due to the high concentration of Copper, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 570-121229 and analytical batch 570-121682 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

Method 6010B: Due to the high concentration of Chromium, Copper, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 570-121231 and analytical batch 570-121908 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

Method 7196A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with preparation batch 570-121989 and analytical batch 570-122365 were outside control limits: SWConf16-45.0 (570-47443-4), (570-47443-A-4-E MS), (570-47443-A-4-F MSD), (570-47443-A-4-C MSI ^25) and (570-47443-A-4-D MSID ^25). The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method 7196A: The matrix spike duplicate (MSD) recoveries for the following sample associated with preparation batch 570-121989 and analytical batch 570-122365 was outside control limits: SWConf19-50.0 (570-47443-16) and (570-47443-A-16-G MSD). The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method 7196A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with preparation batch 570-122383 and analytical batch 570-122785 were outside control limits: SWConf20-25.0 (570-47443-23), SWConf20-45.0 (570-47443-26), (570-47443-A-23-E MS), (570-47443-A-23-F MSD), (570-47443-A-23-C MSI), (570-47443-A-23-D MSID), (570-47443-A-26-F MS), (570-47443-A-26-G MSD), (570-47443-A-26-D MSI) and (570-47443-A-26-E MSID). The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method 9045C: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: SWConf20-56.5 (570-47443-32), SWConf20-60.0 (570-47443-33), SWConf20-65.0 (570-47443-34), SWConf20-70.0 (570-47443-35) and (570-47443-A-35-B DU).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Client Sample ID: SWConf16-55.0

## Lab Sample ID: 570-47443-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.955		0.592	mg/Kg	1	✱	6010B	Total/NA
Chromium	84.9		1.18	mg/Kg	1	✱	6010B	Total/NA
Copper	190		1.18	mg/Kg	1	✱	6010B	Total/NA
pH	8.8		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf16-50.0

## Lab Sample ID: 570-47443-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	71.5		1.00	mg/Kg	1	✱	6010B	Total/NA
Copper	346		1.00	mg/Kg	1	✱	6010B	Total/NA
pH	9.6		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf16-53.0

## Lab Sample ID: 570-47443-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.04		3.06	mg/Kg	1	✱	6010B	Total/NA
Cadmium	1.76		0.612	mg/Kg	1	✱	6010B	Total/NA
Chromium	162		1.22	mg/Kg	1	✱	6010B	Total/NA
Copper	332		1.22	mg/Kg	1	✱	6010B	Total/NA
Lead	10.5		6.12	mg/Kg	1	✱	6010B	Total/NA
pH	10.3		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf16-45.0

## Lab Sample ID: 570-47443-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	110		0.992	mg/Kg	1	✱	6010B	Total/NA
Copper	152		0.992	mg/Kg	1	✱	6010B	Total/NA
pH	10.2		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf16-52.5

## Lab Sample ID: 570-47443-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.73		3.27	mg/Kg	1	✱	6010B	Total/NA
Cadmium	2.09		0.653	mg/Kg	1	✱	6010B	Total/NA
Chromium	136		1.31	mg/Kg	1	✱	6010B	Total/NA
Copper	586		1.31	mg/Kg	1	✱	6010B	Total/NA
Lead	11.2		6.53	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	9.59		1.03	mg/Kg	1	✱	7196A	Total/NA
pH	6.3		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf16-40.0

## Lab Sample ID: 570-47443-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	121		1.03	mg/Kg	1	✱	6010B	Total/NA
Copper	47.7		1.03	mg/Kg	1	✱	6010B	Total/NA
pH	9.6		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf16-60.0

## Lab Sample ID: 570-47443-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.32		2.98	mg/Kg	1	✱	6010B	Total/NA
Cadmium	1.20		0.596	mg/Kg	1	✱	6010B	Total/NA
Chromium	88.5		1.19	mg/Kg	1	✱	6010B	Total/NA
Copper	78.1		1.19	mg/Kg	1	✱	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Client Sample ID: SWConf16-60.0 (Continued)

## Lab Sample ID: 570-47443-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
pH	9.2		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf16-62.5

## Lab Sample ID: 570-47443-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.96		3.12	mg/Kg	1	✖	6010B	Total/NA
Cadmium	1.25		0.625	mg/Kg	1	✖	6010B	Total/NA
Chromium	126		1.25	mg/Kg	1	✖	6010B	Total/NA
Copper	315		1.25	mg/Kg	1	✖	6010B	Total/NA
pH	11.3		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf16-63.0

## Lab Sample ID: 570-47443-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.33		2.84	mg/Kg	1	✖	6010B	Total/NA
Cadmium	0.769		0.567	mg/Kg	1	✖	6010B	Total/NA
Chromium	82.0		1.13	mg/Kg	1	✖	6010B	Total/NA
Copper	187		1.13	mg/Kg	1	✖	6010B	Total/NA
pH	10.7		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf16-65.0

## Lab Sample ID: 570-47443-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.10		2.90	mg/Kg	1	✖	6010B	Total/NA
Cadmium	1.00		0.579	mg/Kg	1	✖	6010B	Total/NA
Chromium	494		1.16	mg/Kg	1	✖	6010B	Total/NA
Copper	544		1.16	mg/Kg	1	✖	6010B	Total/NA
pH	10.0		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf16-70.0

## Lab Sample ID: 570-47443-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.14		2.68	mg/Kg	1	✖	6010B	Total/NA
Chromium	742		1.07	mg/Kg	1	✖	6010B	Total/NA
Copper	274		1.07	mg/Kg	1	✖	6010B	Total/NA
pH	9.0		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf19-25.0

## Lab Sample ID: 570-47443-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.12		3.07	mg/Kg	1	✖	6010B	Total/NA
Cadmium	1.82		0.614	mg/Kg	1	✖	6010B	Total/NA
Chromium	65.1		1.23	mg/Kg	1	✖	6010B	Total/NA
Copper	510		1.23	mg/Kg	1	✖	6010B	Total/NA
Lead	7.29		6.14	mg/Kg	1	✖	6010B	Total/NA
pH	5.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf19-30.0

## Lab Sample ID: 570-47443-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.2		3.03	mg/Kg	1	✖	6010B	Total/NA
Cadmium	1.20		0.607	mg/Kg	1	✖	6010B	Total/NA
Chromium	25.9		1.21	mg/Kg	1	✖	6010B	Total/NA
Copper	159		1.21	mg/Kg	1	✖	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Client Sample ID: SWConf19-30.0 (Continued)

## Lab Sample ID: 570-47443-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
pH	4.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf19-30.5

## Lab Sample ID: 570-47443-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.30		2.83	mg/Kg	1	✖	6010B	Total/NA
Cadmium	0.893		0.566	mg/Kg	1	✖	6010B	Total/NA
Chromium	21.1		1.13	mg/Kg	1	✖	6010B	Total/NA
Copper	104		1.13	mg/Kg	1	✖	6010B	Total/NA
pH	4.2		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf19-45.0

## Lab Sample ID: 570-47443-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	76.7		1.04	mg/Kg	1	✖	6010B	Total/NA
Copper	112		1.04	mg/Kg	1	✖	6010B	Total/NA
pH	6.8		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf19-50.0

## Lab Sample ID: 570-47443-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	299		1.03	mg/Kg	1	✖	6010B	Total/NA
Copper	178		1.03	mg/Kg	1	✖	6010B	Total/NA
Lead	7.63		5.14	mg/Kg	1	✖	6010B	Total/NA
Cr (VI)	2.72	F1	0.845	mg/Kg	1	✖	7196A	Total/NA
pH	6.7		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf19-55.0

## Lab Sample ID: 570-47443-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	850		1.04	mg/Kg	1	✖	6010B	Total/NA
Copper	235		1.04	mg/Kg	1	✖	6010B	Total/NA
Lead	52.8		5.20	mg/Kg	1	✖	6010B	Total/NA
pH	8.9		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf19-58.0

## Lab Sample ID: 570-47443-18

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	492		1.06	mg/Kg	1	✖	6010B	Total/NA
Copper	250		1.06	mg/Kg	1	✖	6010B	Total/NA
Lead	35.5		5.30	mg/Kg	1	✖	6010B	Total/NA
pH	9.2		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf19-58.5

## Lab Sample ID: 570-47443-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.8		3.46	mg/Kg	1	✖	6010B	Total/NA
Cadmium	1.20		0.691	mg/Kg	1	✖	6010B	Total/NA
Chromium	489		1.38	mg/Kg	1	✖	6010B	Total/NA
Copper	108		1.38	mg/Kg	1	✖	6010B	Total/NA
Lead	32.6		6.91	mg/Kg	1	✖	6010B	Total/NA
pH	10.3		0.01	S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC



# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Client Sample ID: SWConf19-60.0

## Lab Sample ID: 570-47443-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.17		2.89	mg/Kg	1	✖	6010B	Total/NA
Cadmium	0.895		0.578	mg/Kg	1	✖	6010B	Total/NA
Chromium	416		1.16	mg/Kg	1	✖	6010B	Total/NA
Copper	78.3		1.16	mg/Kg	1	✖	6010B	Total/NA
Lead	37.5		5.78	mg/Kg	1	✖	6010B	Total/NA
pH	9.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf19-65.0

## Lab Sample ID: 570-47443-21

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.43		2.64	mg/Kg	1	✖	6010B	Total/NA
Chromium	485		1.05	mg/Kg	1	✖	6010B	Total/NA
Copper	194		1.05	mg/Kg	1	✖	6010B	Total/NA
Lead	22.3		5.27	mg/Kg	1	✖	6010B	Total/NA
pH	9.8		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf19-70.0

## Lab Sample ID: 570-47443-22

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.00		2.62	mg/Kg	1	✖	6010B	Total/NA
Chromium	412		1.05	mg/Kg	1	✖	6010B	Total/NA
Copper	52.8		1.05	mg/Kg	1	✖	6010B	Total/NA
Lead	8.79		5.24	mg/Kg	1	✖	6010B	Total/NA
pH	10.1		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf20-25.0

## Lab Sample ID: 570-47443-23

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.24		2.67	mg/Kg	1	✖	6010B	Total/NA
Cadmium	0.744		0.534	mg/Kg	1	✖	6010B	Total/NA
Chromium	19.6		1.07	mg/Kg	1	✖	6010B	Total/NA
Copper	76.4		1.07	mg/Kg	1	✖	6010B	Total/NA
pH	9.9		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf20-25.5

## Lab Sample ID: 570-47443-24

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.0		2.67	mg/Kg	1	✖	6010B	Total/NA
Cadmium	2.14		0.534	mg/Kg	1	✖	6010B	Total/NA
Chromium	53.1		1.07	mg/Kg	1	✖	6010B	Total/NA
Copper	635		1.07	mg/Kg	1	✖	6010B	Total/NA
Lead	5.56		5.34	mg/Kg	1	✖	6010B	Total/NA
pH	9.5		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf20-30.0

## Lab Sample ID: 570-47443-25

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16.6		3.23	mg/Kg	1	✖	6010B	Total/NA
Cadmium	2.65		0.645	mg/Kg	1	✖	6010B	Total/NA
Chromium	39.5		1.29	mg/Kg	1	✖	6010B	Total/NA
Copper	55.5		1.29	mg/Kg	1	✖	6010B	Total/NA
pH	6.3		0.01	S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Client Sample ID: SWConf20-45.0

## Lab Sample ID: 570-47443-26

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.07		2.63	mg/Kg	1	✱	6010B	Total/NA
Chromium	45.4		1.05	mg/Kg	1	✱	6010B	Total/NA
Copper	420		1.05	mg/Kg	1	✱	6010B	Total/NA
pH	7.0		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf20-48.0

## Lab Sample ID: 570-47443-27

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	14.3		2.85	mg/Kg	1	✱	6010B	Total/NA
Cadmium	1.64		0.570	mg/Kg	1	✱	6010B	Total/NA
Chromium	406		1.14	mg/Kg	1	✱	6010B	Total/NA
Copper	326		1.14	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	72.0		9.40	mg/Kg	10	✱	7196A	Total/NA
pH	4.6		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf20-47.5

## Lab Sample ID: 570-47443-28

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.15		2.61	mg/Kg	1	✱	6010B	Total/NA
Chromium	100		1.04	mg/Kg	1	✱	6010B	Total/NA
Copper	89.2		1.04	mg/Kg	1	✱	6010B	Total/NA
pH	9.4		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf20-50.0

## Lab Sample ID: 570-47443-29

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16.1		2.88	mg/Kg	1	✱	6010B	Total/NA
Cadmium	2.82		0.577	mg/Kg	1	✱	6010B	Total/NA
Chromium	181		1.15	mg/Kg	1	✱	6010B	Total/NA
Copper	339		1.15	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	93.9		9.34	mg/Kg	10	✱	7196A	Total/NA
pH	5.3		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf20-55.0

## Lab Sample ID: 570-47443-30

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.9		3.00	mg/Kg	1	✱	6010B	Total/NA
Cadmium	2.75		0.601	mg/Kg	1	✱	6010B	Total/NA
Chromium	161		1.20	mg/Kg	1	✱	6010B	Total/NA
Copper	34.1		1.20	mg/Kg	1	✱	6010B	Total/NA
pH	6.6		0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf20-56.0

## Lab Sample ID: 570-47443-31

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13.4		3.10	mg/Kg	1	✱	6010B	Total/NA
Cadmium	4.17		0.619	mg/Kg	1	✱	6010B	Total/NA
Chromium	148		1.24	mg/Kg	1	✱	6010B	Total/NA
Copper	37.4		1.24	mg/Kg	1	✱	6010B	Total/NA
Cr (VI)	2.19		0.959	mg/Kg	1	✱	7196A	Total/NA
pH	6.4		0.01	S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Client Sample ID: SWConf20-56.5

## Lab Sample ID: 570-47443-32

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13.6		2.92	mg/Kg	1	✱	6010B	Total/NA
Cadmium	2.25		0.584	mg/Kg	1	✱	6010B	Total/NA
Chromium	95.1		1.17	mg/Kg	1	✱	6010B	Total/NA
Copper	61.9		1.17	mg/Kg	1	✱	6010B	Total/NA
pH	8.9	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf20-60.0

## Lab Sample ID: 570-47443-33

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.73		2.65	mg/Kg	1	✱	6010B	Total/NA
Cadmium	1.25		0.531	mg/Kg	1	✱	6010B	Total/NA
Chromium	65.0		1.06	mg/Kg	1	✱	6010B	Total/NA
Copper	89.6		1.06	mg/Kg	1	✱	6010B	Total/NA
pH	11.1	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf20-65.0

## Lab Sample ID: 570-47443-34

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.18		2.70	mg/Kg	1	✱	6010B	Total/NA
Cadmium	1.17		0.540	mg/Kg	1	✱	6010B	Total/NA
Chromium	920		1.08	mg/Kg	1	✱	6010B	Total/NA
Copper	25.6		1.08	mg/Kg	1	✱	6010B	Total/NA
pH	10.2	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWConf20-70.0

## Lab Sample ID: 570-47443-35

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.20		2.65	mg/Kg	1	✱	6010B	Total/NA
Cadmium	3.15		0.531	mg/Kg	1	✱	6010B	Total/NA
Chromium	228		1.06	mg/Kg	1	✱	6010B	Total/NA
Copper	16.3		1.06	mg/Kg	1	✱	6010B	Total/NA
pH	10.4	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: EB06

## Lab Sample ID: 570-47443-36

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

## Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

### Method: 7199 - Chromium, Hexavalent (IC)

Client Sample ID: EB06

Date Collected: 12/30/20 16:00

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-36

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			12/31/20 09:16	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP)

Client Sample ID: SWConf16-55.0  
Date Collected: 12/30/20 07:58  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-1  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.96	mg/Kg	☆	01/09/21 09:00	01/11/21 19:57	1
Cadmium	0.955		0.592	mg/Kg	☆	01/09/21 09:00	01/11/21 19:57	1
Chromium	84.9		1.18	mg/Kg	☆	01/09/21 09:00	01/11/21 19:57	1
Copper	190		1.18	mg/Kg	☆	01/09/21 09:00	01/11/21 19:57	1
Lead	ND		5.92	mg/Kg	☆	01/09/21 09:00	01/11/21 19:57	1

Client Sample ID: SWConf16-50.0  
Date Collected: 12/30/20 07:55  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-2  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.50	mg/Kg	☆	01/09/21 09:00	01/11/21 20:06	1
Cadmium	ND		0.501	mg/Kg	☆	01/09/21 09:00	01/11/21 20:06	1
Chromium	71.5		1.00	mg/Kg	☆	01/09/21 09:00	01/11/21 20:06	1
Copper	346		1.00	mg/Kg	☆	01/09/21 09:00	01/11/21 20:06	1
Lead	ND		5.01	mg/Kg	☆	01/09/21 09:00	01/11/21 20:06	1

Client Sample ID: SWConf16-53.0  
Date Collected: 12/30/20 07:57  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-3  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.04		3.06	mg/Kg	☆	01/09/21 09:00	01/11/21 20:08	1
Cadmium	1.76		0.612	mg/Kg	☆	01/09/21 09:00	01/11/21 20:08	1
Chromium	162		1.22	mg/Kg	☆	01/09/21 09:00	01/11/21 20:08	1
Copper	332		1.22	mg/Kg	☆	01/09/21 09:00	01/11/21 20:08	1
Lead	10.5		6.12	mg/Kg	☆	01/09/21 09:00	01/11/21 20:08	1

Client Sample ID: SWConf16-45.0  
Date Collected: 12/30/20 07:52  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-4  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.48	mg/Kg	☆	01/09/21 09:00	01/11/21 20:11	1
Cadmium	ND		0.496	mg/Kg	☆	01/09/21 09:00	01/11/21 20:11	1
Chromium	110		0.992	mg/Kg	☆	01/09/21 09:00	01/11/21 20:11	1
Copper	152		0.992	mg/Kg	☆	01/09/21 09:00	01/11/21 20:11	1
Lead	ND		4.96	mg/Kg	☆	01/09/21 09:00	01/11/21 20:11	1

Client Sample ID: SWConf16-52.5  
Date Collected: 12/30/20 07:56  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-5  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.73		3.27	mg/Kg	☆	01/09/21 09:00	01/11/21 20:14	1
Cadmium	2.09		0.653	mg/Kg	☆	01/09/21 09:00	01/11/21 20:14	1
Chromium	136		1.31	mg/Kg	☆	01/09/21 09:00	01/11/21 20:14	1
Copper	586		1.31	mg/Kg	☆	01/09/21 09:00	01/11/21 20:14	1
Lead	11.2		6.53	mg/Kg	☆	01/09/21 09:00	01/11/21 20:14	1

Client Sample ID: SWConf16-40.0  
Date Collected: 12/30/20 07:50  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-6  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.58	mg/Kg	☆	01/09/21 09:00	01/11/21 20:23	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWConf16-40.0

Date Collected: 12/30/20 07:50

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.516	mg/Kg	☆	01/09/21 09:00	01/11/21 20:23	1
Chromium	121		1.03	mg/Kg	☆	01/09/21 09:00	01/11/21 20:23	1
Copper	47.7		1.03	mg/Kg	☆	01/09/21 09:00	01/11/21 20:23	1
Lead	ND		5.16	mg/Kg	☆	01/09/21 09:00	01/11/21 20:23	1

Client Sample ID: SWConf16-60.0

Date Collected: 12/30/20 08:10

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-7

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.32		2.98	mg/Kg	☆	01/09/21 09:00	01/11/21 20:26	1
Cadmium	1.20		0.596	mg/Kg	☆	01/09/21 09:00	01/11/21 20:26	1
Chromium	88.5		1.19	mg/Kg	☆	01/09/21 09:00	01/11/21 20:26	1
Copper	78.1		1.19	mg/Kg	☆	01/09/21 09:00	01/11/21 20:26	1
Lead	ND		5.96	mg/Kg	☆	01/09/21 09:00	01/11/21 20:26	1

Client Sample ID: SWConf16-62.5

Date Collected: 12/30/20 08:15

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-8

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.96		3.12	mg/Kg	☆	01/09/21 09:00	01/11/21 20:30	1
Cadmium	1.25		0.625	mg/Kg	☆	01/09/21 09:00	01/11/21 20:30	1
Chromium	126		1.25	mg/Kg	☆	01/09/21 09:00	01/11/21 20:30	1
Copper	315		1.25	mg/Kg	☆	01/09/21 09:00	01/11/21 20:30	1
Lead	ND		6.25	mg/Kg	☆	01/09/21 09:00	01/11/21 20:30	1

Client Sample ID: SWConf16-63.0

Date Collected: 12/30/20 08:16

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-9

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.33		2.84	mg/Kg	☆	01/09/21 09:00	01/11/21 20:33	1
Cadmium	0.769		0.567	mg/Kg	☆	01/09/21 09:00	01/11/21 20:33	1
Chromium	82.0		1.13	mg/Kg	☆	01/09/21 09:00	01/11/21 20:33	1
Copper	187		1.13	mg/Kg	☆	01/09/21 09:00	01/11/21 20:33	1
Lead	ND		5.67	mg/Kg	☆	01/09/21 09:00	01/11/21 20:33	1

Client Sample ID: SWConf16-65.0

Date Collected: 12/30/20 08:20

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-10

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.10		2.90	mg/Kg	☆	01/09/21 09:00	01/11/21 20:36	1
Cadmium	1.00		0.579	mg/Kg	☆	01/09/21 09:00	01/11/21 20:36	1
Chromium	494		1.16	mg/Kg	☆	01/09/21 09:00	01/11/21 20:36	1
Copper	544		1.16	mg/Kg	☆	01/09/21 09:00	01/11/21 20:36	1
Lead	ND		5.79	mg/Kg	☆	01/09/21 09:00	01/11/21 20:36	1

Client Sample ID: SWConf16-70.0

Date Collected: 12/30/20 08:20

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-11

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.14		2.68	mg/Kg	☆	01/09/21 09:00	01/11/21 20:39	1
Cadmium	ND		0.536	mg/Kg	☆	01/09/21 09:00	01/11/21 20:39	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWConf16-70.0  
Date Collected: 12/30/20 08:20  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-11  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	742		1.07	mg/Kg	☆	01/09/21 09:00	01/11/21 20:39	1
Copper	274		1.07	mg/Kg	☆	01/09/21 09:00	01/11/21 20:39	1
Lead	ND		5.36	mg/Kg	☆	01/09/21 09:00	01/11/21 20:39	1

Client Sample ID: SWConf19-25.0  
Date Collected: 12/30/20 10:40  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-12  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.12		3.07	mg/Kg	☆	01/09/21 09:00	01/11/21 20:42	1
Cadmium	1.82		0.614	mg/Kg	☆	01/09/21 09:00	01/11/21 20:42	1
Chromium	65.1		1.23	mg/Kg	☆	01/09/21 09:00	01/11/21 20:42	1
Copper	510		1.23	mg/Kg	☆	01/09/21 09:00	01/11/21 20:42	1
Lead	7.29		6.14	mg/Kg	☆	01/09/21 09:00	01/11/21 20:42	1

Client Sample ID: SWConf19-30.0  
Date Collected: 12/30/20 10:50  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-13  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.2		3.03	mg/Kg	☆	01/09/21 09:00	01/11/21 20:45	1
Cadmium	1.20		0.607	mg/Kg	☆	01/09/21 09:00	01/11/21 20:45	1
Chromium	25.9		1.21	mg/Kg	☆	01/09/21 09:00	01/11/21 20:45	1
Copper	159		1.21	mg/Kg	☆	01/09/21 09:00	01/11/21 20:45	1
Lead	ND		6.07	mg/Kg	☆	01/09/21 09:00	01/11/21 20:45	1

Client Sample ID: SWConf19-30.5  
Date Collected: 12/30/20 10:55  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-14  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.30		2.83	mg/Kg	☆	01/09/21 09:00	01/11/21 20:48	1
Cadmium	0.893		0.566	mg/Kg	☆	01/09/21 09:00	01/11/21 20:48	1
Chromium	21.1		1.13	mg/Kg	☆	01/09/21 09:00	01/11/21 20:48	1
Copper	104		1.13	mg/Kg	☆	01/09/21 09:00	01/11/21 20:48	1
Lead	ND		5.66	mg/Kg	☆	01/09/21 09:00	01/11/21 20:48	1

Client Sample ID: SWConf19-45.0  
Date Collected: 12/30/20 11:05  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-15  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.60	mg/Kg	☆	01/09/21 09:00	01/11/21 20:51	1
Cadmium	ND		0.521	mg/Kg	☆	01/09/21 09:00	01/11/21 20:51	1
Chromium	76.7		1.04	mg/Kg	☆	01/09/21 09:00	01/11/21 20:51	1
Copper	112		1.04	mg/Kg	☆	01/09/21 09:00	01/11/21 20:51	1
Lead	ND		5.21	mg/Kg	☆	01/09/21 09:00	01/11/21 20:51	1

Client Sample ID: SWConf19-50.0  
Date Collected: 12/30/20 11:15  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-16  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.57	mg/Kg	☆	01/09/21 09:00	01/11/21 21:00	1
Cadmium	ND		0.514	mg/Kg	☆	01/09/21 09:00	01/11/21 21:00	1
Chromium	299		1.03	mg/Kg	☆	01/09/21 09:00	01/11/21 21:00	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWConf19-50.0

Date Collected: 12/30/20 11:15

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-16

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	178		1.03	mg/Kg	☆	01/09/21 09:00	01/11/21 21:00	1
Lead	7.63		5.14	mg/Kg	☆	01/09/21 09:00	01/11/21 21:00	1

Client Sample ID: SWConf19-55.0

Date Collected: 12/30/20 11:26

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-17

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.60	mg/Kg	☆	01/09/21 09:00	01/11/21 21:03	1
Cadmium	ND		0.520	mg/Kg	☆	01/09/21 09:00	01/11/21 21:03	1
Chromium	850		1.04	mg/Kg	☆	01/09/21 09:00	01/11/21 21:03	1
Copper	235		1.04	mg/Kg	☆	01/09/21 09:00	01/11/21 21:03	1
Lead	52.8		5.20	mg/Kg	☆	01/09/21 09:00	01/11/21 21:03	1

Client Sample ID: SWConf19-58.0

Date Collected: 12/30/20 11:34

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-18

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.65	mg/Kg	☆	01/09/21 09:00	01/11/21 21:05	1
Cadmium	ND		0.530	mg/Kg	☆	01/09/21 09:00	01/11/21 21:05	1
Chromium	492		1.06	mg/Kg	☆	01/09/21 09:00	01/11/21 21:05	1
Copper	250		1.06	mg/Kg	☆	01/09/21 09:00	01/11/21 21:05	1
Lead	35.5		5.30	mg/Kg	☆	01/09/21 09:00	01/11/21 21:05	1

Client Sample ID: SWConf19-58.5

Date Collected: 12/30/20 11:35

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-19

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.8		3.46	mg/Kg	☆	01/09/21 09:00	01/11/21 21:08	1
Cadmium	1.20		0.691	mg/Kg	☆	01/09/21 09:00	01/11/21 21:08	1
Chromium	489		1.38	mg/Kg	☆	01/09/21 09:00	01/11/21 21:08	1
Copper	108		1.38	mg/Kg	☆	01/09/21 09:00	01/11/21 21:08	1
Lead	32.6		6.91	mg/Kg	☆	01/09/21 09:00	01/11/21 21:08	1

Client Sample ID: SWConf19-60.0

Date Collected: 12/30/20 11:40

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-20

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.17		2.89	mg/Kg	☆	01/09/21 09:00	01/11/21 21:12	1
Cadmium	0.895		0.578	mg/Kg	☆	01/09/21 09:00	01/11/21 21:12	1
Chromium	416		1.16	mg/Kg	☆	01/09/21 09:00	01/11/21 21:12	1
Copper	78.3		1.16	mg/Kg	☆	01/09/21 09:00	01/11/21 21:12	1
Lead	37.5		5.78	mg/Kg	☆	01/09/21 09:00	01/11/21 21:12	1

Client Sample ID: SWConf19-65.0

Date Collected: 12/30/20 11:46

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-21

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.43		2.64	mg/Kg	☆	01/09/21 09:00	01/12/21 14:32	1
Cadmium	ND		0.527	mg/Kg	☆	01/09/21 09:00	01/12/21 14:32	1
Chromium	485		1.05	mg/Kg	☆	01/09/21 09:00	01/12/21 14:32	1
Copper	194		1.05	mg/Kg	☆	01/09/21 09:00	01/12/21 14:32	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWConf19-65.0

Date Collected: 12/30/20 11:46

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-21

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	22.3		5.27	mg/Kg	☆	01/09/21 09:00	01/12/21 14:32	1

Client Sample ID: SWConf19-70.0

Date Collected: 12/30/20 11:54

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-22

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.00		2.62	mg/Kg	☆	01/09/21 09:00	01/12/21 14:38	1
Cadmium	ND		0.524	mg/Kg	☆	01/09/21 09:00	01/12/21 14:38	1
Chromium	412		1.05	mg/Kg	☆	01/09/21 09:00	01/12/21 14:38	1
Copper	52.8		1.05	mg/Kg	☆	01/09/21 09:00	01/12/21 14:38	1
Lead	8.79		5.24	mg/Kg	☆	01/09/21 09:00	01/12/21 14:38	1

Client Sample ID: SWConf20-25.0

Date Collected: 12/30/20 13:32

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-23

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.24		2.67	mg/Kg	☆	01/09/21 09:00	01/12/21 14:40	1
Cadmium	0.744		0.534	mg/Kg	☆	01/09/21 09:00	01/12/21 14:40	1
Chromium	19.6		1.07	mg/Kg	☆	01/09/21 09:00	01/12/21 14:40	1
Copper	76.4		1.07	mg/Kg	☆	01/09/21 09:00	01/12/21 14:40	1
Lead	ND		5.34	mg/Kg	☆	01/09/21 09:00	01/12/21 14:40	1

Client Sample ID: SWConf20-25.5

Date Collected: 12/30/20 13:33

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-24

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.0		2.67	mg/Kg	☆	01/09/21 09:00	01/12/21 14:42	1
Cadmium	2.14		0.534	mg/Kg	☆	01/09/21 09:00	01/12/21 14:42	1
Chromium	53.1		1.07	mg/Kg	☆	01/09/21 09:00	01/12/21 14:42	1
Copper	635		1.07	mg/Kg	☆	01/09/21 09:00	01/12/21 14:42	1
Lead	5.56		5.34	mg/Kg	☆	01/09/21 09:00	01/12/21 14:42	1

Client Sample ID: SWConf20-30.0

Date Collected: 12/30/20 13:42

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-25

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16.6		3.23	mg/Kg	☆	01/09/21 09:00	01/12/21 14:57	1
Cadmium	2.65		0.645	mg/Kg	☆	01/09/21 09:00	01/12/21 14:57	1
Chromium	39.5		1.29	mg/Kg	☆	01/09/21 09:00	01/12/21 14:57	1
Copper	55.5		1.29	mg/Kg	☆	01/09/21 09:00	01/12/21 14:57	1
Lead	ND		6.45	mg/Kg	☆	01/09/21 09:00	01/12/21 14:57	1

Client Sample ID: SWConf20-45.0

Date Collected: 12/30/20 14:00

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-26

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.07		2.63	mg/Kg	☆	01/09/21 09:00	01/12/21 14:59	1
Cadmium	ND		0.526	mg/Kg	☆	01/09/21 09:00	01/12/21 14:59	1
Chromium	45.4		1.05	mg/Kg	☆	01/09/21 09:00	01/12/21 14:59	1
Copper	420		1.05	mg/Kg	☆	01/09/21 09:00	01/12/21 14:59	1
Lead	ND		5.26	mg/Kg	☆	01/09/21 09:00	01/12/21 14:59	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP)

Client Sample ID: SWConf20-48.0

Date Collected: 12/30/20 14:10

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-27

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	14.3		2.85	mg/Kg	☆	01/09/21 09:00	01/12/21 15:01	1
Cadmium	1.64		0.570	mg/Kg	☆	01/09/21 09:00	01/12/21 15:01	1
Chromium	406		1.14	mg/Kg	☆	01/09/21 09:00	01/12/21 15:01	1
Copper	326		1.14	mg/Kg	☆	01/09/21 09:00	01/12/21 15:01	1
Lead	ND		5.70	mg/Kg	☆	01/09/21 09:00	01/12/21 15:01	1

Client Sample ID: SWConf20-47.5

Date Collected: 12/30/20 14:08

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-28

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.15		2.61	mg/Kg	☆	01/09/21 09:00	01/12/21 15:03	1
Cadmium	ND		0.521	mg/Kg	☆	01/09/21 09:00	01/12/21 15:03	1
Chromium	100		1.04	mg/Kg	☆	01/09/21 09:00	01/12/21 15:03	1
Copper	89.2		1.04	mg/Kg	☆	01/09/21 09:00	01/12/21 15:03	1
Lead	ND		5.21	mg/Kg	☆	01/09/21 09:00	01/12/21 15:03	1

Client Sample ID: SWConf20-50.0

Date Collected: 12/30/20 14:20

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-29

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16.1		2.88	mg/Kg	☆	01/09/21 09:00	01/12/21 15:05	1
Cadmium	2.82		0.577	mg/Kg	☆	01/09/21 09:00	01/12/21 15:05	1
Chromium	181		1.15	mg/Kg	☆	01/09/21 09:00	01/12/21 15:05	1
Copper	339		1.15	mg/Kg	☆	01/09/21 09:00	01/12/21 15:05	1
Lead	ND		5.77	mg/Kg	☆	01/09/21 09:00	01/12/21 15:05	1

Client Sample ID: SWConf20-55.0

Date Collected: 12/30/20 14:27

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-30

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.9		3.00	mg/Kg	☆	01/09/21 09:00	01/12/21 15:07	1
Cadmium	2.75		0.601	mg/Kg	☆	01/09/21 09:00	01/12/21 15:07	1
Chromium	161		1.20	mg/Kg	☆	01/09/21 09:00	01/12/21 15:07	1
Copper	34.1		1.20	mg/Kg	☆	01/09/21 09:00	01/12/21 15:07	1
Lead	ND		6.01	mg/Kg	☆	01/09/21 09:00	01/12/21 15:07	1

Client Sample ID: SWConf20-56.0

Date Collected: 12/30/20 14:34

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-31

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13.4		3.10	mg/Kg	☆	01/09/21 09:00	01/12/21 15:09	1
Cadmium	4.17		0.619	mg/Kg	☆	01/09/21 09:00	01/12/21 15:09	1
Chromium	148		1.24	mg/Kg	☆	01/09/21 09:00	01/12/21 15:09	1
Copper	37.4		1.24	mg/Kg	☆	01/09/21 09:00	01/12/21 15:09	1
Lead	ND		6.19	mg/Kg	☆	01/09/21 09:00	01/12/21 15:09	1

Client Sample ID: SWConf20-56.5

Date Collected: 12/30/20 14:36

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-32

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13.6		2.92	mg/Kg	☆	01/09/21 09:00	01/12/21 15:11	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWConf20-56.5

Date Collected: 12/30/20 14:36

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-32

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	2.25		0.584	mg/Kg	☆	01/09/21 09:00	01/12/21 15:11	1
Chromium	95.1		1.17	mg/Kg	☆	01/09/21 09:00	01/12/21 15:11	1
Copper	61.9		1.17	mg/Kg	☆	01/09/21 09:00	01/12/21 15:11	1
Lead	ND		5.84	mg/Kg	☆	01/09/21 09:00	01/12/21 15:11	1

Client Sample ID: SWConf20-60.0

Date Collected: 12/30/20 14:39

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-33

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.73		2.65	mg/Kg	☆	01/09/21 09:00	01/12/21 15:13	1
Cadmium	1.25		0.531	mg/Kg	☆	01/09/21 09:00	01/12/21 15:13	1
Chromium	65.0		1.06	mg/Kg	☆	01/09/21 09:00	01/12/21 15:13	1
Copper	89.6		1.06	mg/Kg	☆	01/09/21 09:00	01/12/21 15:13	1
Lead	ND		5.31	mg/Kg	☆	01/09/21 09:00	01/12/21 15:13	1

Client Sample ID: SWConf20-65.0

Date Collected: 12/30/20 14:52

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-34

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.18		2.70	mg/Kg	☆	01/09/21 09:00	01/12/21 15:29	1
Cadmium	1.17		0.540	mg/Kg	☆	01/09/21 09:00	01/12/21 15:29	1
Chromium	920		1.08	mg/Kg	☆	01/09/21 09:00	01/12/21 15:29	1
Copper	25.6		1.08	mg/Kg	☆	01/09/21 09:00	01/12/21 15:29	1
Lead	ND		5.40	mg/Kg	☆	01/09/21 09:00	01/12/21 15:29	1

Client Sample ID: SWConf20-70.0

Date Collected: 12/30/20 15:00

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-35

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.20		2.65	mg/Kg	☆	01/09/21 09:00	01/12/21 15:31	1
Cadmium	3.15		0.531	mg/Kg	☆	01/09/21 09:00	01/12/21 15:31	1
Chromium	228		1.06	mg/Kg	☆	01/09/21 09:00	01/12/21 15:31	1
Copper	16.3		1.06	mg/Kg	☆	01/09/21 09:00	01/12/21 15:31	1
Lead	ND		5.31	mg/Kg	☆	01/09/21 09:00	01/12/21 15:31	1

Client Sample ID: EB06

Date Collected: 12/30/20 16:00

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-36

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L		01/12/21 09:45	01/13/21 11:11	1
Cadmium	ND		0.0100	mg/L		01/12/21 09:45	01/13/21 11:11	1
Chromium	ND		0.0500	mg/L		01/12/21 09:45	01/13/21 11:11	1
Copper	ND		0.0500	mg/L		01/12/21 09:45	01/13/21 11:11	1
Lead	ND		0.0500	mg/L		01/12/21 09:45	01/13/21 11:11	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWConf16-55.0  
Date Collected: 12/30/20 07:58  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-1  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.957	mg/Kg	☼	01/13/21 13:20	01/14/21 17:11	1
pH	8.8		0.01	S.U.			12/30/20 20:00	1
Percent Moisture	18.1		0.1	%			12/31/20 07:50	1
Percent Solids	81.9		0.1	%			12/31/20 07:50	1

Client Sample ID: SWConf16-50.0  
Date Collected: 12/30/20 07:55  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-2  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.820	mg/Kg	☼	01/13/21 13:20	01/14/21 17:12	1
pH	9.6		0.01	S.U.			12/30/20 20:00	1
Percent Moisture	3.5		0.1	%			12/31/20 07:50	1
Percent Solids	96.5		0.1	%			12/31/20 07:50	1

Client Sample ID: SWConf16-53.0  
Date Collected: 12/30/20 07:57  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-3  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.02	mg/Kg	☼	01/13/21 13:20	01/14/21 17:13	1
pH	10.3		0.01	S.U.			12/30/20 20:00	1
Percent Moisture	21.5		0.1	%			12/31/20 07:50	1
Percent Solids	78.5		0.1	%			12/31/20 07:50	1

Client Sample ID: SWConf16-45.0  
Date Collected: 12/30/20 07:52  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-4  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	F1	0.819	mg/Kg	☼	01/13/21 13:20	01/14/21 17:14	1
pH	10.2		0.01	S.U.			12/30/20 20:00	1
Percent Moisture	3.1		0.1	%			12/31/20 07:50	1
Percent Solids	96.9		0.1	%			12/31/20 07:50	1

Client Sample ID: SWConf16-52.5  
Date Collected: 12/30/20 07:56  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-5  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	9.59		1.03	mg/Kg	☼	01/13/21 13:20	01/14/21 17:15	1
pH	6.3		0.01	S.U.			12/30/20 20:00	1
Percent Moisture	21.9		0.1	%			12/31/20 07:50	1
Percent Solids	78.1		0.1	%			12/31/20 07:50	1

Client Sample ID: SWConf16-40.0  
Date Collected: 12/30/20 07:50  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-6  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.834	mg/Kg	☼	01/13/21 13:20	01/14/21 17:16	1
pH	9.6		0.01	S.U.			12/30/20 20:00	1
Percent Moisture	4.5		0.1	%			12/31/20 07:50	1
Percent Solids	95.5		0.1	%			12/31/20 07:50	1



# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWConf16-60.0  
Date Collected: 12/30/20 08:10  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-7  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.914	mg/Kg	☼	01/13/21 13:20	01/14/21 17:17	1
pH	9.2		0.01	S.U.			12/30/20 20:00	1
Percent Moisture	13.5		0.1	%			12/31/20 07:50	1
Percent Solids	86.5		0.1	%			12/31/20 07:50	1

Client Sample ID: SWConf16-62.5  
Date Collected: 12/30/20 08:15  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-8  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.992	mg/Kg	☼	01/13/21 13:20	01/14/21 17:18	1
pH	11.3		0.01	S.U.			12/30/20 20:00	1
Percent Moisture	20.3		0.1	%			12/31/20 07:50	1
Percent Solids	79.7		0.1	%			12/31/20 07:50	1

Client Sample ID: SWConf16-63.0  
Date Collected: 12/30/20 08:16  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-9  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.881	mg/Kg	☼	01/13/21 13:20	01/14/21 17:19	1
pH	10.7		0.01	S.U.			12/30/20 20:00	1
Percent Moisture	9.6		0.1	%			12/31/20 07:50	1
Percent Solids	90.4		0.1	%			12/31/20 07:50	1

Client Sample ID: SWConf16-65.0  
Date Collected: 12/30/20 08:20  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-10  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.908	mg/Kg	☼	01/13/21 13:20	01/14/21 17:20	1
pH	10.0		0.01	S.U.			12/30/20 20:00	1
Percent Moisture	11.5		0.1	%			12/31/20 07:50	1
Percent Solids	88.5		0.1	%			12/31/20 07:50	1

Client Sample ID: SWConf16-70.0  
Date Collected: 12/30/20 08:20  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-11  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.841	mg/Kg	☼	01/13/21 13:20	01/14/21 17:23	1
pH	9.0		0.01	S.U.			12/30/20 20:00	1
Percent Moisture	5.3		0.1	%			12/31/20 07:50	1
Percent Solids	94.7		0.1	%			12/31/20 07:50	1

Client Sample ID: SWConf19-25.0  
Date Collected: 12/30/20 10:40  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-12  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.944	mg/Kg	☼	01/13/21 13:20	01/14/21 17:24	1
pH	5.4		0.01	S.U.			12/31/20 15:20	1
Percent Moisture	17.0		0.1	%			12/31/20 07:50	1
Percent Solids	83.0		0.1	%			12/31/20 07:50	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWConf19-30.0  
Date Collected: 12/30/20 10:50  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-13  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.977	mg/Kg	☼	01/13/21 13:20	01/14/21 17:25	1
pH	4.4		0.01	S.U.			12/31/20 15:20	1
Percent Moisture	18.8		0.1	%			12/31/20 07:50	1
Percent Solids	81.2		0.1	%			12/31/20 07:50	1

Client Sample ID: SWConf19-30.5  
Date Collected: 12/30/20 10:55  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-14  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.939	mg/Kg	☼	01/13/21 13:20	01/14/21 17:26	1
pH	4.2		0.01	S.U.			12/31/20 15:20	1
Percent Moisture	15.5		0.1	%			12/31/20 07:50	1
Percent Solids	84.5		0.1	%			12/31/20 07:50	1

Client Sample ID: SWConf19-45.0  
Date Collected: 12/30/20 11:05  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-15  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.837	mg/Kg	☼	01/13/21 13:20	01/14/21 17:27	1
pH	6.8		0.01	S.U.			12/31/20 15:20	1
Percent Moisture	4.4		0.1	%			12/31/20 07:50	1
Percent Solids	95.6		0.1	%			12/31/20 07:50	1

Client Sample ID: SWConf19-50.0  
Date Collected: 12/30/20 11:15  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-16  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	2.72	F1	0.845	mg/Kg	☼	01/13/21 13:20	01/14/21 17:28	1
pH	6.7		0.01	S.U.			12/31/20 15:20	1
Percent Moisture	6.1		0.1	%			12/31/20 07:50	1
Percent Solids	93.9		0.1	%			12/31/20 07:50	1

Client Sample ID: SWConf19-55.0  
Date Collected: 12/30/20 11:26  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-17  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.844	mg/Kg	☼	01/13/21 13:20	01/14/21 17:29	1
pH	8.9		0.01	S.U.			12/31/20 15:20	1
Percent Moisture	4.8		0.1	%			12/31/20 07:50	1
Percent Solids	95.2		0.1	%			12/31/20 07:50	1

Client Sample ID: SWConf19-58.0  
Date Collected: 12/30/20 11:34  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-18  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.844	mg/Kg	☼	01/13/21 13:20	01/14/21 17:30	1
pH	9.2		0.01	S.U.			12/31/20 15:20	1
Percent Moisture	5.6		0.1	%			12/31/20 07:50	1
Percent Solids	94.4		0.1	%			12/31/20 07:50	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWConf19-58.5

Date Collected: 12/30/20 11:35

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-19

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.08	mg/Kg	☼	01/13/21 13:20	01/14/21 17:31	1
pH	10.3		0.01	S.U.			12/31/20 15:20	1
Percent Moisture	26.6		0.1	%			12/31/20 07:50	1
Percent Solids	73.4		0.1	%			12/31/20 07:50	1

Client Sample ID: SWConf19-60.0

Date Collected: 12/30/20 11:40

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-20

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.951	mg/Kg	☼	01/13/21 13:20	01/14/21 17:32	1
pH	9.5		0.01	S.U.			12/31/20 15:20	1
Percent Moisture	17.2		0.1	%			12/31/20 07:50	1
Percent Solids	82.8		0.1	%			12/31/20 07:50	1

Client Sample ID: SWConf19-65.0

Date Collected: 12/30/20 11:46

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-21

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.844	mg/Kg	☼	01/14/21 20:11	01/16/21 15:42	1
pH	9.8		0.01	S.U.			12/31/20 15:20	1
Percent Moisture	5.6		0.1	%			12/31/20 08:33	1
Percent Solids	94.4		0.1	%			12/31/20 08:33	1

Client Sample ID: SWConf19-70.0

Date Collected: 12/30/20 11:54

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-22

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.855	mg/Kg	☼	01/14/21 20:11	01/16/21 15:43	1
pH	10.1		0.01	S.U.			12/31/20 15:20	1
Percent Moisture	6.4		0.1	%			12/31/20 08:33	1
Percent Solids	93.6		0.1	%			12/31/20 08:33	1

Client Sample ID: SWConf20-25.0

Date Collected: 12/30/20 13:32

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-23

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	F1	0.840	mg/Kg	☼	01/14/21 20:11	01/16/21 15:41	1
pH	9.9		0.01	S.U.			12/31/20 15:20	1
Percent Moisture	5.9		0.1	%			12/31/20 08:33	1
Percent Solids	94.1		0.1	%			12/31/20 08:33	1

Client Sample ID: SWConf20-25.5

Date Collected: 12/30/20 13:33

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-24

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.877	mg/Kg	☼	01/14/21 20:11	01/16/21 15:44	1
pH	9.5		0.01	S.U.			12/31/20 15:20	1
Percent Moisture	9.9		0.1	%			12/31/20 08:33	1
Percent Solids	90.1		0.1	%			12/31/20 08:33	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWConf20-30.0  
Date Collected: 12/30/20 13:42  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-25  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.04	mg/Kg	☼	01/14/21 20:11	01/16/21 15:45	1
pH	6.3		0.01	S.U.			12/31/20 15:20	1
Percent Moisture	24.0		0.1	%			12/31/20 08:33	1
Percent Solids	76.0		0.1	%			12/31/20 08:33	1

Client Sample ID: SWConf20-45.0  
Date Collected: 12/30/20 14:00  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-26  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	F1	0.834	mg/Kg	☼	01/14/21 20:11	01/16/21 16:02	1
pH	7.0		0.01	S.U.			12/31/20 15:20	1
Percent Moisture	4.5		0.1	%			12/31/20 08:33	1
Percent Solids	95.5		0.1	%			12/31/20 08:33	1

Client Sample ID: SWConf20-48.0  
Date Collected: 12/30/20 14:10  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-27  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	72.0		9.40	mg/Kg	☼	01/14/21 20:11	01/16/21 15:46	10
pH	4.6		0.01	S.U.			12/31/20 15:20	1
Percent Moisture	15.6		0.1	%			12/31/20 08:33	1
Percent Solids	84.4		0.1	%			12/31/20 08:33	1

Client Sample ID: SWConf20-47.5  
Date Collected: 12/30/20 14:08  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-28  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.821	mg/Kg	☼	01/14/21 20:11	01/16/21 15:47	1
pH	9.4		0.01	S.U.			12/31/20 15:20	1
Percent Moisture	4.1		0.1	%			12/31/20 08:33	1
Percent Solids	95.9		0.1	%			12/31/20 08:33	1

Client Sample ID: SWConf20-50.0  
Date Collected: 12/30/20 14:20  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-29  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	93.9		9.34	mg/Kg	☼	01/14/21 20:11	01/16/21 15:48	10
pH	5.3		0.01	S.U.			12/31/20 15:20	1
Percent Moisture	15.0		0.1	%			12/31/20 08:33	1
Percent Solids	85.0		0.1	%			12/31/20 08:33	1

Client Sample ID: SWConf20-55.0  
Date Collected: 12/30/20 14:27  
Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-30  
Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.951	mg/Kg	☼	01/14/21 20:11	01/16/21 15:49	1
pH	6.6		0.01	S.U.			12/31/20 15:20	1
Percent Moisture	17.2		0.1	%			12/31/20 08:33	1
Percent Solids	82.8		0.1	%			12/31/20 08:33	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWConf20-56.0

Date Collected: 12/30/20 14:34

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-31

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	2.19		0.959	mg/Kg	☆	01/14/21 20:11	01/16/21 15:50	1
pH	6.4		0.01	S.U.			12/31/20 15:20	1
Percent Moisture	17.6		0.1	%			12/31/20 08:33	1
Percent Solids	82.4		0.1	%			12/31/20 08:33	1

Client Sample ID: SWConf20-56.5

Date Collected: 12/30/20 14:36

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-32

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.925	mg/Kg	☆	01/14/21 20:11	01/16/21 15:53	1
pH	8.9	H	0.01	S.U.			01/02/21 12:00	1
Percent Moisture	13.9		0.1	%			12/31/20 08:33	1
Percent Solids	86.1		0.1	%			12/31/20 08:33	1

Client Sample ID: SWConf20-60.0

Date Collected: 12/30/20 14:39

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-33

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.877	mg/Kg	☆	01/14/21 20:11	01/16/21 15:54	1
pH	11.1	H	0.01	S.U.			01/02/21 12:00	1
Percent Moisture	9.8		0.1	%			12/31/20 08:33	1
Percent Solids	90.2		0.1	%			12/31/20 08:33	1

Client Sample ID: SWConf20-65.0

Date Collected: 12/30/20 14:52

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-34

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.833	mg/Kg	☆	01/14/21 20:11	01/16/21 15:55	1
pH	10.2	H	0.01	S.U.			01/02/21 12:00	1
Percent Moisture	5.5		0.1	%			12/31/20 08:33	1
Percent Solids	94.5		0.1	%			12/31/20 08:33	1

Client Sample ID: SWConf20-70.0

Date Collected: 12/30/20 15:00

Date Received: 12/30/20 17:45

Lab Sample ID: 570-47443-35

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.834	mg/Kg	☆	01/14/21 20:11	01/16/21 15:56	1
pH	10.4	H	0.01	S.U.			01/02/21 12:00	1
Percent Moisture	4.9		0.1	%			12/31/20 08:33	1
Percent Solids	95.1		0.1	%			12/31/20 08:33	1

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Method: 7199 - Chromium, Hexavalent (IC)

Lab Sample ID: MB 570-119642/5  
Matrix: Water  
Analysis Batch: 119642

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			12/31/20 08:39	1

Lab Sample ID: LCS 570-119642/6  
Matrix: Water  
Analysis Batch: 119642

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.0501	0.04992		mg/L		100	80 - 120

Lab Sample ID: LCSD 570-119642/7  
Matrix: Water  
Analysis Batch: 119642

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	0.0501	0.05008		mg/L		100	80 - 120	0	20

Lab Sample ID: 570-47443-36 MS  
Matrix: Water  
Analysis Batch: 119642

Client Sample ID: EB06  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND		0.0501	0.05062		mg/L		101	70 - 130

Lab Sample ID: 570-47443-36 MSD  
Matrix: Water  
Analysis Batch: 119642

Client Sample ID: EB06  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND		0.0501	0.05163		mg/L		103	70 - 130	2	25

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 570-121229/1-A  
Matrix: Solid  
Analysis Batch: 121682

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 121229

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.51	mg/Kg		01/09/21 09:00	01/11/21 19:48	1
Cadmium	ND		0.503	mg/Kg		01/09/21 09:00	01/11/21 19:48	1
Chromium	ND		1.01	mg/Kg		01/09/21 09:00	01/11/21 19:48	1
Copper	ND		1.01	mg/Kg		01/09/21 09:00	01/11/21 19:48	1
Lead	ND		5.03	mg/Kg		01/09/21 09:00	01/11/21 19:48	1

Lab Sample ID: LCS 570-121229/2-A  
Matrix: Solid  
Analysis Batch: 121682

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 121229

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	24.6	25.05		mg/Kg		102	80 - 120
Cadmium	24.6	24.80		mg/Kg		101	80 - 120

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-121229/2-A  
Matrix: Solid  
Analysis Batch: 121682

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 121229

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	24.6	24.66		mg/Kg		100	80 - 120
Copper	24.6	25.02		mg/Kg		102	80 - 120
Lead	24.6	25.17		mg/Kg		102	80 - 120

Lab Sample ID: LCSD 570-121229/3-A  
Matrix: Solid  
Analysis Batch: 121682

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 121229

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	24.8	25.40		mg/Kg		103	80 - 120	1	20
Cadmium	24.8	25.32		mg/Kg		102	80 - 120	2	20
Chromium	24.8	25.55		mg/Kg		103	80 - 120	4	20
Copper	24.8	25.87		mg/Kg		105	80 - 120	3	20
Lead	24.8	25.89		mg/Kg		105	80 - 120	3	20

Lab Sample ID: 570-47443-1 MS  
Matrix: Solid  
Analysis Batch: 121682

Client Sample ID: SWConf16-55.0  
Prep Type: Total/NA  
Prep Batch: 121229

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		29.9	31.84		mg/Kg	✱	106	75 - 125
Cadmium	0.955		29.9	30.13		mg/Kg	✱	98	75 - 125
Chromium	84.9		29.9	115.5		mg/Kg	✱	102	75 - 125
Copper	190		29.9	233.6	4	mg/Kg	✱	146	75 - 125
Lead	ND		29.9	33.93		mg/Kg	✱	99	75 - 125

Lab Sample ID: 570-47443-1 MSD  
Matrix: Solid  
Analysis Batch: 121682

Client Sample ID: SWConf16-55.0  
Prep Type: Total/NA  
Prep Batch: 121229

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	ND		30.7	33.66		mg/Kg	✱	110	75 - 125	6	20
Cadmium	0.955		30.7	31.78		mg/Kg	✱	101	75 - 125	5	20
Chromium	84.9		30.7	122.3		mg/Kg	✱	122	75 - 125	6	20
Copper	190		30.7	246.4	4	mg/Kg	✱	184	75 - 125	5	20
Lead	ND		30.7	35.92		mg/Kg	✱	103	75 - 125	6	20

Lab Sample ID: MB 570-121231/1-A  
Matrix: Solid  
Analysis Batch: 121908

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 121231

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.50	mg/Kg		01/09/21 09:00	01/12/21 14:25	1
Cadmium	ND		0.500	mg/Kg		01/09/21 09:00	01/12/21 14:25	1
Chromium	ND		1.00	mg/Kg		01/09/21 09:00	01/12/21 14:25	1
Copper	ND		1.00	mg/Kg		01/09/21 09:00	01/12/21 14:25	1
Lead	ND		5.00	mg/Kg		01/09/21 09:00	01/12/21 14:25	1

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-121231/2-A

Matrix: Solid

Analysis Batch: 121908

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 121231

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	25.3	23.48		mg/Kg		93	80 - 120
Cadmium	25.3	24.74		mg/Kg		98	80 - 120
Chromium	25.3	25.93		mg/Kg		103	80 - 120
Copper	25.3	28.34		mg/Kg		112	80 - 120
Lead	25.3	25.84		mg/Kg		102	80 - 120

Lab Sample ID: LCSD 570-121231/3-A

Matrix: Solid

Analysis Batch: 121908

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 121231

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	24.8	22.68		mg/Kg		92	80 - 120	3	20
Cadmium	24.8	24.08		mg/Kg		97	80 - 120	3	20
Chromium	24.8	25.21		mg/Kg		102	80 - 120	3	20
Copper	24.8	27.27		mg/Kg		110	80 - 120	4	20
Lead	24.8	25.28		mg/Kg		102	80 - 120	2	20

Lab Sample ID: 570-47443-21 MS

Matrix: Solid

Analysis Batch: 121908

Client Sample ID: SWConf19-65.0

Prep Type: Total/NA

Prep Batch: 121231

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	4.43		26.2	30.76		mg/Kg	✱	100	75 - 125
Cadmium	ND		26.2	27.07		mg/Kg	✱	102	75 - 125
Chromium	485		26.2	502.3	4	mg/Kg	✱	68	75 - 125
Copper	194		26.2	209.3	4	mg/Kg	✱	59	75 - 125
Lead	22.3		26.2	48.57		mg/Kg	✱	100	75 - 125

Lab Sample ID: 570-47443-21 MSD

Matrix: Solid

Analysis Batch: 121908

Client Sample ID: SWConf19-65.0

Prep Type: Total/NA

Prep Batch: 121231

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	4.43		25.7	28.84		mg/Kg	✱	95	75 - 125	6	20
Cadmium	ND		25.7	26.30		mg/Kg	✱	101	75 - 125	3	20
Chromium	485		25.7	493.3	4	mg/Kg	✱	34	75 - 125	2	20
Copper	194		25.7	205.1	4	mg/Kg	✱	44	75 - 125	2	20
Lead	22.3		25.7	46.93		mg/Kg	✱	96	75 - 125	3	20

Lab Sample ID: MB 570-121659/1-A

Matrix: Water

Analysis Batch: 121957

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 121659

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L		01/12/21 09:45	01/13/21 11:16	1
Cadmium	ND		0.0100	mg/L		01/12/21 09:45	01/13/21 11:16	1
Chromium	ND		0.0500	mg/L		01/12/21 09:45	01/13/21 11:16	1
Copper	ND		0.0500	mg/L		01/12/21 09:45	01/13/21 11:16	1
Lead	ND		0.0500	mg/L		01/12/21 09:45	01/13/21 11:16	1

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-121659/2-A  
Matrix: Water  
Analysis Batch: 121957

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 121659

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.500	0.5087		mg/L		102	80 - 120
Cadmium	0.500	0.5166		mg/L		103	80 - 120
Chromium	0.500	0.5135		mg/L		103	80 - 120
Copper	0.500	0.5711		mg/L		114	80 - 120
Lead	0.500	0.5366		mg/L		107	80 - 120

Lab Sample ID: LCSD 570-121659/3-A  
Matrix: Water  
Analysis Batch: 121957

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 121659

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	0.500	0.4872		mg/L		97	80 - 120	4	20
Cadmium	0.500	0.4984		mg/L		100	80 - 120	4	20
Chromium	0.500	0.5019		mg/L		100	80 - 120	2	20
Copper	0.500	0.5617		mg/L		112	80 - 120	2	20
Lead	0.500	0.5173		mg/L		103	80 - 120	4	20

Lab Sample ID: 570-47878-B-1-B MS  
Matrix: Water  
Analysis Batch: 121957

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 121659

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		0.500	0.5061		mg/L		101	80 - 140
Cadmium	ND		0.500	0.4920		mg/L		98	82 - 124
Chromium	ND		0.500	0.5079		mg/L		102	86 - 122
Copper	ND		0.500	0.5860		mg/L		117	78 - 126
Lead	ND		0.500	0.5187		mg/L		98	84 - 120

Lab Sample ID: 570-47878-B-1-C MSD  
Matrix: Water  
Analysis Batch: 121957

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 121659

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	ND		0.500	0.4940		mg/L		99	80 - 140	2	11
Cadmium	ND		0.500	0.4987		mg/L		99	82 - 124	1	7
Chromium	ND		0.500	0.5137		mg/L		103	86 - 122	1	8
Copper	ND		0.500	0.5887		mg/L		118	78 - 126	0	7
Lead	ND		0.500	0.5383		mg/L		102	84 - 120	4	7

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 570-121989/1-A  
Matrix: Solid  
Analysis Batch: 122365

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 121989

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.794	mg/Kg		01/13/21 13:20	01/14/21 17:02	1

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: LCS 570-121989/2-A  
Matrix: Solid  
Analysis Batch: 122365

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 121989

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	19.9	17.38		mg/Kg		87	78 - 120

Lab Sample ID: LCSD 570-121989/3-A  
Matrix: Solid  
Analysis Batch: 122365

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 121989

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	20.1	18.14		mg/Kg		90	78 - 120	4	20

Lab Sample ID: 570-47443-4 MS  
Matrix: Solid  
Analysis Batch: 122365

Client Sample ID: SWConf16-45.0  
Prep Type: Total/NA  
Prep Batch: 121989

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND	F1	20.7	ND	F1	mg/Kg	✱	0	75 - 125

Lab Sample ID: 570-47443-4 MSD  
Matrix: Solid  
Analysis Batch: 122365

Client Sample ID: SWConf16-45.0  
Prep Type: Total/NA  
Prep Batch: 121989

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	ND	F1	20.6	ND	F1	mg/Kg	✱	0	75 - 125	NC	25

Lab Sample ID: 570-47443-4 MSI  
Matrix: Solid  
Analysis Batch: 122365

Client Sample ID: SWConf16-45.0  
Prep Type: Total/NA  
Prep Batch: 121989

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND	F1	1010	233.6	F1	mg/Kg	✱	23	75 - 125

Lab Sample ID: 570-47443-4 MSID  
Matrix: Solid  
Analysis Batch: 122365

Client Sample ID: SWConf16-45.0  
Prep Type: Total/NA  
Prep Batch: 121989

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	ND	F1	1010	234.7	F1	mg/Kg	✱	23	75 - 125	0	25

Lab Sample ID: 570-47443-16 MS  
Matrix: Solid  
Analysis Batch: 122365

Client Sample ID: SWConf19-50.0  
Prep Type: Total/NA  
Prep Batch: 121989

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	2.72	F1	21.3	19.35		mg/Kg	✱	78	75 - 125

Lab Sample ID: 570-47443-16 MSD  
Matrix: Solid  
Analysis Batch: 122365

Client Sample ID: SWConf19-50.0  
Prep Type: Total/NA  
Prep Batch: 121989

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	2.72	F1	21.3	17.62	F1	mg/Kg	✱	70	75 - 125	9	25

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: 570-47443-16 MSI

Matrix: Solid

Analysis Batch: 122365

Client Sample ID: SWConf19-50.0

Prep Type: Total/NA

Prep Batch: 121989

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	2.72	F1	1050	823.4		mg/Kg	✱	78	75 - 125

Lab Sample ID: 570-47443-16 MSID

Matrix: Solid

Analysis Batch: 122365

Client Sample ID: SWConf19-50.0

Prep Type: Total/NA

Prep Batch: 121989

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	2.72	F1	1030	795.8		mg/Kg	✱	77	75 - 125	3	25

Lab Sample ID: MB 570-122383/1-A

Matrix: Solid

Analysis Batch: 122785

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 122383

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.800	mg/Kg		01/14/21 20:11	01/16/21 15:32	1

Lab Sample ID: LCS 570-122383/2-A

Matrix: Solid

Analysis Batch: 122785

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 122383

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	19.9	16.63		mg/Kg		83	78 - 120

Lab Sample ID: LCSD 570-122383/3-A

Matrix: Solid

Analysis Batch: 122785

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 122383

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	20.0	16.67		mg/Kg		83	78 - 120	0	20

Lab Sample ID: 570-47443-23 MS

Matrix: Solid

Analysis Batch: 122785

Client Sample ID: SWConf20-25.0

Prep Type: Total/NA

Prep Batch: 122383

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND	F1	21.3	ND	F1	mg/Kg	✱	0	75 - 125

Lab Sample ID: 570-47443-23 MSD

Matrix: Solid

Analysis Batch: 122785

Client Sample ID: SWConf20-25.0

Prep Type: Total/NA

Prep Batch: 122383

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	ND	F1	21.3	ND	F1	mg/Kg	✱	0	75 - 125	NC	25

Lab Sample ID: 570-47443-23 MSI

Matrix: Solid

Analysis Batch: 122785

Client Sample ID: SWConf20-25.0

Prep Type: Total/NA

Prep Batch: 122383

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND	F1	1040	497.3	F1	mg/Kg	✱	48	75 - 125

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: 570-47443-23 MSID

Matrix: Solid

Analysis Batch: 122785

Client Sample ID: SWConf20-25.0

Prep Type: Total/NA

Prep Batch: 122383

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1030	429.3	F1	mg/Kg	✱	42	75 - 125	15	25

Lab Sample ID: 570-47443-26 MS

Matrix: Solid

Analysis Batch: 122785

Client Sample ID: SWConf20-45.0

Prep Type: Total/NA

Prep Batch: 122383

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	20.9	2.104	F1	mg/Kg	✱	10	75 - 125		

Lab Sample ID: 570-47443-26 MSD

Matrix: Solid

Analysis Batch: 122785

Client Sample ID: SWConf20-45.0

Prep Type: Total/NA

Prep Batch: 122383

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	20.9	1.996	F1	mg/Kg	✱	10	75 - 125	5	25

Lab Sample ID: 570-47443-26 MSI

Matrix: Solid

Analysis Batch: 122785

Client Sample ID: SWConf20-45.0

Prep Type: Total/NA

Prep Batch: 122383

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1020	615.1	F1	mg/Kg	✱	60	75 - 125		

Lab Sample ID: 570-47443-26 MSID

Matrix: Solid

Analysis Batch: 122785

Client Sample ID: SWConf20-45.0

Prep Type: Total/NA

Prep Batch: 122383

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1020	671.0	F1	mg/Kg	✱	66	75 - 125	9	25

## Method: 9045C - pH

Lab Sample ID: 570-47359-A-21-B DU

Matrix: Solid

Analysis Batch: 119626

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	4.0		3.9		S.U.		1	25

Lab Sample ID: 570-47443-12 DU

Matrix: Solid

Analysis Batch: 119825

Client Sample ID: SWConf19-25.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	5.4		5.3		S.U.		2	25



# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Method: 9045C - pH (Continued)

Lab Sample ID: 570-47443-35 DU

Matrix: Solid

Analysis Batch: 120136

Client Sample ID: SWConf20-70.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
pH	10.4	H	10.3		S.U.		0.5	25

## Method: Moisture - Percent Moisture

Lab Sample ID: 570-47443-1 DU

Matrix: Solid

Analysis Batch: 119674

Client Sample ID: SWConf16-55.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Moisture	18.1		18.7		%		4	10
Percent Solids	81.9		81.3		%		0.8	10

Lab Sample ID: 570-47443-11 DU

Matrix: Solid

Analysis Batch: 119674

Client Sample ID: SWConf16-70.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Moisture	5.3		4.8		%		9	10
Percent Solids	94.7		95.2		%		0.5	10

Lab Sample ID: 570-47443-21 DU

Matrix: Solid

Analysis Batch: 119689

Client Sample ID: SWConf19-65.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Moisture	5.6		5.3		%		5	10
Percent Solids	94.4		94.7		%		0.3	10

Lab Sample ID: 570-47443-31 DU

Matrix: Solid

Analysis Batch: 119689

Client Sample ID: SWConf20-56.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Moisture	17.6		17.6		%		0	10
Percent Solids	82.4		82.4		%		0	10

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## HPLC/IC

### Analysis Batch: 119642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-36	EB06	Total/NA	Water	7199	
MB 570-119642/5	Method Blank	Total/NA	Water	7199	
LCS 570-119642/6	Lab Control Sample	Total/NA	Water	7199	
LCSD 570-119642/7	Lab Control Sample Dup	Total/NA	Water	7199	
570-47443-36 MS	EB06	Total/NA	Water	7199	
570-47443-36 MSD	EB06	Total/NA	Water	7199	

## Metals

### Prep Batch: 121229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-1	SWConf16-55.0	Total/NA	Solid	3050B	
570-47443-2	SWConf16-50.0	Total/NA	Solid	3050B	
570-47443-3	SWConf16-53.0	Total/NA	Solid	3050B	
570-47443-4	SWConf16-45.0	Total/NA	Solid	3050B	
570-47443-5	SWConf16-52.5	Total/NA	Solid	3050B	
570-47443-6	SWConf16-40.0	Total/NA	Solid	3050B	
570-47443-7	SWConf16-60.0	Total/NA	Solid	3050B	
570-47443-8	SWConf16-62.5	Total/NA	Solid	3050B	
570-47443-9	SWConf16-63.0	Total/NA	Solid	3050B	
570-47443-10	SWConf16-65.0	Total/NA	Solid	3050B	
570-47443-11	SWConf16-70.0	Total/NA	Solid	3050B	
570-47443-12	SWConf19-25.0	Total/NA	Solid	3050B	
570-47443-13	SWConf19-30.0	Total/NA	Solid	3050B	
570-47443-14	SWConf19-30.5	Total/NA	Solid	3050B	
570-47443-15	SWConf19-45.0	Total/NA	Solid	3050B	
570-47443-16	SWConf19-50.0	Total/NA	Solid	3050B	
570-47443-17	SWConf19-55.0	Total/NA	Solid	3050B	
570-47443-18	SWConf19-58.0	Total/NA	Solid	3050B	
570-47443-19	SWConf19-58.5	Total/NA	Solid	3050B	
570-47443-20	SWConf19-60.0	Total/NA	Solid	3050B	
MB 570-121229/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-121229/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-121229/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-47443-1 MS	SWConf16-55.0	Total/NA	Solid	3050B	
570-47443-1 MSD	SWConf16-55.0	Total/NA	Solid	3050B	

### Prep Batch: 121231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-21	SWConf19-65.0	Total/NA	Solid	3050B	
570-47443-22	SWConf19-70.0	Total/NA	Solid	3050B	
570-47443-23	SWConf20-25.0	Total/NA	Solid	3050B	
570-47443-24	SWConf20-25.5	Total/NA	Solid	3050B	
570-47443-25	SWConf20-30.0	Total/NA	Solid	3050B	
570-47443-26	SWConf20-45.0	Total/NA	Solid	3050B	
570-47443-27	SWConf20-48.0	Total/NA	Solid	3050B	
570-47443-28	SWConf20-47.5	Total/NA	Solid	3050B	
570-47443-29	SWConf20-50.0	Total/NA	Solid	3050B	
570-47443-30	SWConf20-55.0	Total/NA	Solid	3050B	
570-47443-31	SWConf20-56.0	Total/NA	Solid	3050B	
570-47443-32	SWConf20-56.5	Total/NA	Solid	3050B	

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Metals (Continued)

### Prep Batch: 121231 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-33	SWConf20-60.0	Total/NA	Solid	3050B	
570-47443-34	SWConf20-65.0	Total/NA	Solid	3050B	
570-47443-35	SWConf20-70.0	Total/NA	Solid	3050B	
MB 570-121231/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-121231/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-121231/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-47443-21 MS	SWConf19-65.0	Total/NA	Solid	3050B	
570-47443-21 MSD	SWConf19-65.0	Total/NA	Solid	3050B	

### Prep Batch: 121659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-36	EB06	Total/NA	Water	3010A	
MB 570-121659/1-A	Method Blank	Total/NA	Water	3010A	
LCS 570-121659/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 570-121659/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
570-47878-B-1-B MS	Matrix Spike	Total/NA	Water	3010A	
570-47878-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

### Analysis Batch: 121682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-1	SWConf16-55.0	Total/NA	Solid	6010B	121229
570-47443-2	SWConf16-50.0	Total/NA	Solid	6010B	121229
570-47443-3	SWConf16-53.0	Total/NA	Solid	6010B	121229
570-47443-4	SWConf16-45.0	Total/NA	Solid	6010B	121229
570-47443-5	SWConf16-52.5	Total/NA	Solid	6010B	121229
570-47443-6	SWConf16-40.0	Total/NA	Solid	6010B	121229
570-47443-7	SWConf16-60.0	Total/NA	Solid	6010B	121229
570-47443-8	SWConf16-62.5	Total/NA	Solid	6010B	121229
570-47443-9	SWConf16-63.0	Total/NA	Solid	6010B	121229
570-47443-10	SWConf16-65.0	Total/NA	Solid	6010B	121229
570-47443-11	SWConf16-70.0	Total/NA	Solid	6010B	121229
570-47443-12	SWConf19-25.0	Total/NA	Solid	6010B	121229
570-47443-13	SWConf19-30.0	Total/NA	Solid	6010B	121229
570-47443-14	SWConf19-30.5	Total/NA	Solid	6010B	121229
570-47443-15	SWConf19-45.0	Total/NA	Solid	6010B	121229
570-47443-16	SWConf19-50.0	Total/NA	Solid	6010B	121229
570-47443-17	SWConf19-55.0	Total/NA	Solid	6010B	121229
570-47443-18	SWConf19-58.0	Total/NA	Solid	6010B	121229
570-47443-19	SWConf19-58.5	Total/NA	Solid	6010B	121229
570-47443-20	SWConf19-60.0	Total/NA	Solid	6010B	121229
MB 570-121229/1-A	Method Blank	Total/NA	Solid	6010B	121229
LCS 570-121229/2-A	Lab Control Sample	Total/NA	Solid	6010B	121229
LCSD 570-121229/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	121229
570-47443-1 MS	SWConf16-55.0	Total/NA	Solid	6010B	121229
570-47443-1 MSD	SWConf16-55.0	Total/NA	Solid	6010B	121229

### Analysis Batch: 121908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-21	SWConf19-65.0	Total/NA	Solid	6010B	121231
570-47443-22	SWConf19-70.0	Total/NA	Solid	6010B	121231
570-47443-23	SWConf20-25.0	Total/NA	Solid	6010B	121231

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## Metals (Continued)

### Analysis Batch: 121908 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-24	SWConf20-25.5	Total/NA	Solid	6010B	121231
570-47443-25	SWConf20-30.0	Total/NA	Solid	6010B	121231
570-47443-26	SWConf20-45.0	Total/NA	Solid	6010B	121231
570-47443-27	SWConf20-48.0	Total/NA	Solid	6010B	121231
570-47443-28	SWConf20-47.5	Total/NA	Solid	6010B	121231
570-47443-29	SWConf20-50.0	Total/NA	Solid	6010B	121231
570-47443-30	SWConf20-55.0	Total/NA	Solid	6010B	121231
570-47443-31	SWConf20-56.0	Total/NA	Solid	6010B	121231
570-47443-32	SWConf20-56.5	Total/NA	Solid	6010B	121231
570-47443-33	SWConf20-60.0	Total/NA	Solid	6010B	121231
570-47443-34	SWConf20-65.0	Total/NA	Solid	6010B	121231
570-47443-35	SWConf20-70.0	Total/NA	Solid	6010B	121231
MB 570-121231/1-A	Method Blank	Total/NA	Solid	6010B	121231
LCS 570-121231/2-A	Lab Control Sample	Total/NA	Solid	6010B	121231
LCSD 570-121231/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	121231
570-47443-21 MS	SWConf19-65.0	Total/NA	Solid	6010B	121231
570-47443-21 MSD	SWConf19-65.0	Total/NA	Solid	6010B	121231

### Analysis Batch: 121957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-36	EB06	Total/NA	Water	6010B	121659
MB 570-121659/1-A	Method Blank	Total/NA	Water	6010B	121659
LCS 570-121659/2-A	Lab Control Sample	Total/NA	Water	6010B	121659
LCSD 570-121659/3-A	Lab Control Sample Dup	Total/NA	Water	6010B	121659
570-47878-B-1-B MS	Matrix Spike	Total/NA	Water	6010B	121659
570-47878-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	6010B	121659

## General Chemistry

### Leach Batch: 119523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-1	SWConf16-55.0	Total/NA	Solid	DI Leach	
570-47443-2	SWConf16-50.0	Total/NA	Solid	DI Leach	
570-47443-3	SWConf16-53.0	Total/NA	Solid	DI Leach	
570-47443-4	SWConf16-45.0	Total/NA	Solid	DI Leach	
570-47443-5	SWConf16-52.5	Total/NA	Solid	DI Leach	
570-47443-6	SWConf16-40.0	Total/NA	Solid	DI Leach	
570-47443-7	SWConf16-60.0	Total/NA	Solid	DI Leach	
570-47443-8	SWConf16-62.5	Total/NA	Solid	DI Leach	
570-47443-9	SWConf16-63.0	Total/NA	Solid	DI Leach	
570-47443-10	SWConf16-65.0	Total/NA	Solid	DI Leach	
570-47443-11	SWConf16-70.0	Total/NA	Solid	DI Leach	
570-47359-A-21-B DU	Duplicate	Total/NA	Solid	DI Leach	

### Leach Batch: 119615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-12	SWConf19-25.0	Total/NA	Solid	DI Leach	
570-47443-13	SWConf19-30.0	Total/NA	Solid	DI Leach	
570-47443-14	SWConf19-30.5	Total/NA	Solid	DI Leach	
570-47443-15	SWConf19-45.0	Total/NA	Solid	DI Leach	
570-47443-16	SWConf19-50.0	Total/NA	Solid	DI Leach	

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## General Chemistry (Continued)

### Leach Batch: 119615 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-17	SWConf19-55.0	Total/NA	Solid	DI Leach	
570-47443-18	SWConf19-58.0	Total/NA	Solid	DI Leach	
570-47443-19	SWConf19-58.5	Total/NA	Solid	DI Leach	
570-47443-20	SWConf19-60.0	Total/NA	Solid	DI Leach	
570-47443-21	SWConf19-65.0	Total/NA	Solid	DI Leach	
570-47443-22	SWConf19-70.0	Total/NA	Solid	DI Leach	
570-47443-23	SWConf20-25.0	Total/NA	Solid	DI Leach	
570-47443-24	SWConf20-25.5	Total/NA	Solid	DI Leach	
570-47443-25	SWConf20-30.0	Total/NA	Solid	DI Leach	
570-47443-26	SWConf20-45.0	Total/NA	Solid	DI Leach	
570-47443-27	SWConf20-48.0	Total/NA	Solid	DI Leach	
570-47443-28	SWConf20-47.5	Total/NA	Solid	DI Leach	
570-47443-29	SWConf20-50.0	Total/NA	Solid	DI Leach	
570-47443-30	SWConf20-55.0	Total/NA	Solid	DI Leach	
570-47443-31	SWConf20-56.0	Total/NA	Solid	DI Leach	
570-47443-12 DU	SWConf19-25.0	Total/NA	Solid	DI Leach	

### Analysis Batch: 119626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-1	SWConf16-55.0	Total/NA	Solid	9045C	119523
570-47443-2	SWConf16-50.0	Total/NA	Solid	9045C	119523
570-47443-3	SWConf16-53.0	Total/NA	Solid	9045C	119523
570-47443-4	SWConf16-45.0	Total/NA	Solid	9045C	119523
570-47443-5	SWConf16-52.5	Total/NA	Solid	9045C	119523
570-47443-6	SWConf16-40.0	Total/NA	Solid	9045C	119523
570-47443-7	SWConf16-60.0	Total/NA	Solid	9045C	119523
570-47443-8	SWConf16-62.5	Total/NA	Solid	9045C	119523
570-47443-9	SWConf16-63.0	Total/NA	Solid	9045C	119523
570-47443-10	SWConf16-65.0	Total/NA	Solid	9045C	119523
570-47443-11	SWConf16-70.0	Total/NA	Solid	9045C	119523
570-47359-A-21-B DU	Duplicate	Total/NA	Solid	9045C	119523

### Analysis Batch: 119674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-1	SWConf16-55.0	Total/NA	Solid	Moisture	
570-47443-2	SWConf16-50.0	Total/NA	Solid	Moisture	
570-47443-3	SWConf16-53.0	Total/NA	Solid	Moisture	
570-47443-4	SWConf16-45.0	Total/NA	Solid	Moisture	
570-47443-5	SWConf16-52.5	Total/NA	Solid	Moisture	
570-47443-6	SWConf16-40.0	Total/NA	Solid	Moisture	
570-47443-7	SWConf16-60.0	Total/NA	Solid	Moisture	
570-47443-8	SWConf16-62.5	Total/NA	Solid	Moisture	
570-47443-9	SWConf16-63.0	Total/NA	Solid	Moisture	
570-47443-10	SWConf16-65.0	Total/NA	Solid	Moisture	
570-47443-11	SWConf16-70.0	Total/NA	Solid	Moisture	
570-47443-12	SWConf19-25.0	Total/NA	Solid	Moisture	
570-47443-13	SWConf19-30.0	Total/NA	Solid	Moisture	
570-47443-14	SWConf19-30.5	Total/NA	Solid	Moisture	
570-47443-15	SWConf19-45.0	Total/NA	Solid	Moisture	
570-47443-16	SWConf19-50.0	Total/NA	Solid	Moisture	
570-47443-17	SWConf19-55.0	Total/NA	Solid	Moisture	

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## General Chemistry (Continued)

### Analysis Batch: 119674 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-18	SWConf19-58.0	Total/NA	Solid	Moisture	
570-47443-19	SWConf19-58.5	Total/NA	Solid	Moisture	
570-47443-20	SWConf19-60.0	Total/NA	Solid	Moisture	
570-47443-1 DU	SWConf16-55.0	Total/NA	Solid	Moisture	
570-47443-11 DU	SWConf16-70.0	Total/NA	Solid	Moisture	

### Analysis Batch: 119689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-21	SWConf19-65.0	Total/NA	Solid	Moisture	
570-47443-22	SWConf19-70.0	Total/NA	Solid	Moisture	
570-47443-23	SWConf20-25.0	Total/NA	Solid	Moisture	
570-47443-24	SWConf20-25.5	Total/NA	Solid	Moisture	
570-47443-25	SWConf20-30.0	Total/NA	Solid	Moisture	
570-47443-26	SWConf20-45.0	Total/NA	Solid	Moisture	
570-47443-27	SWConf20-48.0	Total/NA	Solid	Moisture	
570-47443-28	SWConf20-47.5	Total/NA	Solid	Moisture	
570-47443-29	SWConf20-50.0	Total/NA	Solid	Moisture	
570-47443-30	SWConf20-55.0	Total/NA	Solid	Moisture	
570-47443-31	SWConf20-56.0	Total/NA	Solid	Moisture	
570-47443-32	SWConf20-56.5	Total/NA	Solid	Moisture	
570-47443-33	SWConf20-60.0	Total/NA	Solid	Moisture	
570-47443-34	SWConf20-65.0	Total/NA	Solid	Moisture	
570-47443-35	SWConf20-70.0	Total/NA	Solid	Moisture	
570-47443-21 DU	SWConf19-65.0	Total/NA	Solid	Moisture	
570-47443-31 DU	SWConf20-56.0	Total/NA	Solid	Moisture	

### Leach Batch: 119715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-32	SWConf20-56.5	Total/NA	Solid	DI Leach	
570-47443-33	SWConf20-60.0	Total/NA	Solid	DI Leach	
570-47443-34	SWConf20-65.0	Total/NA	Solid	DI Leach	
570-47443-35	SWConf20-70.0	Total/NA	Solid	DI Leach	
570-47443-35 DU	SWConf20-70.0	Total/NA	Solid	DI Leach	

### Analysis Batch: 119825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-12	SWConf19-25.0	Total/NA	Solid	9045C	119615
570-47443-13	SWConf19-30.0	Total/NA	Solid	9045C	119615
570-47443-14	SWConf19-30.5	Total/NA	Solid	9045C	119615
570-47443-15	SWConf19-45.0	Total/NA	Solid	9045C	119615
570-47443-16	SWConf19-50.0	Total/NA	Solid	9045C	119615
570-47443-17	SWConf19-55.0	Total/NA	Solid	9045C	119615
570-47443-18	SWConf19-58.0	Total/NA	Solid	9045C	119615
570-47443-19	SWConf19-58.5	Total/NA	Solid	9045C	119615
570-47443-20	SWConf19-60.0	Total/NA	Solid	9045C	119615
570-47443-21	SWConf19-65.0	Total/NA	Solid	9045C	119615
570-47443-22	SWConf19-70.0	Total/NA	Solid	9045C	119615
570-47443-23	SWConf20-25.0	Total/NA	Solid	9045C	119615
570-47443-24	SWConf20-25.5	Total/NA	Solid	9045C	119615
570-47443-25	SWConf20-30.0	Total/NA	Solid	9045C	119615
570-47443-26	SWConf20-45.0	Total/NA	Solid	9045C	119615

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## General Chemistry (Continued)

### Analysis Batch: 119825 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-27	SWConf20-48.0	Total/NA	Solid	9045C	119615
570-47443-28	SWConf20-47.5	Total/NA	Solid	9045C	119615
570-47443-29	SWConf20-50.0	Total/NA	Solid	9045C	119615
570-47443-30	SWConf20-55.0	Total/NA	Solid	9045C	119615
570-47443-31	SWConf20-56.0	Total/NA	Solid	9045C	119615
570-47443-12 DU	SWConf19-25.0	Total/NA	Solid	9045C	119615

### Analysis Batch: 120136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-32	SWConf20-56.5	Total/NA	Solid	9045C	119715
570-47443-33	SWConf20-60.0	Total/NA	Solid	9045C	119715
570-47443-34	SWConf20-65.0	Total/NA	Solid	9045C	119715
570-47443-35	SWConf20-70.0	Total/NA	Solid	9045C	119715
570-47443-35 DU	SWConf20-70.0	Total/NA	Solid	9045C	119715

### Prep Batch: 121989

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-1	SWConf16-55.0	Total/NA	Solid	3060A	
570-47443-2	SWConf16-50.0	Total/NA	Solid	3060A	
570-47443-3	SWConf16-53.0	Total/NA	Solid	3060A	
570-47443-4	SWConf16-45.0	Total/NA	Solid	3060A	
570-47443-5	SWConf16-52.5	Total/NA	Solid	3060A	
570-47443-6	SWConf16-40.0	Total/NA	Solid	3060A	
570-47443-7	SWConf16-60.0	Total/NA	Solid	3060A	
570-47443-8	SWConf16-62.5	Total/NA	Solid	3060A	
570-47443-9	SWConf16-63.0	Total/NA	Solid	3060A	
570-47443-10	SWConf16-65.0	Total/NA	Solid	3060A	
570-47443-11	SWConf16-70.0	Total/NA	Solid	3060A	
570-47443-12	SWConf19-25.0	Total/NA	Solid	3060A	
570-47443-13	SWConf19-30.0	Total/NA	Solid	3060A	
570-47443-14	SWConf19-30.5	Total/NA	Solid	3060A	
570-47443-15	SWConf19-45.0	Total/NA	Solid	3060A	
570-47443-16	SWConf19-50.0	Total/NA	Solid	3060A	
570-47443-17	SWConf19-55.0	Total/NA	Solid	3060A	
570-47443-18	SWConf19-58.0	Total/NA	Solid	3060A	
570-47443-19	SWConf19-58.5	Total/NA	Solid	3060A	
570-47443-20	SWConf19-60.0	Total/NA	Solid	3060A	
MB 570-121989/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-121989/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-121989/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-47443-4 MS	SWConf16-45.0	Total/NA	Solid	3060A	
570-47443-4 MSD	SWConf16-45.0	Total/NA	Solid	3060A	
570-47443-4 MSI	SWConf16-45.0	Total/NA	Solid	3060A	
570-47443-4 MSID	SWConf16-45.0	Total/NA	Solid	3060A	
570-47443-16 MS	SWConf19-50.0	Total/NA	Solid	3060A	
570-47443-16 MSD	SWConf19-50.0	Total/NA	Solid	3060A	
570-47443-16 MSI	SWConf19-50.0	Total/NA	Solid	3060A	
570-47443-16 MSID	SWConf19-50.0	Total/NA	Solid	3060A	

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## General Chemistry

### Analysis Batch: 122365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-1	SWConf16-55.0	Total/NA	Solid	7196A	121989
570-47443-2	SWConf16-50.0	Total/NA	Solid	7196A	121989
570-47443-3	SWConf16-53.0	Total/NA	Solid	7196A	121989
570-47443-4	SWConf16-45.0	Total/NA	Solid	7196A	121989
570-47443-5	SWConf16-52.5	Total/NA	Solid	7196A	121989
570-47443-6	SWConf16-40.0	Total/NA	Solid	7196A	121989
570-47443-7	SWConf16-60.0	Total/NA	Solid	7196A	121989
570-47443-8	SWConf16-62.5	Total/NA	Solid	7196A	121989
570-47443-9	SWConf16-63.0	Total/NA	Solid	7196A	121989
570-47443-10	SWConf16-65.0	Total/NA	Solid	7196A	121989
570-47443-11	SWConf16-70.0	Total/NA	Solid	7196A	121989
570-47443-12	SWConf19-25.0	Total/NA	Solid	7196A	121989
570-47443-13	SWConf19-30.0	Total/NA	Solid	7196A	121989
570-47443-14	SWConf19-30.5	Total/NA	Solid	7196A	121989
570-47443-15	SWConf19-45.0	Total/NA	Solid	7196A	121989
570-47443-16	SWConf19-50.0	Total/NA	Solid	7196A	121989
570-47443-17	SWConf19-55.0	Total/NA	Solid	7196A	121989
570-47443-18	SWConf19-58.0	Total/NA	Solid	7196A	121989
570-47443-19	SWConf19-58.5	Total/NA	Solid	7196A	121989
570-47443-20	SWConf19-60.0	Total/NA	Solid	7196A	121989
MB 570-121989/1-A	Method Blank	Total/NA	Solid	7196A	121989
LCS 570-121989/2-A	Lab Control Sample	Total/NA	Solid	7196A	121989
LCSD 570-121989/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	121989
570-47443-4 MS	SWConf16-45.0	Total/NA	Solid	7196A	121989
570-47443-4 MSD	SWConf16-45.0	Total/NA	Solid	7196A	121989
570-47443-4 MSI	SWConf16-45.0	Total/NA	Solid	7196A	121989
570-47443-4 MSID	SWConf16-45.0	Total/NA	Solid	7196A	121989
570-47443-16 MS	SWConf19-50.0	Total/NA	Solid	7196A	121989
570-47443-16 MSD	SWConf19-50.0	Total/NA	Solid	7196A	121989
570-47443-16 MSI	SWConf19-50.0	Total/NA	Solid	7196A	121989
570-47443-16 MSID	SWConf19-50.0	Total/NA	Solid	7196A	121989

### Prep Batch: 122383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-21	SWConf19-65.0	Total/NA	Solid	3060A	
570-47443-22	SWConf19-70.0	Total/NA	Solid	3060A	
570-47443-23	SWConf20-25.0	Total/NA	Solid	3060A	
570-47443-24	SWConf20-25.5	Total/NA	Solid	3060A	
570-47443-25	SWConf20-30.0	Total/NA	Solid	3060A	
570-47443-26	SWConf20-45.0	Total/NA	Solid	3060A	
570-47443-27	SWConf20-48.0	Total/NA	Solid	3060A	
570-47443-28	SWConf20-47.5	Total/NA	Solid	3060A	
570-47443-29	SWConf20-50.0	Total/NA	Solid	3060A	
570-47443-30	SWConf20-55.0	Total/NA	Solid	3060A	
570-47443-31	SWConf20-56.0	Total/NA	Solid	3060A	
570-47443-32	SWConf20-56.5	Total/NA	Solid	3060A	
570-47443-33	SWConf20-60.0	Total/NA	Solid	3060A	
570-47443-34	SWConf20-65.0	Total/NA	Solid	3060A	
570-47443-35	SWConf20-70.0	Total/NA	Solid	3060A	
MB 570-122383/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-122383/2-A	Lab Control Sample	Total/NA	Solid	3060A	

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

## General Chemistry (Continued)

### Prep Batch: 122383 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 570-122383/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-47443-23 MS	SWConf20-25.0	Total/NA	Solid	3060A	
570-47443-23 MSD	SWConf20-25.0	Total/NA	Solid	3060A	
570-47443-23 MSI	SWConf20-25.0	Total/NA	Solid	3060A	
570-47443-23 MSID	SWConf20-25.0	Total/NA	Solid	3060A	
570-47443-26 MS	SWConf20-45.0	Total/NA	Solid	3060A	
570-47443-26 MSD	SWConf20-45.0	Total/NA	Solid	3060A	
570-47443-26 MSI	SWConf20-45.0	Total/NA	Solid	3060A	
570-47443-26 MSID	SWConf20-45.0	Total/NA	Solid	3060A	

### Analysis Batch: 122785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47443-21	SWConf19-65.0	Total/NA	Solid	7196A	122383
570-47443-22	SWConf19-70.0	Total/NA	Solid	7196A	122383
570-47443-23	SWConf20-25.0	Total/NA	Solid	7196A	122383
570-47443-24	SWConf20-25.5	Total/NA	Solid	7196A	122383
570-47443-25	SWConf20-30.0	Total/NA	Solid	7196A	122383
570-47443-26	SWConf20-45.0	Total/NA	Solid	7196A	122383
570-47443-27	SWConf20-48.0	Total/NA	Solid	7196A	122383
570-47443-28	SWConf20-47.5	Total/NA	Solid	7196A	122383
570-47443-29	SWConf20-50.0	Total/NA	Solid	7196A	122383
570-47443-30	SWConf20-55.0	Total/NA	Solid	7196A	122383
570-47443-31	SWConf20-56.0	Total/NA	Solid	7196A	122383
570-47443-32	SWConf20-56.5	Total/NA	Solid	7196A	122383
570-47443-33	SWConf20-60.0	Total/NA	Solid	7196A	122383
570-47443-34	SWConf20-65.0	Total/NA	Solid	7196A	122383
570-47443-35	SWConf20-70.0	Total/NA	Solid	7196A	122383
MB 570-122383/1-A	Method Blank	Total/NA	Solid	7196A	122383
LCS 570-122383/2-A	Lab Control Sample	Total/NA	Solid	7196A	122383
LCSD 570-122383/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	122383
570-47443-23 MS	SWConf20-25.0	Total/NA	Solid	7196A	122383
570-47443-23 MSD	SWConf20-25.0	Total/NA	Solid	7196A	122383
570-47443-23 MSI	SWConf20-25.0	Total/NA	Solid	7196A	122383
570-47443-23 MSID	SWConf20-25.0	Total/NA	Solid	7196A	122383
570-47443-26 MS	SWConf20-45.0	Total/NA	Solid	7196A	122383
570-47443-26 MSD	SWConf20-45.0	Total/NA	Solid	7196A	122383
570-47443-26 MSI	SWConf20-45.0	Total/NA	Solid	7196A	122383
570-47443-26 MSID	SWConf20-45.0	Total/NA	Solid	7196A	122383

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

**Client Sample ID: SWConf16-55.0**

**Lab Sample ID: 570-47443-1**

**Date Collected: 12/30/20 07:58**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.06 g	100 mL	121229	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121682	01/11/21 19:57	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.55 g	100 mL	121989	01/13/21 13:20	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122365	01/14/21 17:11	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	119523	12/30/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119626	12/30/20 20:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119674	12/31/20 07:50	ZHU8	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWConf16-50.0**

**Lab Sample ID: 570-47443-2**

**Date Collected: 12/30/20 07:55**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.07 g	100 mL	121229	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121682	01/11/21 20:06	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.53 g	100 mL	121989	01/13/21 13:20	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122365	01/14/21 17:12	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	119523	12/30/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119626	12/30/20 20:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119674	12/31/20 07:50	ZHU8	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWConf16-53.0**

**Lab Sample ID: 570-47443-3**

**Date Collected: 12/30/20 07:57**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.08 g	100 mL	121229	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121682	01/11/21 20:08	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.50 g	100 mL	121989	01/13/21 13:20	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122365	01/14/21 17:13	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	119523	12/30/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119626	12/30/20 20:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119674	12/31/20 07:50	ZHU8	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

**Client Sample ID: SWConf16-45.0**

**Lab Sample ID: 570-47443-4**

**Date Collected: 12/30/20 07:52**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.08 g	100 mL	121229	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121682	01/11/21 20:11	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.52 g	100 mL	121989	01/13/21 13:20	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122365	01/14/21 17:14	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	119523	12/30/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119626	12/30/20 20:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119674	12/31/20 07:50	ZHU8	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWConf16-52.5**

**Lab Sample ID: 570-47443-5**

**Date Collected: 12/30/20 07:56**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.96 g	100 mL	121229	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121682	01/11/21 20:14	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.49 g	100 mL	121989	01/13/21 13:20	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122365	01/14/21 17:15	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	119523	12/30/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119626	12/30/20 20:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119674	12/31/20 07:50	ZHU8	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWConf16-40.0**

**Lab Sample ID: 570-47443-6**

**Date Collected: 12/30/20 07:50**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	121229	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121682	01/11/21 20:23	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.51 g	100 mL	121989	01/13/21 13:20	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122365	01/14/21 17:16	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.04 g	20 mL	119523	12/30/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119626	12/30/20 20:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119674	12/31/20 07:50	ZHU8	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

**Client Sample ID: SWConf16-60.0**

**Lab Sample ID: 570-47443-7**

**Date Collected: 12/30/20 08:10**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.94 g	100 mL	121229	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121682	01/11/21 20:26	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.53 g	100 mL	121989	01/13/21 13:20	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122365	01/14/21 17:17	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.03 g	20 mL	119523	12/30/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119626	12/30/20 20:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119674	12/31/20 07:50	ZHU8	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWConf16-62.5**

**Lab Sample ID: 570-47443-8**

**Date Collected: 12/30/20 08:15**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	100 mL	121229	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121682	01/11/21 20:30	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.53 g	100 mL	121989	01/13/21 13:20	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122365	01/14/21 17:18	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	119523	12/30/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119626	12/30/20 20:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119674	12/31/20 07:50	ZHU8	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWConf16-63.0**

**Lab Sample ID: 570-47443-9**

**Date Collected: 12/30/20 08:16**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.95 g	100 mL	121229	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121682	01/11/21 20:33	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.51 g	100 mL	121989	01/13/21 13:20	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122365	01/14/21 17:19	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	119523	12/30/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119626	12/30/20 20:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119674	12/31/20 07:50	ZHU8	ECL 1
Instrument ID: BAL87										



# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

**Client Sample ID: SWConf16-65.0**

**Lab Sample ID: 570-47443-10**

**Date Collected: 12/30/20 08:20**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.95 g	100 mL	121229	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121682	01/11/21 20:36	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.49 g	100 mL	121989	01/13/21 13:20	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122365	01/14/21 17:20	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	119523	12/30/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119626	12/30/20 20:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119674	12/31/20 07:50	ZHU8	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWConf16-70.0**

**Lab Sample ID: 570-47443-11**

**Date Collected: 12/30/20 08:20**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.97 g	100 mL	121229	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121682	01/11/21 20:39	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.51 g	100 mL	121989	01/13/21 13:20	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122365	01/14/21 17:23	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	119523	12/30/20 18:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119626	12/30/20 20:00	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119674	12/31/20 07:50	ZHU8	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWConf19-25.0**

**Lab Sample ID: 570-47443-12**

**Date Collected: 12/30/20 10:40**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.96 g	100 mL	121229	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121682	01/11/21 20:42	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.55 g	100 mL	121989	01/13/21 13:20	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122365	01/14/21 17:24	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	119615	12/31/20 10:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119825	12/31/20 15:20	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119674	12/31/20 07:50	ZHU8	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

**Client Sample ID: SWConf19-30.0**

**Lab Sample ID: 570-47443-13**

**Date Collected: 12/30/20 10:50**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	121229	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121682	01/11/21 20:45	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.52 g	100 mL	121989	01/13/21 13:20	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122365	01/14/21 17:25	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	119615	12/31/20 10:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119825	12/31/20 15:20	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119674	12/31/20 07:50	ZHU8	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWConf19-30.5**

**Lab Sample ID: 570-47443-14**

**Date Collected: 12/30/20 10:55**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.09 g	100 mL	121229	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121682	01/11/21 20:48	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.52 g	100 mL	121989	01/13/21 13:20	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122365	01/14/21 17:26	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	119615	12/31/20 10:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119825	12/31/20 15:20	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119674	12/31/20 07:50	ZHU8	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWConf19-45.0**

**Lab Sample ID: 570-47443-15**

**Date Collected: 12/30/20 11:05**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	100 mL	121229	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121682	01/11/21 20:51	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.50 g	100 mL	121989	01/13/21 13:20	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122365	01/14/21 17:27	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	119615	12/31/20 10:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119825	12/31/20 15:20	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119674	12/31/20 07:50	ZHU8	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

**Client Sample ID: SWConf19-50.0**

**Lab Sample ID: 570-47443-16**

**Date Collected: 12/30/20 11:15**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.07 g	100 mL	121229	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121682	01/11/21 21:00	EMS	ECL 1
		Instrument ID: ICP9								
Total/NA	Prep	3060A			2.52 g	100 mL	121989	01/13/21 13:20	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122365	01/14/21 17:28	CO7S	ECL 1
		Instrument ID: UV9								
Total/NA	Leach	DI Leach			20.01 g	20 mL	119615	12/31/20 10:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119825	12/31/20 15:20	Y3IH	ECL 1
		Instrument ID: PH4								
Total/NA	Analysis	Moisture		1			119674	12/31/20 07:50	ZHU8	ECL 1
		Instrument ID: BAL87								

**Client Sample ID: SWConf19-55.0**

**Lab Sample ID: 570-47443-17**

**Date Collected: 12/30/20 11:26**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	100 mL	121229	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121682	01/11/21 21:03	EMS	ECL 1
		Instrument ID: ICP9								
Total/NA	Prep	3060A			2.49 g	100 mL	121989	01/13/21 13:20	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122365	01/14/21 17:29	CO7S	ECL 1
		Instrument ID: UV9								
Total/NA	Leach	DI Leach			20.02 g	20 mL	119615	12/31/20 10:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119825	12/31/20 15:20	Y3IH	ECL 1
		Instrument ID: PH4								
Total/NA	Analysis	Moisture		1			119674	12/31/20 07:50	ZHU8	ECL 1
		Instrument ID: BAL87								

**Client Sample ID: SWConf19-58.0**

**Lab Sample ID: 570-47443-18**

**Date Collected: 12/30/20 11:34**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	100 mL	121229	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121682	01/11/21 21:05	EMS	ECL 1
		Instrument ID: ICP9								
Total/NA	Prep	3060A			2.51 g	100 mL	121989	01/13/21 13:20	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122365	01/14/21 17:30	CO7S	ECL 1
		Instrument ID: UV9								
Total/NA	Leach	DI Leach			20.01 g	20 mL	119615	12/31/20 10:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119825	12/31/20 15:20	Y3IH	ECL 1
		Instrument ID: PH4								
Total/NA	Analysis	Moisture		1			119674	12/31/20 07:50	ZHU8	ECL 1
		Instrument ID: BAL87								

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

**Client Sample ID: SWConf19-58.5**

**Lab Sample ID: 570-47443-19**

**Date Collected: 12/30/20 11:35**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.97 g	100 mL	121229	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121682	01/11/21 21:08	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.52 g	100 mL	121989	01/13/21 13:20	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122365	01/14/21 17:31	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	119615	12/31/20 10:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119825	12/31/20 15:20	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119674	12/31/20 07:50	ZHU8	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWConf19-60.0**

**Lab Sample ID: 570-47443-20**

**Date Collected: 12/30/20 11:40**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.09 g	100 mL	121229	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121682	01/11/21 21:12	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.54 g	100 mL	121989	01/13/21 13:20	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122365	01/14/21 17:32	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.04 g	20 mL	119615	12/31/20 10:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119825	12/31/20 15:20	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119674	12/31/20 07:50	ZHU8	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWConf19-65.0**

**Lab Sample ID: 570-47443-21**

**Date Collected: 12/30/20 11:46**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	100 mL	121231	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121908	01/12/21 14:32	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	122383	01/14/21 20:11	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122785	01/16/21 15:42	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	119615	12/31/20 10:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119825	12/31/20 15:20	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119689	12/31/20 08:33	ZHU8	ECL 2
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

**Client Sample ID: SWConf19-70.0**

**Lab Sample ID: 570-47443-22**

**Date Collected: 12/30/20 11:54**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	121231	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121908	01/12/21 14:38	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.50 g	100 mL	122383	01/14/21 20:11	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122785	01/16/21 15:43	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.97 g	20 mL	119615	12/31/20 10:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119825	12/31/20 15:20	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119689	12/31/20 08:33	ZHU8	ECL 2
Instrument ID: BAL87										

**Client Sample ID: SWConf20-25.0**

**Lab Sample ID: 570-47443-23**

**Date Collected: 12/30/20 13:32**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	100 mL	121231	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121908	01/12/21 14:40	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	122383	01/14/21 20:11	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122785	01/16/21 15:41	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	119615	12/31/20 10:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119825	12/31/20 15:20	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119689	12/31/20 08:33	ZHU8	ECL 2
Instrument ID: BAL87										

**Client Sample ID: SWConf20-25.5**

**Lab Sample ID: 570-47443-24**

**Date Collected: 12/30/20 13:33**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.08 g	100 mL	121231	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121908	01/12/21 14:42	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.53 g	100 mL	122383	01/14/21 20:11	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122785	01/16/21 15:44	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.03 g	20 mL	119615	12/31/20 10:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119825	12/31/20 15:20	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119689	12/31/20 08:33	ZHU8	ECL 2
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

**Client Sample ID: SWConf20-30.0**

**Lab Sample ID: 570-47443-25**

**Date Collected: 12/30/20 13:42**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	121231	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121908	01/12/21 14:57	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	122383	01/14/21 20:11	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122785	01/16/21 15:45	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	119615	12/31/20 10:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119825	12/31/20 15:20	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119689	12/31/20 08:33	ZHU8	ECL 2
Instrument ID: BAL87										

**Client Sample ID: SWConf20-45.0**

**Lab Sample ID: 570-47443-26**

**Date Collected: 12/30/20 14:00**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	100 mL	121231	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121908	01/12/21 14:59	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.51 g	100 mL	122383	01/14/21 20:11	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122785	01/16/21 16:02	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	119615	12/31/20 10:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119825	12/31/20 15:20	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119689	12/31/20 08:33	ZHU8	ECL 2
Instrument ID: BAL87										

**Client Sample ID: SWConf20-48.0**

**Lab Sample ID: 570-47443-27**

**Date Collected: 12/30/20 14:10**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.08 g	100 mL	121231	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121908	01/12/21 15:01	EMS	ECL 1
Instrument ID: ICP8										
Total/NA	Prep	3060A			2.52 g	100 mL	122383	01/14/21 20:11	CO7S	ECL 1
Total/NA	Analysis	7196A		10	100 mL	100 mL	122785	01/16/21 15:46	CO7S	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	119615	12/31/20 10:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119825	12/31/20 15:20	Y3IH	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119689	12/31/20 08:33	ZHU8	ECL 2
Instrument ID: BAL87										



# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

**Client Sample ID: SWConf20-47.5**

**Lab Sample ID: 570-47443-28**

**Date Collected: 12/30/20 14:08**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	100 mL	121231	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121908	01/12/21 15:03	EMS	ECL 1
		Instrument ID: ICP8								
Total/NA	Prep	3060A			2.54 g	100 mL	122383	01/14/21 20:11	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122785	01/16/21 15:47	CO7S	ECL 1
		Instrument ID: UV9								
Total/NA	Leach	DI Leach			20.03 g	20 mL	119615	12/31/20 10:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119825	12/31/20 15:20	Y3IH	ECL 1
		Instrument ID: PH4								
Total/NA	Analysis	Moisture		1			119689	12/31/20 08:33	ZHU8	ECL 2
		Instrument ID: BAL87								

**Client Sample ID: SWConf20-50.0**

**Lab Sample ID: 570-47443-29**

**Date Collected: 12/30/20 14:20**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	121231	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121908	01/12/21 15:05	EMS	ECL 1
		Instrument ID: ICP8								
Total/NA	Prep	3060A			2.52 g	100 mL	122383	01/14/21 20:11	CO7S	ECL 1
Total/NA	Analysis	7196A		10	100 mL	100 mL	122785	01/16/21 15:48	CO7S	ECL 1
		Instrument ID: UV9								
Total/NA	Leach	DI Leach			20.02 g	20 mL	119615	12/31/20 10:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119825	12/31/20 15:20	Y3IH	ECL 1
		Instrument ID: PH4								
Total/NA	Analysis	Moisture		1			119689	12/31/20 08:33	ZHU8	ECL 2
		Instrument ID: BAL87								

**Client Sample ID: SWConf20-55.0**

**Lab Sample ID: 570-47443-30**

**Date Collected: 12/30/20 14:27**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	100 mL	121231	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121908	01/12/21 15:07	EMS	ECL 1
		Instrument ID: ICP8								
Total/NA	Prep	3060A			2.54 g	100 mL	122383	01/14/21 20:11	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122785	01/16/21 15:49	CO7S	ECL 1
		Instrument ID: UV9								
Total/NA	Leach	DI Leach			20.05 g	20 mL	119615	12/31/20 10:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119825	12/31/20 15:20	Y3IH	ECL 1
		Instrument ID: PH4								
Total/NA	Analysis	Moisture		1			119689	12/31/20 08:33	ZHU8	ECL 2
		Instrument ID: BAL87								

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

**Client Sample ID: SWConf20-56.0**

**Lab Sample ID: 570-47443-31**

**Date Collected: 12/30/20 14:34**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.96 g	100 mL	121231	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121908	01/12/21 15:09	EMS	ECL 1
		Instrument ID: ICP8								
Total/NA	Prep	3060A			2.53 g	100 mL	122383	01/14/21 20:11	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122785	01/16/21 15:50	CO7S	ECL 1
		Instrument ID: UV9								
Total/NA	Leach	DI Leach			20.05 g	20 mL	119615	12/31/20 10:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119825	12/31/20 15:20	Y3IH	ECL 1
		Instrument ID: PH4								
Total/NA	Analysis	Moisture		1			119689	12/31/20 08:33	ZHU8	ECL 2
		Instrument ID: BAL87								

**Client Sample ID: SWConf20-56.5**

**Lab Sample ID: 570-47443-32**

**Date Collected: 12/30/20 14:36**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	100 mL	121231	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121908	01/12/21 15:11	EMS	ECL 1
		Instrument ID: ICP8								
Total/NA	Prep	3060A			2.51 g	100 mL	122383	01/14/21 20:11	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122785	01/16/21 15:53	CO7S	ECL 1
		Instrument ID: UV9								
Total/NA	Leach	DI Leach			19.97 g	20 mL	119715	12/31/20 16:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	120136	01/02/21 12:00	UAPD	ECL 1
		Instrument ID: PH4								
Total/NA	Analysis	Moisture		1			119689	12/31/20 08:33	ZHU8	ECL 2
		Instrument ID: BAL87								

**Client Sample ID: SWConf20-60.0**

**Lab Sample ID: 570-47443-33**

**Date Collected: 12/30/20 14:39**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.09 g	100 mL	121231	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121908	01/12/21 15:13	EMS	ECL 1
		Instrument ID: ICP8								
Total/NA	Prep	3060A			2.53 g	100 mL	122383	01/14/21 20:11	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122785	01/16/21 15:54	CO7S	ECL 1
		Instrument ID: UV9								
Total/NA	Leach	DI Leach			19.99 g	20 mL	119715	12/31/20 16:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	120136	01/02/21 12:00	UAPD	ECL 1
		Instrument ID: PH4								
Total/NA	Analysis	Moisture		1			119689	12/31/20 08:33	ZHU8	ECL 2
		Instrument ID: BAL87								

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

**Client Sample ID: SWConf20-65.0**

**Lab Sample ID: 570-47443-34**

**Date Collected: 12/30/20 14:52**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.96 g	100 mL	121231	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121908	01/12/21 15:29	EMS	ECL 1
		Instrument ID: ICP8								
Total/NA	Prep	3060A			2.54 g	100 mL	122383	01/14/21 20:11	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122785	01/16/21 15:55	CO7S	ECL 1
		Instrument ID: UV9								
Total/NA	Leach	DI Leach			20.00 g	20 mL	119715	12/31/20 16:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	120136	01/02/21 12:00	UAPD	ECL 1
		Instrument ID: PH4								
Total/NA	Analysis	Moisture		1			119689	12/31/20 08:33	ZHU8	ECL 2
		Instrument ID: BAL87								

**Client Sample ID: SWConf20-70.0**

**Lab Sample ID: 570-47443-35**

**Date Collected: 12/30/20 15:00**

**Matrix: Solid**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	100 mL	121231	01/09/21 09:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			121908	01/12/21 15:31	EMS	ECL 1
		Instrument ID: ICP8								
Total/NA	Prep	3060A			2.52 g	100 mL	122383	01/14/21 20:11	CO7S	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	122785	01/16/21 15:56	CO7S	ECL 1
		Instrument ID: UV9								
Total/NA	Leach	DI Leach			19.98 g	20 mL	119715	12/31/20 16:00	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	120136	01/02/21 12:00	UAPD	ECL 1
		Instrument ID: PH4								
Total/NA	Analysis	Moisture		1			119689	12/31/20 08:33	ZHU8	ECL 2
		Instrument ID: BAL87								

**Client Sample ID: EB06**

**Lab Sample ID: 570-47443-36**

**Date Collected: 12/30/20 16:00**

**Matrix: Water**

**Date Received: 12/30/20 17:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7199		1			119642	12/31/20 09:16	URMH	ECL 1
		Instrument ID: IC16								
Total/NA	Prep	3010A			50 mL	50 mL	121659	01/12/21 09:45	WL8G	ECL 1
Total/NA	Analysis	6010B		1			121957	01/13/21 11:11	ULPF	ECL 1
		Instrument ID: ICP8								

## Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

## Accreditation/Certification Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

### Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-21
California	SCAQMD LAP	17LA0919	11-30-21
California	State	2944	09-30-21
Guam	State	20-003R	10-31-20 *
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-29-21
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-21

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Calscience LLC

## Method Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

Method	Method Description	Protocol	Laboratory
7199	Chromium, Hexavalent (IC)	SW846	ECL 1
6010B	Metals (ICP)	SW846	ECL 1
7196A	Chromium, Hexavalent	SW846	ECL 1
9045C	pH	SW846	ECL 1
Moisture	Percent Moisture	EPA	ECL 1
3010A	Preparation, Total Metals	SW846	ECL 1
3050B	Preparation, Metals	SW846	ECL 1
3060A	Alkaline Digestion (Chromium, Hexavalent)	SW846	ECL 1
DI Leach	Deionized Water Leaching Procedure	ASTM	ECL 1

### Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

# Sample Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47443-1  
SDG: 0197.010.006

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-47443-1	SWConf16-55.0	Solid	12/30/20 07:58	12/30/20 17:45	
570-47443-2	SWConf16-50.0	Solid	12/30/20 07:55	12/30/20 17:45	
570-47443-3	SWConf16-53.0	Solid	12/30/20 07:57	12/30/20 17:45	
570-47443-4	SWConf16-45.0	Solid	12/30/20 07:52	12/30/20 17:45	
570-47443-5	SWConf16-52.5	Solid	12/30/20 07:56	12/30/20 17:45	
570-47443-6	SWConf16-40.0	Solid	12/30/20 07:50	12/30/20 17:45	
570-47443-7	SWConf16-60.0	Solid	12/30/20 08:10	12/30/20 17:45	
570-47443-8	SWConf16-62.5	Solid	12/30/20 08:15	12/30/20 17:45	
570-47443-9	SWConf16-63.0	Solid	12/30/20 08:16	12/30/20 17:45	
570-47443-10	SWConf16-65.0	Solid	12/30/20 08:20	12/30/20 17:45	
570-47443-11	SWConf16-70.0	Solid	12/30/20 08:20	12/30/20 17:45	
570-47443-12	SWConf19-25.0	Solid	12/30/20 10:40	12/30/20 17:45	
570-47443-13	SWConf19-30.0	Solid	12/30/20 10:50	12/30/20 17:45	
570-47443-14	SWConf19-30.5	Solid	12/30/20 10:55	12/30/20 17:45	
570-47443-15	SWConf19-45.0	Solid	12/30/20 11:05	12/30/20 17:45	
570-47443-16	SWConf19-50.0	Solid	12/30/20 11:15	12/30/20 17:45	
570-47443-17	SWConf19-55.0	Solid	12/30/20 11:26	12/30/20 17:45	
570-47443-18	SWConf19-58.0	Solid	12/30/20 11:34	12/30/20 17:45	
570-47443-19	SWConf19-58.5	Solid	12/30/20 11:35	12/30/20 17:45	
570-47443-20	SWConf19-60.0	Solid	12/30/20 11:40	12/30/20 17:45	
570-47443-21	SWConf19-65.0	Solid	12/30/20 11:46	12/30/20 17:45	
570-47443-22	SWConf19-70.0	Solid	12/30/20 11:54	12/30/20 17:45	
570-47443-23	SWConf20-25.0	Solid	12/30/20 13:32	12/30/20 17:45	
570-47443-24	SWConf20-25.5	Solid	12/30/20 13:33	12/30/20 17:45	
570-47443-25	SWConf20-30.0	Solid	12/30/20 13:42	12/30/20 17:45	
570-47443-26	SWConf20-45.0	Solid	12/30/20 14:00	12/30/20 17:45	
570-47443-27	SWConf20-48.0	Solid	12/30/20 14:10	12/30/20 17:45	
570-47443-28	SWConf20-47.5	Solid	12/30/20 14:08	12/30/20 17:45	
570-47443-29	SWConf20-50.0	Solid	12/30/20 14:20	12/30/20 17:45	
570-47443-30	SWConf20-55.0	Solid	12/30/20 14:27	12/30/20 17:45	
570-47443-31	SWConf20-56.0	Solid	12/30/20 14:34	12/30/20 17:45	
570-47443-32	SWConf20-56.5	Solid	12/30/20 14:36	12/30/20 17:45	
570-47443-33	SWConf20-60.0	Solid	12/30/20 14:39	12/30/20 17:45	
570-47443-34	SWConf20-65.0	Solid	12/30/20 14:52	12/30/20 17:45	
570-47443-35	SWConf20-70.0	Solid	12/30/20 15:00	12/30/20 17:45	
570-47443-36	EB06	Water	12/30/20 16:00	12/30/20 17:45	





Calscience

7440 Lincoln Way, Garden Grove, CA 92841-1427 • (714) 895-5494

For courier service / sample drop off information, contact us26\_sales@eurofinsus.com or call us



570-47443 Chain of Custody

# CHAIN OF CUSTODY RECORD

TE: 12/30/20

GE: 1 OF 4

LABORATORY CLIENT: Terraphase Engineering, Inc						PTI Southwest Soil Injection Confirmation / 0197 010.006						P.O. NO.																	
ADDRESS: 1404 Franklin Street Suite 600						PROJECT CONTACT: Chris Alger (Terraphase), Virendra Patel (ECI)						SAMPLER(S) (PRINT) West Skellins																	
CITY: Oakland			STATE: CA			ZIP: 94612			REQUESTED ANALYSES																				
TEL: 510-645-1850 x58			E-MAIL: Chris.Alger@terraphase.com																										
TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):												Soil Analyses						Water Analyses											
<input type="checkbox"/> SAME DAY <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input type="checkbox"/> 5 DAYS <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> COELT EDF GLOBAL ID. LOG CODE: TEIO												EPA 6010B Cd, Cr, Cu, Pb, As Cr(VI) 7196 7199 218 6 pH 9045C Moisture Content PCBs (8082)						EPA 6010B Cd, Cr, Cu, Pb, As Cr(VI) 7196 7199 218 6 PCBs (8082)											
SPECIAL INSTRUCTIONS:												Unpreserved						Preserved						Field Filtered					
• Please provide results in generic EDD and ESDat formats • Please email results to Chris Alger, Clare Steedman, EDD@terraphase.com • Results in dry weight																													
CAB USE ONLY	SAMPLE ID	SAMPLING		MATRIX	NO. OF CONT.																								
		DATE	TIME																										
1	SWCONF10-SS.D	12/30/20	0758	S	1	X			X	X	X	X																	
2	SWCONF10-SD.D	12/30/20	0755	S	1	X			X	X	X	X																	
3	SWCONF10-SB.D	12/30/20	0757	S	1	X			X	X	X	X																	
4	SWCONF10-4S.D	12/30/20	0752	S	1	X			X	X	X	X																	
5	SWCONF10-S2.5	12/30/20	0756	S	1	X			X	X	X	X																	
6	SWCONF10-40.D	12/30/20	0750	S	1	X			X	X	X	X																	
7	SWCONF10-60.D	12/30/20	0810	S	1	X			X	X	X	X																	
8	SWCONF10-62.5	12/30/20	0815	S	1	X			X	X	X	X																	
9	SWCONF10-63.0	12/30/20	0810	S	1	X			X	X	X	X																	
10	SWCONF10-65.0	12/30/20	0820	S	1	X			X	X	X	X																	
Relinquished by (Signature) <i>[Signature]</i>						Received by (Signature/Affiliation) <i>Danmyla G</i>						Date 12/30/20			Time 1745														
Relinquished by (Signature)						Received by (Signature/Affiliation)						Date			Time														
Relinquished by (Signature)						Received by (Signature/Affiliation)						Date			Time														







## Login Sample Receipt Checklist

Client: Terraphase Engineering Inc

Job Number: 570-47443-1

SDG Number: 0197.010.006

**Login Number: 47443**

**List Number: 1**

**Creator: Ramos, Maribel**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

Eurofins Calscience LLC  
7440 Lincoln Way  
Garden Grove, CA 92841  
Tel: (714)895-5494

Laboratory Job ID: 570-47505-1

Laboratory Sample Delivery Group: 0197.010.006

Client Project/Site: PTI Southwest Soil Injection Confirmation

**For:**

Terraphase Engineering Inc  
18401 Von Karman Ave  
Suite 410  
Irvine, California 92612

Attn: Clare Steedman

*Virendra R Patel*

---

Authorized for release by:  
1/21/2021 10:45:21 AM

Virendra Patel, Project Manager I  
(714)895-5494

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### LINKS

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*The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



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## Definitions/Glossary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

### Qualifiers

#### Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.
L	A negative instrument reading had an absolute value greater than the reporting limit

#### General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
H	Sample was prepped or analyzed beyond the specified holding time

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

**Job ID: 570-47505-1**

**Laboratory: Eurofins Calscience LLC**

## Narrative

### Job Narrative 570-47505-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 12/31/2020 2:20 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.8° C.

#### HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Metals

Method 6010B: Due to the high concentration of Chromium, Copper the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 570-121763 and analytical batch 570-122023 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

Method 6010B: Due to the high concentration of Copper, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 570-121766 and analytical batch 570-122023 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

Method 6010B: The absolute response for Cadmium was greater than the method reporting limit (RL) in the following sample: SWCONF17-26.5 (570-47505-6).

The instrument raw data has been manually reviewed and the result can be reported as ND.

Method 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-121766 and analytical batch 570-122023 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 6010B: Due to the high concentration of Copper, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 570-121766 and analytical batch 570-122023 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

Method 7196A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with preparation batch 570-122974 and analytical batch 570-123432 were outside control limits: SWCONF17-10.0 (570-47505-1), SWCONF17-35.0 (570-47505-10), (570-47505-A-1-H MS), (570-47505-A-1-I MSD), (570-47505-A-1-F MSI ^25), (570-47505-A-1-G MSID ^25), (570-47505-A-10-F MS), (570-47505-A-10-G MSD), (570-47505-A-10-D MSI ^25) and (570-47505-A-10-E MSID ^25). The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method 7196A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with preparation batch 570-122933 and analytical batch 570-123576 were outside control limits: SWCONF14-25.0 (570-47505-21), (570-47505-A-21-H MS), (570-47505-A-21-I MSD), (570-47505-A-21-F MSI ^25) and (570-47505-A-21-G MSID ^25). The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method 9045C: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: SWCONF17-10.0 (570-47505-1), SWCONF17-15.0 (570-47505-2), SWCONF17-20.0 (570-47505-3), SWCONF17-25.0 (570-47505-4), SWCONF17-26.0 (570-47505-5), SWCONF17-26.5 (570-47505-6), SWCONF17-30.0 (570-47505-7), SWCONF17-32.5 (570-47505-8), SWCONF17-33.0 (570-47505-9), SWCONF17-35.0 (570-47505-10), SWCONF17-40.0 (570-47505-11), SWCONF17-45.0 (570-47505-12), SWCONF17-50.0 (570-47505-13), SWCONF17-55.0 (570-47505-14), SWCONF17-56.0 (570-47505-15), SWCONF17-60.0 (570-47505-16), SWCONF17-61.0 (570-47505-17), SWCONF17-61.5 (570-47505-18),

## Case Narrative

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

### Job ID: 570-47505-1 (Continued)

#### Laboratory: Eurofins Calscience LLC (Continued)

SWCONF17-65.0 (570-47505-19) and SWCONF17-70.0 (570-47505-20).

Method 9045C: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: SWCONF14-25.0 (570-47505-21), SWCONF14-25.5 (570-47505-22), SWCONF14-30.0 (570-47505-23), SWCONF14-32.0 (570-47505-24), SWCONF14-32.5 (570-47505-25), SWCONF14-35.0 (570-47505-26), SWCONF14-40.0 (570-47505-27), SWCONF14-45.0 (570-47505-28), SWCONF14-50.0 (570-47505-29), SWCONF14-55.0 (570-47505-30), SWCONF14-59.0 (570-47505-31), SWCONF14-59.5 (570-47505-32), SWCONF14-60.0 (570-47505-33), SWCONF14-65.0 (570-47505-34) and SWCONF14-70.0 (570-47505-35).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## Client Sample ID: SWCONF17-10.0

## Lab Sample ID: 570-47505-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.20		2.82	mg/Kg	1	✖	6010B	Total/NA
Cadmium	1.84		0.564	mg/Kg	1	✖	6010B	Total/NA
Chromium	769		1.13	mg/Kg	1	✖	6010B	Total/NA
Copper	330		1.13	mg/Kg	1	✖	6010B	Total/NA
Lead	8.26		5.64	mg/Kg	1	✖	6010B	Total/NA
pH	9.6	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF17-15.0

## Lab Sample ID: 570-47505-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.01		2.60	mg/Kg	1	✖	6010B	Total/NA
Chromium	833		1.04	mg/Kg	1	✖	6010B	Total/NA
Copper	124		1.04	mg/Kg	1	✖	6010B	Total/NA
pH	9.9	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF17-20.0

## Lab Sample ID: 570-47505-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	462		1.03	mg/Kg	1	✖	6010B	Total/NA
Copper	110		1.03	mg/Kg	1	✖	6010B	Total/NA
Cr (VI)	3.96		0.815	mg/Kg	1	✖	7196A	Total/NA
pH	5.7	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF17-25.0

## Lab Sample ID: 570-47505-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.47		2.61	mg/Kg	1	✖	6010B	Total/NA
Chromium	457		1.04	mg/Kg	1	✖	6010B	Total/NA
Copper	42.7		1.04	mg/Kg	1	✖	6010B	Total/NA
pH	9.7	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF17-26.0

## Lab Sample ID: 570-47505-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.8		3.29	mg/Kg	1	✖	6010B	Total/NA
Chromium	3340		1.31	mg/Kg	1	✖	6010B	Total/NA
Copper	311		1.31	mg/Kg	1	✖	6010B	Total/NA
Lead	10.7		6.57	mg/Kg	1	✖	6010B	Total/NA
pH	5.0	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF17-26.5

## Lab Sample ID: 570-47505-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	2640		1.10	mg/Kg	1	✖	6010B	Total/NA
Copper	60.0		1.10	mg/Kg	1	✖	6010B	Total/NA
pH	9.9	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF17-30.0

## Lab Sample ID: 570-47505-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.20		3.26	mg/Kg	1	✖	6010B	Total/NA
Chromium	2240		1.30	mg/Kg	1	✖	6010B	Total/NA
Copper	224		1.30	mg/Kg	1	✖	6010B	Total/NA
Lead	6.82		6.51	mg/Kg	1	✖	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## Client Sample ID: SWCONF17-30.0 (Continued)

## Lab Sample ID: 570-47505-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
pH	9.6	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF17-32.5

## Lab Sample ID: 570-47505-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.836		0.585	mg/Kg	1	✖	6010B	Total/NA
Chromium	1050		1.17	mg/Kg	1	✖	6010B	Total/NA
Copper	298		1.17	mg/Kg	1	✖	6010B	Total/NA
Lead	6.68		5.85	mg/Kg	1	✖	6010B	Total/NA
pH	9.8	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF17-33.0

## Lab Sample ID: 570-47505-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	336		1.02	mg/Kg	1	✖	6010B	Total/NA
Copper	94.8		1.02	mg/Kg	1	✖	6010B	Total/NA
pH	9.4	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF17-35.0

## Lab Sample ID: 570-47505-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	129		1.04	mg/Kg	1	✖	6010B	Total/NA
Copper	71.0		1.04	mg/Kg	1	✖	6010B	Total/NA
pH	9.2	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF17-40.0

## Lab Sample ID: 570-47505-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	121		1.02	mg/Kg	1	✖	6010B	Total/NA
Copper	58.4		1.02	mg/Kg	1	✖	6010B	Total/NA
pH	9.5	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF17-45.0

## Lab Sample ID: 570-47505-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	603		1.09	mg/Kg	1	✖	6010B	Total/NA
Copper	130		1.09	mg/Kg	1	✖	6010B	Total/NA
pH	9.4	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF17-50.0

## Lab Sample ID: 570-47505-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	553		1.00	mg/Kg	1	✖	6010B	Total/NA
Copper	735		1.00	mg/Kg	1	✖	6010B	Total/NA
pH	9.3	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF17-55.0

## Lab Sample ID: 570-47505-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	354		1.07	mg/Kg	1	✖	6010B	Total/NA
Copper	114		1.07	mg/Kg	1	✖	6010B	Total/NA
Lead	7.11		5.34	mg/Kg	1	✖	6010B	Total/NA
pH	10.7	H	0.01	S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC



# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## Client Sample ID: SWCONF17-56.0

## Lab Sample ID: 570-47505-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.2		2.83	mg/Kg	1	✖	6010B	Total/NA
Cadmium	1.00		0.567	mg/Kg	1	✖	6010B	Total/NA
Chromium	47.9		1.13	mg/Kg	1	✖	6010B	Total/NA
Copper	142		1.13	mg/Kg	1	✖	6010B	Total/NA
Lead	12.9		5.67	mg/Kg	1	✖	6010B	Total/NA
pH	5.0	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF17-60.0

## Lab Sample ID: 570-47505-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.6		3.11	mg/Kg	1	✖	6010B	Total/NA
Cadmium	1.40		0.623	mg/Kg	1	✖	6010B	Total/NA
Chromium	43.2		1.25	mg/Kg	1	✖	6010B	Total/NA
Copper	122		1.25	mg/Kg	1	✖	6010B	Total/NA
Lead	14.9		6.23	mg/Kg	1	✖	6010B	Total/NA
pH	10.1	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF17-61.0

## Lab Sample ID: 570-47505-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.68		3.14	mg/Kg	1	✖	6010B	Total/NA
Cadmium	1.16		0.628	mg/Kg	1	✖	6010B	Total/NA
Chromium	115		1.26	mg/Kg	1	✖	6010B	Total/NA
Copper	95.4		1.26	mg/Kg	1	✖	6010B	Total/NA
Lead	17.7		6.28	mg/Kg	1	✖	6010B	Total/NA
pH	9.8	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF17-61.5

## Lab Sample ID: 570-47505-18

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.11		2.61	mg/Kg	1	✖	6010B	Total/NA
Chromium	81.8		1.05	mg/Kg	1	✖	6010B	Total/NA
Copper	217		1.05	mg/Kg	1	✖	6010B	Total/NA
Lead	7.76		5.23	mg/Kg	1	✖	6010B	Total/NA
pH	9.9	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF17-65.0

## Lab Sample ID: 570-47505-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.73		2.64	mg/Kg	1	✖	6010B	Total/NA
Cadmium	0.579		0.528	mg/Kg	1	✖	6010B	Total/NA
Chromium	180		1.06	mg/Kg	1	✖	6010B	Total/NA
Copper	127		1.06	mg/Kg	1	✖	6010B	Total/NA
Lead	9.53		5.28	mg/Kg	1	✖	6010B	Total/NA
pH	8.8	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF17-70.0

## Lab Sample ID: 570-47505-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	344		1.07	mg/Kg	1	✖	6010B	Total/NA
Copper	116		1.07	mg/Kg	1	✖	6010B	Total/NA
Lead	6.56		5.37	mg/Kg	1	✖	6010B	Total/NA
pH	9.4	H	0.01	S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## Client Sample ID: SWCONF14-25.0

## Lab Sample ID: 570-47505-21

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.72		2.80	mg/Kg	1	✱	6010B	Total/NA
Chromium	38.0	F1	1.12	mg/Kg	1	✱	6010B	Total/NA
Copper	135		1.12	mg/Kg	1	✱	6010B	Total/NA
pH	8.6	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF14-25.5

## Lab Sample ID: 570-47505-22

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.28		2.97	mg/Kg	1	✱	6010B	Total/NA
Cadmium	1.12		0.594	mg/Kg	1	✱	6010B	Total/NA
Chromium	847		1.19	mg/Kg	1	✱	6010B	Total/NA
Copper	306		1.19	mg/Kg	1	✱	6010B	Total/NA
Lead	23.8		5.94	mg/Kg	1	✱	6010B	Total/NA
pH	9.9	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF14-30.0

## Lab Sample ID: 570-47505-23

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13.1		2.95	mg/Kg	1	✱	6010B	Total/NA
Cadmium	1.04		0.589	mg/Kg	1	✱	6010B	Total/NA
Chromium	374		1.18	mg/Kg	1	✱	6010B	Total/NA
Copper	215		1.18	mg/Kg	1	✱	6010B	Total/NA
Lead	13.3		5.89	mg/Kg	1	✱	6010B	Total/NA
pH	9.5	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF14-32.0

## Lab Sample ID: 570-47505-24

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.84		2.98	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.787		0.595	mg/Kg	1	✱	6010B	Total/NA
Chromium	21.4		1.19	mg/Kg	1	✱	6010B	Total/NA
Copper	169		1.19	mg/Kg	1	✱	6010B	Total/NA
Lead	10.7		5.95	mg/Kg	1	✱	6010B	Total/NA
pH	4.2	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF14-32.5

## Lab Sample ID: 570-47505-25

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.27		2.65	mg/Kg	1	✱	6010B	Total/NA
Chromium	10.2		1.06	mg/Kg	1	✱	6010B	Total/NA
Copper	79.0		1.06	mg/Kg	1	✱	6010B	Total/NA
Lead	5.53		5.30	mg/Kg	1	✱	6010B	Total/NA
pH	4.6	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF14-35.0

## Lab Sample ID: 570-47505-26

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.94		2.67	mg/Kg	1	✱	6010B	Total/NA
Chromium	12.1		1.07	mg/Kg	1	✱	6010B	Total/NA
Copper	138		1.07	mg/Kg	1	✱	6010B	Total/NA
pH	4.7	H	0.01	S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

# Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## Client Sample ID: SWCONF14-40.0

## Lab Sample ID: 570-47505-27

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	12.3		1.02	mg/Kg	1	✱	6010B	Total/NA
Copper	128		1.02	mg/Kg	1	✱	6010B	Total/NA
pH	6.8	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF14-45.0

## Lab Sample ID: 570-47505-28

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	50.4		1.09	mg/Kg	1	✱	6010B	Total/NA
Copper	360		1.09	mg/Kg	1	✱	6010B	Total/NA
Lead	7.44		5.43	mg/Kg	1	✱	6010B	Total/NA
pH	5.2	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF14-50.0

## Lab Sample ID: 570-47505-29

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.665		0.523	mg/Kg	1	✱	6010B	Total/NA
Chromium	38.5		1.05	mg/Kg	1	✱	6010B	Total/NA
Copper	335		1.05	mg/Kg	1	✱	6010B	Total/NA
Lead	16.8		5.23	mg/Kg	1	✱	6010B	Total/NA
pH	6.5	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF14-55.0

## Lab Sample ID: 570-47505-30

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.20		2.73	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.781		0.545	mg/Kg	1	✱	6010B	Total/NA
Chromium	29.4		1.09	mg/Kg	1	✱	6010B	Total/NA
Copper	165		1.09	mg/Kg	1	✱	6010B	Total/NA
Lead	14.4		5.45	mg/Kg	1	✱	6010B	Total/NA
pH	7.8	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF14-59.0

## Lab Sample ID: 570-47505-31

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.57		2.96	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.877		0.592	mg/Kg	1	✱	6010B	Total/NA
Chromium	75.8		1.18	mg/Kg	1	✱	6010B	Total/NA
Copper	212		1.18	mg/Kg	1	✱	6010B	Total/NA
Lead	16.9		5.92	mg/Kg	1	✱	6010B	Total/NA
pH	9.1	H	0.01	S.U.	1		9045C	Total/NA

## Client Sample ID: SWCONF14-59.5

## Lab Sample ID: 570-47505-32

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.57		3.25	mg/Kg	1	✱	6010B	Total/NA
Cadmium	1.37		0.651	mg/Kg	1	✱	6010B	Total/NA
Chromium	164		1.30	mg/Kg	1	✱	6010B	Total/NA
Copper	327		1.30	mg/Kg	1	✱	6010B	Total/NA
Lead	24.9		6.51	mg/Kg	1	✱	6010B	Total/NA
pH	9.5	H	0.01	S.U.	1		9045C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience LLC

## Detection Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

### Client Sample ID: SWCONF14-60.0

### Lab Sample ID: 570-47505-33

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.999		0.577	mg/Kg	1	✱	6010B	Total/NA
Chromium	54.2		1.15	mg/Kg	1	✱	6010B	Total/NA
Copper	81.1		1.15	mg/Kg	1	✱	6010B	Total/NA
Lead	14.7		5.77	mg/Kg	1	✱	6010B	Total/NA
pH	9.2	H	0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCONF14-65.0

### Lab Sample ID: 570-47505-34

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.99		2.65	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.794		0.530	mg/Kg	1	✱	6010B	Total/NA
Chromium	42.5		1.06	mg/Kg	1	✱	6010B	Total/NA
Copper	237		1.06	mg/Kg	1	✱	6010B	Total/NA
Lead	53.5		5.30	mg/Kg	1	✱	6010B	Total/NA
pH	8.9	H	0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: SWCONF14-70.0

### Lab Sample ID: 570-47505-35

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.35		2.52	mg/Kg	1	✱	6010B	Total/NA
Cadmium	0.621		0.504	mg/Kg	1	✱	6010B	Total/NA
Chromium	81.1		1.01	mg/Kg	1	✱	6010B	Total/NA
Copper	141		1.01	mg/Kg	1	✱	6010B	Total/NA
Lead	40.7		5.04	mg/Kg	1	✱	6010B	Total/NA
pH	9.7	H	0.01	S.U.	1		9045C	Total/NA

### Client Sample ID: EB07

### Lab Sample ID: 570-47505-36

No Detections.

## Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

### Method: 7199 - Chromium, Hexavalent (IC)

Client Sample ID: EB07  
Date Collected: 12/31/20 11:15  
Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-36  
Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			12/31/20 17:09	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCONF17-10.0

Date Collected: 12/31/20 08:30

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.20		2.82	mg/Kg	☆	01/12/21 16:00	01/13/21 13:10	1
Cadmium	1.84		0.564	mg/Kg	☆	01/12/21 16:00	01/13/21 13:10	1
Chromium	769		1.13	mg/Kg	☆	01/12/21 16:00	01/13/21 13:10	1
Copper	330		1.13	mg/Kg	☆	01/12/21 16:00	01/13/21 13:10	1
Lead	8.26		5.64	mg/Kg	☆	01/12/21 16:00	01/13/21 13:10	1

Client Sample ID: SWCONF17-15.0

Date Collected: 12/31/20 08:45

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.01		2.60	mg/Kg	☆	01/12/21 16:00	01/13/21 13:18	1
Cadmium	ND		0.520	mg/Kg	☆	01/12/21 16:00	01/13/21 13:18	1
Chromium	833		1.04	mg/Kg	☆	01/12/21 16:00	01/13/21 13:18	1
Copper	124		1.04	mg/Kg	☆	01/12/21 16:00	01/13/21 13:18	1
Lead	ND		5.20	mg/Kg	☆	01/12/21 16:00	01/13/21 13:18	1

Client Sample ID: SWCONF17-20.0

Date Collected: 12/31/20 08:53

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.59	mg/Kg	☆	01/12/21 16:00	01/13/21 13:22	1
Cadmium	ND		0.517	mg/Kg	☆	01/12/21 16:00	01/13/21 13:22	1
Chromium	462		1.03	mg/Kg	☆	01/12/21 16:00	01/13/21 13:22	1
Copper	110		1.03	mg/Kg	☆	01/12/21 16:00	01/13/21 13:22	1
Lead	ND		5.17	mg/Kg	☆	01/12/21 16:00	01/13/21 13:22	1

Client Sample ID: SWCONF17-25.0

Date Collected: 12/31/20 09:04

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.47		2.61	mg/Kg	☆	01/12/21 16:00	01/13/21 13:25	1
Cadmium	ND		0.522	mg/Kg	☆	01/12/21 16:00	01/13/21 13:25	1
Chromium	457		1.04	mg/Kg	☆	01/12/21 16:00	01/13/21 13:25	1
Copper	42.7		1.04	mg/Kg	☆	01/12/21 16:00	01/13/21 13:25	1
Lead	ND		5.22	mg/Kg	☆	01/12/21 16:00	01/13/21 13:25	1

Client Sample ID: SWCONF17-26.0

Date Collected: 12/31/20 09:05

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.8		3.29	mg/Kg	☆	01/12/21 16:00	01/13/21 13:28	1
Cadmium	ND		0.657	mg/Kg	☆	01/12/21 16:00	01/13/21 13:28	1
Chromium	3340		1.31	mg/Kg	☆	01/12/21 16:00	01/13/21 13:28	1
Copper	311		1.31	mg/Kg	☆	01/12/21 16:00	01/13/21 13:28	1
Lead	10.7		6.57	mg/Kg	☆	01/12/21 16:00	01/13/21 13:28	1

Client Sample ID: SWCONF17-26.5

Date Collected: 12/31/20 09:06

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.75	mg/Kg	☆	01/12/21 16:00	01/13/21 13:37	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF17-26.5

Date Collected: 12/31/20 09:06

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	L	0.551	mg/Kg	✱	01/12/21 16:00	01/13/21 13:37	1
Chromium	2640		1.10	mg/Kg	✱	01/12/21 16:00	01/13/21 13:37	1
Copper	60.0		1.10	mg/Kg	✱	01/12/21 16:00	01/13/21 13:37	1
Lead	ND		5.51	mg/Kg	✱	01/12/21 16:00	01/13/21 13:37	1

Client Sample ID: SWCONF17-30.0

Date Collected: 12/31/20 09:15

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-7

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.20		3.26	mg/Kg	✱	01/12/21 16:00	01/13/21 13:40	1
Cadmium	ND		0.651	mg/Kg	✱	01/12/21 16:00	01/13/21 13:40	1
Chromium	2240		1.30	mg/Kg	✱	01/12/21 16:00	01/13/21 13:40	1
Copper	224		1.30	mg/Kg	✱	01/12/21 16:00	01/13/21 13:40	1
Lead	6.82		6.51	mg/Kg	✱	01/12/21 16:00	01/13/21 13:40	1

Client Sample ID: SWCONF17-32.5

Date Collected: 12/31/20 09:20

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-8

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.93	mg/Kg	✱	01/12/21 16:00	01/13/21 13:43	1
Cadmium	0.836		0.585	mg/Kg	✱	01/12/21 16:00	01/13/21 13:43	1
Chromium	1050		1.17	mg/Kg	✱	01/12/21 16:00	01/13/21 13:43	1
Copper	298		1.17	mg/Kg	✱	01/12/21 16:00	01/13/21 13:43	1
Lead	6.68		5.85	mg/Kg	✱	01/12/21 16:00	01/13/21 13:43	1

Client Sample ID: SWCONF17-33.0

Date Collected: 12/31/20 09:21

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-9

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.54	mg/Kg	✱	01/12/21 16:00	01/13/21 13:46	1
Cadmium	ND		0.508	mg/Kg	✱	01/12/21 16:00	01/13/21 13:46	1
Chromium	336		1.02	mg/Kg	✱	01/12/21 16:00	01/13/21 13:46	1
Copper	94.8		1.02	mg/Kg	✱	01/12/21 16:00	01/13/21 13:46	1
Lead	ND		5.08	mg/Kg	✱	01/12/21 16:00	01/13/21 13:46	1

Client Sample ID: SWCONF17-35.0

Date Collected: 12/31/20 09:23

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-10

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.60	mg/Kg	✱	01/12/21 16:00	01/13/21 13:48	1
Cadmium	ND		0.520	mg/Kg	✱	01/12/21 16:00	01/13/21 13:48	1
Chromium	129		1.04	mg/Kg	✱	01/12/21 16:00	01/13/21 13:48	1
Copper	71.0		1.04	mg/Kg	✱	01/12/21 16:00	01/13/21 13:48	1
Lead	ND		5.20	mg/Kg	✱	01/12/21 16:00	01/13/21 13:48	1

Client Sample ID: SWCONF17-40.0

Date Collected: 12/31/20 09:34

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-11

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.54	mg/Kg	✱	01/12/21 16:00	01/13/21 13:51	1
Cadmium	ND		0.508	mg/Kg	✱	01/12/21 16:00	01/13/21 13:51	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF17-40.0

Date Collected: 12/31/20 09:34

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-11

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	121		1.02	mg/Kg	☆	01/12/21 16:00	01/13/21 13:51	1
Copper	58.4		1.02	mg/Kg	☆	01/12/21 16:00	01/13/21 13:51	1
Lead	ND		5.08	mg/Kg	☆	01/12/21 16:00	01/13/21 13:51	1

Client Sample ID: SWCONF17-45.0

Date Collected: 12/31/20 09:42

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-12

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.73	mg/Kg	☆	01/12/21 16:00	01/13/21 13:54	1
Cadmium	ND		0.546	mg/Kg	☆	01/12/21 16:00	01/13/21 13:54	1
Chromium	603		1.09	mg/Kg	☆	01/12/21 16:00	01/13/21 13:54	1
Copper	130		1.09	mg/Kg	☆	01/12/21 16:00	01/13/21 13:54	1
Lead	ND		5.46	mg/Kg	☆	01/12/21 16:00	01/13/21 13:54	1

Client Sample ID: SWCONF17-50.0

Date Collected: 12/31/20 09:48

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-13

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.51	mg/Kg	☆	01/12/21 16:00	01/13/21 13:57	1
Cadmium	ND		0.502	mg/Kg	☆	01/12/21 16:00	01/13/21 13:57	1
Chromium	553		1.00	mg/Kg	☆	01/12/21 16:00	01/13/21 13:57	1
Copper	735		1.00	mg/Kg	☆	01/12/21 16:00	01/13/21 13:57	1
Lead	ND		5.02	mg/Kg	☆	01/12/21 16:00	01/13/21 13:57	1

Client Sample ID: SWCONF17-55.0

Date Collected: 12/31/20 10:01

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-14

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.67	mg/Kg	☆	01/12/21 16:00	01/13/21 14:00	1
Cadmium	ND		0.534	mg/Kg	☆	01/12/21 16:00	01/13/21 14:00	1
Chromium	354		1.07	mg/Kg	☆	01/12/21 16:00	01/13/21 14:00	1
Copper	114		1.07	mg/Kg	☆	01/12/21 16:00	01/13/21 14:00	1
Lead	7.11		5.34	mg/Kg	☆	01/12/21 16:00	01/13/21 14:00	1

Client Sample ID: SWCONF17-56.0

Date Collected: 12/31/20 10:02

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-15

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.2		2.83	mg/Kg	☆	01/12/21 16:00	01/13/21 14:03	1
Cadmium	1.00		0.567	mg/Kg	☆	01/12/21 16:00	01/13/21 14:03	1
Chromium	47.9		1.13	mg/Kg	☆	01/12/21 16:00	01/13/21 14:03	1
Copper	142		1.13	mg/Kg	☆	01/12/21 16:00	01/13/21 14:03	1
Lead	12.9		5.67	mg/Kg	☆	01/12/21 16:00	01/13/21 14:03	1

Client Sample ID: SWCONF17-60.0

Date Collected: 12/31/20 10:10

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-16

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.6		3.11	mg/Kg	☆	01/12/21 16:00	01/13/21 14:12	1
Cadmium	1.40		0.623	mg/Kg	☆	01/12/21 16:00	01/13/21 14:12	1
Chromium	43.2		1.25	mg/Kg	☆	01/12/21 16:00	01/13/21 14:12	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF17-60.0

Date Collected: 12/31/20 10:10

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-16

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	122		1.25	mg/Kg	☆	01/12/21 16:00	01/13/21 14:12	1
Lead	14.9		6.23	mg/Kg	☆	01/12/21 16:00	01/13/21 14:12	1

Client Sample ID: SWCONF17-61.0

Date Collected: 12/31/20 10:15

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-17

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.68		3.14	mg/Kg	☆	01/12/21 16:00	01/13/21 14:15	1
Cadmium	1.16		0.628	mg/Kg	☆	01/12/21 16:00	01/13/21 14:15	1
Chromium	115		1.26	mg/Kg	☆	01/12/21 16:00	01/13/21 14:15	1
Copper	95.4		1.26	mg/Kg	☆	01/12/21 16:00	01/13/21 14:15	1
Lead	17.7		6.28	mg/Kg	☆	01/12/21 16:00	01/13/21 14:15	1

Client Sample ID: SWCONF17-61.5

Date Collected: 12/31/20 10:16

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-18

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.11		2.61	mg/Kg	☆	01/12/21 16:00	01/13/21 14:18	1
Cadmium	ND		0.523	mg/Kg	☆	01/12/21 16:00	01/13/21 14:18	1
Chromium	81.8		1.05	mg/Kg	☆	01/12/21 16:00	01/13/21 14:18	1
Copper	217		1.05	mg/Kg	☆	01/12/21 16:00	01/13/21 14:18	1
Lead	7.76		5.23	mg/Kg	☆	01/12/21 16:00	01/13/21 14:18	1

Client Sample ID: SWCONF17-65.0

Date Collected: 12/31/20 10:20

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-19

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.73		2.64	mg/Kg	☆	01/12/21 16:00	01/13/21 14:21	1
Cadmium	0.579		0.528	mg/Kg	☆	01/12/21 16:00	01/13/21 14:21	1
Chromium	180		1.06	mg/Kg	☆	01/12/21 16:00	01/13/21 14:21	1
Copper	127		1.06	mg/Kg	☆	01/12/21 16:00	01/13/21 14:21	1
Lead	9.53		5.28	mg/Kg	☆	01/12/21 16:00	01/13/21 14:21	1

Client Sample ID: SWCONF17-70.0

Date Collected: 12/31/20 10:25

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-20

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.68	mg/Kg	☆	01/12/21 16:00	01/13/21 14:24	1
Cadmium	ND		0.537	mg/Kg	☆	01/12/21 16:00	01/13/21 14:24	1
Chromium	344		1.07	mg/Kg	☆	01/12/21 16:00	01/13/21 14:24	1
Copper	116		1.07	mg/Kg	☆	01/12/21 16:00	01/13/21 14:24	1
Lead	6.56		5.37	mg/Kg	☆	01/12/21 16:00	01/13/21 14:24	1

Client Sample ID: SWCONF14-25.0

Date Collected: 12/31/20 08:50

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-21

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.72		2.80	mg/Kg	☆	01/12/21 17:00	01/13/21 14:41	1
Cadmium	ND		0.561	mg/Kg	☆	01/12/21 17:00	01/13/21 14:41	1
Chromium	38.0	F1	1.12	mg/Kg	☆	01/12/21 17:00	01/13/21 14:41	1
Copper	135		1.12	mg/Kg	☆	01/12/21 17:00	01/13/21 14:41	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF14-25.0

Date Collected: 12/31/20 08:50

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-21

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		5.61	mg/Kg	☆	01/12/21 17:00	01/13/21 14:41	1

Client Sample ID: SWCONF14-25.5

Date Collected: 12/31/20 08:52

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-22

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.28		2.97	mg/Kg	☆	01/12/21 17:00	01/13/21 14:50	1
Cadmium	1.12		0.594	mg/Kg	☆	01/12/21 17:00	01/13/21 14:50	1
Chromium	847		1.19	mg/Kg	☆	01/12/21 17:00	01/13/21 14:50	1
Copper	306		1.19	mg/Kg	☆	01/12/21 17:00	01/13/21 14:50	1
Lead	23.8		5.94	mg/Kg	☆	01/12/21 17:00	01/13/21 14:50	1

Client Sample ID: SWCONF14-30.0

Date Collected: 12/31/20 09:04

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-23

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13.1		2.95	mg/Kg	☆	01/12/21 17:00	01/13/21 14:53	1
Cadmium	1.04		0.589	mg/Kg	☆	01/12/21 17:00	01/13/21 14:53	1
Chromium	374		1.18	mg/Kg	☆	01/12/21 17:00	01/13/21 14:53	1
Copper	215		1.18	mg/Kg	☆	01/12/21 17:00	01/13/21 14:53	1
Lead	13.3		5.89	mg/Kg	☆	01/12/21 17:00	01/13/21 14:53	1

Client Sample ID: SWCONF14-32.0

Date Collected: 12/31/20 09:08

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-24

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.84		2.98	mg/Kg	☆	01/12/21 17:00	01/13/21 14:56	1
Cadmium	0.787		0.595	mg/Kg	☆	01/12/21 17:00	01/13/21 14:56	1
Chromium	21.4		1.19	mg/Kg	☆	01/12/21 17:00	01/13/21 14:56	1
Copper	169		1.19	mg/Kg	☆	01/12/21 17:00	01/13/21 14:56	1
Lead	10.7		5.95	mg/Kg	☆	01/12/21 17:00	01/13/21 14:56	1

Client Sample ID: SWCONF14-32.5

Date Collected: 12/31/20 09:10

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-25

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.27		2.65	mg/Kg	☆	01/12/21 17:00	01/13/21 14:59	1
Cadmium	ND		0.530	mg/Kg	☆	01/12/21 17:00	01/13/21 14:59	1
Chromium	10.2		1.06	mg/Kg	☆	01/12/21 17:00	01/13/21 14:59	1
Copper	79.0		1.06	mg/Kg	☆	01/12/21 17:00	01/13/21 14:59	1
Lead	5.53		5.30	mg/Kg	☆	01/12/21 17:00	01/13/21 14:59	1

Client Sample ID: SWCONF14-35.0

Date Collected: 12/31/20 09:16

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-26

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.94		2.67	mg/Kg	☆	01/12/21 17:00	01/13/21 15:07	1
Cadmium	ND		0.533	mg/Kg	☆	01/12/21 17:00	01/13/21 15:07	1
Chromium	12.1		1.07	mg/Kg	☆	01/12/21 17:00	01/13/21 15:07	1
Copper	138		1.07	mg/Kg	☆	01/12/21 17:00	01/13/21 15:07	1
Lead	ND		5.33	mg/Kg	☆	01/12/21 17:00	01/13/21 15:07	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP)

Client Sample ID: SWCONF14-40.0

Date Collected: 12/31/20 09:27

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-27

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.56	mg/Kg	✱	01/12/21 17:00	01/13/21 15:10	1
Cadmium	ND		0.511	mg/Kg	✱	01/12/21 17:00	01/13/21 15:10	1
Chromium	12.3		1.02	mg/Kg	✱	01/12/21 17:00	01/13/21 15:10	1
Copper	128		1.02	mg/Kg	✱	01/12/21 17:00	01/13/21 15:10	1
Lead	ND		5.11	mg/Kg	✱	01/12/21 17:00	01/13/21 15:10	1

Client Sample ID: SWCONF14-45.0

Date Collected: 12/31/20 09:38

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-28

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.71	mg/Kg	✱	01/12/21 17:00	01/13/21 15:13	1
Cadmium	ND		0.543	mg/Kg	✱	01/12/21 17:00	01/13/21 15:13	1
Chromium	50.4		1.09	mg/Kg	✱	01/12/21 17:00	01/13/21 15:13	1
Copper	360		1.09	mg/Kg	✱	01/12/21 17:00	01/13/21 15:13	1
Lead	7.44		5.43	mg/Kg	✱	01/12/21 17:00	01/13/21 15:13	1

Client Sample ID: SWCONF14-50.0

Date Collected: 12/31/20 09:50

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-29

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.61	mg/Kg	✱	01/12/21 17:00	01/13/21 15:16	1
Cadmium	0.665		0.523	mg/Kg	✱	01/12/21 17:00	01/13/21 15:16	1
Chromium	38.5		1.05	mg/Kg	✱	01/12/21 17:00	01/13/21 15:16	1
Copper	335		1.05	mg/Kg	✱	01/12/21 17:00	01/13/21 15:16	1
Lead	16.8		5.23	mg/Kg	✱	01/12/21 17:00	01/13/21 15:16	1

Client Sample ID: SWCONF14-55.0

Date Collected: 12/31/20 10:03

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-30

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.20		2.73	mg/Kg	✱	01/12/21 17:00	01/13/21 15:19	1
Cadmium	0.781		0.545	mg/Kg	✱	01/12/21 17:00	01/13/21 15:19	1
Chromium	29.4		1.09	mg/Kg	✱	01/12/21 17:00	01/13/21 15:19	1
Copper	165		1.09	mg/Kg	✱	01/12/21 17:00	01/13/21 15:19	1
Lead	14.4		5.45	mg/Kg	✱	01/12/21 17:00	01/13/21 15:19	1

Client Sample ID: SWCONF14-59.0

Date Collected: 12/31/20 10:12

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-31

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.57		2.96	mg/Kg	✱	01/12/21 17:00	01/13/21 15:22	1
Cadmium	0.877		0.592	mg/Kg	✱	01/12/21 17:00	01/13/21 15:22	1
Chromium	75.8		1.18	mg/Kg	✱	01/12/21 17:00	01/13/21 15:22	1
Copper	212		1.18	mg/Kg	✱	01/12/21 17:00	01/13/21 15:22	1
Lead	16.9		5.92	mg/Kg	✱	01/12/21 17:00	01/13/21 15:22	1

Client Sample ID: SWCONF14-59.5

Date Collected: 12/31/20 10:13

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-32

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.57		3.25	mg/Kg	✱	01/12/21 17:00	01/13/21 15:25	1

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# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Client Sample ID: SWCONF14-59.5

Date Collected: 12/31/20 10:13

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-32

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	1.37		0.651	mg/Kg	✱	01/12/21 17:00	01/13/21 15:25	1
Chromium	164		1.30	mg/Kg	✱	01/12/21 17:00	01/13/21 15:25	1
Copper	327		1.30	mg/Kg	✱	01/12/21 17:00	01/13/21 15:25	1
Lead	24.9		6.51	mg/Kg	✱	01/12/21 17:00	01/13/21 15:25	1

Client Sample ID: SWCONF14-60.0

Date Collected: 12/31/20 10:16

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-33

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.89	mg/Kg	✱	01/12/21 17:00	01/13/21 15:28	1
Cadmium	0.999		0.577	mg/Kg	✱	01/12/21 17:00	01/13/21 15:28	1
Chromium	54.2		1.15	mg/Kg	✱	01/12/21 17:00	01/13/21 15:28	1
Copper	81.1		1.15	mg/Kg	✱	01/12/21 17:00	01/13/21 15:28	1
Lead	14.7		5.77	mg/Kg	✱	01/12/21 17:00	01/13/21 15:28	1

Client Sample ID: SWCONF14-65.0

Date Collected: 12/31/20 10:24

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-34

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.99		2.65	mg/Kg	✱	01/12/21 17:00	01/13/21 15:31	1
Cadmium	0.794		0.530	mg/Kg	✱	01/12/21 17:00	01/13/21 15:31	1
Chromium	42.5		1.06	mg/Kg	✱	01/12/21 17:00	01/13/21 15:31	1
Copper	237		1.06	mg/Kg	✱	01/12/21 17:00	01/13/21 15:31	1
Lead	53.5		5.30	mg/Kg	✱	01/12/21 17:00	01/13/21 15:31	1

Client Sample ID: SWCONF14-70.0

Date Collected: 12/31/20 10:34

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-35

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.35		2.52	mg/Kg	✱	01/12/21 17:00	01/13/21 15:34	1
Cadmium	0.621		0.504	mg/Kg	✱	01/12/21 17:00	01/13/21 15:34	1
Chromium	81.1		1.01	mg/Kg	✱	01/12/21 17:00	01/13/21 15:34	1
Copper	141		1.01	mg/Kg	✱	01/12/21 17:00	01/13/21 15:34	1
Lead	40.7		5.04	mg/Kg	✱	01/12/21 17:00	01/13/21 15:34	1

Client Sample ID: EB07

Date Collected: 12/31/20 11:15

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-36

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L		01/12/21 09:45	01/13/21 11:14	1
Cadmium	ND		0.0100	mg/L		01/12/21 09:45	01/13/21 11:14	1
Chromium	ND		0.0500	mg/L		01/12/21 09:45	01/13/21 11:14	1
Copper	ND		0.0500	mg/L		01/12/21 09:45	01/13/21 11:14	1
Lead	ND		0.0500	mg/L		01/12/21 09:45	01/13/21 11:14	1



# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF17-10.0

Date Collected: 12/31/20 08:30

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-1

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	F1	0.933	mg/Kg	☼	01/19/21 13:00	01/20/21 10:09	1
pH	9.6	H	0.01	S.U.			01/02/21 10:19	1
Percent Moisture	11.8		0.1	%			01/02/21 11:50	1
Percent Solids	88.2		0.1	%			01/02/21 11:50	1

Client Sample ID: SWCONF17-15.0

Date Collected: 12/31/20 08:45

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-2

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.841	mg/Kg	☼	01/19/21 13:00	01/20/21 10:10	1
pH	9.9	H	0.01	S.U.			01/02/21 10:19	1
Percent Moisture	4.9		0.1	%			01/02/21 11:50	1
Percent Solids	95.1		0.1	%			01/02/21 11:50	1

Client Sample ID: SWCONF17-20.0

Date Collected: 12/31/20 08:53

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-3

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	3.96		0.815	mg/Kg	☼	01/19/21 13:00	01/20/21 10:11	1
pH	5.7	H	0.01	S.U.			01/02/21 10:19	1
Percent Moisture	3.4		0.1	%			01/02/21 11:50	1
Percent Solids	96.6		0.1	%			01/02/21 11:50	1

Client Sample ID: SWCONF17-25.0

Date Collected: 12/31/20 09:04

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-4

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.819	mg/Kg	☼	01/19/21 13:00	01/20/21 10:12	1
pH	9.7	H	0.01	S.U.			01/02/21 10:19	1
Percent Moisture	6.0		0.1	%			01/02/21 11:50	1
Percent Solids	94.0		0.1	%			01/02/21 11:50	1

Client Sample ID: SWCONF17-26.0

Date Collected: 12/31/20 09:05

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-5

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.03	mg/Kg	☼	01/19/21 13:00	01/20/21 10:13	1
pH	5.0	H	0.01	S.U.			01/02/21 10:19	1
Percent Moisture	22.0		0.1	%			01/02/21 11:50	1
Percent Solids	78.0		0.1	%			01/02/21 11:50	1

Client Sample ID: SWCONF17-26.5

Date Collected: 12/31/20 09:06

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-6

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.848	mg/Kg	☼	01/19/21 13:00	01/20/21 10:14	1
pH	9.9	H	0.01	S.U.			01/02/21 10:19	1
Percent Moisture	6.4		0.1	%			01/02/21 11:50	1
Percent Solids	93.6		0.1	%			01/02/21 11:50	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF17-30.0

Date Collected: 12/31/20 09:15

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-7

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.01	mg/Kg	☼	01/19/21 13:00	01/20/21 10:15	1
pH	9.6	H	0.01	S.U.			01/02/21 10:19	1
Percent Moisture	21.7		0.1	%			01/02/21 11:50	1
Percent Solids	78.3		0.1	%			01/02/21 11:50	1

Client Sample ID: SWCONF17-32.5

Date Collected: 12/31/20 09:20

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-8

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.948	mg/Kg	☼	01/19/21 13:00	01/20/21 10:16	1
pH	9.8	H	0.01	S.U.			01/02/21 10:19	1
Percent Moisture	18.2		0.1	%			01/02/21 11:50	1
Percent Solids	81.8		0.1	%			01/02/21 11:50	1

Client Sample ID: SWCONF17-33.0

Date Collected: 12/31/20 09:21

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-9

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.829	mg/Kg	☼	01/19/21 13:00	01/20/21 10:17	1
pH	9.4	H	0.01	S.U.			01/02/21 10:19	1
Percent Moisture	5.4		0.1	%			01/02/21 11:50	1
Percent Solids	94.6		0.1	%			01/02/21 11:50	1

Client Sample ID: SWCONF17-35.0

Date Collected: 12/31/20 09:23

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-10

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	F1	0.806	mg/Kg	☼	01/19/21 13:00	01/20/21 10:18	1
pH	9.2	H	0.01	S.U.			01/02/21 10:19	1
Percent Moisture	3.4		0.1	%			01/02/21 11:50	1
Percent Solids	96.6		0.1	%			01/02/21 11:50	1

Client Sample ID: SWCONF17-40.0

Date Collected: 12/31/20 09:34

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-11

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.815	mg/Kg	☼	01/19/21 13:00	01/20/21 10:27	1
pH	9.5	H	0.01	S.U.			01/02/21 10:19	1
Percent Moisture	3.0		0.1	%			01/02/21 11:50	1
Percent Solids	97.0		0.1	%			01/02/21 11:50	1

Client Sample ID: SWCONF17-45.0

Date Collected: 12/31/20 09:42

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-12

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.842	mg/Kg	☼	01/19/21 13:00	01/20/21 10:28	1
pH	9.4	H	0.01	S.U.			01/02/21 10:19	1
Percent Moisture	4.6		0.1	%			01/02/21 11:50	1
Percent Solids	95.4		0.1	%			01/02/21 11:50	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF17-50.0

Date Collected: 12/31/20 09:48

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-13

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.819	mg/Kg	☼	01/19/21 13:00	01/20/21 10:29	1
pH	9.3	H	0.01	S.U.			01/02/21 10:19	1
Percent Moisture	2.3		0.1	%			01/02/21 11:50	1
Percent Solids	97.7		0.1	%			01/02/21 11:50	1

Client Sample ID: SWCONF17-55.0

Date Collected: 12/31/20 10:01

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-14

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.868	mg/Kg	☼	01/19/21 13:00	01/20/21 10:30	1
pH	10.7	H	0.01	S.U.			01/02/21 10:19	1
Percent Moisture	8.2		0.1	%			01/02/21 11:50	1
Percent Solids	91.8		0.1	%			01/02/21 11:50	1

Client Sample ID: SWCONF17-56.0

Date Collected: 12/31/20 10:02

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-15

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.867	mg/Kg	☼	01/19/21 13:00	01/20/21 10:31	1
pH	5.0	H	0.01	S.U.			01/02/21 10:19	1
Percent Moisture	10.9		0.1	%			01/02/21 11:50	1
Percent Solids	89.1		0.1	%			01/02/21 11:50	1

Client Sample ID: SWCONF17-60.0

Date Collected: 12/31/20 10:10

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-16

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.02	mg/Kg	☼	01/19/21 13:00	01/20/21 10:32	1
pH	10.1	H	0.01	S.U.			01/02/21 10:19	1
Percent Moisture	22.1		0.1	%			01/02/21 11:50	1
Percent Solids	77.9		0.1	%			01/02/21 11:50	1

Client Sample ID: SWCONF17-61.0

Date Collected: 12/31/20 10:15

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-17

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.983	mg/Kg	☼	01/19/21 13:00	01/20/21 10:33	1
pH	9.8	H	0.01	S.U.			01/02/21 10:19	1
Percent Moisture	20.8		0.1	%			01/02/21 14:43	1
Percent Solids	79.2		0.1	%			01/02/21 14:43	1

Client Sample ID: SWCONF17-61.5

Date Collected: 12/31/20 10:16

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-18

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.865	mg/Kg	☼	01/19/21 13:00	01/20/21 10:34	1
pH	9.9	H	0.01	S.U.			01/02/21 10:19	1
Percent Moisture	4.8		0.1	%			01/02/21 14:43	1
Percent Solids	95.2		0.1	%			01/02/21 14:43	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF17-65.0

Date Collected: 12/31/20 10:20

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-19

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.859	mg/Kg	☼	01/19/21 13:00	01/20/21 10:35	1
pH	8.8	H	0.01	S.U.			01/02/21 10:20	1
Percent Moisture	5.7		0.1	%			01/02/21 14:43	1
Percent Solids	94.3		0.1	%			01/02/21 14:43	1

Client Sample ID: SWCONF17-70.0

Date Collected: 12/31/20 10:25

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-20

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.802	mg/Kg	☼	01/19/21 13:00	01/20/21 10:36	1
pH	9.4	H	0.01	S.U.			01/02/21 10:20	1
Percent Moisture	3.0		0.1	%			01/02/21 14:43	1
Percent Solids	97.0		0.1	%			01/02/21 14:43	1

Client Sample ID: SWCONF14-25.0

Date Collected: 12/31/20 08:50

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-21

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND	F1	0.878	mg/Kg	☼	01/20/21 09:00	01/20/21 19:00	1
pH	8.6	H	0.01	S.U.			01/02/21 10:22	1
Percent Moisture	8.1		0.1	%			01/02/21 14:43	1
Percent Solids	91.9		0.1	%			01/02/21 14:43	1

Client Sample ID: SWCONF14-25.5

Date Collected: 12/31/20 08:52

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-22

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.01	mg/Kg	☼	01/20/21 09:00	01/20/21 19:01	1
pH	9.9	H	0.01	S.U.			01/02/21 10:22	1
Percent Moisture	17.5		0.1	%			01/02/21 14:43	1
Percent Solids	82.5		0.1	%			01/02/21 14:43	1

Client Sample ID: SWCONF14-30.0

Date Collected: 12/31/20 09:04

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-23

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.988	mg/Kg	☼	01/20/21 09:00	01/20/21 19:02	1
pH	9.5	H	0.01	S.U.			01/02/21 10:22	1
Percent Moisture	18.0		0.1	%			01/02/21 14:43	1
Percent Solids	82.0		0.1	%			01/02/21 14:43	1

Client Sample ID: SWCONF14-32.0

Date Collected: 12/31/20 09:08

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-24

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.906	mg/Kg	☼	01/20/21 09:00	01/20/21 19:03	1
pH	4.2	H	0.01	S.U.			01/02/21 10:22	1
Percent Moisture	12.1		0.1	%			01/02/21 14:43	1
Percent Solids	87.9		0.1	%			01/02/21 14:43	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF14-32.5

Date Collected: 12/31/20 09:10

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-25

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.829	mg/Kg	☼	01/20/21 09:00	01/20/21 19:04	1
pH	4.6	H	0.01	S.U.			01/02/21 10:22	1
Percent Moisture	4.6		0.1	%			01/02/21 14:43	1
Percent Solids	95.4		0.1	%			01/02/21 14:43	1

Client Sample ID: SWCONF14-35.0

Date Collected: 12/31/20 09:16

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-26

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.798	mg/Kg	☼	01/20/21 09:00	01/20/21 19:05	1
pH	4.7	H	0.01	S.U.			01/02/21 10:22	1
Percent Moisture	3.3		0.1	%			01/02/21 14:43	1
Percent Solids	96.7		0.1	%			01/02/21 14:43	1

Client Sample ID: SWCONF14-40.0

Date Collected: 12/31/20 09:27

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-27

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.814	mg/Kg	☼	01/20/21 09:00	01/20/21 19:06	1
pH	6.8	H	0.01	S.U.			01/02/21 10:22	1
Percent Moisture	4.1		0.1	%			01/02/21 14:43	1
Percent Solids	95.9		0.1	%			01/02/21 14:43	1

Client Sample ID: SWCONF14-45.0

Date Collected: 12/31/20 09:38

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-28

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.829	mg/Kg	☼	01/20/21 09:00	01/20/21 19:07	1
pH	5.2	H	0.01	S.U.			01/02/21 10:22	1
Percent Moisture	5.0		0.1	%			01/02/21 14:43	1
Percent Solids	95.0		0.1	%			01/02/21 14:43	1

Client Sample ID: SWCONF14-50.0

Date Collected: 12/31/20 09:50

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-29

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.836	mg/Kg	☼	01/20/21 09:00	01/20/21 19:08	1
pH	6.5	H	0.01	S.U.			01/02/21 10:22	1
Percent Moisture	5.8		0.1	%			01/02/21 14:43	1
Percent Solids	94.2		0.1	%			01/02/21 14:43	1

Client Sample ID: SWCONF14-55.0

Date Collected: 12/31/20 10:03

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-30

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.843	mg/Kg	☼	01/20/21 09:00	01/20/21 19:09	1
pH	7.8	H	0.01	S.U.			01/02/21 10:22	1
Percent Moisture	7.4		0.1	%			01/02/21 14:43	1
Percent Solids	92.6		0.1	%			01/02/21 14:43	1

# Client Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## General Chemistry

Client Sample ID: SWCONF14-59.0

Date Collected: 12/31/20 10:12

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-31

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.933	mg/Kg	☼	01/20/21 09:00	01/20/21 19:12	1
pH	9.1	H	0.01	S.U.			01/02/21 10:22	1
Percent Moisture	14.3		0.1	%			01/02/21 14:43	1
Percent Solids	85.7		0.1	%			01/02/21 14:43	1

Client Sample ID: SWCONF14-59.5

Date Collected: 12/31/20 10:13

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-32

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		1.04	mg/Kg	☼	01/20/21 09:00	01/20/21 19:13	1
pH	9.5	H	0.01	S.U.			01/02/21 10:22	1
Percent Moisture	22.8		0.1	%			01/02/21 14:43	1
Percent Solids	77.2		0.1	%			01/02/21 14:43	1

Client Sample ID: SWCONF14-60.0

Date Collected: 12/31/20 10:16

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-33

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.936	mg/Kg	☼	01/20/21 09:00	01/20/21 19:14	1
pH	9.2	H	0.01	S.U.			01/02/21 10:22	1
Percent Moisture	14.2		0.1	%			01/02/21 14:43	1
Percent Solids	85.8		0.1	%			01/02/21 14:43	1

Client Sample ID: SWCONF14-65.0

Date Collected: 12/31/20 10:24

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-34

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.814	mg/Kg	☼	01/20/21 09:00	01/20/21 19:15	1
pH	8.9	H	0.01	S.U.			01/02/21 10:22	1
Percent Moisture	3.7		0.1	%			01/02/21 14:43	1
Percent Solids	96.3		0.1	%			01/02/21 14:43	1

Client Sample ID: SWCONF14-70.0

Date Collected: 12/31/20 10:34

Date Received: 12/31/20 14:20

Lab Sample ID: 570-47505-35

Matrix: Solid

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.828	mg/Kg	☼	01/20/21 09:00	01/20/21 19:16	1
pH	9.7	H	0.01	S.U.			01/02/21 10:22	1
Percent Moisture	4.2		0.1	%			01/02/21 14:43	1
Percent Solids	95.8		0.1	%			01/02/21 14:43	1



# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## Method: 7199 - Chromium, Hexavalent (IC)

Lab Sample ID: MB 570-119642/5  
Matrix: Water  
Analysis Batch: 119642

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.0010	mg/L			12/31/20 08:39	1

Lab Sample ID: LCS 570-119642/6  
Matrix: Water  
Analysis Batch: 119642

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.0501	0.04992		mg/L		100	80 - 120

Lab Sample ID: LCSD 570-119642/7  
Matrix: Water  
Analysis Batch: 119642

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	0.0501	0.05008		mg/L		100	80 - 120	0	20

Lab Sample ID: 570-47505-36 MS  
Matrix: Water  
Analysis Batch: 119642

Client Sample ID: EB07  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	ND		0.0501	0.04989		mg/L		100	70 - 130

Lab Sample ID: 570-47505-36 MSD  
Matrix: Water  
Analysis Batch: 119642

Client Sample ID: EB07  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	ND		0.0501	0.04887		mg/L		97	70 - 130	2	25

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 570-121659/1-A  
Matrix: Water  
Analysis Batch: 121957

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 121659

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	mg/L		01/12/21 09:45	01/13/21 11:16	1
Cadmium	ND		0.0100	mg/L		01/12/21 09:45	01/13/21 11:16	1
Chromium	ND		0.0500	mg/L		01/12/21 09:45	01/13/21 11:16	1
Copper	ND		0.0500	mg/L		01/12/21 09:45	01/13/21 11:16	1
Lead	ND		0.0500	mg/L		01/12/21 09:45	01/13/21 11:16	1

Lab Sample ID: LCS 570-121659/2-A  
Matrix: Water  
Analysis Batch: 121957

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 121659

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.500	0.5087		mg/L		102	80 - 120
Cadmium	0.500	0.5166		mg/L		103	80 - 120

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-121659/2-A

Matrix: Water

Analysis Batch: 121957

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 121659

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.500	0.5135		mg/L		103	80 - 120
Copper	0.500	0.5711		mg/L		114	80 - 120
Lead	0.500	0.5366		mg/L		107	80 - 120

Lab Sample ID: LCSD 570-121659/3-A

Matrix: Water

Analysis Batch: 121957

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 121659

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	0.500	0.4872		mg/L		97	80 - 120	4	20
Cadmium	0.500	0.4984		mg/L		100	80 - 120	4	20
Chromium	0.500	0.5019		mg/L		100	80 - 120	2	20
Copper	0.500	0.5617		mg/L		112	80 - 120	2	20
Lead	0.500	0.5173		mg/L		103	80 - 120	4	20

Lab Sample ID: 570-47878-B-1-B MS

Matrix: Water

Analysis Batch: 121957

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 121659

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		0.500	0.5061		mg/L		101	80 - 140
Cadmium	ND		0.500	0.4920		mg/L		98	82 - 124
Chromium	ND		0.500	0.5079		mg/L		102	86 - 122
Copper	ND		0.500	0.5860		mg/L		117	78 - 126
Lead	ND		0.500	0.5187		mg/L		98	84 - 120

Lab Sample ID: 570-47878-B-1-C MSD

Matrix: Water

Analysis Batch: 121957

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 121659

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	ND		0.500	0.4940		mg/L		99	80 - 140	2	11
Cadmium	ND		0.500	0.4987		mg/L		99	82 - 124	1	7
Chromium	ND		0.500	0.5137		mg/L		103	86 - 122	1	8
Copper	ND		0.500	0.5887		mg/L		118	78 - 126	0	7
Lead	ND		0.500	0.5383		mg/L		102	84 - 120	4	7

Lab Sample ID: MB 570-121763/1-A

Matrix: Solid

Analysis Batch: 122023

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 121763

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.51	mg/Kg		01/12/21 16:00	01/13/21 13:01	1
Cadmium	ND		0.503	mg/Kg		01/12/21 16:00	01/13/21 13:01	1
Chromium	ND		1.01	mg/Kg		01/12/21 16:00	01/13/21 13:01	1
Copper	ND		1.01	mg/Kg		01/12/21 16:00	01/13/21 13:01	1
Lead	ND		5.03	mg/Kg		01/12/21 16:00	01/13/21 13:01	1

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-121763/2-A  
Matrix: Solid  
Analysis Batch: 122023

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 121763

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	24.9	26.26		mg/Kg		106	80 - 120
Cadmium	24.9	26.19		mg/Kg		105	80 - 120
Chromium	24.9	26.19		mg/Kg		105	80 - 120
Copper	24.9	27.32		mg/Kg		110	80 - 120
Lead	24.9	27.14		mg/Kg		109	80 - 120

Lab Sample ID: LCSD 570-121763/3-A  
Matrix: Solid  
Analysis Batch: 122023

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 121763

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	24.9	26.25		mg/Kg		106	80 - 120	0	20
Cadmium	24.9	26.31		mg/Kg		106	80 - 120	0	20
Chromium	24.9	25.29		mg/Kg		102	80 - 120	4	20
Copper	24.9	27.33		mg/Kg		110	80 - 120	0	20
Lead	24.9	27.04		mg/Kg		109	80 - 120	0	20

Lab Sample ID: 570-47505-1 MS  
Matrix: Solid  
Analysis Batch: 122023

Client Sample ID: SWCONF17-10.0  
Prep Type: Total/NA  
Prep Batch: 121763

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	5.20		29.2	35.60		mg/Kg	✱	104	75 - 125
Cadmium	1.84		29.2	30.69		mg/Kg	✱	99	75 - 125
Chromium	769		29.2	664.5	4	mg/Kg	✱	-358	75 - 125
Copper	330		29.2	348.9	4	mg/Kg	✱	64	75 - 125
Lead	8.26		29.2	37.16		mg/Kg	✱	99	75 - 125

Lab Sample ID: 570-47505-1 MSD  
Matrix: Solid  
Analysis Batch: 122023

Client Sample ID: SWCONF17-10.0  
Prep Type: Total/NA  
Prep Batch: 121763

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	5.20		28.9	35.53		mg/Kg	✱	105	75 - 125	0	20
Cadmium	1.84		28.9	29.77		mg/Kg	✱	97	75 - 125	3	20
Chromium	769		28.9	637.9	4	mg/Kg	✱	-453	75 - 125	4	20
Copper	330		28.9	340.5	4	mg/Kg	✱	36	75 - 125	2	20
Lead	8.26		28.9	36.51		mg/Kg	✱	98	75 - 125	2	20

Lab Sample ID: MB 570-121766/1-A  
Matrix: Solid  
Analysis Batch: 122023

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 121766

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.49	mg/Kg		01/12/21 17:00	01/13/21 14:33	1
Cadmium	ND		0.498	mg/Kg		01/12/21 17:00	01/13/21 14:33	1
Chromium	ND		0.995	mg/Kg		01/12/21 17:00	01/13/21 14:33	1
Copper	ND		0.995	mg/Kg		01/12/21 17:00	01/13/21 14:33	1
Lead	ND		4.98	mg/Kg		01/12/21 17:00	01/13/21 14:33	1

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 570-121766/2-A

Matrix: Solid

Analysis Batch: 122023

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 121766

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	24.9	26.08		mg/Kg		105	80 - 120
Cadmium	24.9	25.61		mg/Kg		103	80 - 120
Chromium	24.9	24.79		mg/Kg		100	80 - 120
Copper	24.9	26.67		mg/Kg		107	80 - 120
Lead	24.9	26.64		mg/Kg		107	80 - 120

Lab Sample ID: LCSD 570-121766/3-A

Matrix: Solid

Analysis Batch: 122023

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 121766

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	25.3	25.82		mg/Kg		102	80 - 120	1	20
Cadmium	25.3	25.24		mg/Kg		100	80 - 120	1	20
Chromium	25.3	25.40		mg/Kg		101	80 - 120	2	20
Copper	25.3	26.45		mg/Kg		105	80 - 120	1	20
Lead	25.3	26.31		mg/Kg		104	80 - 120	1	20

Lab Sample ID: 570-47505-21 MS

Matrix: Solid

Analysis Batch: 122023

Client Sample ID: SWCONF14-25.0

Prep Type: Total/NA

Prep Batch: 121766

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	3.72		27.3	31.84		mg/Kg	✱	103	75 - 125
Cadmium	ND		27.3	27.27		mg/Kg	✱	98	75 - 125
Chromium	38.0	F1	27.3	75.09	F1	mg/Kg	✱	136	75 - 125
Copper	135		27.3	167.1	4	mg/Kg	✱	118	75 - 125
Lead	ND		27.3	33.08		mg/Kg	✱	103	75 - 125

Lab Sample ID: 570-47505-21 MSD

Matrix: Solid

Analysis Batch: 122023

Client Sample ID: SWCONF14-25.0

Prep Type: Total/NA

Prep Batch: 121766

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	3.72		26.5	30.97		mg/Kg	✱	103	75 - 125	3	20
Cadmium	ND		26.5	26.77		mg/Kg	✱	99	75 - 125	2	20
Chromium	38.0	F1	26.5	77.83	F1	mg/Kg	✱	150	75 - 125	4	20
Copper	135		26.5	163.9	4	mg/Kg	✱	109	75 - 125	2	20
Lead	ND		26.5	32.27		mg/Kg	✱	103	75 - 125	2	20

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 570-122933/1-A

Matrix: Solid

Analysis Batch: 123576

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 122933

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.797	mg/Kg		01/20/21 09:00	01/20/21 18:51	1

# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: LCS 570-122933/2-A

Matrix: Solid

Analysis Batch: 123576

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 122933

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	19.9	18.57		mg/Kg		93	78 - 120

Lab Sample ID: LCSD 570-122933/3-A

Matrix: Solid

Analysis Batch: 123576

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 122933

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	20.1	19.01		mg/Kg		95	78 - 120	2	20

Lab Sample ID: 570-47505-21 MS

Matrix: Solid

Analysis Batch: 123576

Client Sample ID: SWCONF14-25.0

Prep Type: Total/NA

Prep Batch: 122933

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND	F1	21.5	ND	F1	mg/Kg	✱	0	75 - 125

Lab Sample ID: 570-47505-21 MSD

Matrix: Solid

Analysis Batch: 123576

Client Sample ID: SWCONF14-25.0

Prep Type: Total/NA

Prep Batch: 122933

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	ND	F1	21.7	ND	F1	mg/Kg	✱	0	75 - 125	NC	25

Lab Sample ID: 570-47505-21 MSI

Matrix: Solid

Analysis Batch: 123576

Client Sample ID: SWCONF14-25.0

Prep Type: Total/NA

Prep Batch: 122933

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	ND	F1	1050	593.2	F1	mg/Kg	✱	56	75 - 125

Lab Sample ID: 570-47505-21 MSID

Matrix: Solid

Analysis Batch: 123576

Client Sample ID: SWCONF14-25.0

Prep Type: Total/NA

Prep Batch: 122933

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cr (VI)	ND	F1	1080	493.2	F1	mg/Kg	✱	46	75 - 125	18	25

Lab Sample ID: MB 570-122974/1-A

Matrix: Solid

Analysis Batch: 123432

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 122974

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		0.806	mg/Kg		01/19/21 13:00	01/20/21 10:00	1

Lab Sample ID: LCS 570-122974/2-A

Matrix: Solid

Analysis Batch: 123432

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 122974

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	20.1	18.45		mg/Kg		92	78 - 120

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: LCSD 570-122974/3-A

Matrix: Solid

Analysis Batch: 123432

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 122974

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	20.2	18.51		mg/Kg		92	78 - 120	0	20

Lab Sample ID: 570-47505-1 MS

Matrix: Solid

Analysis Batch: 123432

Client Sample ID: SWCONF17-10.0

Prep Type: Total/NA

Prep Batch: 122974

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	22.6	ND	F1	mg/Kg	✱	0	75 - 125		

Lab Sample ID: 570-47505-1 MSD

Matrix: Solid

Analysis Batch: 123432

Client Sample ID: SWCONF17-10.0

Prep Type: Total/NA

Prep Batch: 122974

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	23.3	ND	F1	mg/Kg	✱	0	75 - 125	NC	25

Lab Sample ID: 570-47505-1 MSI

Matrix: Solid

Analysis Batch: 123432

Client Sample ID: SWCONF17-10.0

Prep Type: Total/NA

Prep Batch: 122974

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1100	ND	F1	mg/Kg	✱	-0.06	75 - 125		

Lab Sample ID: 570-47505-1 MSID

Matrix: Solid

Analysis Batch: 123432

Client Sample ID: SWCONF17-10.0

Prep Type: Total/NA

Prep Batch: 122974

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1120	ND	F1	mg/Kg	✱	0	75 - 125	NC	25

Lab Sample ID: 570-47505-10 MS

Matrix: Solid

Analysis Batch: 123432

Client Sample ID: SWCONF17-35.0

Prep Type: Total/NA

Prep Batch: 122974

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	20.5	ND	F1	mg/Kg	✱	0	75 - 125		

Lab Sample ID: 570-47505-10 MSD

Matrix: Solid

Analysis Batch: 123432

Client Sample ID: SWCONF17-35.0

Prep Type: Total/NA

Prep Batch: 122974

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	20.6	ND	F1	mg/Kg	✱	0	75 - 125	NC	25

Lab Sample ID: 570-47505-10 MSI

Matrix: Solid

Analysis Batch: 123432

Client Sample ID: SWCONF17-35.0

Prep Type: Total/NA

Prep Batch: 122974

Analyte	Sample Result	Sample Qualifier	Spike Added	MSI Result	MSI Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1010	400.6	F1	mg/Kg	✱	39	75 - 125		

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# QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## Method: 7196A - Chromium, Hexavalent

Lab Sample ID: 570-47505-10 MSID

Matrix: Solid

Analysis Batch: 123432

Client Sample ID: SWCONF17-35.0

Prep Type: Total/NA

Prep Batch: 122974

Analyte	Sample Result	Sample Qualifier	Spike Added	MSID Result	MSID Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	ND	F1	1010	402.4	F1	mg/Kg	☆	40	75 - 125	0	25

## Method: 9045C - pH

Lab Sample ID: 570-47505-1 DU

Matrix: Solid

Analysis Batch: 119880

Client Sample ID: SWCONF17-10.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	9.6	H	9.6		S.U.		0.1	25

Lab Sample ID: 570-47505-21 DU

Matrix: Solid

Analysis Batch: 119881

Client Sample ID: SWCONF14-25.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	8.6	H	8.7		S.U.		2	25

## Method: Moisture - Percent Moisture

Lab Sample ID: 570-47505-1 DU

Matrix: Solid

Analysis Batch: 119895

Client Sample ID: SWCONF17-10.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	11.8		12.0		%		2	10
Percent Solids	88.2		88.0		%		0.2	10

Lab Sample ID: 570-47505-7 DU

Matrix: Solid

Analysis Batch: 119895

Client Sample ID: SWCONF17-30.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	21.7		21.3		%		2	10
Percent Solids	78.3		78.7		%		0.5	10

Lab Sample ID: 570-47505-17 DU

Matrix: Solid

Analysis Batch: 119922

Client Sample ID: SWCONF17-61.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	20.8		21.1		%		1	10
Percent Solids	79.2		78.9		%		0.3	10

Lab Sample ID: 570-47505-27 DU

Matrix: Solid

Analysis Batch: 119922

Client Sample ID: SWCONF14-40.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	4.1		4.2		%		4	10

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## QC Sample Results

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

### Method: Moisture - Percent Moisture (Continued)

Lab Sample ID: 570-47505-27 DU

Matrix: Solid

Analysis Batch: 119922

Client Sample ID: SWCONF14-40.0

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	95.9		95.8		%		0.2	10

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## HPLC/IC

### Analysis Batch: 119642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47505-36	EB07	Total/NA	Water	7199	
MB 570-119642/5	Method Blank	Total/NA	Water	7199	
LCS 570-119642/6	Lab Control Sample	Total/NA	Water	7199	
LCSD 570-119642/7	Lab Control Sample Dup	Total/NA	Water	7199	
570-47505-36 MS	EB07	Total/NA	Water	7199	
570-47505-36 MSD	EB07	Total/NA	Water	7199	

## Metals

### Prep Batch: 121659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47505-36	EB07	Total/NA	Water	3010A	
MB 570-121659/1-A	Method Blank	Total/NA	Water	3010A	
LCS 570-121659/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 570-121659/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	
570-47878-B-1-B MS	Matrix Spike	Total/NA	Water	3010A	
570-47878-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	

### Prep Batch: 121763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47505-1	SWCONF17-10.0	Total/NA	Solid	3050B	
570-47505-2	SWCONF17-15.0	Total/NA	Solid	3050B	
570-47505-3	SWCONF17-20.0	Total/NA	Solid	3050B	
570-47505-4	SWCONF17-25.0	Total/NA	Solid	3050B	
570-47505-5	SWCONF17-26.0	Total/NA	Solid	3050B	
570-47505-6	SWCONF17-26.5	Total/NA	Solid	3050B	
570-47505-7	SWCONF17-30.0	Total/NA	Solid	3050B	
570-47505-8	SWCONF17-32.5	Total/NA	Solid	3050B	
570-47505-9	SWCONF17-33.0	Total/NA	Solid	3050B	
570-47505-10	SWCONF17-35.0	Total/NA	Solid	3050B	
570-47505-11	SWCONF17-40.0	Total/NA	Solid	3050B	
570-47505-12	SWCONF17-45.0	Total/NA	Solid	3050B	
570-47505-13	SWCONF17-50.0	Total/NA	Solid	3050B	
570-47505-14	SWCONF17-55.0	Total/NA	Solid	3050B	
570-47505-15	SWCONF17-56.0	Total/NA	Solid	3050B	
570-47505-16	SWCONF17-60.0	Total/NA	Solid	3050B	
570-47505-17	SWCONF17-61.0	Total/NA	Solid	3050B	
570-47505-18	SWCONF17-61.5	Total/NA	Solid	3050B	
570-47505-19	SWCONF17-65.0	Total/NA	Solid	3050B	
570-47505-20	SWCONF17-70.0	Total/NA	Solid	3050B	
MB 570-121763/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-121763/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-121763/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-47505-1 MS	SWCONF17-10.0	Total/NA	Solid	3050B	
570-47505-1 MSD	SWCONF17-10.0	Total/NA	Solid	3050B	

### Prep Batch: 121766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47505-21	SWCONF14-25.0	Total/NA	Solid	3050B	
570-47505-22	SWCONF14-25.5	Total/NA	Solid	3050B	
570-47505-23	SWCONF14-30.0	Total/NA	Solid	3050B	

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## Metals (Continued)

### Prep Batch: 121766 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47505-24	SWCONF14-32.0	Total/NA	Solid	3050B	
570-47505-25	SWCONF14-32.5	Total/NA	Solid	3050B	
570-47505-26	SWCONF14-35.0	Total/NA	Solid	3050B	
570-47505-27	SWCONF14-40.0	Total/NA	Solid	3050B	
570-47505-28	SWCONF14-45.0	Total/NA	Solid	3050B	
570-47505-29	SWCONF14-50.0	Total/NA	Solid	3050B	
570-47505-30	SWCONF14-55.0	Total/NA	Solid	3050B	
570-47505-31	SWCONF14-59.0	Total/NA	Solid	3050B	
570-47505-32	SWCONF14-59.5	Total/NA	Solid	3050B	
570-47505-33	SWCONF14-60.0	Total/NA	Solid	3050B	
570-47505-34	SWCONF14-65.0	Total/NA	Solid	3050B	
570-47505-35	SWCONF14-70.0	Total/NA	Solid	3050B	
MB 570-121766/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 570-121766/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-121766/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-47505-21 MS	SWCONF14-25.0	Total/NA	Solid	3050B	
570-47505-21 MSD	SWCONF14-25.0	Total/NA	Solid	3050B	

### Analysis Batch: 121957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47505-36	EB07	Total/NA	Water	6010B	121659
MB 570-121659/1-A	Method Blank	Total/NA	Water	6010B	121659
LCS 570-121659/2-A	Lab Control Sample	Total/NA	Water	6010B	121659
LCSD 570-121659/3-A	Lab Control Sample Dup	Total/NA	Water	6010B	121659
570-47878-B-1-B MS	Matrix Spike	Total/NA	Water	6010B	121659
570-47878-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	6010B	121659

### Analysis Batch: 122023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47505-1	SWCONF17-10.0	Total/NA	Solid	6010B	121763
570-47505-2	SWCONF17-15.0	Total/NA	Solid	6010B	121763
570-47505-3	SWCONF17-20.0	Total/NA	Solid	6010B	121763
570-47505-4	SWCONF17-25.0	Total/NA	Solid	6010B	121763
570-47505-5	SWCONF17-26.0	Total/NA	Solid	6010B	121763
570-47505-6	SWCONF17-26.5	Total/NA	Solid	6010B	121763
570-47505-7	SWCONF17-30.0	Total/NA	Solid	6010B	121763
570-47505-8	SWCONF17-32.5	Total/NA	Solid	6010B	121763
570-47505-9	SWCONF17-33.0	Total/NA	Solid	6010B	121763
570-47505-10	SWCONF17-35.0	Total/NA	Solid	6010B	121763
570-47505-11	SWCONF17-40.0	Total/NA	Solid	6010B	121763
570-47505-12	SWCONF17-45.0	Total/NA	Solid	6010B	121763
570-47505-13	SWCONF17-50.0	Total/NA	Solid	6010B	121763
570-47505-14	SWCONF17-55.0	Total/NA	Solid	6010B	121763
570-47505-15	SWCONF17-56.0	Total/NA	Solid	6010B	121763
570-47505-16	SWCONF17-60.0	Total/NA	Solid	6010B	121763
570-47505-17	SWCONF17-61.0	Total/NA	Solid	6010B	121763
570-47505-18	SWCONF17-61.5	Total/NA	Solid	6010B	121763
570-47505-19	SWCONF17-65.0	Total/NA	Solid	6010B	121763
570-47505-20	SWCONF17-70.0	Total/NA	Solid	6010B	121763
570-47505-21	SWCONF14-25.0	Total/NA	Solid	6010B	121766
570-47505-22	SWCONF14-25.5	Total/NA	Solid	6010B	121766

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## Metals (Continued)

### Analysis Batch: 122023 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47505-23	SWCONF14-30.0	Total/NA	Solid	6010B	121766
570-47505-24	SWCONF14-32.0	Total/NA	Solid	6010B	121766
570-47505-25	SWCONF14-32.5	Total/NA	Solid	6010B	121766
570-47505-26	SWCONF14-35.0	Total/NA	Solid	6010B	121766
570-47505-27	SWCONF14-40.0	Total/NA	Solid	6010B	121766
570-47505-28	SWCONF14-45.0	Total/NA	Solid	6010B	121766
570-47505-29	SWCONF14-50.0	Total/NA	Solid	6010B	121766
570-47505-30	SWCONF14-55.0	Total/NA	Solid	6010B	121766
570-47505-31	SWCONF14-59.0	Total/NA	Solid	6010B	121766
570-47505-32	SWCONF14-59.5	Total/NA	Solid	6010B	121766
570-47505-33	SWCONF14-60.0	Total/NA	Solid	6010B	121766
570-47505-34	SWCONF14-65.0	Total/NA	Solid	6010B	121766
570-47505-35	SWCONF14-70.0	Total/NA	Solid	6010B	121766
MB 570-121763/1-A	Method Blank	Total/NA	Solid	6010B	121763
MB 570-121766/1-A	Method Blank	Total/NA	Solid	6010B	121766
LCS 570-121763/2-A	Lab Control Sample	Total/NA	Solid	6010B	121763
LCS 570-121766/2-A	Lab Control Sample	Total/NA	Solid	6010B	121766
LCSD 570-121763/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	121763
LCSD 570-121766/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	121766
570-47505-1 MS	SWCONF17-10.0	Total/NA	Solid	6010B	121763
570-47505-1 MSD	SWCONF17-10.0	Total/NA	Solid	6010B	121763
570-47505-21 MS	SWCONF14-25.0	Total/NA	Solid	6010B	121766
570-47505-21 MSD	SWCONF14-25.0	Total/NA	Solid	6010B	121766

## General Chemistry

### Leach Batch: 119854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47505-1	SWCONF17-10.0	Total/NA	Solid	DI Leach	
570-47505-2	SWCONF17-15.0	Total/NA	Solid	DI Leach	
570-47505-3	SWCONF17-20.0	Total/NA	Solid	DI Leach	
570-47505-4	SWCONF17-25.0	Total/NA	Solid	DI Leach	
570-47505-5	SWCONF17-26.0	Total/NA	Solid	DI Leach	
570-47505-6	SWCONF17-26.5	Total/NA	Solid	DI Leach	
570-47505-7	SWCONF17-30.0	Total/NA	Solid	DI Leach	
570-47505-8	SWCONF17-32.5	Total/NA	Solid	DI Leach	
570-47505-9	SWCONF17-33.0	Total/NA	Solid	DI Leach	
570-47505-10	SWCONF17-35.0	Total/NA	Solid	DI Leach	
570-47505-11	SWCONF17-40.0	Total/NA	Solid	DI Leach	
570-47505-12	SWCONF17-45.0	Total/NA	Solid	DI Leach	
570-47505-13	SWCONF17-50.0	Total/NA	Solid	DI Leach	
570-47505-14	SWCONF17-55.0	Total/NA	Solid	DI Leach	
570-47505-15	SWCONF17-56.0	Total/NA	Solid	DI Leach	
570-47505-16	SWCONF17-60.0	Total/NA	Solid	DI Leach	
570-47505-17	SWCONF17-61.0	Total/NA	Solid	DI Leach	
570-47505-18	SWCONF17-61.5	Total/NA	Solid	DI Leach	
570-47505-19	SWCONF17-65.0	Total/NA	Solid	DI Leach	
570-47505-20	SWCONF17-70.0	Total/NA	Solid	DI Leach	
570-47505-1 DU	SWCONF17-10.0	Total/NA	Solid	DI Leach	

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## General Chemistry

### Leach Batch: 119861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47505-21	SWCONF14-25.0	Total/NA	Solid	DI Leach	
570-47505-22	SWCONF14-25.5	Total/NA	Solid	DI Leach	
570-47505-23	SWCONF14-30.0	Total/NA	Solid	DI Leach	
570-47505-24	SWCONF14-32.0	Total/NA	Solid	DI Leach	
570-47505-25	SWCONF14-32.5	Total/NA	Solid	DI Leach	
570-47505-26	SWCONF14-35.0	Total/NA	Solid	DI Leach	
570-47505-27	SWCONF14-40.0	Total/NA	Solid	DI Leach	
570-47505-28	SWCONF14-45.0	Total/NA	Solid	DI Leach	
570-47505-29	SWCONF14-50.0	Total/NA	Solid	DI Leach	
570-47505-30	SWCONF14-55.0	Total/NA	Solid	DI Leach	
570-47505-31	SWCONF14-59.0	Total/NA	Solid	DI Leach	
570-47505-32	SWCONF14-59.5	Total/NA	Solid	DI Leach	
570-47505-33	SWCONF14-60.0	Total/NA	Solid	DI Leach	
570-47505-34	SWCONF14-65.0	Total/NA	Solid	DI Leach	
570-47505-35	SWCONF14-70.0	Total/NA	Solid	DI Leach	
570-47505-21 DU	SWCONF14-25.0	Total/NA	Solid	DI Leach	

### Analysis Batch: 119880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47505-1	SWCONF17-10.0	Total/NA	Solid	9045C	119854
570-47505-2	SWCONF17-15.0	Total/NA	Solid	9045C	119854
570-47505-3	SWCONF17-20.0	Total/NA	Solid	9045C	119854
570-47505-4	SWCONF17-25.0	Total/NA	Solid	9045C	119854
570-47505-5	SWCONF17-26.0	Total/NA	Solid	9045C	119854
570-47505-6	SWCONF17-26.5	Total/NA	Solid	9045C	119854
570-47505-7	SWCONF17-30.0	Total/NA	Solid	9045C	119854
570-47505-8	SWCONF17-32.5	Total/NA	Solid	9045C	119854
570-47505-9	SWCONF17-33.0	Total/NA	Solid	9045C	119854
570-47505-10	SWCONF17-35.0	Total/NA	Solid	9045C	119854
570-47505-11	SWCONF17-40.0	Total/NA	Solid	9045C	119854
570-47505-12	SWCONF17-45.0	Total/NA	Solid	9045C	119854
570-47505-13	SWCONF17-50.0	Total/NA	Solid	9045C	119854
570-47505-14	SWCONF17-55.0	Total/NA	Solid	9045C	119854
570-47505-15	SWCONF17-56.0	Total/NA	Solid	9045C	119854
570-47505-16	SWCONF17-60.0	Total/NA	Solid	9045C	119854
570-47505-17	SWCONF17-61.0	Total/NA	Solid	9045C	119854
570-47505-18	SWCONF17-61.5	Total/NA	Solid	9045C	119854
570-47505-19	SWCONF17-65.0	Total/NA	Solid	9045C	119854
570-47505-20	SWCONF17-70.0	Total/NA	Solid	9045C	119854
570-47505-1 DU	SWCONF17-10.0	Total/NA	Solid	9045C	119854

### Analysis Batch: 119881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47505-21	SWCONF14-25.0	Total/NA	Solid	9045C	119861
570-47505-22	SWCONF14-25.5	Total/NA	Solid	9045C	119861
570-47505-23	SWCONF14-30.0	Total/NA	Solid	9045C	119861
570-47505-24	SWCONF14-32.0	Total/NA	Solid	9045C	119861
570-47505-25	SWCONF14-32.5	Total/NA	Solid	9045C	119861
570-47505-26	SWCONF14-35.0	Total/NA	Solid	9045C	119861
570-47505-27	SWCONF14-40.0	Total/NA	Solid	9045C	119861
570-47505-28	SWCONF14-45.0	Total/NA	Solid	9045C	119861

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# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## General Chemistry (Continued)

### Analysis Batch: 119881 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47505-29	SWCONF14-50.0	Total/NA	Solid	9045C	119861
570-47505-30	SWCONF14-55.0	Total/NA	Solid	9045C	119861
570-47505-31	SWCONF14-59.0	Total/NA	Solid	9045C	119861
570-47505-32	SWCONF14-59.5	Total/NA	Solid	9045C	119861
570-47505-33	SWCONF14-60.0	Total/NA	Solid	9045C	119861
570-47505-34	SWCONF14-65.0	Total/NA	Solid	9045C	119861
570-47505-35	SWCONF14-70.0	Total/NA	Solid	9045C	119861
570-47505-21 DU	SWCONF14-25.0	Total/NA	Solid	9045C	119861

### Analysis Batch: 119895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47505-1	SWCONF17-10.0	Total/NA	Solid	Moisture	
570-47505-2	SWCONF17-15.0	Total/NA	Solid	Moisture	
570-47505-3	SWCONF17-20.0	Total/NA	Solid	Moisture	
570-47505-4	SWCONF17-25.0	Total/NA	Solid	Moisture	
570-47505-5	SWCONF17-26.0	Total/NA	Solid	Moisture	
570-47505-6	SWCONF17-26.5	Total/NA	Solid	Moisture	
570-47505-7	SWCONF17-30.0	Total/NA	Solid	Moisture	
570-47505-8	SWCONF17-32.5	Total/NA	Solid	Moisture	
570-47505-9	SWCONF17-33.0	Total/NA	Solid	Moisture	
570-47505-10	SWCONF17-35.0	Total/NA	Solid	Moisture	
570-47505-11	SWCONF17-40.0	Total/NA	Solid	Moisture	
570-47505-12	SWCONF17-45.0	Total/NA	Solid	Moisture	
570-47505-13	SWCONF17-50.0	Total/NA	Solid	Moisture	
570-47505-14	SWCONF17-55.0	Total/NA	Solid	Moisture	
570-47505-15	SWCONF17-56.0	Total/NA	Solid	Moisture	
570-47505-16	SWCONF17-60.0	Total/NA	Solid	Moisture	
570-47505-1 DU	SWCONF17-10.0	Total/NA	Solid	Moisture	
570-47505-7 DU	SWCONF17-30.0	Total/NA	Solid	Moisture	

### Analysis Batch: 119922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47505-17	SWCONF17-61.0	Total/NA	Solid	Moisture	
570-47505-18	SWCONF17-61.5	Total/NA	Solid	Moisture	
570-47505-19	SWCONF17-65.0	Total/NA	Solid	Moisture	
570-47505-20	SWCONF17-70.0	Total/NA	Solid	Moisture	
570-47505-21	SWCONF14-25.0	Total/NA	Solid	Moisture	
570-47505-22	SWCONF14-25.5	Total/NA	Solid	Moisture	
570-47505-23	SWCONF14-30.0	Total/NA	Solid	Moisture	
570-47505-24	SWCONF14-32.0	Total/NA	Solid	Moisture	
570-47505-25	SWCONF14-32.5	Total/NA	Solid	Moisture	
570-47505-26	SWCONF14-35.0	Total/NA	Solid	Moisture	
570-47505-27	SWCONF14-40.0	Total/NA	Solid	Moisture	
570-47505-28	SWCONF14-45.0	Total/NA	Solid	Moisture	
570-47505-29	SWCONF14-50.0	Total/NA	Solid	Moisture	
570-47505-30	SWCONF14-55.0	Total/NA	Solid	Moisture	
570-47505-31	SWCONF14-59.0	Total/NA	Solid	Moisture	
570-47505-32	SWCONF14-59.5	Total/NA	Solid	Moisture	
570-47505-33	SWCONF14-60.0	Total/NA	Solid	Moisture	
570-47505-34	SWCONF14-65.0	Total/NA	Solid	Moisture	
570-47505-35	SWCONF14-70.0	Total/NA	Solid	Moisture	

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## General Chemistry (Continued)

### Analysis Batch: 119922 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47505-17 DU	SWCONF17-61.0	Total/NA	Solid	Moisture	
570-47505-27 DU	SWCONF14-40.0	Total/NA	Solid	Moisture	

### Prep Batch: 122933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47505-21	SWCONF14-25.0	Total/NA	Solid	3060A	
570-47505-22	SWCONF14-25.5	Total/NA	Solid	3060A	
570-47505-23	SWCONF14-30.0	Total/NA	Solid	3060A	
570-47505-24	SWCONF14-32.0	Total/NA	Solid	3060A	
570-47505-25	SWCONF14-32.5	Total/NA	Solid	3060A	
570-47505-26	SWCONF14-35.0	Total/NA	Solid	3060A	
570-47505-27	SWCONF14-40.0	Total/NA	Solid	3060A	
570-47505-28	SWCONF14-45.0	Total/NA	Solid	3060A	
570-47505-29	SWCONF14-50.0	Total/NA	Solid	3060A	
570-47505-30	SWCONF14-55.0	Total/NA	Solid	3060A	
570-47505-31	SWCONF14-59.0	Total/NA	Solid	3060A	
570-47505-32	SWCONF14-59.5	Total/NA	Solid	3060A	
570-47505-33	SWCONF14-60.0	Total/NA	Solid	3060A	
570-47505-34	SWCONF14-65.0	Total/NA	Solid	3060A	
570-47505-35	SWCONF14-70.0	Total/NA	Solid	3060A	
MB 570-122933/1-A	Method Blank	Total/NA	Solid	3060A	
LCS 570-122933/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-122933/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-47505-21 MS	SWCONF14-25.0	Total/NA	Solid	3060A	
570-47505-21 MSD	SWCONF14-25.0	Total/NA	Solid	3060A	
570-47505-21 MSI	SWCONF14-25.0	Total/NA	Solid	3060A	
570-47505-21 MSID	SWCONF14-25.0	Total/NA	Solid	3060A	

### Prep Batch: 122974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47505-1	SWCONF17-10.0	Total/NA	Solid	3060A	
570-47505-2	SWCONF17-15.0	Total/NA	Solid	3060A	
570-47505-3	SWCONF17-20.0	Total/NA	Solid	3060A	
570-47505-4	SWCONF17-25.0	Total/NA	Solid	3060A	
570-47505-5	SWCONF17-26.0	Total/NA	Solid	3060A	
570-47505-6	SWCONF17-26.5	Total/NA	Solid	3060A	
570-47505-7	SWCONF17-30.0	Total/NA	Solid	3060A	
570-47505-8	SWCONF17-32.5	Total/NA	Solid	3060A	
570-47505-9	SWCONF17-33.0	Total/NA	Solid	3060A	
570-47505-10	SWCONF17-35.0	Total/NA	Solid	3060A	
570-47505-11	SWCONF17-40.0	Total/NA	Solid	3060A	
570-47505-12	SWCONF17-45.0	Total/NA	Solid	3060A	
570-47505-13	SWCONF17-50.0	Total/NA	Solid	3060A	
570-47505-14	SWCONF17-55.0	Total/NA	Solid	3060A	
570-47505-15	SWCONF17-56.0	Total/NA	Solid	3060A	
570-47505-16	SWCONF17-60.0	Total/NA	Solid	3060A	
570-47505-17	SWCONF17-61.0	Total/NA	Solid	3060A	
570-47505-18	SWCONF17-61.5	Total/NA	Solid	3060A	
570-47505-19	SWCONF17-65.0	Total/NA	Solid	3060A	
570-47505-20	SWCONF17-70.0	Total/NA	Solid	3060A	
MB 570-122974/1-A	Method Blank	Total/NA	Solid	3060A	

# QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

## General Chemistry (Continued)

### Prep Batch: 122974 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-122974/2-A	Lab Control Sample	Total/NA	Solid	3060A	
LCSD 570-122974/3-A	Lab Control Sample Dup	Total/NA	Solid	3060A	
570-47505-1 MS	SWCONF17-10.0	Total/NA	Solid	3060A	
570-47505-1 MSD	SWCONF17-10.0	Total/NA	Solid	3060A	
570-47505-1 MSI	SWCONF17-10.0	Total/NA	Solid	3060A	
570-47505-1 MSID	SWCONF17-10.0	Total/NA	Solid	3060A	
570-47505-10 MS	SWCONF17-35.0	Total/NA	Solid	3060A	
570-47505-10 MSD	SWCONF17-35.0	Total/NA	Solid	3060A	
570-47505-10 MSI	SWCONF17-35.0	Total/NA	Solid	3060A	
570-47505-10 MSID	SWCONF17-35.0	Total/NA	Solid	3060A	

### Analysis Batch: 123432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47505-1	SWCONF17-10.0	Total/NA	Solid	7196A	122974
570-47505-2	SWCONF17-15.0	Total/NA	Solid	7196A	122974
570-47505-3	SWCONF17-20.0	Total/NA	Solid	7196A	122974
570-47505-4	SWCONF17-25.0	Total/NA	Solid	7196A	122974
570-47505-5	SWCONF17-26.0	Total/NA	Solid	7196A	122974
570-47505-6	SWCONF17-26.5	Total/NA	Solid	7196A	122974
570-47505-7	SWCONF17-30.0	Total/NA	Solid	7196A	122974
570-47505-8	SWCONF17-32.5	Total/NA	Solid	7196A	122974
570-47505-9	SWCONF17-33.0	Total/NA	Solid	7196A	122974
570-47505-10	SWCONF17-35.0	Total/NA	Solid	7196A	122974
570-47505-11	SWCONF17-40.0	Total/NA	Solid	7196A	122974
570-47505-12	SWCONF17-45.0	Total/NA	Solid	7196A	122974
570-47505-13	SWCONF17-50.0	Total/NA	Solid	7196A	122974
570-47505-14	SWCONF17-55.0	Total/NA	Solid	7196A	122974
570-47505-15	SWCONF17-56.0	Total/NA	Solid	7196A	122974
570-47505-16	SWCONF17-60.0	Total/NA	Solid	7196A	122974
570-47505-17	SWCONF17-61.0	Total/NA	Solid	7196A	122974
570-47505-18	SWCONF17-61.5	Total/NA	Solid	7196A	122974
570-47505-19	SWCONF17-65.0	Total/NA	Solid	7196A	122974
570-47505-20	SWCONF17-70.0	Total/NA	Solid	7196A	122974
MB 570-122974/1-A	Method Blank	Total/NA	Solid	7196A	122974
LCS 570-122974/2-A	Lab Control Sample	Total/NA	Solid	7196A	122974
LCSD 570-122974/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	122974
570-47505-1 MS	SWCONF17-10.0	Total/NA	Solid	7196A	122974
570-47505-1 MSD	SWCONF17-10.0	Total/NA	Solid	7196A	122974
570-47505-1 MSI	SWCONF17-10.0	Total/NA	Solid	7196A	122974
570-47505-1 MSID	SWCONF17-10.0	Total/NA	Solid	7196A	122974
570-47505-10 MS	SWCONF17-35.0	Total/NA	Solid	7196A	122974
570-47505-10 MSD	SWCONF17-35.0	Total/NA	Solid	7196A	122974
570-47505-10 MSI	SWCONF17-35.0	Total/NA	Solid	7196A	122974
570-47505-10 MSID	SWCONF17-35.0	Total/NA	Solid	7196A	122974

### Analysis Batch: 123576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47505-21	SWCONF14-25.0	Total/NA	Solid	7196A	122933
570-47505-22	SWCONF14-25.5	Total/NA	Solid	7196A	122933
570-47505-23	SWCONF14-30.0	Total/NA	Solid	7196A	122933
570-47505-24	SWCONF14-32.0	Total/NA	Solid	7196A	122933

Eurofins Calscience LLC

## QC Association Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

### General Chemistry (Continued)

#### Analysis Batch: 123576 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-47505-25	SWCONF14-32.5	Total/NA	Solid	7196A	122933
570-47505-26	SWCONF14-35.0	Total/NA	Solid	7196A	122933
570-47505-27	SWCONF14-40.0	Total/NA	Solid	7196A	122933
570-47505-28	SWCONF14-45.0	Total/NA	Solid	7196A	122933
570-47505-29	SWCONF14-50.0	Total/NA	Solid	7196A	122933
570-47505-30	SWCONF14-55.0	Total/NA	Solid	7196A	122933
570-47505-31	SWCONF14-59.0	Total/NA	Solid	7196A	122933
570-47505-32	SWCONF14-59.5	Total/NA	Solid	7196A	122933
570-47505-33	SWCONF14-60.0	Total/NA	Solid	7196A	122933
570-47505-34	SWCONF14-65.0	Total/NA	Solid	7196A	122933
570-47505-35	SWCONF14-70.0	Total/NA	Solid	7196A	122933
MB 570-122933/1-A	Method Blank	Total/NA	Solid	7196A	122933
LCS 570-122933/2-A	Lab Control Sample	Total/NA	Solid	7196A	122933
LCSD 570-122933/3-A	Lab Control Sample Dup	Total/NA	Solid	7196A	122933
570-47505-21 MS	SWCONF14-25.0	Total/NA	Solid	7196A	122933
570-47505-21 MSD	SWCONF14-25.0	Total/NA	Solid	7196A	122933
570-47505-21 MSI	SWCONF14-25.0	Total/NA	Solid	7196A	122933
570-47505-21 MSID	SWCONF14-25.0	Total/NA	Solid	7196A	122933

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF17-10.0**

**Lab Sample ID: 570-47505-1**

**Date Collected: 12/31/20 08:30**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	100 mL	121763	01/12/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 13:10	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.43 g	100 mL	122974	01/19/21 13:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123432	01/20/21 10:09	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	119854	12/31/20 17:26	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119880	01/02/21 10:19	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119895	01/02/21 11:50	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF17-15.0**

**Lab Sample ID: 570-47505-2**

**Date Collected: 12/31/20 08:45**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	100 mL	121763	01/12/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 13:18	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.50 g	100 mL	122974	01/19/21 13:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123432	01/20/21 10:10	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	119854	12/31/20 17:26	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119880	01/02/21 10:19	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119895	01/02/21 11:50	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF17-20.0**

**Lab Sample ID: 570-47505-3**

**Date Collected: 12/31/20 08:53**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	100 mL	121763	01/12/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 13:22	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.54 g	100 mL	122974	01/19/21 13:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123432	01/20/21 10:11	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.03 g	20 mL	119854	12/31/20 17:26	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119880	01/02/21 10:19	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119895	01/02/21 11:50	SR3N	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF17-25.0**

**Lab Sample ID: 570-47505-4**

**Date Collected: 12/31/20 09:04**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	121763	01/12/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 13:25	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.60 g	100 mL	122974	01/19/21 13:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123432	01/20/21 10:12	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	119854	12/31/20 17:26	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119880	01/02/21 10:19	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119895	01/02/21 11:50	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF17-26.0**

**Lab Sample ID: 570-47505-5**

**Date Collected: 12/31/20 09:05**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.95 g	100 mL	121763	01/12/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 13:28	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.48 g	100 mL	122974	01/19/21 13:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123432	01/20/21 10:13	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	119854	12/31/20 17:26	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119880	01/02/21 10:19	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119895	01/02/21 11:50	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF17-26.5**

**Lab Sample ID: 570-47505-6**

**Date Collected: 12/31/20 09:06**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.94 g	100 mL	121763	01/12/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 13:37	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.52 g	100 mL	122974	01/19/21 13:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123432	01/20/21 10:14	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.02 g	20 mL	119854	12/31/20 17:26	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119880	01/02/21 10:19	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119895	01/02/21 11:50	SR3N	ECL 1
Instrument ID: BAL87										



# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF17-30.0**

**Lab Sample ID: 570-47505-7**

**Date Collected: 12/31/20 09:15**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.96 g	100 mL	121763	01/12/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 13:40	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.54 g	100 mL	122974	01/19/21 13:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123432	01/20/21 10:15	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.03 g	20 mL	119854	12/31/20 17:26	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119880	01/02/21 10:19	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119895	01/02/21 11:50	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF17-32.5**

**Lab Sample ID: 570-47505-8**

**Date Collected: 12/31/20 09:20**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.09 g	100 mL	121763	01/12/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 13:43	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.58 g	100 mL	122974	01/19/21 13:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123432	01/20/21 10:16	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.04 g	20 mL	119854	12/31/20 17:26	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119880	01/02/21 10:19	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119895	01/02/21 11:50	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF17-33.0**

**Lab Sample ID: 570-47505-9**

**Date Collected: 12/31/20 09:21**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.08 g	100 mL	121763	01/12/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 13:46	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.55 g	100 mL	122974	01/19/21 13:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123432	01/20/21 10:17	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	119854	12/31/20 17:26	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119880	01/02/21 10:19	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119895	01/02/21 11:50	SR3N	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF17-35.0**

**Lab Sample ID: 570-47505-10**

**Date Collected: 12/31/20 09:23**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	100 mL	121763	01/12/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 13:48	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.57 g	100 mL	122974	01/19/21 13:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123432	01/20/21 10:18	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.01 g	20 mL	119854	12/31/20 17:26	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119880	01/02/21 10:19	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119895	01/02/21 11:50	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF17-40.0**

**Lab Sample ID: 570-47505-11**

**Date Collected: 12/31/20 09:34**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	121763	01/12/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 13:51	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.53 g	100 mL	122974	01/19/21 13:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123432	01/20/21 10:27	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	119854	12/31/20 17:26	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119880	01/02/21 10:19	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119895	01/02/21 11:50	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF17-45.0**

**Lab Sample ID: 570-47505-12**

**Date Collected: 12/31/20 09:42**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.92 g	100 mL	121763	01/12/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 13:54	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.49 g	100 mL	122974	01/19/21 13:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123432	01/20/21 10:28	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	119854	12/31/20 17:26	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119880	01/02/21 10:19	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119895	01/02/21 11:50	SR3N	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF17-50.0**

**Lab Sample ID: 570-47505-13**

**Date Collected: 12/31/20 09:48**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	121763	01/12/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 13:57	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.50 g	100 mL	122974	01/19/21 13:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123432	01/20/21 10:29	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	119854	12/31/20 17:26	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119880	01/02/21 10:19	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119895	01/02/21 11:50	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF17-55.0**

**Lab Sample ID: 570-47505-14**

**Date Collected: 12/31/20 10:01**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	121763	01/12/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 14:00	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.51 g	100 mL	122974	01/19/21 13:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123432	01/20/21 10:30	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.98 g	20 mL	119854	12/31/20 17:26	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119880	01/02/21 10:19	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119895	01/02/21 11:50	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF17-56.0**

**Lab Sample ID: 570-47505-15**

**Date Collected: 12/31/20 10:02**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	100 mL	121763	01/12/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 14:03	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.59 g	100 mL	122974	01/19/21 13:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123432	01/20/21 10:31	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.04 g	20 mL	119854	12/31/20 17:26	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119880	01/02/21 10:19	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119895	01/02/21 11:50	SR3N	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF17-60.0**

**Lab Sample ID: 570-47505-16**

**Date Collected: 12/31/20 10:10**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.06 g	100 mL	121763	01/12/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 14:12	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.51 g	100 mL	122974	01/19/21 13:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123432	01/20/21 10:32	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	119854	12/31/20 17:26	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119880	01/02/21 10:19	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119895	01/02/21 11:50	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF17-61.0**

**Lab Sample ID: 570-47505-17**

**Date Collected: 12/31/20 10:15**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	100 mL	121763	01/12/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 14:15	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.57 g	100 mL	122974	01/19/21 13:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123432	01/20/21 10:33	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.04 g	20 mL	119854	12/31/20 17:26	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119880	01/02/21 10:19	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119922	01/02/21 14:43	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF17-61.5**

**Lab Sample ID: 570-47505-18**

**Date Collected: 12/31/20 10:16**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	100 mL	121763	01/12/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 14:18	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.43 g	100 mL	122974	01/19/21 13:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123432	01/20/21 10:34	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	119854	12/31/20 17:26	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119880	01/02/21 10:19	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119922	01/02/21 14:43	SR3N	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF17-65.0**

**Lab Sample ID: 570-47505-19**

**Date Collected: 12/31/20 10:20**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	100 mL	121763	01/12/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 14:21	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.47 g	100 mL	122974	01/19/21 13:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123432	01/20/21 10:35	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			19.99 g	20 mL	119854	12/31/20 17:26	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119880	01/02/21 10:20	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119922	01/02/21 14:43	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF17-70.0**

**Lab Sample ID: 570-47505-20**

**Date Collected: 12/31/20 10:25**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.92 g	100 mL	121763	01/12/21 16:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 14:24	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.57 g	100 mL	122974	01/19/21 13:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123432	01/20/21 10:36	UAPD	ECL 1
Instrument ID: UV9										
Total/NA	Leach	DI Leach			20.00 g	20 mL	119854	12/31/20 17:26	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119880	01/02/21 10:20	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119922	01/02/21 14:43	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF14-25.0**

**Lab Sample ID: 570-47505-21**

**Date Collected: 12/31/20 08:50**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.94 g	100 mL	121766	01/12/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 14:41	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.48 g	100 mL	122933	01/20/21 09:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123576	01/20/21 19:00	SUR5	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			20.03 g	20 mL	119861	12/31/20 17:59	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119881	01/02/21 10:22	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119922	01/02/21 14:43	SR3N	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF14-25.5**

**Lab Sample ID: 570-47505-22**

**Date Collected: 12/31/20 08:52**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	121766	01/12/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 14:50	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.41 g	100 mL	122933	01/20/21 09:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123576	01/20/21 19:01	SUR5	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			20.01 g	20 mL	119861	12/31/20 17:59	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119881	01/02/21 10:22	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119922	01/02/21 14:43	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF14-30.0**

**Lab Sample ID: 570-47505-23**

**Date Collected: 12/31/20 09:04**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.07 g	100 mL	121766	01/12/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 14:53	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.47 g	100 mL	122933	01/20/21 09:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123576	01/20/21 19:02	SUR5	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			20.02 g	20 mL	119861	12/31/20 17:59	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119881	01/02/21 10:22	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119922	01/02/21 14:43	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF14-32.0**

**Lab Sample ID: 570-47505-24**

**Date Collected: 12/31/20 09:08**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.91 g	100 mL	121766	01/12/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 14:56	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.51 g	100 mL	122933	01/20/21 09:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123576	01/20/21 19:03	SUR5	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			19.97 g	20 mL	119861	12/31/20 17:59	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119881	01/02/21 10:22	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119922	01/02/21 14:43	SR3N	ECL 1
Instrument ID: BAL87										



# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF14-32.5**

**Lab Sample ID: 570-47505-25**

**Date Collected: 12/31/20 09:10**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	100 mL	121766	01/12/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 14:59	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.53 g	100 mL	122933	01/20/21 09:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123576	01/20/21 19:04	SUR5	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			20.02 g	20 mL	119861	12/31/20 17:59	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119881	01/02/21 10:22	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119922	01/02/21 14:43	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF14-35.0**

**Lab Sample ID: 570-47505-26**

**Date Collected: 12/31/20 09:16**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.94 g	100 mL	121766	01/12/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 15:07	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.59 g	100 mL	122933	01/20/21 09:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123576	01/20/21 19:05	SUR5	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			19.99 g	20 mL	119861	12/31/20 17:59	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119881	01/02/21 10:22	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119922	01/02/21 14:43	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF14-40.0**

**Lab Sample ID: 570-47505-27**

**Date Collected: 12/31/20 09:27**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	121766	01/12/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 15:10	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.56 g	100 mL	122933	01/20/21 09:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123576	01/20/21 19:06	SUR5	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			20.02 g	20 mL	119861	12/31/20 17:59	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119881	01/02/21 10:22	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119922	01/02/21 14:43	SR3N	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF14-45.0**

**Lab Sample ID: 570-47505-28**

**Date Collected: 12/31/20 09:38**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.94 g	100 mL	121766	01/12/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 15:13	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.54 g	100 mL	122933	01/20/21 09:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123576	01/20/21 19:07	SUR5	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			19.97 g	20 mL	119861	12/31/20 17:59	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119881	01/02/21 10:22	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119922	01/02/21 14:43	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF14-50.0**

**Lab Sample ID: 570-47505-29**

**Date Collected: 12/31/20 09:50**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	121766	01/12/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 15:16	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.54 g	100 mL	122933	01/20/21 09:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123576	01/20/21 19:08	SUR5	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			19.97 g	20 mL	119861	12/31/20 17:59	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119881	01/02/21 10:22	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119922	01/02/21 14:43	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF14-55.0**

**Lab Sample ID: 570-47505-30**

**Date Collected: 12/31/20 10:03**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	100 mL	121766	01/12/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 15:19	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.56 g	100 mL	122933	01/20/21 09:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123576	01/20/21 19:09	SUR5	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			20.04 g	20 mL	119861	12/31/20 17:59	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119881	01/02/21 10:22	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119922	01/02/21 14:43	SR3N	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF14-59.0**

**Lab Sample ID: 570-47505-31**

**Date Collected: 12/31/20 10:12**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.97 g	100 mL	121766	01/12/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 15:22	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.50 g	100 mL	122933	01/20/21 09:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123576	01/20/21 19:12	SUR5	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			19.97 g	20 mL	119861	12/31/20 17:59	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119881	01/02/21 10:22	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119922	01/02/21 14:43	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF14-59.5**

**Lab Sample ID: 570-47505-32**

**Date Collected: 12/31/20 10:13**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	100 mL	121766	01/12/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 15:25	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.50 g	100 mL	122933	01/20/21 09:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123576	01/20/21 19:13	SUR5	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			19.97 g	20 mL	119861	12/31/20 17:59	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119881	01/02/21 10:22	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119922	01/02/21 14:43	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF14-60.0**

**Lab Sample ID: 570-47505-33**

**Date Collected: 12/31/20 10:16**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	100 mL	121766	01/12/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 15:28	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.49 g	100 mL	122933	01/20/21 09:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123576	01/20/21 19:14	SUR5	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			19.95 g	20 mL	119861	12/31/20 17:59	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119881	01/02/21 10:22	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119922	01/02/21 14:43	SR3N	ECL 1
Instrument ID: BAL87										

# Lab Chronicle

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

**Client Sample ID: SWCONF14-65.0**

**Lab Sample ID: 570-47505-34**

**Date Collected: 12/31/20 10:24**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.96 g	100 mL	121766	01/12/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 15:31	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.55 g	100 mL	122933	01/20/21 09:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123576	01/20/21 19:15	SUR5	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			19.97 g	20 mL	119861	12/31/20 17:59	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119881	01/02/21 10:22	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119922	01/02/21 14:43	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: SWCONF14-70.0**

**Lab Sample ID: 570-47505-35**

**Date Collected: 12/31/20 10:34**

**Matrix: Solid**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.07 g	100 mL	121766	01/12/21 17:00	SP7J	ECL 1
Total/NA	Analysis	6010B		1			122023	01/13/21 15:34	EMS	ECL 1
Instrument ID: ICP9										
Total/NA	Prep	3060A			2.52 g	100 mL	122933	01/20/21 09:00	UYUW	ECL 1
Total/NA	Analysis	7196A		1	100 mL	100 mL	123576	01/20/21 19:16	SUR5	ECL 1
Instrument ID: UV8										
Total/NA	Leach	DI Leach			20.03 g	20 mL	119861	12/31/20 17:59	Y3IH	ECL 1
Total/NA	Analysis	9045C		1	20 mL	20 mL	119881	01/02/21 10:22	T9SG	ECL 1
Instrument ID: PH4										
Total/NA	Analysis	Moisture		1			119922	01/02/21 14:43	SR3N	ECL 1
Instrument ID: BAL87										

**Client Sample ID: EB07**

**Lab Sample ID: 570-47505-36**

**Date Collected: 12/31/20 11:15**

**Matrix: Water**

**Date Received: 12/31/20 14:20**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7199		1			119642	12/31/20 17:09	URMH	ECL 1
Instrument ID: IC16										
Total/NA	Prep	3010A			50 mL	50 mL	121659	01/12/21 09:45	WL8G	ECL 1
Total/NA	Analysis	6010B		1			121957	01/13/21 11:14	ULPF	ECL 1
Instrument ID: ICP8										

## Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494

## Accreditation/Certification Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

### Laboratory: Eurofins Calscience LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	09-30-21
California	SCAQMD LAP	17LA0919	11-30-21
California	State	2944	09-30-21
Guam	State	20-003R	10-31-20 *
Nevada	State	CA00111	07-31-21
Oregon	NELAP	CA300001	01-29-21
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-11-21

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Calscience LLC

## Method Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

Job ID: 570-47505-1  
SDG: 0197.010.006

Method	Method Description	Protocol	Laboratory
7199	Chromium, Hexavalent (IC)	SW846	ECL 1
6010B	Metals (ICP)	SW846	ECL 1
7196A	Chromium, Hexavalent	SW846	ECL 1
9045C	pH	SW846	ECL 1
Moisture	Percent Moisture	EPA	ECL 1
3010A	Preparation, Total Metals	SW846	ECL 1
3050B	Preparation, Metals	SW846	ECL 1
3060A	Alkaline Digestion (Chromium, Hexavalent)	SW846	ECL 1
DI Leach	Deionized Water Leaching Procedure	ASTM	ECL 1

### Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

ECL 1 = Eurofins Calscience LLC Lincoln, 7440 Lincoln Way, Garden Grove, CA 92841, TEL (714)895-5494



# Sample Summary

Client: Terraphase Engineering Inc  
Project/Site: PTI Southwest Soil Injection Confirmation

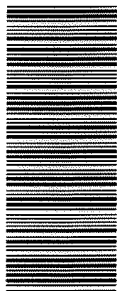
Job ID: 570-47505-1  
SDG: 0197.010.006

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
570-47505-1	SWCONF17-10.0	Solid	12/31/20 08:30	12/31/20 14:20	
570-47505-2	SWCONF17-15.0	Solid	12/31/20 08:45	12/31/20 14:20	
570-47505-3	SWCONF17-20.0	Solid	12/31/20 08:53	12/31/20 14:20	
570-47505-4	SWCONF17-25.0	Solid	12/31/20 09:04	12/31/20 14:20	
570-47505-5	SWCONF17-26.0	Solid	12/31/20 09:05	12/31/20 14:20	
570-47505-6	SWCONF17-26.5	Solid	12/31/20 09:06	12/31/20 14:20	
570-47505-7	SWCONF17-30.0	Solid	12/31/20 09:15	12/31/20 14:20	
570-47505-8	SWCONF17-32.5	Solid	12/31/20 09:20	12/31/20 14:20	
570-47505-9	SWCONF17-33.0	Solid	12/31/20 09:21	12/31/20 14:20	
570-47505-10	SWCONF17-35.0	Solid	12/31/20 09:23	12/31/20 14:20	
570-47505-11	SWCONF17-40.0	Solid	12/31/20 09:34	12/31/20 14:20	
570-47505-12	SWCONF17-45.0	Solid	12/31/20 09:42	12/31/20 14:20	
570-47505-13	SWCONF17-50.0	Solid	12/31/20 09:48	12/31/20 14:20	
570-47505-14	SWCONF17-55.0	Solid	12/31/20 10:01	12/31/20 14:20	
570-47505-15	SWCONF17-56.0	Solid	12/31/20 10:02	12/31/20 14:20	
570-47505-16	SWCONF17-60.0	Solid	12/31/20 10:10	12/31/20 14:20	
570-47505-17	SWCONF17-61.0	Solid	12/31/20 10:15	12/31/20 14:20	
570-47505-18	SWCONF17-61.5	Solid	12/31/20 10:16	12/31/20 14:20	
570-47505-19	SWCONF17-65.0	Solid	12/31/20 10:20	12/31/20 14:20	
570-47505-20	SWCONF17-70.0	Solid	12/31/20 10:25	12/31/20 14:20	
570-47505-21	SWCONF14-25.0	Solid	12/31/20 08:50	12/31/20 14:20	
570-47505-22	SWCONF14-25.5	Solid	12/31/20 08:52	12/31/20 14:20	
570-47505-23	SWCONF14-30.0	Solid	12/31/20 09:04	12/31/20 14:20	
570-47505-24	SWCONF14-32.0	Solid	12/31/20 09:08	12/31/20 14:20	
570-47505-25	SWCONF14-32.5	Solid	12/31/20 09:10	12/31/20 14:20	
570-47505-26	SWCONF14-35.0	Solid	12/31/20 09:16	12/31/20 14:20	
570-47505-27	SWCONF14-40.0	Solid	12/31/20 09:27	12/31/20 14:20	
570-47505-28	SWCONF14-45.0	Solid	12/31/20 09:38	12/31/20 14:20	
570-47505-29	SWCONF14-50.0	Solid	12/31/20 09:50	12/31/20 14:20	
570-47505-30	SWCONF14-55.0	Solid	12/31/20 10:03	12/31/20 14:20	
570-47505-31	SWCONF14-59.0	Solid	12/31/20 10:12	12/31/20 14:20	
570-47505-32	SWCONF14-59.5	Solid	12/31/20 10:13	12/31/20 14:20	
570-47505-33	SWCONF14-60.0	Solid	12/31/20 10:16	12/31/20 14:20	
570-47505-34	SWCONF14-65.0	Solid	12/31/20 10:24	12/31/20 14:20	
570-47505-35	SWCONF14-70.0	Solid	12/31/20 10:34	12/31/20 14:20	
570-47505-36	EB07	Water	12/31/20 11:15	12/31/20 14:20	



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570-47505 Chain of Custody

# CHAIN OF CUSTODY RECORD

DATE: 12/31/20  
PAGE: 1 OF 4

LABORATORY CLIENT		TerraPhase Engineering, Inc.		CLIENT PROJECT NAME / NUMBER:		PTI Southwest Soil Injection Confirmation / 0197.010.006		P.O. NO.	
ADDRESS:		1404 Franklin Street Suite 600		PROJECT CONTACT:		Chris Alger (TerraPhase), Virendra Patel (ECI)		SAMPLER(S) (PRINT)	
CITY:		Oakland		STATE:		CA		ZIP:	
TEL:		510-645-1850 x58		E-MAIL:		Chris.Alger@terraPhase.com		94612	
TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"): <input type="checkbox"/> SAME DAY <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input type="checkbox"/> 5 DAYS <input checked="" type="checkbox"/> STANDARD									
<input type="checkbox"/> COELT EDF GLOBAL ID:									
SPECIAL INSTRUCTIONS: • Please provide results in generic EDD and ESDat formats • Please email results to Chris Alger, Clare Steedman, EDD@terraPhase.com • Results in dry weight.									
LOG CODE:		TEIO		NO. OF CONT.		MATRIX		SAMPLING DATE	
UNPRESERVED		PRESERVED		FIELD FILTERED		DATE		TIME	
1		SWCONF17-10.0		12-31-20		0630		S	
2		SWCONF17-15.0		12-31-20		0442		S	
3		SWCONF17-20.0		12-31-20		0453		S	
4		SWCONF17-25.0		12-31-20		0904		S	
5		SWCONF17-26.0		12-31-20		0905		S	
6		SWCONF17-26.5		12-31-20		0906		S	
7		SWCONF17-30.0		12-31-20		0915		S	
8		SWCONF17-32.5		12-31-20		0920		S	
9		SWCONF17-33.0		12-31-20		0921		S	
10		SWCONF17-35.0		12-31-20		0923		S	
Relinquished by (Signature) <i>[Signature]</i> Received by (Signature/Affiliation) <i>Danny L. Jr.</i> Date: 12/31/20 Time: 1420									
Relinquished by (Signature) Received by (Signature/Affiliation) Date: Time:									
Relinquished by (Signature) Received by (Signature/Affiliation) Date: Time:									

4.6 / 3.8 sub

06/02/14 Revision



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LABORATORY CLIENT: Terraphase Engineering, Inc.

ADDRESS: 1404 Franklin Street Suite 600		STATE: CA		ZIP: 94612
CITY: Oakland	E-MAIL: Chris.Alger@terrphase.com			
TEL: 510-645-1850 x58				

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):					
<input type="checkbox"/> SAME DAY	<input type="checkbox"/> 24 HR	<input type="checkbox"/> 48 HR	<input type="checkbox"/> 72 HR	<input type="checkbox"/> 5 DAYS	<input checked="" type="checkbox"/> STANDARD
<input type="checkbox"/> COELT EDF					

GLOBAL ID:		LOG CODE:	TEIO
SPECIAL INSTRUCTIONS:			
• Please provide results in generic EDD and ESDat formats			
• Please email results to Chris Alger, Clare Steedman, EDD@terrphase.com			
• Results in dry weight.			

LAB USE ONLY	SAMPLE ID	SAMPLING		MATRIX	NO. OF CONT.	TEIO			EPA 6010B Cd, Cr, Cu, Pb, As	Cr(VI) ■ 7196 □ 7199 □ 218.6	pH 9045C	Moisture Content	PCBs (8082)	EPA 6010B Cd, Cr, Cu, Pb, As	Cr(VI) ■ 7196 ■ 7199 □ 218.6	PCBs (8082)	Water Analyses
		DATE	TIME			Unpreserved	Preserved	Field Filtered									
11	SWCONF17-40.0	12-31-20	0934	S	1	X			X	X	X	X		X			
12	SWCONF17-45.0	12-31-20	0942	S	1	X			X	X	X	X		X			
13	SWCONF17-50.0	12-31-20	0946	S	1	X			X	X	X	X		X			
14	SWCONF17-55.0	12-31-20	1001	S	1	X			X	X	X	X		X			
15	SWCONF17-56.0	12-31-20	1002	S	1	X			X	X	X	X		X			
16	SWCONF17-60.0	12-31-20	1010	S	1	X			X	X	X	X		X			
17	SWCONF17-61.0	12-31-20	1015	S	1	X			X	X	X	X		X			
18	SWCONF17-61.5	12-31-20	1016	S	1	X			X	X	X	X		X			
19	SWCONF17-65.0	12-31-20	1030	S	1	X			X	X	X	X		X			
20	SWCONF17-70.0	12-31-20	1025	S	1	X			X	X	X	X		X			

Relinquished by: (Signature)	Received by: (Signature/Affiliation) <b>Danny Le</b>	Date: 12/31/20	Time: 1420
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date	Time
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date	Time

CHAIN OF CUSTODY RECORD

DATE: 12/31/20	PAGE: 2 OF 4
----------------	--------------

CLIENT PROJECT NAME / NUMBER: PTI Southwest Soil Injection Confirmation / 0197.010.006	P.O. NO.
PROJECT CONTACT: Chris Alger (Terraphase), Virendra Patel (ECI)	SAMPLER(S): (PRINT) W. Shilling, M. Megia C. Steedman

REQUESTED ANALYSES

Soil Analyses										Water Analyses							
EPA 6010B Cd, Cr, Cu, Pb, As	Cr(VI) ■ 7196 □ 7199 □ 218.6	pH 9045C	Moisture Content	PCBs (8082)						EPA 6010B Cd, Cr, Cu, Pb, As	Cr(VI) ■ 7196 ■ 7199 □ 218.6	PCBs (8082)					







## Login Sample Receipt Checklist

Client: Terraphase Engineering Inc

Job Number: 570-47505-1

SDG Number: 0197.010.006

**Login Number: 47505**

**List Number: 1**

**Creator: Patel, Jayesh**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Appendix G

## ProUCL Outputs



	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Data Sets with Non-Detects											
2												
3	User Selected Options											
4	Date/Time of Computation			ProUCL 5.14/5/2021 11:14:52 AM								
5	From File			Cr6_RoadWay_.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10	Chromium_(hexavalent)											
11												
12	General Statistics											
13	Total Number of Observations				38		Number of Distinct Observations				33	
14	Number of Detects				9		Number of Non-Detects				29	
15	Number of Distinct Detects				9		Number of Distinct Non-Detects				24	
16	Minimum Detect				1.52		Minimum Non-Detect				0.86	
17	Maximum Detect				35.1		Maximum Non-Detect				1.09	
18	Variance Detects				113.2		Percent Non-Detects				76.32%	
19	Mean Detects				9.327		SD Detects				10.64	
20	Median Detects				4.93		CV Detects				1.141	
21	Skewness Detects				2.097		Kurtosis Detects				4.892	
22	Mean of Logged Detects				1.732		SD of Logged Detects				1.06	
23												
24	Normal GOF Test on Detects Only											
25	Shapiro Wilk Test Statistic				0.746		Shapiro Wilk GOF Test					
26	5% Shapiro Wilk Critical Value				0.829		Detected Data Not Normal at 5% Significance Level					
27	Lilliefors Test Statistic				0.233		Lilliefors GOF Test					
28	5% Lilliefors Critical Value				0.274		Detected Data appear Normal at 5% Significance Level					
29	Detected Data appear Approximate Normal at 5% Significance Level											
30												
31	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
32	KM Mean				2.865		KM Standard Error of Mean				1.043	
33	KM SD				6.065		95% KM (BCA) UCL				4.72	
34	95% KM (t) UCL				4.626		95% KM (Percentile Bootstrap) UCL				4.671	
35	95% KM (z) UCL				4.582		95% KM Bootstrap t UCL				6.851	
36	90% KM Chebyshev UCL				5.996		95% KM Chebyshev UCL				7.414	
37	97.5% KM Chebyshev UCL				9.382		99% KM Chebyshev UCL				13.25	
38												
39	Gamma GOF Tests on Detected Observations Only											
40	A-D Test Statistic				0.333		Anderson-Darling GOF Test					
41	5% A-D Critical Value				0.741		Detected data appear Gamma Distributed at 5% Significance Level					
42	K-S Test Statistic				0.168		Kolmogorov-Smirnov GOF					
43	5% K-S Critical Value				0.286		Detected data appear Gamma Distributed at 5% Significance Level					
44	Detected data appear Gamma Distributed at 5% Significance Level											
45												
46	Gamma Statistics on Detected Data Only											
47	k hat (MLE)				1.137		k star (bias corrected MLE)				0.832	
48	Theta hat (MLE)				8.203		Theta star (bias corrected MLE)				11.21	
49	nu hat (MLE)				20.46		nu star (bias corrected)				14.98	
50	Mean (detects)				9.327							
51												
52	Gamma ROS Statistics using Imputed Non-Detects											

	A	B	C	D	E	F	G	H	I	J	K	L
53	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
54	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
55	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
56	This is especially true when the sample size is small.											
57	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
58		Minimum	0.01					Mean			2.217	
59		Maximum	35.1					Median			0.01	
60		SD	6.37					CV			2.874	
61		k hat (MLE)	0.19					k star (bias corrected MLE)			0.193	
62		Theta hat (MLE)	11.66					Theta star (bias corrected MLE)			11.5	
63		nu hat (MLE)	14.45					nu star (bias corrected)			14.65	
64		Adjusted Level of Significance ( $\beta$ )	0.0434									
65		Approximate Chi Square Value (14.65, $\alpha$ )	7.016					Adjusted Chi Square Value (14.65, $\beta$ )			6.797	
66		95% Gamma Approximate UCL (use when $n \geq 50$ )	4.627					95% Gamma Adjusted UCL (use when $n < 50$ )			4.776	
67												
68	<b>Estimates of Gamma Parameters using KM Estimates</b>											
69		Mean (KM)	2.865					SD (KM)			6.065	
70		Variance (KM)	36.78					SE of Mean (KM)			1.043	
71		k hat (KM)	0.223					k star (KM)			0.223	
72		nu hat (KM)	16.96					nu star (KM)			16.96	
73		theta hat (KM)	12.84					theta star (KM)			12.84	
74		80% gamma percentile (KM)	3.979					90% gamma percentile (KM)			8.652	
75		95% gamma percentile (KM)	14.33					99% gamma percentile (KM)			29.71	
76												
77	<b>Gamma Kaplan-Meier (KM) Statistics</b>											
78		Approximate Chi Square Value (16.96, $\alpha$ )	8.643					Adjusted Chi Square Value (16.96, $\beta$ )			8.396	
79		95% Gamma Approximate KM-UCL (use when $n \geq 50$ )	5.622					95% Gamma Adjusted KM-UCL (use when $n < 50$ )			5.787	
80												
81	<b>Lognormal GOF Test on Detected Observations Only</b>											
82		Shapiro Wilk Test Statistic	0.952					<b>Shapiro Wilk GOF Test</b>				
83		5% Shapiro Wilk Critical Value	0.829					Detected Data appear Lognormal at 5% Significance Level				
84		Lilliefors Test Statistic	0.133					<b>Lilliefors GOF Test</b>				
85		5% Lilliefors Critical Value	0.274					Detected Data appear Lognormal at 5% Significance Level				
86	<b>Detected Data appear Lognormal at 5% Significance Level</b>											
87												
88	<b>Lognormal ROS Statistics Using Imputed Non-Detects</b>											
89		Mean in Original Scale	2.286					Mean in Log Scale			-1.459	
90		SD in Original Scale	6.346					SD in Log Scale			1.932	
91		95% t UCL (assumes normality of ROS data)	4.022					95% Percentile Bootstrap UCL			4.096	
92		95% BCA Bootstrap UCL	5.383					95% Bootstrap t UCL			6.433	
93		95% H-UCL (Log ROS)	4.78									
94												
95	<b>Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution</b>											
96		KM Mean (logged)	0.295					KM Geo Mean			1.343	
97		KM SD (logged)	0.937					95% Critical H Value (KM-Log)			2.324	
98		KM Standard Error of Mean (logged)	0.161					95% H-UCL (KM -Log)			2.98	
99		KM SD (logged)	0.937					95% Critical H Value (KM-Log)			2.324	
100		KM Standard Error of Mean (logged)	0.161									
101												
102	<b>DL/2 Statistics</b>											
103	<b>DL/2 Normal</b>						<b>DL/2 Log-Transformed</b>					
104		Mean in Original Scale	2.578					Mean in Log Scale			-0.147	

	A	B	C	D	E	F	G	H	I	J	K	L
105	SD in Original Scale					6.244	SD in Log Scale					1.171
106	95% t UCL (Assumes normality)					4.286	95% H-Stat UCL					2.829
107	<b>DL/2 is not a recommended method, provided for comparisons and historical reasons</b>											
108												
109	<b>Nonparametric Distribution Free UCL Statistics</b>											
110	<b>Detected Data appear Approximate Normal Distributed at 5% Significance Level</b>											
111												
112	<b>Suggested UCL to Use</b>											
113	95% KM (t) UCL					4.626						
114												
115	When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test											
116	When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL											
117												
118	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
119	Recommendations are based upon data size, data distribution, and skewness.											
120	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
121	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
122												

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Data Sets with Non-Detects											
2												
3	User Selected Options											
4	Date/Time of Computation			ProUCL 5.16/30/2021 2:18:34 PM								
5	From File			Cr6_SWSWMU_gtoet_30ftbgs.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10	Chromium_(hexavalent)											
11												
12	General Statistics											
13	Total Number of Observations				176		Number of Distinct Observations				127	
14	Number of Detects				32		Number of Non-Detects				144	
15	Number of Distinct Detects				32		Number of Distinct Non-Detects				96	
16	Minimum Detect				0.999		Minimum Non-Detect				0.798	
17	Maximum Detect				102		Maximum Non-Detect				1.11	
18	Variance Detects				754.4		Percent Non-Detects				81.82%	
19	Mean Detects				15.71		SD Detects				27.47	
20	Median Detects				5.375		CV Detects				1.748	
21	Skewness Detects				2.395		Kurtosis Detects				4.53	
22	Mean of Logged Detects				1.792		SD of Logged Detects				1.301	
23												
24	Normal GOF Test on Detects Only											
25	Shapiro Wilk Test Statistic				0.546		Shapiro Wilk GOF Test					
26	5% Shapiro Wilk Critical Value				0.93		Detected Data Not Normal at 5% Significance Level					
27	Lilliefors Test Statistic				0.348		Lilliefors GOF Test					
28	5% Lilliefors Critical Value				0.154		Detected Data Not Normal at 5% Significance Level					
29	Detected Data Not Normal at 5% Significance Level											
30												
31	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
32	KM Mean				3.51		KM Standard Error of Mean				0.987	
33	KM SD				12.88		95% KM (BCA) UCL				5.264	
34	95% KM (t) UCL				5.141		95% KM (Percentile Bootstrap) UCL				5.135	
35	95% KM (z) UCL				5.133		95% KM Bootstrap t UCL				6.425	
36	90% KM Chebyshev UCL				6.47		95% KM Chebyshev UCL				7.811	
37	97.5% KM Chebyshev UCL				9.671		99% KM Chebyshev UCL				13.33	
38												
39	Gamma GOF Tests on Detected Observations Only											
40	A-D Test Statistic				2.454		Anderson-Darling GOF Test					
41	5% A-D Critical Value				0.798		Detected Data Not Gamma Distributed at 5% Significance Level					
42	K-S Test Statistic				0.237		Kolmogorov-Smirnov GOF					
43	5% K-S Critical Value				0.163		Detected Data Not Gamma Distributed at 5% Significance Level					
44	Detected Data Not Gamma Distributed at 5% Significance Level											
45												
46	Gamma Statistics on Detected Data Only											
47	k hat (MLE)				0.636		k star (bias corrected MLE)				0.598	
48	Theta hat (MLE)				24.69		Theta star (bias corrected MLE)				26.3	
49	nu hat (MLE)				40.73		nu star (bias corrected)				38.24	
50	Mean (detects)				15.71							
51												
52	Gamma ROS Statistics using Imputed Non-Detects											

	A	B	C	D	E	F	G	H	I	J	K	L
53	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
54	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
55	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
56	This is especially true when the sample size is small.											
57	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
58		Minimum	0.01					Mean			2.865	
59		Maximum	102					Median			0.01	
60		SD	13.06					CV			4.558	
61		k hat (MLE)	0.168					k star (bias corrected MLE)			0.169	
62		Theta hat (MLE)	17.04					Theta star (bias corrected MLE)			16.95	
63		nu hat (MLE)	59.19					nu star (bias corrected)			59.51	
64		Adjusted Level of Significance ( $\beta$ )	0.0486									
65		Approximate Chi Square Value (59.51, $\alpha$ )	42.77					Adjusted Chi Square Value (59.51, $\beta$ )			42.66	
66		95% Gamma Approximate UCL (use when n $\geq$ 50)	3.986					95% Gamma Adjusted UCL (use when n<50)			3.997	
67												
68	<b>Estimates of Gamma Parameters using KM Estimates</b>											
69		Mean (KM)	3.51					SD (KM)			12.88	
70		Variance (KM)	166					SE of Mean (KM)			0.987	
71		k hat (KM)	0.0742					k star (KM)			0.0768	
72		nu hat (KM)	26.13					nu star (KM)			27.02	
73		theta hat (KM)	47.29					theta star (KM)			45.73	
74		80% gamma percentile (KM)	1.537					90% gamma percentile (KM)			8.1	
75		95% gamma percentile (KM)	20.36					99% gamma percentile (KM)			63.39	
76												
77	<b>Gamma Kaplan-Meier (KM) Statistics</b>											
78		Approximate Chi Square Value (27.02, $\alpha$ )	16.16					Adjusted Chi Square Value (27.02, $\beta$ )			16.09	
79		95% Gamma Approximate KM-UCL (use when n $\geq$ 50)	5.866					95% Gamma Adjusted KM-UCL (use when n<50)			5.892	
80												
81	<b>Lognormal GOF Test on Detected Observations Only</b>											
82		Shapiro Wilk Test Statistic	0.916					<b>Shapiro Wilk GOF Test</b>				
83		5% Shapiro Wilk Critical Value	0.93					Detected Data Not Lognormal at 5% Significance Level				
84		Lilliefors Test Statistic	0.146					<b>Lilliefors GOF Test</b>				
85		5% Lilliefors Critical Value	0.154					Detected Data appear Lognormal at 5% Significance Level				
86	<b>Detected Data appear Approximate Lognormal at 5% Significance Level</b>											
87												
88	<b>Lognormal ROS Statistics Using Imputed Non-Detects</b>											
89		Mean in Original Scale	2.902					Mean in Log Scale			-2.403	
90		SD in Original Scale	13.05					SD in Log Scale			2.236	
91		95% t UCL (assumes normality of ROS data)	4.528					95% Percentile Bootstrap UCL			4.614	
92		95% BCA Bootstrap UCL	5.203					95% Bootstrap t UCL			5.44	
93		95% H-UCL (Log ROS)	1.987									
94												
95	<b>Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution</b>											
96		KM Mean (logged)	0.142					KM Geo Mean			1.152	
97		KM SD (logged)	0.95					95% Critical H Value (KM-Log)			2.124	
98		KM Standard Error of Mean (logged)	0.0728					95% H-UCL (KM -Log)			2.108	
99		KM SD (logged)	0.95					95% Critical H Value (KM-Log)			2.124	
100		KM Standard Error of Mean (logged)	0.0728									
101												
102	<b>DL/2 Statistics</b>											
103	<b>DL/2 Normal</b>						<b>DL/2 Log-Transformed</b>					
104		Mean in Original Scale	3.226					Mean in Log Scale			-0.328	



	A	B	C	D	E	F	G	H	I	J	K	L
105	SD in Original Scale					12.98	SD in Log Scale					1.144
106	95% t UCL (Assumes normality)					4.844	95% H-Stat UCL					1.692
107	<b>DL/2 is not a recommended method, provided for comparisons and historical reasons</b>											
108												
109	<b>Nonparametric Distribution Free UCL Statistics</b>											
110	<b>Detected Data appear Approximate Lognormal Distributed at 5% Significance Level</b>											
111												
112	<b>Suggested UCL to Use</b>											
113	KM H-UCL					2.108						
114												
115	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
116	Recommendations are based upon data size, data distribution, and skewness.											
117	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
118	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
119												

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Data Sets with Non-Detects											
2												
3	User Selected Options											
4	Date/Time of Computation			ProUCL 5.14/5/2021 1:02:51 PM								
5	From File			Cr6_ALL_Post-Treatment_greaterthanoequalto_30_ftbgs.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10	Chromium_(hexavalent)											
11												
12	General Statistics											
13	Total Number of Observations				354		Number of Distinct Observations				191	
14	Number of Detects				63		Number of Non-Detects				291	
15	Number of Distinct Detects				62		Number of Distinct Non-Detects				134	
16	Minimum Detect				0.984		Minimum Non-Detect				0.4	
17	Maximum Detect				102		Maximum Non-Detect				2.4	
18	Variance Detects				445.7		Percent Non-Detects				82.2%	
19	Mean Detects				12.13		SD Detects				21.11	
20	Median Detects				5.18		CV Detects				1.741	
21	Skewness Detects				3.098		Kurtosis Detects				9.299	
22	Mean of Logged Detects				1.694		SD of Logged Detects				1.171	
23												
24	Normal GOF Test on Detects Only											
25	Shapiro Wilk Test Statistic				0.529		Normal GOF Test on Detected Observations Only					
26	5% Shapiro Wilk P Value				0		Detected Data Not Normal at 5% Significance Level					
27	Lilliefors Test Statistic				0.312		Lilliefors GOF Test					
28	5% Lilliefors Critical Value				0.111		Detected Data Not Normal at 5% Significance Level					
29	Detected Data Not Normal at 5% Significance Level											
30												
31	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
32	KM Mean				2.49		KM Standard Error of Mean				0.531	
33	KM SD				9.909		95% KM (BCA) UCL				3.462	
34	95% KM (t) UCL				3.365		95% KM (Percentile Bootstrap) UCL				3.425	
35	95% KM (z) UCL				3.363		95% KM Bootstrap t UCL				3.719	
36	90% KM Chebyshev UCL				4.082		95% KM Chebyshev UCL				4.804	
37	97.5% KM Chebyshev UCL				5.805		99% KM Chebyshev UCL				7.772	
38												
39	Gamma GOF Tests on Detected Observations Only											
40	A-D Test Statistic				3.377		Anderson-Darling GOF Test					
41	5% A-D Critical Value				0.793		Detected Data Not Gamma Distributed at 5% Significance Level					
42	K-S Test Statistic				0.187		Kolmogorov-Smirnov GOF					
43	5% K-S Critical Value				0.117		Detected Data Not Gamma Distributed at 5% Significance Level					
44	Detected Data Not Gamma Distributed at 5% Significance Level											
45												
46	Gamma Statistics on Detected Data Only											
47	k hat (MLE)				0.747		k star (bias corrected MLE)				0.722	
48	Theta hat (MLE)				16.24		Theta star (bias corrected MLE)				16.8	
49	nu hat (MLE)				94.12		nu star (bias corrected)				90.97	
50	Mean (detects)				12.13							
51												
52	Gamma ROS Statistics using Imputed Non-Detects											

	A	B	C	D	E	F	G	H	I	J	K	L
53	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
54	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
55	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
56	This is especially true when the sample size is small.											
57	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
58		Minimum	0.01					Mean			2.167	
59		Maximum	102					Median			0.01	
60		SD	9.992					CV			4.612	
61		k hat (MLE)	0.176					k star (bias corrected MLE)			0.177	
62		Theta hat (MLE)	12.29					Theta star (bias corrected MLE)			12.27	
63		nu hat (MLE)	124.8					nu star (bias corrected)			125.1	
64		Adjusted Level of Significance ( $\beta$ )	0.0493									
65		Approximate Chi Square Value (125.06, $\alpha$ )	100.2					Adjusted Chi Square Value (125.06, $\beta$ )			100.1	
66		95% Gamma Approximate UCL (use when n>=50)	2.703					95% Gamma Adjusted UCL (use when n<50)			2.706	
67												
68	<b>Estimates of Gamma Parameters using KM Estimates</b>											
69		Mean (KM)	2.49					SD (KM)			9.909	
70		Variance (KM)	98.18					SE of Mean (KM)			0.531	
71		k hat (KM)	0.0631					k star (KM)			0.0645	
72		nu hat (KM)	44.7					nu star (KM)			45.66	
73		theta hat (KM)	39.43					theta star (KM)			38.61	
74		80% gamma percentile (KM)	0.73					90% gamma percentile (KM)			5.015	
75		95% gamma percentile (KM)	14.15					99% gamma percentile (KM)			48.68	
76												
77	<b>Gamma Kaplan-Meier (KM) Statistics</b>											
78		Approximate Chi Square Value (45.66, $\alpha$ )	31.16					Adjusted Chi Square Value (45.66, $\beta$ )			31.11	
79		95% Gamma Approximate KM-UCL (use when n>=50)	3.649					95% Gamma Adjusted KM-UCL (use when n<50)			3.654	
80												
81	<b>Lognormal GOF Test on Detected Observations Only</b>											
82		Shapiro Wilk Approximate Test Statistic	0.936					<b>Shapiro Wilk GOF Test</b>				
83		5% Shapiro Wilk P Value	0.00381					Detected Data Not Lognormal at 5% Significance Level				
84		Lilliefors Test Statistic	0.0899					<b>Lilliefors GOF Test</b>				
85		5% Lilliefors Critical Value	0.111					Detected Data appear Lognormal at 5% Significance Level				
86	<b>Detected Data appear Approximate Lognormal at 5% Significance Level</b>											
87												
88	<b>Lognormal ROS Statistics Using Imputed Non-Detects</b>											
89		Mean in Original Scale	2.246					Mean in Log Scale			-2.048	
90		SD in Original Scale	9.975					SD in Log Scale			2.112	
91		95% t UCL (assumes normality of ROS data)	3.121					95% Percentile Bootstrap UCL			3.147	
92		95% BCA Bootstrap UCL	3.363					95% Bootstrap t UCL			3.464	
93		95% H-UCL (Log ROS)	1.727									
94												
95	<b>Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution</b>											
96		KM Mean (logged)	-0.448					KM Geo Mean			0.639	
97		KM SD (logged)	1.112					95% Critical H Value (KM-Log)			2.218	
98		KM Standard Error of Mean (logged)	0.0597					95% H-UCL (KM -Log)			1.352	
99		KM SD (logged)	1.112					95% Critical H Value (KM-Log)			2.218	
100		KM Standard Error of Mean (logged)	0.0597									
101												
102	<b>DL/2 Statistics</b>											
103	<b>DL/2 Normal</b>						<b>DL/2 Log-Transformed</b>					
104		Mean in Original Scale	2.547					Mean in Log Scale			-0.331	

	A	B	C	D	E	F	G	H	I	J	K	L
105	SD in Original Scale					9.911	SD in Log Scale					1.078
106	95% t UCL (Assumes normality)					3.416	95% H-Stat UCL					1.456
107	<b>DL/2 is not a recommended method, provided for comparisons and historical reasons</b>											
108												
109	<b>Nonparametric Distribution Free UCL Statistics</b>											
110	<b>Detected Data appear Approximate Lognormal Distributed at 5% Significance Level</b>											
111												
112	<b>Suggested UCL to Use</b>											
113	KM H-UCL				1.352							
114												
115	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
116	Recommendations are based upon data size, data distribution, and skewness.											
117	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
118	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
119												