

California Environmental Protection Agency
Department of Toxic Substances Control

HAZARDOUS WASTE FACILITY PERMIT MODIFICATION

Facility:

Phibro-Tech, Inc.
a.k.a. Entech Recovery, Inc.
a.k.a. Southern California Chemical
Santa Fe Springs Facility
8851 Dice Road
Santa Fe Springs, CA 90670

HAZARDOUS WASTE FACILITY PERMIT

Permit No.: 91-3-TS-002

Permit Modification No. 02

EPA ID Number: CAD008488025

Effective Date: August 2, 1995

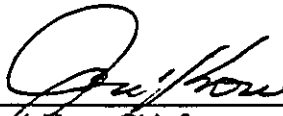
Operator:

Phibro-Tech, Inc.
a.k.a. Entech Recovery, Inc.
a.k.a. Southern California Chemical
Santa Fe Springs Facility
8851 Dice Road
Santa Fe Springs, CA 90670

Pursuant to Section 25200 of the California Health and Safety Code, this Hazardous Waste Facility Permit Modification is hereby issued to Phibro-Tech, Inc.

The approval of this Permit Modification is subject to the modified permit conditions as specified in the Part V - Corrective Action - which consists of total 84 pages.




Jose Kou, Chief
Facility Permitting Branch
Department of Toxic Substances Control
Region 3, Glendale

Date: June 30, 1995

TABLE OF CONTENTS
MODIFIED PART V - CORRECTIVE ACTION
STATE HAZARDOUS WASTE MANAGEMENT FACILITY
PERMIT NO. 91-3-TS-002

	Page
A. AUTHORITY	41
B. STATEMENT OF PURPOSE	41
C. BACKGROUND	42
D. PROJECT COORDINATOR	43
E. WORK TO BE PERFORMED	43
1. Deed Restrictions	44
2. Groundwater Remediation	45
3. Groundwater Monitoring	51
4. Soil Vapor Survey/Extraction to Address Halogenated VOC's in Soils	52.a.4
5. Soil Remediation in Former Underground Tank Area	52.a.8
6. Containment Measures (Paving, Berms)	52.a.11
7. Pond 1 Closure Status Report	52.a.14
8. Operation, Maintenance and Inspection Plan for Site Cover	52.a.15
9. Vadose Zone Monitoring	52.a.16
10. Surfacewater Monitoring	52.a.18
11. Modification of Facility Closure Plan	52.a.18
12. Financial Assurance for Corrective Action	52.a.19
13. Potential or Immediate Threats/ Newly Identified Releases/Newly Identified Solid Waste Management Units	52.a.20
F. AGENCY APPROVAL/REPORTING/PROPOSED CONTRACTOR/ ADDITIONAL WORK	52.a.20
G. QUALITY ASSURANCE	52.a.23
H. SAMPLING/ACCESS	52.a.24
I. RECORD PRESERVATION	52.a.26
J. DISPUTE RESOLUTION	52.a.26
K. MODIFICATION	52.a.27
L. SPECIAL CONDITIONS	52.a.28
M. FACILITY SUBMITTAL SUMMARY	52.a.29
N. DEFINITIONS	52.a.31

TABLE OF CONTENTS
MODIFIED PART V - CORRECTIVE ACTION
STATE HAZARDOUS WASTE MANAGEMENT FACILITY
PERMIT NO. 91-3-TS-002

O. LIST OF FIGURES

Figure 1 - Underground Storage Tank Remediation Area

Figure 2 - Halogenated VOC Remediation Area

P. LIST OF ATTACHMENTS

- 1 Scope of Work for Progress Reports
- 2 Scope of Work for Groundwater Remediation Workplan and Conceptual Design Plan for Bioventing and Soil Vapor Extraction Systems
- 3 Scope of Work for Construction Completion Reports
- 4 Scope of Work for Operation and Maintenance Plans
- 5 Scope of Work for Corrective Measure Completion Reports
- 6 Deed Restriction Notice
- 7 Modified Closure/Post Closure Plan for Pond 1
- 8 October 15, 1992 Amended General Industrial Activities Storm Water Permit

MODIFIED PART V - CORRECTIVE ACTION
STATE HAZARDOUS WASTE MANAGEMENT FACILITY
PERMIT NO. 91-3-TS-002

A. AUTHORITY

Section 25200.10 of the California Health and Safety Code (H&SC) requires that any permits issued by the Department of Toxic Substances Control ("Department") include corrective action for all releases of hazardous waste or constituents from a solid waste management unit ("SWMU") or a hazardous waste management unit ("HWMU") at a facility, regardless of the time at which the waste was released at the facility. This Section also requires that corrective action be taken beyond the facility boundary where necessary to protect human health and/or the environment.

Failure to comply with any term or condition set forth in this Part of the Permit in the time or manner specified herein will subject the owner or operator to possible enforcement action and penalties pursuant to Section 66270.30(a) of Title 22 of the California Code of Regulations (22 CCR 66270.30(a)) and Section 25187 of the H&SC.

In addition, failure to submit the information required in the Permit, or falsification and/or misrepresentation of any submitted information, is grounds for termination of this Permit pursuant to 22 CCR 66270.43.

Compliance by the owner or operator with the terms of this Part of the Permit shall not relieve the owner or operator of its obligation to comply with any other applicable local, state or federal laws and regulations including, but not limited to, waste discharge requirements, cleanup and abatement orders or any other enforcement orders issued by the Los Angeles Regional Water Quality Control Board.

This Permit supersedes the Federal Permit for a Hazardous Waste Management Facility issued by the U.S. Environmental Protection Agency ("U.S. EPA") to the facility effective July 29, 1991.

B. STATEMENT OF PURPOSE

The purpose of this Part of the Permit is to require that the facility owner or operator implement the corrective measures selected by the Department to remediate, monitor and/or contain soil and groundwater contamination at the Phibro-Tech, Inc. (a.k.a. Southern California Chemical, a.k.a. Entech Recovery, Inc.) facility ("Facility") in Santa Fe Springs, California. This Part of the Permit also

includes a schedule of compliance and financial responsibility requirements for corrective measure implementation.

C. BACKGROUND

In 1987, contractors for the U.S. EPA conducted a RCRA Facility Assessment ("RFA") at the Facility. The RFA was conducted to identify areas where the potential for chemical releases was significant (e.g., sumps, ponds, etc). Sixty SWMU's and one area of concern were identified in the RFA Report.

In December of 1988, U.S. EPA and the Facility signed a consent agreement (Administrative Order on Consent, Docket No. RCRA-09-89-0001). The consent agreement required the owner or operator to conduct a RCRA Facility Investigation ("RFI"), Corrective Measures Study ("CMS") and human health risk assessment at the Facility. The purpose of the RFI was to characterize the nature and extent of soil and groundwater contamination at the Facility. The purpose of the CMS was to identify and evaluate remedial alternatives to address the contamination. The purpose of the human health risk assessment was to evaluate potential impacts to human health from the soil and groundwater contamination identified at the Facility.

The RFI showed that there is soil and groundwater contamination at the Facility. Ground water in the present uppermost saturated zone beneath the Facility, identified by the owner or operator as the Hollydale Aquifer, contains elevated levels of: (1) heavy metals, including chromium and cadmium, (2) halogenated volatile organic compounds ("VOCs"), including trichloroethene ("TCE") and 1,2-dichloroethane ("1,2-DCA"), (3) aromatic VOCs, including benzene, toluene, ethylbenzene and xylenes and (4) chlorides. Soils at the Facility contain elevated levels of (1) heavy metals, including lead, cadmium, chromium, copper, and zinc, (2) halogenated VOC's, including TCE, 1,2-DCA and tetrachloroethene ("PCE"), (3) aromatic VOC's, including benzene, toluene, ethylbenzene and xylenes, (4) polychlorinated biphenyls ("PCB's"), (5) petroleum hydrocarbons, including diesel fuel, gasoline and an unidentified heavy hydrocarbon believed to be crude oil, and (6) chlorides.

Based upon the findings of the RFI, CMS, risk assessment and other information, the Department is requiring that the owner or operator implement corrective measures to address the releases from the Facility. Corrective measures included in this Permit are summarized as follows: pumping and treating contaminated ground water, quarterly monitoring to track groundwater quality and identify any new releases should they occur, a soil vapor survey to determine the

nature and extent of halogenated VOC contamination, in-situ soil vapor extraction if needed to cleanup soils contaminated with halogenated VOC's, in situ bioventing to cleanup hydrocarbon contaminated soils in the former underground fuel storage tank area, containment measures to prevent human contact with contaminated soils, berming to contain surfacewater runoff, vadose zone monitoring to identify contaminant migration in subsurface soils, surfacewater sampling to measure contaminants in surface water discharged from the Facility and deed restrictions to prevent future residential and other sensitive uses of the property.

These corrective measures are protective of human health and the environment even though they do not completely eliminate all contamination from soils at the Facility. The soil contaminants remaining in place after treatment will be paved, monitored and deed restricted to ensure that they do not come into contact with people. The Department has authority to require additional remedial action if these remaining contaminants are shown to be a potential threat to human health and/or the environment.

D. PROJECT COORDINATOR

1. The owner or operator shall designate a Project Coordinator within 14 days of the effective date of this Permit Modification and shall notify the Department in writing of the Project Coordinator it has selected. The Project Coordinator shall be responsible for overseeing the implementation of corrective action at the Facility in accordance with this Part of the Permit and for designating a person to act in his/her absence. The Department will also designate a Project Coordinator. All communications between the owner or operator and the Department, and all documents, reports, approvals, and other correspondence concerning the activities performed pursuant to this Part of the Permit shall be directed through the Project Coordinators.
2. The owner or operator must provide at least 7 days written notice to the Department prior to changing Project Coordinator.

E. WORK TO BE PERFORMED

The owner or operator is required to perform the following work in the time and manner specified in this Part of the Permit. All work undertaken shall be performed, at a minimum, in a manner consistent with: the attached Scopes of Work; any Department approved plans, workplans,

specifications or schedules of compliance; and applicable State and local laws and implementing regulations. All attachments to this Permit are incorporated by reference as if fully set forth herein.

The Department may also require the owner or operator to investigate, mitigate and/or take other applicable action to address any actual or potential threats to human health and/or the environment, newly identified releases of hazardous waste and/or hazardous constituents, or newly identified SWMUs.

The owner or operator shall complete the work specified in this Part of the Permit in accordance with the approved schedules of compliance. Schedules of compliance may provide for implementation of tasks beyond the termination date of this Permit. All corrective measures shall continue until the cleanup standards are achieved.

This Permit does not limit the Department's authority to implement the selected corrective measure(s) or to take any other appropriate action from the laws and regulations of the State of California, or any other legal authority, including the filing of a civil action seeking a judicial order directing the owner or operator to implement the selected corrective measure(s).

Nothing in this Permit shall be constructed to excuse the owner or operator from participating or other-wise cooperating with any area-wide effort to investigate and/or remediate groundwater contamination.

1. Deed Restrictions

- a. The Department has prepared a deed restriction notice for the Facility which is provided in Attachment 6 to this Part of the Permit. Within 14 days of the effective date of this Permit Modification, the owner or operator shall sign and record the deed restriction notice with the County of Los Angeles. The limits included in the deed restriction notice are summarized below. Unless the property owner can adequately demonstrate otherwise to the Department, the following requirements would apply:

- Prohibits the facility or property from being used for residential or for other sensitive purposes.
- Prohibits use of the underlying shallow groundwater for domestic use.

Halogenated Volatile Organic Compounds (VOCs):

Tetrachloroethene (PCE)	:	Less than	5	µg/l
Trichloroethene (TCE)	:	Less than	5	µg/l
1,1-Dichloroethene (1,1-DCE)	:	Less than	6	µg/l
1,1-Dichloroethane (1,1-DCA)	:	Less than	5	µg/l
1,2-Dichloroethane (1,2-DCA)	:	Less than	0.5	µg/l
trans-1,2-Dichloroethene (1,2-DCE)	:	Less than	10	µg/l
1,1,1-Trichloroethane (1,1,1-TCA)	:	Less than	200	µg/l
Methylene Chloride	:	Less than	5	µg/l

OR

Four consecutive quarters of data from monitoring well MW-4 that are statistically at or below the corresponding halogenated VOC compound concentration observed in monitoring well MW-1S or a suitable replacement well as specified in the Department approved corrective action groundwater monitoring plan.

The Department must review and approve in writing any statistical method or approach before it can be used to demonstrate that the halogenated VOC cleanup standard has been achieved.

- c. The cleanup standards for ground water in monitoring well MW-9 are listed below. To demonstrate that the standards have been achieved, PTI must provide the Department with a minimum of four consecutive quarters of data below the standards. The Department may revise these cleanup standards based on the promulgation of new MCL's, recommended public health levels and/or other applicable standards for ground water.

Halogenated Volatile Organic Compounds (VOCs):

Tetrachloroethene (PCE):	Less than	5	µg/l
Trichloroethene (TCE):	Less than	5	µg/l
1,1-Dichloroethene (1,1-DCE):	Less than	6	µg/l
1,1-Dichloroethane (1,1-DCA):	Less than	5	µg/l
1,2-Dichloroethane (1,2-DCA):	Less than	0.5	µg/l
trans-1,2-Dichloroethene (1,2-DCE):	Less than	10	µg/l
1,1,1-Trichloroethane (1,1,1-TCA):	Less than	200	µg/l
Methylene Chloride:	Less than	5	µg/l

OR

Four consecutive quarters of data from monitoring well MW-9 that are statistically at or below the corresponding halogenated VOC compound concentration observed in monitoring well MW-1S or a suitable replacement well as specified in the Department approved corrective action groundwater monitoring plan.

The Department must review and approve in writing any statistical method or approach before it can be used to demonstrate that the halogenated VOC cleanup standard has been achieved.

- d. In order to maximize the cleanup of the affected Hollydale Aquifer, thereby protecting it and other aquifers having beneficial use, the owner or operator shall design, construct, operate and maintain a groundwater remediation system to meet all groundwater cleanup standards required by this Part of the Permit. This includes the cleanup standards specified in paragraphs V.E.2.b. and V.E.2.c. of this Part of the Permit as well as any additional cleanup standards that may be imposed in the future.
- e. Within 60 days of the effective date of this Permit Modification, the owner or operator shall submit to the Department a Corrective Action Groundwater Remediation ("CAGWR") Workplan. The purpose of the CAGWR Workplan is to describe the groundwater remediation system and how it will be constructed. The CAGWR Workplan shall be developed in a manner consistent with the Scope of Work contained in Attachment 2 to this Part of the Permit.
- f. The groundwater remediation system shall, unless the Department specifies otherwise, include the following elements:
 - i. Pumping of contaminated ground water from the Hollydale and any other affected aquifers. The owner or operator shall propose pumping rates and location(s) to maximize groundwater extraction and contaminant removal given site-specific conditions.
 - ii. Treatment of extracted ground water to remove contaminants such that it meets requirements of any selected disposal option or combination of options. Halogenated and aromatic VOCs shall be treated at the wellhead to meet disposal limitations, e.g. effluent discharge limits for discharge into the sewer system. Metals may be removed at

the wellhead for direct disposal of treated ground water by various options or the extracted ground water may be used on-site and disposed through the sewer system per industrial wastewater discharge permit.

Extracted ground water to be disposed through the sewer system must be treated such that concentrations of TCE, benzene, toluene, ethylbenzene, xylene and other VOCs, cadmium and chromium all meet the applicable effluent discharge limits specified in the industrial waste discharge permit for the facility. The method or combination of methods chosen to dispose of contaminated ground water shall be such as to allow removal of contaminants from the aquifer or aquifers to be maximized.

- iii. On-site storage of extracted ground water in tanks. The owner or operator shall propose the number, size and location of the storage tanks. The owner or operator shall design, construct, operate and maintain the ground water storage tanks in accordance with the requirements contained in 22 CCR 66262.34.
- iv. Maximization of groundwater extraction rates and contaminant removal by appropriate disposal of treated groundwater including but not limited to on-site industrial use of all extracted ground water prior to discharge into the sewer system. On-site reuse and discharge into the sewer system is a limiting factor to complete cleanup of site-derived contaminants in the Hollydale and other affected aquifers and that additional disposal options should be proposed in the CAGWR by the owner or operator as supplemental means in order to maximize extraction and contaminant removal.

For that portion of the extracted ground water that may be disposed by supplemental means such as re-injection, the owner or operator shall obtain all necessary authorizations and permits. The Los Angeles County Sanitation Districts has indicated that on-site industrial use must be made of any extracted ground water to be discharged through the industrial wastewater system. If the Los Angeles County Sanitation Districts requirements change or if the Department determines that use of the sewer is impractical or not sufficiently effective, the owner or operator will be required to

shift any ground water disposal deficits to other disposal means(s) which will be described in the CAGWR.

- v. On-site use of extracted ground water for any purpose that does not create an unacceptable risk to human health or the environment, provided applicable permits are obtained. On-site use of extracted ground water shall be limited to industrial processes that minimize exposure of the extracted ground water to the atmosphere (e.g., in tanks) unless the extracted ground water is treated at the wellhead to remove halogenated and aromatic VOC's. Using extracted ground water for drum washing is prohibited unless the owner or operator receives written authorization from the Department for such use. To obtain such authorization, the owner or operator must adequately demonstrate to the Department that using the extracted ground water for drum washing will not result in the creation of an unacceptable risk to human health or the environment.
- g. The owner or operator must meet all applicable regulatory requirements for disposal of extracted ground water from the Facility. The extracted ground water that is to be disposed as wastewater through discharge into the sewer system must, at a minimum, meet the requirements of the Los Angeles County Sanitation Districts. These requirements include, but are not limited to, effluent discharge limits specified in the industrial wastewater discharge permit for the Facility. The owner or operator shall contact the Los Angeles County Sanitation District in writing during preparation of the CAGWR Workplan to determine if a modification to the existing industrial wastewater discharge permit will be needed for the groundwater remediation system. The owner or operator shall send a copy of this written correspondence to the Department Project Coordinator.
- h. Upon receiving written approval of the CAGWR Workplan from the Department, the owner or operator shall proceed with the full design and construction of the groundwater remediation system.
- i. The owner or operator shall submit a Corrective Action Groundwater Remediation Construction Completion Report ("CAGWRCCR") to the Department in accordance with a schedule contained in the

Department approved CAGWR Workplan. The purpose of the CAGWRCCR is to document how the groundwater remediation system was constructed and to provide notification that construction work has been completed. The CAGWRCCR shall be developed in a manner consistent with the Scope of Work contained in Attachment 3 to this Part of the Permit.

- j. The owner or operator shall submit a Corrective Action Groundwater Remediation Operation and Maintenance ("CAGWRO&M") Plan to the Department in accordance with a schedule contained in the Department approved CAGWR Workplan. The CAGWRO&M Plan shall be developed in a manner consistent with the Scope of Work contained in Attachment 4 to this Part of the Permit.
- k. The CAGWRO&M Plan shall specify how the ground water remediation system will be operated and maintained and include, unless the Department specifies otherwise, the following provisions:
 - i. Specification of approximate pumping rates.
 - ii. A contingency for cycling pumps on and off if necessary to increase removal efficiency.
 - iii. Periodic monitoring of extracted ground water at the well head to determine contaminant concentrations.
 - iv. Where extracted ground water is to be used on-site a description of how it will be used on-site and what will be done to protect the health and safety of facility workers during operation of the groundwater remediation system.
- l. Upon receiving written approval of the CAGWRO&M Plan from the Department, the owner or operator shall begin full scale operation of the groundwater remediation-system.
- m. The owner or operator may petition the Department to stop extracting ground water when there are at least four consecutive quarters of groundwater data showing that contaminant concentrations meet all groundwater cleanup standards required by this Part of the Permit or when the owner or operator can provide an alternative demonstration showing why the groundwater extraction should cease which uses at least twelve consecutive quarters of groundwater data from wells MW-4, MW-9 and any other compliance point wells. This includes the cleanup standards specified in paragraphs V.E.2.b.

and V.E.2.c. of this Part of the Permit as well as any additional cleanup standards that may be imposed in the future. Groundwater extraction shall continue until the Department provides the owner or operator with written notice to cease pumping operations. The owner or operator shall start extracting ground water again, as directed by the Department, if future data shows that the cleanup standards required by this Part of the Permit are exceeded.

3. Groundwater Monitoring

a. The owner or operator shall design, construct, operate and maintain a groundwater monitoring system to meet the requirements specified in this Part of the Permit.

b. Within 60 days of the effective date of this Permit Modification, the owner or operator shall submit to the Department a Corrective Action Groundwater Monitoring Plan ("CAGWMP") for the Facility. The purpose of the CAGWMP is to fully describe the corrective action groundwater monitoring program, which includes, but is not limited to, procedures for groundwater sampling, quality assurance and data assessment.

c. The CAGWMP shall, at a minimum, include the following information:

- i. Description and purpose of monitoring tasks;
- ii. Data quality objectives;
- iii. List of monitoring parameters;
- iv. Rationale for selection of monitoring parameters;
- v. Description and listing of wells to be sampled;
- vi. Rationale for selection of monitoring wells;
- vii. Appropriately scaled map showing monitoring well network;
- viii. Listing of Gage Aquifer wells to be inspected and gauged for the presence of ground water;
- ix. Monitoring and reporting schedule;

- x. Analytical test methods and detection limits;
- xi. Name of analytical laboratory;
- xii. Laboratory quality control (include laboratory QA/QC procedures in appendices)
- xiii. Sample collection procedures and equipment;
- xiv. Field quality control procedures:
 - duplicates (10% of all field samples)
 - blanks (field, equipment, etc.)
 - equipment calibration and maintenance
 - equipment decontamination
 - sample containers
 - sample preservation
 - sample holding times (must be specified)
 - sample packaging and shipment
 - sample documentation (field notebooks, sample labeling, etc);
- xv. Criteria for data acceptance and rejection;
- xvi. Description of data evaluation procedures including any proposed statistical methods;
- xvii. General contingencies for further action if site conditions change. The CAGWMP shall, at a minimum, include contingency procedures that specify what will happen if facility-derived contaminants are detected above MCL's in any monitoring wells. The contingency procedures shall include, but are not limited to: written notification of the Department within 7 days of discovery, resampling of the well(s) to confirm the "hit" and, if required by the Department, development of additional corrective measures to address the contamination. The corrective measure proposal must be submitted to the Department for review and approval prior to implementation; and
- xviii. Contingencies for further action if the Gage Aquifer resaturates. The CAGWMP shall, at a minimum, specify that if the owner or operator detects water in monitoring well 6A or other wells in the Gage Aquifer, the owner or operator shall:
 - (1) Immediately take samples of the Gage Aquifer ground water and analyze the samples for, at a minimum, metals including hexavalent chromium, volatile

organic compounds (SW846 Method 8240), semi-volatile compounds (SW846 Method 8270), total petroleum hydrocarbons (diesel and gasoline), pH and other general water quality parameters (e.g., chlorides, sulfates).

- (2) Notify the Department of the situation orally within 72 hours of discovery and in writing within 7 days of discovery.
 - (3) Submit a report to the Department within 30 days of discovery summarizing any findings, actual or potential threats to human health and/or the environment and any proposed response action.
- d. The CAGWMP shall be consistent with all Department and U.S. EPA guidance for groundwater sampling and analysis.
 - e. The ground water monitoring system shall, unless the Department specifies otherwise, meet the following performance standards:
 - i. Include a sufficient number of monitoring points installed at appropriate locations and depths in the uppermost unsaturated aquifer, herein identified as the Gage Aquifer, as necessary to assure the earliest possible indication of ground water resaturation.
 - ii. Include a sufficient number of monitoring points installed at appropriate locations and depths to yield ground water samples from the current uppermost saturated aquifer, herein identified as the Hollydale Aquifer, as necessary to represent the quality of water passing Facility boundaries, points of compliance and background locations, and to assure the earliest possible indication of any additional releases from the Facility into the uppermost saturated aquifer.
 - iii. Include a sufficient number of monitoring points installed at locations and depths appropriate to yield groundwater samples from the current uppermost saturated aquifer as necessary to provide the data needed to adequately evaluate changes in water quality at the Facility which result from groundwater extractions.

- iv. Include a minimum of at least one monitoring point installed at a location and depth appropriate to assure that the Jefferson Aquifer is not being impacted by elevated concentrations of site-derived cadmium, chromium and halogenated VOC's from the Hollydale Aquifer. Special precautions, including specialized construction methods, must be taken to ensure that cross-contamination does not occur between the Hollydale Aquifer and the Jefferson Aquifer during well construction.
- v. New groundwater monitoring wells shall utilize short-screened, depth-staggered wells placed in clusters to assess hydrogeochemistry and groundwater pressure gradients while minimizing dilution and cross-contamination.
- vi. All monitoring wells shall be cased and constructed in a manner that maintains the integrity of the monitoring well borehole and prevents the bore hole from acting as a conduit for contaminant transport.
- vii. The sampling interval of each monitoring well shall be appropriately screened and fitted with a filter pack to enable collection of representative groundwater samples.
- viii. The annular space of each monitoring well above and below the sampling interval shall be appropriately sealed to prevent entry of contaminants from the surface, entry of contaminants from the unsaturated zone, cross-contamination of saturated zones and contamination of samples.
- ix. All monitoring wells shall be adequately developed to assure that representative groundwater samples may be collected.
- f. The CAGWMP shall include a proposal for the installation of additional monitoring wells needed to meet the performance standards specified in Paragraph V.E.3.e. of this Part of the Permit. The proposal shall be included as an addendum to the CAGWMP. The proposal shall, at a minimum, discuss the number, location (map), depth, rationale for location selection, drilling methods, screened interval, well materials, development methods, construction schedule and other pertinent design details for the proposed wells.

The proposal shall also include an evaluation of the slope of the clay layer separating the Gage Aquifer from the Hollydale Aquifer. The evaluation shall use existing data and include a map showing the clay layer surface elevations and slope directions. The purpose of this evaluation is to support the siting of new wells in the Gage Aquifer and to identify potential flow directions for any contaminants released into the subsurface soils.

- g. The owner or operator shall, unless the Department specifies otherwise, sample each groundwater monitoring well used or installed as required in this Part of the Permit on a quarterly basis.
- h. The owner or operator shall, unless the Department specifies otherwise, gauge each monitoring well in the Gage Aquifer for the presence of ground water on a monthly basis during the rainy season (December to April) and quarterly for the remainder of the year (July and October).
- i. Parameters for corrective action ground water monitoring shall, unless the Department specifies otherwise, include those that are representative of known or potential Facility derived contaminants, representative of potential regional contaminants and those that are necessary to measure changes in water quality (e.g., pH, chlorides, sulfates, etc).
- j. The groundwater monitoring system for Pond 1 shall, unless the Department specifies otherwise, meet the requirements of 22 CCR Sections 66264.90 through 66264.100. In accordance with the requirements specified in 22 CCR 66264.99 (e)(6), the owner or operator shall sample the Pond 1 monitoring wells (upgradient and downgradient) for the constituents listed in Appendix IX (Ground Water Monitoring List) of 22 CCR 66264 at least annually. The Department may adjust the Pond 1 groundwater monitoring schedule and/or list of monitoring parameters if the Department determines that such changes are justified.
- k. The owner or operator shall implement the CAGWMP, including the CAGWMP addendum, upon receiving written approval from the Department. Corrective action groundwater monitoring shall continue for a minimum of at least 30 years from the effective date of this Permit Modification or until the owner or operator receives written notice from the Department to cease groundwater monitoring activities.

4. Soil Vapor Survey/Extraction to Address Halogenated Volatile Organic Compounds in Soils

- a. Within 120 days of the effective date of this Permit Modification, the owner or operator shall submit to the Department a Corrective Action Soil Vapor Survey ("CASVS") Workplan. The purpose of the CASVS is to fully define the nature and extent of halogenated VOC contamination. The CASVS Workplan shall, at a minimum, describe the soil vapor monitoring system, how the system will be constructed and how the vapor sampling will be done.
- b. The soil vapor survey shall be initially focused in the halogenated VOC remediation area shown on Figure 2 to this Part of the Permit. The establishment of the halogenated VOC remediation area is tentative since it is based on existing soil matrix data. Although the soil matrix data is a good indicator of a halogenated VOC problem, it is not generally representative of the full extent of contamination. The Department may reduce or expand the halogenated VOC remediation area depending on the findings from the soil vapor survey.
- c. The CASVS Workplan shall, at a minimum, include the following information:
 - i. Purpose of the workplan;
 - ii. Conceptual design of proposed soil vapor monitoring system including rationale for selection of monitoring points.
 - iii. Schematic diagrams for key components;
 - iv. An appropriately scaled facility map showing monitoring system;
 - v. Tables listing number and type of major components with approximate dimensions.
 - vi. A description of the wastes generated by the soil vapor survey and how they will be managed.
 - vii. Project management (e.g., management approach levels of authority and responsibility, lines of communication and the qualifications of key personnel who will direct the soil vapor survey (including contractor personnel)).

- viii. Project schedule;
- ix. List and description of the permits needed to construct and operate the soil vapor monitoring system. Indicate on the project schedule when the permit applications will be submitted to the applicable agencies and an estimate of the permit issuance date.
- x. Data quality objectives;
- xi. List of monitoring parameters;
- xii. Rationale for selection of monitoring parameters;
- xiii. Analytical test methods and detection limits;
- xiv. Laboratory quality control (include laboratory QA/QC procedures in appendices)
- xv. Sample collection procedures and equipment;
- xvi. Field quality control procedures:
 - duplicates (10% of all field samples)
 - blanks (field, equipment, etc.)
 - equipment calibration and maintenance
 - equipment decontamination
 - sample containers
 - sample preservation
 - sample holding times (must be specified)
 - sample packaging and shipment
 - sample documentation (field notebooks, sample labeling, etc);
- xvii. Criteria for data acceptance and rejection;
and
- xviii. Description of data evaluation procedures including any proposed statistical methods, models, etc.
- d. The CASVS Workplan shall be consistent with all Department and U.S. EPA guidance for soil vapor sampling and analysis.
- e. The owner or operator shall submit a Corrective Action Soil Vapor Survey (CASVS) Report to the Department in accordance with a schedule contained in the Department approved CASVS Workplan. The CASVS Report shall be prepared in a manner that describes the entire soil vapor survey and clearly presents the basic results. Contour maps, tables, charts and other graphical methods shall be used

whenever possible to describe the survey findings. The CASVS Report shall clearly present an evaluation of the soil vapor survey results including a modeled estimate of potential impacts to ground water.

- f. After Department evaluation of the Soil Vapor Survey Report and within 60 days of a written request from the Department, the owner or operator shall submit to the Department a conceptual design plan for a soil vapor extraction ("SVE") system. The Corrective Action Soil Vapor Extraction Conceptual Design Plan ("CASVECDP") shall describe the SVE system and how it will be constructed at the Facility. The CASVECDP shall be developed in a manner consistent with the Scope of Work contained in Attachment 2 to this Part of the Permit.
- g. If required by the Department, the owner or operator shall design, construct, operate and maintain a SVE system to meet the cleanup standards specified in Paragraph V.E.4.h. of this Part of the Permit.
- h. The cleanup standard is to reduce halogenated VOC, especially TCE, vapor levels in soils to concentrations that are protective of ground water. The cleanup standard shall be met in the halogenated VOC remediation area shown in Figure 2 to this Part of the Permit or an alternative area specified by the Department.

The Department may require additional investigation and/or remediation if new information indicates that other areas of volatile contaminants pose a potential threat to human health and/or the environment.

- i. Upon receiving written approval of the CASVECDP from the Department, the owner or operator shall proceed with the full design and construction of the SVE system.
- j. The owner or operator shall submit a Corrective Action Soil Vapor Extraction Construction Completion Report ("CASVECCR") to the Department in accordance with a schedule contained in the Department approved CASVECDP. The purpose of the CASVECCR is to document how the SVE system was constructed and to provide notification that construction work has been completed. A separate CASVECCR may be needed for each phase of SVE system construction if there are multiple elements. The CASVECCR shall be developed in a

manner consistent with the Scope of Work contained in Attachment 3 to this Part of the Permit.

- k. The owner or operator shall submit a Corrective Action Soil Vapor Extraction Operations and Maintenance Plan ("CASVEO&MP") to the Department in accordance with a schedule contained in the Department approved CASVECDP. The CASVEO&MP shall specify how the SVE system will be operated, maintained and monitored. The CASVEO&MP shall be developed in a manner consistent with the Scope of Work contained in Attachment 4 to this Part of the Permit. At a minimum, the CASVEO&MP shall require the owner or operator to determine system effectiveness and any "rebound" effects by periodically shutting down the SVE system for successive variable time periods, beginning with a minimum of 5 consecutive days, and then collecting soil gas data from all monitoring probes or wells. Soil gas monitoring data shall be collected when the SVE system is not operating.

Evaluation of portable photo-ionization detector data obtained from the monitoring network may be used as a screening tool to track system effectiveness

- l. Upon receiving written approval of the CASVEO&MP from the Department, the owner or operator shall begin full scale operation of the SVE system.
- m. The owner or operator may petition the Department to shut down the SVE system when the owner or operator can demonstrate that the cleanup standard specified in paragraph V.E.4.h. of this Part of the Permit has been achieved. The demonstration shall include, at a minimum, the following performance based information:
 - i. A quantitative analysis of halogenated VOC soil vapor data showing that VOC's, especially TCE, concentrations have been reduced to levels that are protective of ground water.

The analysis shall include the development and analysis of halogenated VOC soil vapor isoconcentration plots for equilibrium conditions. The isoconcentration plots must show a definitive reduction in area over time.

The analysis shall include time verses concentration graphs showing variations in outlet concentrations from each soil gas

monitoring probe or well. The graphs must show any rebound effects and clearly indicate that asymptotic concentrations have been reached.

Soil gas data used to demonstrate that the cleanup standard has been obtained must be analyzed in a mobile laboratory at the Facility.

- ii. Fate and transport modeling to demonstrate that any measured residual soil vapor concentrations will not impact ground water. The Department must provide the owner or operator with written approval of any fate and transport model before the model can be used to demonstrate that the cleanup standard has been achieved.
- iii. If required by the Department, results of confirmation soil matrix sampling from fine-grained zones where long-term or differential halogenated VOC effects might be expected (e.g., clay/silt or organic-rich soils).
- n. If required by the Department, soil vapor extraction shall continue until the Department provides the owner or operator with written notice to cease operations.

5. Soil Remediation in Former Underground Storage Tank Area

- a. Soils which have been contaminated by releases from the former underground storage tank ("UST") system, which was comprised of a 10,000 gallon gasoline tank, a 10,000 gallon diesel tank and associated piping and dispensers, must be remediated as required in H&SC Sections 25280 to 25299.6 and applicable provisions of California Title 23, Chapter 16 regulations.
- b. The owner or operator shall design, construct, operate and maintain an in-situ bioventing system in the UST remediation area to meet the soil cleanup standards specified below:

Aromatic Hydrocarbons:

Benzene:	0.001	mg/kg
Toluene:	1	mg/kg

Ethylbenzene:	0.68	mg/kg
Total Xylenes:	1.75	mg/kg

Hydrocarbon Mixtures:

Total Petroleum Hydrocarbon (TPH):	100	mg/kg
---------------------------------------	-----	-------

TPH is a generic indicator of hydrocarbons that in this case is primarily related to diesel fuel.

UST area soils are contaminated from near surface to at least 37 feet below ground surface. This includes a portion of the currently unsaturated Gage Aquifer. The soil clean-up standards for the UST area soils are based on protecting re-saturating ground water in the Gage Aquifer from petroleum based fuels, including aromatic hydrocarbon and hydrocarbon mixtures, contained in the soil. The Department may revise these clean-up standards based on new information.

- c. The UST remediation area is located in the center of the facility and is roughly a square bounded by soil borings UST-SB3, UST-SB4, UST-SB5, UST-SB1, UST-SB2, and UST-SB-7. The UST remediation area is shown in Figure 1 to this Part of the Permit.
- d. Within 120 days of the effective date of this Permit Modification, the owner or operator shall submit to the Department a Corrective Action Bioventing Conceptual Design Plan ("CABCDP"). The CABCDP shall describe the bioventing system and how it will be constructed at the Facility. The CABCDP shall be developed in a manner consistent with the Scope of Work contained in Attachment 2 to this Part of the Permit.
- e. Upon receiving written approval of the CABCDP from the Department, the owner or operator shall proceed with the full design and construction of the bioventing system.
- f. The owner or operator shall submit a Corrective Action Bioventing Construction Completion Report ("CABCCR") to the Department in accordance with a schedule contained in the Department approved CABCDP. The purpose of the CABCCR is to document how the bioventing system was constructed and to provide notification that construction work has been completed. The CABCCR shall be developed in

a manner consistent with the Scope of Work contained in Attachment 3 to this Part of the Permit.

- g. The owner or operator shall submit a Corrective Action Bioventing Operations and Maintenance Plan ("CABO&MP") to the Department in accordance with a schedule contained in the Department approved CABCDP. The CABO&MP shall, at a minimum, specify how the bioventing system will be operated and maintained, and how the vadose zone will be monitored during bioventing system operations. The CABO&MP shall be developed in a manner consistent with the Scope of Work contained in Attachment 4 to this Part of the Permit.
- h. Upon receiving written approval of the CABO&MP from the Department, the owner or operator shall begin full scale operation of the bioventing system.
- i. The owner or operator may submit a Corrective Action Bioventing Completion ("CABC") Report to the Department when the owner or operator believes that the UST area soil cleanup standards have been attained or when, after a minimum of three years of bioventing, the owner or operator can provide an alternative demonstration showing why the bioventing should cease. The CABC Report shall, at a minimum, include an UST closure certification as well as data and other information showing that the cleanup standards have been attained or include an alternative demonstration of why bioventing should cease. The UST closure certification shall be signed by the owner or operator and by an independent California registered civil engineer or geologist or engineering geologist. The CABC Report shall be developed in a manner consistent with the Scope of Work contained in Attachment 5 to this Part of the Permit. The bioventing system shall continue to operate until the Department provides the owner or operator with written notice to cease operations.
- j. Within 60 days after cessation of bioventing operations at the former UST area, the owner or operator shall submit to the Department written certification from the Los Angeles County Department of Public works and/or the Los Angeles Regional Water Quality Control Board stating that the soil cleanup meets the applicable requirements of Title 23, Chapter 16 regulations. The Department may require that the owner or operator reactivate the bioventing system and/or take other action if the former UST area cleanup does not

meet the applicable requirements of California Title 23, Chapter 16 regulations.

6. Containment Measures

- a. The owner or operator shall design, install, operate and maintain a containment system (e.g., sumps, berms, etc) capable of containing contaminated runoff, accidental spills or tank overfillings and able to prevent infiltration (for all practical purposes) of liquids into subsurface soils at any time during the operating life of the Facility. Containment measures shall be constructed in a manner that meets the requirements of 22 CCR 66264.25.
- b. Within 180 days of the effective date of this Permit Modification, the owner or operator shall submit to the Department a Corrective Action Containment System ("CACS") Report. The purpose of the CACS Report is to: (1) evaluate the ability of the current system of sumps to contain contaminated runoff and chemical spills from the Facility, (2) evaluate the ability of the existing site cover (paving) to prevent (for all practical purposes) infiltration of water into subsurface soils, and (3) describe proposed improvements to the Facility that would prevent infiltration (for all practical purposes) into subsurface soils and contain contaminated runoff and chemical spills.
- c. The CACS Report shall, at a minimum, include:
 - i. A description of the site cover including type, thickness and age of paving material;
 - ii. A description of the current site drainage collection system;
 - iii. An evaluation of all active sumps and associated piping to assess overall condition and integrity;
 - iv. A description of areas, including secondary containment areas and sumps, that are damaged and in need of repair;
 - v. Appropriately scaled maps showing drainage flow patterns, site drainage collection system including active sumps and existing berms, areas of surface ponding, damaged paved areas including secondary containment areas, sumps and berms that are in need of repair and paving material descriptions (e.g., type, thickness, age);

- vi. An estimate of facility area that currently drains into sumps;
 - vii. An estimate of facility area that currently drains off-site;
 - viii. An estimate of current run-off storage capacity;
 - ix. Identification of activities and locations which involve transit of waste and non-waste water through or into below-grade conduits, collection or storage devices;
 - x. An evaluation of the spatial relationship between waste and non-waste water crossing through or into below-grade conduits, collection or storage devices and areas of residual soil contamination;
 - xi. A description of current contingency procedures to address heavy run-off periods;
 - xii. An evaluation of the current drainage collection systems ability to contain off-site run-off;
 - xiii. An evaluation of the ability of the current site cover to prevent infiltration into the subsurface; and
 - xiv. A description of proposed improvements to the Facility that would prevent infiltration into subsurface soils and contain off-site runoff.
- d. The Department will evaluate the CACS Report and may require the owner or operator to make improvements to the drainage collection system and/or site cover.
 - e. After Department evaluation of the CACS Report and within 45 days of a written request from the Department, the owner or operator shall submit to the Department a conceptual design plan for constructing improvements to the containment system. The Corrective Action Containment System Conceptual Design ("CACSCD") Plan shall describe the improvements and how they will be constructed at the Facility. The Department will specify what improvements shall be included in the CACSCD Plan. At a minimum, the Department will require that the owner or operator pave all unpaved areas of the Facility, berm the facility perimeter (except for employee parking lot located adjacent to Dice Road) and reconstruct or repair any leaking sumps,

damaged secondary containment areas and/or damaged paved areas.

- f. The CACSCD Plan shall, unless otherwise specified by the Department, include the following information:
 - i. Purpose of the plan;
 - ii. Conceptual design and summary description of proposed project;
 - iii. An appropriately scaled facility map showing construction areas;
 - iv. Tables listing number and type of major components with approximate dimensions;
 - v. A description of the wastes generated by the construction and how they will be managed;
 - vi. Project management (e.g., management approach, levels of authority and responsibility, lines of communication and the qualifications of key personnel who will direct the project (including contractor personnel);
 - vii. Project schedule; and
 - viii. List and description of the permits needed to construct and operate the containment system. Indicate on the project schedule when the permit applications will be submitted to the applicable agencies and an estimate of the permit issuance date.
- g. Upon receiving written approval of the CACSCD Plan from the Department, the owner or operator shall construct the improvements to the containment system and begin full scale operations as soon as construction work has been completed.
- h. The containment system shall be operated and maintained until the Department provides the owner or operator with written notice to cease operations.

7. Pond 1 Closure Status Report

- a. The existing Modified Closure/Post Closure Plan for Pond 1, which was approved by the Department in September 1988, requires the relocation of two wastewater treatment tanks currently located in Pond 1, the excavation and proper disposal of the

con- crete lining and underlying contaminated soil and the installation of an interim and final cover over the Pond 1 area. Full implementation of the Modified Closure/Post Closure Plan was delayed pending the completion of the facility investigation. Since the facility investigation has now been completed, the approved Modified Closure/Post Closure Plan for Pond 1 given in Attachment 7 must now be implemented. The schedule included in the Modified Closure/Post Closure Plan was keyed to the September 1988 approval date and is now obsolete. To address this concern, the Department has required that the owner or operator submit a revised implementation schedule to the Department for the Modified Closure/Post Closure Plan.

- b. Within 180 days of the effective date of this Permit Modification, the owner or operator shall submit to the Department a Pond 1 Closure Status Report. The Pond 1 Status Report shall include, unless the Department specifies otherwise, a description of significant Pond 1 closure activities and work completed to date, and a description how this work has been coordinated with the corrective action requirements of this Part of the Permit.

8. Operation, Maintenance and Inspection of Site Cover

- a. The owner or operator shall at all times properly operate and maintain all facilities and systems of treatment and control in accordance with 22 CCR 66270.30(e). All equipment, pipes, and lines used at the Facility to handle, transfer, pump, or store hazardous wastes and any other liquids shall be maintained in a manner that prevents the leaking and spilling of such hazardous wastes and/or liquids. This is particularly important since soils contaminated with metals are being left in place under the facility pavement.
- b. Within 240 days of the effective date of this Permit Modification, the owner or operator shall submit to the Department a Corrective Action Site Cover Operation, Maintenance and Inspection ("CASCOMI") Plan that describes how the owner or operator will inspect, operate and maintain the site cover. The owner or operator shall operate and maintain the site cover in a manner that prevents (for all practical purposes) infiltration of liquids into the subsurface and contains contaminated runoff and chemical spills.

- c. The CASCOMI Plan shall, at a minimum, include:
 - i. A description of the purpose;
 - ii. A description of how the inspection program will be organized and managed;
 - iii. A description of the sump system and how it will be operated, maintained and inspected;
 - iv. Annual integrity testing of all active sumps;
 - v. Inspection frequency;
 - vi. Step-by-step instructions for the inspector that identify what to look for during an inspection;
 - vii. A map that specifies the exact route of the inspector;
 - viii. A description of how problems identified during an inspection will be addressed;
 - ix. An example inspection checklist; and
 - x. Documentation requirements (e.g., inspection checklists shall be compiled and stored at the facility).
- d. The owner or operator shall implement the CASCOMI Plan upon receiving written approval from the Department. Operation, maintenance and inspection of the site cover shall continue until the owner or operator receives written notification from the Department to stop.

9. Vadose Zone Monitoring

- a. The owner or operator shall design, construct, operate and maintain a vadose zone monitoring system to meet the requirements specified in this Part of the Permit. The vadose zone is the unsaturated region between the land surface and the water table. The purpose of vadose zone monitoring is to provide early detection of contaminant migration from units that manage or transport process or waste water at the Facility. These units all actively manage process or waste water and thus pose a higher threat to leak and cause migration of existing contaminants through the subsurface soil. Vadose monitoring is also needed to assess the ability of the facility cover element of the corrective action to prevent infiltration into the subsurface.

- b. Within 240 days of the effective date of this Permit Modification, the owner or operator shall submit to the Department a Corrective Action Vadose Zone Monitoring ("CAVZM") Plan for the Facility. The purpose of the CAVZM Plan is to fully describe the corrective action vadose monitoring program. Vadose zone monitoring is required for, at a minimum, all active sumps, all active clarifiers, Pond 1, Pond 2, filter press, the sewer outlet connection area, and any other subsurface units that are designed to accumulate rainfall.
- c. The CAVZM Plan shall, at a minimum, include the following information:
 - i. Purpose of plan;
 - ii. Conceptual design of proposed vadose zone monitoring system including rationale for selection of monitoring points;
 - iii. Schematic diagrams for key components;
 - iv. An appropriately scaled facility map showing monitoring locations;
 - v. A description of the wastes generated by the installation and operation of the vadose zone monitoring system and how they will be managed;
 - vi. Project management (e.g., management approach levels of authority and responsibility, lines of communication and the qualifications of key personnel who will direct vadose zone monitoring program (including contractor personnel);
 - vii. Construction schedule;
 - viii. A listing and description of the permits needed to construct and operate the vadose zone monitoring system. Indicate on the project schedule when the permit applications will be submitted to the applicable agencies and an estimate of the permit issuance date;
 - ix. Data quality objectives for sampling;
 - x. Description of monitoring tasks;
 - xi. List of monitoring parameters;

- xii. Rationale for selection of monitoring parameters;
- xiii. Description and listing of monitoring points to be sampled;
- xiv. Appropriately scaled map showing monitoring locations:
- xv. Monitoring and reporting schedule;
- xvi. Analytical test methods and detection limits;
- xvii. Name of analytical laboratory;
- xviii. Laboratory quality control (include laboratory QA/QC procedures in appendices);
- xix. Sample collection procedures and equipment;
- xx. Field quality control procedures:
 - duplicates (10% of all field samples)
 - blanks (field, equipment, etc.)
 - equipment calibration and maintenance
 - equipment decontamination
 - sample containers
 - sample preservation
 - sample holding times (must be specified)
 - sample packaging and shipment
 - sample documentation (field notebooks, sample labeling, etc);
- xxi. Criteria for data acceptance and rejection; and
- xxii. Description of data evaluation procedures including any proposed statistical methods;
- xxiii. Contingencies for further action if leakage is detected. The CAVZM Plan shall, at a minimum, specify that if the owner or operator detects contaminant migration from any vadose monitoring point, the owner or operator shall:
 - (1) Confirm the release and comply with Section V.L.1. of this Part of the Permit (response to leaks or spills).
 - (2) Take samples of released liquid and/or soils for laboratory analysis as needed to determine the nature and extent of the release. Samples shall be analyzed

for constituents that would likely be found in the waste management units near the point of release. These constituents could include metals such as hexavalent chromium, volatile organic compounds (SW846 Method 8240), semi-volatile compounds (SW846 Method 8270), total petroleum hydrocarbons (diesel and gasoline), pH, chlorides, and sulfates;

- (3) Notify the Department of the situation orally within 72 hours of discovery and in writing within 7 days of discovery; and
- (4) Submit a report to the Department within 30 days of discovery summarizing any findings including the nature and extent of the release, actual or potential threats to human health and/or the environment, and any actions that have been taken or are planned to address the release.

- d. The CAVZM Plan shall be consistent with all Department and U.S. EPA guidance for vadose zone monitoring.
- e. The owner or operator shall implement the CAVZM Plan upon receiving written approval from the Department. Vadose zone monitoring shall continue until the owner or operator receives written notification from the Department to stop.

10. Surface Water Monitoring

The October 15, 1992 Amended General Industrial Activities Storm Water ("AGIASW") Permit is incorporated as a condition of this Permit in accordance with the requirements of Section 25204.5 of the California Health and Safety Code. The AGIASW Permit is provided in Attachment 8 to this Part of the Permit. The Department will first look to the Los Angeles Regional Water Quality Control Board to enforce and implement the AGIASW Permit.

11. Modification of Facility Closure Plan

- a. The April 1990 Closure Plan, which is referenced in this Permit, describes the process for closing the facility after industrial operations have stopped. Within 360 days of the effective date of this Permit Modification, the owner or operator shall submit a revised facility closure plan to

the Department for review and comment. The owner or operator must revise the April 1990 Closure Plan to be consistent with the corrective action requirements contained in this Part of the Permit. At a minimum, the revised plan must provide for the closure of all permitted hazardous waste management units at the facility as required in applicable California regulations and specify that (1) the facility will be fully paved after final closure and (2) the final site cover shall be constructed to prevent accumulation of water on-site and infiltration into subsurface soils.

- b. The owner or operator shall initiate a permit modification to incorporate the revised facility closure plan into this Permit. To make such a modification, the owner or operator must use the procedures for a Class 1 permit modification with prior agency approval in accordance with 22 CCR §66270.42.

12. Financial Assurance for Corrective Action

- a. Section 25200.10 of the H&SC requires that permits include financial assurance for Corrective Action. Within 360 days of the effective date of this Permit Modification, the owner or operator shall submit a Corrective Action Financial Assurance ("CAFA") Plan to the Department. The CAFA Plan shall, at a minimum, specify how the owner or operator will provide financial assurance for the operation and maintenance of the ground water remediation system, soil bioventing system, soil vapor extraction system (if required), containment system (site cover and sumps) and for all monitoring activities required by this Part of the Permit.
- b. The FA plan shall, at a minimum, contain a cost estimate for operation and maintenance of each system discussed above including the assumptions used to make the cost estimate, specify which financial mechanism will be used and when the mechanism will be established. The financial assurance mechanism may include a performance or surety bond, a trust fund, a letter of credit, financial test and corporate guarantee equivalent to that in 22 CCR §66265.143 or any other mechanism acceptable to the Department.
- c. The owner or operator shall implement the FA plan upon receiving written approval from the Department.

13. Potential or Immediate Threats/Newly Identified Releases/Newly Identified SWMU'S

- a. In the event the owner or operator identifies an immediate or potential threat to human health and/or the environment, discovers new releases of hazardous waste and/or hazardous constituents, or discovers new SWMU's not previously identified, the owner or operator shall notify the Department orally within 72 hours of discovery and notify in writing within 7 days of such discovery summarizing the findings including the immediacy and magnitude of any potential threat(s) to human health and/or the environment. Remedialization of existing soil contamination shall be considered a new release.
- b. The Department may require the owner or operator to investigate, mitigate and/or take other appropriate action to address any immediate or potential threats to human health and/or the environment, newly identified releases of hazardous waste and/or hazardous constituents, or newly identified SWMU's. Upon written request by the Department, the owner or operator shall submit to the Department any required documents which may include, but are not limited to, Interim Measure and/or RCRA Facility Investigation Workplans. The required documents shall be developed in a manner consistent with the applicable Scope of Work appended to this Permit Modification or with other guidance to be provided by the Department. The Department will review the required documents and notify the owner or operator in writing of the Department's approval or disapproval, including any comments and/or modifications, in accordance with the Agency Approval/Reporting/ Proposed Contractor/Additional Work section of this Part of the Permit. Upon approval of a workplan, the owner or operator shall implement it in accordance with the provisions and schedule contained therein. If the Department determines that immediate action is required, the Department's Project Coordinator may orally authorize the owner or operator to act prior to the Department's receipt or approval of any required workplans.

F. AGENCY APPROVAL/REPORTING/PROPOSED CONTRACTOR/ADDITIONAL WORK

1. Agency Approvals

- a. The Department will provide the owner or operator with its written approval, approval with

conditions or modifications, disapproval, or disapproval with comments for any plan, workplan, report (except progress reports), specification or schedule submitted pursuant to or required by this Part of the Permit. The Department will provide the owner or operator with reasons which detail why the Department has approved, with conditions or modifications, any document required under this Part of the Permit.

- b. The owner or operator shall revise any plan, workplan, report, specification or schedule in accordance with the Department's written comments. The owner or operator shall submit to the Department any revised submittals in accordance with a due date specified by the Department. Revised submittals are subject to the Department approval or disapproval, with comments or modification.
- c. Upon receipt of the Department's written approval, the owner or operator shall commence work and implement any approved plan or workplan in accordance with the schedule and provisions contained therein.
- d. Any Department approved plan, workplan, report, specification, or schedule, shall be deemed incorporated into this Permit. Any non-compliance with such approved workplans, reports, specifications or schedules shall be considered non-compliance with this Permit. Prior to this written approval, no plan, workplan, report, specification or schedule shall be construed as approved and final. Verbal advice, suggestions, or comments given by the Department representatives will not constitute an official approval, nor shall any verbal approval or verbal assurance be considered binding.

2. Reporting

- a. Beginning with the first full month following the effective date of this Permit Modification, until suspended by the Department in writing, the owner or operator shall provide the Department with signed bi-monthly progress reports of all corrective action activities conducted and to be conducted pursuant to this Part of the Permit. The owner or operator shall submit progress reports to the Department by the tenth day of the month following each bi-monthly period. The progress reports shall conform to the requirements contained in Attachment 1 to this Part of the Permit. At the discretion of the Department, the

frequency of progress reporting may be adjusted to be consistent with site-specific activities.

- b. Any reports, documents or other information submitted to the Department by the owner or operator pursuant to this Part of the Permit shall be signed and certified by a responsible corporate officer of the owner or operator or a duly authorized representative in accordance with 22 CCR §66270.11. In addition, any technical reports shall be certified by an independent California registered civil engineer, geologist or engineering geologist.
- c. Three copies of all documents, including but not limited to, workplan(s), reports, and other correspondence to be submitted pursuant to this Part of the Permit shall be hand delivered, sent by certified mail, return receipt requested, or by overnight express mail to the Department Project Coordinator or to other addressees she/he designates. Submittals specifically exempted from the copy requirement outlined above are all progress reports, and any other correspondence of less than 15 pages, of which one copy is required. All submittals required by this Permit shall be printed on recycled paper and shall be copied double-sided whenever practicable.
- d. Unless otherwise specified, all reports, correspondence, approvals, disapprovals, notices or other submissions relating to or required under this Part of the Permit shall be in writing and shall be sent to the respective Project Coordinators.
- e. The owner or operator shall, unless otherwise specified by the Department, send one copy of all correspondence, findings, notifications, proposals, reports, or plans required by this Part of the Permit to each of the following persons at the same time as it is submitted to the Department:

Executive Officer
Los Angeles Regional Water Quality Control Board
101 Centre Plaza Drive
Monterey Park, California 91754

3. Proposed Contractor/Consultant

- a. All work performed pursuant to this Part of the Permit shall be under the direction and supervision of a California registered professional civil engineer, hydrologist, or

geologist with expertise in hazardous waste site cleanup. The owner or operator's contractor or consultant shall have the technical expertise sufficient to adequately perform all aspects of the work for which they are responsible.

- b. Within 14 days of the effective date of this Permit Modification, the owner or operator shall notify the Department Project Coordinator in writing of the name, title, and qualifications of the engineer, hydrologist, or geologist, and of any contractors or consultants and their personnel to be used in carrying out this Part of the Permit.

4. Additional Work

- a. The Department may determine or the owner or operator may propose that certain tasks, including investigatory work, remedial action, engineering evaluation, or procedure/methodology modifications are necessary in addition to, or in lieu of, the tasks and deliverables included in any workplan or plan approved by the Department.
- b. The Department shall request in writing that the owner or operator perform the additional work and will specify the basis and reasons for the Department's determination that the additional work is necessary.
- c. Within 14 days after the receipt of such determination, the owner or operator shall have the opportunity to meet or confer with the Department to discuss the additional work which the Department has requested.
- d. If required by the Department, the owner or operator shall submit a workplan to the Department for the additional work. Such workplan shall be submitted to the Department according to a schedule established by the Department. Upon approval of a workplan, the owner or operator shall implement it in accordance with the provisions and schedule contained therein.

G. QUALITY ASSURANCE

- 1. Workplans shall contain quality assurance/quality control and chain of custody procedures for all sampling, monitoring and analytical activities.

2. The name(s), addresses and telephone numbers of the analytical laboratories the owner or operator proposes to use must be specified in the applicable workplan(s).
3. All workplans required under this Part of the Permit shall include data quality objectives for each data collection activity to ensure that data of known and appropriate quality are obtained and that data are sufficient to support their intended use(s).
4. The owner or operator shall ensure that data of appropriate quality are obtained by its consultant or contract laboratories. The owner or operator shall ensure that laboratories used by the owner or operator have in place a quality assurance program plan and perform analyses according to the latest approved edition of "Test Methods for Evaluating Solid Waste, (SW-846)", or other methods deemed satisfactory by the Department. If methods other than standard methods are to be used, the owner or operator shall specify all such methods in the applicable workplan. The Department may reject any data that does not meet the requirements of the approved workplan or the analytical methods, and may require resampling and analysis.
5. The Department may conduct a performance and quality assurance/quality control audit of the laboratories chosen by the owner or operator before, during or after sample analyses. Upon request by the Department, the owner or operator shall have its selected laboratory perform analyses of samples provided by the Department to demonstrate laboratory performance. If the audit reveals deficiencies in a laboratory's performance or quality assurance/quality control, resampling and analysis may be required.

H. SAMPLING/ACCESS

1. Sampling

The owner or operator shall notify the Department in writing at least 14 days prior to beginning each separate phase of field work approved under any workplan required by this Part of the Permit. If the owner or operator believes it must commence emergency field activities without delay, the owner or operator may seek emergency telephone authorization from the Department Project Coordinator or if the Project Coordinator is unavailable, his/her immediate supervisor, to commence such activities immediately. At the request of the Department, the owner or operator shall provide or allow the Department or its authorized representative to take split or duplicate samples of all samples collected by the owner or operator pursuant to this Part of the Permit.

2. Access

- a. The Department, its contractors, employees, and/or any U.S. EPA representatives are authorized to enter and freely move about the Facility pursuant to this Part of the Permit for the purposes of: interviewing Facility personnel and contractors; inspecting records, operating logs, and contracts required under this Part of the Permit; reviewing the progress of the owner or operator in carrying out the terms of this Part of the Permit; conducting such tests, sampling or monitoring as the Department or its Project Coordinator deem necessary; using a camera, sound recording, or other documentary type equipment; and verifying the reports and data submitted to the Department by the owner or operator. The owner or operator shall provide the Department and its representatives access at all reasonable times to the Facility and any other property to which access is required for implementation of this Part of the Permit and shall permit such persons to inspect and copy all records, files, photographs, documents, including all sampling and monitoring data, that pertain to work undertaken pursuant to this Part of the Permit.
- b. To the extent that work being performed pursuant to this Part of the Permit must be done on property not owned or controlled by the owner or operator, the owner or operator shall use its best efforts to obtain access agreements necessary to complete work required by this Part of the Permit from the present owner(s) of such property within 30 days of approval of any workplan for which access is required. Best efforts as used in this paragraph shall include, at a minimum, a certified letter from the owner or operator to the present owner(s) of such property requesting access agreement(s) to allow the owner or operator and the Department and its authorized representatives access to such property and the payment of reasonable sums of money in consideration of granting access. The owner or operator shall provide the Department Project Coordinator with a copy of any access agreement(s). In the event that agreements for access are not obtained within 30 days of approval of any workplan for which access is required, or of the date that the need for access became known to the owner or operator, the owner or operator shall notify the Department in writing within 14 days thereafter regarding both the efforts undertaken to obtain access and its failure to obtain such agreements. In the event the Department obtains access, the owner or operator shall undertake approved work on such property.

- c. Nothing in this Part of the Permit shall be construed to limit or otherwise affect the owner or operator's liability and obligation to perform corrective action including corrective action beyond the facility boundary, notwithstanding the lack of access. The Department may determine that additional on-site measures must be taken to address releases beyond the Facility boundary if access to off-site areas cannot be obtained.

I. RECORD PRESERVATION

1. The owner or operator shall retain, during the term of this Permit and any reissued permits, all data, records and documents gathered or generated during any corrective action activities including those required under the December 1988 Administrative Order on Consent (Docket No. RCRA-09-89-0001) and those undertaken pursuant to this Part of the Permit. All such documents shall be stored in a centralized location at the Facility (or other location approved by the Department) and be made available to the Department, U.S. EPA or their representatives upon request. The owner or operator shall notify the Department in writing at least 90 days prior to final expiration of this Permit, and shall provide the Department with the opportunity to take possession of any such records. Such written notification shall reference this Permit (including expiration date) and shall be addressed to the Department Project Coordinator.
2. The owner or operator shall obtain copies of all data, records and documents gathered or generated by any agent, consultant, or contractor employed by the owner or operator to carry out the terms of this Part of the Permit.

J. DISPUTE RESOLUTION

1. The Department and the owner or operator shall use their best efforts to informally and in good faith resolve all disputes or differences of opinion.
2. If the owner or operator disagrees, in whole or in part, with any written decision by the Department relating to the Department modification of interim deliverables submitted by the owner or operator or to additional work required by the Department pursuant to this Part of the Permit, the owner or operator's Project Coordinator shall orally notify the Department Project Coordinator of the dispute. The Project Coordinators shall attempt to resolve the dispute informally.

3. If the Project Coordinators cannot resolve the dispute informally, the owner or operator may pursue the matter formally by placing its objections in writing. The owner or operator's written objections must be directed to Chief, Facility Management Branch, California EPA, Department of Toxic Substances Control, Region 3, with a copy to the Department Project Coordinator, within 14 days of the owner or operator's receipt of the Department decision. The owner or operator's written objection must set forth the specific points of the dispute and the basis for the owner or operator's position.
4. The Department and the owner or operator shall have 14 days from the Department's receipt of the owner or operator's written objections to attempt to resolve the dispute through formal discussions. This time period may be extended by the Department for good cause. During such time period, the owner or operator will have an opportunity to meet or confer with the Department to discuss the dispute and the owner or operator's objections.
5. After the formal discussion period, the Chief, Facility Management Branch, California EPA, Department of Toxic Substances Control, Region 3., will provide the owner or operator with his/her written decision on the dispute. The written decision will reflect any agreements reached during the formal discussion period, state the reasons for the Chief's decision, and respond to the arguments presented by the owner or operator in objecting to the Department action. The decision shall be incorporated into and become an enforceable part of this Permit. The decision is not subject to further dispute resolution under Section V.J. of this Part of the Permit.
6. If the owner or operator fails to follow any of the requirements contained in this Part of the Permit then it shall have waived its right to further consideration of the disputed issue.
7. Notwithstanding the invocation of this dispute resolution procedure, the owner or operator shall proceed, at the direction of the Department, to take any action required by those portions of an approved workplan and of this Part of the Permit that the Department determines are not substantially affected by the dispute.

K. MODIFICATION

Any requests for a compliance date modification or revision of an approved workplan (or plan) requirement must be in writing. Such requests must be timely and provide

justification for any proposed compliance date modification or workplan revision. The Department has no obligation to approve such requests, but if it does so, such approval will be in writing and signed by the Chief, Facility Management Branch, California EPA, Department of Toxic Substances Control, Region 3. Any approved compliance date or workplan modification shall be incorporated by reference into this Permit and become an enforceable part of this Permit.

L. SPECIAL CONDITIONS

1. Response to Leaks or Spills

- a. In the event of leaks or spills from any of the waste management units such as a tank system, secondary containment system, sump system, subsurface piping, or if any system becomes unfit for continued use, the owner or operator shall remove that system from service immediately and comply with the applicable requirements of 22 CCR 66264.196(b)(1) through (7).
- b. If a waste management unit has been extensively repaired, the owner or operator shall submit to the Department certification of major repairs as specified in 22 CCR 66264.196(b)(7) within seven (7) days after returning the system to use.
- c. Spilled or leaked waste and accumulated precipitation must be removed from any and all trench, sump or collection area within twenty-four (24) hours after its discovery.
- d. The collected material from a leak, a spill or accumulated precipitation at any solid waste management unit or its containment system shall be managed as hazardous waste unless the owner or operator has established in accordance with the requirements of 22 CCR 66261.3(d) that the collected material is not a hazardous waste. The owner or operator shall comply with the applicable requirements of 22 CCR 66261.4(c), 66264.175(b)(5), 66264.178 and 66264.193(c)(4) concerning the collected material.

2. New Waste System Requirements

- a. If the owner or operator wishes to construct any new waste management units which require pavement removal, soil excavation or that manage liquids, other than those required by this Part of the Permit, the owner or operator shall notify the Department in writing at least 30 days prior to the planned start of construction. Waste management

units include, but are not limited to, tanks, sumps, drum storage areas, etc. The notification shall, at a minimum, include the following information:

- i. Purpose of proposal;
 - ii. Description of proposed project;
 - iii. Appropriately scaled facility map showing location of the proposed new construction;
 - iv. Summary of existing soil contamination in construction area;
 - v. Condition of paving in proposed construction area;
 - vi. Approximate volume of soil to be excavated;
 - vii. Measures that will be taken to prevent infiltration into subsurface soils and to meet applicable requirements for containing releases from new hazardous waste management units;
 - viii. Project schedule;
 - ix. A description of the wastes generated by the construction and how they will be managed; and
 - x. Project management (e.g., management approach, levels of authority and responsibility, lines of communication and the qualifications of key personnel who will direct the project (including contractor personnel)).
- b. The owner or operator shall obtain and keep on file at the Facility a written certification of construction by those persons required to certify the design of any new waste management systems. The certification shall include all as-built design drawings and installation activity reports on the preparation of the foundations, installations, pipe fitting, backfill and compaction of earth, grading, off-site disposal and operation testing.

M. FACILITY SUBMITTAL SUMMARY

Below is a summary of the major reporting requirements contained in this Part of the Permit. The summary is provided as a general guide and thus does not contain all requirements. Please refer to the specific language of this Part of the Permit to fully determine all requirements.

<u>Facility Submission Requirements</u>	<u>Due Date</u>
Designate Project Coordinator and Notify Department in Writing	14 days from effective date of Permit Modification
Notify Department in Writing of Contractors to Carry Out Terms of Corrective Action.	14 days from effective date of Permit Modification
Submit first Progress Report	10th day of month following the effective date of the Permit Modification
Submit Progress Reports	Bimonthly
Record Deed Restriction Notice	14 days from effective date of Permit Modification
Submit Corrective Action Ground Water Remediation Workplan	60 days from effective date of Permit Modification
Submit Corrective Action Ground Water Monitoring Plan	60 days from effective date of Permit Modification
Submit Corrective Action Soil Vapor Survey Workplan	120 days from effective date of Permit Modification
Submit Corrective Action Bioventing Conceptual Design Plan	120 days from effective date of Permit Modification
Submit Corrective Action Containment System Report	180 days from effective date of Permit Modification
Submit Pond 1 Closure Status Report	180 days from effective date of Permit Modification

Submit Corrective Action Vadose Zone Monitoring Plan	240	days from effective date of Permit Modification
Submit Corrective Action Site Cover Operation, Maintenance and Inspection Plan	240	days from effective date of Permit Modification
Submit Corrective Action Surface Water Sampling Plan	300	days from effective date of Permit Modification
Submit revised Facility Closure Plan	360	days from effective date of Permit Modification
Submit Corrective Action Financial Assurance Plan	360	days from effective date of Permit Modification
Verbal Notification of immediate or potential threats to human health or environment, newly identified releases or newly- discovered SWMU's	72	hours after discovery
Written Notification of immediate or potential threats to human health or environment, newly identified releases or newly- discovered SWMU's	10	days after discovery

N. DEFINITIONS

The following definitions shall apply to this Part of the Permit:

"Aromatic VOC's or Aromatic Volatile Organic Compounds" include, but are not limited to, benzene, toluene, ethylbenzene and xylenes.

"Bioventing" means the introduction of air and nutrients into subsurface soils to promote biological growth and hydrocarbon degradation. This is usually accomplished by installing wells into the vadose zone and pumping air into the subsurface.

"BTEX" is an abbreviation for the compounds benzene, toluene, ethylbenzene and xylene.

"Corrective Action" means those actions taken to investigate and clean-up contaminant releases from hazardous waste treatment, storage, and disposal facilities.

"Corrective Measures Study" or "CMS" means a study conducted by the facility owner or operator to identify and evaluate alternative remedies to address contaminant releases at a site.

"Days" means calendar days unless otherwise specified.

"Department" or "the Department" means the California Environmental Protection Agency, Department of Toxic Substances Control, Region 3.

"U.S. EPA" means the U.S. Environmental Protection Agency, Region 9.

"Facility" means all contiguous property under the control of the owner or operator seeking a permit under Section 25200.10 of the Health and Safety Code.

"Halogenated VOC's or Halogenated Volatile Organic Compounds" include, but are not limited to, the following compounds: Tetrachloroethene (PCE), Trichloroethene (TCE), 1,1-Dichloroethene (1,1-DCE), 1,1-Dichloroethane (1,1-DCA), 1,2-Dichloroethane (1,2-DCA), trans-1,2-Dichloroethene (1,2-DCE), Carbon Tetra Chloride, 1,1,1-Trichloroethane (1,1,1- TCA), Chloroform and Methylene Chloride.

"Hazardous constituent" means any constituent identified in Appendix VIII of 22 CCR 66261, or any constituent identified in Appendix IX of 22 CCR 66264.

"Hazardous waste" means a hazardous waste as defined in 22 CCR §66261.3. Hazardous waste includes extremely hazardous waste, acutely hazardous waste, RCRA hazardous waste, non-RCRA hazardous waste, and special waste.

"In-situ treatment" means treatment of contamination in - place.

"Maximum Contaminant Level" or "MCL" means the maximum permissible level of a contaminant in water delivered to any user of a public water system. MCL's are enforceable standards.

"RCRA Facility Assessment" or "RFA" means a detailed regulatory agency review of records and information on the facility to identify and characterize all solid waste management units at the site; this includes a site inspection to examine all parts of the facility and identify areas of potential contamination.

"RCRA Facility Investigation" or "RFI" means an in-depth study conducted by the facility owner or operator to: determine the nature and extent of contamination at a RCRA treatment, storage, or disposal facility; identify preliminary alternatives for cleaning up the site; and support the technical and cost evaluation of cleanup alternatives.

"Release" means any spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of hazardous wastes (including hazardous constituents) into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous wastes or hazardous constituents).

"Resource Conservation and Recovery Act" or "RCRA" means a federal law that established a regulatory system to track hazardous waste from the time of generation to disposal. The law requires facilities to obtain a permit if they treat, store or dispose of hazardous waste. RCRA is designed to prevent new, uncontrolled hazardous waste sites.

"Solid Waste Management Unit" or "SWMU" means any discernible unit at a facility in which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which solid wastes have been routinely and systematically released.

"Vadose Zone" means the unsaturated region between the land surface and the ground water table.

Figure 1

Underground Storage Tank Remediation Area

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

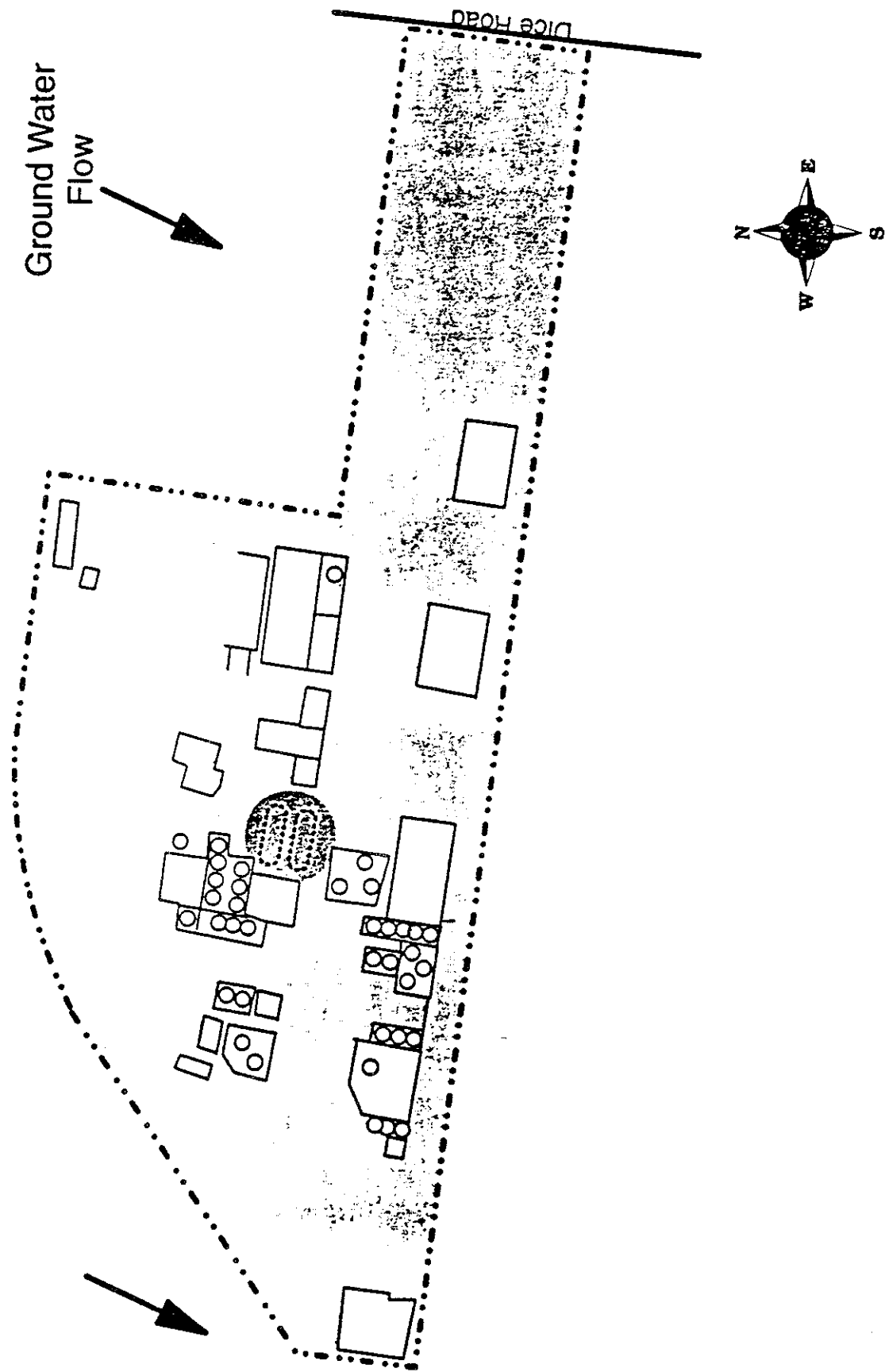
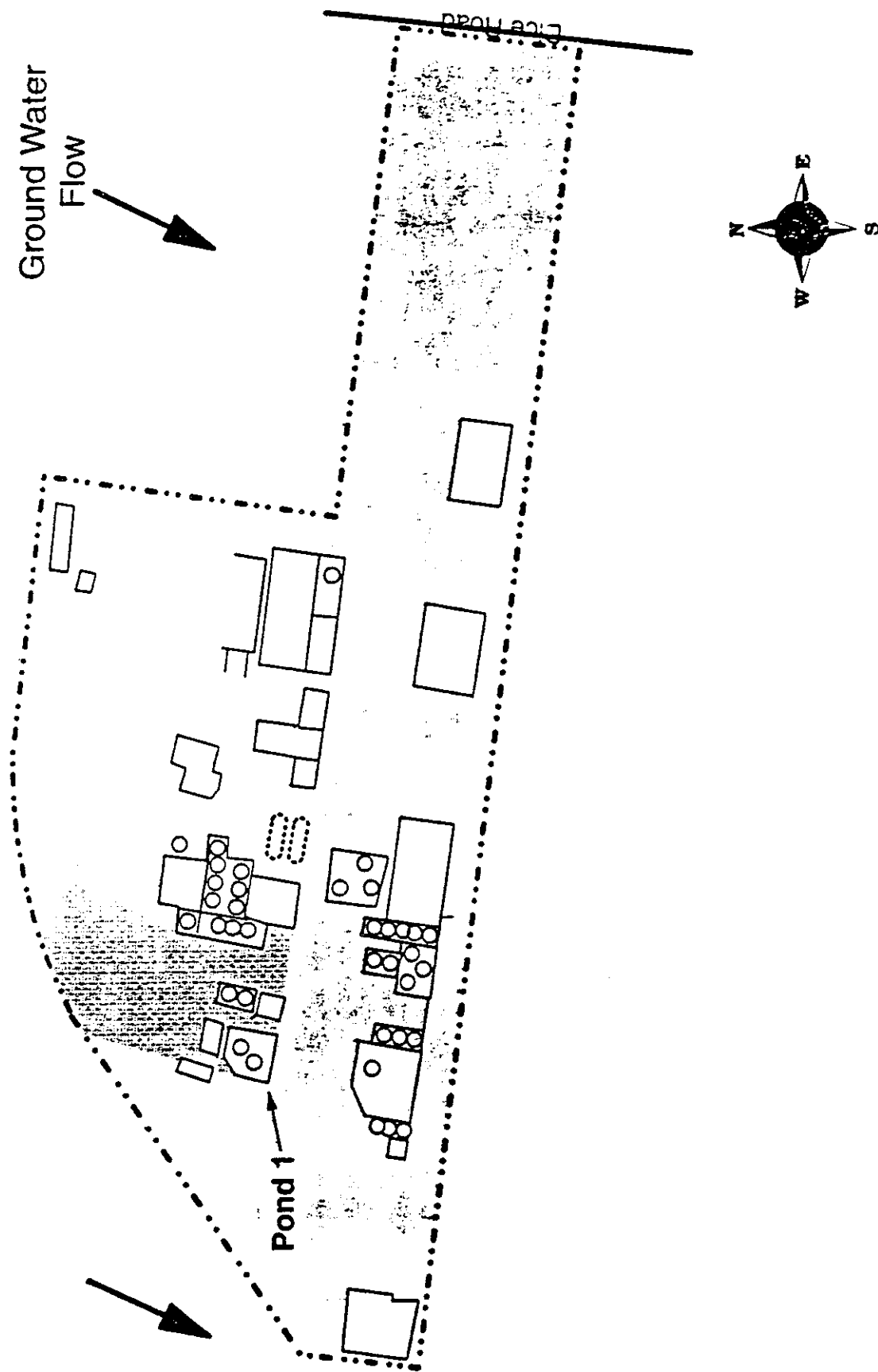


Figure 2

Halogenated VOC Remediation Area

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



Not to scale.

Attachments

ATTACHMENT 1

SCOPE OF WORK FOR PROGRESS REPORTS

The owner or operator shall provide the Department with signed bimonthly progress reports during corrective measure design, construction, operation and maintenance. The Department may adjust the frequency of progress reporting to address site specific needs. For example, more frequent progress reports may be needed to track critical activities such as corrective measure construction and start-up. Progress reports must, at a minimum, include the following elements:

1. A description of significant activities and work completed during the reporting period;
2. Summary of system effectiveness. Provide a comparison of system operation to predicted performance levels (applicable only during operation of the corrective measure);
3. Summaries of all findings (including any inspection results);
4. Summaries of all contacts with representatives of the local community, public interest groups or State government during the reporting period;
5. Summaries of all problems or potential problems encountered during the reporting period;
6. Actions being taken and/or planned to rectify problems;
7. Changes in personnel during the reporting period;
8. Projected work for the next reporting period; and
9. If requested by the Department, the results of any sampling tests and/or other data generated during the reporting period.

ATTACHMENT 2

SCOPE OF WORK FOR GROUND WATER REMEDIATION WORKPLAN AND CONCEPTUAL DESIGN PLANS FOR BIOVENTING AND SOIL VAPOR EXTRACTION SYSTEMS

This Scope of Work (SOW) is intended to be a flexible document capable of addressing both simple and complex site situations. If the owner or operator can justify, to the satisfaction of the Department, that specific requirements are not needed given the site specific situation, then the Department may waive that requirement.

The Department may require the owner or operator to conduct additional studies beyond what is discussed in this SOW in order to further the corrective action process. The owner or operator will furnish all personnel, materials and services necessary to conduct the additional tasks.

SCOPE

The Ground Water Remediation Workplan, Soil Vapor Extraction Conceptual Design Plan and Bioventing Conceptual Design Plan shall clearly describe the size, shape, form, and content of the proposed corrective measure, the key components or elements that are needed, describe the designers vision of the corrective measure in the form of conceptual drawings and schematics, and include procedures and schedules for implementing the corrective measure(s).

The required documents shall, at a minimum, include the following elements:

1. Introduction/Purpose

Describe the purpose of the document and provide a summary description of the project.

- 2 Cleanup Standards

Discuss applicable media cleanup standards.

3. Conceptual Model of Contaminant Migration

It is important to know where the contaminants are and to understand how they are moving before an adequate corrective measure can be developed. To address this critical question, the owner or operator must present a

conceptual model of the site and contaminant migration. The conceptual model consists of a working hypothesis of how the contaminants may move from the release source to the receptor population. The conceptual model is developed by looking at the applicable physical parameters (e.g., water solubility, density, Henry's Law Constant, etc.) for each contaminant and assessing how the contaminant may migrate given the existing site conditions (geologic features, depth to groundwater, etc.). Describe the phase (water, soil, gas, non-aqueous) and location where contaminants are likely to be found. This analysis may have already been done as part of earlier work (e.g., Current Conditions Report). If this is the case, then provide a summary of the conceptual model with a reference to the earlier document;

4. Description of Corrective Measures

Considering the conceptual model of contaminant migration, qualitatively describe what the corrective measure is supposed to do and how it will function at the Facility. Discuss the constructability of the corrective measure and its ability to meet the cleanup standards.

5. Data Sufficiency

Review existing data needed to support the design effort and establish whether or not there is sufficient accurate data available for this purpose. The owner or operator must summarize the assessment findings and specify any additional data needed to complete the corrective measure design. The Department may require or the owner or operator may propose that sampling and analysis plans and/or treatability study workplans be developed to obtain the additional data. Submittal times for any new sampling and analysis plans and/or treatability study workplans must be included in the project schedule.

6. Project Management

Describe the management approach including levels of authority and responsibility (include organization chart), lines of communication and the qualifications of key personnel who will direct the corrective measure design and implementation effort (including contractor personnel).

7. Project Schedule

The project schedule must specify the timing for all significant steps in the process including an estimate of when construction will start and stop.

8. Design Criteria

Specify performance requirements for the overall corrective measure and for each major component. The owner or operator must select equipment that meets the performance requirements

9. Design Basis

Discuss the process and methods for designing all major components of the corrective measure. Discuss the significant assumptions made and possible sources of error. Provide justification for the assumptions;

10. Conceptual Process/Schematic Diagrams.

11. Site plan showing preliminary plant layout and/or treatment area.

12. Tables listing number and type of major components with approximate dimensions.

13. Tables giving preliminary mass balances.

14. Site safety and security provisions (e.g., fences, fire control, etc.).

15. Waste Management Practices

Describe the wastes generated by the construction of the corrective measure and how they will be managed. Also discuss drainage and indicate how rainwater runoff will be managed;

16. Required Permits

List and describe the permits needed to construct and operate the corrective measure. Indicate on the project schedule when the permit applications will be submitted to the applicable agencies and an estimate of the permit issuance date.

17. Long-Lead Procurement Considerations

The owner or operator shall prepare a list of any elements or components of the corrective measure that will require custom fabrication or for some other reason must be considered as long-lead procurement items. The list must include the reason why the items are considered long-lead items, the length of time necessary for procurement, and recognized sources of such procurement;

18. Appendices including:

Design Data - Tabulations of significant data used in the design effort;

Equations - List and describe the source of major equations used in the design process;

Sample Calculations - Present and explain one example calculation for significant or unique design calculations; and

Laboratory or Field Test Results.

ATTACHMENT 3

SCOPE OF WORK FOR CONSTRUCTION COMPLETION REPORTS

This Scope of Work (SOW) is intended to be a flexible document capable of addressing both simple and complex site situations. If the owner or operator can justify, to the satisfaction of the Department, that specific requirements are not needed given the site specific situation, then the Department may waive that requirement.

The Department may require the owner or operator to conduct additional studies beyond what is discussed in this SOW in order to further the corrective action process. The owner or operator will furnish all personnel, materials and services necessary to conduct the additional tasks.

SCOPE

The owner or operator shall prepare a Construction Completion (CC) Report which documents how the completed project is consistent with the conceptual design. A CC Report shall be submitted to the Department when the construction and any operational tests have been completed. The CC Report shall, at a minimum, include the following elements:

1. Purpose;
2. Synopsis of the corrective measure, design criteria, and certification that the corrective measure was constructed in accordance with the conceptual design;
3. Explanation and description of any significant deviations from the conceptual design and why these were necessary for the project;
4. Results of any operational testing and/or monitoring, indicating how initial operation of the corrective measure compares to the design criteria;
5. Summary of significant activities that occurred during construction. Include a discussion of problems encountered and how they were addressed;
6. Summary of any inspection findings (include copies of key inspection documents in appendices);
7. As built drawings; and
8. A schedule indicating when any treatment systems will begin full scale operations.

ATTACHMENT 4

SCOPE OF WORK FOR OPERATION AND MAINTENANCE PLANS

This Scope of Work (SOW) is intended to be a flexible document capable of addressing both simple and complex site situations. If the owner or operator can justify, to the satisfaction of the Department, that specific requirements are not needed given the site specific situation, then the Department may waive that requirement.

The Department may require the owner or operator to conduct additional studies beyond what is discussed in this SOW in order to further the corrective action process. The owner or operator will furnish all personnel, materials and services necessary to conduct the additional tasks.

SCOPE

Operation and Maintenance (O&M) Plans shall include a strategy and procedure for performing operations, long term maintenance, and monitoring of the corrective measure. The O&M plans shall, at a minimum, include the following elements:

1. Introduction/Purpose

Describe the purpose of the document and provide a summary description of the project.

2. Project Management

Describe the management approach including levels of authority and responsibility (include organization chart), lines of communication and the qualifications of key personnel who will operate and maintain the corrective measures (including contractor personnel);

3. System Description

Describe the corrective measure and identify significant equipment.

4. Personnel Training

Describe the training process for O&M personnel. The owner or operator shall prepare, and include in the technical specifications governing treatment systems, contractor requirements for providing: appropriate service visits by experienced personnel to supervise

the installation, adjustment, start up and operation of the treatment systems, and training covering appropriate operational procedures once the start-up has been successfully accomplished.

5. Start-Up Procedures

Describe system start-up procedures including any operational testing.

6. Operation and Maintenance Procedures

Describe normal operation and maintenance procedures including:

- a. Description of tasks for operation;
- b. Description of tasks for maintenance;
- c. Description of prescribed treatment or operation conditions; and
- d. Schedule showing frequency of each O&M task.

7. Replacement schedule for equipment and installed components.

8. Waste Management Practices

Describe the wastes generated by operation of the corrective measure and how they will be managed. Also discuss drainage and indicate how rainwater runoff will be managed.

9. Sampling and monitoring activities may be needed for effective operation and maintenance of the corrective measure. If sampling activities are necessary, the O&M plan must include a complete sampling and analysis section which specifies the following information:

- a. Description and purpose of monitoring tasks;
- b. Data quality objectives;
- c. Analytical test methods and detection limits;
- d. Name of analytical laboratory;
- e. Laboratory quality control (include laboratory QA/QC procedures in appendices)
- f. Sample collection procedures and equipment;
- g. Field quality control procedures:
 - * duplicates (10% of all field samples)
 - * blanks (field, equipment, etc.)
 - * equipment calibration and maintenance
 - * equipment decontamination
 - * sample containers
 - * sample preservation

- * sample holding times (must be specified)
- * sample packaging and shipment
- * sample documentation (field notebooks, sample labeling, etc);
- h. Criteria for data acceptance and rejection; and
- i. Schedule of monitoring frequency.

The owner or operator shall follow all Department guidance for sampling and analysis. The owner or operator may request that the sampling and analysis section be a separate document.

10. Corrective Measure Completion Criteria

Describe the process and criteria (e.g., cleanup standards met at all compliance points for 1 year) for determining when corrective measures may cease.

11. O&M Contingency Procedures:

- a. Procedures to address system breakdowns and operational problems including a list of redundant and emergency back-up equipment and procedures;
- b. Should the corrective measure suffer complete failure, specify alternate procedures to prevent release or threatened releases of hazardous substances, pollutants or contaminants which may endanger public health and/or the environment or exceed cleanup standards;
- c. The O&M Plan must specify that, in the event of a major breakdown and/or complete failure of the corrective measure (includes emergency situations), the owner or operator will orally notify the Department within 24 hours of the event and will notify the Department in writing within 72 hours of the event. The written notification must, at a minimum, specify what happened, what response action is being taken and/or is planned, and any potential impacts on human health and/or the environment; and
- d. Procedures to be implemented in the event that the corrective measure is experiencing major operational problems, is not performing to design specifications and/or will not achieve the cleanup goals in the expected timeframe. For example, in certain circumstances both a primary and secondary

corrective measure may be selected for the Facility. If the primary corrective measure were to fail, then the secondary would be implemented. This section would thus specify that if the primary corrective measure failed, then design plans would be developed for the secondary measure.

12. Data Management and Documentation Requirements

Describe how analytical data and results will be evaluated, documented and managed, including development of an analytical database. State the criteria that will be used by the project team to review and determine the quality of data.

The O&M Plan shall specify that the owner or operator will collect and maintain the following information:

a. Progress Report Information

- * Work Accomplishments (e.g., performance levels achieved, hours of treatment operation, treated and/or excavated volumes, concentration of contaminants in treated and/or excavated volumes, nature and volume of wastes generated, etc.).
- * Record of significant activities (e.g., sampling events, inspections, problems encountered, action taken to rectify problems, etc.).

- b. Monitoring and laboratory data;
- c. Records of operating costs; and
- d. Personnel, maintenance and inspection records.

This data and information should be used to prepare Progress Reports and the Corrective Measure Completion Report.

ATTACHMENT 5

SCOPE OF WORK FOR CORRECTIVE MEASURE COMPLETION REPORTS

This Scope of Work (SOW) is intended to be a flexible document capable of addressing both simple and complex site situations. If the owner or operator can justify, to the satisfaction of the Department, that specific requirements are not needed given the site specific situation, then the Department may waive that requirement.

The Department may require the owner or operator to conduct additional studies beyond what is discussed in this SOW in order to further the corrective action process. The owner or operator will furnish all personnel, materials and services necessary to conduct the additional tasks.

SCOPE

The purpose of the CMC Report is to fully document how the corrective action objectives have been satisfied and to justify why the corrective measure and/or monitoring may cease. The CMC Report shall, at a minimum, include the following elements:

1. Purpose;
2. Synopsis of the corrective measure;
3. Corrective Measure Completion Criteria

Describe the process and criteria for determining when corrective measures, maintenance and monitoring may cease. Corrective measure completion criteria were given in the Operation and Maintenance Plan;

4. Demonstration that the completion criteria have been met. Include results of testing and/or monitoring, indicating how operation of the corrective measure compares to the completion criteria;
5. Summary of work accomplishments (e.g., performance levels achieved, total hours of treatment operation, total treated and/or excavated volumes, nature and volume of wastes generated, etc.);
6. Summary of significant activities that occurred during operations. Include a discussion of problems encountered and how they were addressed;

7. Summary of inspection findings (include copies of key inspection documents in appendices); and
8. Summary of total operation and maintenance costs.

ATTACHMENT 6

Recording Requested By:

When Recorded, Mail Certified Copy To:

Jose Kou
California EPA
Department of Toxic Substances Control, Region 3
1011 N. Grandview Avenue
Glendale, California 91201

NOTICE
TO RESTRICT USE OF PROPERTY

This Notice is made on the _____ day of _____, 1994, by _____, who is the owner of record ("Owner") of certain property situated in the City of Santa Fe Springs, County of Los Angeles, State of California, described in Exhibit "A" attached hereto and incorporated herein by this reference ("the Property"), with reference to the following facts:

- A. This Property, as described in Exhibit "A", is the real property known as Phibro-Tech, Inc. (a.k.a. Southern California Chemical, a.k.a. Entech Recovery, Inc.) located at 8851 Dice Road, Santa Fe Springs, County of Los Angeles, California, contains hazardous substances.
- B. The Property is located in an industrial area of the City of Santa Fe Springs and has been used for a railroad switching station, foundry casting facility and chemical manufacturing. Ground water in the present uppermost saturated zone beneath the Property, identified as the Hollydale Aquifer, contains elevated levels of: (1) heavy metals, including chromium and cadmium, (2) halogenated volatile organic compounds (VOCs), including trichloroethylene (TCE) and 1,2-dichloroethane (1,2-DCA), (3) aromatic VOCs, including toluene, ethylbenzene and xylenes and (4) chlorides. The soils at the Property contain elevated levels of (1) heavy metals, including lead, cadmium, chromium, copper, and zinc, (2) halogenated VOC's, including TCE, 1,2-DCA and tetrachloroethene (PCE), (3) aromatic VOC's, including benzene, toluene, ethylbenzene and xylenes, (4) polychlorinated biphenyls (PCB's), (5) petroleum hydrocarbons, including diesel fuel, gasoline and an unidentified heavy hydrocarbon believed to be crude oil, and (6) chlorides. The contaminated soils extend throughout the Property and have been covered with paving.

- C. The Owner desires and intends that in order to protect the present and future human health and environment, the Property shall be used in such a manner as to avoid potential harm to persons or property which may result from hazardous substances in the soil and ground water at the Property.

ARTICLE I

GENERAL PROVISIONS

1.01. Provisions to Run With the Land. This Notice sets forth protective provisions, restrictions, and conditions, (collectively referred to as "Restrictions"), upon and subject to which the Property and every portion thereof shall be improved, held, used, occupied, leased, sold, hypothecated, encumbered, or conveyed. Each and all of the Restrictions shall run with the land, and pass with each and every portion of the Property, and shall apply to and bind the respective successors in interest thereof. Each and all of the Restrictions are imposed upon the entire Property unless expressly stated as applicable to a specific portion of the Property. Each and all of the Restrictions are imposed pursuant to Section 25202.5(a)(2) of the Health and Safety Code. Each and all of the Restrictions are enforceable by the California EPA, Department of Toxic Substances Control and any and all successor agencies, if any, to the Department of Toxic Substances Control.

1.02 Concurrence of Owners Presumed. All purchasers, lessees, or possessors of any portion of the Property shall be deemed by their purchase, leasing, or possession of such Property, to be in accord with the foregoing and to agree for and among themselves, their heirs, successors, and assignees, and the agents, employees, and lessees of such owners, heirs, successors, and assignees, that the Restrictions as herein established must be adhered to for the benefit of future Owners and Occupants and that their interest in the Property shall be subject to the Restrictions contained herein.

1.03 Incorporation Into Deeds and Leases. Owner desires and covenants that the Restrictions set out herein shall be incorporated by reference in each and all deeds and leases of any portion of the Property.

ARTICLE II

DEFINITIONS

2.01 Department. "Department" shall mean the California Environmental Protection Agency, Department of Toxic Substances Control and shall include its successor agencies, if any.

2.02 Improvements. "Improvements" shall mean construction of any buildings, foundations, roads, driveways, tanks, or paved parking areas upon any portion of the Property.

2.03 Occupants. "Occupants" shall mean those persons entitled by ownership, leasehold, or other legal relationship to the exclusive right to occupy any portion of the Property.

2.04 Owner. "Owner" shall mean the owner or its successors in interest, including heirs, and assigns, who hold title to all or any portion of the Property.

ARTICLE III

DEVELOPMENT, USE, AND CONVEYANCE OF THE PROPERTY

3.01 Restrictions on Use. The Owner will restrict the use of the Property as follows:

- A. The Property at 8851 Dice Road shall not be used for residences, hospitals, schools, day-care centers, parks, playgrounds and any permanently occupied human habitation, including but not limited to, hotels or motels which could be used as a residence for employees, unless the Owner can adequately demonstrate that such use will not endanger human health or the environment. The Owner must receive written permission from the Department, City of Santa Fe Springs Planning Department and the Los Angeles County Health Department prior to using any portion of the Property for any of the uses described in this paragraph.
- B. No domestic use of the shallow ground water (Hollydale Aquifer) beneath the Property shall be allowed, unless the Owner can adequately demonstrate that the ground water meets applicable drinking water standards. The Owner must receive written permission from the Department, City of Santa Fe Springs Planning Department and Los Angeles County Health Department prior to using water from the Hollydale Aquifer (50 to 120 feet deep) for domestic purposes.
- C. The Property shall remain fully paved for any commercial or industrial use, unless the Owner can adequately demonstrate to the Department that disturbance of the paving will not result in the creation of an unacceptable risk to human health or the environment, or is necessary to reduce an imminent threat to human health or the environment. The Owner shall notify the Department in writing at least 21 calendar-days prior to removing any part of the site cover pavement. The Owner must receive written permission from the Department prior to removing any pavement in

an area to be left unpaved for more than a three month period. The Owner shall provide a temporary cover for any area where the pavement has been removed and that will remain uncovered for greater than 14 calendar days or if a rainstorm threatens to cause infiltration into or run-off from the unpaved area(s).

- D. The Owner shall ensure that any construction work on the Property reduce excavation and earth moving activities such that disturbance of contaminated soils are minimized. The Owner shall ensure that adequate health and safety plans are developed and followed during any construction activities involving excavation or earth moving such that workers are adequately protected from exposure to contaminated soils.
- E. The Owner shall notify the Department in writing at least 21 calendar-days prior to excavating or removing any soils from the Property. The notice shall indicate the purpose of the excavation, state the approximate volume of soil to be excavated, describe how the excavated soil will be managed, indicate how long excavated soils will be piled on the Property, indicate what analytical testing will be performed on the excavated soil and include an appropriately scaled map showing the location of the proposed excavation and where excavated soils will be piled. At a minimum, the Owner shall perform analytical tests on any excavated soil that will be removed from the Property and determine if the soil is a hazardous waste. Any material that is a hazardous waste shall be managed as such by following the applicable Department regulations. Excavated soils shall be managed in a manner that is protective of human health or the environment. If the Department determines that immediate action is required, the Department may orally authorize the Owner to act prior to receiving the Owner's written notification.
- F. The Owner shall inspect and maintain the site cover (paving) in a manner that prevents infiltration of liquids into subsurface soils.

3.02 Conveyance of Property. The Owner shall provide a thirty (30) day advance notice to the Department of any sale, lease, or other conveyance of the Property or an interest in the Property to a third person. The Department shall not, by reason of this Notice, have authority to approve, disapprove, or otherwise affect any sale, lease, or other conveyance of the Property except as otherwise provided by law or by an administrative order.

3.03 Enforcement. Failure of the Owner to comply with any of the requirements, as set forth in paragraph 3.01, shall be grounds for the Department to require that the Owner modify or remove any Improvements constructed in violation of this Notice. Violation of this Notice shall be grounds for the Department to file civil and criminal actions against the Owner as provided by law.

3.04 Notice in Agreements. All Owners and Occupants shall execute a written instrument which shall accompany all purchase, lease, sublease, or rental agreements relating to the Property. The instrument shall contain the following statement:

"The land described herein contains hazardous substances. Such condition renders the land and the owner, lessee, or other possessor of the land subject to the requirements, restrictions, provisions, and liabilities contained in Chapters 6.5 and Chapter 6.8 of Division 20 of the Health and Safety Code. This statement is not a declaration that a hazard exists".

ARTICLE IV

VARIANCE AND TERMINATION

4.01 Variance. Any Owner or, with the Owner's consent, any occupant of the Property or any portion thereof may apply to the Department for a written variance from the provisions of this Notice. Such application shall be made in accordance with Section 25233, Health and Safety Code.

4.02 Termination. Any owner of the Property may apply to the Department to modify or remove the restrictions contained in this Notice as they apply to all or any portion of the Property. Such application shall be made in accordance with Section 25202.6, Health and Safety Code.

4.03 Term. Unless terminated in accordance with paragraph 4.02 above, by law or otherwise, this Notice shall continue in effect in perpetuity.

ARTICLE V

MISCELLANEOUS

5.01 No Dedication Intended. Nothing set forth herein shall be construed to be a gift or dedication, or offer of a gift or dedication, of the Property or any portion thereof to the general public or for any purposes whatsoever.

5.02 Notices. Whenever any person shall desire to give or serve any notice, demand, or other communication with respect to this Notice, each such notice, demand, or other communication shall be in writing and shall be deemed effective [1] when delivered, if personally delivered to the person being served or to an officer of a corporate party being served or official of a government agency being served, or [2] three (3) business days after deposit in the mail if mailed by United States mail, postage paid certified, return receipt requested:

To: Owner [cite name and address below]

Copy to:

Chief, Facility Management Branch
California EPA
Department of Toxic Substances Control, Region 3
1011 N. Grandview Avenue
Glendale, California 91201

5.03 Partial Invalidity. If any portion of this Notice is determined to be invalid for any reason, the remaining portion shall remain in full force and effect as if such invalid portion had not been included herein.

5.04 Article Headings. Headings at the beginning of each numbered article of this Notice are solely for the convenience of the reader and are not a part of the Notice.

5.05 Recordation. This instrument shall be executed by the Owner. This instrument shall be recorded by the Owner in the County of Los Angeles within fourteen (14) days from the effective date of the permit modification for the state hazardous waste management permit (State Hazardous Waste Permit No. 91-3-TS-002).

5.06 References. All references to Code sections include successor provisions.

IN WITNESS WHEREOF, the Owner executes this Notice as of the date
set forth below.

OWNER

Company Name:

By:

Title:

Date:

EXHIBIT "A"

PROPERTY DESCRIPTION AND FACILITY LOCATION MAP

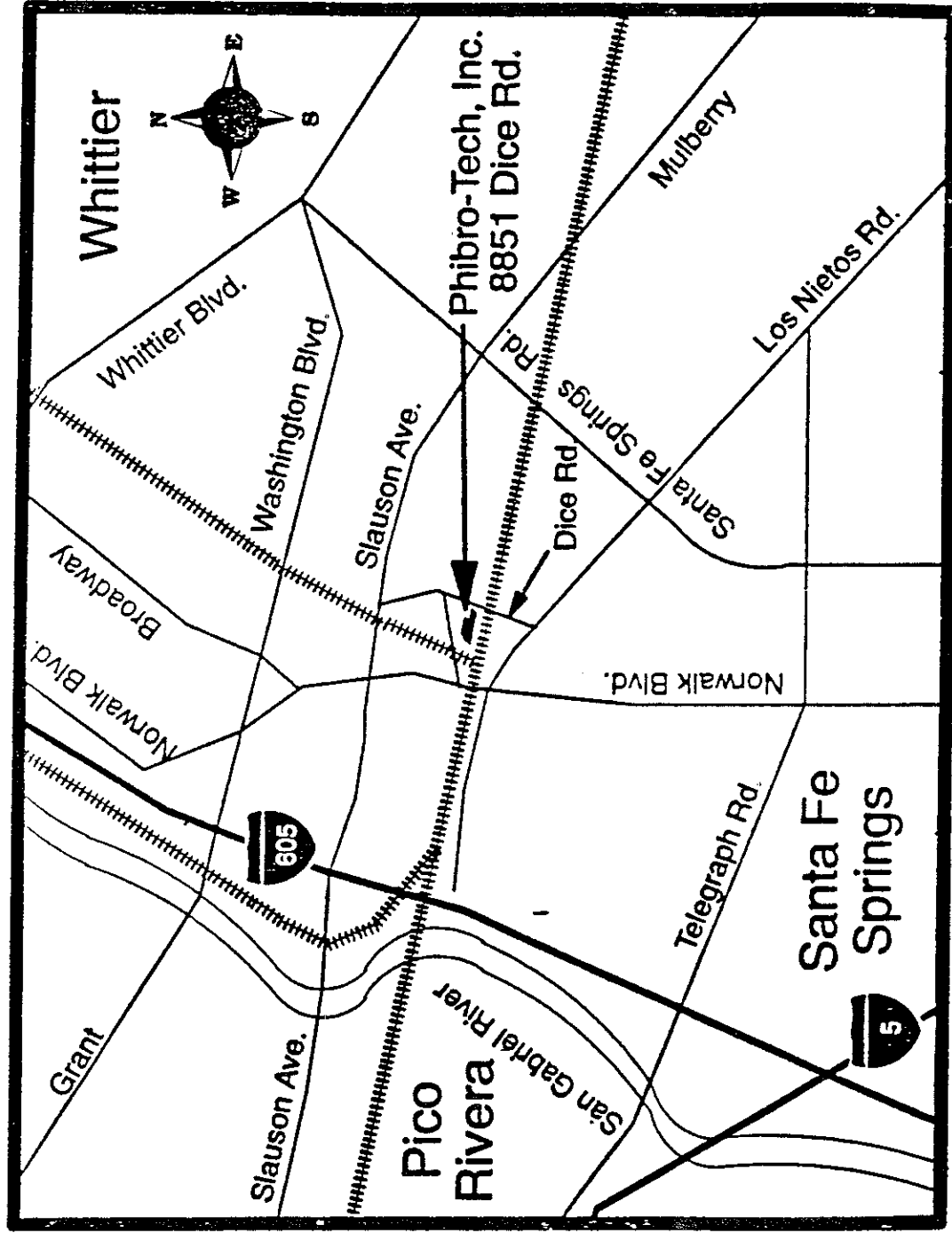
The property referred to in this Notice is situated in the County of Los Angeles, State of California, and is described as follows:

Parcel 1 of Parcel Map 16589, as per map thereof, recorded in Book 181 of Maps, Page 76, in the Office of the County Recorder of Los Angeles County.

Also, that portion of Dice Road as shown on Parcel Map No. 16589, in the City of Santa Fe Springs, County of Los Angeles, State of California, filed in Book 181, Page 76 of Parcel Maps, in the Office of the County Recorder of said county as described in the deed to the City of Santa Fe Springs, recorded July 26, 1968, as instrument No. 2723 of official records of said county bounded in the north by the easterly prolongation of that certain course in the northerly boundary of said Parcel Map No. 16589 as having a bearing and length of "north 78 degrees 35 minutes 00 seconds west 349.97 and bounded on the south by the easterly prolongation of the southerly line of said Parcel Map No. 16589."

Site Location Map

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



DEFINITIONS

1. "Best Management Practices" ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
2. Clean Water Act (CWA) means the Federal Water Pollution Control Act enacted by Public Law 92-500 as amended by Public Laws 95-217, 95-576, 96-483, and 97-117; 33 USC. 1251 et seq.
3. "Facility" is a collection of industrial processes discharging storm water associated with industrial activity within the property boundary of operational unit.
4. "Non-Storm Water Discharge" means any discharge to storm sewer systems that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from fire fighting activities. (See fact sheet, page 8, for clarification on non-storm water dischargers unrelated to industrial activity).
5. "Significant Materials" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); any chemical the facility is required to report pursuant to Section 313 of Title III of Superfund Amendments and Reauthorization Act (SARA); fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges.
6. "Significant Quantities" is the volume, concentrations, or mass of a pollutant in storm water discharge that can cause or threaten to cause pollution, contamination, or nuisance; adversely impact human health or the environment; and cause or contribute to a violation of any applicable water quality standards for the receiving water.
7. "Storm water" means storm water runoff, snow melt runoff, and surface runoff and drainage. It excludes infiltration and runoff from agricultural land.
8. "Storm Water Associated with Industrial Activity" means "the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program. The term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at 40 CFR Part 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. The term also includes storm water discharges from all areas listed in the previous sentence (except access roads) where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water. Material handling activities include the: storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product, or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are federally, state, or municipally owned or operated that meet the description of the facilities listed in this paragraph) include those facilities designated under 40 CFR 122.26(a)(1)(v).

Final
Signed 9/30/88
[Signature]

MODIFIED CLOSURE/POST-CLOSURE PLAN

FOR

SOUTHERN CALIFORNIA CHEMICAL

8851 Dice Road
Santa Fe Springs, CA 90670

INTRODUCTION

A revised Hazardous Waste Facility Closure Plan for Southern California Chemical (SCC), submitted on June 29, 1988, has been modified by the United States Environmental Protection Agency (EPA), Region IX and by the California Department of Health Services (DHS), in accordance with section 265.112(d)(4), Title 40, Code of Federal Regulations (40 CFR) and section 67212 (f) of the California Code of Regulations, Title 22, Division 4, Chapter 30, (Title 22). This modified Closure Plan shall be the approved plan which SCC must implement to properly close their hazardous waste management facility, listed as Pond #1. A brief explanation of why each section of the revised plan was modified is found at the beginning of each modified section. Missing components of a RCRA Closure Plan are identified and underlined in each modified section.

The activities in this modified Closure Plan are to be conducted in concert with the overall facility investigation at SCC specified by the final "Administrative Order on Consent" (3008(h) ORDER) issued by EPA pursuant to section 3008(h) of the Resource Conservation and Recovery Act (RCRA). In any event where there is conflict between activities of the modified Closure Plan and the Order, the Order shall take precedence unless EPA and DHS determine otherwise.

Listed below are documents which shall be considered part of the modified Closure Plan by reference. These documents provide necessary background and supporting information for implementation of the plan. The complete title and name of the author of the document is listed with the common name or acronym by which each document shall be referred to throughout the modified Closure Plan.

Reference 1: RFA REPORT

RCRA Facility Assessment Report, Southern California Chemical; A.T. Kearney & Science Applications International Corporation, September 1987.

Reference 2: CME REPORT

Comprehensive Groundwater Monitoring Evaluation of Southern California Chemical Company; Regional Water Quality Control Board (Region 4, Los Angeles), June 3, 1988.

Reference 3: SCC PLAN

Closure/Post-Closure Plan, Pond Number One; Southern California Chemical Company, June 29, 1988.

Reference 4: 3008(h) ORDER

Final Administrative Order on Consent [pursuant to section 3008(h) of the Resource Conservation and Recovery Act]; United States Environmental Protection Agency, Region IX.

Reference 5: HAR

Hydrogeologic Assessment [Report] of Pond Number 1, Southern California Chemical; J.H. Kleinfelder & Associates, October 1985.

TABLE OF CONTENTS

<u>SECTION</u>	<u>TITLE/CONTENTS</u>
I.	FACILITY DESCRIPTION <ul style="list-style-type: none">o General Descriptiono Unit Description
II.	CLOSURE PROCEDURES <ul style="list-style-type: none">o General Procedureso Site Characterization/Tank Relocation Plano Impoundment Characterizationo Concrete & Soil Removal, Soil Stabilizationo Interim Cover/Final Covero Closure Certificationo Post-Closure Care & Maintenance
III.	CLOSURE ACTIVITY PROTOCOL <ul style="list-style-type: none">o Personnel Health & Safety Plano Sampling and Analysis Plano Facility Decontamination Plano Groundwater Monitoring Plan
IV.	CLOSURE SCHEDULE
V.	CLOSURE & POST-CLOSURE COST ESTIMATES
VI.	FINANCIAL RESPONSIBILITY
Appendix A	FACILITY DIAGRAM
Appendix B	GENERIC SITE SAFETY PLAN

I. FACILITY DESCRIPTION

Owner/Operator Name: Southern California Chemical,
A Division of CP Chemicals, Inc.

EPA Facility ID #: CAD 008 488 025

Facility Address: 8851 Dice Road
Santa Fe Springs, CA 90670-0118

Mailing Address: Same

Facility Contact: Milt Giorgetta,
Plant Manager

Phone Number: (213) 638-8036

Southern California Chemical (SCC) is an inorganic chemical manufacturer and spent material recycler (SIC Code 2819) located in an industrialized area of Santa Fe Springs, California. The facility has been in operation on the 3.4 acre site since 1959. Since 1984, the facility has been owned and operated by CP Chemicals, Incorporated of Fort Lee, New Jersey. SCC's current business entails the manufacture of inorganic solutions such as ferric chloride, copper sulfate, copper oxide, and ammonia-based metal etchants. These materials are returned to SCC in spent condition for recycling from the original customers. Other compatible waste streams such as acids, alkaline solutions, and metal-bearing solutions are also accepted for treatment or recycling. SCC is currently operating under interim status, which was granted to the facility on December 16, 1981. SCC intends to submit a RCRA Part B application prior to November 8, 1988.

No topographic map was included with the SCC Closure Plan, and no other reference document includes one. This information shall be provided by SCC in the revised Facility Description to be submitted to DHS and EPA.

No listing of all other Hazardous Waste Management Units and their wastestreams was provided with the SCC Closure Plan. This information shall be provided by SCC in detail in the revised Facility Description to be submitted to DHS and EPA.

No Hydrogeologic background information was provided with the SCC Closure Plan. This information shall be provided by SCC in detail in the revised Facility Description to be submitted to DHS and EPA.

No corrective action for groundwater or the groundwater monitoring system was provided with the SCC Closure Plan. This information shall be provided by SCC in detail in the revised Facility Description to be submitted to DHS and EPA.

SURFACE IMPOUNDMENT DESCRIPTION

The hazardous waste management unit to be closed is a concrete lined surface impoundment commonly known as Pond #1. Pond #1 was constructed in 1975 by modifying the former zinc pond (Pond #8). The Pond #1 construction consisted of relining Pond #8 with a 6" thick layer of reinforced concrete and extending the height of it's walls. The structure is 37' x 37' x 3' deep with 1' of its depth below grade and 2' above grade. Pond #1 is located toward the northwest portion of the SCC facility and has a capacity of 36,000 gallons.

The pond was taken out of service in July 1985, in accordance with SCC's July 30, 1985 Closure Plan submittal. All liquids and sludges were removed and the unit was cleaned of any residual wastes. The inactive unit has since been used as a secondary containment structure for two 30,000 gallon wastewater treatment tanks. However, the 1985 closure plan had not been approved for by DHS or EPA before closure activities had been carried out by SCC, and a Closure Plan was again required by the DHS "Complaint For Administrative Penalties" and subsequent "Consent Order" effective on August 28, 1987.

No engineering drawings or schematics showing piping, discharge points, or line connections for Pond #1 were provided with the SCC Closure Plan. Any lines or equipment attached to Pond #1 which are still in use must be indicated. This information shall be provided by SCC in detail in the revised Facility Description to be submitted to DHS and EPA.

No information on maximum quantities of liquid wastes or sludges which were disposed of from Pond #1 was provided with the SCC Closure Plan. This information shall be provided by SCC in detail in the revised Facility Description to be submitted to DHS and EPA.

Pond #1 treated aqueous effluent resulting from on-site treatment processes, contaminated rainwater, drum rinsewater, and general facility wash water. However, records of all wastes which were specifically treated in this unit are unavailable. Typically, the treated effluent stream was of a high pH (10-14), and is believed to have contained varying concentrations of the following constituents (not all of which are hazardous):

<u>CONSTITUENT</u>	<u>EPA WASTE CODE / CHARACTERISTIC</u>
ammonium chloride	----
ammonium sulfate	----
copper	----
copper ammonium chloride	---- / toxic
arsenic	D004 / toxic
free ammonia	----
ammonium bifluoride	---- / toxic, corrosive
cadmium	D006 / toxic
chromium (+3, +6)	D007 / toxic
ferrous hydroxide	----
iron	----
lead	D008 / toxic
nickel	----
nickel sulfate	---- / toxic
sodium chloride	----
sodium hydroxide	---- / toxic, corrosive
sodium sulfide	D003 / toxic, flammable

Acidic solutions, some containing varying concentrations of heavy metals, were also added to the effluent stream for neutralization.

Metals were removed by the addition of a reducing agent such as sodium sulfide. This material would form an insoluble metal sulfide compound and then precipitate from the solution. The resulting supernatant liquid at the surface of Pond #1 would then be filter pressed for removal of any suspended solids, polish filtered, and then discharged to the sanitary sewer via a three-stage clarifier. Precipitated sludges were periodically removed and transported to a Class I disposal site. Effluent discharge from Pond #1 was made under authorization of the Los Angeles County Sanitation District's Industrial Waste Discharge Permit No. 10342 and Addendum.

No information on general site security or closure-specific site security was provided with the SCC Closure Plan. This information shall be provided by SCC in detail in the revised Facility Description to be submitted to DHS and EPA.

No liner or leachate collection systems design information for Pond #1 was provided with the SCC Closure Plan. This information shall be provided by SCC in detail in the revised Facility Description to be submitted to DHS and EPA.

No run-on or run-off control information for pond #1 was provided with the SCC Closure Plan. This information shall be provided by SCC in detail in the revised Facility Description to be submitted to DHS and EPA.

All items which were not provided with the SCC Closure Plan must be provided in a detailed revised Facility Description which is to be submitted to DHS and EPA within 30 days of the modified Closure Plan approval.

II. CLOSURE PROCEDURES

The procedures in this section shall describe the steps SCC will take to properly close Pond #1 in a way that is consistent with the forthcoming overall facility investigation required by the 3008(h) order. This section was modified due to the issuance of the 3008(h) ORDER and comments by SCC requesting that closure activities be integrated with the 3008(h) ORDER.

GENERAL PROCEDURES

Since SCC depends heavily on the continued use of its wastewater treatment system to conduct normal operations, it has been determined that the two wastewater treatment tanks located in the unit must be relocated as part of closure. For this reason, the time necessary to complete closure activities will need to be extended in accordance with 40 CFR 265.113(b)(1)(ii)(C). The general closure procedures for Pond #1 shall be as follows:

- o Site Characterization/Tank Relocation Plan
- o Impoundment Characterization
- o Concrete and Soil Removal, Soil Stabilization
- o Interim Cover/Final Cover
- o Closure Certification
- o Post-Closure Care & Maintenance

SITE CHARACTERIZATION/TANK RELOCATION PLAN

The two (2) 30,000 gallon wastewater treatment tanks currently located in Pond #1 must be removed from the unit in order to proceed with soil sampling activities. However, due to the critical role they play in normal facility activities, they must remain in continuous service throughout closure of Pond #1. Therefore the tanks shall be relocated to accommodate this need prior to commencing sampling activities for Pond #1.

Information gathered from the HAR, the RFA REPORT, and the recent 3008(h) ORDER has indicated that soil contamination exists or is likely to exist in various areas throughout the SCC facility. To place the tanks over an already contaminated area would be counterproductive for SCC in light of forthcoming facility-wide corrective actions. For this reason, SCC shall develop a

proposal for the tank relocation phase of the closure. The Tank Relocation Plan must be submitted to DHS and EPA within 60 days after the modified Closure Plan approval. The Tank Relocation plan shall include the following:

1. Diagrams of at least three (3) proposed relocation areas.

The diagrams (drawings, sketches, or photographs) shall show the dimensions of the proposed area, and its proximity to existing units, buildings, property lines, facility traffic routes, etc. Diagrams shall be drawn to scale with the scale and a north arrow indicated on them.

2. Summary of area history.

Background information on each proposed area shall indicate known or suspected past as well as present activities. SCC will propose tank relocation areas which are known or expected to be free of contamination or can be easily decontaminated.

3. Sampling, Analysis, and Characterization Plan

Each location must be characterized to determine the lateral and vertical extent of contamination, and types of contaminants present. A sampling and analysis protocol must be developed that is consistent with the requirements for Pond #1 (see "sampling and analysis plan" in section III). SCC must submit within 60 days after the modified Closure Plan approval the Sampling and Analysis Plans for tank relocation and Pond #1 closure as one plan to ensure consistency. This Sampling and Analysis Plan will be a subset of the plans required under the 3008(h) Order.

4. Secondary containment design

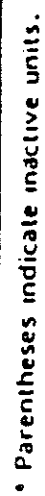
Since the secondary containment design for the relocated tanks could vary based on location, the proposal shall outline the sizes, capacities, dimensions, construction methods and materials proposed for each proposed tank relocation area.

Once the proposal has been approved by the agencies, SCC shall begin sampling activities (see "Closure Schedule", section IV). When sampling and analysis activities have been completed, SCC shall prepare a report which indicates which area is best suited for the tank relocation based on analysis results. This report shall include laboratory data, diagrams of contaminated zones (lateral and vertical extent), and discuss remediation alternatives if necessary and their feasibility for each area.

APPENDICES

APPENDIX A: FACILITY DIAGRAM

APPENDIX B: GENERIC SITE SAFETY PLAN



LOCATION OF SOLID WASTE MANAGEMENT UNITS AT SOUTHERN CALIFORNIA CHEMICAL.

Soil in the proposed tank areas, if contaminated, shall be cleaned up to meet EPA-established preliminary cleanup performance standards.

The preliminary cleanup performance standards for soil shall be based on EPA-established exposure limit criteria as follows:

Trivalent Chromium (Cr +3)	1000 mg/kg
Hexavalent Chromium (Cr +6)	6 mg/kg
Cadmium	9 mg/kg
All other contaminants from Priority Pollutants List in 40 CFR Part 423 and Xylene	Non-detectable

In anticipation of a relocation area approval, SCC shall secure necessary permits and authorizations from local agencies which are also involved in environmental compliance. SCC shall also submit a revised Part A Application to DHS and EPA as part of the approval request for tank relocation (see "Closure Schedule"). The tanks shall be relocated and operational within 365 days from the modified Closure Plan approval (see schedule).

IMPOUNDMENT CHARACTERIZATION

The site characterization portion of this modification is focused at Pond #1, and the soil immediately around and beneath it. This is required in accordance with 40 CFR 265.112(b)(4). This section has been modified due to a lack of detail and ambiguous wording in some portions of the SCC plan.

The primary intent of the characterization for the unit is to determine:

- 1) the horizontal and vertical extent of soil contamination existing as a result of past operation of the unit;
- 2) the types and levels of contamination found so as to provide reference information for Post-Closure groundwater monitoring activities.

A characterization report shall be developed to include: sampling and analysis QA/QC documentation, soil boring logs, analysis results, discussion of results, diagrams showing zones of contamination (lateral and vertical extent) in the sampling locations, documentation of any unusual conditions or events which impact sampling activities, and amount of soil to be removed. Also, a discussion on proposed corrective action for the area shall be included with the report. This discussion shall provide detail on procedures for concrete and soil removal (see next section).

The constituents to be analyzed for are listed in the section entitled "Sampling and Analysis Plan" of section III. The characterization report is to be submitted to DHS and EPA within 425 days of the modified Closure Plan approval.

CONCRETE & SOIL REMOVAL, SOIL STABILIZATION

The concrete structure shall be broken up, removed, and disposed of as hazardous waste.

The actual amount of soil to be removed shall depend upon the extent of soil contamination observed, and the feasibility of the removal activities. SCC shall include this information in the characterization report. The soil removal activities must be approved by DHS and EPA prior to constructing the interim cover. The soil removed shall also be disposed of as hazardous waste, unless analysis shows otherwise. Proposed disposal locations shall be indicated in the report.

The remaining contaminated soil shall be stabilized to a bearing capacity sufficient to support the interim cover in accordance with 40 CFR 265.228(a)(2)(ii).

INTERIM COVER/FINAL COVER

Within 470 days of the modified Closure Plan approval for Pond #1, construction of the interim cover shall commence over the contaminated soil which was left in place. This cover shall be constructed of an impermeable material which will prevent the infiltration of liquids into the contaminated area. It shall be graded or paved to prevent the accumulation of standing liquids. Interim cover design and construction plans shall be submitted to DHS and EPA within 425 days after approval of the modified Closure Plan as part of the site characterization report. DHS and EPA will review and modify or approve this plan prior to implementation.

Guidance for developing the interim cover may be obtained from the handbook entitled "Remedial Action at Waste Disposal Sites", EPA/625/6-85/006, October 1985.

SCC shall also provide design and construction plans for a final cover in accordance with 40 CFR 265.228(a)(2)(iii). Guidance for cover design can be found in EPA/600/2-87/039, "Design, Construction, and Maintenance of Cover Systems for Hazardous Waste", U.S. Army Engineer Waterways Experiment Station, May, 1987. Any requirements for a final cover will be made a part of the overall SCC facility corrective action activities. Final cover design and construction plans will be submitted in accordance with the schedule set forth in the 3008(h) Order.

The design and construction of the final cover must comply with the requirements of the following:

- o 40 CFR 265.228(a)(2)(iii);
- o Title 22, California Code of Regulations, Section 67316(b)(3);
- o Title 23, California Code of Regulations, Section 2581(a).

Within 60 days after completion of the interim cover construction, the owner/operator and an independent registered professional engineer in California shall certify the completion of interim closure activities.

CLOSURE CERTIFICATION

All closure activities shall be certified by the owner/operator (SCC) and an independent registered professional engineer in California within 60 days of closure completion as specified by the 3008(h) Order. This is in conformance with the requirements of 40 CFR Part 265.115.

POST-CLOSURE CARE & MAINTENANCE

Because of the known soil and groundwater contamination in the vicinity of the unit, closure with waste in place must follow the requirements for a hazardous waste landfill. It was necessary to modify this section because the SCC submittal lacked detail regarding major facets of Post-Closure including:

- o Survey Plat (40 CFR 265.116)
- o Post-Closure care (40 CFR 265.228, 265.310)
- o Post-Closure use of property (40 CFR 265.117)
- o Maintenance activities (40 CFR 265.228)
- o Groundwater Monitoring (40 CFR 265 Subpart F)
- o Post-Closure Plan (40 CFR 265.118)
- o Post-Closure care period contact person/office (40 CFR 265.118)
- o Post-Closure notices (40 CFR 265.119)
- o Certification of Post-Closure completion (40 CFR 265.120)

The proposals in the SCC Plan to construct a combination secondary containment structure and cover system over the closed unit do not conform with design concepts currently accepted by EPA and DHS for covers. In addition to this, no supporting documentation has been provided to demonstrate the merit of this concept.

After the Closure activities are complete, the Post-Closure period will begin. During this period, inspection and maintenance of the cover and continuing groundwater monitoring will be required under Interim Status standards, 40 CFR 265.228(b), and 265.117-265.120. Similar California regulations are found in 22 CCR 67316(c) and 67288(m)-(s). In addition, the Post-Closure activities must comply with the State Water Resources Control Board regulations in Title 23, CCR, Article 5 (Water Quality Monitoring for Classified Waste Management Units). The owner and operator will be required to submit an application for a Post-Closure permit which will formalize the interim status standards into a site-specific permit.

In general, post-closure uses of the property on which hazardous wastes remain after closure are restricted to those which will not disturb the integrity of the final cover or the facility's monitoring systems. However, certain activities may be approved if they will not increase the hazard, or the potential hazard to human health or the environment, or it is necessary to reduce a threat to human health or the environment. Such a modification would be considered a major modification to the post-closure permit and would be subject to public review.

A complete, detailed Post-Closure Plan must be submitted to DHS and EPA by SCC in conjunction with requirements of the 3008(h) Order.

III. CLOSURE ACTIVITY PROTOCOL

PERSONNEL HEALTH & SAFETY PLAN

The contents of the facility Health and Safety Plan shall apply to all aspects of the closure from tank relocation to the interim cover construction. It shall focus on any areas, routes or locations on the facility where hazardous wastes generated from closure activities would be encountered. These will include, but not be limited to Pond #1, background sampling locations, equipment and personnel decontamination areas, and waste collection areas for onsite/offsite treatment and offsite disposal.

The Health & Safety Plan shall be submitted to DHS and EPA within 30 days of the modified Closure Plan Approval. Attached to this Closure Plan is a copy of "Appendix B. Generic Site Safety Plan" which delineates the requirements to be addressed in the Health & Safety Plan for the SCC facility closure.

SAMPLING & ANALYSIS PLAN FOR POND #1

Within 60 days of the Modified Closure Plan approval, SCC shall submit to DHS and EPA a detailed sampling location diagram with a complete Sampling and Analysis Plan for Pond #1. The diagram (drawn to scale) shall include the following:

- o At least four (4) proposed sampling locations on the unit floor for taking vertical soil borings. These shall be located where cracks or other observable surface anomalies exist. The SCC Plan specified six because two of the concrete cores were to be used as concrete structural test samples. Since all the concrete shall be disposed of, the additional two are not required.

- o Color photographs of the sampling locations shall be submitted with the diagram. They are to show the sampling locations clearly marked, and their locations in reference to each other and the tanks. Samples from each of the four soil borings shall be analyzed at depths of 1', 1.5', 2', 3', 5', and every 5' interval thereafter to a maximum depth of 40' or until groundwater is encountered, whichever happens first.

Vertical soil borings shall also be taken around the three accessible sides of the unit's perimeter to observe any potential lateral soil contamination from the unit. Nine (9) borings (3 on each side) as identified in the SCC Plan, figure 1 shall be made to obtain samples for analysis purposes. [note that the SCC Plan dated June 29 specified nine (9) sampling locations, while the intent of the May 30, DHS letter to SCC was three (3) sampling locations at a minimum. Upon obtaining clarification of this misunderstanding, SCC proposed three (3) sampling locations in the July 1, 1988 submittal. DHS and EPA have since determined that nine (9) perimeter sampling locations would be more appropriate for characterization purposes.]

The sampling depths for analysis around the unit shall be the same as those within the unit (1', 1.5', 2', 3', 5', etc.) Any concrete cores removed from the unit or perimeter to provide access to the soil shall be disposed of as a hazardous waste.

Due to the nature and variety of past waste management activities on the SCC site, there is reason to believe that it may be difficult to obtain representative background soil samples. In addition to the four (4) background sample locations proposed in the SCC Plan, fig. 2, two (2) offsite background sampling locations shall be proposed by SCC for a total of six (6) proposed background sampling locations. These proposed locations shall be submitted along with the sampling location diagram for the unit.

Background soil samples shall be analyzed at the following depths: 5', 15', 25' and 40'. Additional samples may be taken and preserved in the event that additional data is needed to adequately characterize the background. No soil samples for the background, perimeter, or unit shall be composited.

All samples taken shall be handled, preserved and analyzed according to all applicable protocols detailed in EPA document SW-846, Test Methods for Evaluating Solid Waste. The test methods shall be identified in the Sampling and Analysis Plan to be submitted within 60 days of approval of the modified Closure Plan. The sampling and analysis plan shall be approved or modified, if necessary, by both DHS and EPA prior to any soil boring activities taking place.

Drilling and Sampling Procedure

The 8" Diameter Hollow Stem Auger (HSA) equipment with the California Split-spoon sampler shall be used as specified in the SCC Plan sections on "Subsurface Investigation" and "Drilling... Procedure". This information shall be resubmitted to DHS and EPA as part of the Sampling and Analysis Plan which is due within 60 days of the modified Closure Plan approval.

Rinsewaters from decontamination of sampling equipment shall be managed as a hazardous waste and temporarily stored in drums or tanks until properly disposed of. These containers or tanks shall be clearly marked as hazardous waste. This information shall be submitted to DHS and EPA in the Facility Decontamination Plan which is due within 30 days of the modified Closure Plan approval.

Because of the unavailability of accurate wastestreams records for Pond #1, it will be necessary to analyze soil samples for the following constituents (Xylene and other organics from the priority pollutants listing were found in groundwater samples):

- o 40 CFR Part 423, Appendix A-
Priority Pollutants
- o Constituents allegedly placed in Pond #1
(numbers refer to Priority Pollutants).

ammonium chloride
ammonium sulfate
copper (#120)
copper ammonium chloride
arsenic (#115)
free ammonia
ammonium bifluoride
cadmium (#118)
chromium (#119) [Cr +3 and Cr +6]
ferrous hydroxide
iron
lead (#122)
nickel (#124)
nickel sulfate
sodium chloride
sodium hydroxide
sodium sulfide

- o Xylene
- o soil pH

SCC shall analyze all samples (background, pond and pond perimeter) for the above listed constituents. However, SCC may propose a method in the Sampling and Analysis Plan which will reduce the above list of constituents into a more relevant list. A reduction of the constituents to be analyzed for must receive approval from DHS and EPA. EP Toxicity testing criteria shall be used for the heavy metals listed. SCC shall analyze the above listed compounds for their cation and anion species using methods outlined in SW-846, Test Methods for Evaluating Solid Waste as proposed in the comments submitted to DHS on August 28, 1988.

Should soil contamination of a non-uniform distribution be identified after these samples have been analyzed, SCC shall propose methods to better identify the "hot spots" (areas where levels of localized contamination are decidedly higher than in surrounding areas) and define the extent of contamination. These methods are subject to DHS and EPA review and modification or approval.

Immediately after the drilling and sampling activities are completed, the open boreholes (unit floor, perimeter, and background) shall be filled with a concrete grout or similar material. This material shall be capable of preventing any liquids entrance into the subsurface via the drilling/sampling locations.

Analysis Report

The analysis report shall be submitted to both DHS and EPA as soon as possible once analytical data has been generated from the lab, but not more than 425 days after the modified Closure Plan approval. The following items shall be included in the report:

- o Soil boring logs (unit, perimeter, background)
- o Soil analysis (unit, perimeter, background)
- o Soil analysis summary
- o Diagrams showing all sampling locations
- o Details of sample identification/preservation
- o Chain of custody records
- o Extent of contamination
- o Proposed amount of soil to be removed

FACILITY DECONTAMINATION PLAN

A decontamination area shall be identified and used for all aspects of the site characterization to prevent the inadvertent spreading of hazardous constituents and cross-contamination of drilling and sampling equipment. All rinsewaters from cleaning equipment shall be collected in a suitable container(s) and managed as hazardous waste. All contaminated clothing, rags, or other solid materials shall be placed in drums or a hazardous waste dumpster and managed in accordance with 40 CFR 265.170-177. The designated decontamination area shall be clearly marked.

A complete facility and equipment decontamination plan shall be submitted to DHS and EPA within 30 days of the approval of the modified Closure Plan. Guidance in developing the plan may be found in EPA/600/2-85/028, Guide for Decontaminating Buildings, Structures, and Equipment at Superfund Sites, March 1985. DHS and EPA must review and modify or approve this plan prior to implementation.

GROUNDWATER MONITORING PLAN

The SCC plan does not make reference to any ongoing groundwater monitoring activities. The recent Comprehensive Groundwater Monitoring Evaluation (CME) report by the California Regional Water Quality Control Board (CRWQCB) lists a number of potential deficiencies in the existing system which must be corrected by SCC.

The revised Groundwater Monitoring Plan shall be resubmitted to DHS, EPA, and the RWQCB as stipulated in the 3008(h) Order.

IV. CLOSURE SCHEDULE

SCC failed to submit a detailed schedule of activities for the closure of the unit. The schedule listed below is provided to show relevant milestones for major closure activities and a compliance schedule for the submittal of documents to DHS and EPA. SCC must submit within 30 days of after modified Closure Plan approval a detailed schedule for dates or time periods of specific closure activities, which includes but is not limited to background sampling, submittal of samples to lab, moving tanks, disposing of hazardous wastes, pouring concrete, etc.

<u>ACTIVITY/ITEM</u>	<u>DAYS AFTER CP APPROVAL</u>
SCC to submit the following: Detailed facility description, Facility Decontamination Plan, Health & Safety Plan, Closure Schedule.	within 30 days
SCC to submit the following: Tank Relocation Proposal, Sampling & Analysis Plan, Revised Cost Estimate for Closure.	within 60 days
SCC to submit evidence of Financial Responsibility compliance	within 90 days
SCC receives approval for and begins sampling activities for tank relocation.	within 105 days
SCC to submit the following: Report on tank relocation proposal activity, Revised Part A Application, Permit applications & other information to local agencies.	within 165 days
SCC receives approval of final tank relocation area.	within 210 days
SCC submits interim cap design for approval.	within 240 days
SCC receives approval of interim cap design.	within 300 days

SCC to complete construction of new tank area and begin operations; Begin characterization for Pond #1.	within 365 days
SCC submits characterization report for Pond #1, and corrective action proposal for approval.	within 425 days
SCC receives approval for proposed corrective action, and begins implementation.	within 470 days
Complete interim cover construction.	within 560 days
Certification of interim closure.	within 620 days

V. CLOSURE AND POST-CLOSURE COST ESTIMATES

The proposed closure and post-closure cost estimates submitted by the facility in the SCC Plan were not detailed and it is not known if these figures reflect the "worst-case" closure scenario. SCC shall submit revised detailed cost estimates to reflect the activities specified in this modification to the agencies within 60 days of the modified Closure Plan approval. Closure cost estimates shall include activities from tank relocation to certification as shown in the above schedule. Cost estimates shall be based on all closure work being done by a third party.

VI. FINANCIAL RESPONSIBILITY

SCC shall demonstrate compliance with 40 CFR sections 265.143, 265.147, 265.148, and 264.151 as well as Title 22, Article 17, CCR, financial responsibility, within 30 days of the revised closure cost estimate submittal and within 30 days of any further revision to the estimates.

If SCC can not provide proof of liability coverage, a written report will be submitted to the DHS Financial Responsibility Unit on a quarterly basis. This report is due on the 10th day of every third month following the date of the modified Closure Plan approval. This report shall include, but need not be limited to:

1. The current financial statement(s) of any company and/or parent corporations which demonstrates to the Department's satisfaction that they cannot meet the requirements.
2. A report on attempts to secure financial assurance and responses from financial institutions contacted.

3. Documentation of SCC's attempts, during the reporting quarter, to obtain liability insurance from at a minimum, those insurance carriers identified in writing to the facility by DHS during the quarter. This documentation must include, but need not be limited to:
 - a. The names and contact persons of all insurance carriers to which written applications for liability coverage has been made, and copies of all such applications;
 - b. The written responses of each insurance carrier regarding whether or not coverage is available, in what types and amount, and at what premiums; and,
 - c. Copies of all documents submitted to and received from all insurance carriers contacted.

If at any time DHS determines that SCC is able to comply with the financial liability requirements of Article 17, Title 22, CCR, DHS will notify SCC in writing. Within 30 days of the issuance of such notice SCC must submit to DHS evidence of financial assurance and/or liability coverage pursuant to Article 17, Title 22, CCR.

APPENDICES

APPENDIX A: FACILITY DIAGRAM

APPENDIX B: -GENERIC SITE SAFETY PLAN

Unit 4.1 - Copper Cement Drying Pond No. 7
Unit 4.2 - Rainwater Holding Pond No. 3 (a.k.a. Tank No. 3)
Unit 4.3 - Pond No. 8 (a.k.a. Zinc Pond)
Unit 4.4 - Pond No. 1 (a.k.a. Settling Pond, Tank No. 1) RCRA-regulated
Unit 4.5 - Two 12,000 Gallon Holding Tanks (2 Units)
Unit 4.6 - Pond No. 2 (a.k.a. Tank No. 2)
Unit 4.7 - Wastewater Treatment Tanks W-1 and W-2 (2 Units)
Unit 4.8 - Wastewater Treatment System Filter Press
Unit 4.9 - Former Three-Stage Clarifier
Unit 4.10 - New Three Stage Clarifier
Unit 4.11 - Old Wastewater Treatment System (3 Units)
Unit 4.12 - Old Chromic-Sulfuric Underground Storage Tank
Unit 4.13 - 10,000 Gallon Spent Chrome-Sulfuric Acid Tank (a.k.a. SC-1)
RCRA-Regulated
Unit 4.14 - Disposal Pit
Unit 4.15 - Drum Wash Area and Sump (2 Units)
Unit 4.16 - Truck Wash Area
Unit 4.17 - Ferric Chloride Area Drum Washing Unit
Unit 4.18 - Ferric Chloride Area Filter Press
Unit 4.19 - Ferric Chloride Area Filter Press Sump (a.k.a. Sump 10)
Unit 4.20 - RCRA-Regulated Drum Storage Area
Unit 4.22 - Drum Storage Area #2
Unit 4.23 - Drum Storage Area #3
Unit 4.24 - Drum Storage Area #4
Unit 4.25 - Drum Storage Area #5
Unit 4.26 - Pre-1975 Sump 2 (Not shown)
Unit 4.27 - Pre-1975 Sump 3 (Not shown)
Unit 4.28 - Pre-1975 Sump 4 (Not shown)
Unit 4.29 - Pre-1975 Sump 6 (Not shown)
Unit 4.30 - Pre-1975 Sump 7 (Not shown)
Unit 4.31 - Sump 1
Unit 4.32 - Sump 2
Unit 4.33 - Sump 3-C
Unit 4.34 - Sumps 3-A and 3-B (2 Units)
Unit 4.35 - Sump 4
Unit 4.36 - Sumps 5-A, 5-B, 5-C (3 Units)
Unit 4.37 - Sump 6-A
Unit 4.38 - Sump 6-B

- Unit 4.39 - Sump 7
- Unit 4.40 - Sump 8
- Unit 4.41 - Sump 9
- Unit 4.42 - Sumps 13 and 14 (2 Units)
- Unit 4.43 - Sump 16
- Unit 4.44 - Wastewater Treatment System Sump
- Unit 4.45 - In-Road Sump
- Unit 4.46 - Six Vacuum Trucks (6 Units) (Not shown)
- Unit 4.47 - Area of Concern: Copper Cement Drying Ponds

Appendix B. Generic Site Safety Plan

This appendix provides a generic plan based on a plan developed by the U.S. Coast Guard for responding to hazardous chemical releases.¹ This generic plan can be adapted for designing a Site Safety Plan for hazardous waste site cleanup operations. It is not all inclusive and should only be used as a guide, not a standard.

A. SITE DESCRIPTION

Date _____ Location _____

Hazards _____

Area affected _____

Surrounding population _____

Topography _____

Weather conditions _____

Additional information _____

ENTRY OBJECTIVES - The objective of the initial entry to the contaminated area is to _____ (describes actions, tasks to be accomplished; i.e., identify contaminated soil; monitor conditions, etc.)

C. ONSITE ORGANIZATION AND COORDINATION - The following personnel are designated to carry out the stated job functions on site. (Note: One person may carry out more than one job function.)

PROJECT TEAM LEADER _____

SCIENTIFIC ADVISOR _____

SITE SAFETY OFFICER _____

PUBLIC INFORMATION OFFICER _____

SECURITY OFFICER _____

RECORDKEEPER _____

FINANCIAL OFFICER _____

FIELD TEAM LEADER _____

FIELD TEAM MEMBERS _____

FEDERAL AGENCY REPS (i.e., EPA, NIOSH)

STATE AGENCY REPS

LOCAL AGENCY REPS

CONTRACTOR(S)

All personnel arriving or departing the site should log in and out with the Recordkeeper. All activities on site must be cleared through the Project Team Leader.

D. ONSITE CONTROL

(Name of individual or agency _____ has been designated to coordinate access control and security on site. A safe perimeter has been established at _____ (distance or description of controlled area)

No unauthorized person should be within this area.

The onsite Command Post and staging area have been established at _____

The prevailing wind conditions are _____. This location is upwind from the Exclusion Zone.

Control boundaries have been established, and the Exclusion Zone (the contaminated area), hotline, Contamination Reduction Zone, and Support Zone (clean area) have been identified and designated as follows: (describe boundaries and/or attach map of controlled area)

These boundaries are identified by: (marking of zones, i.e., red boundary tape - hotline; traffic cones - Support Zone; etc.)

E. HAZARD EVALUATION

The following substance(s) are known or suspected to be on site. The primary hazards of each are identified.

<u>Substances Involved</u>	<u>Concentrations (If Known)</u>	<u>Primary Hazards</u>
(chemical name)		(e.g., toxic on inhalation)

The following additional hazards are expected on site: (i.e., slippery ground, uneven terrain, etc.)

Hazardous substance information form(s) for the involved substance(s) have been completed and are attached.

F. PERSONAL PROTECTIVE EQUIPMENT

Based on evaluation of potential hazards, the following levels of personal protection have been designated for the applicable work areas or tasks:

<u>Location</u>	<u>Job Function</u>	<u>Level of Protection</u>				
Exclusion Zone		A	B	C	D	Other
		A	B	C	D	Other
		A	B	C	D	Other
		A	B	C	D	Other
Contamination Reduction Zone		A	B	C	D	Other
		A	B	C	D	Other
		A	B	C	D	Other
		A	B	C	D	Other

Specific protective equipment for each level of protection is as follows:

Level A	<u>Fully-encapsulating suit</u>	Level C	<u>Splash gear (type)</u>
	<u>SCBA</u>		<u>Full-face canister resp.</u>
	<u>(disposable coveralls)</u>		
Level B	<u>Splash gear (type)</u>	Level D	
	<u>SCBA</u>		
Other			

The following protective clothing materials are required for the involved substances:

<u>Substance</u>	<u>Material</u>
(chemical name)	(material name, e.g., Viton)
_____	_____
_____	_____
_____	_____
_____	_____

If air-purifying respirators are authorized, (filtering medium) is the appropriate canister for use with the involved substances and concentrations. A competent individual has determined that all criteria for using this type of respiratory protection have been met.

NO CHANGES TO THE SPECIFIED LEVELS OF PROTECTION SHALL BE MADE WITHOUT THE APPROVAL OF THE SITE SAFETY OFFICER AND THE PROJECT TEAM LEADER.

G. ONSITE WORK PLANS

Work party(s) consisting of _____ persons will perform the following tasks:

Project Team Leader	_____ (name)	_____ (function)

Work Party #1	_____	_____

Work Party #2	_____	_____

Rescue Team	_____	_____
(required for		_____
entries to IDLH		_____
environments)		_____

Decontamination	_____	_____
Team		_____

The work party(s) were briefed on the contents of this plan at _____.

B. COMMUNICATION PROCEDURES

Channel _____ has been designated as the radio frequency for personnel in the Exclusion Zone. All other onsite communications will use channel _____:

Personnel in the Exclusion Zone should remain in constant radio communication or within sight of the Project Team Leader. Any failure of radio communication requires an evaluation of whether personnel should leave the Exclusion Zone.

(Horn blast, siren, etc.) _____ is the emergency signal to indicate that all personnel should leave the Exclusion Zone. In addition, a loud hailer is available if required.

The following standard hand signals will be used in case of failure of radio communications:

Hand gripping throat -----	Out of air, can't breathe
Grip partner's wrist or -----	Leave area immediately
both hands around waist	
Hands on top of head -----	Need assistance
Thumbs up -----	OK, I am all right, I understand
Thumbs down -----	No, negative

Telephone communication to the Command Post should be established as soon as practicable. The phone number is _____.

I. DECONTAMINATION PROCEDURES

Personnel and equipment leaving the Exclusion Zone shall be thoroughly decontaminated. The standard level _____ decontamination protocol shall be used with the following decontamination stations: (1) _____

(2) _____	(3) _____	(4) _____	(5) _____
(6) _____	(7) _____	(8) _____	(9) _____
(10) _____	Other _____		

Emergency decontamination will include the following stations: _____

The following decontamination equipment is required: _____

(Normally detergent and water) _____ will be used as the decontamination solution.

J. SITE SAFETY AND HEALTH PLAN

1. _____ (name) _____ is the designated Site Safety Officer and is directly responsible to the Project Team Leader for safety recommendations on site.

2. Emergency Medical Care

(names of qualified personnel) _____ are the qualified EMTs on site.
 (medical facility names) _____, at (address) _____,
 phone _____ is located _____ minutes from this location.
 (name of person) _____ was contacted at (time) _____ and briefed on
 the situation, the potential hazards, and the substances involved. A map
 of alternative routes to this facility is available at (normally Command
 Post) _____.

Local ambulance service is available from _____ at
 phone _____. Their response time is _____ minutes.
 Whenever possible, arrangements should be made for onsite standby.

First-aid equipment is available on site at the following locations:

First-aid kit _____
 Emergency eye wash _____
 Emergency shower _____
 (other) _____

Emergency medical information for substances present:

<u>Substance</u>	<u>Exposure Symptoms</u>	<u>First-Aid Instructions</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

List of emergency phone numbers:

<u>Agency/Facility</u>	<u>Phone #</u>	<u>Contact</u>
Police	_____	_____
Fire	_____	_____
Hospital	_____	_____
Airport	_____	_____
Public Health Advisor	_____	_____
_____	_____	_____
_____	_____	_____

3. Environmental Monitoring

The following environmental monitoring instruments shall be used on site
 (cross out if not applicable) at the specified intervals.

Combustible Gas Indicator	- continuous/hourly/daily/other _____
O ₂ Monitor	- continuous/hourly/daily/other _____
Colorimetric Tubes	- continuous/hourly/daily/other _____
(type) _____	_____
_____	_____
_____	_____
HNU/OVA	- continuous/hourly/daily/other _____
Other _____	- continuous/hourly/daily/other _____
_____	- continuous/hourly/daily/other _____

4. Emergency Procedures (should be modified as required for incident)

The following standard emergency procedures will be used by onsite personnel. The Site Safety Officer shall be notified of any onsite emergencies and be responsible for ensuring that the appropriate procedures are followed.

Personnel Injury in the Exclusion Zone: Upon notification of an injury in the Exclusion Zone, the designated emergency signal _____ shall be sounded. All site personnel shall assemble at the decontamination line. The rescue team will enter the Exclusion Zone (if required) to remove the injured person to the hotline. The Site Safety Officer and Project Team Leader should evaluate the nature of the injury, and the affected person should be decontaminated to the extent possible prior to movement to the Support Zone. The onsite EMT shall initiate the appropriate first aid, and contact should be made for an ambulance and with the designated medical facility (if required). No persons shall reenter the Exclusion Zone until the cause of the injury or symptoms is determined.

Personnel Injury in the Support Zone: Upon notification of an injury in the Support Zone, the Project Team Leader and Site Safety Officer will assess the nature of the injury. If the cause of the injury or loss of the injured person does not affect the performance of site personnel, operations may continue, with the onsite EMT initiating the appropriate first aid and necessary follow-up as stated above. If the injury increases the risk to others, the designated emergency signal _____ shall be sounded and all site personnel shall move to the decontamination line for further instructions. Activities on site will stop until the added risk is removed or minimized.

Fire/Explosion: Upon notification of a fire or explosion on site, the designated emergency signal _____ shall be sounded and all site personnel assembled at the decontamination line. The fire department shall be alerted and all personnel moved to a safe distance from the involved area.

Personal Protective Equipment Failure: If any site worker experiences a failure or alteration of protective equipment that affects the protection factor, that person and his/her buddy shall immediately leave the Exclusion Zone. Reentry shall not be permitted until the equipment has been repaired or replaced.

Other Equipment Failure: If any other equipment on site fails to operate properly, the Project Team Leader and Site Safety Officer shall be notified and then determine the effect of this failure on continuing operations on site. If the failure affects the safety of personnel or prevents completion of the Work Plan tasks, all personnel shall leave the Exclusion Zone until the situation is evaluated and appropriate actions taken.

The following emergency escape routes are designated for use in those situations where egress from the Exclusion Zone cannot occur through the decontamination line: (describe alternate routes to leave area in emergencies)

In all situations, when an onsite emergency results in evacuation of the Exclusion Zone, personnel shall not reenter until:

1. The conditions resulting in the emergency have been corrected.
2. The hazards have been reassessed.
3. The Site Safety Plan has been reviewed.
4. Site personnel have been briefed on any changes in the Site Safety Plan.

5. Personal Monitoring

The following personal monitoring will be in effect on site:

Personal exposure sampling: (describe any personal sampling programs being carried out on site personnel. This would include use of sampling pumps, air monitors, etc.) _____ and air temperature will be (°F) . If

Medical monitoring: The expected air temperature will be (°F) . If it is determined that heat stress monitoring is required (mandatory if over 70°F) the following procedures shall be followed:

(describe procedures in effect, i.e., monitoring body temperature, body weight, pulse rate)

All site personnel have read the above plan and are familiar with its provisions.

Site Safety Officer _____ (name)
Project Team Leader _____
Other Site Personnel _____

(signature)