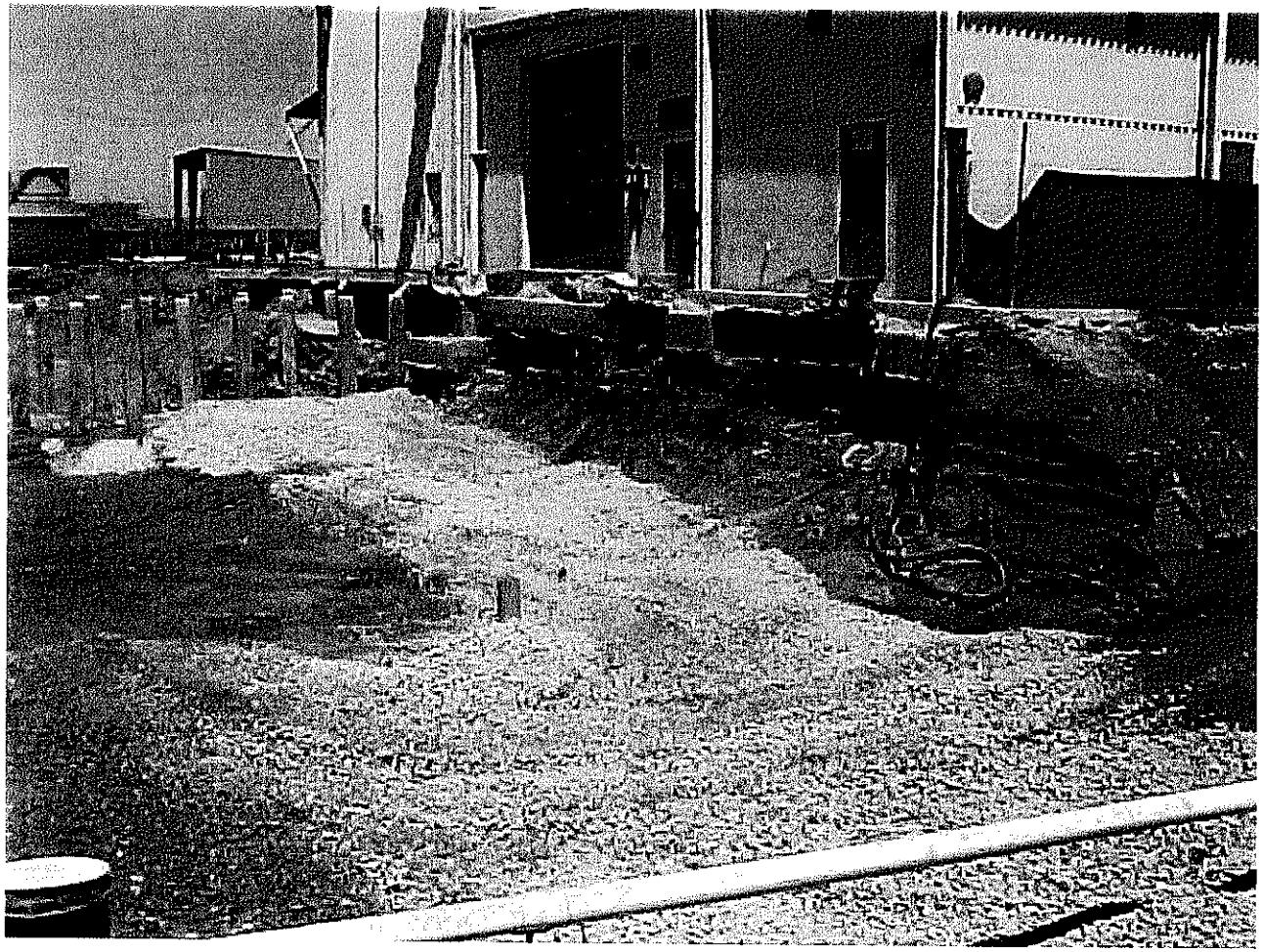
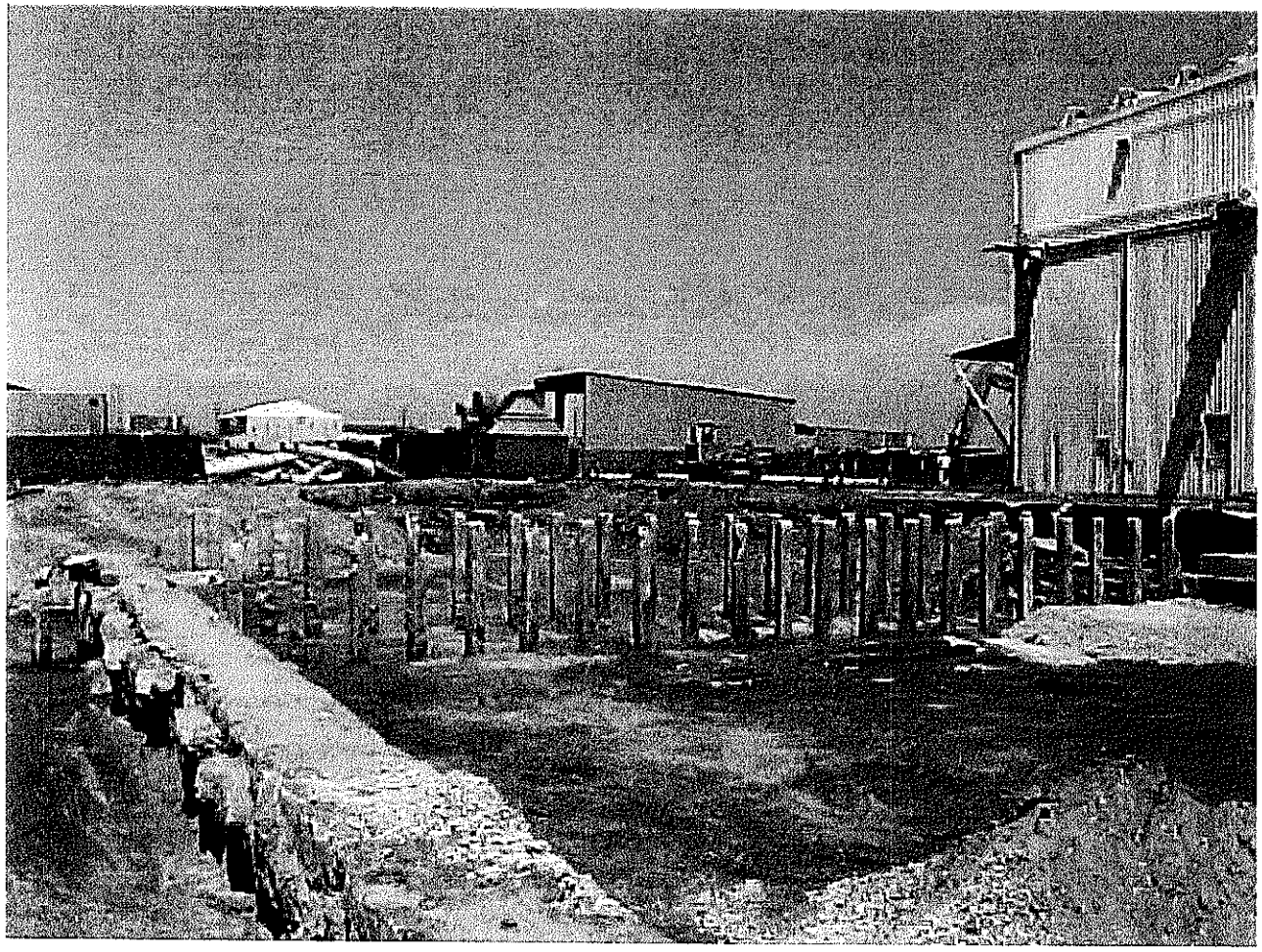
APPENDIX A

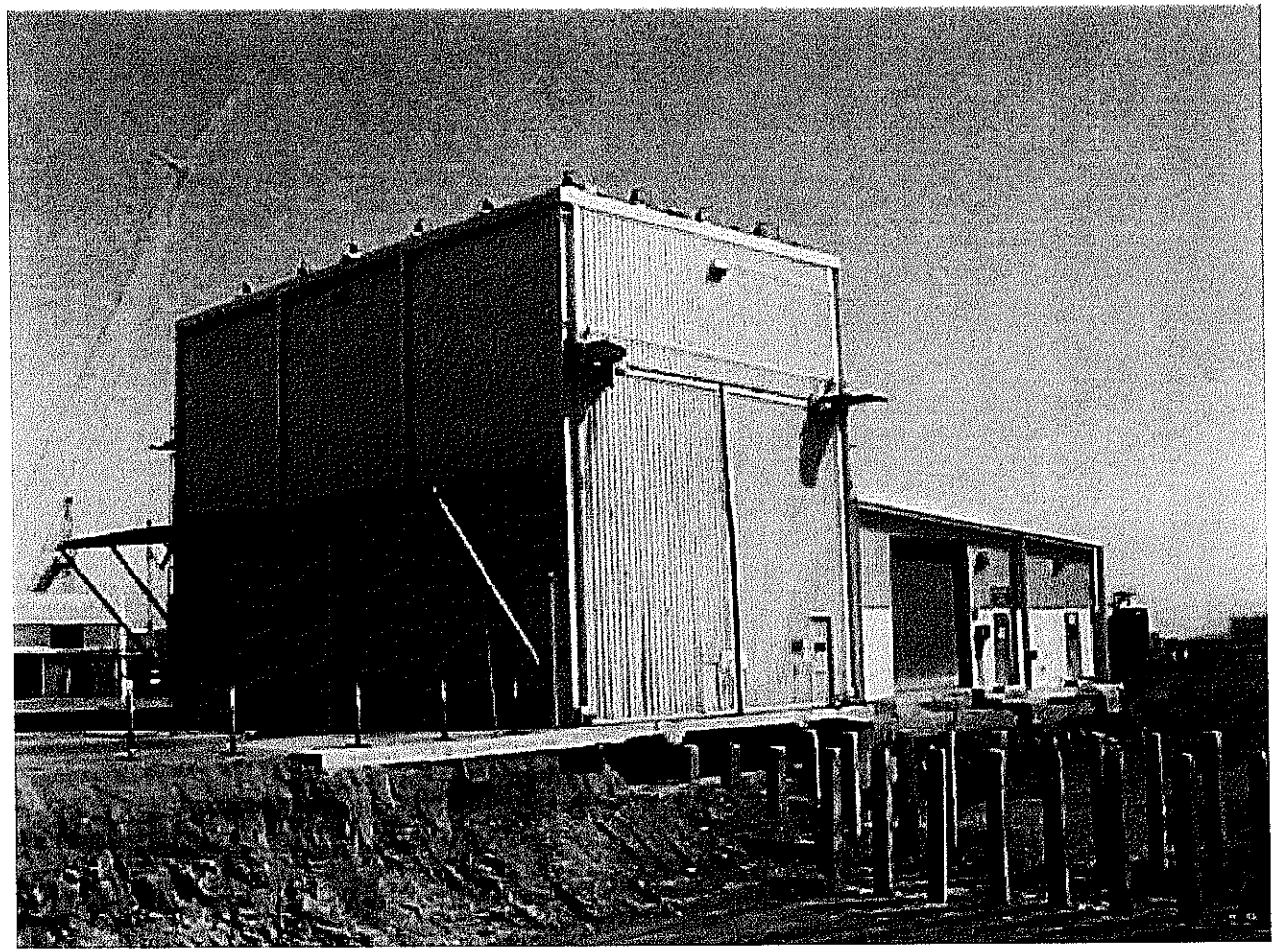
REMOVAL ACTION PHOTOGRAPH LOG



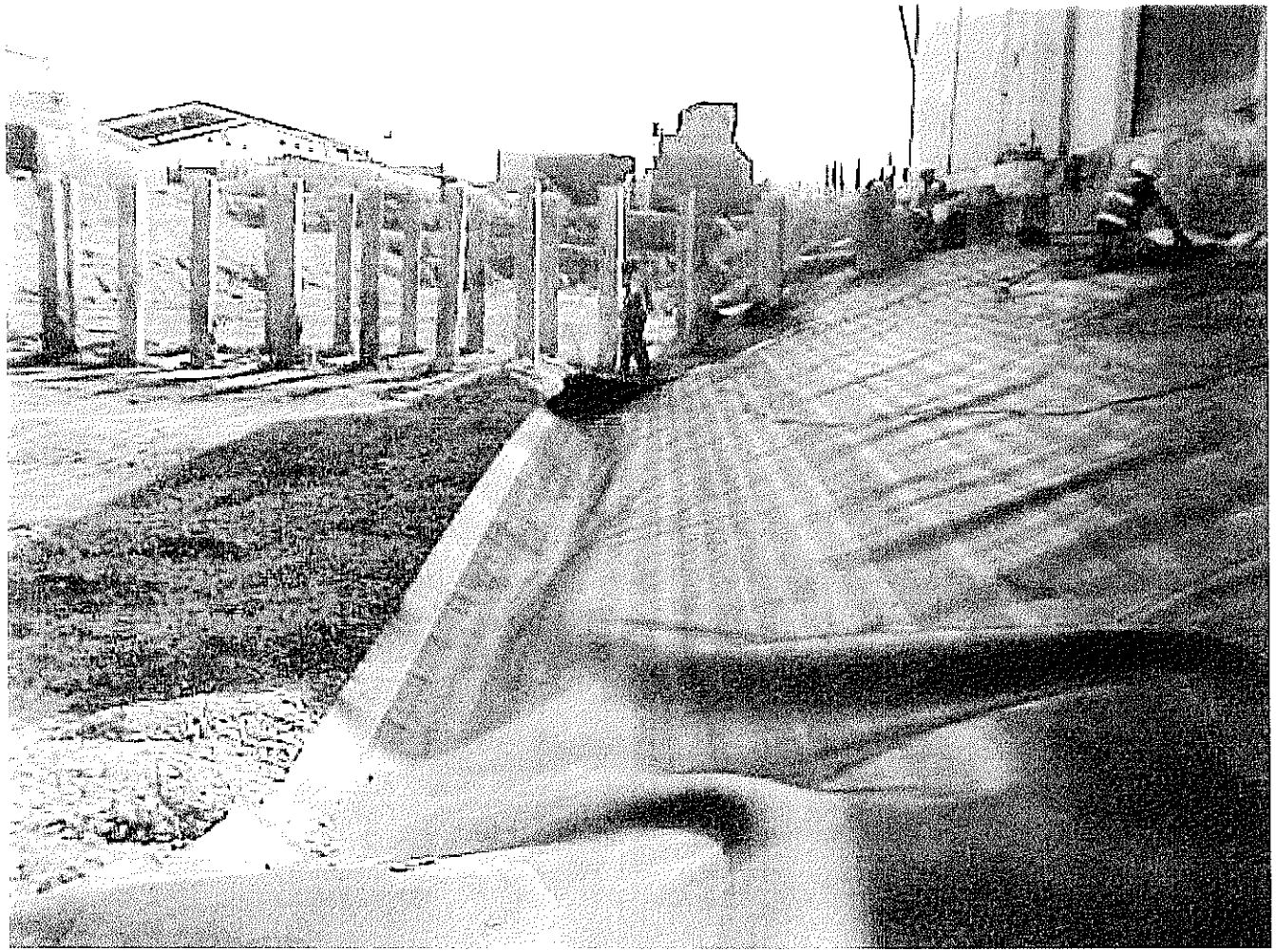
Phase 1A - Former Building 3224,
looking east at north face,
beginning to backfill following soil removal,
note columns for former dolley rail system



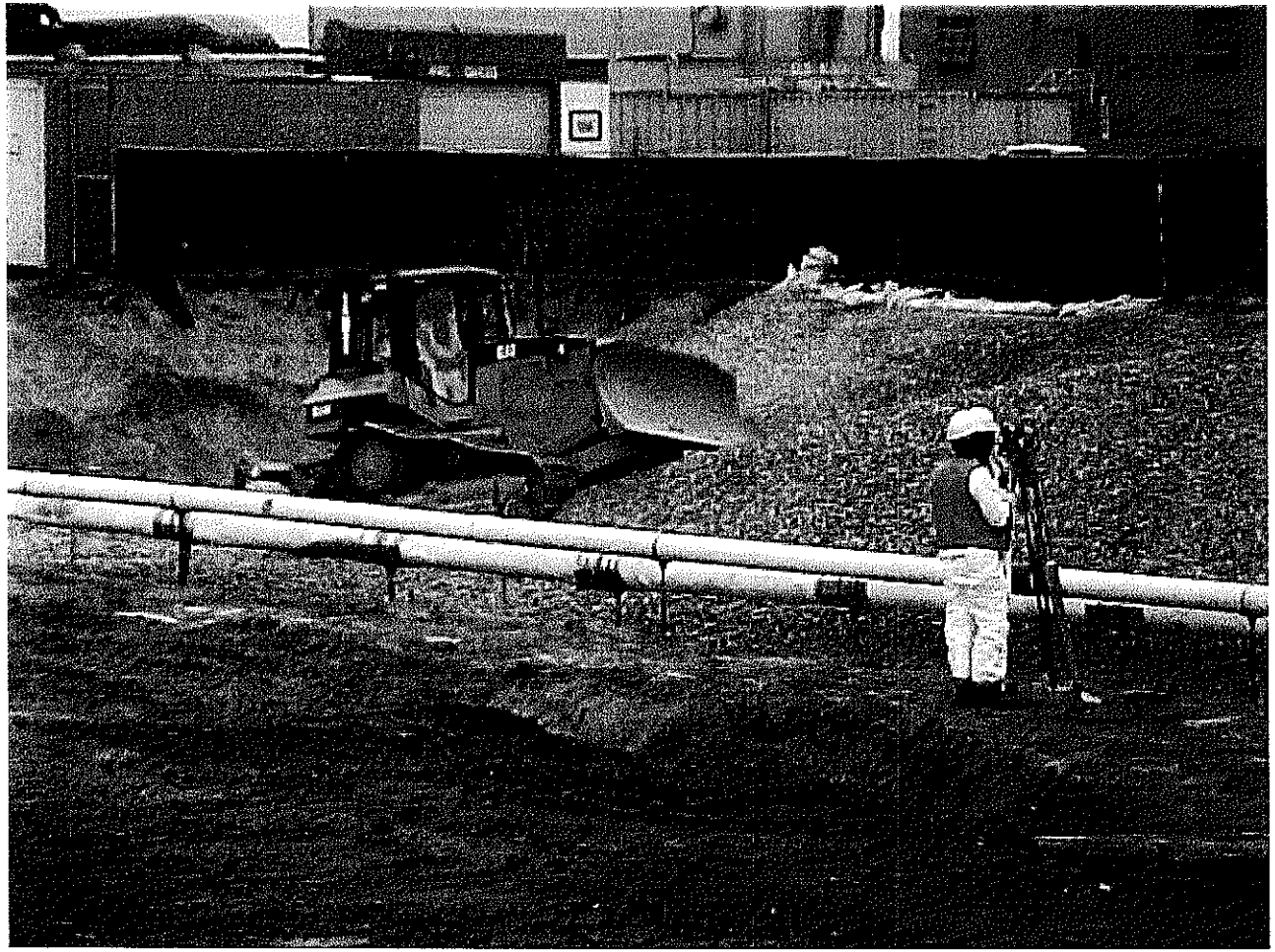
Phase 1A - Former Building 3224;
looking east at north face;
beginning to backfill following soil removal;
electrical bank on left supported in sections with control density fill (CDF)



Phase 1A - Former Building 3224;
looking southwest at north face;
note columns for former dolley rail system



Phase 1A - Former Building 3224;
looking east at north face (on right);
liner installed on sidewall to segregate remaining soil
under building from clean backfill;
note columns for former dolley rail system

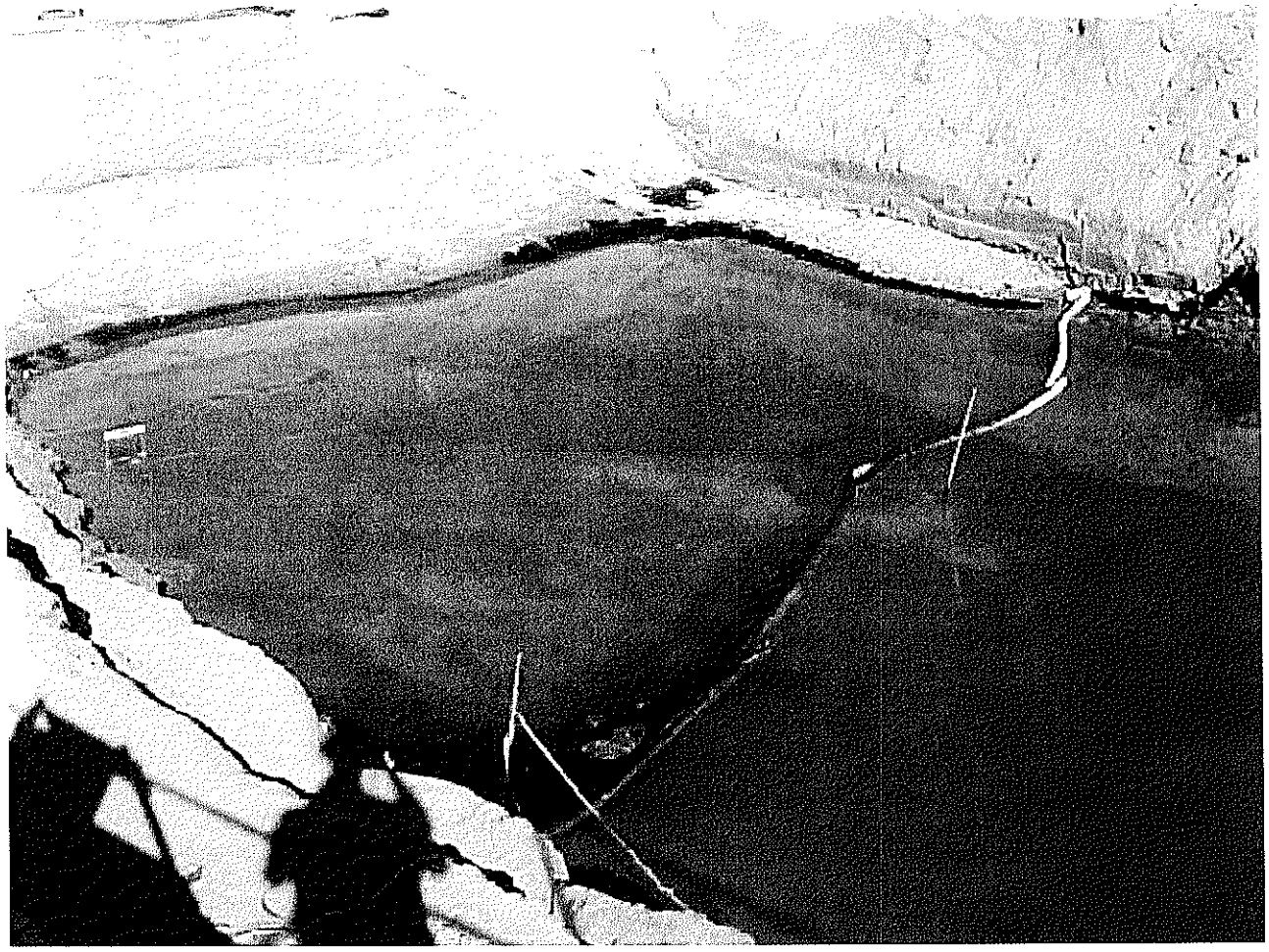


Phase 1A - Backfilling with ballast rock;
utilities (i.e. steam line and sanitary sewer line) supported with pipe stands;
note survey crew on right performing grade checking with transit

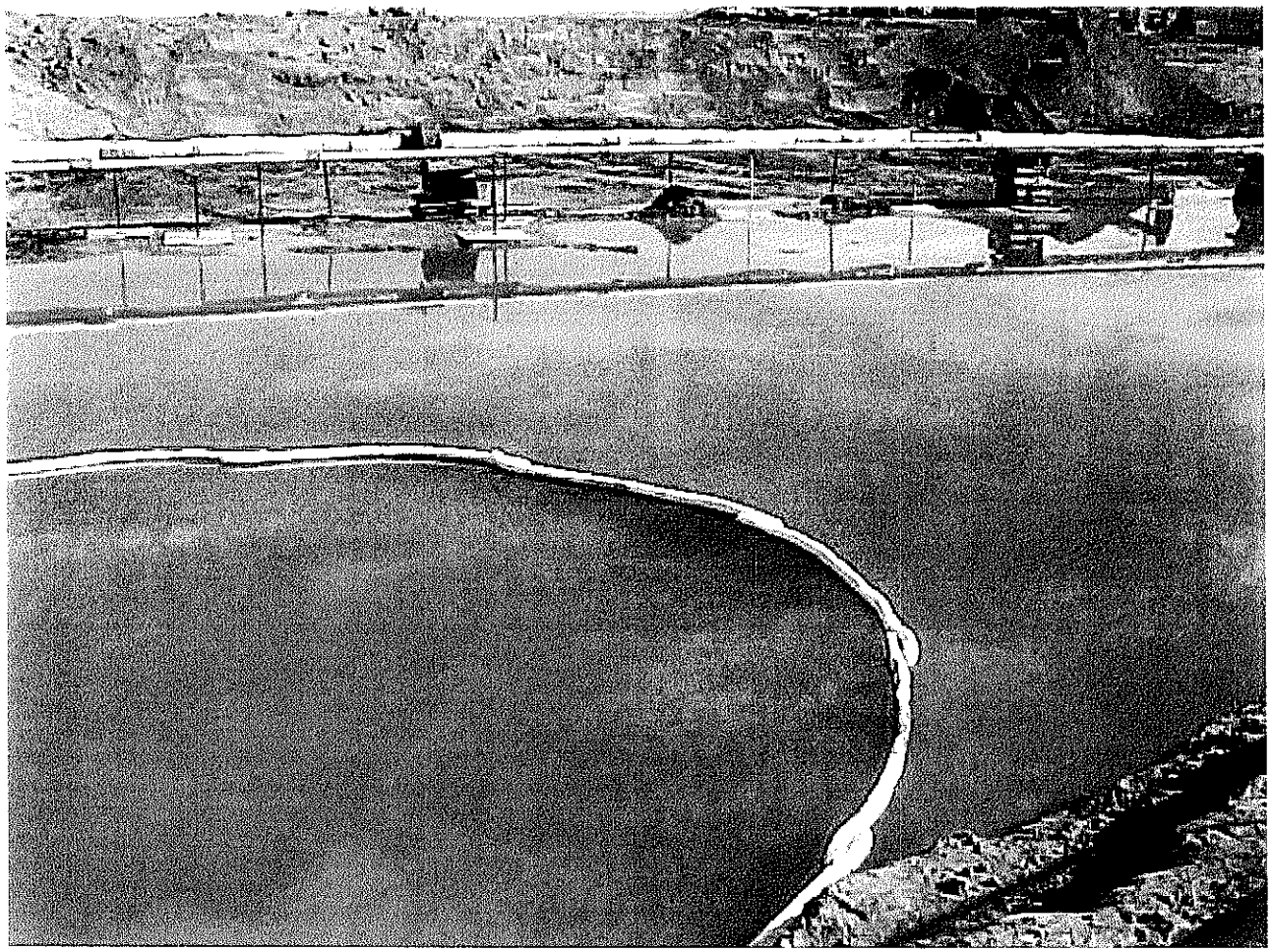
Phase 1A - Looking east at northeast corner of excavation limits;
steam line supported on left;
sanitary sewer line supported on right;
Building 198 (white two-story building) in background

Phase 1A - Looking east at soil stockpile area
with stockpile surrounded by sandbag berm and
covered with polyethylene liner;
Building 198 (white two-story building) in background on left and
sand blasting facility (green canvas) on right

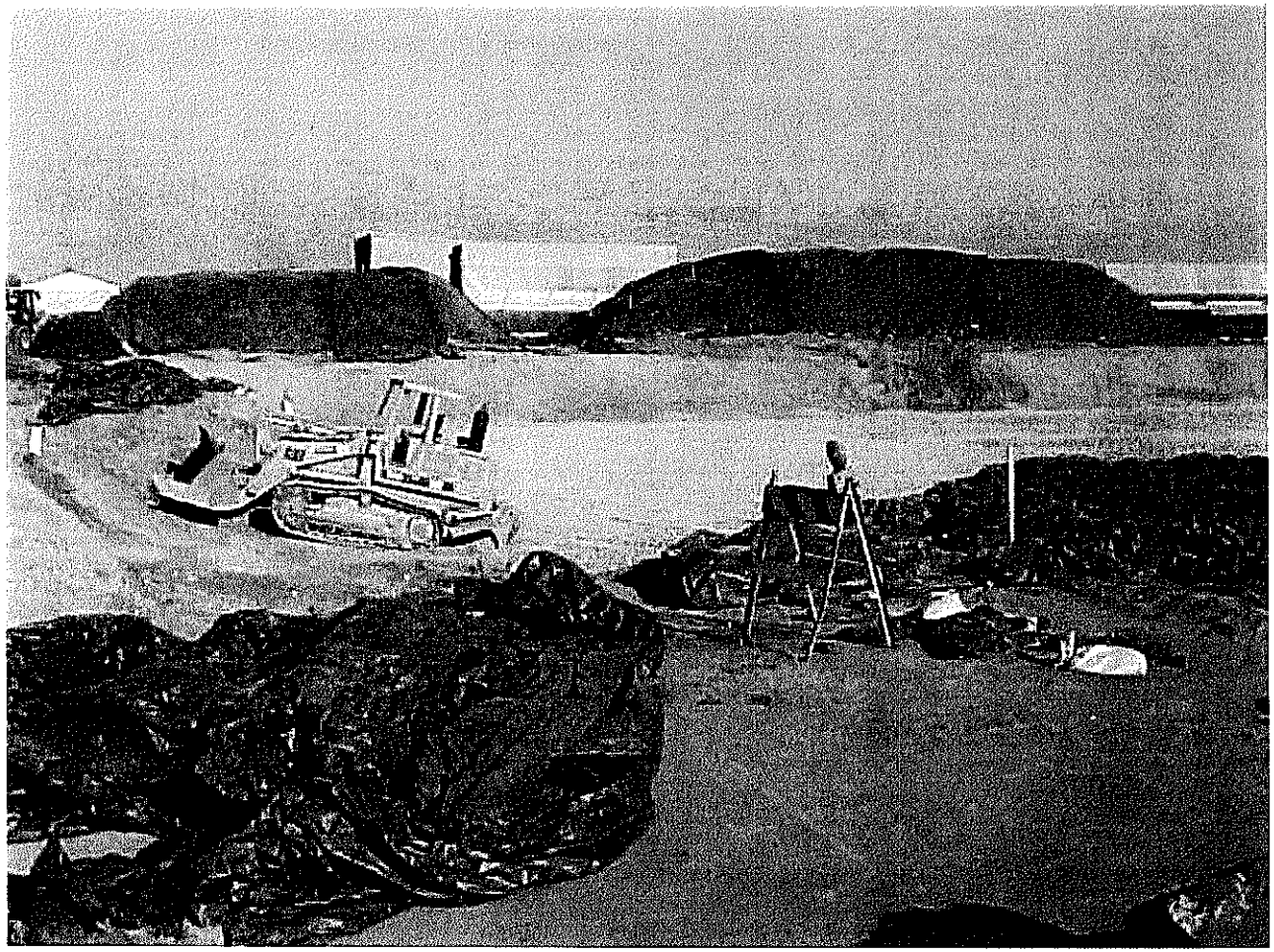
Phase 1A - Equipment decontamination pad with Baker tank for storage of spent decontamination water in center background



Phase 1A - petroleum hydrocarbon-related free product floating on groundwater table in bottom of excavation; note containment boom that was used to aid in consolidating the material prior to removal via skimming with a vacuum truck



Phase 1A - petroleum hydrocarbon-related free product floating on groundwater table in bottom of excavation; note containment boom that was used to aid in consolidating the material prior to removal via skimming with a vacuum truck;
note steam line and sanitary sewer line supported across the excavation area (top of photo)



Phase 1A - Looking east at soil stockpile area and eastern limit of excavation during backfilling with ballast rock;
sand blasting facility (green canvas) in center background

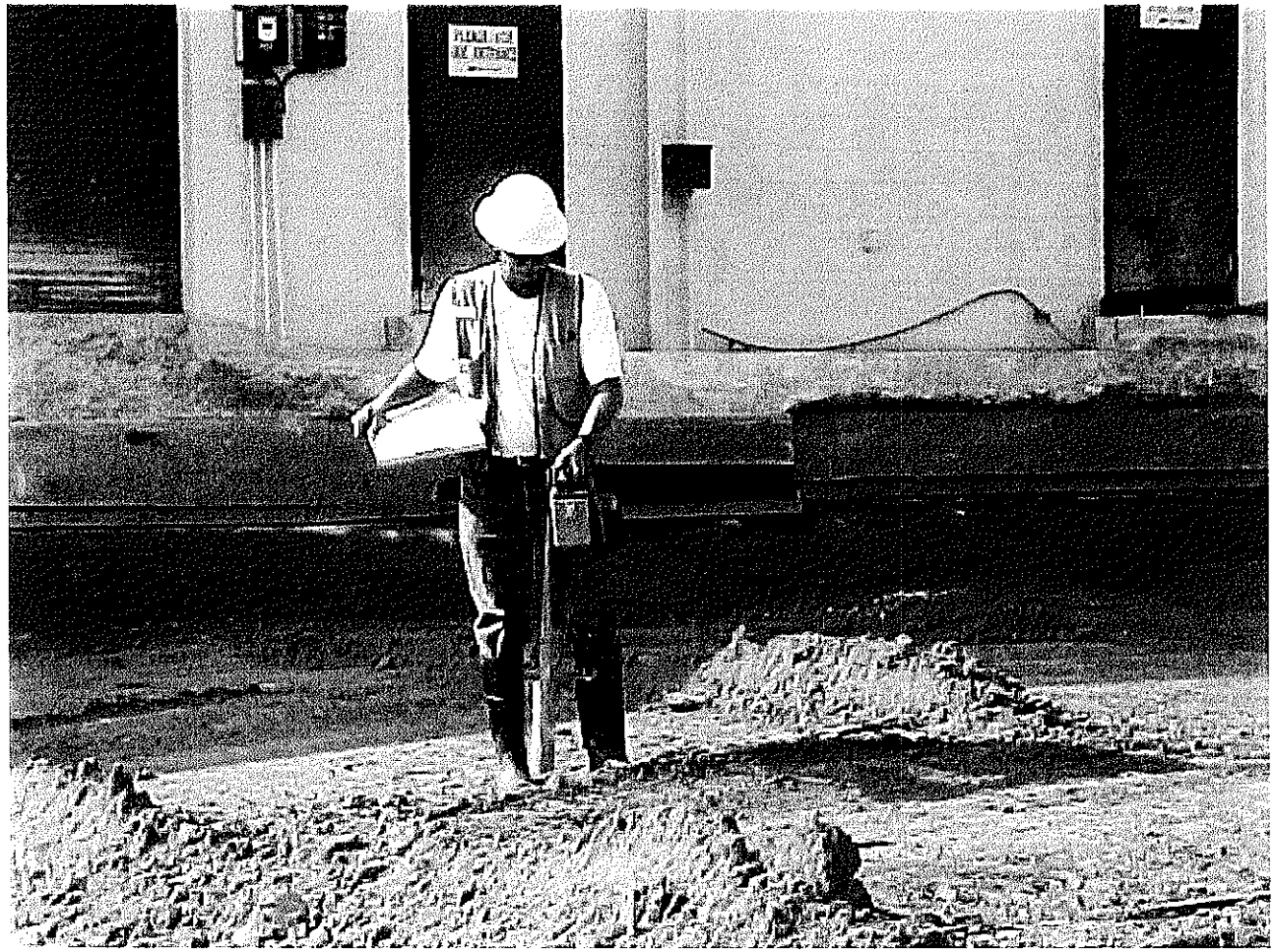
Phase 1A - Stockpile management during inclement weather

Phase 1A - Looking north from former Building 3224;
backfilling following soil removal;
note columns for former dolly rail system

Phase 1A - Looking west within excavation area
during backfilling with ballast rock and fill sand;
steam line on center right; sanitary sewer (white) on center left;
electrical duct bank supported with control density fill (CDF) on far left

Phase 1A -electrical duct bank supported in sections with control density fill (CDF)

Phase 1A -excavation of petroleum hydrocarbon-impacted soil

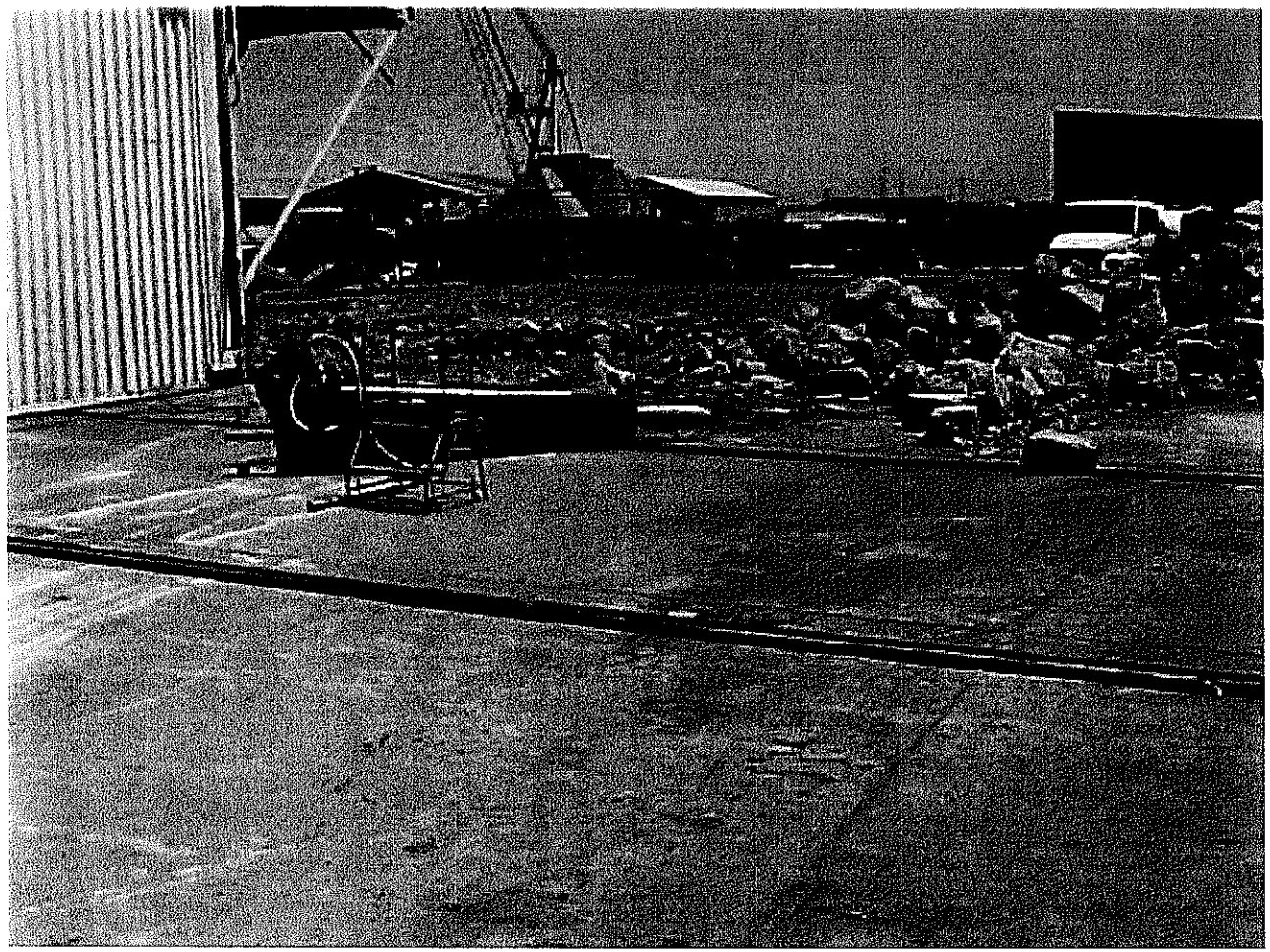


Phase 1A -radiological surveying of imported backfill material (fill sand)

Phase 1A -compacting backfill material (fill sand) with smooth drum roller

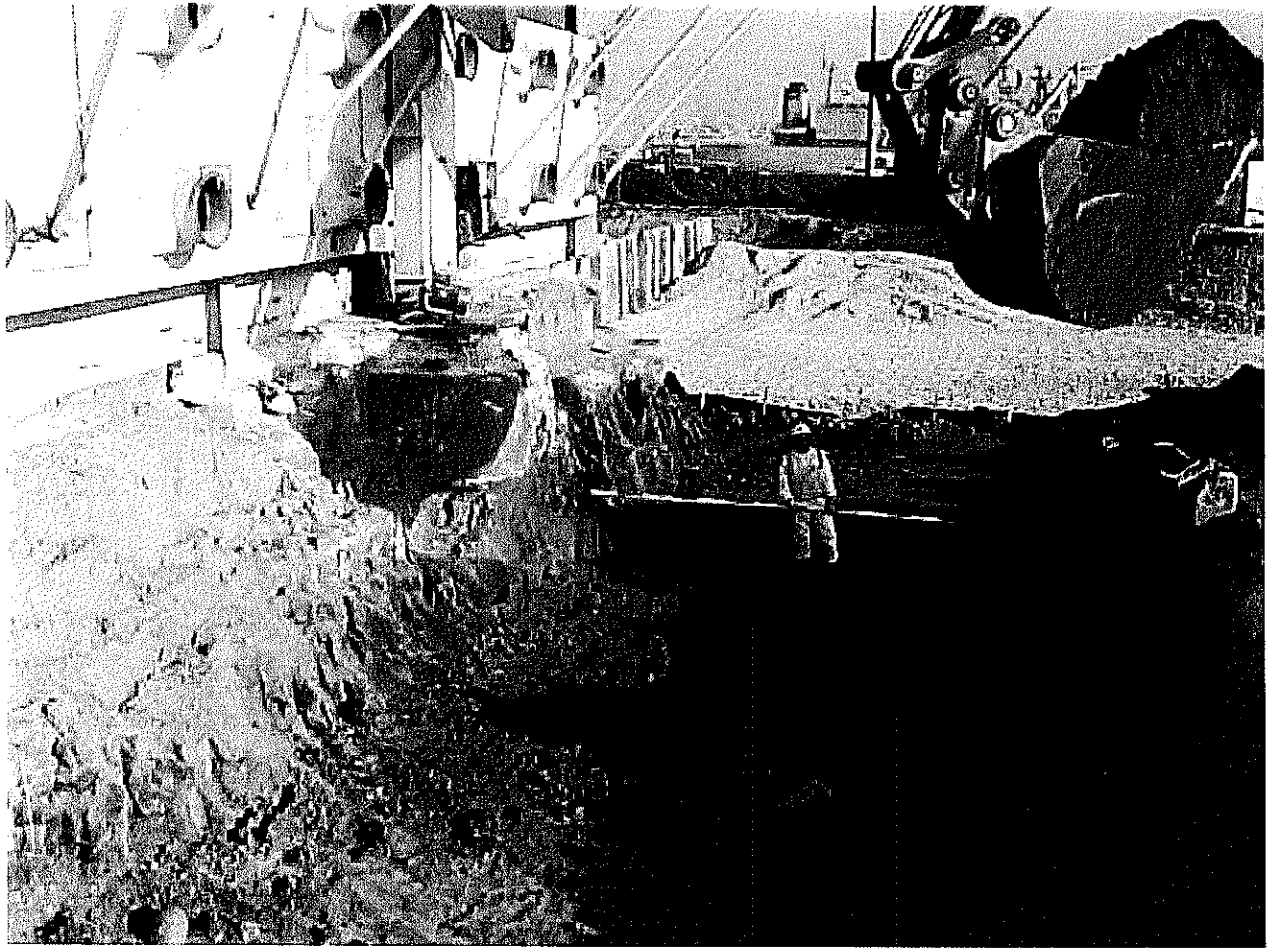
Phase 1A -Looking northwest at northwest corner of excavation; note ponding groundwater visible on excavation floor

Phase 1A - Hand compacting of backfill around utilities; note polyethylene liner placed on sidewall delineating the extent of the excavation for future reference



Phase 1B - Former Building 3224;
looking east at south side (on left) and dolly rail system prior to demolition

Phase 1B - Former Building 3224;
looking west at east side; note columns for dolly rail system on north side of building

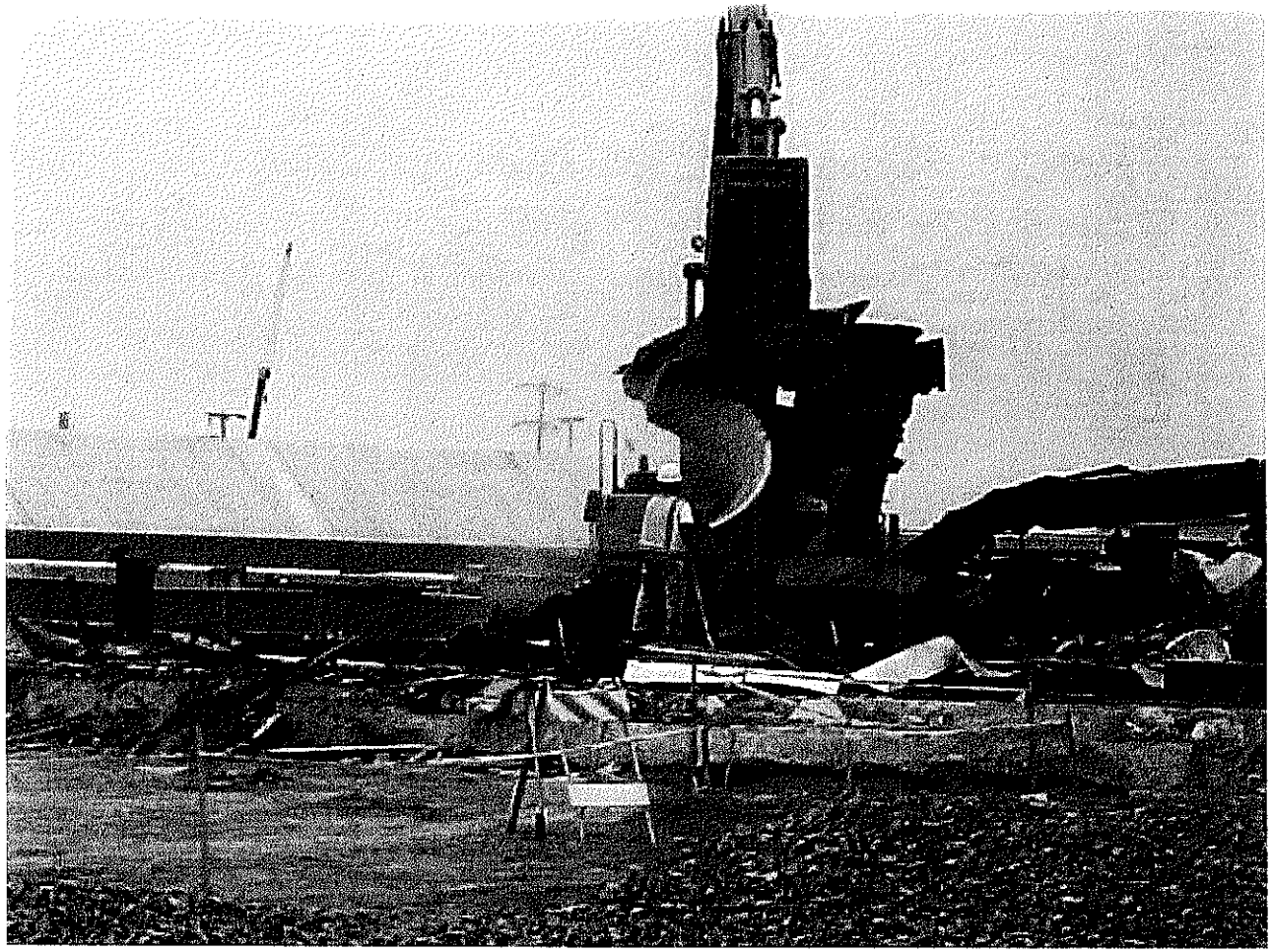


Phase 1B - Former Building 3224;
looking north at east side; note backfilled Phase 1A to the north (ballast rock)

Phase 1B - radiological point source investigation

Phase 1B - radiological point source investigation;
note pen for scale of object

Phase 1B - Looking east at backfilled excavation;
note former Building 3224 west side in upper right corner

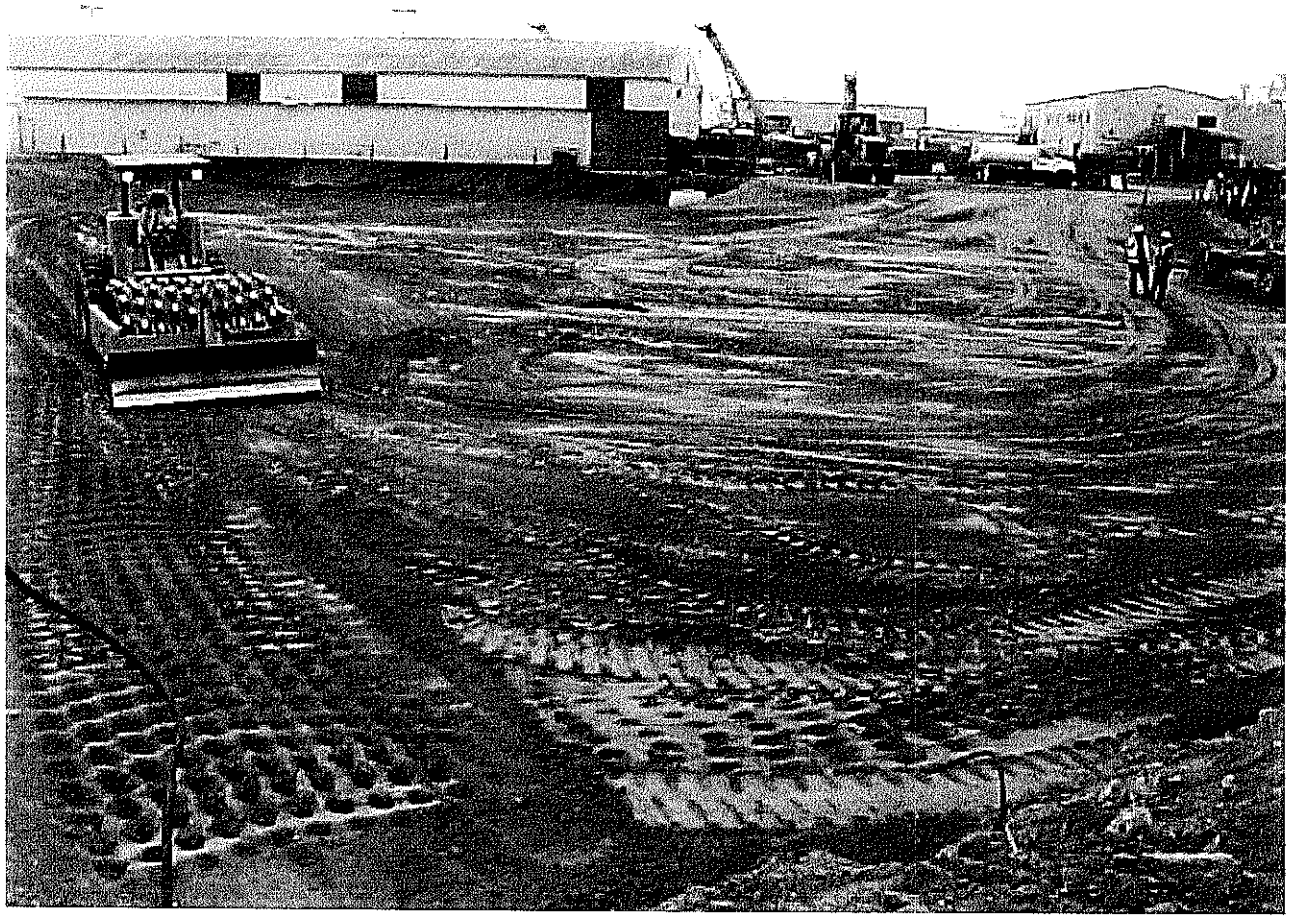


Phase 1B - Demolition of Building 3224

Phase 1B - Looking southeast at excavated area where former Building 3224 was located; note the ponding groundwater on the excavation floor;
Building 334 located in upper right corner of photo

Phase 1B - Looking southeast at excavated area where former Building 3224 was located; backfilling with ballast rock; Building 334 located in upper right corner of photo

Phase 1B - Looking south at excavated area where former Building 3224 was located; backfilling with ballast rock; Building 334 located in upper center of photo



Phase 1B - Looking south at backilled area where former Building 3224 was located; compacting backfill material (fill sand) with vibratory sheep's foot roller; Building 334 located in upper center of photo

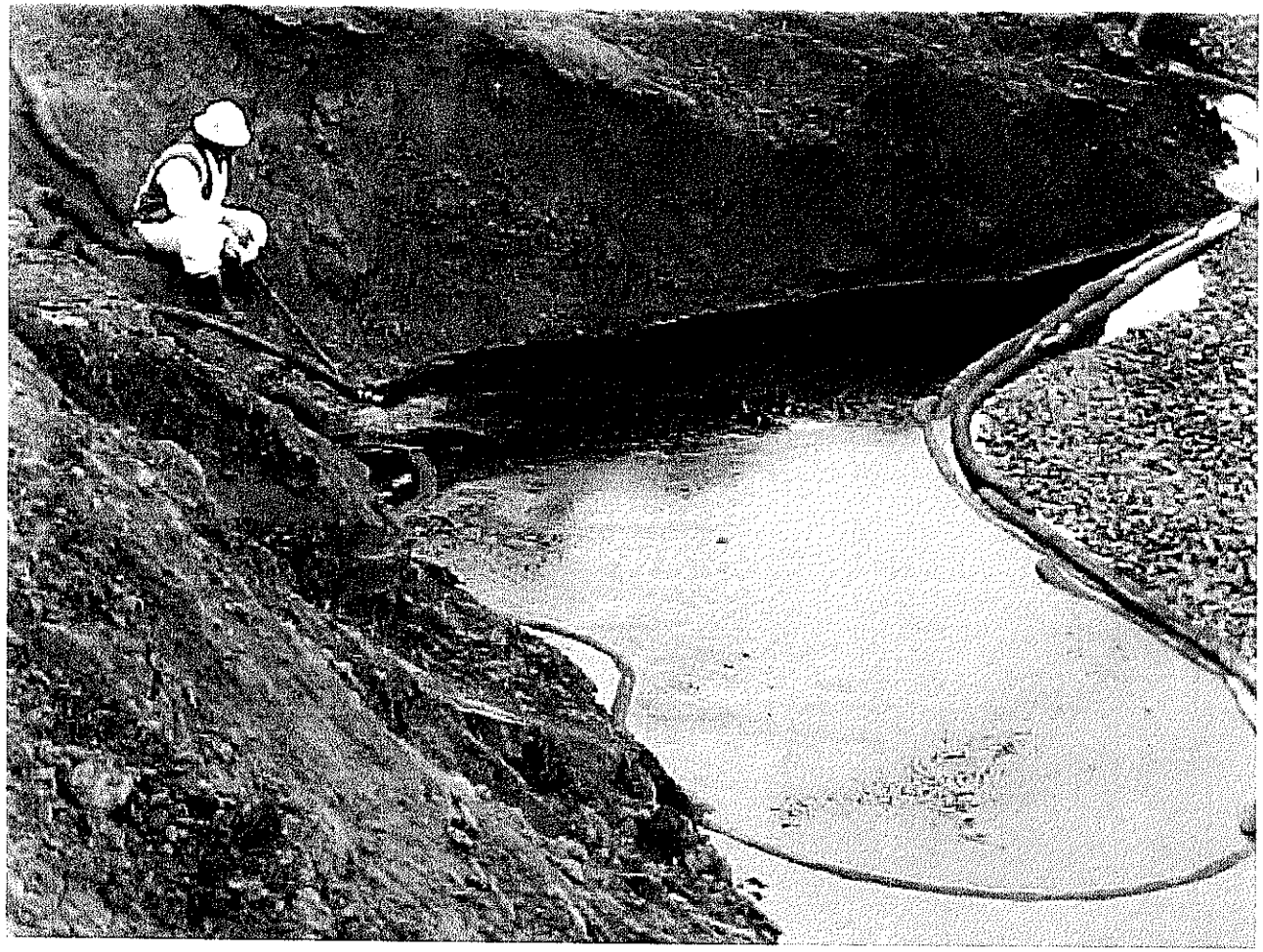
Phase 1B - Looking south from far west end of excavation; note consolidated divers unit building located top right corner; note benched sidewalls

Phase 1B - Looking south from west end of excavation;
note consolidated divers unit building located top center;
note far west end (upper right corner of photo) is now backfilled

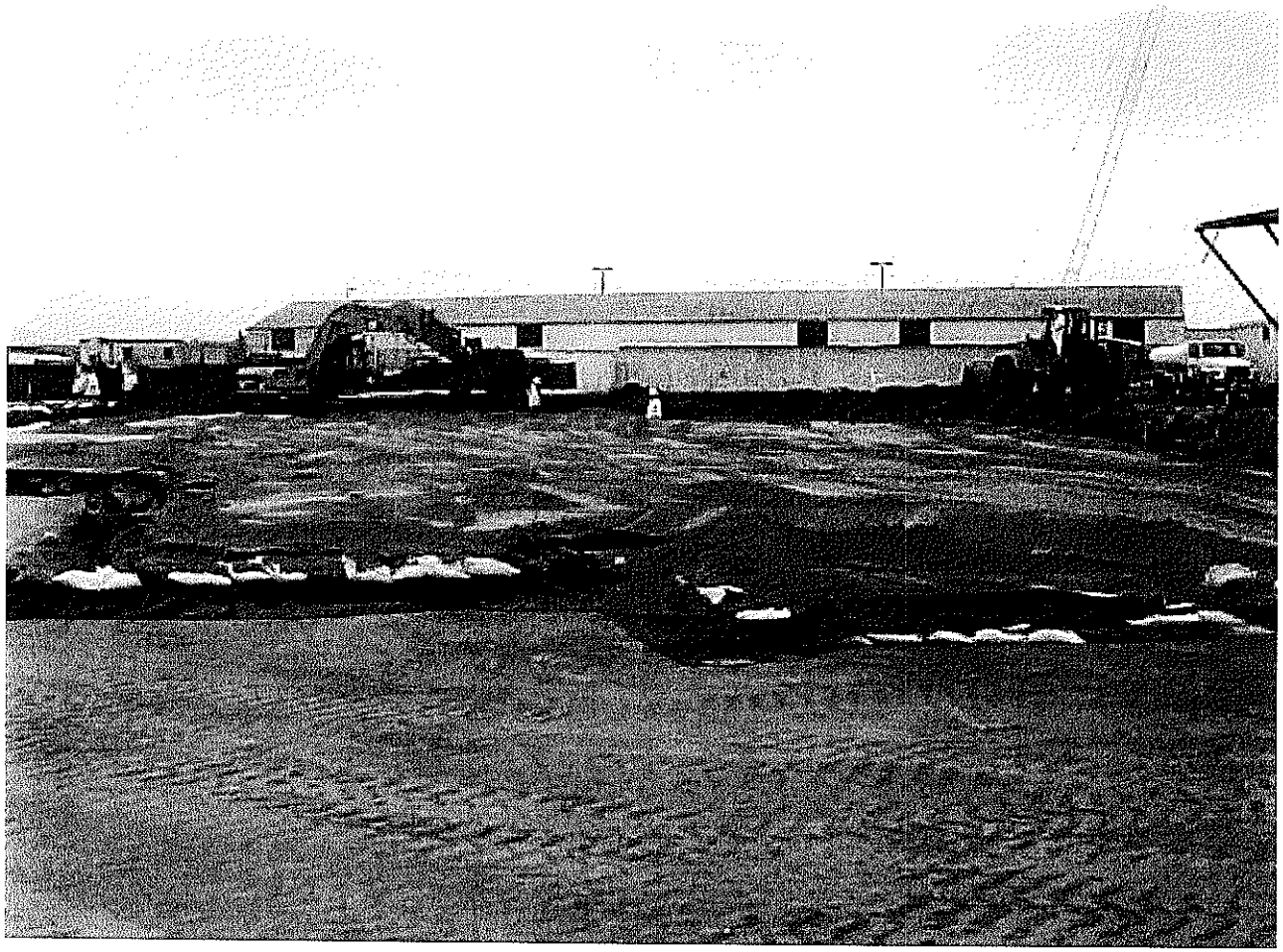
Phase 1B - Looking southeast at soil stockpile liner construction activities

Phase 1B - Radiological survey of excavation area

Phase 2A - petroleum hydrocarbon-related free product floating on groundwater table in bottom of excavation; note containment boom that was used to aid in consolidating the material prior to removal via skimming with a vacuum truck;
note steam line supported across the excavation area (top of photo)



Phase 2A - skimming off (via vacuum truck) petroleum hydrocarbon-related free product floating on groundwater table in bottom of excavation

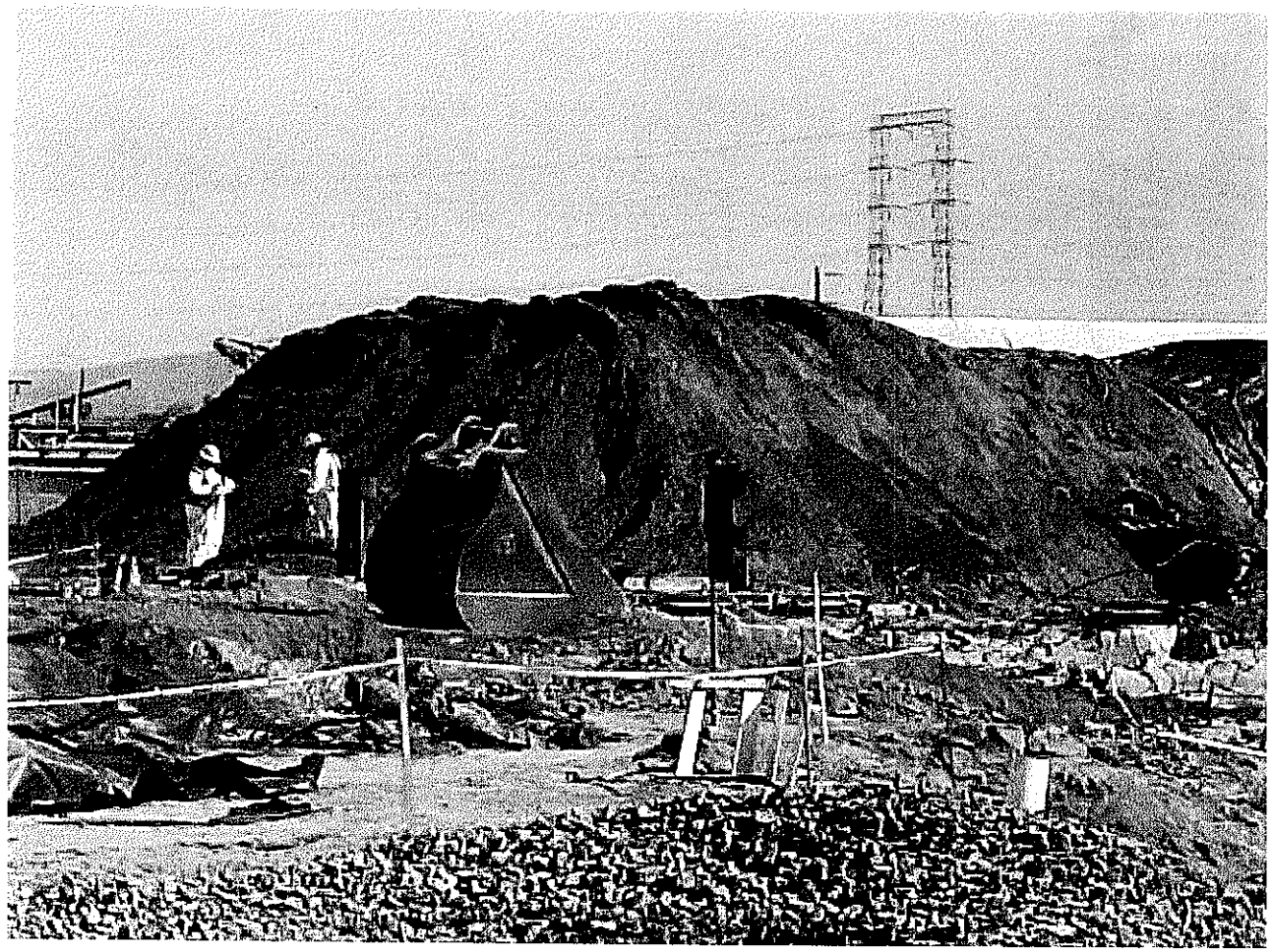


Phase 2A - looking south at north side of Building 334; note soil stockpile laydown area (i.e. polyethylene liner, bermed with layer of clean transitional sand)

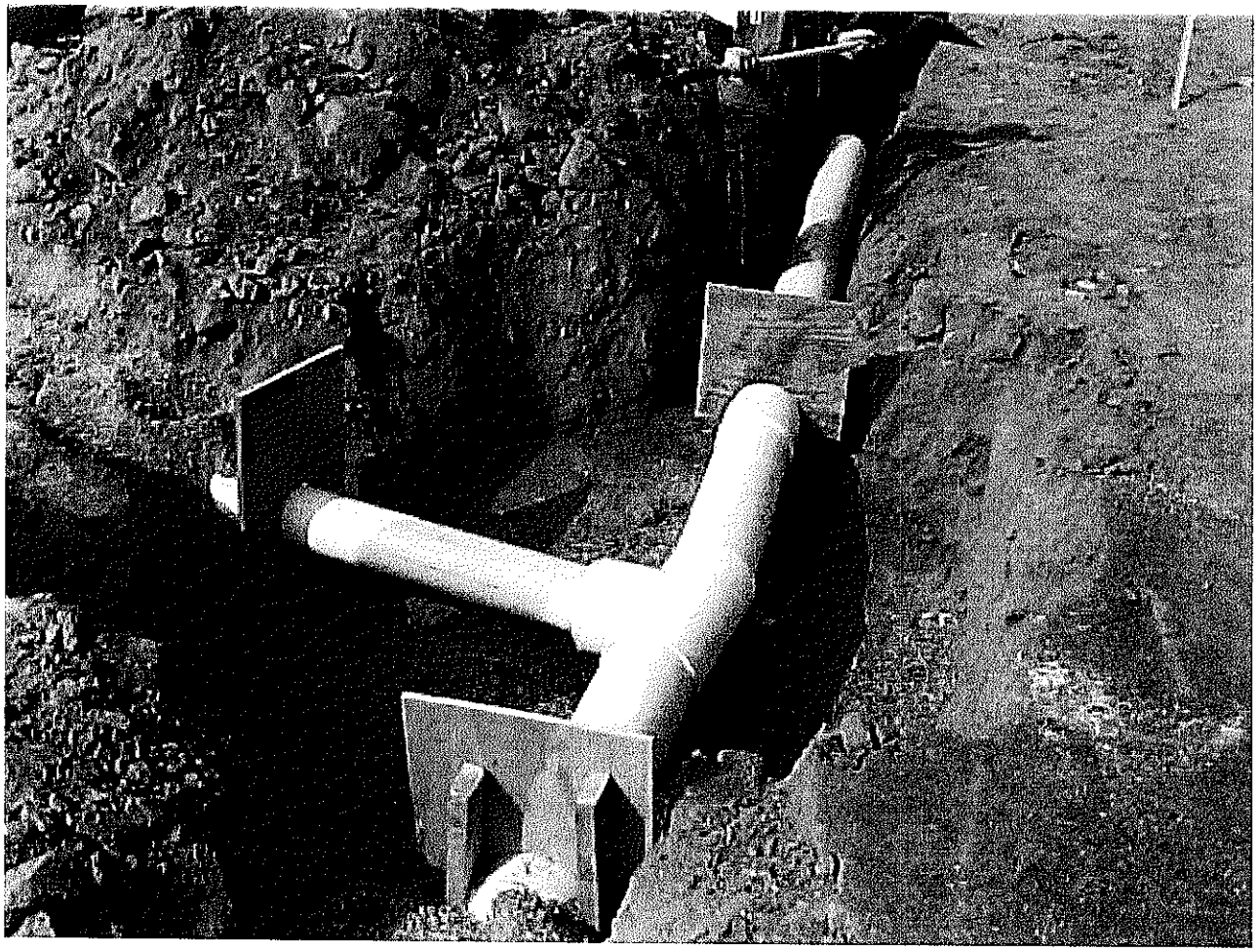
Phase 2A - removal of a buried 55-gallon steel drum from the excavation

Phase 2A - looking northwest at northwest corner of excavation; note this area of discolored soil was the area where the buried, 55-gallon steel drum was removed

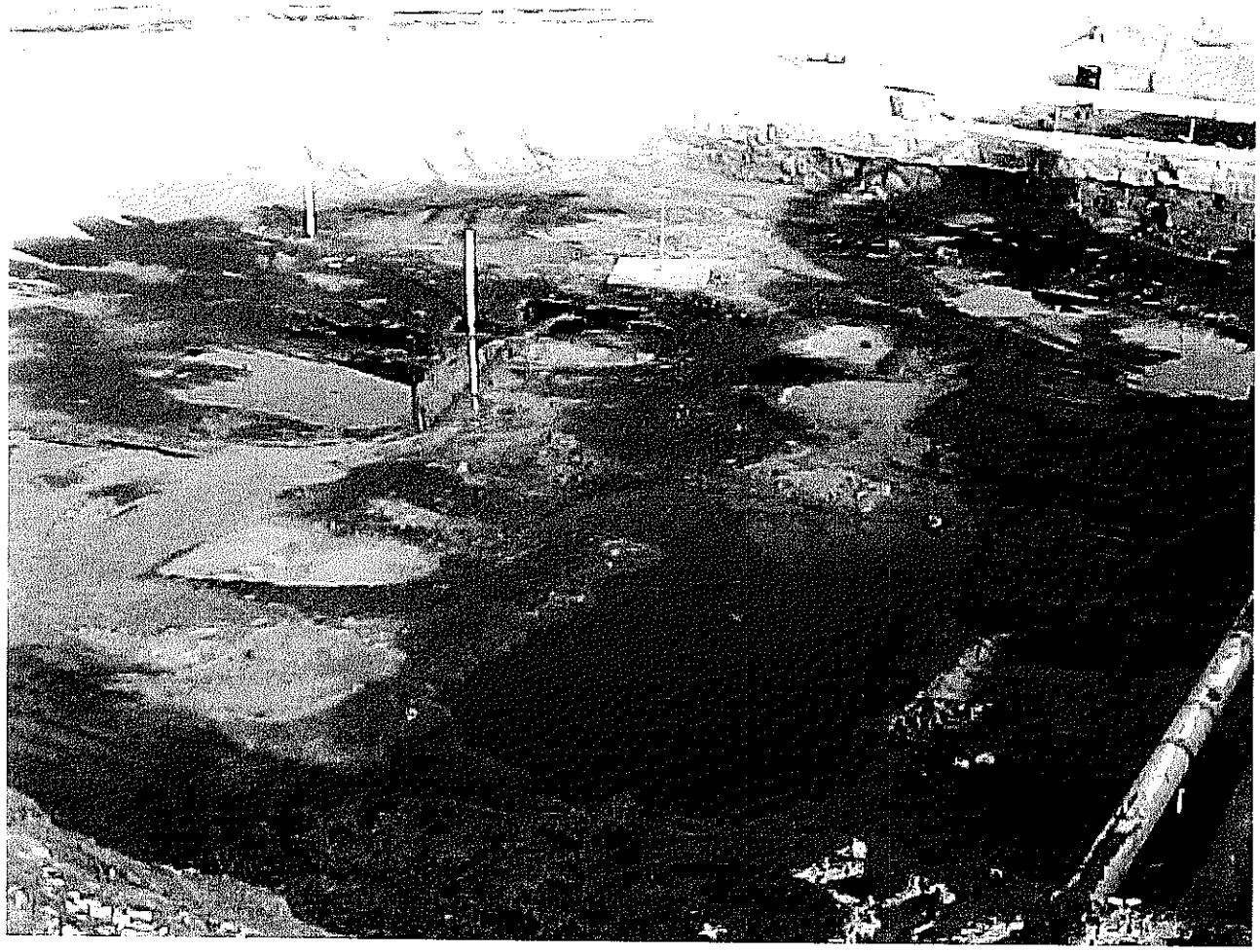
Phase 2A - Radiological survey of excavation area



Phase 2A - Radiological survey of soil stockpile area

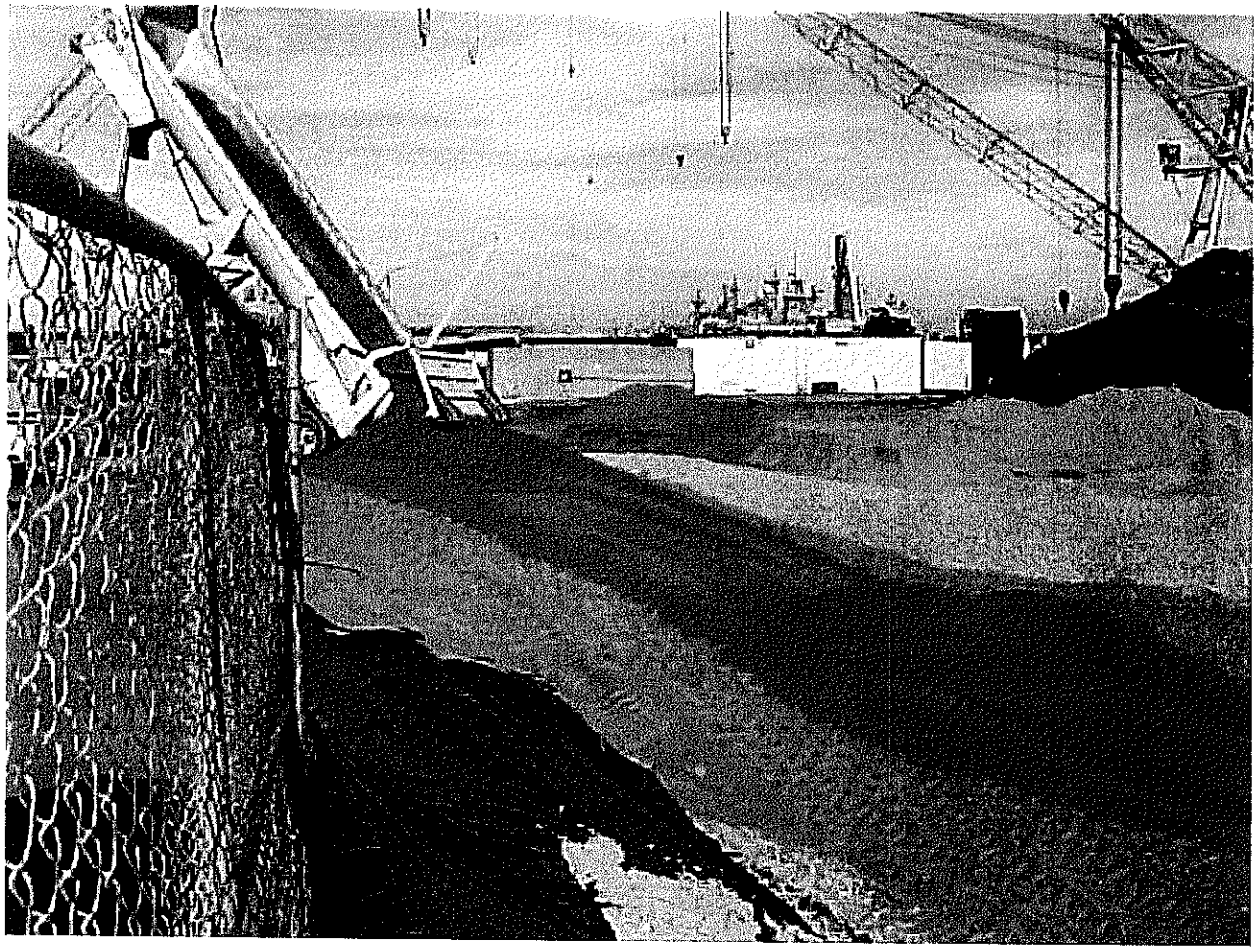


Phase 2A - Replacing sanitary sewer line



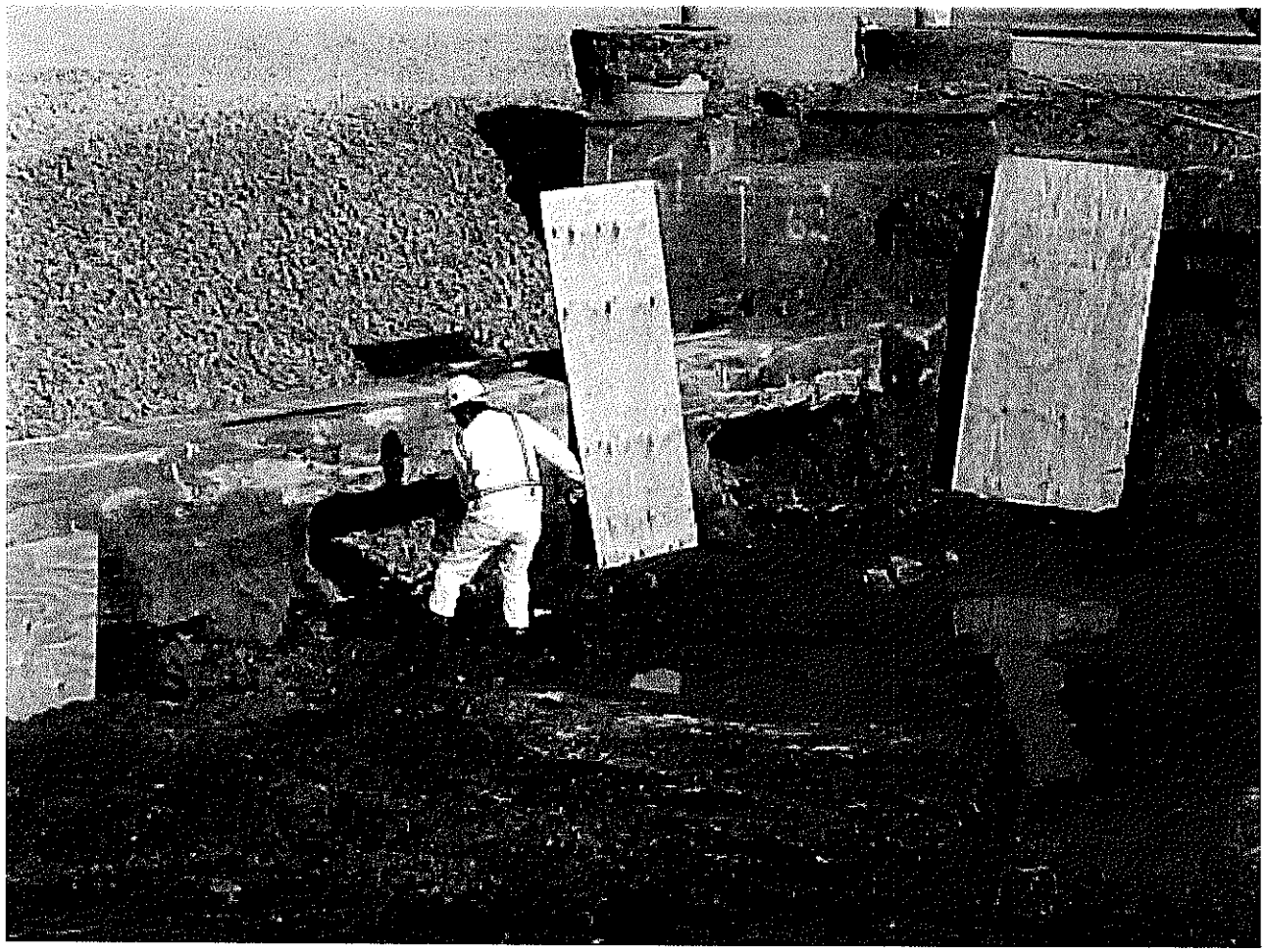
Phase 2A - Petroleum hydrocarbon-related free product floating on the groundwater table on the excavation floor

Phase 2A - Stockpile sampling for waste characterization purposes



Phase 2A - Typical backfilling operation;
note the end-dump truck dumping the backfill material (FS-15)

Phase 2A - Typical soil load out procedure for transfer to a treatment and disposal facility; note the rubber tire front-end loader loading truck with contaminated soil



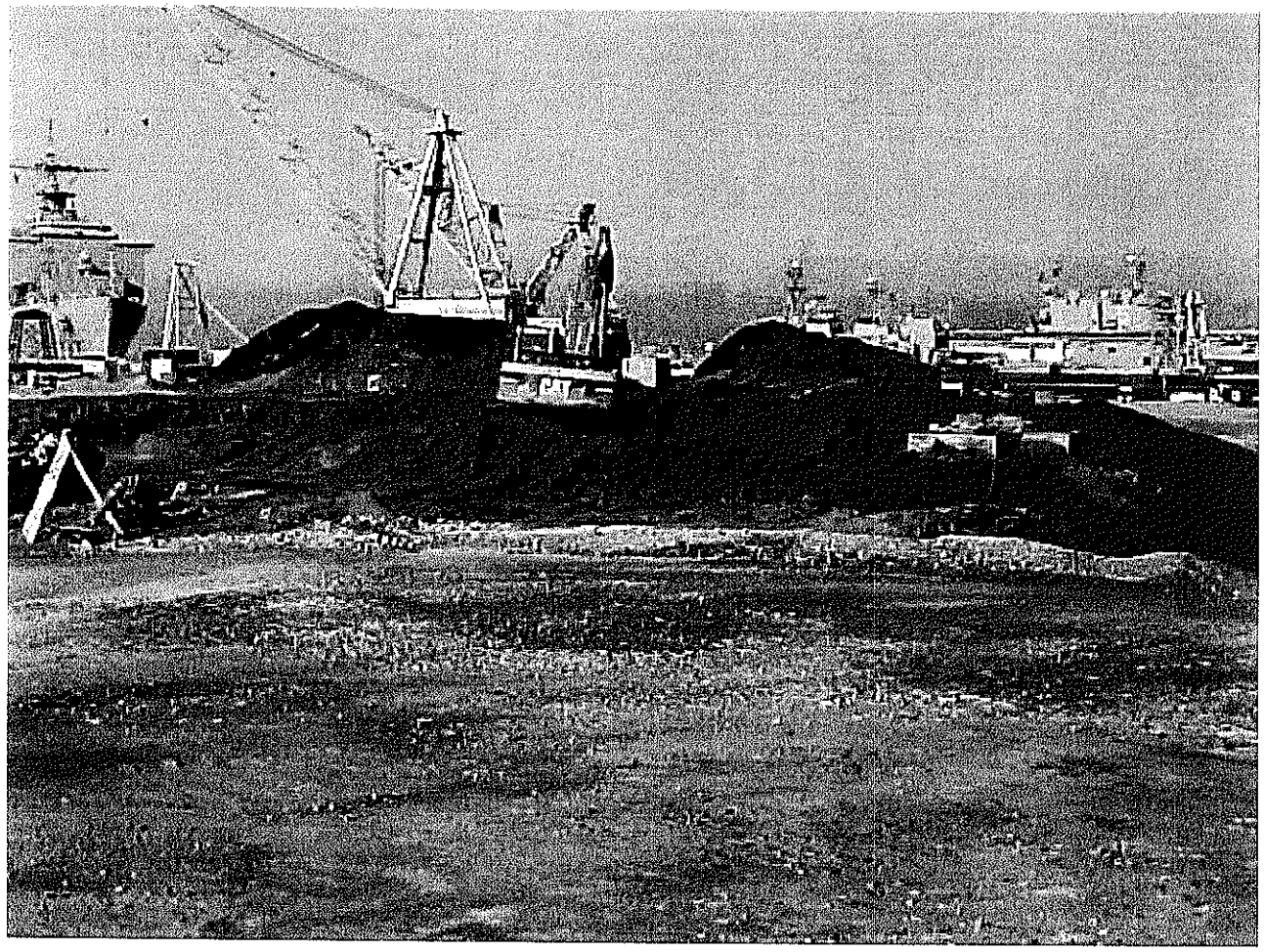
Phase 2A - Removal of soil from beneath the electrical duct bank that runs east-west through the excavation; note the bank was supported in staggered sections by first constructing plywood forms then pouring control density fill into the formed section and allowing it to cure prior to removal of the forms

Phase 2A - Placing the control density fill in the pre-formed section under the electrical duct bank

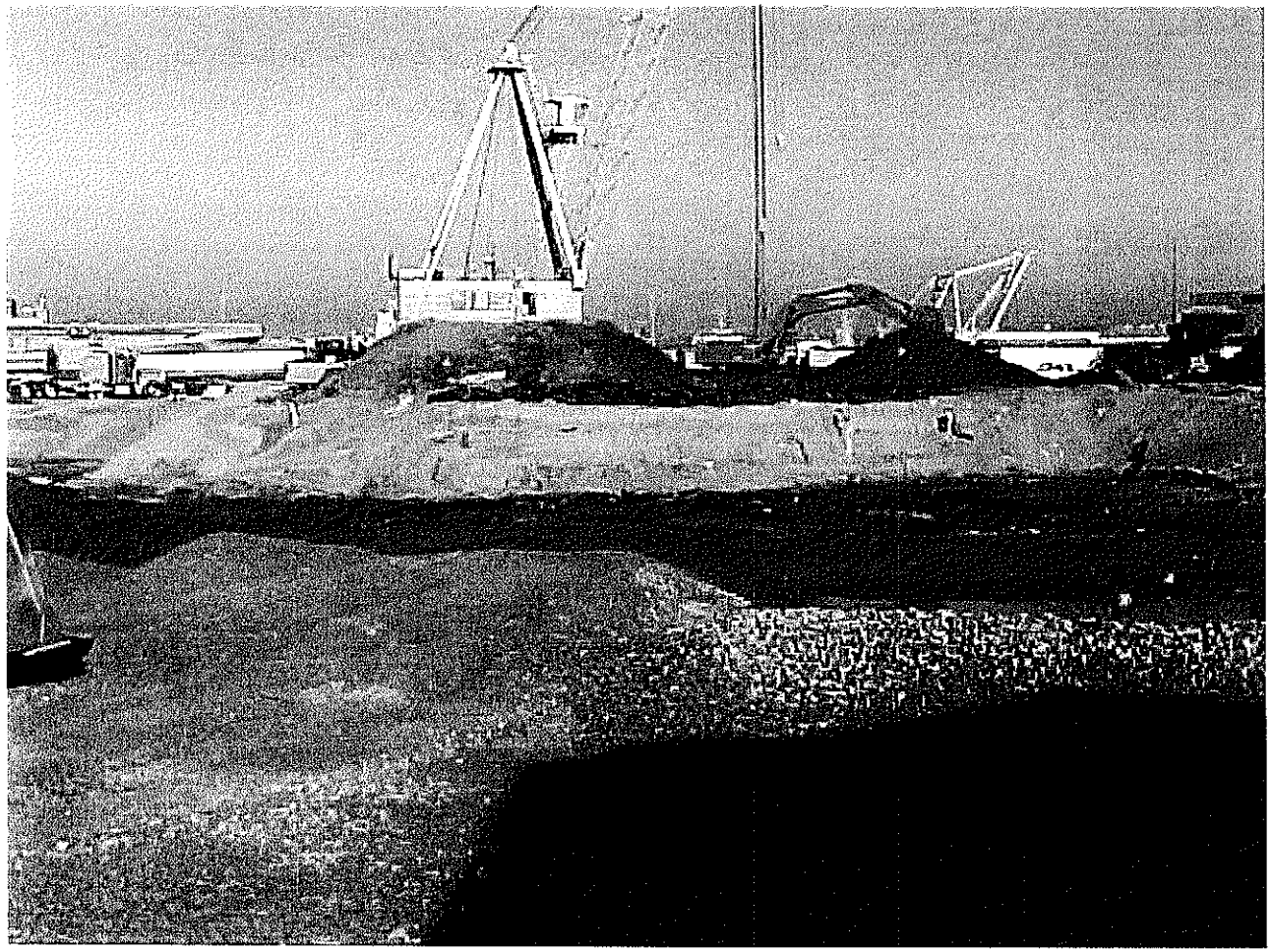
Phase 2A - Looking northwest at excavation and free-product containment activities; note the already backfilled portion of the excavation on the right side of the photo

Phase 2B - Looking southeast during excavation activities;
note Building 334 is in the top left corner of the photo;
note the soil stockpile is in the top right corner of the photo

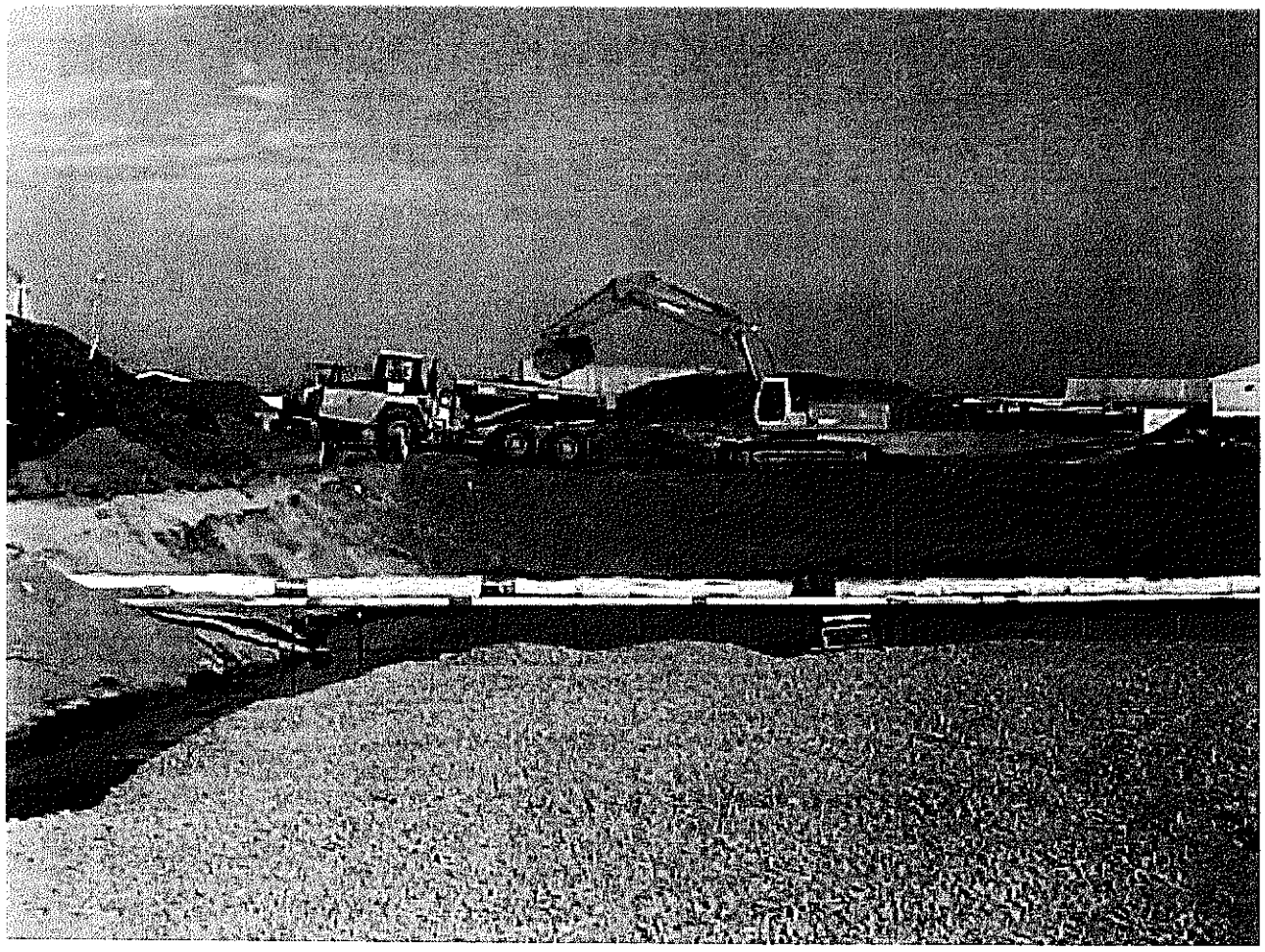
Phase 2B - Looking east during excavation activities;
note the top of the welding canopy is visible in the background past the excavator boom



Phase 2B - Looking northwest at northwest corner of excavation during excavation activities;

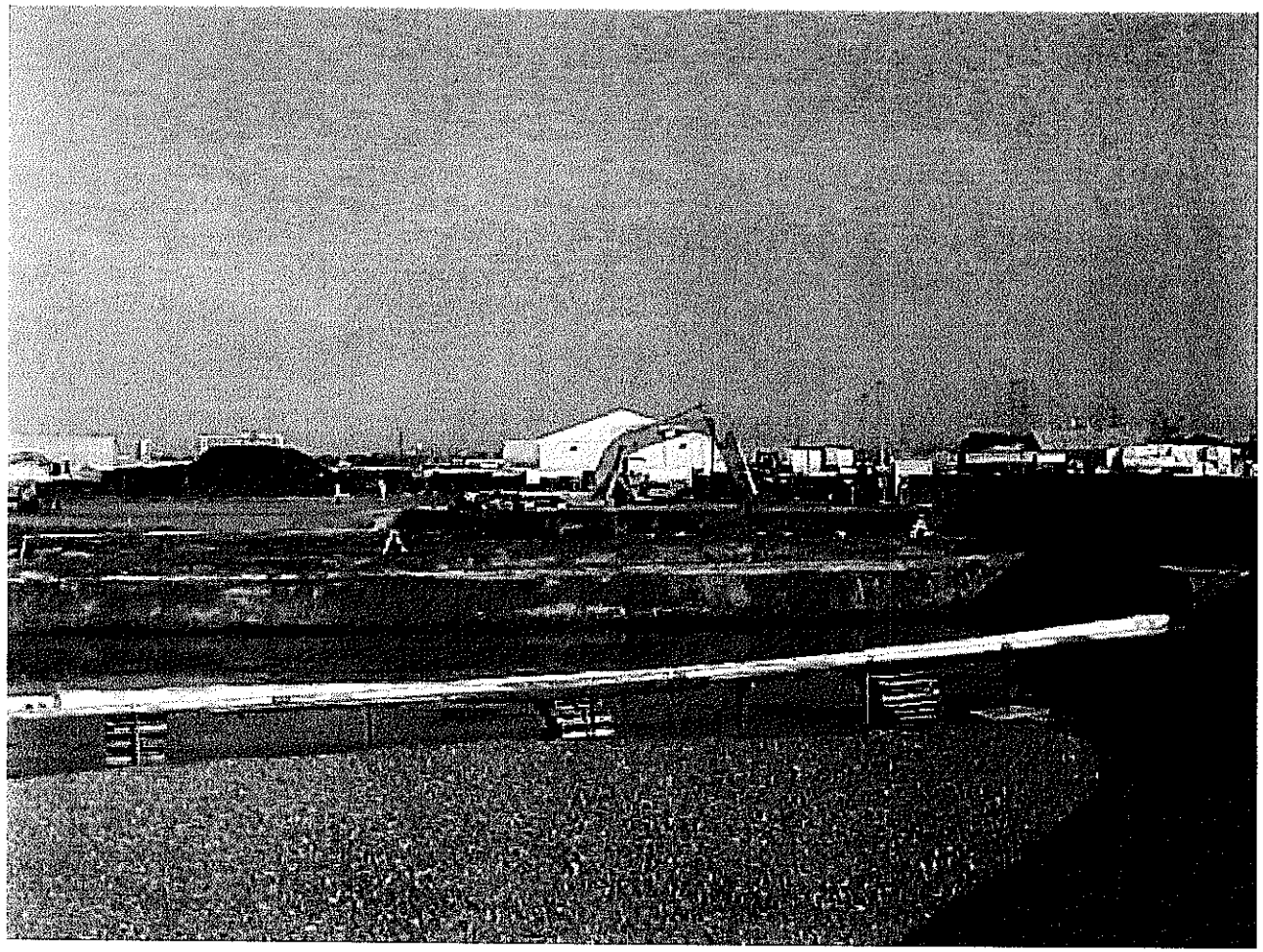


Phase 2B - Looking north during excavation activities

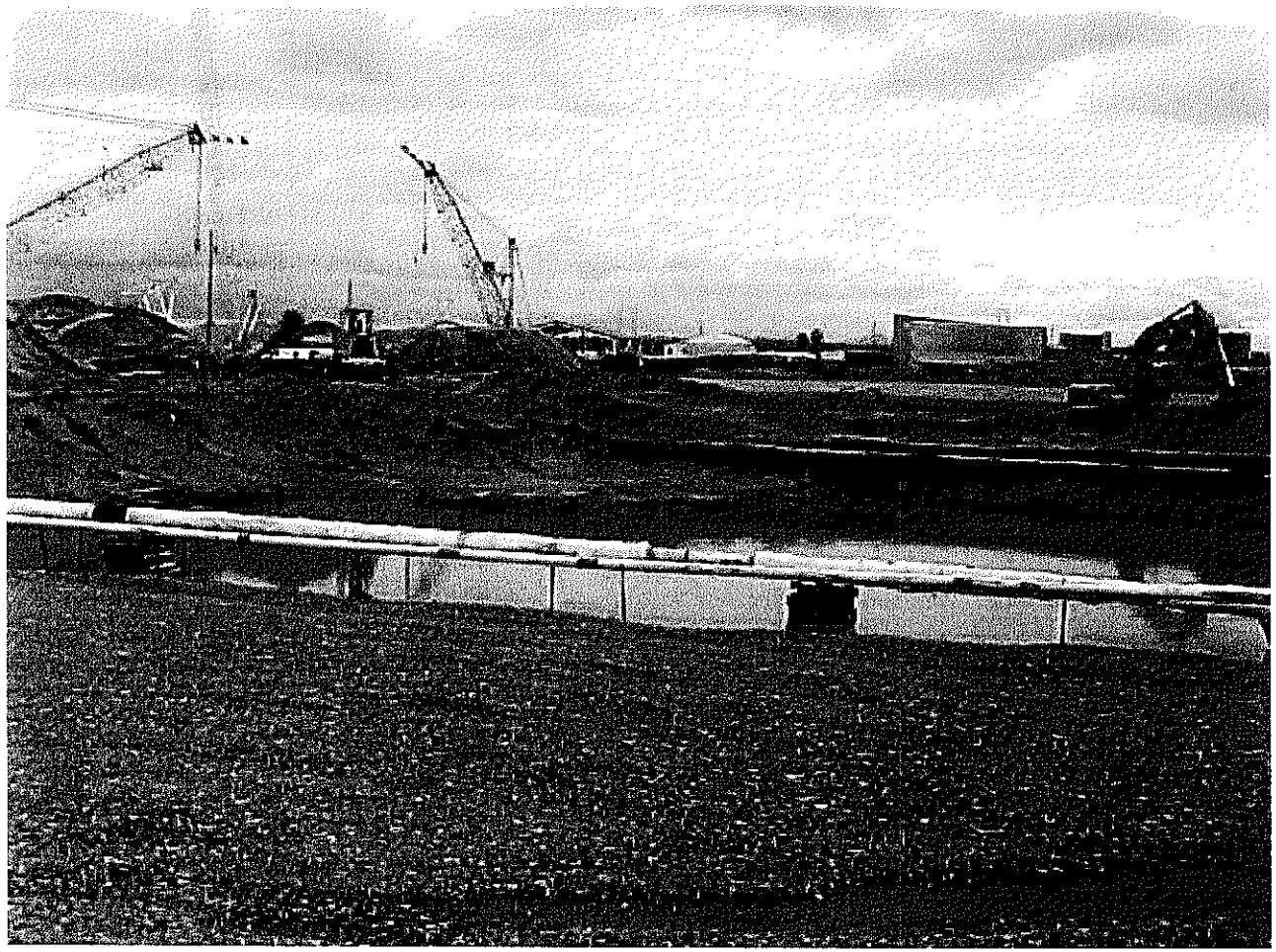


Phase 2B - Typical manner in which soil is excavated and loaded into a rock truck for transportation to the soil stockpile

Phase 2B - Looking southwest at excavation;
note project site trailer and sample trailer visible in top left of photo;
note the steam line (white) supported across the excavation area



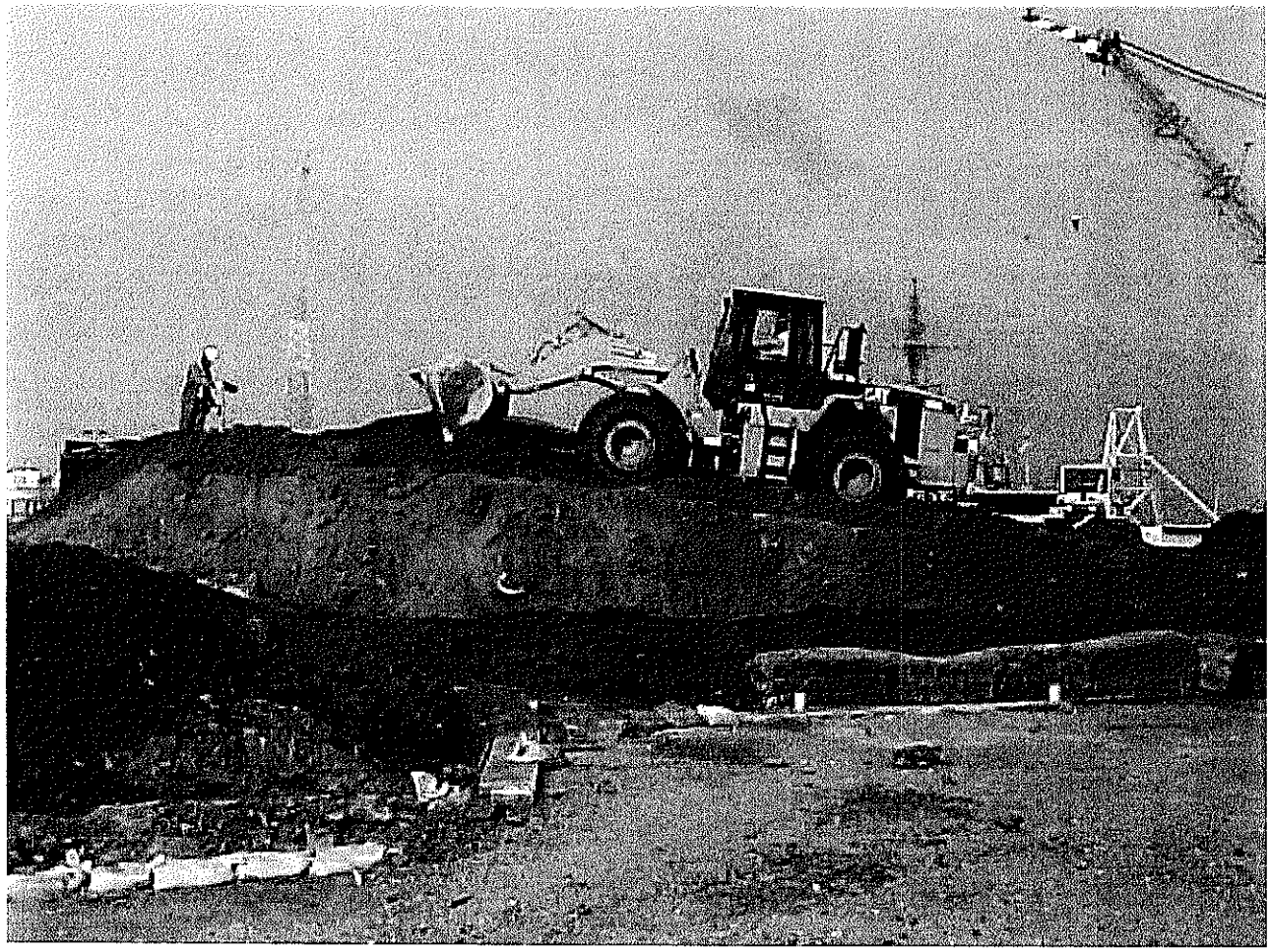
Phase 2B - Looking east at excavation;
note Building 334 is in the background past the excavator;
note the steam line (white) supported across the excavation area



Phase 2B - Looking northeast at excavation;
note temporary sand blast facility (green) is visible in top right of photo

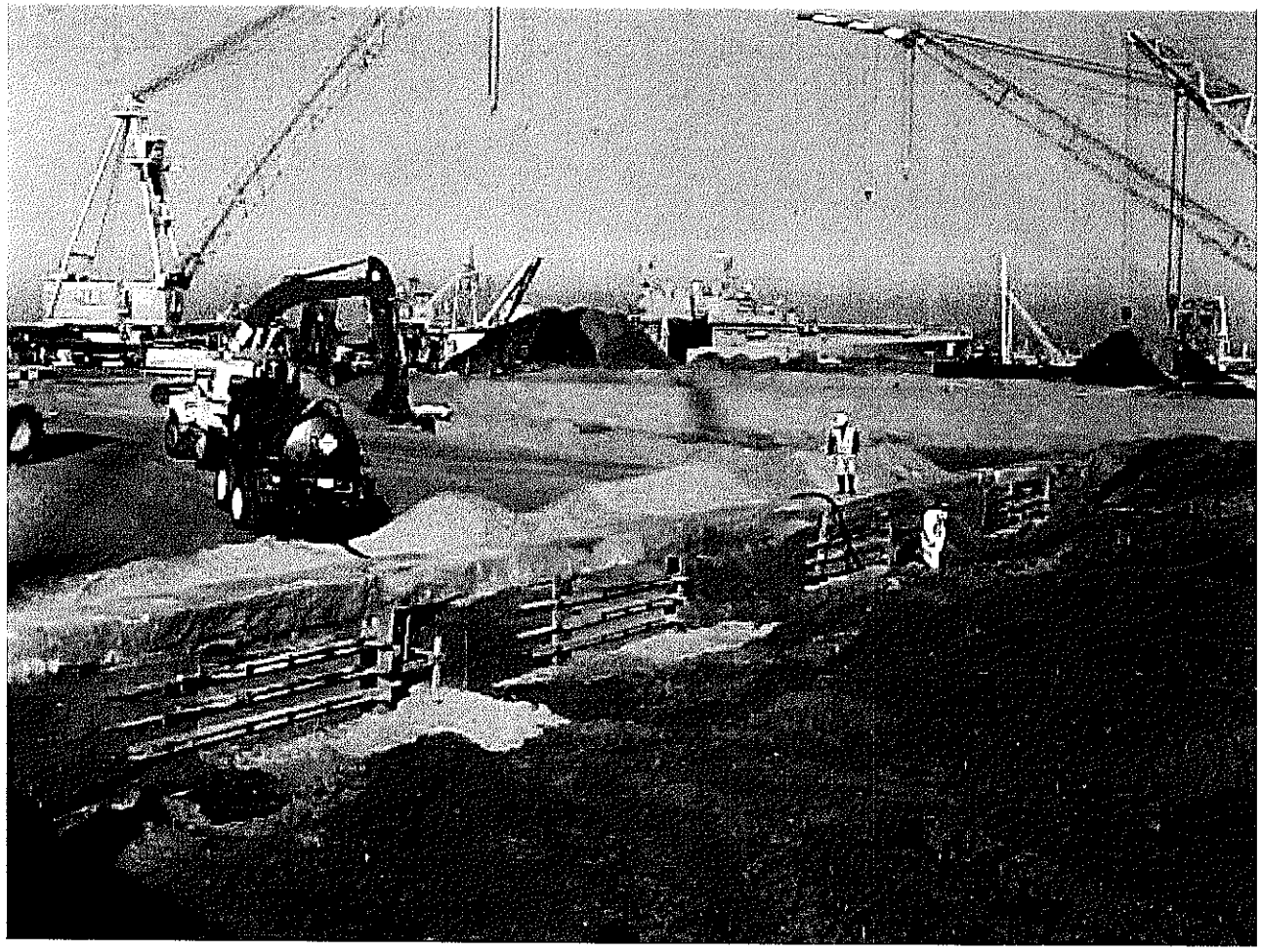
Phase 2B - Typical concurrent excavation and backfilling activities

Phase 2B - Looking north at excavation;
note the steam line (white) and air line (yellow);
this is a typical illustration of the manner in which the steam line and air line were backfilled using ballast rock for support



Phase 2B - Looking at soil stockpile;
note the front-end wheel loader was typically used to stack the soil on the stockpile in order to maximize storage capacity

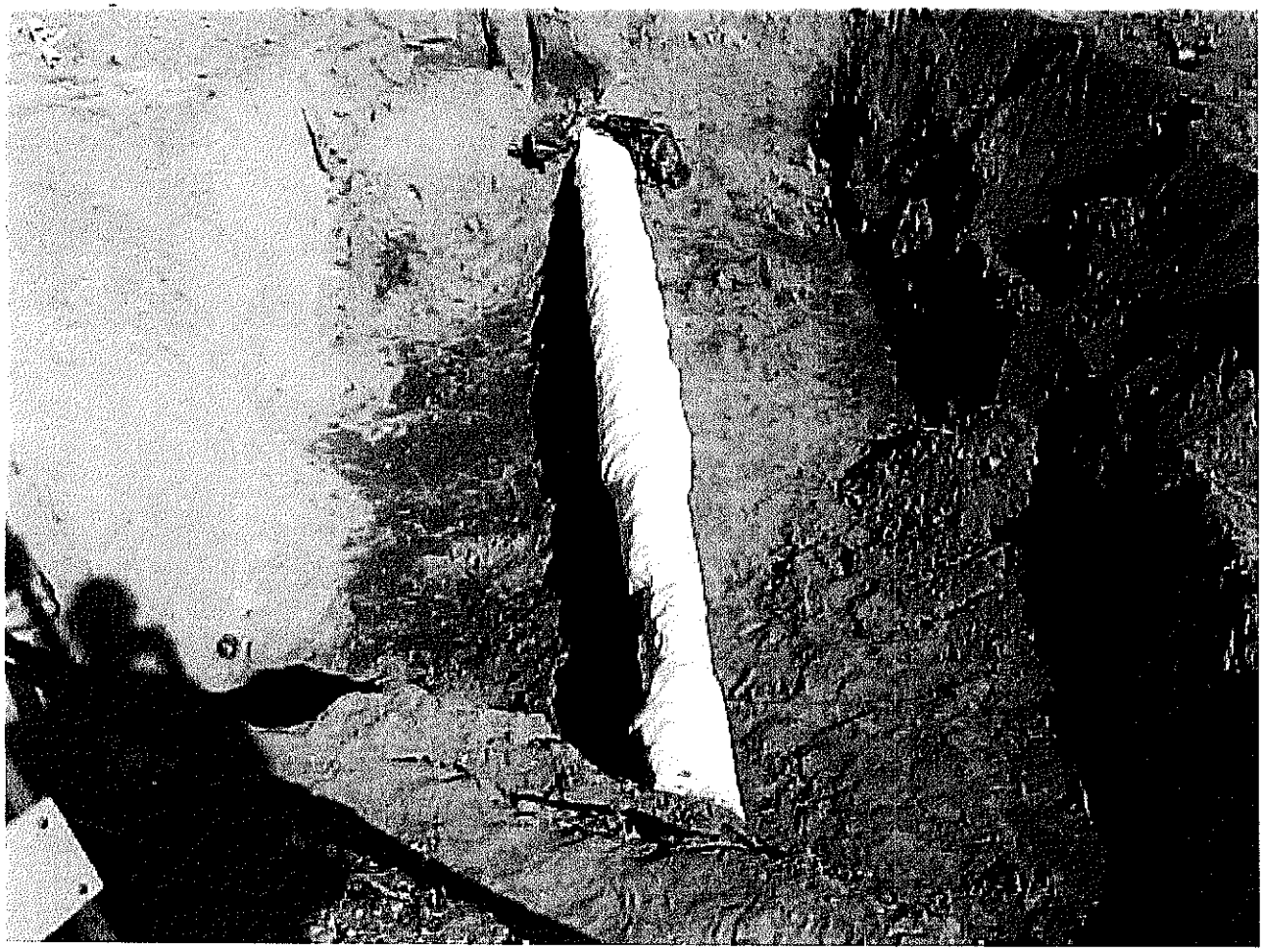
Phase 2B - Use of vacuum truck (not visible) to skim petroleum hydrocarbon-related free product from the groundwater table



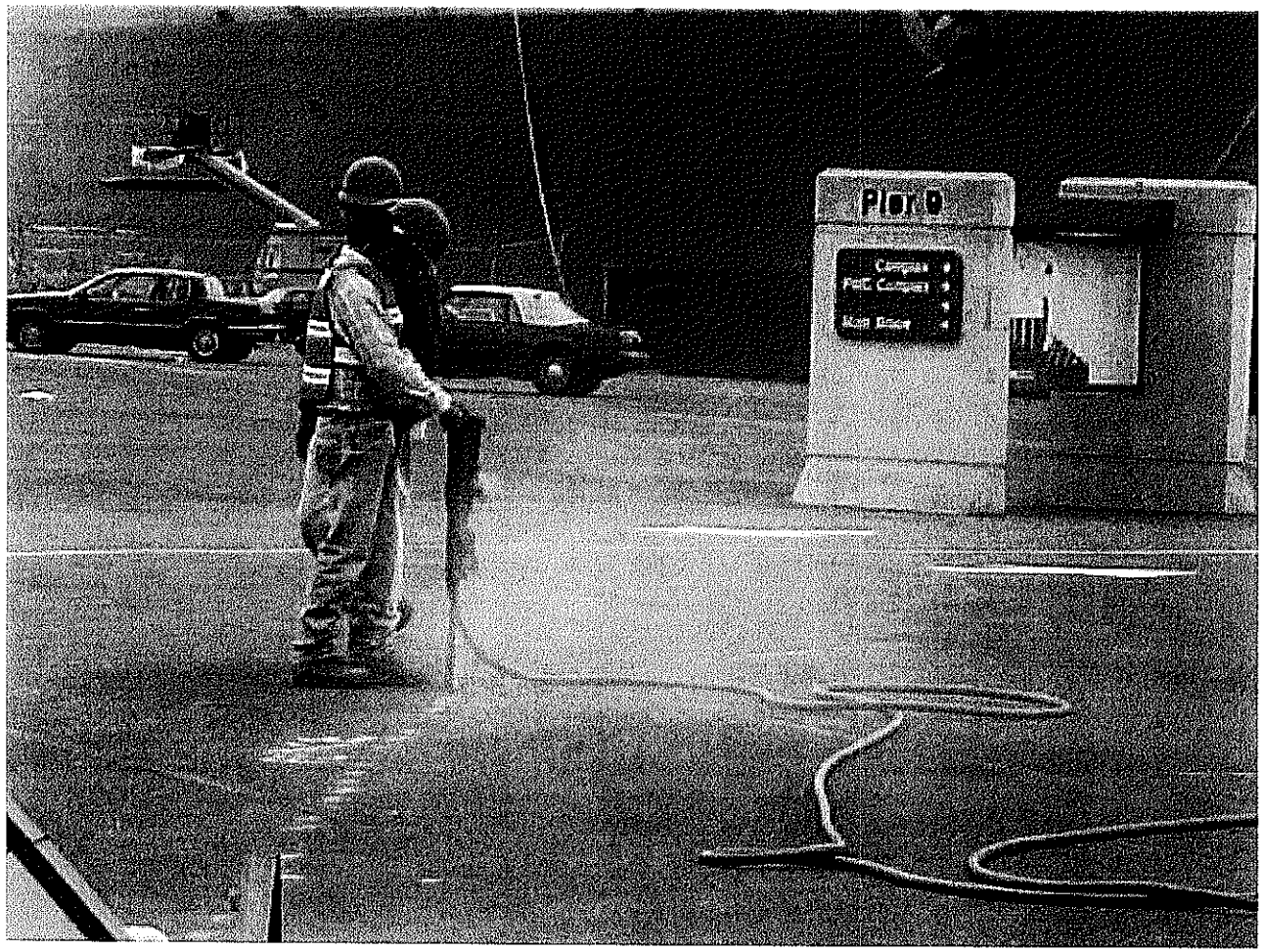
Phase 2B - Use of vacuum truck (green) to skim petroleum hydrocarbon-related free product from the groundwater table

Phase 2B - Typical methodology for collecting an equipment blank sample from a drive sampler used to collect soil samples; deionized water is poured through the sample tool and collected into a sample bottle placed below the tool

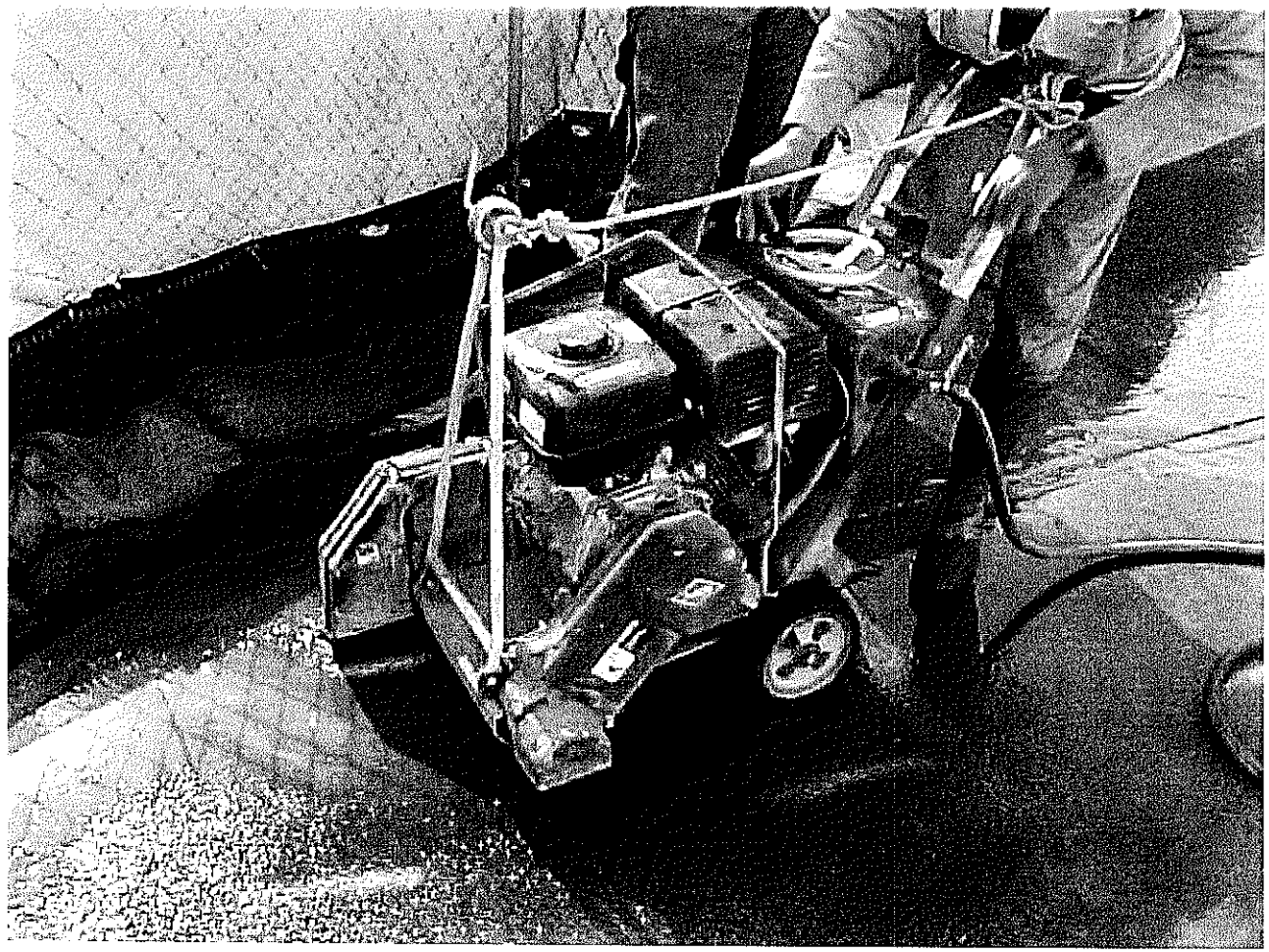
Phase 2B - Typical methodology for collecting an equipment blank sample from a drive sampler used to collect soil samples; deionized water is poured through the sample tool and collected into a sample bottle placed below the tool



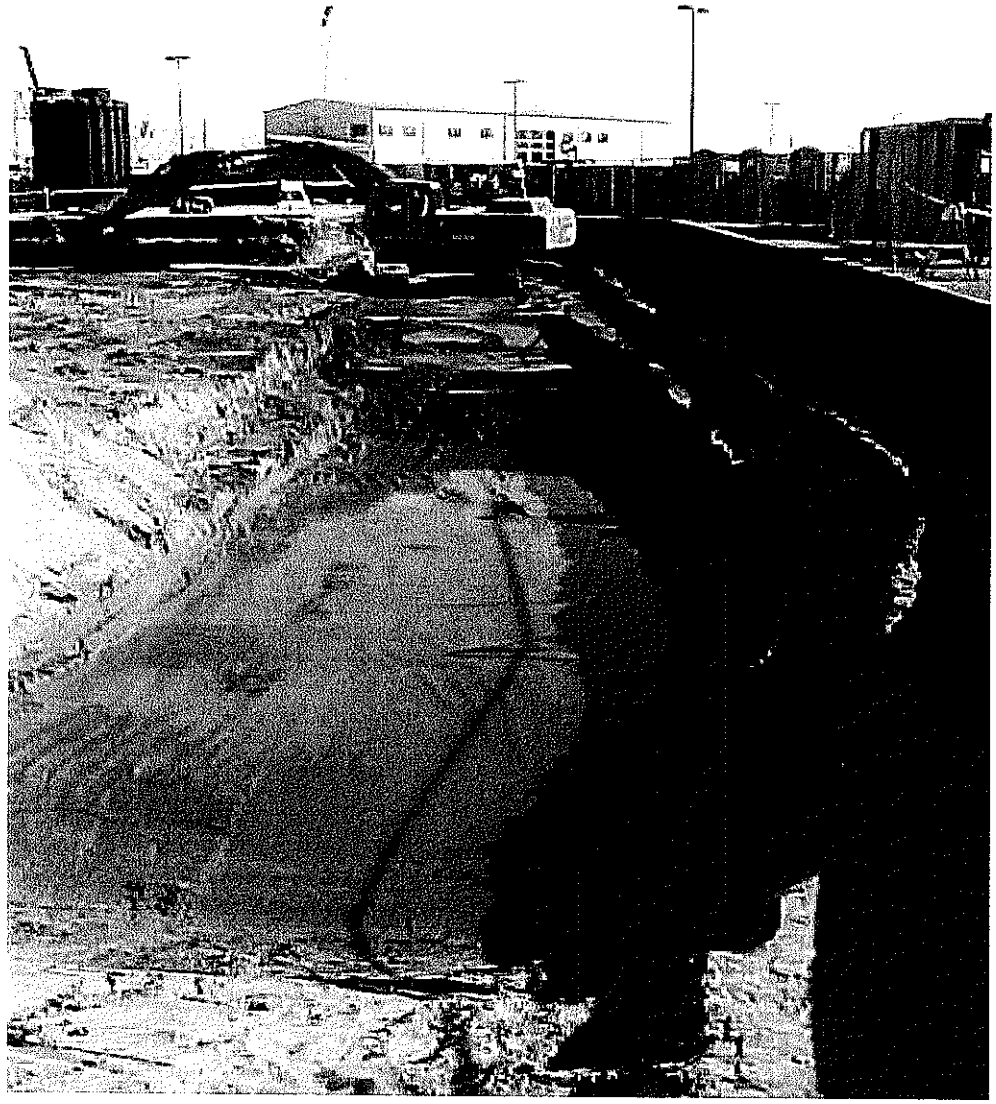
Phase 2B - Looking at steam line after encapsulation; all steam line was encapsulated using a cloth material and a wet plaster-like material which hardened overnight; the steam lines encountered during excavation typically were encased in asbestos in order to insulate the line; the steam line was encapsulated to prevent the asbestos from becoming an airborne respiratory hazard



Phase 3 - Use of a jackhammer to cut the asphalt in order to establish the limits of the excavation area



Phase 3 - Typical use of a concrete saw in order to establish the limits of the excavation area; a water hose is connected to the saw in order to keep the blade cool and suppress dust during cutting; note the typical temporary fence with privacy screen (light green),silt screen (black), and sandbags that were placed around the perimeter of the excavation

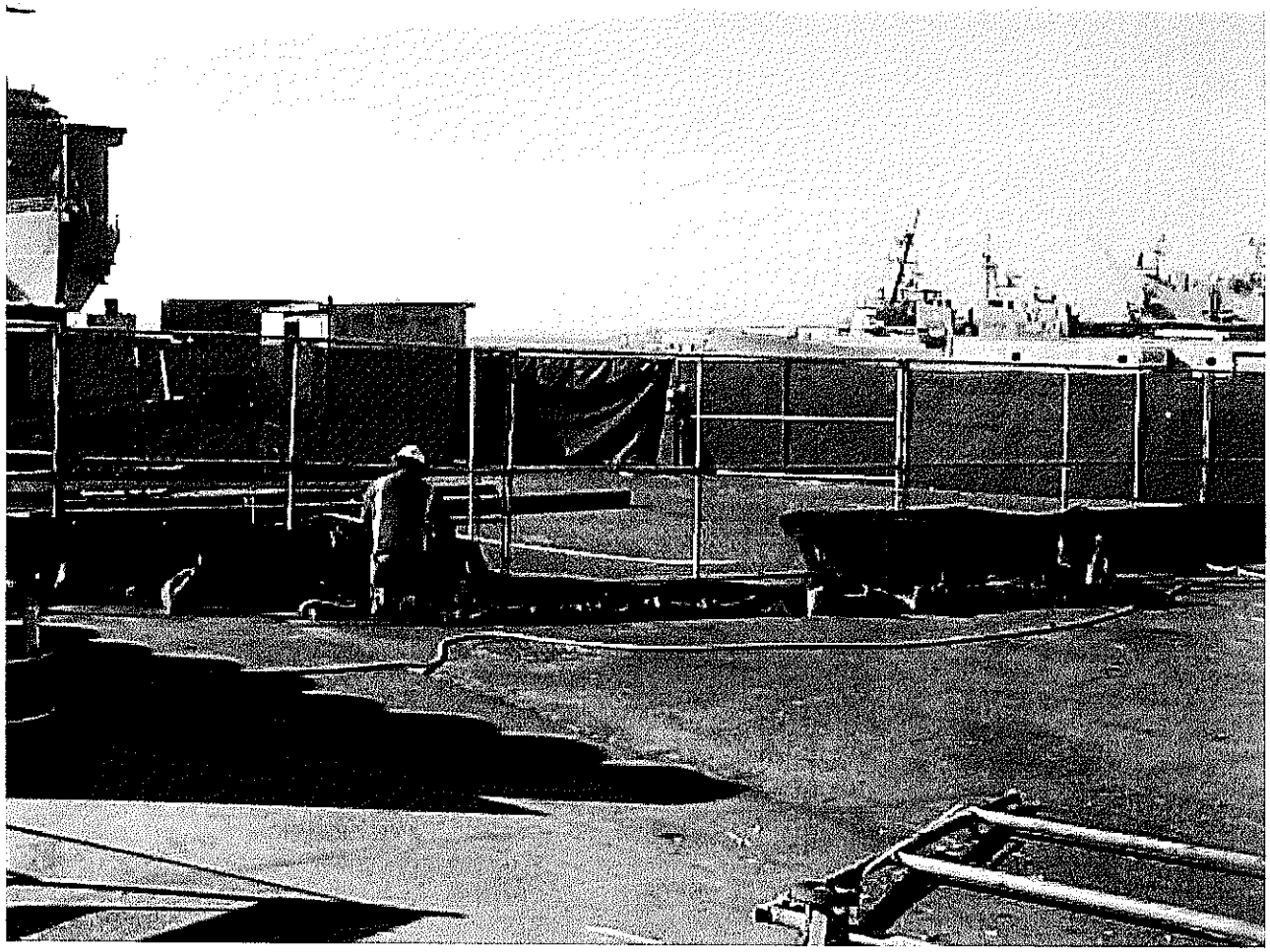


Phase 3 - Looking south with western-most limit of the excavation on the right of the photo; note the benched sidewall; note that the consolidated divers unit building is visible in the top center of the photo

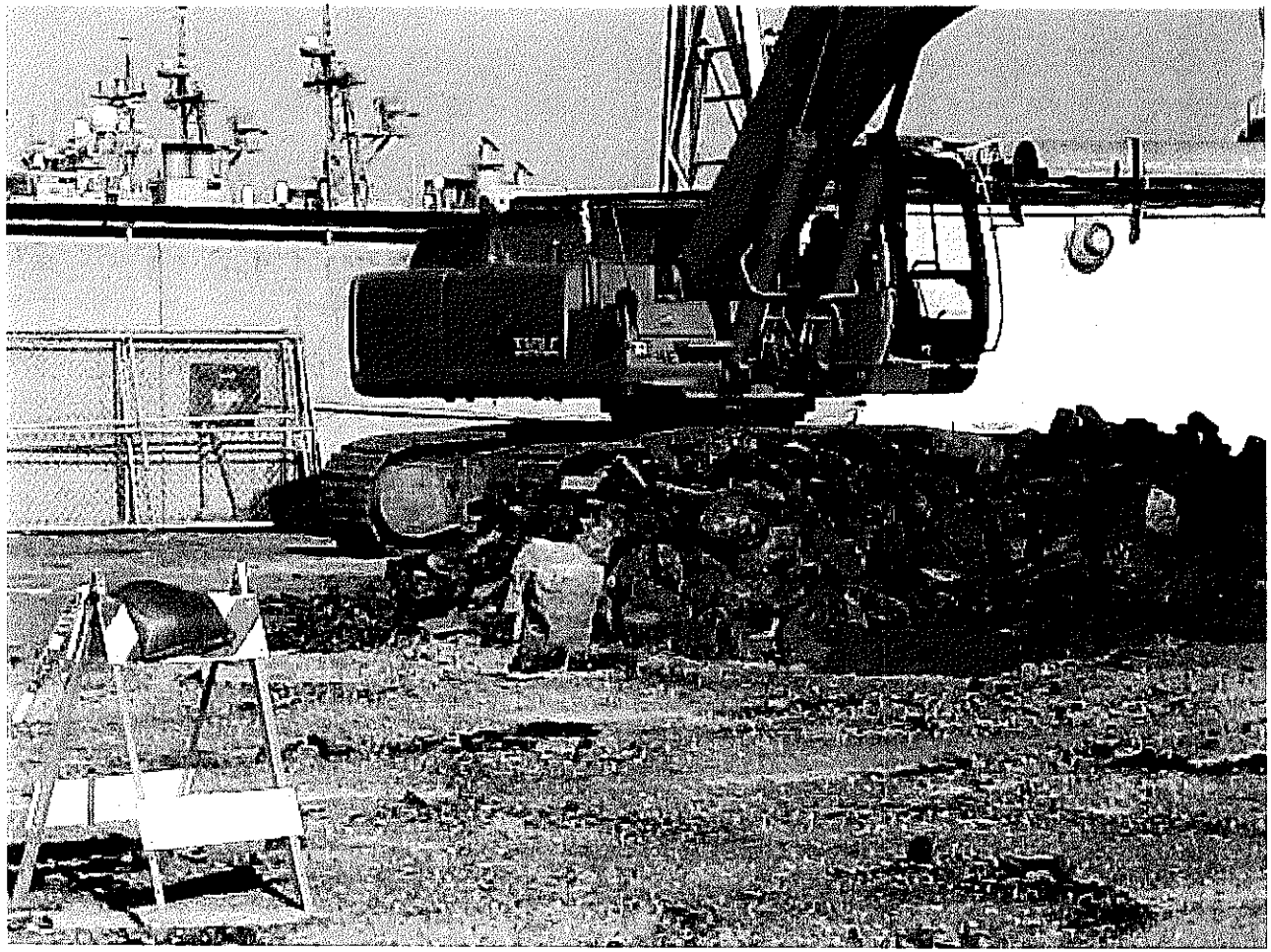
Phase 3 - Looking south with western-most limit of the excavation on the right of the photo; note the benched sidewall; note that the consolidated divers unit building is visible in the top right of the photo; note the booms used to contain the petroleum hydrocarbon-related free product present on the groundwater table

Phase 3 - Looking east with the southern-most limit of the excavation on the right of the photo;note that Building 334 is visible in the top center of the photo; note the street lights along Mole Road are visible just to the right of Building 334

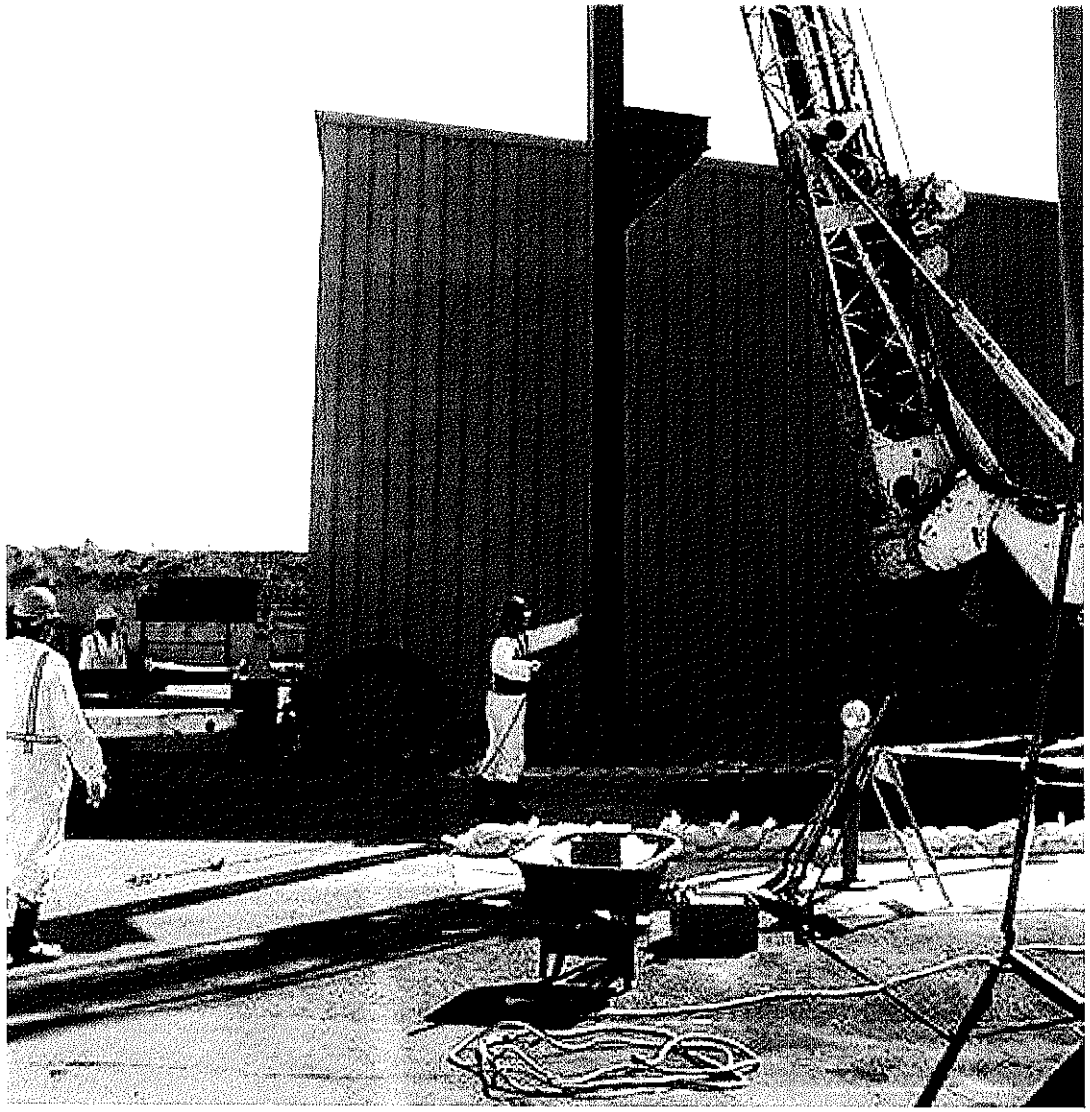
Phase 3 - Looking south; the area to the left of the utility bank (person is standing on top) is being excavated; the area to the right of the utility bank has been excavated and partially backfilled; a vacuum truck is skimming free-product from the groundwater table; note the consolidated divers unit building is visible in the top center of the photo



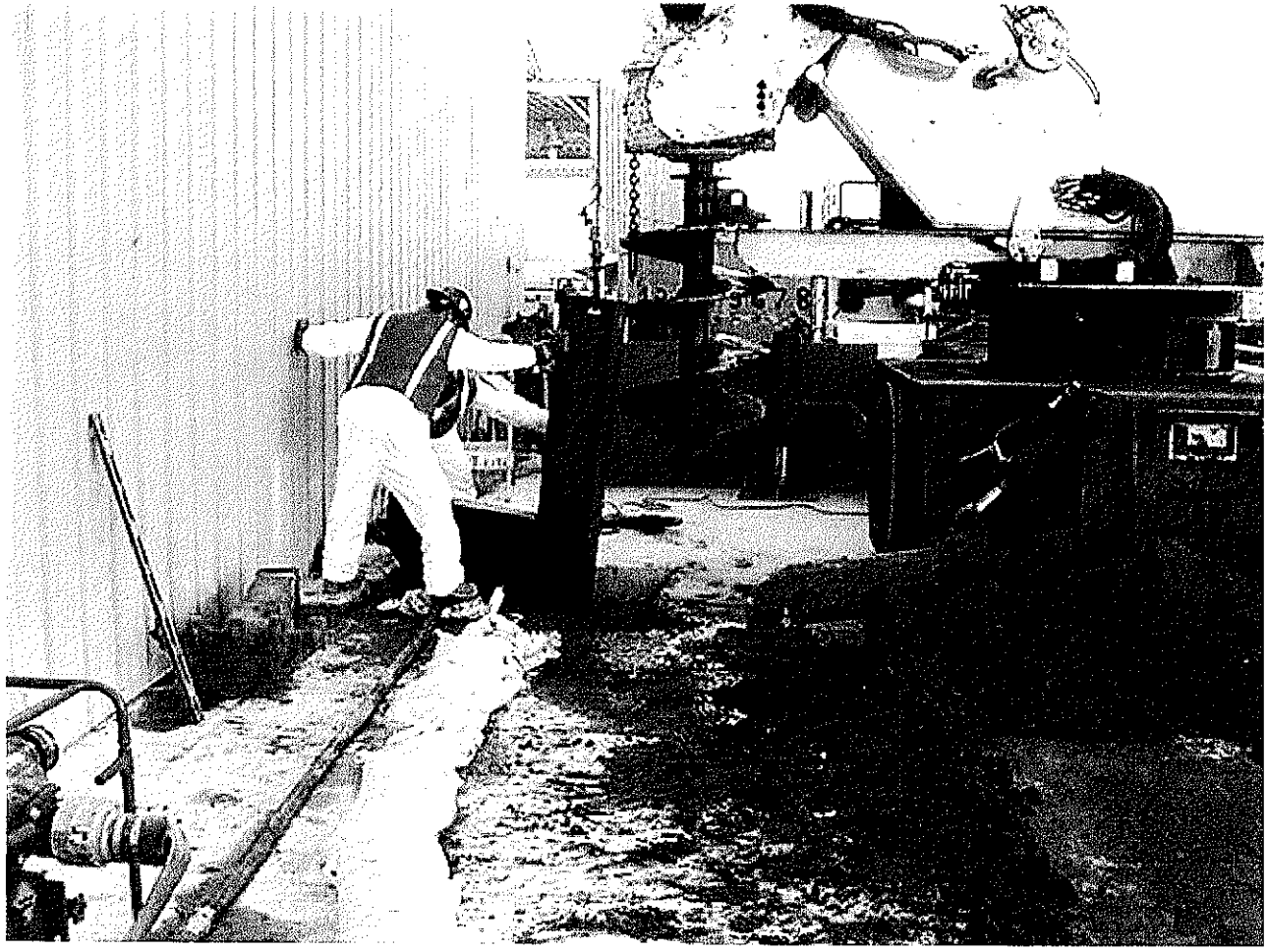
Phase 5 - Typical setup of temporary fence that was placed around the perimeter of the excavation; privacy screen was then added along with silt screen (black) and sandbags; note the area to be saw cut is visible across the bottom of the photo (orange painted line)



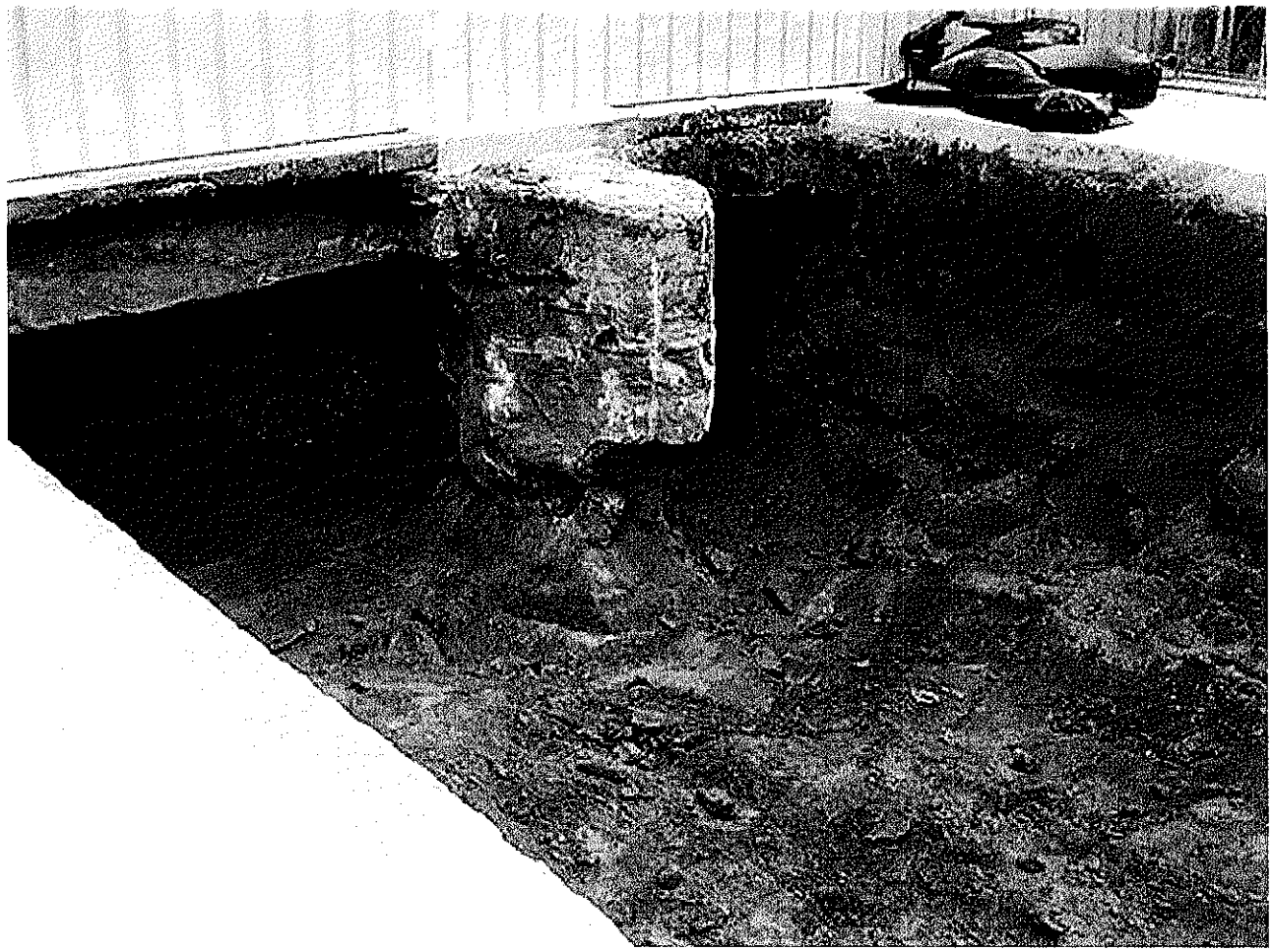
Phase 5 - Typical demolition of asphalt over the area to be excavated; asphalt was pulled up using an excavator and loaded into a rock truck for transportation to the soil stockpile area where the material was then staged in its own pile for later transport off site for recycling



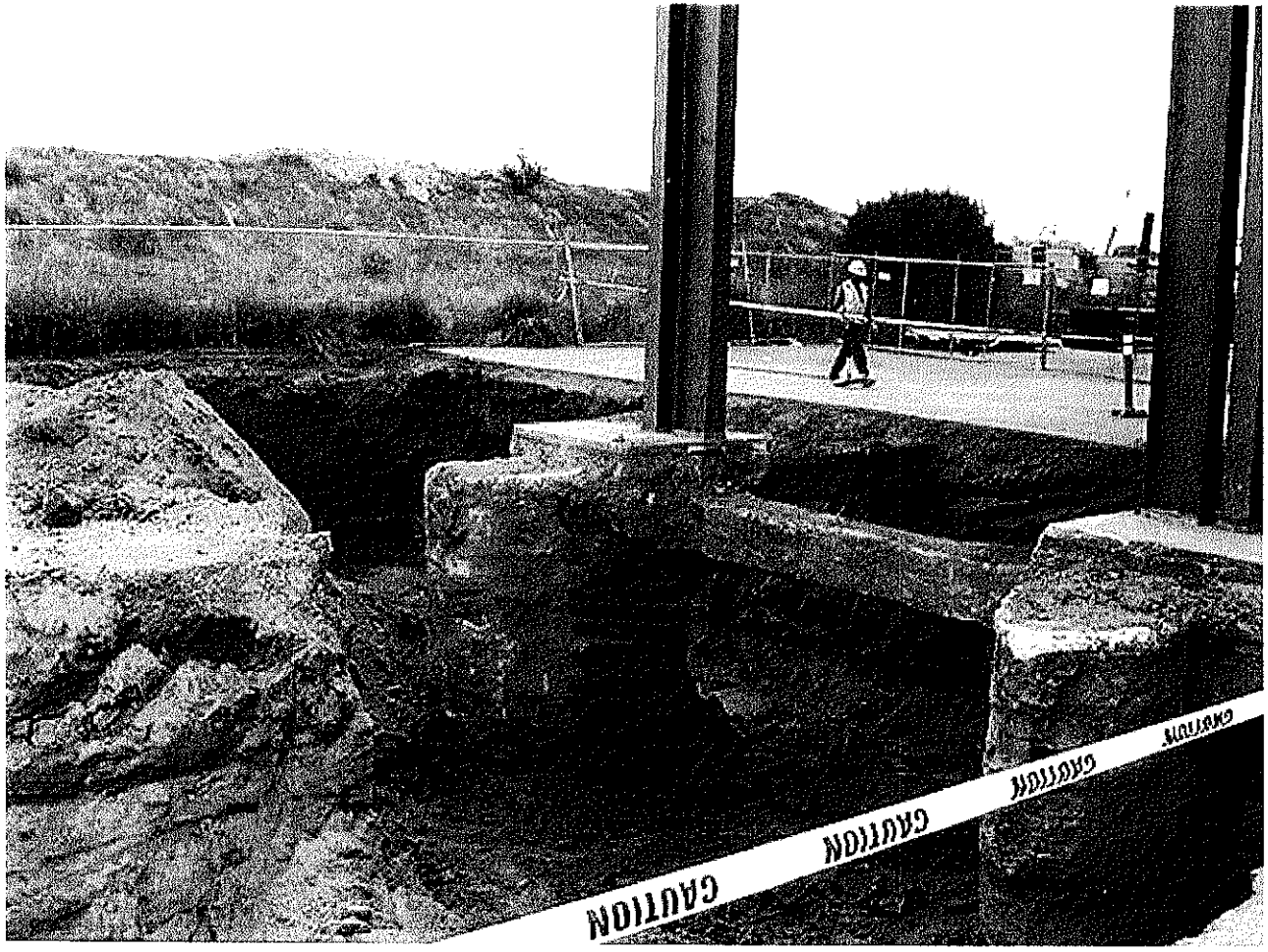
Phase 6 - Shoring for welders canopy; installation of “I” beam with corbel arm



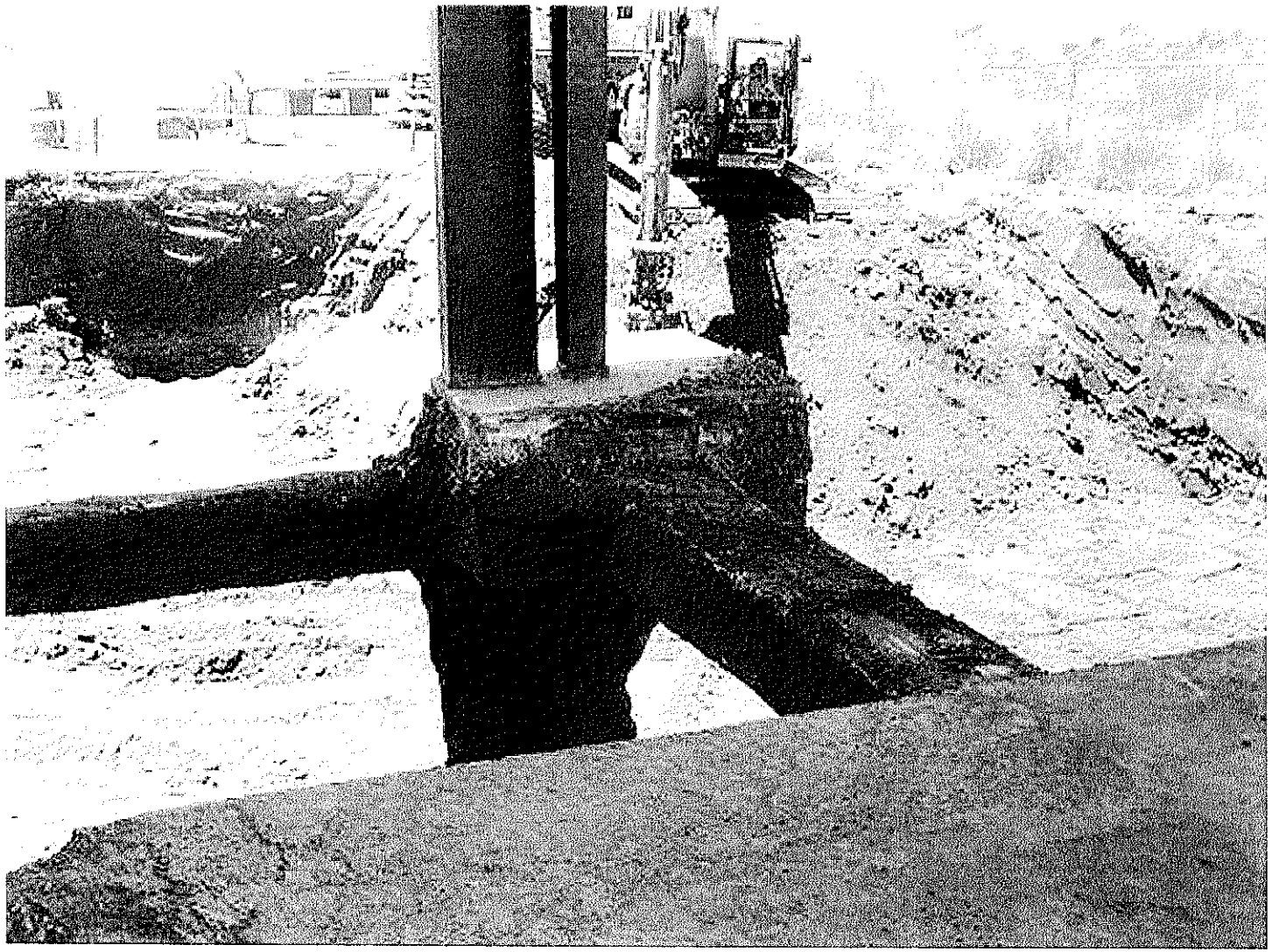
Phase 6 - Shoring for welders canopy; installation of "I" beam with corbel arm



Phase 6 - Caisson ("I" beam with corbel arm encased in concrete) supporting welders canopy after contaminated soil was removed

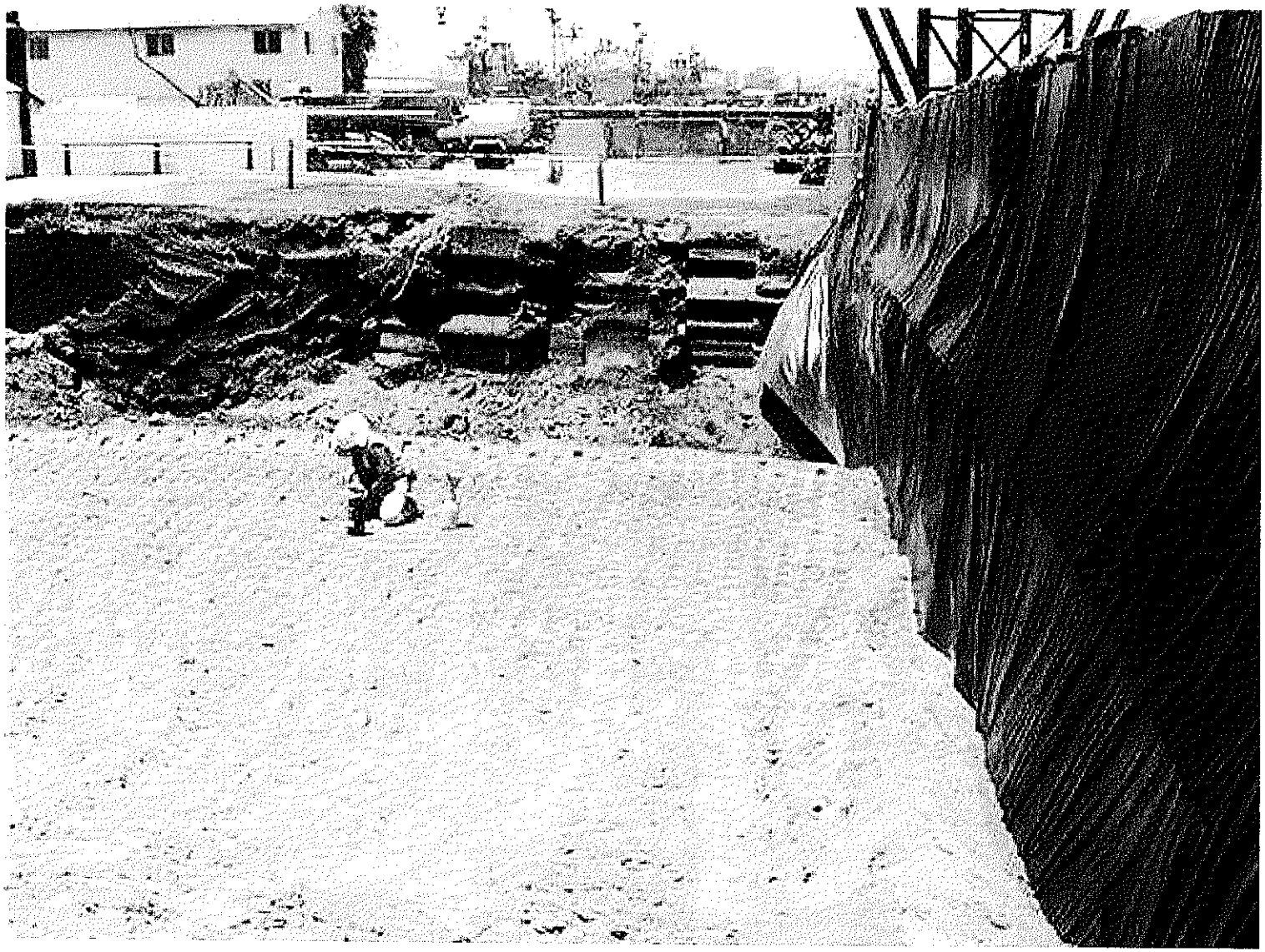


Phase 6 - Caissons ("I" beam with corbel arm encased in concrete) supporting welders canopy in two places after contaminated soil was removed



Phase 6 - Caisson ("I" beam with corbel arm encased in concrete) supporting welders canopy after contaminated soil was removed; note excavator is continuing to dig excavation C-5

Phase 6 - Caisson ("I" beam with corbel arm encased in concrete) supporting welders canopy after contaminated soil was removed; excavation C-5 complete; note ponding groundwater on excavation floor and polyethylene-lined sidewall (vertical) on left side of photo; also note beginning to backfill excavation with ballast rock

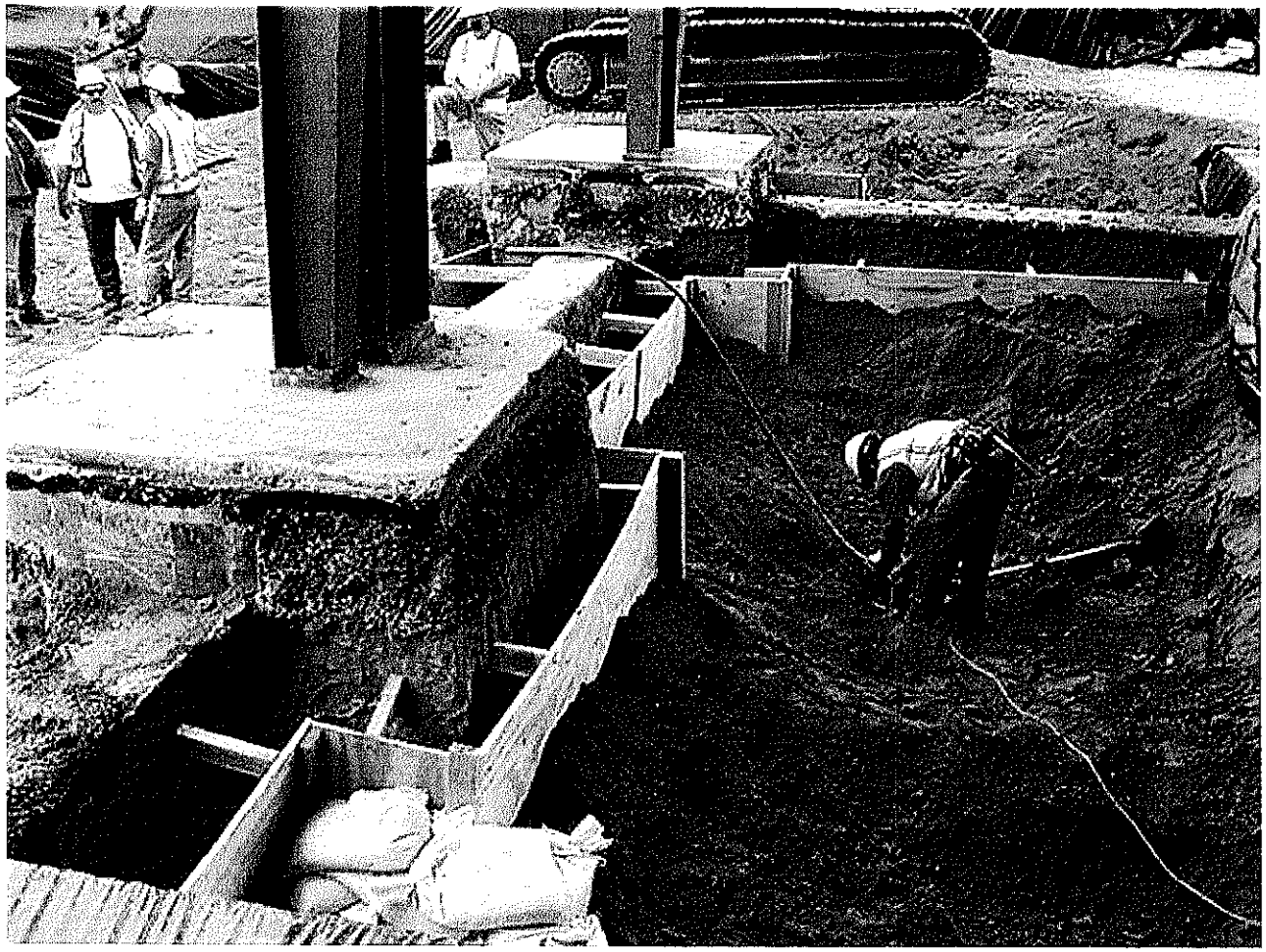


Phase 6 - Looking north from east side of welders canopy;
note compaction testing of backfilled excavation; note polyethylene-lined vertical sidewall on right of photo

Phase 6 - Looking northeast from north side of welders canopy;
note the backfilled area to the right of the water is excavation C-5;
note that the soil yet to be removed to the left of the water is the CST excavation;
note the polyethylene-lined sidewall

Phase 6 - Looking east at west side of Former Building 3252 prior to demolition

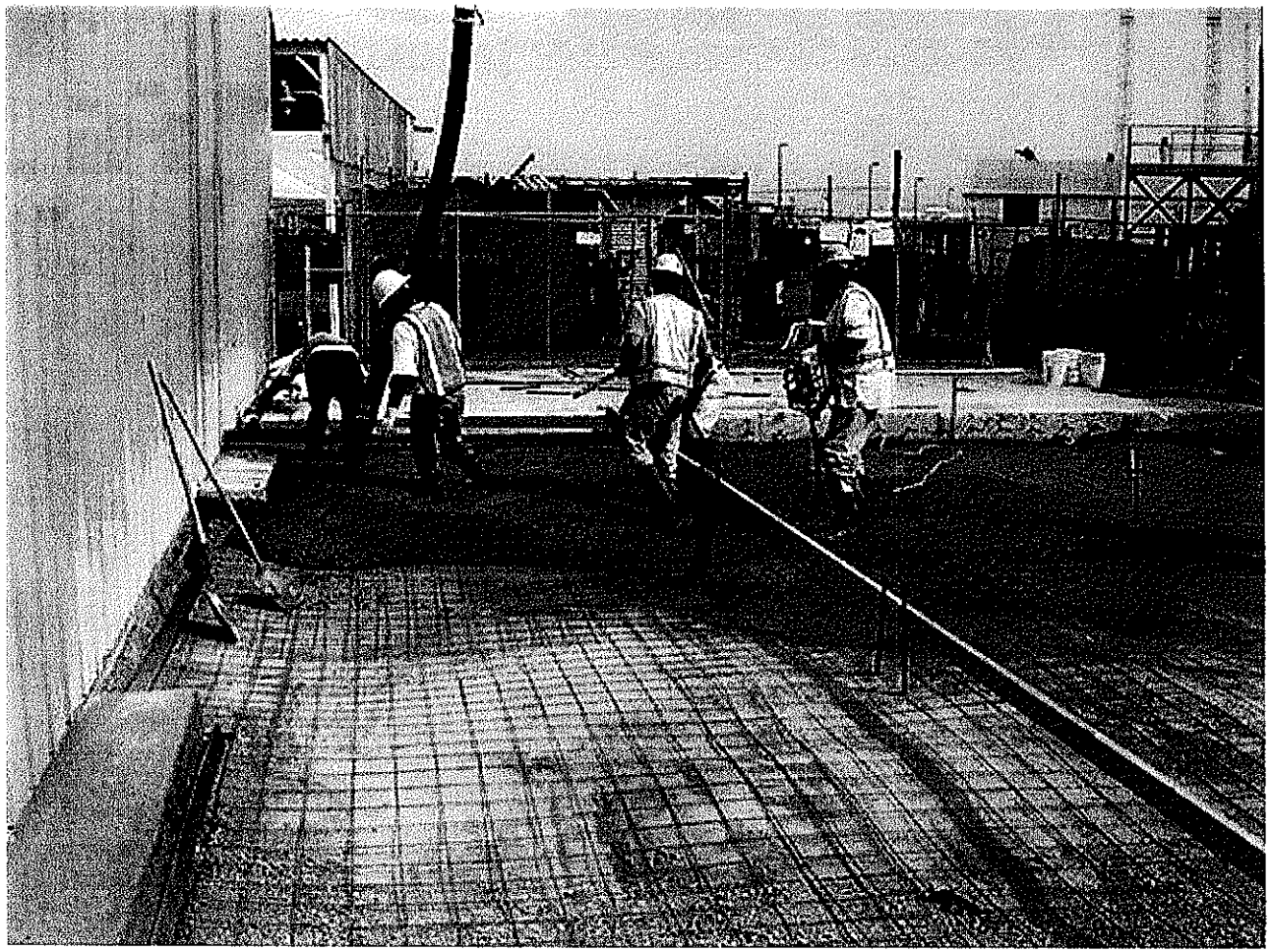
Phase 6 - Looking southeast at welders canopy during backfill with fill sand; note dozer in upper left of photo used to push backfill material into place; note polyethylene-lined sidewalls; note water used for dust suppression and to maintain optimum moisture content of fill sand during compaction



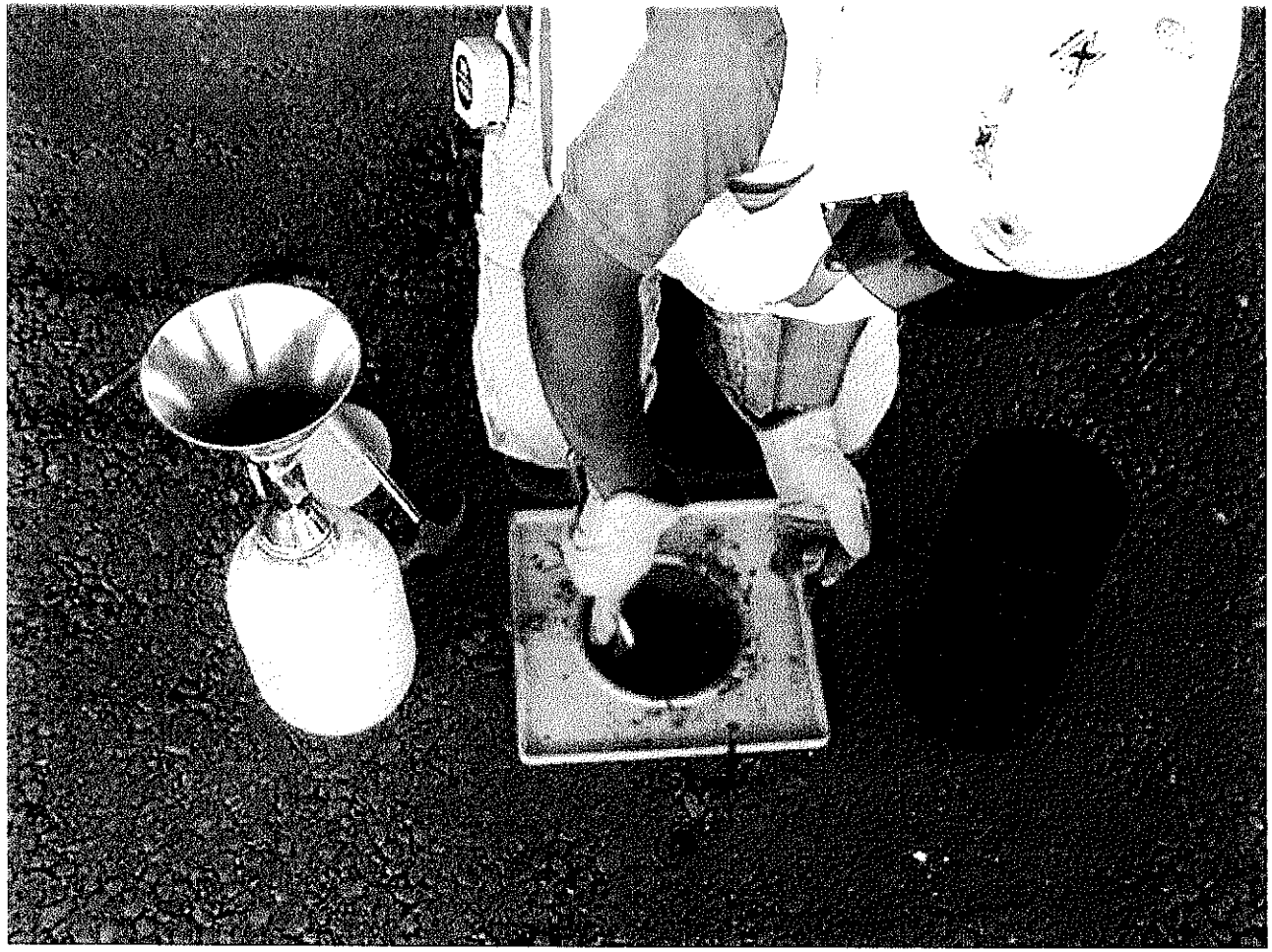
Phase 6 - Preparing to backfill under welders canopy grade beams with control density fill (CDF); note the plywood forms to be used to contain the CDF as it cures

Phase 6 - Control density fill (CDF) backfilled under welders canopy gradebeams; note the plywood forms used to contain the CDF as it cures

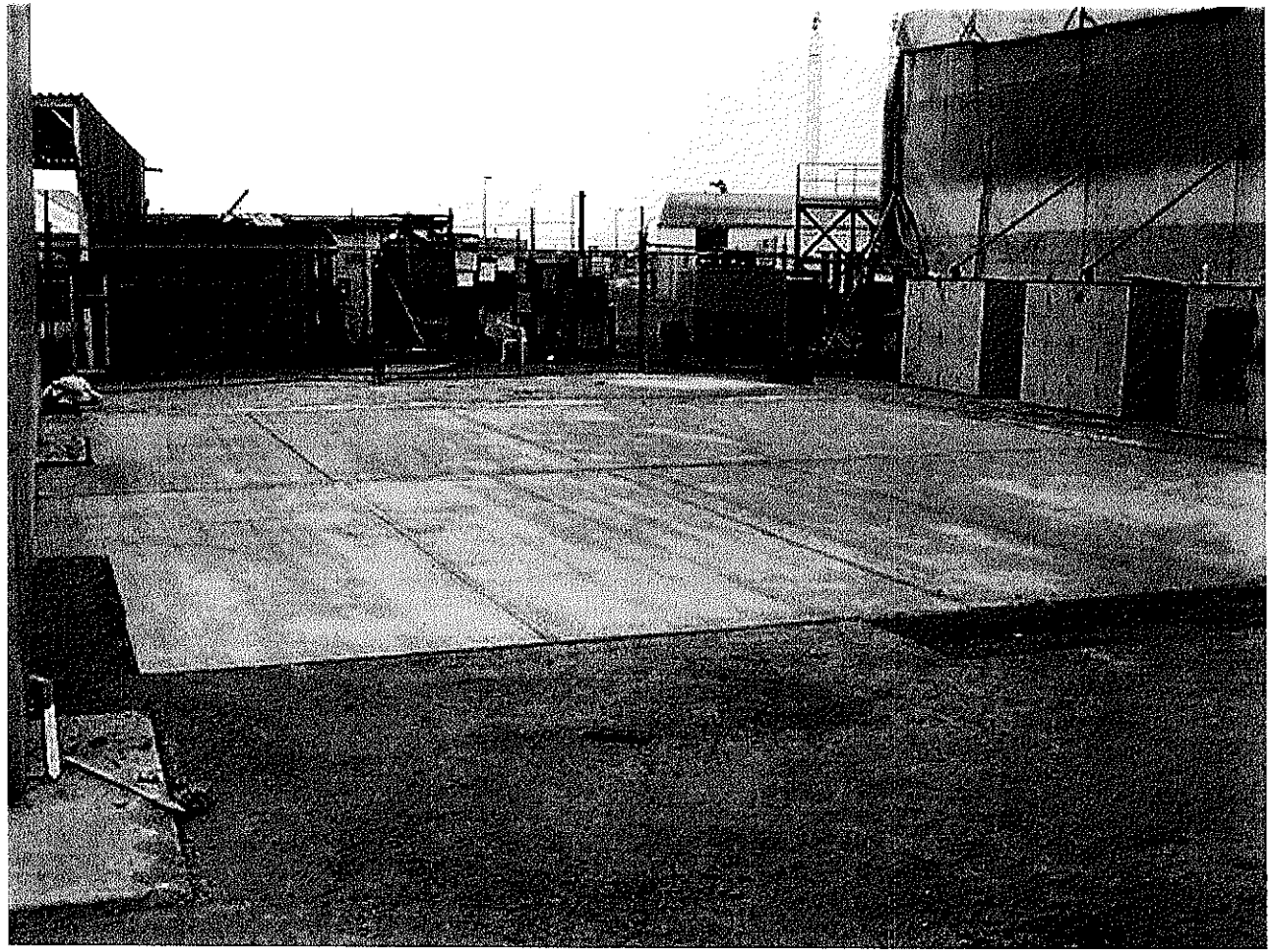
Phase 6 - Cured control density fill under welders canopy grade beams;
note the plywood forms used to contain the CDF as it cures have been removed



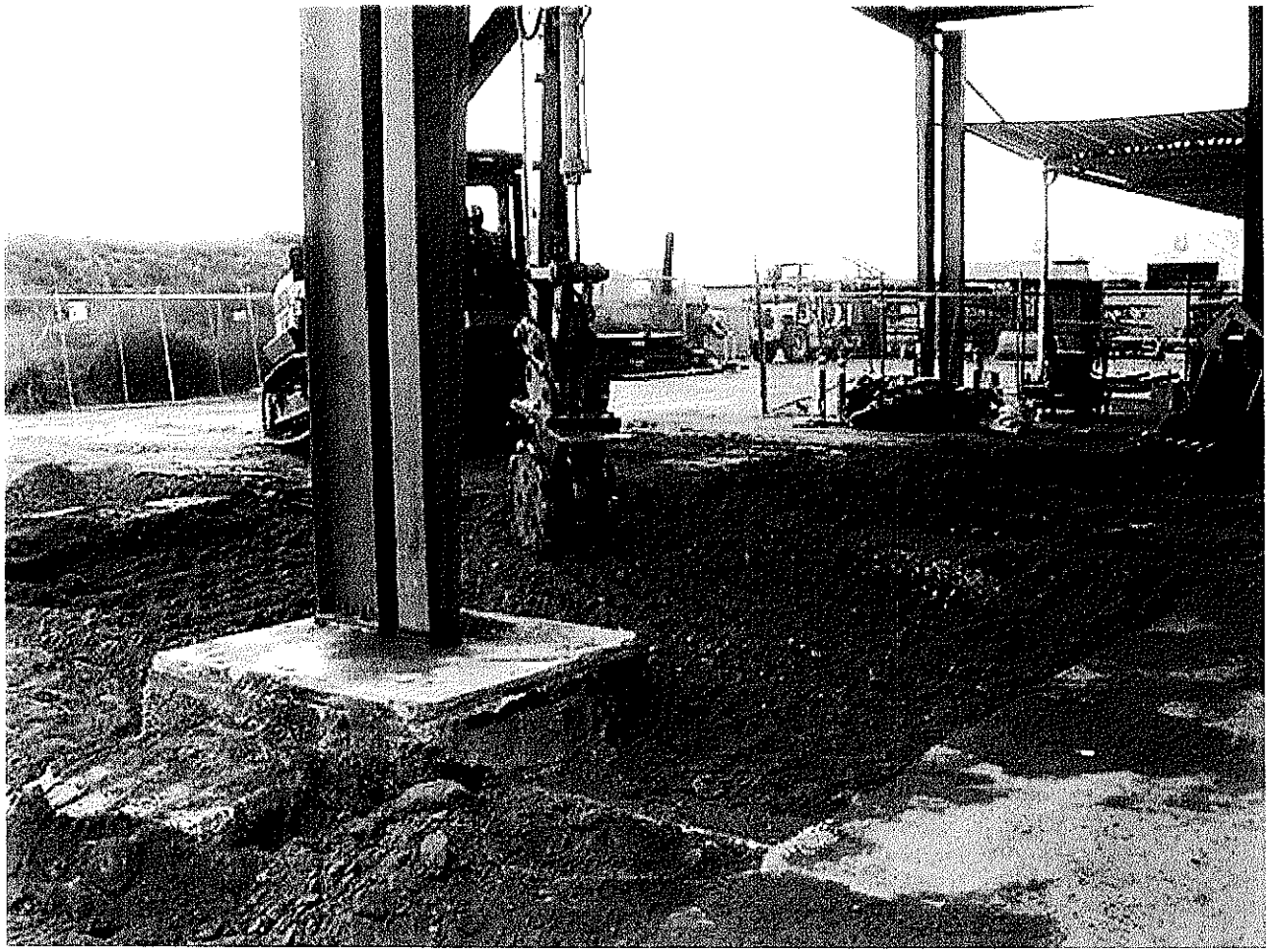
Phase 6 - Looking south along west side of welders canopy; pouring new concrete pad



Phase 6 - Compaction testing of backfill material (FS-15);
shown is geotechnical personnel performing a typical sand cone test



Phase 6 - Looking south along west side of welders canopy; new concrete pad



Phase 6 - Compacting fill sand with sheeps-foot roller attached to the excavator

Phase 6 - Looking east from north side of welders canopy; placing and rough grading of the crushed aggregate base prior to placement of asphalt

Phase 6 - Looking south at backfilled portion of excavation C-5 with asphalt freshly placed; note this area was now ready to be turned over to the welders for use; note fence installed along slope for welders safety

Phase 6 - Looking southeast at backfilled portion of excavation C-5 with asphalt freshly placed; note this area was now ready to be turned over to the welders for use; note fence installed along slope for welders safety

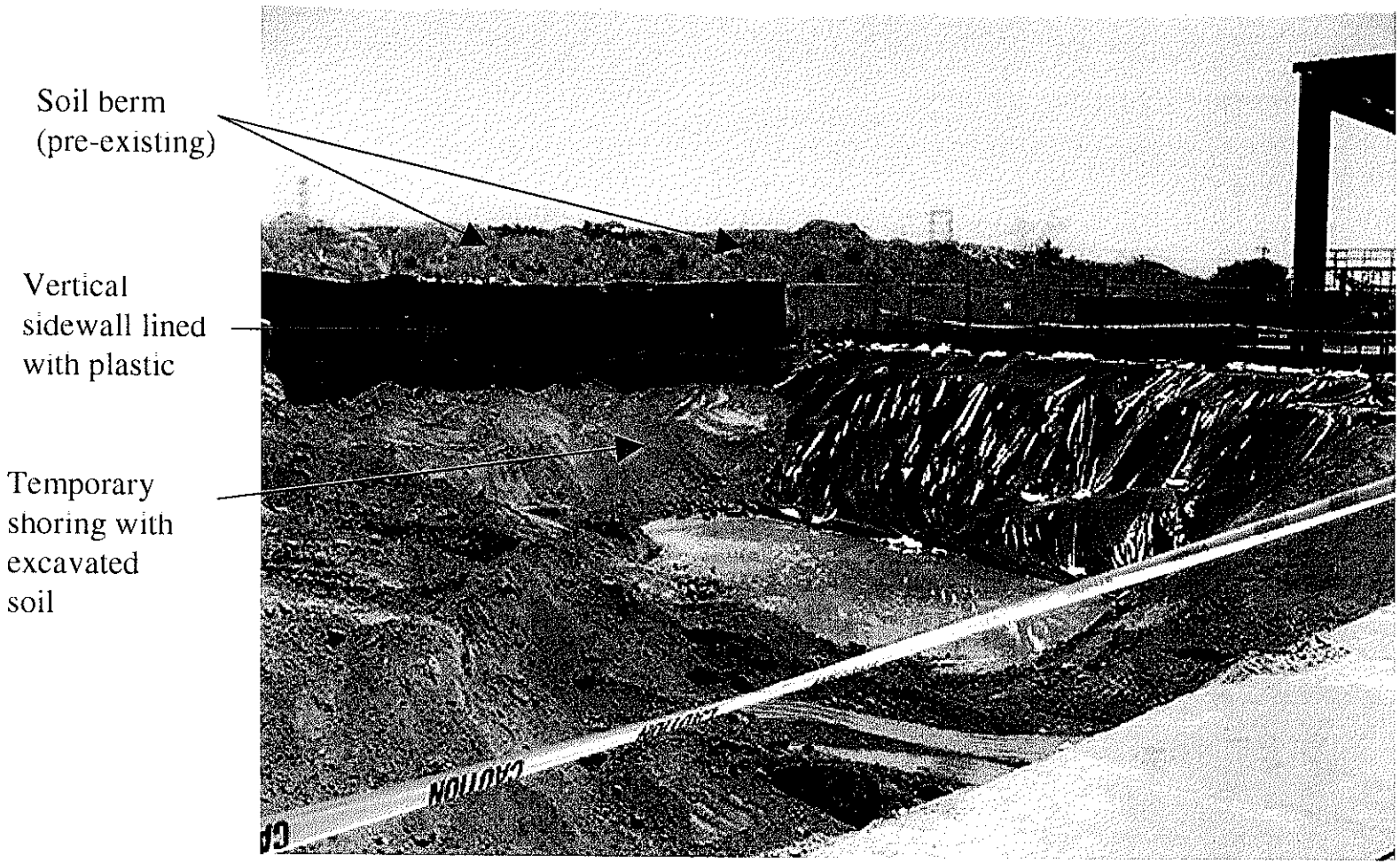
Phase 7 - Looking southwest at backfilled portion of excavation C-5, now covered with polyethylene liner to protect clean backfill from air-borne contaminants associated with sand blasting operations

Phase 7 - Looking north from north side of welders canopy at beginning of work in CST area; note demolition of concrete footings associated with former building in the area; large concrete hammer (7000 psi) being used with excavator to break concrete

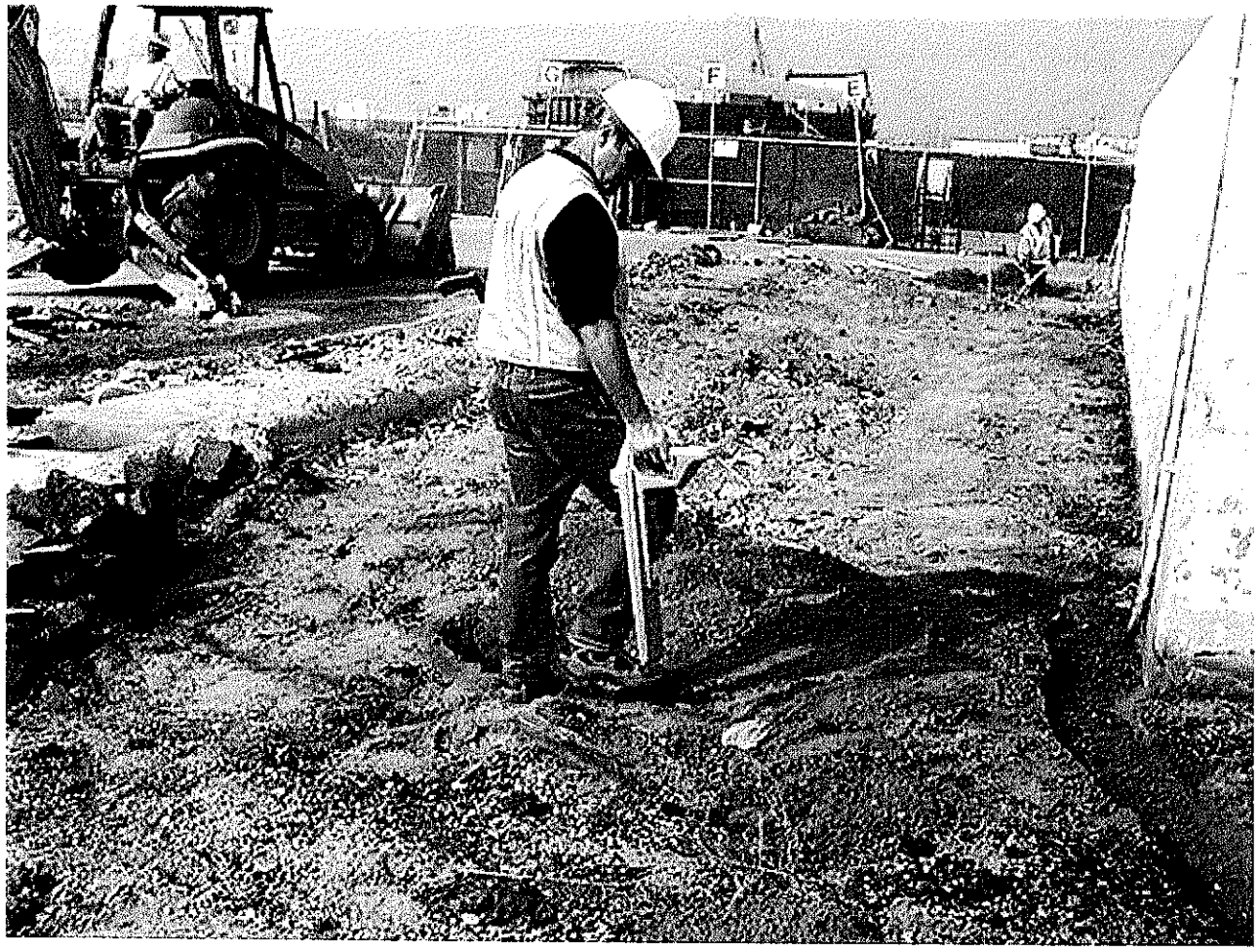
Phase 7 - Radiological survey being performed on excavated soil in the stockpile area; the soil is spread into 6-inch-thick layers prior to surveying; the technician on the right is scanning the soil with the radiological survey instrument; the technician on the left is writing down the values displayed on the instrument as the other technician calls them out

Phase 7 - Looking north from north side of welders canopy at beginning of excavating in CST area; note excavator removes the contaminated soil and loads it into the rock truck located in the upper right corner of the photo; the soil is then transported to the soil stockpile area

Phase 7 - Typical photo of contaminated soil being dumped in the soil stockpile area by the rock truck after transportation of the soil from the excavation area

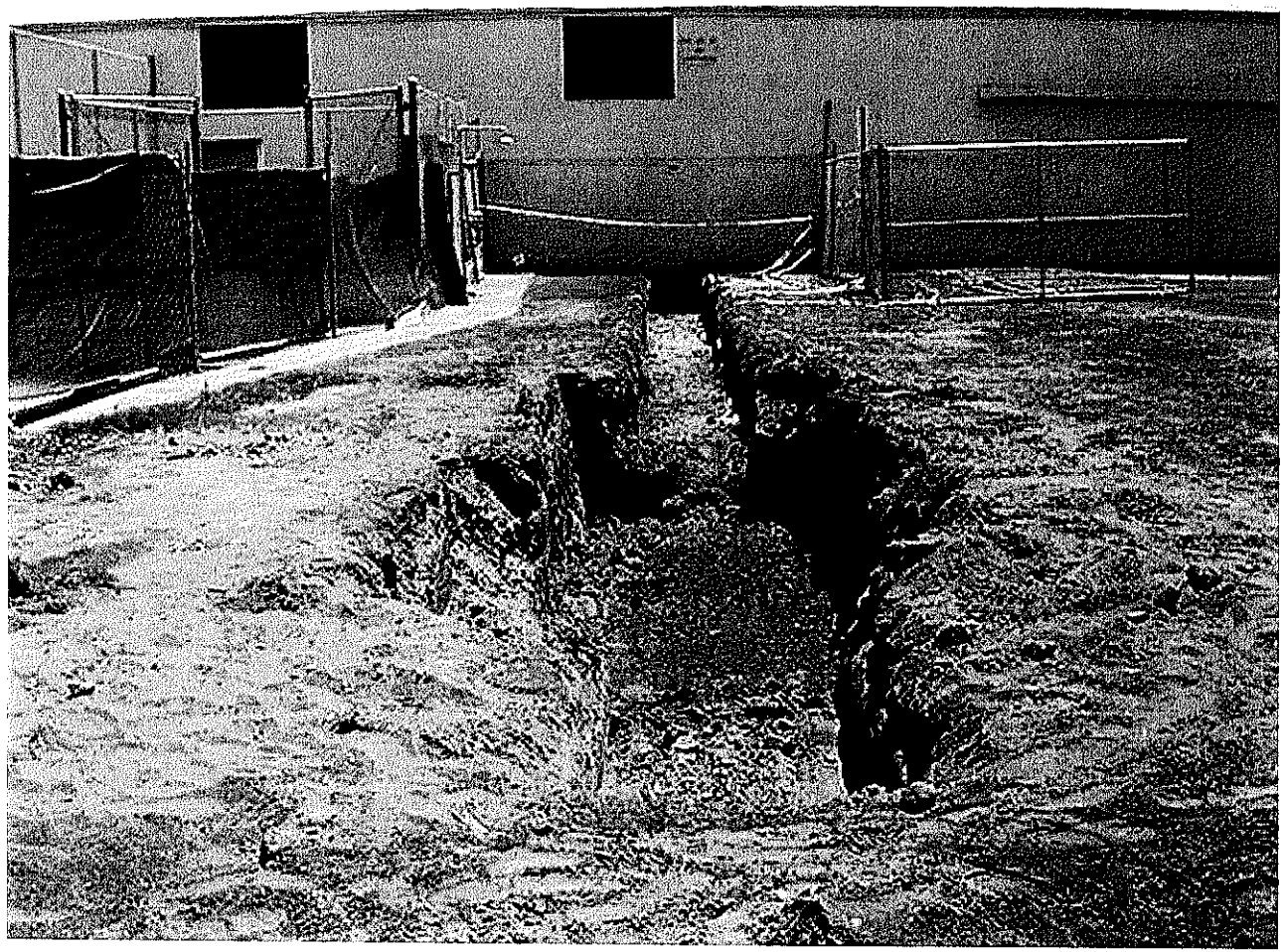


Phase 7 - Looking southeast from CST area at backfilled excavation C-5 (covered with plastic); note the vertical sidewall that was lined with polyethylene liner has been temporarily shored with excavated soil due to concerns of potential spawling from the surcharge loading associated with the soil berm

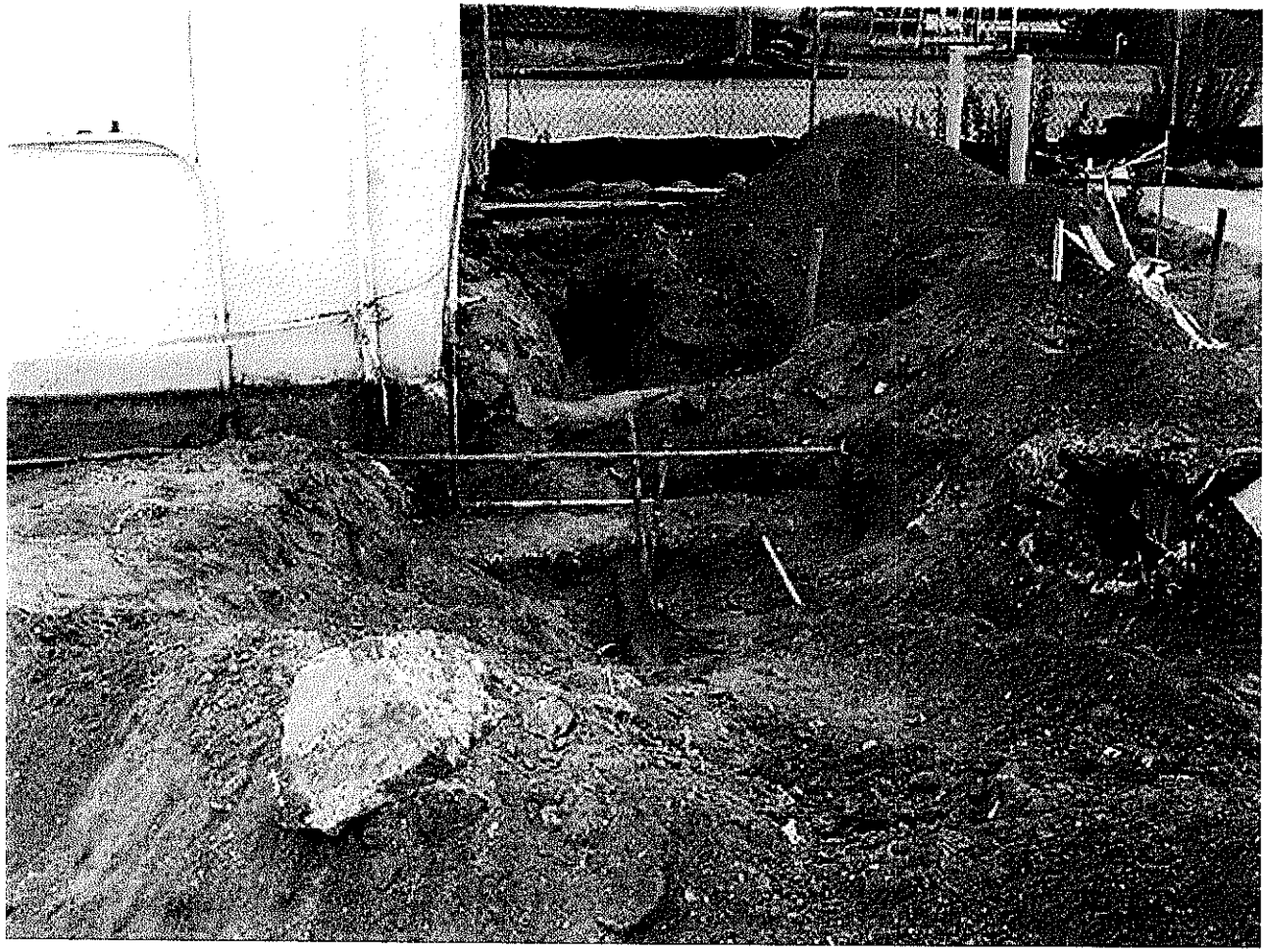


Phase 7 - Looking west along south wall of electrical substation (right side of photo) that is adjacent to Building 198; note technician is performing a geophysical survey in an attempt to locate buried utilities

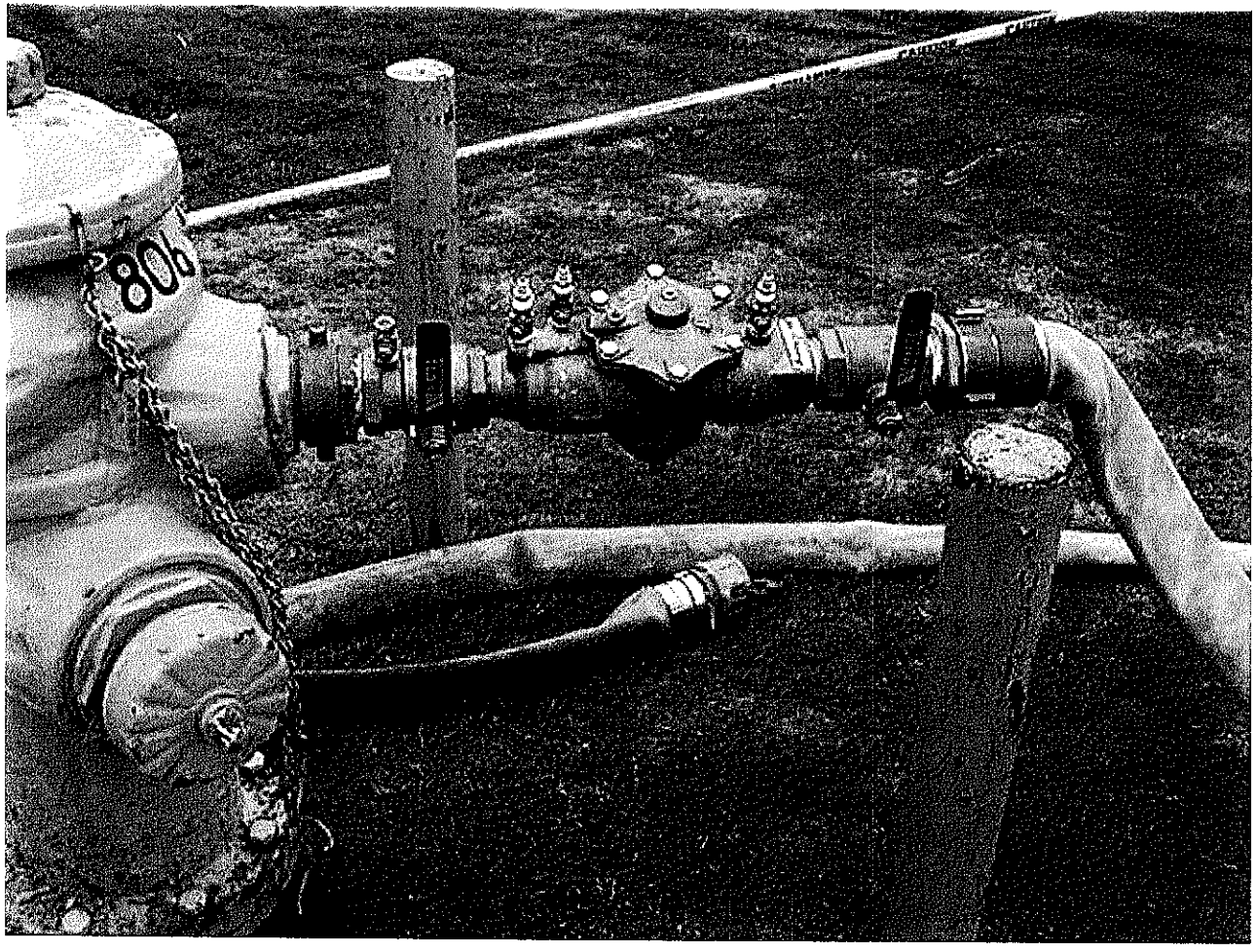
Phase 7 - Looking east from backfilled excavation C-5; note the vertical sidewall that was temporarily shored with excavated soil due to concerns of potential spawling from the surcharge loading associated with the soil berm; note that the excavated soil has now been replaced with ballast rock



Phase 7 - Looking south at footing dug for masonry wall to be constructed by the Seabees; note that the north side of Building 334 is visible at the top of the photo



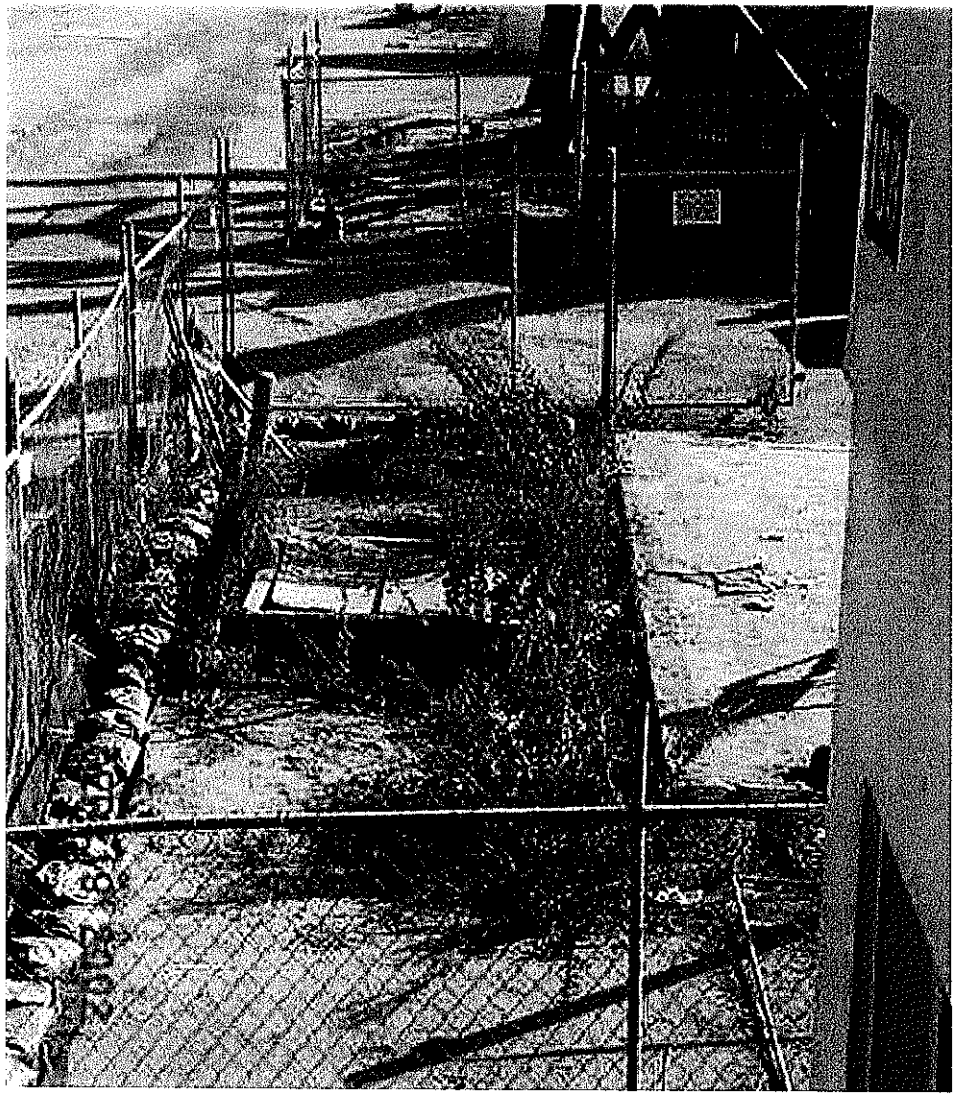
Phase 7 - Looking north at southeast corner of Building 198;
note the large quantity of undocumented subsurface utilities that were present



Phase 7 - Backflow preventer on fire hydrant; this backflow preventer was used whenever the hydrant was in use (e.g. to fill the water truck, etc.); note the backflow preventer was tested and certified as functioning properly

Phase 7 - Electrical bank that fed the welders area; note the very poor condition of the concrete (i.e. sagging, cracked, etc.); note this electrical bank was temporarily rerouted around the excavation; rerouting the bank was chosen as the most cost-effective solution rather than attempting to continue to shore the bank while removing the soil beneath it

Phase 7 - Survey technician performing a topographical survey to provide data in order to develop a future grading & paving plan for the site

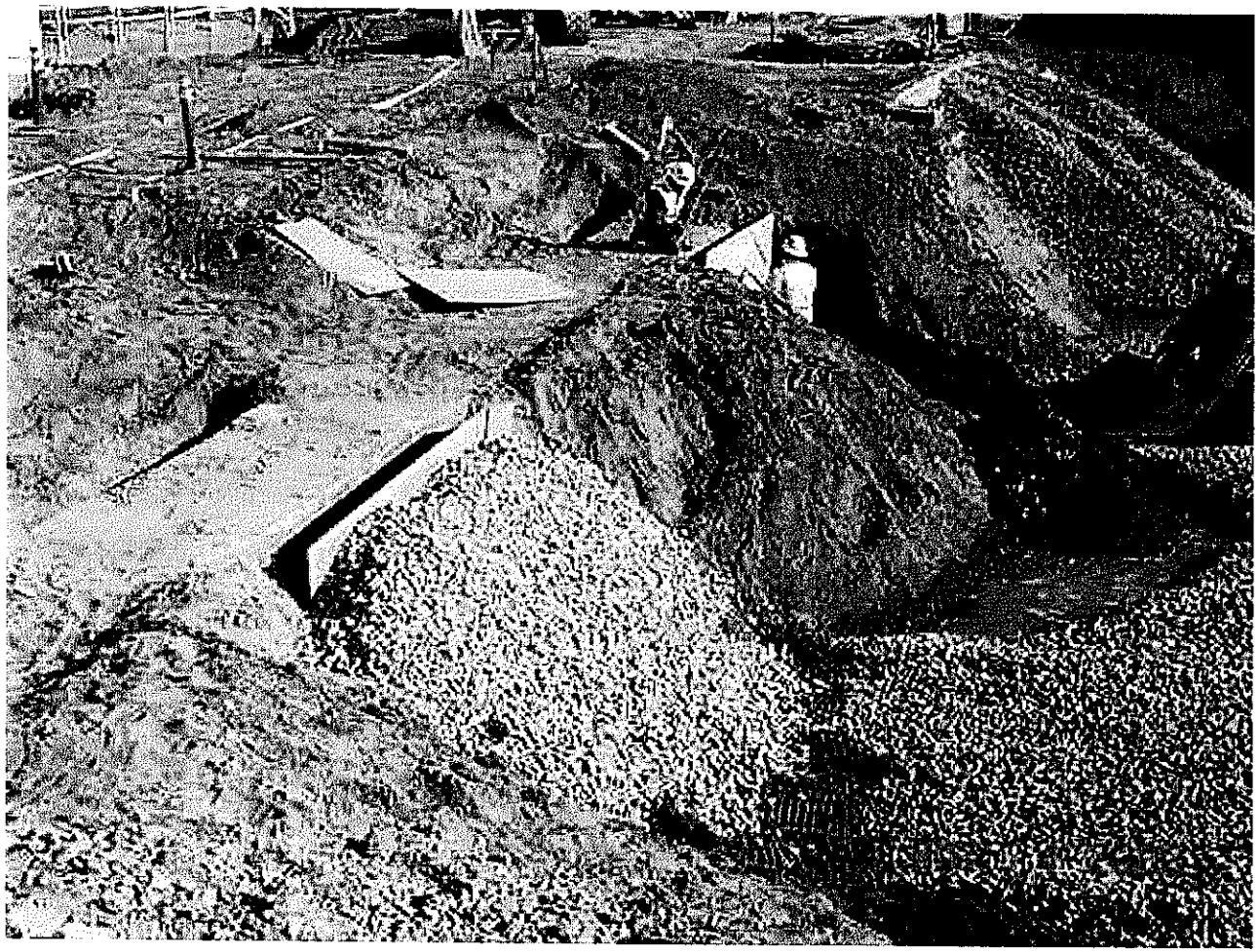


Phase 7 - Looking east down 7th Street along the north side of Building 198; the fenceline along the left side of the photo delineates the future extent of the excavation to the north; vertical shoring (i.e. wood lagging) for 7th Street will eventually be placed where the sand bags are shown

Phase 7 - Looking east along south wall of electrical substation; installation of wood lagging to shore the structure

Phase 7 - Looking west along south wall of Building 198 and the electrical substation; installation of wood lagging to shore these structures; note the orange line coming out of the lagging in the foreground is the sewer service line from Building 198, a hole was cut in the lagging during installation to accommodate this utility

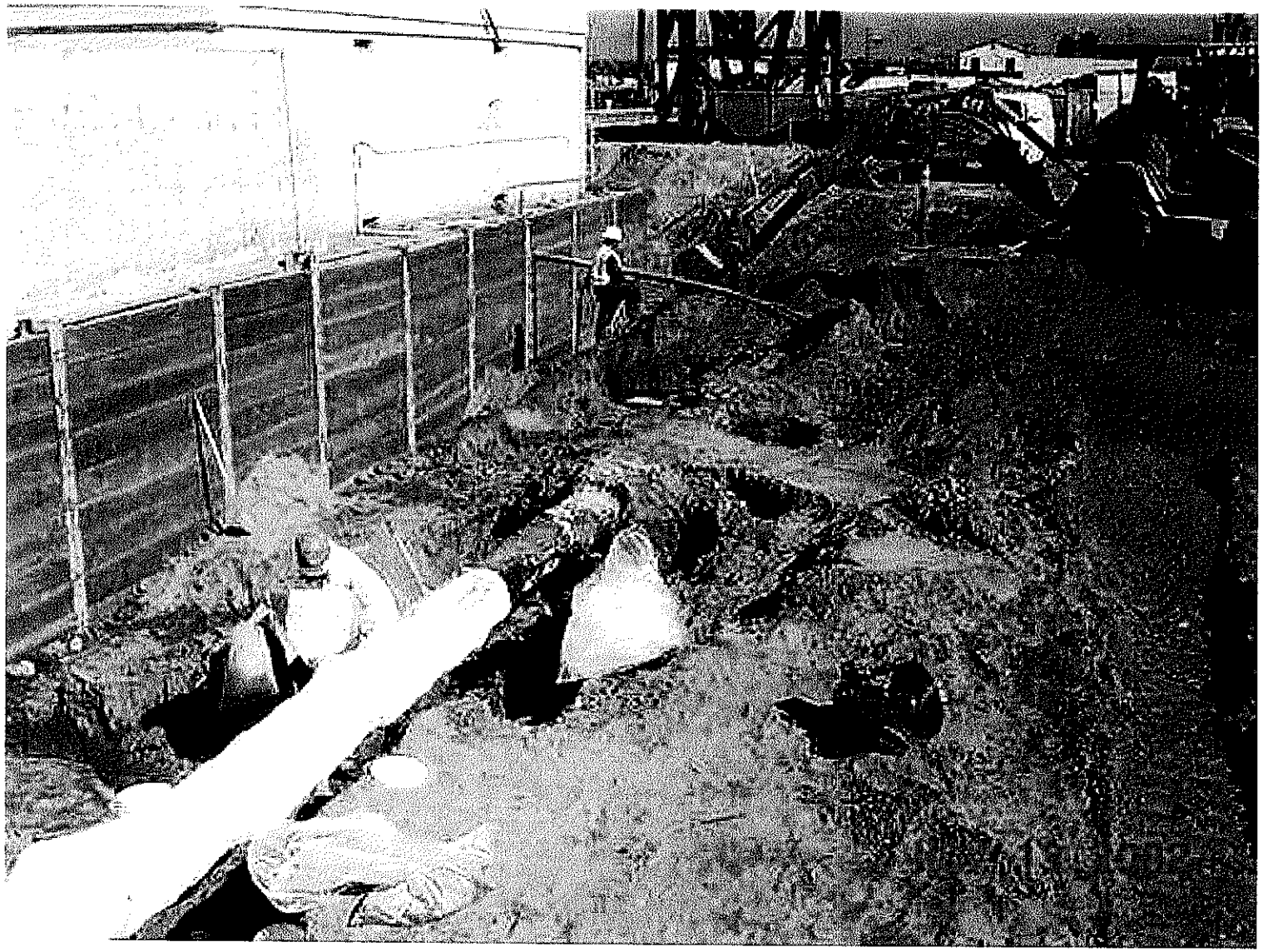
Phase 7 - Looking west along 7th Street at the east side of Building 198; note the wood lagging to shore 7th Street



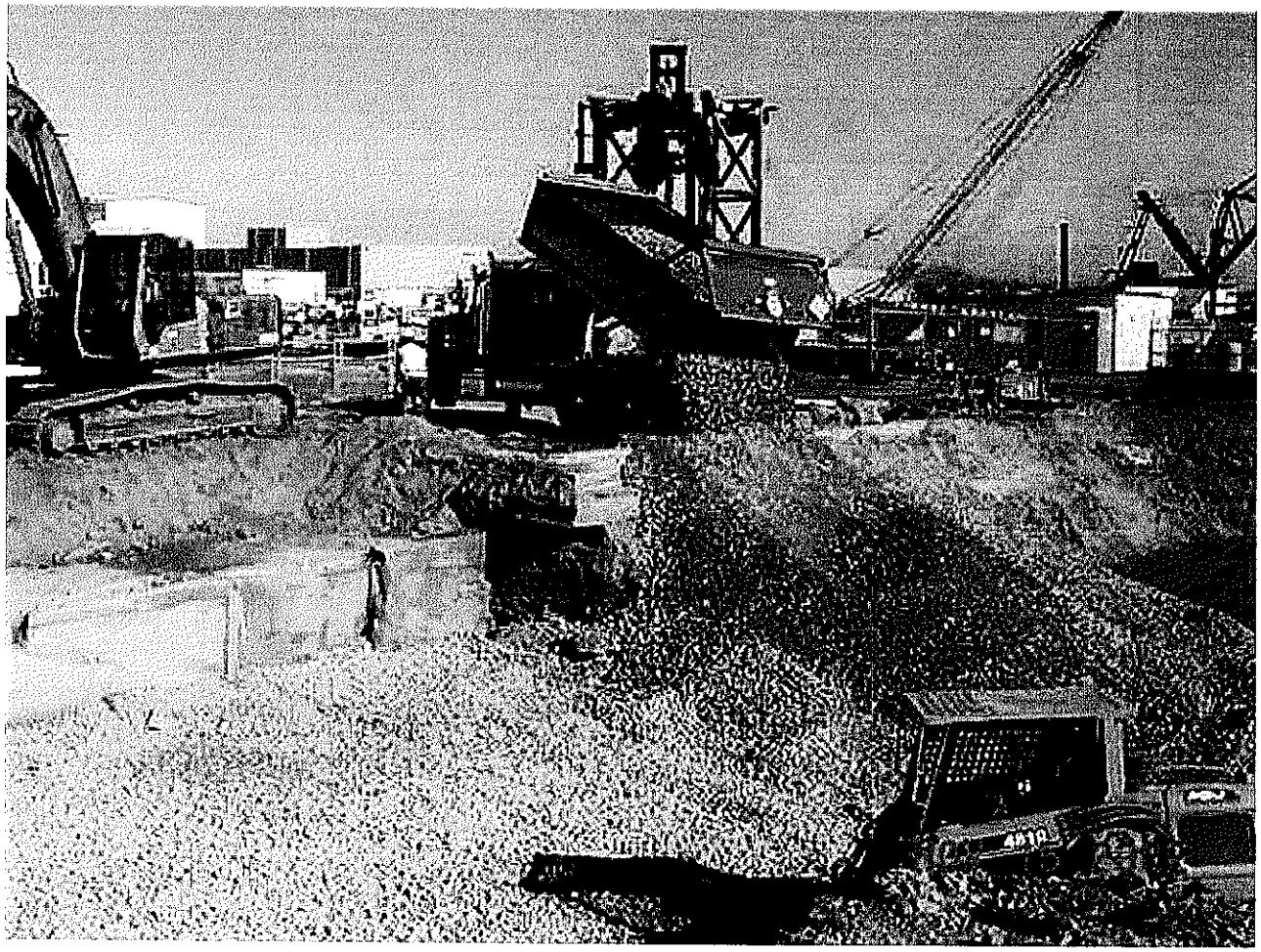
Phase 7 - Looking northeast at the main electrical duct bank that ran east-west through the excavation; note that the soil from under the bank is excavated in staggered sections to maintain adequate support; the excavated sections are then formed with plywood and braced with ballast rock prior to placing control density fill (CDF) to support the bank; excavation then continues in the adjacent staggered sections

Phase 7 - Looking northeast at soil excavation and load out activities

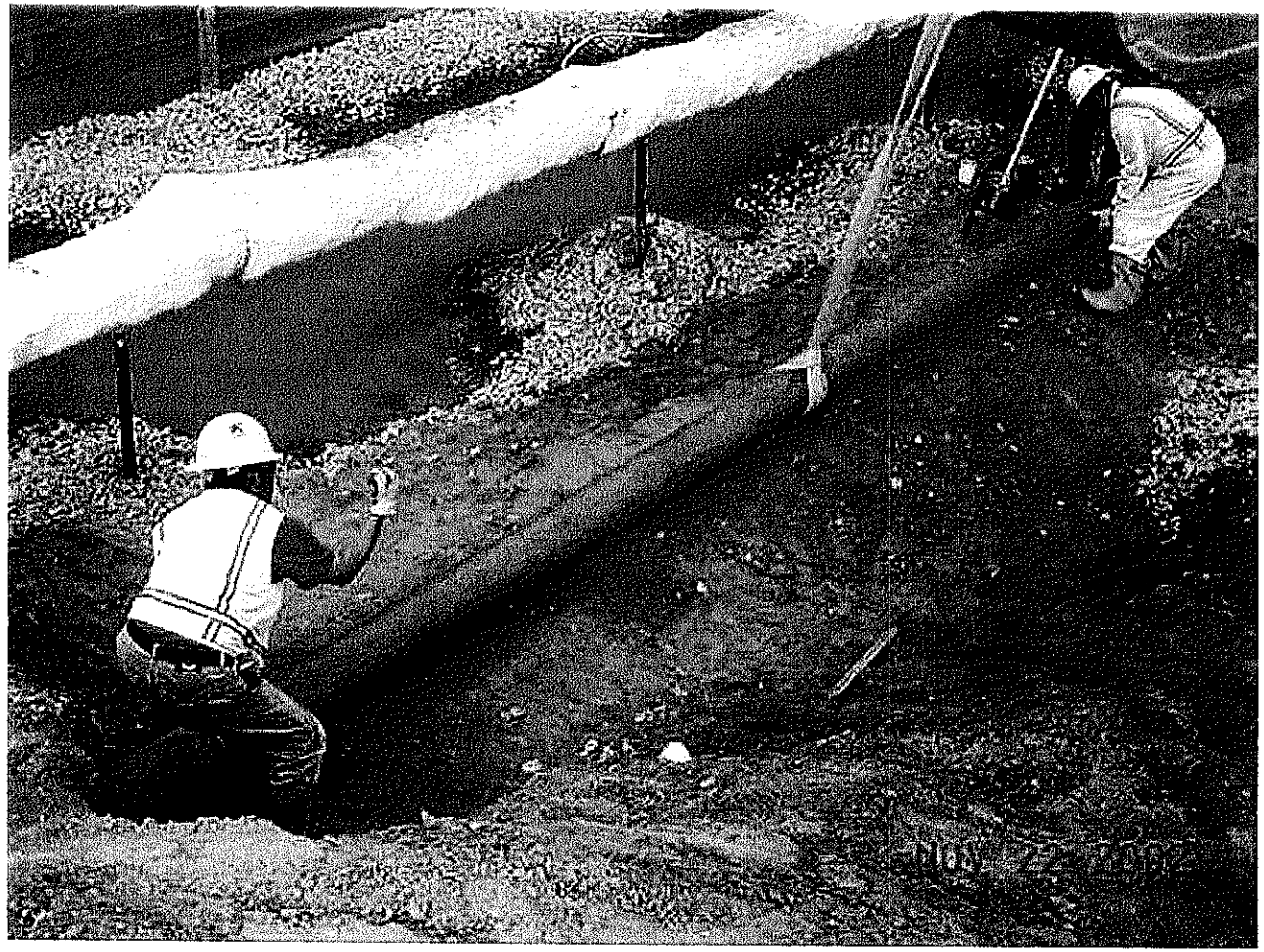
Phase 7 - Looking northeast at main electrical bank that ran east-west through the excavation; note the bank is now supported with control density fill; note the soil under the remainder of the bank on the middle right side of the photo has yet to be excavated



Phase 7 - Looking northeast at technicians performing steam line encapsulation for asbestos abatement

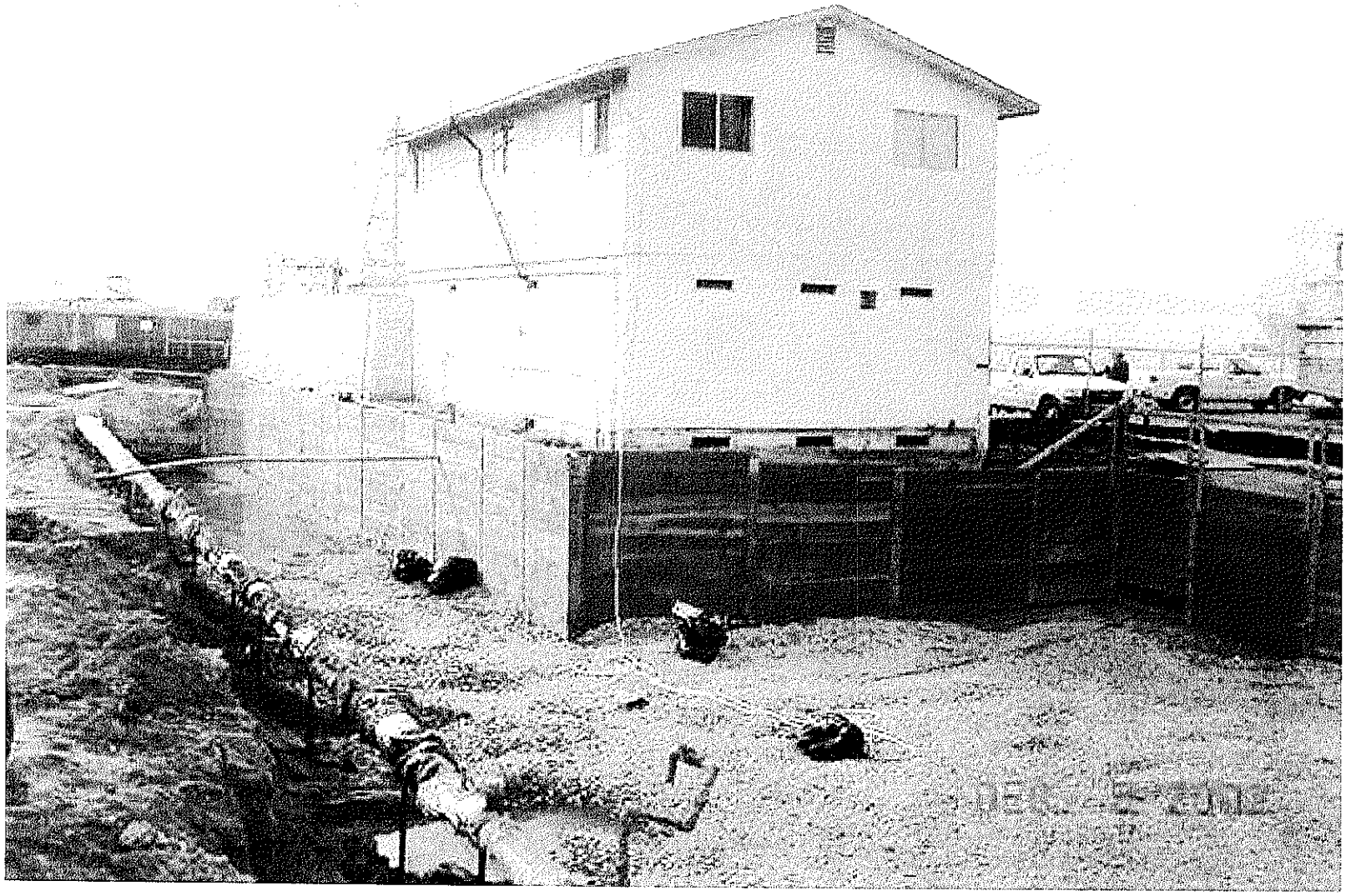


Phase 7 - Typical photo of ballast rock delivery and placement for backfill



Phase 7 - Replacing the clay sanitary sewer line with PVC

Phase 7 - Looking northwest at east wall of Building 198 and 7th Street; note the corner was filled in with concrete to act as a barrier to potential TPH contamination located behind the lagging and prevent leaching back into the clean backfill



Phase 7 - Looking northwest at east wall of Building 198 and 7th Street; excavation in this area now backfilled with ballast rock

Phase 7 - Looking west at completed excavation; note the encapsulated steam line on the right; note the replaced sanitary sewer line to the manhole in the center of the photo; note the control density fill-supported electrical bank on the left; note the soil under the replaced sewer line is clean backfill

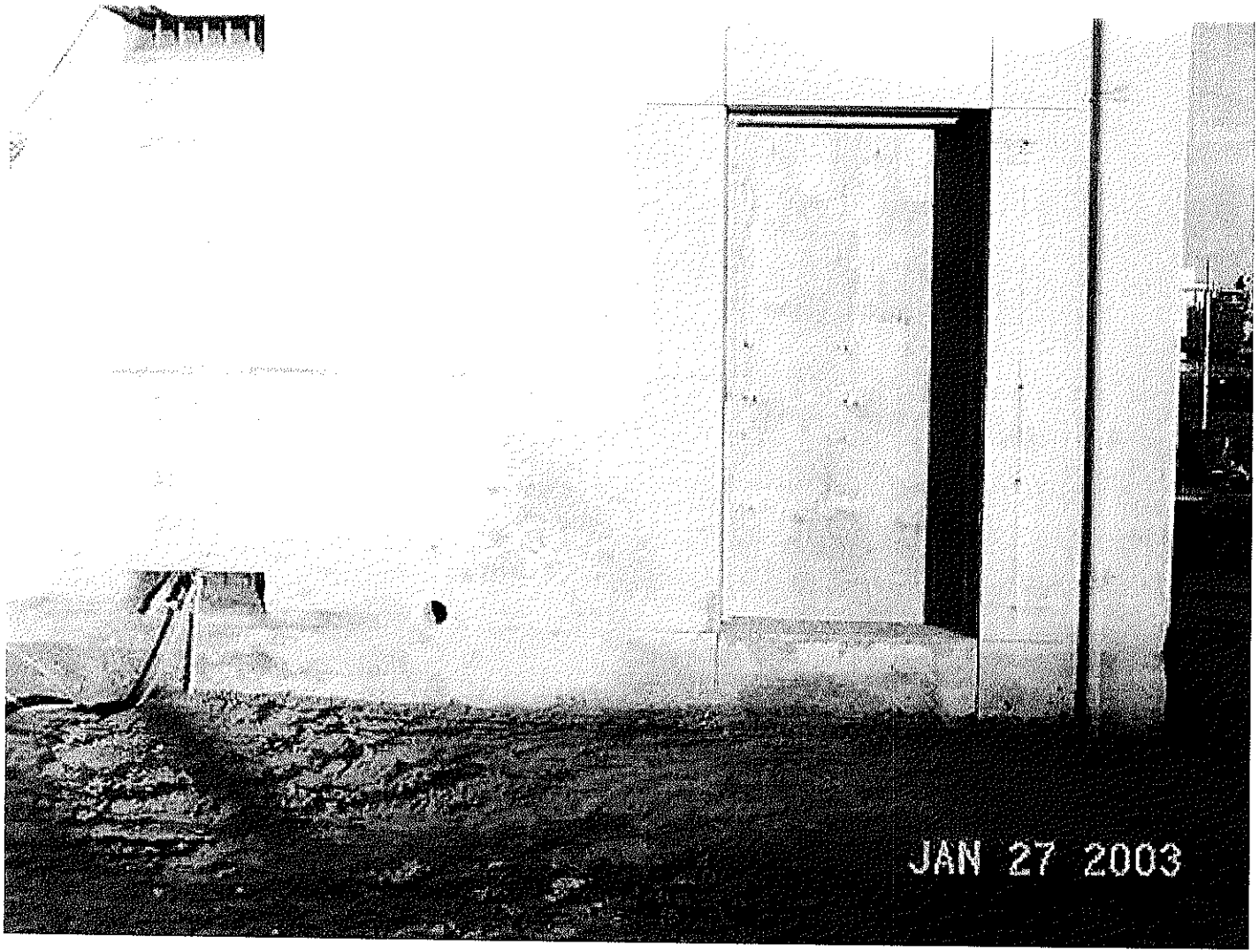
Phase 7 - Looking east down 7th Street; note this is a typical photo depicting the staging of trucks preparing to be loaded with contaminated soil for transport off site for treatment and disposal

Phase 7 - Photo of auto level used to check grade elevations;
this device was used to establish both excavation depth and backfill elevations

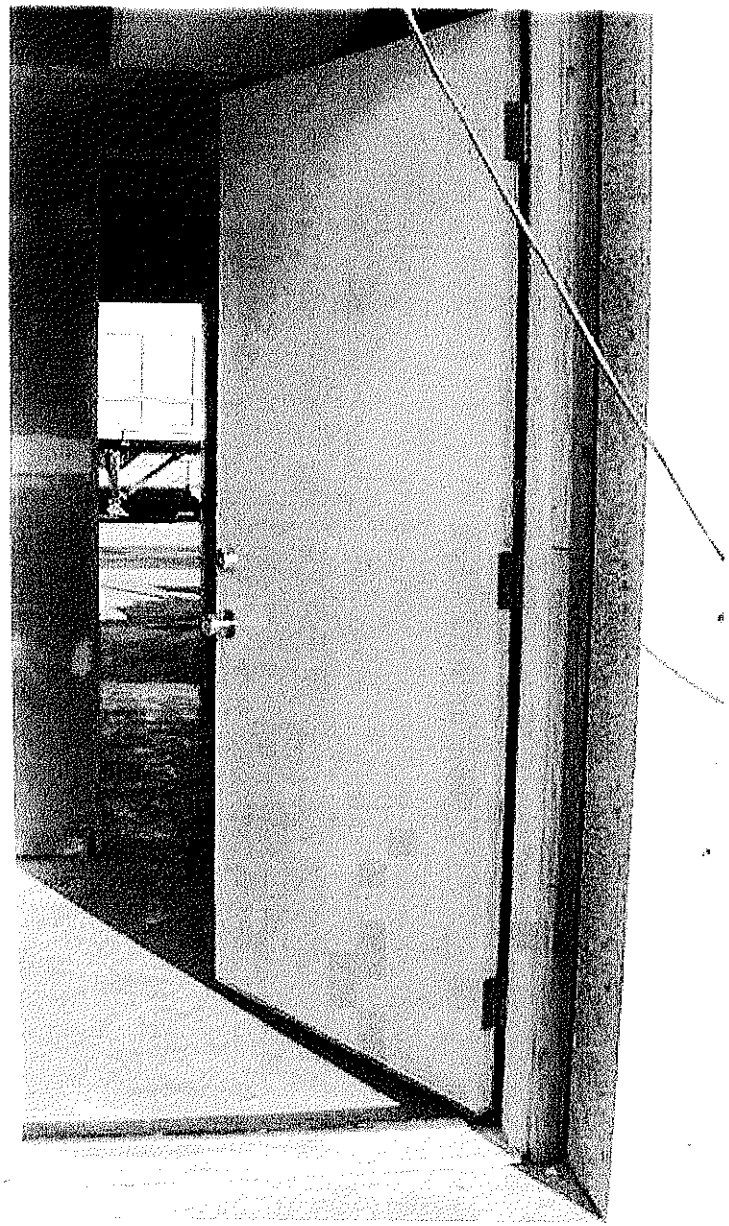
Phase 7 - Typical photo of the "Encore" soil sampling device used to collect confirmation soil samples

Phase 7 - New sewer line connection for new shower installed inside Building 198 during locker room renovation

Phase 7 - Looking northeast at backfill and compaction activities



Phase 7 - Hole cut through the concrete south wall of Building 198 to accommodate the future new door



Phase 7 - New door installed through south wall of Building 198

FEB 6 2003

APPENDIX B

REMOVAL ACTION VIDEO

APPENDIX C

ENVIRONMENTAL PERMITS AND NOTIFICATIONS

February 21, 2003

Lisa Bienkowski
Foster Wheeler Environmental Corp.
800 Seal Beach Blvd.
Naval Weapons Station
Seal Beach, CA 90746
United States

Dear Lisa,

We are returning the following samples as requested in your email.

0011202 (sample numbers 0002-1834 through 0002-1841)
0012098 (sample numbers 0002-1897,0002-1898 and 0002-1906 through 0002-1913)
0012175 (sample numbers 0002-1958 through 0002-1960)
0101154 (sample numbers 0002-2051)

All samples from WO 0005334 were disposed by Barringer Laboratories, Inc. In addition the following samples were consumed during the analysis process:

WO 0012098 (sample numbers 0002-1899 through 0002-1905)
WO 0012157 (sample number 0002-1961)

If you have any questions please contact me at (800) 654-0506 ext 217)

Sincerely,

Gerald Ritenour

DEPARTMENT OF THE NAVY
SOUTH BAY AREA FOCUS TEAM
SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
2585 CALLAGAN HWY, BLDG 99
SAN DIEGO, CALIFORNIA 92136-5198

5090.3(a)
Ser 5SEN.DB/245
November 6, 2002

Mr. Douglas Bautista
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630

Dear Mr. Bautista:

This letter serves as an update to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Non-Time Critical Removal Action (NTCRA) at Naval Station San Diego, Installation Restoration Program (IRP) Sub-Site 2A. For your convenience our previous update letter, dated December 11, 2000, and the public progress report, dated February 2002, has been provided as enclosure 1 and enclosure 2, respectively.

As of October 31, 2002, a total of 78,771 cubic yards (cy) (~118,156 tons) of soil have been removed, which is estimated to be 93% of the total volume. The soil excavated consisted of 67,521 cy of California hazardous waste, 9,460 cy of non-hazardous waste, 945 cy of Resource Conservation and Recovery Act (RCRA) waste, and 845 cy of non-hazardous waste shipped as low-level radioactive waste (LLRW). The LLRW shipments were below the regulatory radiation threshold of 2.0 times background, but above the Navy 1.5 times background action level. In addition, 31 radioactive point sources were found and disposed of during excavation activities.

The NTCRA at IRP Sub-Site 2A is being performed in seven phases to accommodate long-range planning, funding, and construction projects affecting this area of the Mole Pier, as well as to preserve military readiness. A map depicting each phase has been provided as enclosure 3.

Phase 1 included the excavation and off-site disposal of approximately 36,398 cy of contaminated soils located in the areas surrounding and beneath the former Navy Public Works Center (PWC) Paint Shop and Sandblasting (Building 3224 & 3225 facility. The PWC facility and other buildings have been demolished in order to allow for the removal of contaminants beneath their structures. For a complete list of buildings and structures that have been demolished please see enclosure 4.

Phase 2 included the excavation and off-site disposal of approximately 22,560 cy of contaminated soil located in the remaining areas within the former Consolidated Divers Unit (CDU) complex.

Phase 3 included the excavation and off-site disposal of approximately 7,307 cy of contaminated soil.

Phase 4 included the excavation and off-site disposal of approximately 1,120 cy of contaminated soil located adjacent to (west of) the southern portion of Phase 3.

Phase 5 included the excavation and off-site disposal of approximately 1,200 tons of contaminated soil located under Building 199.

Phase 6, and the Phase 6 continuation, included the excavation and off-site disposal of approximately 7,236 cy of contaminated soil from hot spots identified during the NTCRA in the eastern portion of IR Sub-Site 2A, immediately south of the Collection, Storage, and Transfer (CST) facility.

Phase 7, the Removal Action for the former CST facility, is the final phase in the NTCRA for Sub-Site 2A. The removal action will include the demolition of approximately 22,930 square feet of concrete and asphalt, and the demolition of Building 3252. Approximately 9,500 cubic yards of soil will be excavated from below the concrete and asphalt to groundwater and disposed of off-site. Currently, all floor confirmation samples have shown results below residential PRG values.

The radiation survey of excavated soils is continuing. To date, 31 radioactive point sources have been found during excavation activities and disposed of in compliance with applicable laws. These sources included miscellaneous metal pieces ranging from dime-size objects weighing less than 1 ounce to softball-size objects weighing more than 1 pound.

Downwind air monitoring activities continue at the site and include total suspended particulates, volatile organic compounds (VOCs), particulate matter less than 10 microns, dioxins, PCBs, metals, and PAHs. Metals include arsenic, total chromium, lead, thallium, and hexavalent chromium. To date there have been no exceedances above the American Conference of Governmental Industrial Hygienist (ACGIH) Threshold Limit Values (TLV).

Based on the current project schedule and site conditions, as we know them today, we expect to complete excavation activities on January 1, 2003, with site restoration complete by January 31, 2003.

5090.3(a)
Ser 5SEN.DB/245
November 6, 2002

If you have any questions or concerns, please contact Darren Belton at (619) 556-7617

Sincerely,

RICK BASINET
Environmental Team Leader
By direction of the Commander

Encl: (1) Navy letter to DTSC, dated December 11, 2000.
(2) IRP Sub-Site 2A Progress Report, dated February 2002
(3) IRP Sub-Site 2A Site Map
(4) IRP Sub-Site 2A Demolition Map

California Regional Water Quality Control Board
San Diego Region
Site Mitigation and Cleanup Unit
Attn: Ms. Laurie Walsh, Water Resource Control Engineer
9174 Sky Park Court, Suite 100
San Diego, California 92133-4340

Denise Klimas, NOAA CRC
c/o Department of Toxic Substances Control, HERD
Sacramento Regional Office
8800 Cal Center Drive
Sacramento, CA 95826

Commander, Navy Region Southwest
Assistant Chief of Staff for Environmental
Code 4512 (Attn: Ms. Theresa Morley)
33000 Nixie Way
Building 50, Suite 326
San Diego, Ca 92146-5110

Mr. Glenn Starr
Foster Wheeler Environmental Corporation
1230 Columbia Street, Suite 500
San Diego, CA 92101

5090.3(a)
Ser 5SEN.DB/245
November 6, 2002

Tim Heironimus
Bechtel Environmental, Inc.
1230 Columbia Street, Suite 400
San Diego, CA 92101-8502

Pete Stang
Bechtel Environmental, Inc.
1230 Columbia Street, Suite 400
San Diego, CA 92101-8502

DEPARTMENT OF THE NAVY
SOUTH BAY AREA FOCUS TEAM
SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
2585 CALLAGAN HWY, BLDG 99
SAN DIEGO CALIFORNIA 92136-5198

11000
Ser 5SEN.DB/322
December 11, 2000

Mr. Douglas Bautista
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630

Dear Mr. Bautista:

This letter is to update you on the status of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Non-Time Critical Removal Action at Naval Station San Diego, Sub-Site 2A. It is also to inform you of our intention to install a vegetative buffer around the parking area when the site is restored.

Per the Remedial Action Implementation Plan (RAIP), the volume of soil originally planned for excavation from Sub-Site 2A was 28,100 cubic yards. Based on the expanded excavation boundary and depth, we estimate that the total soil volume to be excavated and transported for off-site disposal is 69,000 cubic yards. As of November 30, 2000, approximately 49,156 cubic yards of contaminated soil has been excavated, or 71 % of the total volume.

The following paragraphs provide a detailed explanation as to the decisions and chain of events that have led to the increased excavation volumes. These decisions were made in collaboration with your Department:

a. The original plan for the removal action would be performed in three phases, hereafter referred to as Phase 1A, 1B and Phase 2 (see enclosure (1)). We initially planned to excavate Phases 1A and 1B to a depth of 5 feet below ground surface (bgs).

b. During the development of the RAIP, we performed 30 direct-push borings with soil samples collected at 3, 6, and 9 feet bgs outside the project boundary established by the Engineering Evaluation/Cost Analysis (EE/CA). Each soil sample was analyzed for all Chemicals of Concern (COCs). Results of this analysis showed that contamination associated with previous activities at the site may extend beyond the EE/CA boundary. The decision was made that excavation beyond the EE/CA boundary would not begin until additional field sampling data was collected during remediation.

ENCLOSURE (1)

c. Between February 15 and March 13, 2000, we collected samples on a 25-foot grid throughout the Phase 1A excavation area at 6.5, 8, and 9.5 feet bgs. Each of these samples were analyzed for the site COCs. The result of these analyses showed levels above the May 1998 Residential Preliminary Remediation Goals (PRGs) for arsenic, hexavalent chromium, lead, and various polynuclear aromatic hydrocarbons (PAHs) in several areas of the Phase 1A excavation below the 5-feet bgs level. No levels of dioxins were detected above the PRG. Based on the results of these analyses, we decided to continue the excavation for all areas in Phase 1A and 1B to a depth of 10-feet bgs. Further, after review of the data collected for the RAIP and during remediation, we decided to expand the limits of the Phase 1 excavation.

d. On May 30, 2000 additional soil samples were collected on 7th Street, just north of the current project boundary, to determine if previous activities in Sub-Site 2A had any impact in this area. The samples were analyzed for total chromium, hexavalent chromium, and total lead. Of the fifteen samples collected, five of the analyses reported hexavalent chromium above the PRG with a maximum value of 0.81 ppm. The other four analyses were in the range of 0.3 to 0.42 ppm range for hexavalent chromium. Due to the relative low values detected, we decided not to expand the excavation boundary of Sub-Site 2A to include 7th Street.

e. During the excavation of the Phase 2A area, we encountered heavily stained (TPH-Diesel) soil between the 8 and 10-foot bgs level. Visual observations in the field and information from previous investigations at the site, led to the possibility that TPH-Diesel impacted soil may extend below groundwater to a depth of 15-feet bgs. To verify this possibility, we collected 39 soil samples, from 13 direct push borings, at the floor of the Phase 2A excavation to 15-feet bgs. Results of the analyses indicated that TPH-Diesel impacted soils extended to 15-feet bgs in a large majority of the Phase 2A area. These soils were excavated between August 25 through 31 and September 12 and 13, 2000. A total of approximately 1,500 cubic yards of TPH-Diesel impacted soil was excavated below the groundwater level in Phase 2A

f. We have minimized any residual contaminants by removing versus encapsulating soil beneath underground utilities and buildings. The following buildings have been demolished: 3181, 3188, 3189, 3190, 3211, 3224, 3225, 3372, and 3373 and impacted soil has been removed. This step eliminated the need to return to the site to conduct remediation for Phase 3. In addition, at the completion of this removal action all areas will have been excavated to a minimum of 10-feet bgs.

The radiation survey of excavated soils is continuing. To summarize, the first survey is performed on the soil in-situ for every 2-foot excavation depth. The second survey is performed as each load of excavated soil is placed in the stockpile. A third survey has been added. This survey is performed just prior to

loading and transporting the soil to an off-site disposal facility. To date, we have found 27 radioactive point sources, 26 of which were detected during the 1st or 2nd survey with only one detected on the 3rd survey.

Downwind air-monitoring activities continue at the site and include total suspended particulates, volatile organic compounds (VOCs), particulate matter less than 10 microns, dioxins, polychlorinated biphenyls (PCBs), metals, and polyaromatic hydrocarbons (PAHs). Metals include arsenic, total chromium, lead, thallium, and hexavalent chromium. To date, there have been no exceedances above the American Conference of Governmental Industrial Hygenist (ACGIH) Threshold Limit Values (TLV).

Enclosure (2) is the planned site redevelopment plan overlaid on the current project excavation boundary. The plan includes the establishment of vegetative (grass) buffers on all sides of the parking area. The parking area will be graded to direct stormwater run-off to these buffer zones. Further, these vegetative buffers will be constructed with an underground irrigation system. It is our view that the vegetative buffer will not increase risk to human health or the environment due to past decisions to remove contaminants from the site to residential standards. All contaminated soils within the site will be removed to a minimum of 10-feet bgs, and more than 75% of the site soils will be removed to a depth at or below groundwater. Furthermore, all floor confirmation samples have shown results below residential PRGs values.

Based on the current project schedule, we expect to complete excavation activities no later than March 1, 2001 with site restoration complete by April 3, 2001.

If you have any questions or concerns, please contact Darren Belton at (619) 556-7617.

Sincerely,

Rick Basinet
Environmental Team Leader
By direction of the Commander

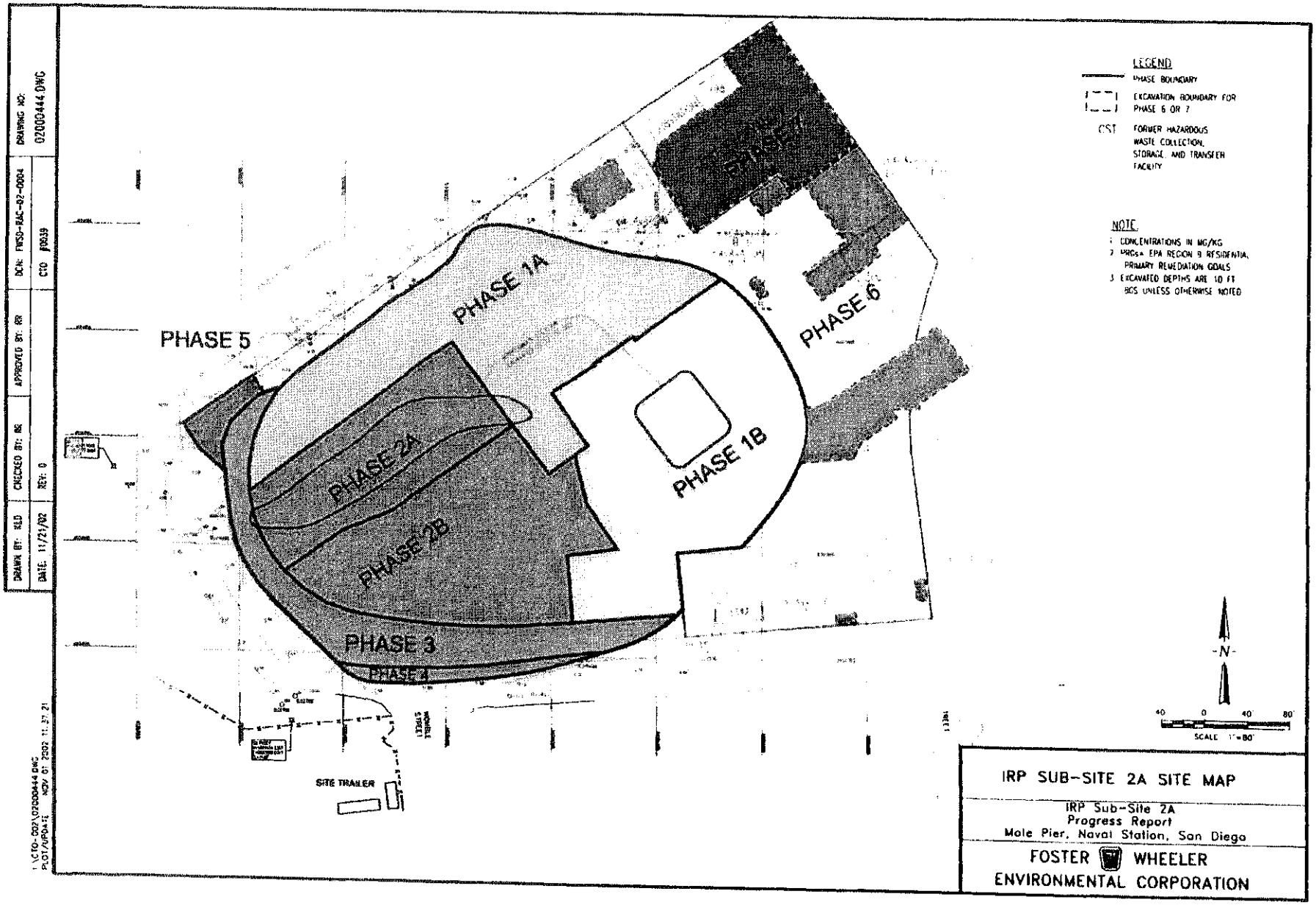
Encl: (1) Sub-Site 2A Project Site Map
(2) Mole Pier Redevelopment Plan

Copy to:

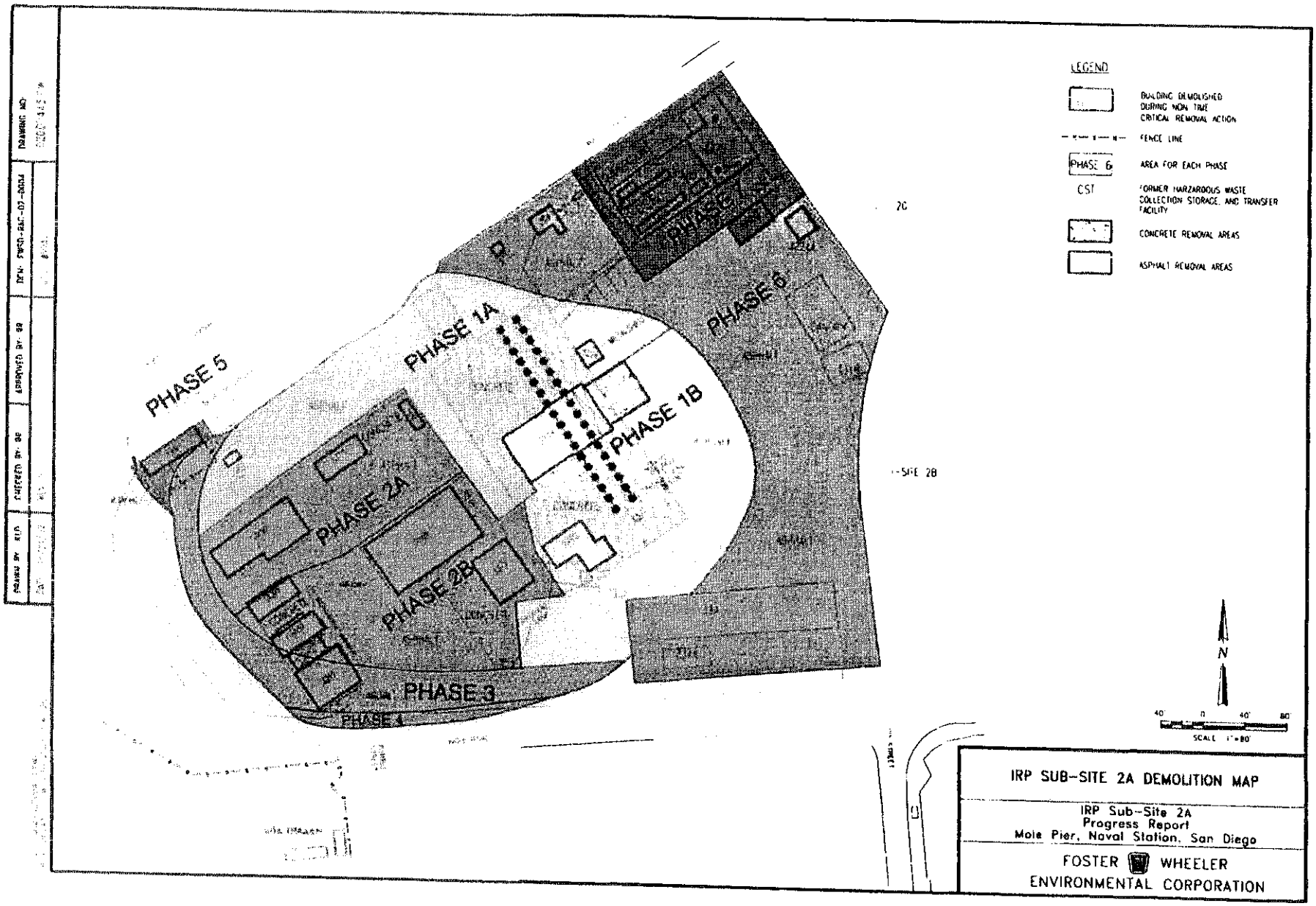
Ms. Laurie Walsh
RWQCB
9771 Clairemont Mesa Blvd.
San Diego, CA 92124

Ms. Theresa Morley
CNRSW
33000 Nixie Way
Bldg. 50, Suite 326
San Diego, CA 92147-5110

LCDR Cliff Maurer
Public Works Officer
SWNAVFACENGCOM (Code 5SS)


PHASE 5
PHASE 1A
PHASE 1B
PHASE 2A
PHASE 2B
PHASE 3
PHASE 4
PHASE 6
PHASE 7
SITE TRAILER
LEGEND
PHASE BOUNDARY
EXCAVATION BOUNDARY FOR PHASE 6 OR 7
CST FORMER HAZARDOUS WASTE COLLECTION, STORAGE, AND TRANSFER FACILITY
NOTE
1 CONCENTRATIONS IN MG/KG
2 PRGs= EPA REGION 9 RESIDENTIAL PRIMARY REMEDIATION GOALS
3 EXCAVATED DEPTHS ARE 10 FT BGS UNLESS OTHERWISE NOTED
N
40 0 40 80
SCALE 1"=80'
IRP SUB-SITE 2A SITE MAP
IRP Sub-Site 2A
Progress Report
Mole Pier, Naval Station, San Diego
FOSTER WHEELER
ENVIRONMENTAL CORPORATION
DRAWN BY: KLD
DATE: 11/21/02
CHECKED BY: RS
REV: 0
APPROVED BY: RR
DCN: FWSD-RAC-02-0004
CTO: J0039
DRAWING NO: 02000444.DWG

ENCLOSURE (3)


LEGEND
BUILDING DEMOLISHED DURING NON TRUE CRITICAL REMOVAL ACTION
FENCE LINE
PHASE 6
AREA FOR EACH PHASE
CST
FORMER HAZARDOUS WASTE COLLECTION STORAGE, AND TRANSFER FACILITY
CONCRETE REMOVAL AREAS
ASPHALT REMOVAL AREAS
PHASE 5
PHASE 1A
PHASE 1B
PHASE 2A
PHASE 2B
PHASE 3
PHASE 4
PHASE 6
SITE 2B
N
SCALE 1" = 80'
IRP SUB-SITE 2A DEMOLITION MAP
IRP Sub-Site 2A
Progress Report
Mole Pier, Naval Station, San Diego
FOSTER WHEELER
ENVIRONMENTAL CORPORATION

ENCLOSURE (1)

DEPARTMENT OF INDUSTRIAL RELATIONS
DIVISION OF OCCUPATIONAL SAFETY AND HEALTH

No: 2001-903457

PERMIT

Issued To
Employer's Name, Address and Telephone No)

Foster Wheeler Environmental Corp
1940 E Deere Ave Ste 200
Santa Ana CA 92705-5718

(949) 756-7500

No.
Date 12/23/2000
Region 4
District 4
Tel. (626) 472-0046

ype of Permit T1-ANNUAL TRENCH/EXCAVATION

rsuant to Labor Code Sections 6500 and 6502, this Permit is issued to the above-named employer for the projects described below.

State Contractor's License Number	692232	Permit Valid through	December 31, 2001	
Description of Project	Location Address	City and County	Anticipated Dates Starting	Completion
Various	Statewide		1/1/2001 or issue date whichever is later.	12/31/2001

his Permit is issued upon the following conditions:

That the work is performed by the same employer. If this is an annual permit the appropriate District ffice shall be notified, in writing, of dates and location of job site prior to commencement.

The employer will comply with all occupational safety and health standards or orders applicable to the above ojects, and any other lawful orders of the Division.

That if any unforeseen condition causes deviation from the plans or statements contained in the Permit pplication Form the employer will notify the Division immediately.

Any variation from the specification and assertions of the Permit Application Form or violation of safety ders may be cause to revoke the permit.

This permit shall be posted at or near each place of employment as provided in 8 CCR 341.4

ceived From	Received By	
argotto	Permit Unit	
ash	Amount	Date
Check 2360	$100.00	12/23/00

Investigated by _____ Safety Engineer Date

Approved by Robert E Law 2/13/2001
District Manager/Permit Unit Date

State of California
Department of Industrial Relations
Division of Occupational Safety & Health

ACTIVITY NOTIFICATION FORM FOR HOLDERS OF ANNUAL PERMITS

Scaffolding Falsework Trenches/Excavations

8 CCR 341.1(f) REQUIRES HOLDERS OF ANNUAL PERMITS TO PROVIDE NOTIFICATION TO THE DOSH OFFICE NEAREST THE PROJECT PRIOR TO COMMENCEMENT OF ANY WORK. THIS FORM IS PROVIDED FOR YOUR CONVENIENCE TO USE FOR SUCH NOTIFICATION.

THIS FORM MAY BE FAXED TO THE NEAREST DOSH OFFICE TO COMPLY WITH THE ABOVE. PLEASE DO NOT MAIL DUPLICATE NOTIFICATION TO FOLLOW-UP FAX NOTIFICATION.

FAX DATA: FAXED TO OSHA COMPLIANCE DOSH DISTRICT OFFICE ON SAN DIEGO

DOSH FAX NO. (858) 279-4658 BY TOM CONRAD

Company Name & Address: FOSTER WHEELER 1230 COLUMBIA, STE. 640 Field Phone: (619) 702-4109

Annual Permit Number: 2000-903457 Office Phone: (619) 234-8696

Issuing Region: 4 Issuing District: 4

Specific Activity Location: 32ND STREET NAVAL STATION Number of Employees: 8-10

Nearest Major Cross Street: MOLE RD AND WOMBLE Starting Date: 02/14/00

City: SAN DIEGO Anticipated Completion Date: 06/01/00

County: SAN DIEGO High Voltage Lines in Proximity? No ✓ Yes ____

INSTRUCTIONS: The appropriate item(s) must be completed and signed by a person knowledgeable about the project for each activity covered by a permit. Please fill in or check off the blanks where appropriate.

Scaffolding: Height ____ Metal ____ Wood ____ Wood over 60 Feet ____ Metal over 125 Feet ____

Metal>125 Feet or Wood>60 Feet requires design by California Registered Civil Engineer & Plans at Site (See 8 CCR 1644(o)(7))

Description: ____

Falsework/Vertical Shoring: Maximum Height ____ Maximum Span ____ Material ____

Description: ____

(See 8 CCR 1717)

Trenches/Excavations: Depth Range(Min/Max)* 5' TO 10' Width Range(Min/Max) 10'-60' Total Length ~300'

Ground Protection Method: Shoring ____ Sloping X Trench Shield ____ Professional Engineer X

Underground Services Alert(USA) Number 1-800-422-4133 CN: 4811 (NORTH 1-800-642-2444/SOUTH 1-800-422-4133)

Soil Analysis to be done? Yes ____ No X If No, You Must Slope 1.5 to 1.

Competent Person: The holder of an Annual Permit who is notifying the District of the commencement of a Trench and/or Excavation project shall designate a competent person in accordance with the requirements of 8 CCR Section 1504, 1541, and 1541.1.

Description: PERFORMING EXCAVATION DOWN TO 5' IN COMPLETE AREA (MOLE PIER-SITE 2) WITH POTENTIAL FOR EXCAVATION DOWN TO 10' IN VARIOUS ISOLATED LOCATIONS.

* Ground protection methods for excavations deeper than 20 feet must be designed by a Registered Professional Engineer. See 8 CCR 1541.1, Appendix F.

I hereby certify that to the best of my knowledge the above information and assertions are true and correct and that I/the applicant have knowledge of and will comply with the foregoing.

Signature: Thomas W. Conrad Jr.

Title: SITE SAFETY SUPERVISOR Date: 02/14/00

CAL/OSHA 41-3 (08/01/94)

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
DIVISION OF OCCUPATIONAL SAFETY AND HEALTH

No: **2002-903457**

PERMIT

nit Issued To
(Insert Employer's Name, Address and Telephone No.)

Foster Wheeler Environmental Corp
1940 E Deere Ave Ste 200
Santa Ana CA 92705-5718

(949) 756-7500

No.
Date 12/27/2001
Region 4
District 4
Tel. (626) 472-0046

Type of Permit T1-ANNUAL TRENCH/EXCAVATION

Pursuant to Labor Code Sections 6500 and 6502, this Permit is issued to the above-named employer for the projects described below.

State Contractor's License Number	692232	Permit Valid through	December 31, 2002	
Description of Project	Location Address	City and County	Anticipated Dates Starting	Completion
Various	Statewide		1/1/2002 or issue date whichever is later.	12/31/2002

This Permit is issued upon the following conditions:

1. That the work is performed by the same employer. If this is an annual permit the appropriate District Office shall be notified, in writing, of dates and location of job site prior to commencement.

2. The employer will comply with all occupational safety and health standards or orders applicable to the above projects, and any other lawful orders of the Division.

3. That if any unforeseen condition causes deviation from the plans or statements contained in the Permit Application Form the employer will notify the Division immediately.

4. Any variation from the specification and assertions of the Permit Application Form or violation of safety orders may be cause to revoke the permit.

5. This permit shall be posted at or near each place of employment as provided in 8 CCR 341.4

eived From	Received By	
oger Margotto	Permit Unit	
☐ Cash ☒ Check 278524	Amount $100.00	Date 12/27/01

Investigated by _____ Safety Engineer Date

Approved by Robert E Law 1/16/2002
District Manager/Permit Unit Date

State of California
Department of Industrial Relations
Division of Occupatonal Safety & Health

ACTIVITY NOTIFICATION FORM FOR HOLDERS OF ANNUAL PERMITS

Scaffolding Falsework Trenches/Excavations

8 CCR 341.1(f) REQUIRES HOLDERS OF ANNUAL PERMITS TO PROVIDE NOTIFICATION TO THE DOSH OFFICE NEAREST THE PROJECT PRIOR TO COMMENCEMENT OF ANY WORK. THIS FORM IS PROVIDED FOR YOUR CONVENIENCE TO USE FOR SUCH NOTIFICATION.

THIS FORM MAY BE FAXED TO THE NEAREST DOSH OFFICE TO COMPLY WITH THE ABOVE. **PLEASE DO NOT MAIL DUPLICATE NOTIFICATION TO FOLLOW-UP FAX NOTIFICATION.**

FAX DATA: FAXED TO OSHA COMPLIANCE DOSH DISTRICT OFFICE ON SAN DIEGO

DOSH FAX NO (858) 279-4658 BY CARL WALKER

Company Name: FOSTER WHEELER Field Phone: (619) 702-4109

Annual Permit Number: 2002-903457 Office Phone: (619) 234-8696

Issuing Region: 4 Issuing District: 4

Specific Activity Location: 32ND STREET NAVAL STATION Number of Employees: 6-8

Nearest Major Cross Street: MOLE RD. AND WOMBLE Starting Date: 5/15/02

City: SAN DIEGO Anticipated Completion Date: 6/14/02

County: SAN DIEGO High Voltage Lines in Proximity? No ____ Yes ✓

INSTRUCTIONS: The appropriate item(s) must be completed and signed by a person knowledgeable about the project for each activity covered by a permit. Please fill in or check off the blanks where appropriate.

caffolding: Height ____ Metal ____ Wood ____ Wood over 60 Feet ____ Metal over 125 Feet ____

Metal>125 Feet or Wood>60 Feet requires design by California Registered Civil Engineer & Plans at Site (See 8 CCR 1644(c)(7))

Description: ____

Falsework/Vertical Shoring: Maximum Height ____ Maximum Span ____ Material ____

Description: ____

(See 8 CCR 1717)

Trenches/Excavations: Depth Range(Min/Max) 10' Width Range(Min/Max) 25'/30' Total Length ~150'

Ground Protection Method: Shoring X Sloping ____ Trench Shield X Professional Engineer X

Underground Services Alert(USA) Number 1-800-227-2600 ____ (NORTH 1-800-642-2444/SOUTH 1-800-422-4133)

Soil Analysis to be done? Yes X No ____ If No, You Must Slope 1.5 to 1.

Competent Person: The holder of an Annual Permit who is notifying the District of the commencement of a Trench and/or Excavation project shall designate a **competent person** in accordance with the requirements of 8 CCR Section 1504, 1541, and 1541.1.

Description: PERFORMING EXCAVATION DOWN TO 10' AT THE PWC WELDING AREA.

*Ground protection methods for excavations deeper than 20 feet must be designed by a Registered Professional Engineer. See 8 CCR 1541.1, Appendix F.

I hereby certify that to the best of my knowledge the above information and assertions are true and correct and that I/the applicant have knowledge of and will comply with the foregoing.

Signature: Carl Walker

Title: SITE SAFETY SPECIALIST Date: 5/9/02

CAL/OSHA 41-3 (08/01/94)

CDM Federal Programs Corporation

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3760 Convoy Street
Suite 210
San Diego CA 92111
Tel 858 268-3383 Fax 858 268-9677

February 10, 2000
DOC. No. 5234

Mr. Abram Eloskof
Foster Wheeler Environmental Corporation
611 Anton Blvd., Suite 800
Costa Mesa, CA 92626

Subject: Storm Water Pollution Prevention Plan (SWPPP) for Storm Water Discharges Associated with Construction Activity
CERCLA Non-Time-Critical Removal Action at Installation Restoration Sub-Site 2A Mole Pier
Naval Station San Diego, San Diego, CA
Construction SWPPP Implementation Summary

Dear Mr. Eloskof:

This letter report summarizes the construction Storm Water Pollution Prevention Plan (SWPPP) implementation activities being performed by CDM Federal Programs Corporation (CDM Federal) for the CERCLA Non-Time-Critical Removal Action at Installation Restoration (IR) Sub-Site 2A for the month of January 2000. Foster Wheeler Environmental Corporation (FWEC) is the Contractor performing the removal action at IR Sub-Site 2A.

Storm Events in January 2000

Table 1 presents the storm events recorded in San Diego (data collected from San Diego International Airport reporting station, located approximately 6 miles from IR Sub-Site 2A).

TABLE 1

Date	Amount of Rainfall
01 Jan 2000	0.03 inches
02 Jan 2000	0.01 inches
16 Jan 2000	0.03 inches
25 Jan 2000	0.01 inches
26 Jan 2000	0.02 inches
31 Jan 2000	0.08 inches

Inspections Performed

Marc Smits of CDM Federal performed one SWPPP inspection on 25 January 2000. Copies of all inspections can be found at the construction trailer (see Luis Rivero, Site Engineer). Table 2 presents data from the SWPPP inspection performed for the month of January. Due to the limited rainfall occurring in the month of January, no other inspections were performed.

TABLE 2

Date of Inspection	Type of Inspection	Discrepancies Identified
25 January 2000	Pre-storm inspection	• All of the BMPs (except as noted in the next bullet) identified in the Draft-Final SWPPP (CDM Federal 2000) have been implemented. • The inspection did identify that the silt fence identified in the Draft-Final SWPPP was not completely established around the perimeter of the site, mainly in an area where soil excavation was not being performed. Recommended establishing the silt fence prior to initiation of excavation work in that area.

Summary

The lack of significant rainfall for January 2000 limited the possibility of contaminated storm water runoff from the construction site. Because of the minimal rainfall that occurred on the 25 January storm event, a post-storm inspection was not performed.

Inspections will be performed before and after storm events anticipated to deliver significant rainfall. Post-storm inspections will be performed as appropriate. A minimum of one inspection will be performed for February 2000

If you have any questions, please call me at (858) 268-3383.

Sincerely,

CDM FEDERAL PROGRAMS CORPORATION

Larry Davidson, P.E.
Project Manager

c: D. Bjostad
M. Brookshire
File

CDM Federal Programs Corporation

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3760 Convoy Street
Suite 210
San Diego, CA 92111
Tel. 858 268-3383 Fax 858 268-9677

April 12, 2000
DOC. No. 5298

Mr. Abram Eloskof
Foster Wheeler Environmental Corporation
611 Anton Blvd., Suite 800
Costa Mesa, CA 92626

Subject: Storm Water Pollution Prevention Plan (SWPPP) for Storm Water Discharges Associated with Construction Activity
CERCLA Non-Time-Critical Removal Action at Installation Restoration Sub-Site 2A Mole Pier
Naval Station San Diego, San Diego, CA
Construction SWPPP Implementation Summary

Dear Mr. Eloskof:

This letter report summarizes the construction Storm Water Pollution Prevention Plan (SWPPP) implementation activities being performed by CDM Federal Programs Corporation (CDM Federal) for the CERCLA Non-Time-Critical Removal Action at Installation Restoration (IR) Sub-Site 2A for the month of March 2000. Foster Wheeler Environmental Corporation (FWEC) is the Contractor performing the removal action at IR Sub-Site 2A.

Storm Events in March 2000

Table 1 presents the storm events recorded in San Diego (data collected from San Diego International Airport reporting station, located approximately 6 miles from IR Sub-Site 2A).

TABLE 1
Rainfall Totals

Date	Amount of Rainfall
01 March 2000	0.04 inches
03 March 2000	0.01 inches
04 March 2000	0.05 inches
05 March 2000	0.64 inches
06 March 2000	0.05 inches
07 March 2000	0.05 inches
08 March 2000	0.06 inches
20 March 2000	0.1 inches
27 March 2000	Trace

Inspections Performed

Matt Brookshire of CDM Federal performed one SWPPP inspection for the month of March 2000. Copies of all inspections can be found at the construction trailer (see Jim Baldwin, Project Superintendent). Table 2 presents data from the SWPPP inspections performed for the month of March.

TABLE 2
Inspection Results

Date of Inspection	Type of Inspection	Discrepancies Identified
06 March 2000	Post-storm	• In the eastern corner of the fenceline, between the AST and the soil stockpile, sediment is discharging offsite. The cause of the sediment runoff is from the adjacent facility (Paint and Sandblast Facility). Recommend that silt fence and sandbags be placed along the fenceline at the discharge area, and from the run-on area. Recommend placing a sand bag berm along the eastern portion of the site to prevent runon from the Paint and Sandblast Facility. Jim Baldwin stated that the problem would be taken care of immediately.

Summary

BMPs other than the discrepancy noted in the above table, FWEC is complying with the SWPPP and all of its associated.

As the wet season nears an end, the number of storm events that result in significant rainfall and runoff in San Diego has diminished. Despite this fact, it is important to maintain the site according to the SWPPP and its associated BMPs

Inspections will continue to be performed before and after storm events anticipated to deliver significant rainfall and runoff. Post-storm inspections will be performed as appropriate. Depending on the number of storm events, a minimum of one inspection will be performed for April 2000.

If you have any questions, please call me at (858) 268-3383.

Sincerely,

CDM FEDERAL PROGRAMS CORPORATION

Larry Davidson

Larry Davidson, P.E.
Project Manager

c: D. Bjostad
M. Brookshire
File

CDM Federal Programs Corporation

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3760 Convoy Street
Suite 210
San Diego, CA 92111
Tel 858 268-3383 Fax 858 268-9677

May 15, 2000
DOC. No. 5326

Mr. Abram Eloskof
Foster Wheeler Environmental Corporation
611 Anton Blvd., Suite 800
Costa Mesa, CA 92626

Subject: Storm Water Pollution Prevention Plan (SWPPP) for Storm Water Discharges Associated with Construction Activity
CERCLA Non-Time-Critical Removal Action at Installation Restoration Sub-Site 2A Mole Pier
Naval Station San Diego, San Diego, CA
Construction SWPPP Implementation Summary

Dear Mr. Eloskof:

This letter report summarizes the construction Storm Water Pollution Prevention Plan (SWPPP) implementation activities being performed by CDM Federal Programs Corporation (CDM Federal) for the CERCLA Non-Time-Critical Removal Action at Installation Restoration (IR) Sub-Site 2A for the month of April 2000. Foster Wheeler Environmental Corporation (FWEC) is the Contractor performing the removal action at IR Sub-Site 2A.

Storm Events in April 2000

Table 1 presents the storm events recorded in San Diego (data collected from San Diego International Airport reporting station, located approximately 6 miles from IR Sub-Site 2A).

TABLE 1
Rainfall Totals

Date	Amount of Rainfall
14 April 2000	Trace
15 April 2000	0.04 inches
17 April 2000	0.41 inches
18 April 2000	0.08 inches
21 April 2000	0.01 inches
22 April 2000	Trace

Inspections Performed

Matt Brookshire of CDM Federal performed two SWPPP inspections for the month of April 2000. Copies of all inspections can be found at the construction trailer (see Jim Baldwin, Project Superintendent). Table 2 presents data from the SWPPP inspections performed for the month of April.

TABLE 2
Inspection Results

Date of Inspection	Type of Inspection	Discrepancies Identified
14 April 2000	Pre-storm	• Sandbag berms are deteriorating in many locations. Many of the sandbags need replacing. The sandbags need to be maintained to provide a sufficient berm and should be at a minimum 2 bags high. Jim Baldwin stated he is aware of the sandbag problem and that FWEC would be replacing them in the very near future. • A new aboveground storage tank (AST) has been placed near the main gate. This AST is double-walled and was installed on 03 April 2000.
19 April 2000	Post-storm	• Sandbags still need repair and replacement. • Soil from the stockpiles has spilled over the top of the berms in several locations. This soil should be placed back onto the stockpile inside the berms as soon as possible. • Continue daily sweeping, especially in the high traffic areas.

Summary

The sandbags play an important role at the site. Their maintenance should be placed on a high priority. As the soil stockpile become larger, the perimeter of the stockpiles should be inspected daily to ensure that soil has not spilled over the stockpile berms.

Inspections will continue to be performed before and after storm events anticipated to deliver significant rainfall and runoff. Post-storm inspections will be performed as

appropriate. Depending on the number of storm events, a minimum of one inspection will be performed for May 2000.

If you have any questions, please call me at (858) 268-3383.

Sincerely,

CDM FEDERAL PROGRAMS CORPORATION

Larry Davidson

Larry Davidson, P.E.
Project Manager

c: D. Bjostad
M. Brookshire
File

CDM Federal Programs Corporation

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operations

3760 Convoy Street
Suite 210
San Diego, CA 92111
Tel: 858 268-3383 Fax: 858 268-9677

June 9, 2000
DOC. No. 5361

Mr. Abram Eloskof
Foster Wheeler Environmental Corporation
611 Anton Blvd., Suite 800
Costa Mesa, CA 92626

Subject: Storm Water Pollution Prevention Plan (SWPPP) for Storm Water Discharges Associated with Construction Activity
CERCLA Non-Time-Critical Removal Action at Installation Restoration Sub-Site 2A Mole Pier
Naval Station San Diego, San Diego, CA
Construction SWPPP Implementation Summary

Dear Mr. Eloskof:

This letter report summarizes the construction Storm Water Pollution Prevention Plan (SWPPP) implementation activities being performed by CDM Federal Programs Corporation (CDM Federal) for the CERCLA Non-Time-Critical Removal Action at Installation Restoration (IR) Sub-Site 2A for the month of May 2000. Foster Wheeler Environmental Corporation (FWEC) is the Contractor performing the removal action at IR Sub-Site 2A.

Storm Events in May 2000

Table 1 presents the storm events recorded in San Diego (data collected from San Diego International Airport reporting station, located approximately 6 miles from IR Sub-Site 2A).

Table 1
Rainfall Totals

Date	Amount of Rainfall
08 May 2000	Trace
23 May 2000	Trace
25 May 2000	Trace

Inspections Performed

Matt Brookshire of CDM Federal performed one SWPPP inspection for the month of May 2000. Copies of all inspections can be found at the construction trailer (see Jim Baldwin, Project Superintendent). Table 2 presents data from the SWPPP inspection performed for the month of May.

Table 2
Inspection Results

Date of Inspection	Type of Inspection	Discrepancies Identified
15 May 2000	Routine Inspection	• A diesel fuel can was sitting on the soil next to the flammable storage locker. All hazardous material containers will be stored properly at all times. • The traffic route identified in the SWPPP has been modified, but does not present any stormwater discharge problems. • The site has expanded slightly, but all BMPs are in place.

Summary

Loading of soil into trucks for offsite disposal was occurring at the time of the inspection. Proper decontamination procedures were being performed. FWEC should make certain that all hazardous material containers are being stored properly and that daily site sweeping continues.

Inspections will continue to be performed before and after storm events anticipated to deliver significant rainfall and runoff. Post-storm inspections will be performed as appropriate. Depending on the number of storm events, a minimum of one inspection will be performed for June 2000.

If you have any questions, please call me at (858) 268-3383.

Sincerely,

CDM FEDERAL PROGRAMS CORPORATION

Larry Davidson

Larry Davidson, P.E.
Project Manager

c: D. Bjostad
M. Brookshire
File

CDM Federal Programs Corporation

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engineering
construction
operations

3760 Convoy Street
Suite 210
San Diego CA 92111
Tel. 858 268-3383 Fax. 858 268-9677

July 10, 2000
DOC. No. 5383

Mr. Abram Eloskof
Foster Wheeler Environmental Corporation
611 Anton Blvd., Suite 800
Costa Mesa, CA 92626

Subject: Storm Water Pollution Prevention Plan (SWPPP) for Storm Water Discharges Associated with Construction Activity
CERCLA Non-Time-Critical Removal Action at Installation Restoration Sub-Site 2A Mole Pier
Naval Station San Diego, San Diego, CA
Construction SWPPP Implementation Summary

Dear Mr. Eloskof:

This letter report summarizes the construction Storm Water Pollution Prevention Plan (SWPPP) implementation activities being performed by CDM Federal Programs Corporation (CDM Federal) for the CERCLA Non-Time-Critical Removal Action at Installation Restoration (IR) Sub-Site 2A for the month of June 2000. Foster Wheeler Environmental Corporation (FWEC) is the Contractor performing the removal action at IR Sub-Site 2A.

Storm Events in June 2000

Table 1 presents the storm events recorded in San Diego (data collected from San Diego International Airport reporting station, located approximately 6 miles from IR Sub-Site 2A).

Table 1
Rainfall Totals

Date	Amount of Rainfall
21 June 2000	Trace
25 June 2000	Trace

Inspection Performed

Matt Brookshire of CDM Federal performed one SWPPP inspection for the month of June 2000. Copies of all inspections can be found at the construction trailer (see Jim Baldwin, Project Superintendent). Table 2 presents data from the SWPPP inspection performed for the month of June.

Table 2
Inspection Results

Date of Inspection	Type of Inspection	Discrepancies Identified
07 June 2000	Routine Inspection	• Fill gravel and a pile of soil next to it are not located on liners If a storm event is forecasted, then the two piles will need to be placed onto bermed liners.

Summary

FWEC is doing a good job of maintaining the site with respect to the SWPPP. Inspections will continue to be performed before and after storm events anticipated to

deliver significant rainfall and runoff. Post-storm inspections will be performed as appropriate. Depending on the number of storm events, a minimum of one inspection will be performed for July 2000.

If you have any questions, please call me at (858) 268-3383.

Sincerely,

CDM FEDERAL PROGRAMS CORPORATION

Larry Davidson

Larry Davidson, P.E.
Project Manager

c: D. Bjostad
M. Brookshire
File

CDM Federal Programs Corporation

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3760 Convoy Street
Suite 210
San Diego, CA 92111
Tel: 858 268-3383 Fax: 858 268-9677

August 11, 2000
DOC. No. 5411

Mr. Abram Eloskof
Foster Wheeler Environmental Corporation
611 Anton Blvd., Suite 800
Costa Mesa, CA 92626

Subject: Storm Water Pollution Prevention Plan (SWPPP) for Storm Water Discharges Associated with Construction Activity
CERCLA Non-Time-Critical Removal Action at Installation Restoration Sub-Site 2A Mole Pier
Naval Station San Diego, San Diego, CA
Construction SWPPP Implementation Summary

Dear Mr. Eloskof:

This letter report summarizes the construction Storm Water Pollution Prevention Plan (SWPPP) implementation activities being performed by CDM Federal Programs Corporation (CDM Federal) for the CERCLA Non-Time-Critical Removal Action at Installation Restoration (IR) Sub-Site 2A for the month of July 2000. Foster Wheeler Environmental Corporation (FWEC) is the Contractor performing the removal action at IR Sub-Site 2A.

Storm Events in June 2000

No rainfall was recorded in San Diego for the month of July (data collected from San Diego International Airport reporting station, located approximately 6 miles from IR Sub-Site 2A).

Inspection Performed

Matt Brookshire of CDM Federal performed one SWPPP inspection for the month of July 2000. Copies of all inspections can be found at the construction trailer (see Jim Baldwin, Project Superintendent). Table 1 presents data from the SWPPP inspection performed for the month of July.

Table 1
Inspection Results

Date of Inspection	Type of Inspection	Discrepancies Identified
07 July 2000	Routine Inspection	• Phase II has started. Not all of the new fenced area has the silt fence in place. If a rain event is in the forecast, this silt fence will need to be put into place prior to the storm. This silt fence will be required to be in place prior to the beginning of the rainy season (October) • Some of the sandbag berms for the stockpiles require repair.

Summary

FWEC is doing a good job of maintaining the site with respect to the SWPPP. Inspections will continue to be performed before and after storm events anticipated to deliver significant rainfall and runoff. Post-storm inspections will be performed as appropriate. Depending on the number of storm events, a minimum of one inspection will be performed for August 2000.

If you have any questions, please call me at (858) 268-3383.

Sincerely,

CDM FEDERAL PROGRAMS CORPORATION

Larry Davidson

Larry Davidson, P.E.
Project Manager

c: M. Brookshire
File

CDM Federal Programs Corporation

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3760 Convoy Street
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Tel: 858 268-3383 Fax 858 268-9677

September 19, 2000
DOC. No. 5349

Mr. Abram Eloskof
Foster Wheeler Environmental Corporation
611 Anton Blvd., Suite 800
Costa Mesa, CA 92626

Subject: Storm Water Pollution Prevention Plan (SWPPP) for Storm Water Discharges Associated with Construction Activity
CERCLA Non-Time-Critical Removal Action at Installation Restoration Sub-Site 2A Mole Pier
Naval Station San Diego, San Diego, CA
Construction SWPPP Implementation Summary

Dear Mr. Eloskof:

This letter report summarizes the construction Storm Water Pollution Prevention Plan (SWPPP) implementation activities being performed by CDM Federal Programs Corporation (CDM Federal) for the CERCLA Non-Time-Critical Removal Action at Installation Restoration (IR) Sub-Site 2A for the month of August 2000. Foster Wheeler Environmental Corporation (FWEC) is the Contractor performing the removal action at IR Sub-Site 2A.

Storm Events in August 2000

The only rainfall recorded in San Diego for the month of August was a trace on August 2 and 0.01 inches on August 29 (data collected from San Diego International Airport reporting station, located approximately 6 miles from IR Sub-Site 2A).

Inspection Performed

Matt Brookshire of CDM Federal performed one SWPPP inspection for the month of August 2000. Copies of all inspections can be found at the construction trailer (see Jim Baldwin, Project Superintendent). Table 1 presents data from the SWPPP inspection performed for the month of August.

Table 1
Inspection Results

Date of Inspection	Type of Inspection	Discrepancies Identified
09 August 2000	Routine Inspection	• Some areas of the silt fence has fallen down or are not in place. This should be corrected prior to any storm events. • Sandbag berms for some of the stockpiles need repair. • The traffic route has changed due to additional excavation work. • Additional excavation has changed the site conditions from that identified in the SWPPP. A current site map should be included in the SWPPP.

Summary

Little rain, if any, is anticipated over the next month. The official start of the rainy season begins October 1. It is important that FWEC have all BMPs in place at the start of the rainy season. Inspections will continue to be performed before and after storm events anticipated to deliver significant rainfall and runoff. Post-storm

inspections will be performed as appropriate. Depending on the number of storm events, a minimum of one inspection will be performed for September 2000.

If you have any questions, please call me at (858) 268-3383.

Sincerely,

CDM FEDERAL PROGRAMS CORPORATION

Larry Davidson

Larry Davidson, P.E.
Project Manager

c: M. Brookshire
File

CDM Federal Programs Corporation

consulting
engineering
construction
operations

3760 Convoy Street
Suite 210
San Diego, CA 92111
Tel. 858 268-3383 Fax 858 268-9677

October 11, 2000
DOC. No. 5459

Mr. Abram Eloskof
Foster Wheeler Environmental Corporation
611 Anton Blvd., Suite 800
Costa Mesa, CA 92626

Subject: Storm Water Pollution Prevention Plan (SWPPP) for Storm Water Discharges Associated with Construction Activity
CERCLA Non-Time-Critical Removal Action at Installation Restoration Sub-Site 2A Mole Pier
Naval Station San Diego, San Diego, CA
Construction SWPPP Implementation Summary

Dear Mr. Eloskof:

This letter report summarizes the construction Storm Water Pollution Prevention Plan (SWPPP) implementation activities being performed by CDM Federal Programs Corporation (CDM Federal) for the CERCLA Non-Time-Critical Removal Action at Installation Restoration (IR) Sub-Site 2A for the month of September 2000. Foster Wheeler Environmental Corporation (FWEC) is the Contractor performing the removal action at IR Sub-Site 2A.

Storm Events in September 2000

The only rainfall recorded in San Diego for the month of September were trace amounts on September 7, 22, and 23 (data collected from San Diego International Airport reporting station, located approximately 6 miles from IR Sub-Site 2A)

Inspection Performed

Matt Brookshire of CDM Federal performed two SWPPP inspections for the month of September 2000. Copies of all inspections can be found at the construction trailer (see Jim Baldwin, Project Superintendent). Table 1 presents data from the SWPPP inspections performed for the month of September.

Table 1
Inspection Results

Date of Inspection	Type of Inspection	Discrepancies Identified
14 September 2000	Routine Inspection	• Sediment has accumulated in several areas outside of the bermed and covered stockpiles. • Excavation is near completion. Backfilling is underway.
28 September 2000	Pre-Wet Season Inspection	• In the PWC excavation area, there is an asphalt and soil stockpile that is not on a liner and has no berm around it. This stockpile needs to be placed on a liner with a berm. • Sediment has accumulated at and around the gate on 7th Street. This needs to be removed immediately. • Sandbag berms around the soil stockpiles need repair. • Need to include an updated site map in the SWPPP that accurately describes the site conditions. • At the request of Darren Belton (SWDIV RPM) CDM Federal reviewed a revised grading plan that incorporates the demolition of Building 3224. The revised grading plan does not present any stormwater runoff concerns.

Summary

October 1 begins the official start of the rainy season. It is important that FWEC have all BMPs in place at the start of the rainy season and take action on those deficiencies noted from the 28 September 2000 inspection. Inspections will continue to be performed before and after storm events anticipated to deliver significant rainfall and runoff. Post-storm inspections will be performed as appropriate. Depending on the number of storm events, a minimum of one inspection will be performed for October 2000.

If you have any questions, please call me at (858) 268-3383.

Sincerely,

CDM FEDERAL PROGRAMS CORPORATION

Larry Davidson

Larry Davidson, P.E.
Project Manager

c: M. Brookshire
File

CTO 39

Construction Site Inspection Checklist

Inspected By: Matt Brookshire **Date:** 5-13-02

Project: Non-Time Critical Removal Action at IR Sub Site 2A Expansion

Contractor: FWEC

Contractor's Inspector: CDM Federal Programs

Today's Weather: Sunny 70°F

Check "Yes" or "No" or "N/A" if not applicable

Initial Inspection

YES	NO	N/A		
		X	1.	Has there been an absence of rain since the last inspection?
X			2.	Are all sandbags, straw bales, and silt fences in-place in accordance with the WPCD or SWPPP and are they functioning properly?
		X	3.	If present, are all significant erodible slopes protected from erosion through the implementation of acceptable soil stabilization practices?
		X	4.	If present, are all sediment traps/basins functioning properly?
X			5.	Are all material handling and storage areas reasonably clean and free of spills, leaks, or other deleterious materials?
X			6.	Are all equipment storage and maintenance areas reasonably clean and free of spills, leaks, or any other deleterious materials?
		X	7.	Are all materials and equipment properly covered?
X			8.	Are all discharge points reasonably free of any noticeable pollutant discharges?
X			9.	Are all discharge points reasonably free of any significant erosion or sediment transport?
X			10.	Are all BMPs identified on the WPCD or SWPPP installed in the proper location and according to the specifications for the plan?
X			11.	Are all BMPs in good repair and maintained in functional order?

Construction Site Inspection Checklist (continued)

YES	NO	N/A		
	X		12.	Are all on-site traffic routes, parking, and storage of equipment and supplies restricted to areas designated in the WPCD or SWPPP for those uses?
X			13.	Are all locations of temporary soil stockpiles or construction materials in approved areas?
		X	14	Are all seeded or landscaped areas properly maintained?
X			15.	Are sediment controls in place at discharge points from the site?
		X	16.	Are slopes free of significant erosion?
		X	17.	Is sediment, debris, or mud being cleaned from public roads at intersections with site access roads?
	X		18.	Does the WPCD or SWPPP reflect current site conditions?

If you answered "no" to any of the above questions, describe any corrective action, which must be taken to remedy the problem, and when the corrective action is to be completed.

This is the initial SWPPP inspection for the expansion of IRS Sub-site 2. FWEC has setup the soil stockpile area properly. No actual excavation has been initiated. The soil stockpile area is fenced and is properly bermed with heavy plastic and sandbag berms. The area around the soil stockpile area is clean and clear of debris. #12+13. The SWPPP will have an updated site plan included into it ASAP. A separate traffic plan has been prepared and will be referred to in the SWPPP. Any changes to the SWPPP should be also updated in the other copies (FWEC + Navy copies).

Note: A stormwater catch basin is located approximately 50 feet from the entrance of the stockpile area. Ensure good housekeeping both inside the fence perimeter and outside the fenced area.

Inspector's Signature: [signature]

Next scheduled inspection: Week of May 20 – after excavation begins.

Construction Site Inspection Checklist

Inspected By: Matt Brookshire **Date:** 6-3-02

Project: Non-Time Critical Removal Action at JP Subsite 2A

Contractor: FWEC

Contractor's Inspector: CDM

Today's Weather: Partly cloudy ~ 67°F

Check "Yes" or "No" or "N/A" if not applicable

YES	NO	N/A		
X			1.	Has there been an absence of rain since the last inspection?
X			2.	Are all sandbags, straw bales, and silt fences in-place in accordance with the WPCD or SWPPP and are they functioning properly?
		X	3.	If present, are all significant erodible slopes protected from erosion through the implementation of acceptable soil stabilization practices?
		X	4.	If present, are all sediment traps/basins functioning properly?
X			5.	Are all material handling and storage areas reasonably clean and free of spills, leaks, or other deleterious materials?
X			6.	Are all equipment storage and maintenance areas reasonably clean and free of spills, leaks, or any other deleterious materials?
X			7.	Are all materials and equipment properly covered?
X			8.	Are all discharge points reasonably free of any noticeable pollutant discharges?
X			9.	Are all discharge points reasonably free of any significant erosion or sediment transport?
X			10.	Are all BMPs identified on the WPCD or SWPPP installed in the proper location and according to the specifications for the plan?
X			11	Are all BMPs in good repair and maintained in functional order?

Construction Site Inspection Checklist (continued)

YES	NO	N/A		
	X		12	Are all on-site traffic routes, parking, and storage of equipment and supplies restricted to areas designated in the WPCD or SWPPP for those uses?
X			13	Are all locations of temporary soil stockpiles or construction materials in approved areas?
		X	14	Are all seeded or landscaped areas properly maintained?
X			15	Are sediment controls in place at discharge points from the site?
		X	16	Are slopes free of significant erosion?
X			17	Is sediment, debris, or mud being cleaned from public roads at intersections with site access roads?
	X		18	Does the WPCD or SWPPP reflect current site conditions?

If you answered "no" to any of the above questions, describe any corrective action, which must be taken to remedy the problem, and when the corrective action is to be completed.

In the area of the stockpile, in the area of the asphalt and concrete debris, there are a couple of small dirt piles. These piles should be properly covered for any predicted rain events.
#12+18. The stockpile area and the equipment stored there are not reflected in the current SWPPP. Amend the SWPPP to show this stockpile area.

Inspector's Signature: [signature]

Construction Site Inspection Checklist

Inspected By: Matt Brookshire **Date:** 7-9-02

Project: Non-Time Critical Removal Action at IR Subsite 2A

Contractor: FWEC

Contractor's Inspector: CDM

Today's Weather: Cloudy, 70°F

Check "Yes" or "No" or "N/A" if not applicable

YES	NO	N/A		
X			1	Has there been an absence of rain since the last inspection?
X			2	Are all sandbags, straw bales, and silt fences in-place in accordance with the WPCD or SWPPP and are they functioning properly?
		X	3	If present, are all significant erodible slopes protected from erosion through the implementation of acceptable soil stabilization practices?
		X	4	If present, are all sediment traps/basins functioning properly?
X			5	Are all material handling and storage areas reasonably clean and free of spills, leaks, or other deleterious materials?
X			6	Are all equipment storage and maintenance areas reasonably clean and free of spills, leaks, or any other deleterious materials?
X			7	Are all materials and equipment properly covered?
X			8	Are all discharge points reasonably free of any noticeable pollutant discharges?
X			9	Are all discharge points reasonably free of any significant erosion or sediment transport?
X			10	Are all BMPs identified on the WPCD or SWPPP installed in the proper location and according to the specifications for the plan?
X			11	Are all BMPs in good repair and maintained in functional order?

Construction Site Inspection Checklist (continued)

YES	NO	N/A		
X			12.	Are all on-site traffic routes, parking, and storage of equipment and supplies restricted to areas designated in the WPCD or SWPPP for those uses?
X			13.	Are all locations of temporary soil stockpiles or construction materials in approved areas?
		X	14.	Are all seeded or landscaped areas properly maintained?
X			15.	Are sediment controls in place at discharge points from the site?
		X	16.	Are slopes free of significant erosion?
X			17.	Is sediment, debris, or mud being cleaned from public roads at intersections with site access roads?
X			18.	Does the WPCD or SWPPP reflect current site conditions?

If you answered "no" to any of the above questions, describe any corrective action, which must be taken to remedy the problem, and when the corrective action is to be completed.

Continue with housekeeping activities at the soil stockpile during transfer of soil from stockpile to the trucks.

Inspector's Signature: [illegible]

Construction Site Inspection Checklist

Inspected By: Matt Brookshire Date: 8-13-02

Project: Non-Time Critical Removal Action at IR Subsite 2A

Contractor: Foster Wheeler

Contractor's Inspector: CDM

Today's Weather: Overcast - ~70°F

Check "Yes" or "No" or "N/A" if not applicable

YES	NO	N/A		
X			1.	Has there been an absence of rain since the last inspection?
X			2.	Are all sandbags, straw bales, and silt fences in-place in accordance with the WPCD or SWPPP and are they functioning properly?
X			3.	If present, are all significant erodible slopes protected from erosion through the implementation of acceptable soil stabilization practices?
		X	4.	If present, are all sediment traps/basins functioning properly?
X			5.	Are all material handling and storage areas reasonably clean and free of spills, leaks, or other deleterious materials?
X			6.	Are all equipment storage and maintenance areas reasonably clean and free of spills, leaks, or any other deleterious materials?
X			7	Are all materials and equipment properly covered?
X			8.	Are all discharge points reasonably free of any noticeable pollutant discharges?
X			9.	Are all discharge points reasonably free of any significant erosion or sediment transport?
X			10	Are all BMPs identified on the WPCD or SWPPP installed in the proper location and according to the specifications for the plan?
X			11.	Are all BMPs in good repair and maintained in functional order?

Construction Site Inspection Checklist (continued)

YES	NO	N/A		
X			12.	Are all on-site traffic routes, parking, and storage of equipment and supplies restricted to areas designated in the WPCD or SWPPP for those uses?
X			13.	Are all locations of temporary soil stockpiles or construction materials in approved areas?
		X	14.	Are all seeded or landscaped areas properly maintained?
X			15.	Are sediment controls in place at discharge points from the site?
X			16.	Are slopes free of significant erosion?
X			17.	Is sediment, debris, or mud being cleaned from public roads at intersections with site access roads?
X			18.	Does the WPCD or SWPPP reflect current site conditions?

If you answered "no" to any of the above questions, describe any corrective action, which must be taken to remedy the problem, and when the corrective action is to be completed.

Site is in good condition. Continue with daily housekeeping activities.

Inspector's Signature: [signature] 8/13/02

Construction Site Inspection Checklist

Inspected By: Matt Brookshire **Date:** 8-27-02

Project: Non-Time Critical Removal Action at TR Subsite 2A

Contractor: FWEC

Contractor's Inspector: CDM

Today's Weather: Sunny ~70°F

Check "Yes" or "No" or "N/A" if not applicable

YES	NO	N/A		
X			1.	Has there been an absence of rain since the last inspection?
X			2.	Are all sandbags, straw bales, and silt fences in-place in accordance with the WPCD or SWPPP and are they functioning properly?
		X	3.	If present, are all significant erodible slopes protected from erosion through the implementation of acceptable soil stabilization practices?
		X	4.	If present, are all sediment traps/basins functioning properly?
X			5.	Are all material handling and storage areas reasonably clean and free of spills, leaks, or other deleterious materials?
X			6.	Are all equipment storage and maintenance areas reasonably clean and free of spills, leaks, or any other deleterious materials?
X			7.	Are all materials and equipment properly covered?
X			8.	Are all discharge points reasonably free of any noticeable pollutant discharges?
X			9.	Are all discharge points reasonably free of any significant erosion or sediment transport?
X			10.	Are all BMPs identified on the WPCD or SWPPP installed in the proper location and according to the specifications for the plan?
X			11	Are all BMPs in good repair and maintained in functional order?

Construction Site Inspection Checklist (continued)

YES	NO	N/A		
X			12.	Are all on-site traffic routes, parking, and storage of equipment and supplies restricted to areas designated in the WPCD or SWPPP for those uses?
X			13.	Are all locations of temporary soil stockpiles or construction materials in approved areas?
		X	14.	Are all seeded or landscaped areas properly maintained?
X			15.	Are sediment controls in place at discharge points from the site?
		X	16.	Are slopes free of significant erosion?
X			17.	Is sediment, debris, or mud being cleaned from public roads at intersections with site access roads?
X			18.	Does the WPCD or SWPPP reflect current site conditions?

If you answered "no" to any of the above questions, describe any corrective action, which must be taken to remedy the problem, and when the corrective action is to be completed.

Site is in good condition. Continue with the daily housekeeping activities. Ensure that the silt fencing remains in good repair. Maintain silt fencing around the entire perimeter. The wet season begins in October. It will become very important to keep all soil stockpiles covered. During any forecasted rain events, all stockpiles will be covered unless being actively added to/removed.

Inspector's Signature: _____

Construction Site Inspection Checklist

Inspected By: Matt Brookshire **Date:** 9/9/02

Project: CERCLA NON-TIME CRITICAL REMOVAL ACTION AT IR SYASTIC 2A

Contractor: FWEC

Contractor's Inspector: CDM

Today's Weather: Sunny 70°F

Check "Yes" or "No" or "N/A" if not applicable

YES	NO	N/A		
	X		1.	Has there been an absence of rain since the last inspection?
X			2.	Are all sandbags, straw bales, and silt fences in-place in accordance with the WPCD or SWPPP and are they functioning properly?
		X	3.	If present, are all significant erodible slopes protected from erosion through the implementation of acceptable soil stabilization practices?
		X	4.	If present, are all sediment traps/basins functioning properly?
X			5.	Are all material handling and storage areas reasonably clean and free of spills, leaks, or other deleterious materials?
X			6.	Are all equipment storage and maintenance areas reasonably clean and free of spills, leaks, or any other deleterious materials?
X			7.	Are all materials and equipment properly covered?
X			8.	Are all discharge points reasonably free of any noticeable pollutant discharges?
X			9	Are all discharge points reasonably free of any significant erosion or sediment transport?
X			10.	Are all BMPs identified on the WPCD or SWPPP installed in the proper location and according to the specifications for the plan?
X			11.	Are all BMPs in good repair and maintained in functional order?

Construction Site Inspection Checklist (continued)

YES	NO	N/A		
X			12.	Are all on-site traffic routes, parking, and storage of equipment and supplies restricted to areas designated in the WPCD or SWPPP for those uses?
X			13.	Are all locations of temporary soil stockpiles or construction materials in approved areas?
		X	14.	Are all seeded or landscaped areas properly maintained?
X			15.	Are sediment controls in place at discharge points from the site?
		X	16.	Are slopes free of significant erosion?
X			17	Is sediment, debris, or mud being cleaned from public roads at intersections with site access roads?
X			18.	Does the WPCD or SWPPP reflect current site conditions?

If you answered "no" to any of the above questions, describe any corrective action, which must be taken to remedy the problem, and when the corrective action is to be completed.

#1. Rain event occurred on 9/6 + 9/7. Approximately <0.20 inches of rain. Site is in good condition with no evidence of sediment being transported off the site.

Inspector's Signature: Matt Brook

9/9/02

Construction Site Inspection Checklist

Inspected By: Matt Brookshire **Date:** 9/30/02

Project: CERCLA Non-Time Critical Removal Action at IR Subsite 2A

Contractor: FWEC

Contractor's Inspector: CDM

Today's Weather: Cloudy ~ 65°F

Check "Yes" or "No" or "N/A" if not applicable

YES	NO	N/A		
X			1.	Has there been an absence of rain since the last inspection?
X			2.	Are all sandbags, straw bales, and silt fences in-place in accordance with the WPCD or SWPPP and are they functioning properly?
		X	3.	If present, are all significant erodible slopes protected from erosion through the implementation of acceptable soil stabilization practices?
		X	4.	If present, are all sediment traps/basins functioning properly?
X			5.	Are all material handling and storage areas reasonably clean and free of spills, leaks, or other deleterious materials?
X			6.	Are all equipment storage and maintenance areas reasonably clean and free of spills, leaks, or any other deleterious materials?
X			7.	Are all materials and equipment properly covered?
X			8.	Are all discharge points reasonably free of any noticeable pollutant discharges?
X			9	Are all discharge points reasonably free of any significant erosion or sediment transport?
X			10	Are all BMPs identified on the WPCD or SWPPP installed in the proper location and according to the specifications for the plan?
X			11.	Are all BMPs in good repair and maintained in functional order?

Construction Site Inspection Checklist (continued)

YES	NO	N/A		
	X		12.	Are all on-site traffic routes, parking, and storage of equipment and supplies restricted to areas designated in the WPCD or SWPPP for those uses?
X			13.	Are all locations of temporary soil stockpiles or construction materials in approved areas?
		X	14.	Are all seeded or landscaped areas properly maintained?
X			15.	Are sediment controls in place at discharge points from the site?
		X	16.	Are slopes free of significant erosion?
X			17.	Is sediment, debris, or mud being cleaned from public roads at intersections with site access roads?
X			18.	Does the WPCD or SWPPP reflect current site conditions?

If you answered "no" to any of the above questions, describe any corrective action, which must be taken to remedy the problem, and when the corrective action is to be completed.

#12 Update the SWPPP to include the new truck route.

Continue with the good housekeeping efforts.

Note: Rainy Season begins 10-1-02.

Inspector's Signature: Matt Bloom

DEPARTMENT OF THE NAVY
SOUTH BAY AREA FOCUS TEAM
SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
2585 CALLAGAN HWY, BLDG 99
SAN DIEGO, CALIFORNIA 92136-5198

5090.3(a)
Ser 5SEN.DB/257
October 11, 2000

Ms. Marisue Crystal
Department of Environmental Health
County of San Diego
P. O. Box 129261
San Diego, CA 92112-9261

Dear Ms. Crystal:

The enclosed permit application is for three 4-inch Hollow Stem Auger (HSA) borings for the installation of 1-inch temporary wells at the Naval Station San Diego (NAVSTA) Installation Restoration (IR) Sub-Site 2A, Mole Pier. The entire area of Sub-Site 2A is being handled under the Navy Installation Restoration Program in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Southwest Division, Naval Facilities Engineering Command has been designated as the lead for this CERCLA action.

Section 121(e) of CERCLA, 42 USC 9621(e)(1), and 40 CFR 300.400(e) provide an exemption from Federal, State, and local permit requirements for response actions at CERCLA sites. Consequently, only substantive requirements of local permitting ordinances need to be met. We understand that local agencies have an interest in protecting the quality of groundwater from potential contamination through improper well installation; therefore, we are providing your agency with the applications for review and comment. Our contractor, Foster Wheeler Environmental Corporation, will also provide the completed boring logs for your files following the completion of this work.

If you have any questions or comments, please contact the undersigned at (619) 556-7617.

Sincerely,

DARREN L. BELTON
Remedial Project Manager
By direction of the Commander

Enclosure: (1) Permit Application (Direct-Push Borings)

5090.3(a)
Ser 5SEN.DB/257
October 11, 2000

Copy to:
Ms. Laurie Walsh
California Regional Water Quality Control Board,
San Diego Region
9771 Clairemont Mesa Blvd., Suite A
San Diego, CA 92124-1331

Mr. Glenn Starr
Foster Wheeler Environmental Corporation
1230 Columbia Street, Suite 640
San Diego, CA 92101

COMMANDING OFFICER
PUBLIC WORKS CENTER CODE 980
Susan Van Winkle
2730 MCKEAN STREET SUITE 1
SAN DIEGO CA 92136-5294

Deputy Assistant Chief of Staff
Environmental Department (N4512)
Attn: Theresa Morley
33000 Nixie Way, Building 50, Suite 326
San Diego, CA 92147-5110

PERMIT APPLICATION
GROUNDWATER
AND
VADOSE MONITORING WELLS
AND EXPLORATORY OR TEST BORINGS

OFFICE USE ONLY
PERMIT#: W
SAM CASE Y/N H
DATE RECEIVED:
FEE PAID:

10-10-00 A07-56 RCVD

A. RESPONSIBLE PARTY Naval Station San Diego Phone (619) 524-6399
Mailing Address 3300 Nixie Way, Bldg. 50, Suite 326 City San Diego State CA Zip 92147-5110
Contact Person Theresa Morley, Env Code 4512TM Phone (619) 524-6399 ext.

B. SITE ASSESSMENT PROJECT IF APPLICABLE #H N/A

C. CONSULTING FIRM Foster Wheeler Environmental Corporation
Mailing Address 1230 Columbia Street City San Diego State CA Zip 92101
Registered Professional Mike DeAngelis Registration # 7040 RG
Contact Person Glenn Starr (Project Manager) Phone (619) 234-8696 ext. 217

D. DRILLING COMPANY Tri-County Drilling C57# 547737 Phone
Mailing Address 6415 Marindustry Drive City San Diego State CA Zip 92121-2536

E. CONSTRUCTION INFORMATION

TYPE OF WELLS/ BORINGS TO BE CONSTRUCTED

	#
☐ Groundwater	3
☐ Vadose	
☐ Boring	
☐ Other	

NUMBER OF WELLS TO BE DESTROYED #

3 Temporary Wells

MATERIALS TO BE USED

CASING
Type
Gauge
Diameter
Well Screen Size
Filter Pack (Specify)

SEAL
☐ Neat Cement
☐ Cement & Bentonite
☐ Sand-Cement
X Bentonite
☐ Other

Drilling Method
X Auger ☐ Air Rotor
☐ Mud Rotary
☐ Percussion ☐ Other

PROPOSED CONSTRUCTION
Estimated ground water depth 10 ft.

CEMENT SEAL to
BENTONITE SEAL 0 to 5
FILTER PACK 5 to 15
PERFORATION 5 to 15

PROPOSED DRILLING DATE 10/11/00

NOTE:

For wells with multiple completion attach a well construction diagram

I agree to comply with the requirements of the current Site Assessment and Mitigation Manual, and with all ordinances and laws of the County of San Diego and the State of California pertaining to well/boring construction and destruction.

Sheryl Peterson 10/9/00
DRILLER'S SIGNATURE DATE

Within 30 days of completion, I will furnish the Monitoring Well Permit Clerk with a complete and accurate well/boring log. I will certify the design and construction/or destruction of the well/borings in accordance with the permit application.

[signature] 10-6-00
RG SIGNATURE DATE

F. SITE INFORMATION

1. ASSESSOR'S PARCEL NUMBER 760-000-00
Site Name Installation Restoration Site 2 (CERCLA), Mole Pier
Site Address Naval Station San Diego City San Diego Zip 92136

PROPERTY OWNER Naval Station San Diego Phone
Mailing Address City State Zip

NUMBER OF WELLS 3 TYPE OF WELLS Temporary Groundwater Monitoring Well

2. ASSESSOR'S PARCEL NUMBER
Site Name
Site Address City Zip

PROPERTY OWNER Phone
Mailing Address City State Zip

NUMBER OF WELLS TYPE OF WELLS

3. ASSESSOR'S PARCEL NUMBER
Site Name
Site Address City Zip

PROPERTY OWNER Phone
Mailing Address City State Zip

NUMBER OF WELLS TYPE OF WELLS

4. ASSESSOR'S PARCEL NUMBER
Site Name
Site Address City Zip

PROPERTY OWNER Phone
Mailing Address City State Zip

NUMBER OF WELLS TYPE OF WELLS

G. FEES: CERCLA EXEMPT

FEE CODE	BASE FEE INCLUDES FIRST BORING/WELL	FEE FOR ADDITIONAL
1 Groundwater MW's Vapor Extraction MW's Vadose Wells	$150.00	____ x $150 = ____
2 Boring/Hydropunch Geoprobes, etc.	$150.00	____ x $90 = ____
3 Destruction	$150.00	____ x $140 = ____

H. APPLICATION SUBMITTAL, PLAN APPROVAL, PERMIT ISSUANCE, AND REQUIRED INSPECTIONS

Submit one (1) original and two (2) copies of this application package, including plan drawings with the required fee to the Monitoring Well Permit Clerk, Department of Environmental Health, Site Assessment and Mitigation Program (SAM). 1255 Imperial Avenue, San Diego, CA 92101. Or mail to P. O. Box 129261, San Diego, CA 92112-9261. **Checks should be made payable to the County of San Diego.**

A permit will be issued by SAM upon review and approval of the application and plans. The required fees must be submitted with the application package. Information in addition to that presented in the application package may be needed in order to obtain final approval No work is to begin on the proposed project until a permit has been issued. The required inspections cannot be scheduled until a permit is issued.

Once the permit has been issued, it is the responsibility of the permittee to notify SAM at least two (2) working days in advance to schedule each required inspection.

USE ONE APPLICATION PACKAGE FOR A SINGLE SITE PROJECT. A SINGLE PERMIT WILL BE ISSUED FOR A SINGLE SITE PROJECT, EVEN IF WELLS/BORINGS ARE COMPLETED ON MORE THAN ONE PROPERTY. FOR MULTIPLE SITE PROJECT'S, USE SEPARATE APPLICATIONS.

PERMIT APPLICATION FOR
GROUND WATER AND VADOSE MONITORING WELLS
EXPLORATORY OR TEST BORINGS

$ For well destruction, complete only #1 below

$ Well design, logging and construction must be supervised by a Geologist, Engineering Geologist or Civil Engineer who is registered or certified by the State of California.

$ Well driller must have an active C-57 License and current $2,500 bond with the County

$ Provide a plot plan giving location of property lines, existing improvements such as structures, underground tanks, underground utilities, underground piping, and the proposed monitoring and/or observation wells.

$ If applicable, provide a signed copy of the Property Owner Responsibility form for each property listed in Section "F".

- Provide encroachment/excavation permit and/or traffic control permit for work to be done in street or public right of way.

1 If wells are to be destroyed, provide a description of method of destruction.

Bentonite slurry seal from 0 to 15 feet below ground surface (bgs).

2. What is the proposed purpose of the well/boring?

The 1-inch temporary wells, screened between 5 and 15 feet bgs, will be used to determine the presence and thickness of any diesel free-product within and adjacent to the Mole Pier project site.

3. What procedures will be used to prevent the well/boring from providing an avenue to contamination during construction?

The temporary wells will be installed to a depth of 15 feet bgs and in accordance with SAM guidelines. These temporary wells will remain in-place for a period not to exceed two weeks and will be destructed immediately after this period.

4. What field procedures will be utilized to determine if contamination exists?

Temporary wells will be tested with an oil/water interphase probe to determine if free-product is present. Drilling spoils will be screened for contamination by field geologist utilizing visual and PID screening. Drilling spoils will be further sampled and analyzed to determine disposal options.

5. What procedures will be used to determine whether samples will be sent for laboratory testing or archiving?

Not applicable. No soil or groundwater samples will be collected.

6. What constituents will be monitored and tested (Include EPA Laboratory Test Methods to be used)?

Not applicable. No soil or groundwater samples will be collected.

7. How will samples be transported and preserved?

Not applicable. No soil or groundwater samples will be collected.

8. What sampling methods will be used?

Not applicable. No soil or groundwater samples will be collected.

9. Are you proposing a variation from the methods and/or procedures presented in the requirements for the construction of Vadose and Ground Water Monitoring Wells (Current SAM Manual Requirements). If yes, specify these variations.

No.

10. What procedures will be used to ensure no contamination will be introduced by the drilling equipment?

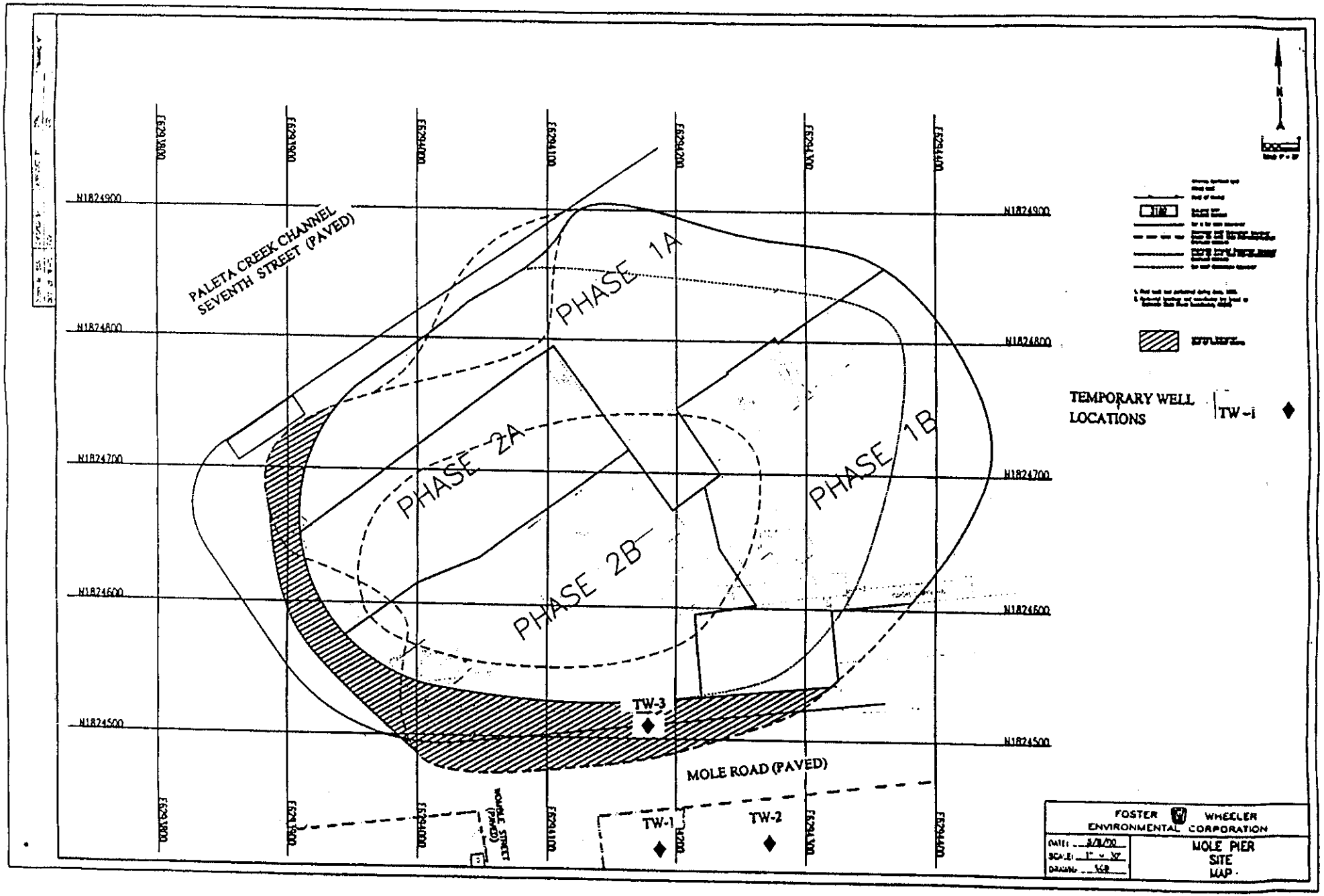
Drilling equipment will be decontaminated prior to and between temporary well locations. Decontamination will be done by steam cleaning of drilling tools. Decontamination liquids will be placed in 55-gallon drums and profiled for transportation and disposal.

11. What methods will be used to clean sampling equipment?

Not applicable. No soil or groundwater samples will be collected.

12. What cleaning method will be used to clean casing and screen prior to installation?

Temporary well screens will be steam cleaned as stated in item 10.


PALETA CREEK CHANNEL
SEVENTH STREET (PAVED)
PHASE 1A
PHASE 1B
PHASE 2A
PHASE 2B
TW-1
TW-2
TW-3
MOLE ROAD (PAVED)
N1824900
N1824800
N1824700
N1824600
N1824500
E629800
E629900
E630000
E630100
E630200
E630300
E630400
TEMPORARY WELL LOCATIONS
TW-i
FOSTER WHEELER ENVIRONMENTAL CORPORATION
DATE: 3/8/00
SCALE: 1" = 30'
DRAWN: VGR
MOLE PIER SITE MAP

JENAL ENGINEERING CORP.

GENERAL ENGINEERING CONTRACTOR

February 15, 2000

To: Foster Wheeler
1230 Columbia Street, Suite 640
San Diego, CA 92101

Attn: Will Paty

Site: Mole Pier 2
32nd Street Naval Station
San Diego, CA 92136

Re: Prime Contract #N68711-98-D-5713
Vendor PO #24304

Attached is documentation pertaining to the underground fuel storage tank removal at the site identified above. Document #1 is from the County of San Diego, Department of Health Services. This document pertains to the inspection conducted by the County during the underground fuel storage tank removal. Document #2 is from Pacific Steel, Inc. This second document references the disposal for recycling of the underground fuel storage tank that was removed. Retain these documents for your records.

If you have any questions, please contact me at (619) 697-2200.

Thank you,

Alan P. Westermeyer
Vice President - Jenal Engineering Corp.

APW:lf-021500
File: JEC-2133. Documentation

P.O. BOX 459 • LEMON GROVE, CA 91946 BUS. (619) 697-2200 FAX (619) 697-2400

PACIFIC STEEL INC.

1700 CLEVELAND AVENUE
NATIONAL CITY, CALIFORNIA 91950
(619) 474-7081

PEDDLER SCRAP PURCHASES S.D.

SAN DIEGO CA

DATE: 02/14/00
02:47:53 PM

VENDOR REFERENCE: 5V83335

TICKET NUMBER: 180696

CONTRACT NUMBER:

CERTIFICATE NUMBER: 286705

COMMODITY	DESCRIPTION	GROSS	TARE	NET	PRICE	AMOUNT
HMSU#1SD	HSM # 1 UNPREPARED					
		27000	26480	520	24.0000/NT	6.24
					TOTAL:	6.24

I HEREBY CERTIFY THAT I AM THE LAWFUL OWNER OF THE ABOVE MATERIAL, AND THIS MATERIAL IS FREE OF ENCUMBRANCES AND THAT I AM OF LEGAL AGE.

ID: _____

DRIVER: _____

ACCEPTED _____

THIS IS TO CERTIFY THAT THE ABOVE DESCRIBED COMMODITY WAS WEIGHED, MEASURED OR COUNTED BY A WEIGHMASTER, WHOSE SIGNATURE IS ON THIS CERTIFICATE, WHO IS A RECOGNIZED AUTHORITY OF ACCURACY, AS PRESCRIBED BY CHAPTER 7 (COMMENCING WITH SECTION 12700) OF DIVISION 5 OF THE CALIFORNIA BUSINESS AND PROFESSIONS CODE, ADMINISTERED BY THE DIVISION OF MEASUREMENT STANDARDS OF THE CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE.

WEIGHT MASTER: _____

LAND AND WATER QUALITY DIVISION
UNDERGROUND STORAGE TANK SYSTEM CLOSURE REPORT

ESTABLISHMENT NO. H01447 PLAN CHECK NO. AT4567
SITE NAME USN - NAV STA PHONE
SITE ADDRESS Bldg 199 CITY San Diego CA ZIP 92147
CONTRACTOR Tenal and Foster Wheeler PHONE 234-8696

Number of tanks to be removed 1 2 3 4 5 6 7 8
Decontamination by
Manifest No.
Tank rinsate/(amount & destination)

FIRE AGENCY PRESENT YES NO
Dept. Navy Base Public Wks.
Permit No. (Contracted - not reqd to be on site)
Inspector

					REMARKS
Tank ID No.	T001				
Capacity	1000 ga.				1000 ga diesel tank
Tank Construction	sw Steel				uncovered during exc. removal
Materials stored	diesel				of contaminated site
% L.E.L.	0%				(heavy metals) (10' x 4'
Dry ice/other (amt.)	25#				
Tank condition	poor - holes from corrosion at top				tank location just E. of Bldg. 19
Backfill soil type	Sand				
Backfill condition	no staining noted				tank to Pacific Coast Recycling
Native soil type	Sand				
Native condition	no staining noted				Sampling beneath tank to be
Excavation odors?	no.				Conducted by: Foster Wheeler
Stockpile odors?	no.				Environment.
Water present?	no.			NOTE:	Site is an IR site.
Ponded product?	no				DTSC and the State Water Board
Piping removed?	no piping				are the lead agencies for clean-up

REINSPECTION REQUIRED YES NO If yes, explain DEH soil samples were not required per permit conditions.

NOTICE: You are hereby notified that on 2/14/00 an Environmental Health Specialist conducted an inspection for the closure of One hazardous substance underground storage tank(s) A summary of the conditions follows:

- [x] An **unauthorized release** of a hazardous substance has been observed by the Environmental Health Specialist You are hereby required to initiate **Corrective Action** measures (See Page 4 for details) Site is an IR site - lead agency DTSC + State Water Board
- [ ] A determination of this site's status is pending the Site Assessment and Mitigation (SAM) Program's receipt and review of analytical results for the samples taken from the tank and/or piping closure site A laboratory report must be submitted to SAM within 30 days Please request that the laboratory send a copy of the analytical report directly to Richard Hansen at the address provided below. (& continue remediation efforts as required by SWB + DTSC.)

- It is the responsibility of the tank owner/operator or their agent to maintain the tank closure site in a safe and secure manner.
- Notify the local Fire Department and the SAM Program immediately whenever a fire or explosion hazard is present.
- Authorization to backfill the tank excavation for safety purposes does not indicate that a suspect or known unauthorized release has been mitigated to the satisfaction of SAM or any other regulatory agency.

RECEIVED BY F Adams
PRINTED NAME Forrest Adams
PHONE NUMBER 697-2200

Richard Hansen (619) 338-2200
Environmental Health Specialist
SAM - P.O. Box 129261
San Diego, CA 92112-9261 (619) 338-2222

County of San Diego
Department of Environmental Health
Land and Water Quality Division

Moua Allen
338-2214

Permit # AT4567
Establishment # H01447
Date: February 8, 2000
Expiration Date: February 8, 2001

Permit for Underground Storage Tank Construction/Closure

SITE NAME: Building 199
SITE ADDRESS: USN- Naval Station, San Diego, CA 92147
OWNER NAME: US Navy
OWNER ADDRESS: US Navy

DESCRIPTION OF PROPOSED WORK: Remove one underground storage tank and all associated piping

PERMIT CONDITIONS:

For tank systems that are to be removed, the excavation shall be exposed prior to the scheduled inspection and sampling points identified by the DEH inspector. Sampling is required for both tank(s) and piping. The tank(s) and piping must remain in the excavation until the DEH inspector approves the removal.

Please Note:

1) All product piping and underground storage tanks must be removed at the same time. Failure to do so will result in a re-inspection and $300 00 re-inspection fee

) **Site is a IR site. DTSC and Water Board are the lead agency for clean-up. Soil sampling will not be required by DEH.**

Please be advised:

All underground storage tanks that are to be removed must be cleaned and properly inerted prior to the removal

1) The tanks are visually free from all product, sludge, rinsate and debris. Residual staining caused by soil and waste consisting of light shadows, slight streaks, or minor discoloration's, and soil and waste in cracks, crevices and pits may be present

2) Tanks that held a Hazardous material or hazardous waste that had the potential to generate flammable vapors, must be properly inerted. A combustible gas indicator (CGI) which is properly calibrated shall be used to measure the concentration of flammable vapor at the top, center and bottom of the underground storage tank. The concentration of flammable vapor must be below twenty percent of the Lower Explosive Limit (LEL) for the material that was contained in the tank(s) and the oxygen concentration shall be the same as that of ambient air, approximately 20 8%. The underground storage tank(s) must inerted with dry ice using a minimum of 15 pounds for every 1000 gallons of tank capacity

3) Failure to have the tank properly cleaned prior to the time of the removal will result in the cancellation of the removal and will require a re-inspection and $300 00 re-inspection fee

his office must be given at least 48 hours notice for all required Underground Storage Tank Activity. Please contact the Land and Water Quality Division, Plan Check desk at (619) 338-2214 to schedule or cancel inspections.

Plans Reviewed and Approved By: Robert Rapista Date: 2/8/00

Notified

PERMIT APPLICATION
PART I
GENERAL PROJECT INFORMATION

UNDERGROUND HAZARDOUS MATERIALS STORAGE TANK FACILITY

OFFICE USE ONLY
EST#: H01447
PLAN CK#: AT 4567
DATE RECEIVED: 2/8/00
FEED PAID: $375.00
PLAN APPROVAL: 2/8/00
HYDRO UNIT: 8.3
BENEF. USE:

A. SITE NAME: Naval Station, San Diego -- Building 199
SITE ADDRESS: Bldg 199 City San Diego Zip 92147

B. PROPERTY OWNER:
Assessors Parcel No. 550-480-01
Company Dept of the Navy Contact Ms Theresa Morley
Mailing Address Env Div 4512 TM 3300 Pacific Hwy, Bldg 50, Ste 326 City San Diego State CA Zip 92147-5110
Phone (619) 524-6399
24-Hour Emergency Contact Theresa Morley Phone (619) 577-6202

C. TANK OPERATOR:
Company SAME AS ABOVE Contact
Mailing Address City Zip
Phone ( )
24-Hour Emergency Contact Phone ( )

D. CONTRACTOR PERFORMING WORK:
Primary Contractor Foster Wheeler Enviro Corp Contract Luis Rivera
Mailing Address 1230 Columbia St, Ste #640 City San Diego Zip
Phone (619) 234-8696
State Contractor License A & HAZ #692232
Hazardous Substances Certificate HAZ #692232
Worker's Compensation Insurance Company Liberty Mutual Policy #WC2 631-014042-029

E. APPLICATION SUBMITTAL, PLAN APPROVAL, PERMIT ISSUANCE, AND REQUIRED INSPECTIONS

Submit one (1) original and two (2) copies of this application package, including plan drawings with the required fee to the Department of Environmental Health (DEH), Land and Water Quality Division, 1255 Imperial Avenue, San Diego, CA 92101; or mail to P.O. Box 129261, San Diego, CA 92112-9261 **Checks should be made payable to the County of San Diego**.

A permit will be issued by DEH upon review and approval of the application and plans. The required fees must be submitted with the application package. Information in addition to that presented in the application package may be needed in order to obtain final approval. No work is to begin on the proposed project until a permit has been issued. The required inspections cannot be scheduled until a permit is issued.

Once the permit has been issued, it is the responsibility of the permittee to notify DEH at least two (2) working days in advance to schedule each required inspection.

Construction stages at which inspections are required are indicated in each subpart of this application form (i.e., Part II, III, IV, & V).

2/1/99

F. **PROJECT WORK TO BE COMPLETED:** Check Applicable Box	COMPLETE APPLICATION PARTS	FEE CODE TABLE G
] Installation/Construction of new tank(s) systems only (without closing any existing tanks)	I & II	1
☐ Closure of existing tank(s) systems with installation of new tanks (tank replacement)	I, II & III	1 & 2
☑ Closure of existing tank(s) systems with no new tank installation	I & III	2
☐ Interior coating/repair of an existing underground storage tank	I & IV	3
☐ Repipe/pipe-repair piping upgrade of an existing underground storage tank facility	I & V	4
☐ Installation/Construction of vaulted tanks	VI	5

G. **FEES:** The fees shown below cover plan review and the required field inspections. Use the appropriate Fee Code as determined in Section F above.

FEE CODE		
1	Installation fee for first tanks $600.00	Fee: $
	Installation fee for each additional tank No. _____ X $100.00	Fee: $
	Establishment Base Fee $160.00 (Applies to establishments not currently under permit with DEH)	Fee: $
	Operating Permit Fee per tank No. _____ X $120 00 (Does not apply to replacement tanks if the existing tank to be replaced has paid current operating permit fees)	Fee: $
2	Closure fee for first tank $375.00	Fee: $ 375.00
	Closure fee for each additional tank No. _____ X $50.00	Fee: $
3	Repair/Interior coating fee/Bladder fee for first tank $600.00	Fee: $
	Repair/Interior coating/Bladder fee for each additional tank No. _____ X $100.00	Fee: $
4	Repipe/Piping upgrade, pipe repair of an existing tank facility $600.00	Fee: $
5	Consultation fee (e.g. vaulted tank: minimum 2 hours) _____ Hours X $80.00	Fee: $
6	Re-inspection fee $300.00	Fee: $
	Plan Re-Review $200.00	Fee: $
		TOTAL FEE: $ 375

H. **PERMITS REQUIRED BY OTHER AGENCIES:**

PE DEPARTMENT ___Ø___ APCD ___Ø___ BUILDING DEPARTMENT ___Ø___ OTHER ___Ø___

Provide copies of approved applications from these departments and others if needed.

PERMIT APPLICATION
PART III
APPLICATION FOR PERMIT TO CLOSE UNDERGROUND STORAGE TANK SYSTEM

A. TOTAL NUMBER OF TANK SYSTEMS TO BE CLOSED 1
NOTE: UST SYSTEMS INCLUDE TANK AND ALL ASSOCIATED PIPING.

B. DESCRIPTION OF TANKS TO BE CLOSED:

TANK NO.	CAPACITY	DATE INSTALLED	TANK COMPOSITION	TANK PRESENTLY IN USE?	MATERIALS STORED IN TANK
B199-1	850 g	unknown	steel	no	diesel

HAS THE TANK SYSTEM EVER FAILED OR LEAKED? YES ☐ NO ☐ UNKNOWN ☑

REASON FOR TANKS TO BE CLOSED:

DEH USE ONLY:
Project Manager: _____
Type: _____
Status: _____

☐ Meet current state/federal requirements

☐ Replacement of existing tanks

☐ Tank system failure, briefly describe _____

☑ Other, briefly describe No longer needed

E. PREVIOUS OWNERS AND OPERATORS OF THE TANKS:

Dates	Owner/Operator
None	None

F. PROPOSED METHOD OF CLOSURE: ☑ REMOVAL ☐ CLOSURE IN PLACE

SAMPLING PROTOCOL Tank owner/authorized representative responsible for all sampling analyses and associated costs.

- For tank systems that are to be removed. The excavation shall be exposed prior to the scheduled inspection and sampling points identified by the Department of Environmental Health (DEH) inspector. Sampling is required for both tank and piping. **The tank and piping must remain in the excavation until the SAM inspector approves the removal.**
- Tank systems to be closed in place. Submit an alternate plan which must include soil sampling, reason for closing the tank system in place and type of material to be used to fill the tank. Soil sampling and/or hydrostatic testing is also required for piping closures. Tank system closure in place will only be considered after evaluating the risks and hazards if the tank

G. DISPOSAL SITE OF TANK: ~~A American Recycling~~ Pacific Coast Recycling
~~424 [illegible]~~ 8055 Commercial St, San Diego
(619) 238-6740

Note: You must inform DEH of the address of where the tank and piping is to be disposed. **Plans will be disapproved without this information.**

H. ATTACH THREE COPIES OF PLANS SHOWING THE FOLLOWING:

1. Property lines, site address, scale, north arrow.
2. Location of all existing structures.
3. Location of all existing underground storage tank facilities.
4. Location of underground storage tanks and piping to be closed.
5. Location of underground utility lines and vaults.

I. REQUIRED INSPECTION-PERMIT TO CLOSE

A representative from DEH must be on site at the time the tank(s) are closed.

1. **TANK SYSTEM CLOSURE BY REMOVAL:**

- The excavation shall be exposed prior to the scheduled inspection. The tank owner/authorized representative on site must submit a uniform hazardous waste manifest demonstrating that the tank has been properly decontaminated. A combustible gas instrument and soil sampling equipment must be on site. The DEH inspector will identify sampling points. The tank and piping must remain in the excavation until DEH approves the removal.

2. **TANK SYSTEM CLOSURE IN PLACE:**

- Soil sampling for tank(s) and piping.
- After approval of the alternate plan, the tank owner/authorized representative on site shall submit a uniform hazardous waste manifest demonstrating that the tank has been properly decontaminated. The DEH inspector shall verify that the tank system has been properly emptied and will witness the filling with an approved inert substance. Piping must be closed at the same time as the tank.

J. DECLARATION

I declare that to the best of my knowledge and belief, the statements and information provided are correct and true. I understand that information in addition to that provided above may be needed in order to obtain final approval by the Department of Environmental Health (DEH).

I understand that tests and procedures that may be required by other departments and agencies to demonstrate adequate site safety or suitability for further development (e.g. soil compaction testing) are in addition to the requirements of the Department of Environmental Health (DEH).

I will notify the Department of Environmental Health (DEH) at least two working days (48 hours) before work is to begin in order to schedule the required inspections. I understand that site and worker safety are solely the responsibility of the property owner or his agent and that this responsibility is not shared or assumed by the County of San Diego.

SIGNATURE & TITLE [signature]

PRINT NAME Sean Delaney, Construction Manager

TELEPHONE (619) 234-8696 DATE 8 FEB 00

EST. H# _____

PLAN CHECK # _____

WORKPLAN
FOR
UNDERGROUND STORAGE TANK CLOSURE

1. Site Name Building 199, NAVAL STATION, SAN DIEGO

2. Site Address Building 199, NAVAL STATION SAN DIEGO
Located near intersection of Mole Road and 7th Street

3. Describe the existing land use in the surrounding area (residential, commercial, schools). Describe the locations of nearest receptors and the prevailing wind.

Industrial - Shipyard. Prevailing wind is from the West.
UST location is approximately 40 ft from the San Diego Bay

4. Explain how the excavation will be secured. Describe fencing/site security and other methods that ensure public safety.

UST found during ~~Con~~ Environmental Construction work. Excavation area will be secured by temporary fencing.

5. If soil is to be stockpiled, describe thelocation on the Plan Check map. Describe method of soil containment (berming/covers, run-off control).

Excavated soils will be placed on 20 mil liner in bermed ~~storage~~ contaminated soil area ~~(a)~~ as shown on site figure

6. Do you plan to conduct site assessment or remedial work beyond what is necessary to remove the underground storage tank(s) and perform the mandory soil sampling required by the Site Assessment and Mitigation Division (SAM) of the Department of Environmental Health?

☐ Yes ☑ No

If Yes, a Workplan for Post-Tank Removal Investigation must be completed under the direction of a registered professional.

Signature [signature]

Title Construction Manager

elephone (619) 234-8696 Date 8 FEB 00

* For Questions, Please contact Luis Rivero @ (619) 206-1203

DEH:SAM-9176 (Rev. 6/99)

County of San Diego
Department of Environmental Health

PERMIT APPLICATION
PART I
GENERAL PROJECT INFORMATION

UNDERGROUND HAZARDOUS MATERIALS STORAGE TANK FACILITY

OFFICE USE ONLY	
EST#:	H01447
PLAN CK#:	AT4567
DATE RECEIVED:	2/8/00
FEED PAID:	$375.00
PLAN APPROVAL:	2/8/00
HYDRO UNIT:	C3
BENEF. USE:	

A. SITE NAME: Naval Station, San Diego -- Building 199
SITE ADDRESS: Bldg 199 City San Diego Zip 92147

B. PROPERTY OWNER:
Assessors Parcel No. 550-480-01
Company Dept of the Navy Contact Ms Theresa Morley
Mailing Address Env Code 4512 TM 3300 Nexee Way, Bldg 50, Ste 326 City San Diego State CA Zip 92147-5110
Phone (619) 524-6399
24-Hour Emergency Contact Theresa Morley Phone (619) 577-6702

C. TANK OPERATOR:
Company Same As Above Contact
Mailing Address City Zip
Phone ( )
24-Hour Emergency Contact Phone ( )

D. CONTRACTOR PERFORMING WORK:
Primary Contractor Foster Wheeler Envl Corp Contract Luis Rivero
Mailing Address 1230 Columbia St, Ste #640 City San Diego Zip
Phone (619) 234-8696
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Worker's Compensation Insurance Company Liberty Mutual Policy #WC2 631-004042-029

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Construction stages at which inspections are required are indicated in each subpart of this application form (i.e., Part II, III, IV, & V).

Bldg 199

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☐ Interior coating/repair of an existing underground storage tank	I & IV	3
☐ Repipe/pipe-repair piping upgrade of an existing underground storage tank facility	I & V	4
☐ Installation/Construction of vaulted tanks	VI	5

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	Plan Re-Review $200.00	Fee: $
		TOTAL FEE: $ 375

H. PERMITS REQUIRED BY OTHER AGENCIES:

FIRE DEPARTMENT ___Ø___ APCD ___Ø___ BUILDING DEPARTMENT ___Ø___ OTHER ___Ø___

Provide copies of approved applications from these departments and others if needed

PERMIT APPLICATION
PART III
APPLICATION FOR PERMIT TO CLOSE UNDERGROUND STORAGE TANK SYSTEM

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B199-1	850 g	unknown	steel	no	diesel

C. HAS THE TANK SYSTEM EVER FAILED OR LEAKED? YES ☐ NO ☐ UNKNOWN ☑

REASON FOR TANKS TO BE CLOSED:

DEH USE ONLY:
Project Manager: _____
Type: _____
Status: _____

☐ Meet current state/federal requirements

☐ Replacement of existing tanks

☐ Tank system failure, briefly describe _____

☑ Other, briefly describe No longer needed

E. PREVIOUS OWNERS AND OPERATORS OF THE TANKS:

Dates	Owner/Operator
None	None

F. **PROPOSED METHOD OF CLOSURE:** ☑ REMOVAL ☐ CLOSURE IN PLACE

SAMPLING PROTOCOL Tank owner/authorized representative responsible for all sampling analyses and associated costs.

- For tank systems that are to be removed. The excavation shall be exposed prior to the scheduled inspection and sampling points identified by the Department of Environmental Health (DEH) inspector. Sampling is required for both tank and piping. **The tank and piping must remain in the excavation until the SAM inspector approves the removal.**
- Tank systems to be closed in place. Submit an alternate plan which must include soil sampling, reason for closing the tank system in place and type of material to be used to fill the tank. Soil sampling and/or hydrostatic testing is also required for piping closures. Tank system closure in place will only be considered after evaluating the risks and hazards if the tank

G. **DISPOSAL SITE OF TANK:** ~~American Recycling 454-4002~~ Pacific Coast Recycling 8055 Commercial St, San Diego (619) 238-6740

Note: You must inform DEH of the address of where the tank and piping is to be disposed. **Plans will be disapproved without this information.**

H. **ATTACH THREE COPIES OF PLANS SHOWING THE FOLLOWING:**

1. Property lines, site address, scale, north arrow
2. Location of all existing structures.
3. Location of all existing underground storage tank facilities.
4. Location of underground storage tanks and piping to be closed.
5. Location of underground utility lines and vaults.

I. **REQUIRED INSPECTION-PERMIT TO CLOSE**

A representative from DEH must be on site at the time the tank(s) are closed.

1. **TANK SYSTEM CLOSURE BY REMOVAL:**

- The excavation shall be exposed prior to the scheduled inspection. The tank owner/authorized representative on site must submit a uniform hazardous waste manifest demonstrating that the tank has been properly decontaminated. A combustible gas instrument and soil sampling equipment must be on site. The DEH inspector will identify sampling points. The tank and piping must remain in the excavation until DEH approves the removal.

2. **TANK SYSTEM CLOSURE IN PLACE:**

- Soil sampling for tank(s) and piping.
- After approval of the alternate plan, the tank owner/authorized representative on site shall submit a uniform hazardous waste manifest demonstrating that the tank has been properly decontaminated. The DEH inspector shall verify that the tank system has been properly emptied and will witness the filling with an approved inert substance. Piping must be closed at the same time as the tank.

J. **DECLARATION**

I declare that to the best of my knowledge and belief, the statements and information provided are correct and true. I understand that information in addition to that provided above may be needed in order to obtain final approval by the Department of Environmental Health (DEH).

I understand that tests and procedures that may be required by other departments and agencies to demonstrate adequate site safety or suitability for further development (e.g. soil compaction testing) are in addition to the requirements of the Department of Environmental Health (DEH).

I will notify the Department of Environmental Health (DEH) at least two working days (48 hours) before work is to begin in order to schedule the required inspections. I understand that site and worker safety are solely the responsibility of the property owner or his agent and that this responsibility is not shared or assumed by the County of San Diego.

SIGNATURE & TITLE Sean T. Delaney

PRINT NAME Sean Delaney, Construction Manager

TELEPHONE (619) 234-8696 DATE 8 FEB 00

EST. H# _____

PLAN CHECK # _____

WORKPLAN
FOR
UNDERGROUND STORAGE TANK CLOSURE

1. Site Name Building 144, NAVAL STATION, SAN DIEGO

2. Site Address Building 144, NAVAL STATION SAN DIEGO
Located near intersection of Mole Road and 7th Street

3. Describe the existing land use in the surrounding area (residential, commercial, schools). Describe the locations of nearest receptors and the prevailing wind.

Industrial - Shipyard. Prevailing wind is from the West.
UST location is approximately 40 ft from the San Diego Bay

4. Explain how the excavation will be secured. Describe fencing/site security and other methods that ensure public safety.

UST found during ~~an~~ Environmental Construction work. Excavation area will be secured by temporary fencing.

5. If soil is to be stockpiled, describe thelocation on the Plan Check map. Describe method of soil containment (berming/covers, run-off control).

Excavated soils will be placed on 20 mil liner in burned ~~storage~~ contaminated soil area ~~(a)~~ as shown on site figure.

6. Do you plan to conduct site assessment or remedial work beyond what is necessary to remove the underground storage tank(s) and perform the mandory soil sampling required by the Site Assessment and Mitigation Division (SAM) of the Department of Environmental Health?

☐ Yes ☑ No

If Yes, a Workplan for Post-Tank Removal Investigation must be completed under the direction of a registered professional.

Signature [signature]

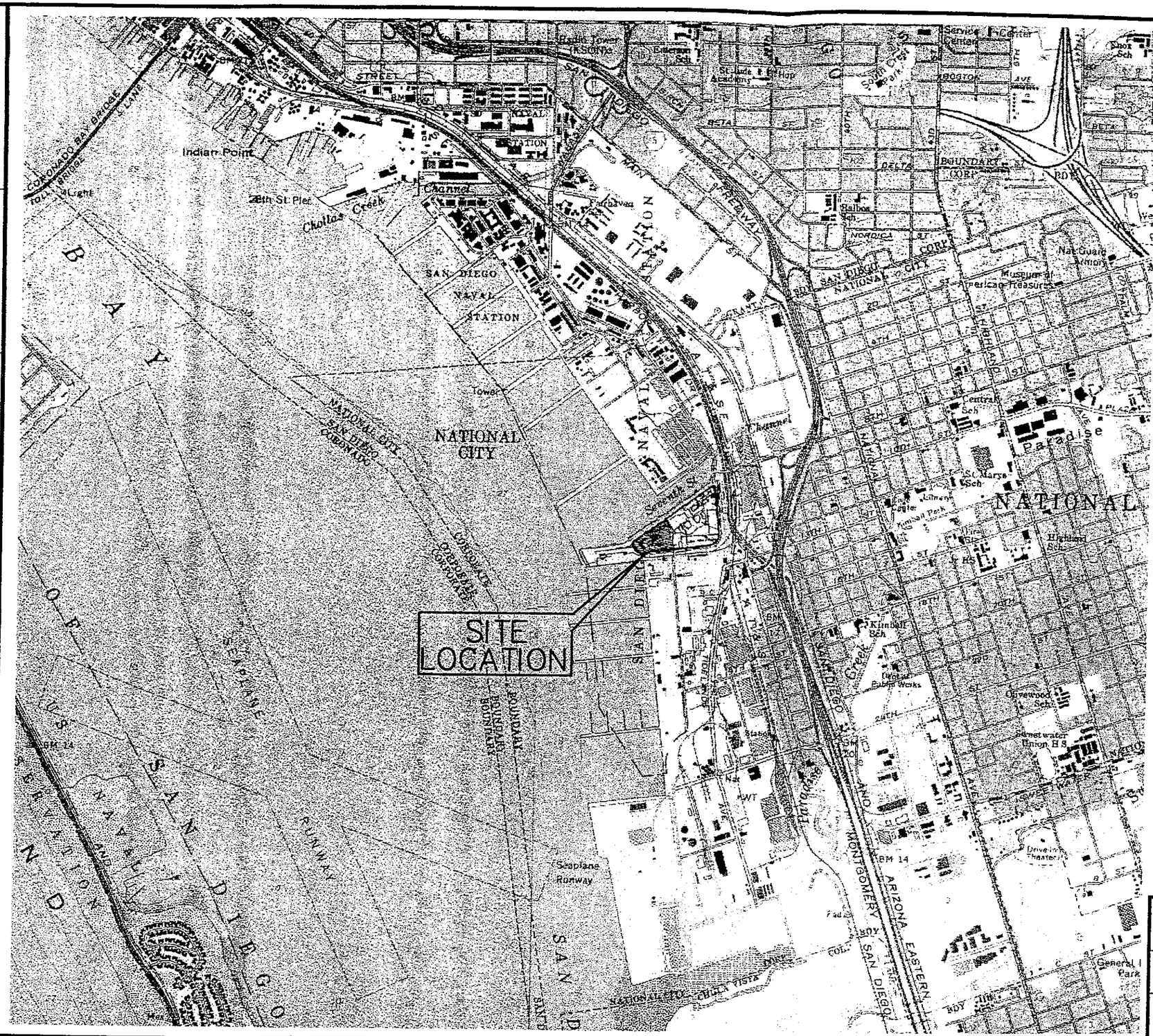
Title Construction Manager

elephone (619) 234-8696 Date 8 FEB 00

* For Questions, Please contact Luis Rivero @ (619) 206-1203

DEH:SAM-9176 (Rev. 6/99)

County of San Diego
Department of Environmental Health



REFERENCE:

USGS 7.5 minute series (topographic) Point Loma Quadrangle: Dated 1967, photorevised 1975; National City Quadrangle: Dated 1967, photorevised 1975
Scale: 1: 24,000

2000 1000 0 2000 4000
SCALE IN FEET

Figure 1
SITE LOCATION MAP

IR Sub-Site 2A
Mole Pier, Naval Station, San Diego

FOSTER WHEELER ENVIRONMENTAL CORPORATION

DRAWN BY: MD	CHECKED BY: ASE	APPROVED BY: ASE	DCN: FWSD-RAC-99-0602	DRAWING NO: 99060201.DWG
DATE: 12/06/99	REV: REVISION 0, December 10, 1999		CTO #0002	

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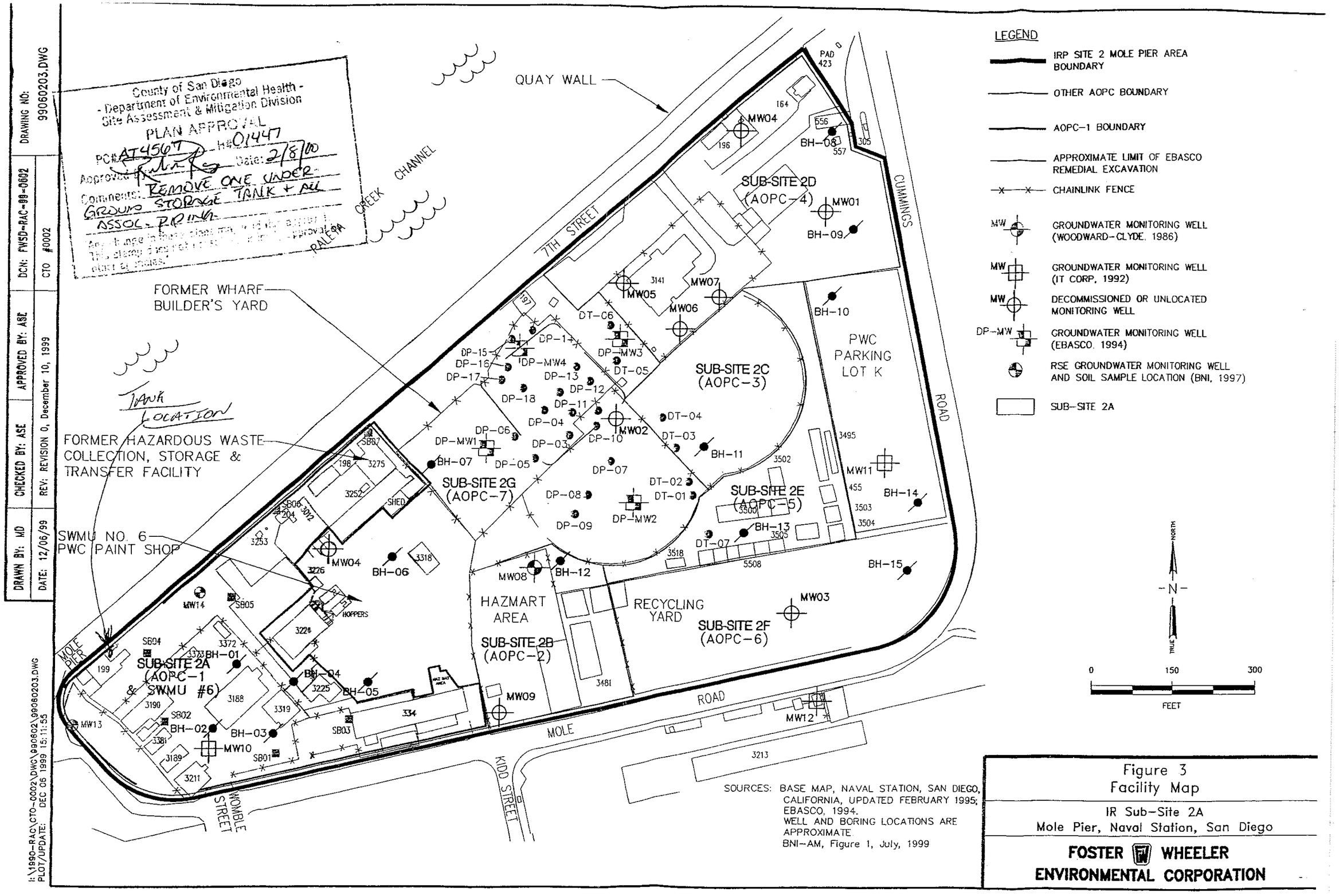
PLOT/UPDATE: DEC 06 1999 18:17:06



SOURCES: BASE MAP, NAVAL STATION, SAN DIEGO, CALIFORNIA, UPDATED FEBRUARY 1995; EBASCO, 1994.
WELL AND BORING LOCATIONS ARE APPROXIMATE.
BNI-AM, Figure 1, July, 1999

Figure 3
Facility Map

IR Sub-Site 2A
Mole Pier, Naval Station, San Diego

FOSTER WHEELER ENVIRONMENTAL CORPORATION

February 14, 2000

I certify that I have inspected an approximately 500-gallon tank that was removed at Mole Pier, Site 2, Subsite IR2A. The tank has two openings. I measured the atmosphere of the tank using a HnU Photoionization detector and a Passport Combustible gas meter. Oxygen levels were 20 8 % by volume, the lower explosive limit was measured as 0% LEL. The HnU had readings of 8 to 11ppm organic vapors. The tank has odors resembling diesel fuel. The tank is otherwise clean and has been rinsed and emptied.

Roger N Margotto

Roger N Margotto, CIH, CSP, CHMM
Certified Industrial Hygienist

LAND AND WATER QUALITY DIVISION
UNDERGROUND STORAGE TANK SYSTEM CLOSURE REPORT

ESTABLISHMENT NO. H01447 PLAN CHECK NO. AT4567

SITE NAME USN- [illegible] PHONE

TE ADDRESS Bldg 199 CITY San Diego CA ZIP 92147

CONTRACTOR Tenal and Foster Wheeler PHONE 234-8696

Number of tanks to be removed (1) 2 3 4 5 6 7 8

Decontamination by

Manifest No.

Tank rinsate/(amount & destination)

FIRE AGENCY PRESENT YES (NO)

Dept. Navy Base Public Wks

Permit No. Contracted - not

Inspector req'd to be on site

Tank ID No.	1001				REMARKS
Capacity	1000 ga.				1000 ga diesel tank
Tank Construction	SW Steel				[illegible] during excavation
Materials stored	diesel				of contaminated site
% L.E.L.	0%				(heavy metals) ([illegible])
Dry ice/other (amt.)	25#				
Tank condition	[illegible]	[illegible]	[illegible]	at top	tank [illegible]
Backfill soil type	[illegible]				
Backfill condition	no staining [illegible]				tank to Pacific Coast Recycling
Native soil type	[illegible]				
Native condition	no staining [illegible]				Sampling beneath tank to be
Excavation odors?	no				Conducted by: Foster Wheeler
Stockpile odors?	no				[illegible]
ater present?	no			NOTE:	Site [illegible]
Ponded product?					[illegible]
Piping removed?	no piping				are the [illegible] agencies [illegible]

REINSPECTION REQUIRED YES NO If yes, explain DEH soil samples were not [illegible]

NOTICE: You are hereby notified that on [illegible]; an Environmental Health Specialist conducted an inspection for the closure of [illegible] hazardous substance underground storage tank(s). A summary of the conditions follows:

- [x] An **unauthorized release** of a hazardous substance has been observed by the Environmental Health Specialist. You are hereby required to initiate **Corrective Action** measures (See Page 4 for details).
- [ ] A determination of this site's status is pending the Site Assessment and Mitigation (SAM) Program's receipt and review of analytical results for the samples taken from the tank and/or piping closure site. A laboratory report must be submitted to SAM within 30 days. Please request that the laboratory send a copy of the analytical report directly to [illegible] at the address provided below.

[illegible]

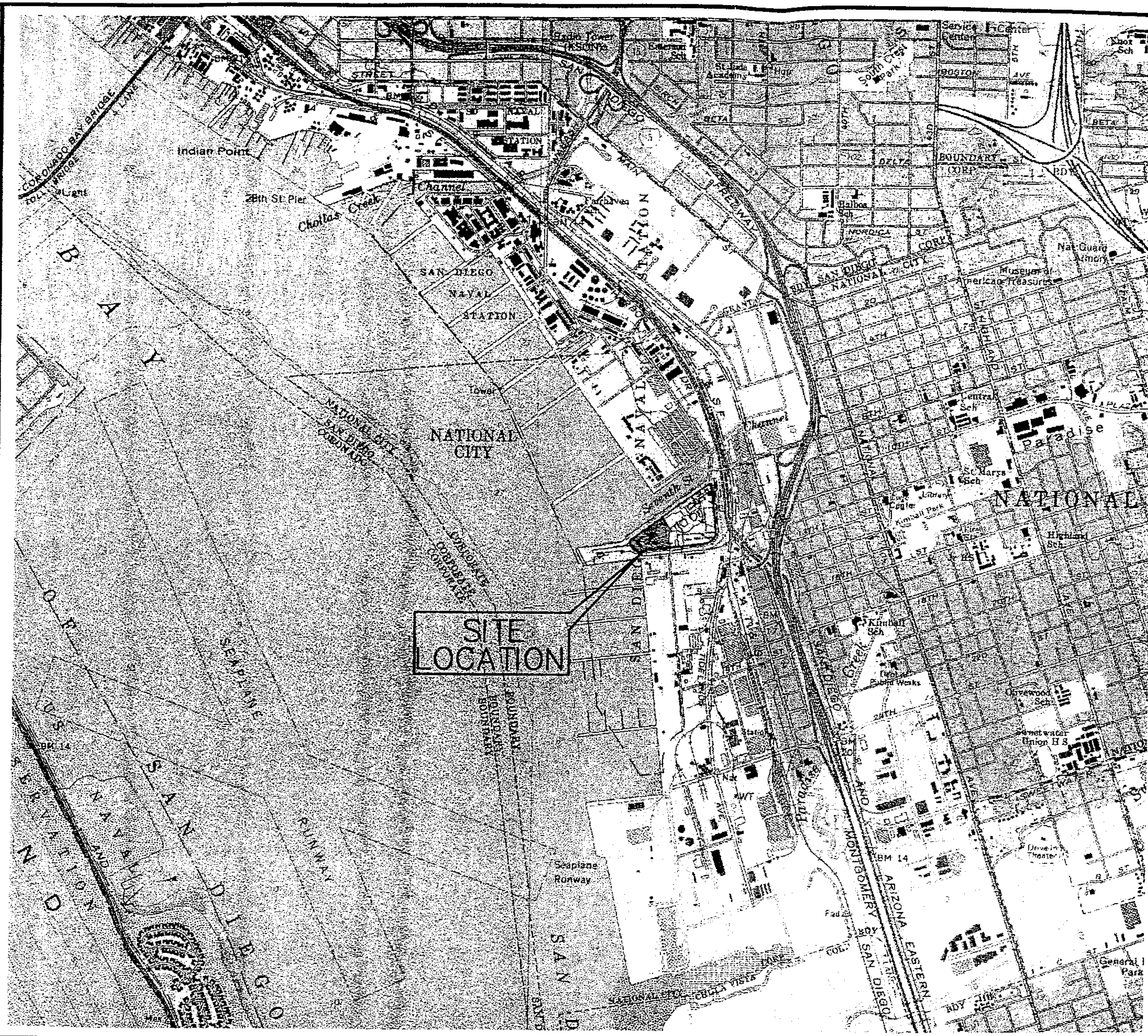
- It is the responsibility of the tank owner/operator or their agent to maintain the tank closure site in a safe and secure manner.
- Notify the local Fire Department and the SAM Program immediately whenever a fire or explosion hazard is present
- Authorization to backfill the tank excavation for safety purposes does not indicate that a suspect or known unauthorized release has been mitigated to the satisfaction of SAM or any other regulatory agency

RECEIVED BY

PRINTED NAME

PHONE NUMBER

Environmental Health Specialist
SAM - P.O. Box 129261
San Diego CA 92112-9261 (619) 338-2222



REFERENCE:

USGS 7.5 minute series (topographic) Point Loma Quadrangle: Dated 1967, photorevised 1975; National City Quadrangle: Dated 1967, photorevised 1975
Scale: 1: 24,000

2000 1000 0 2000 4000
SCALE IN FEET

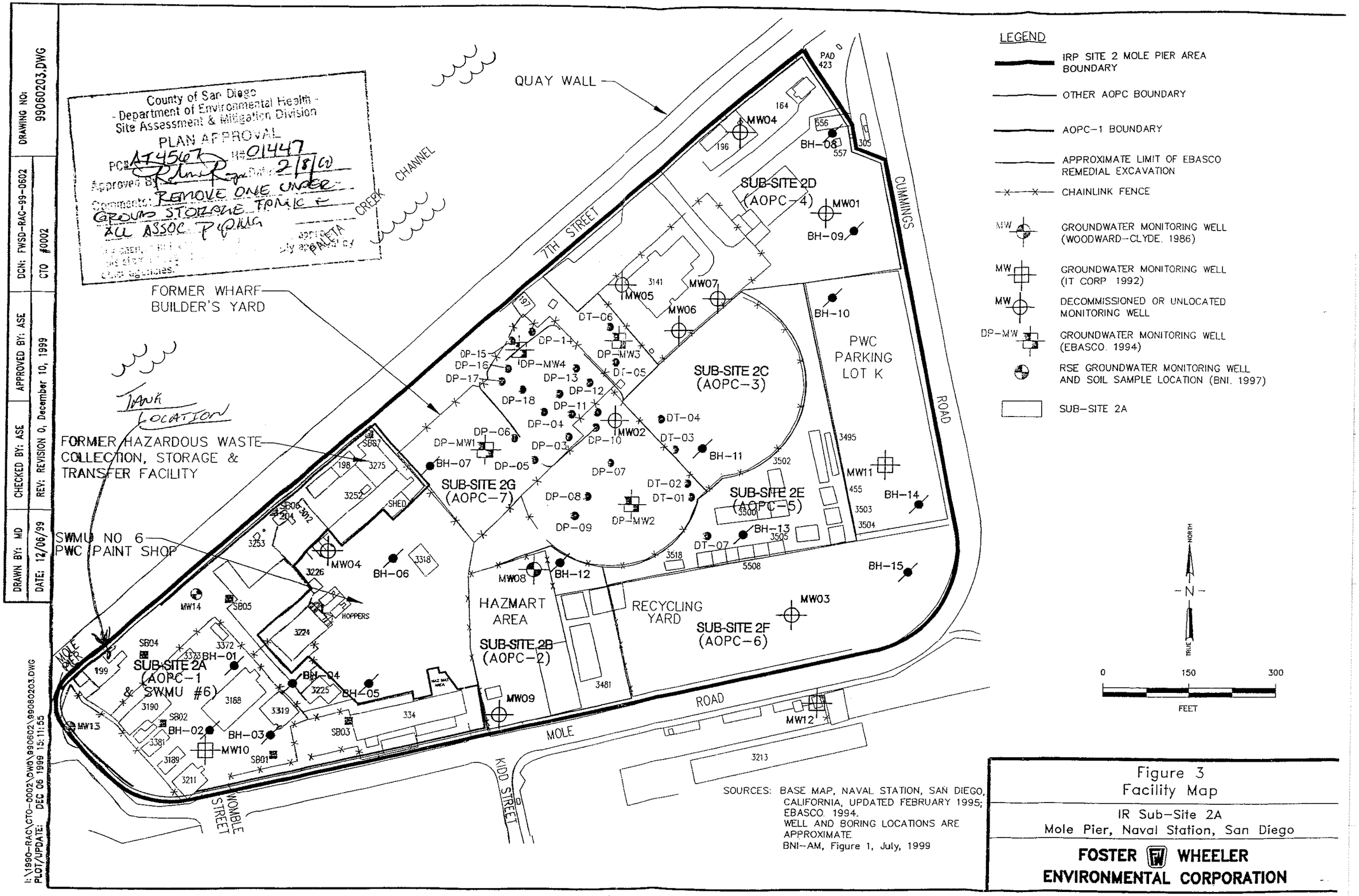
Figure 1
SITE LOCATION MAP

IR Sub–Site 2A
Mole Pier, Naval Station, San Diego

FOSTER WHEELER ENVIRONMENTAL CORPORATION

DRAWN BY: MD	CHECKED BY: ASE	APPROVED BY: ASE	DCN: FWSD-RAC-99-0602	DRAWING NO: 99060201.DWG
DATE: 12/06/99	REV: REVISION 0, December 10, 1999		CTO #0002	

I:\1990-RAC\CTO-0002\DWG\990602\99060201.DWG
PLOT/UPDATE: DEC 06 1999 16:17:06



SOURCES: BASE MAP, NAVAL STATION, SAN DIEGO, CALIFORNIA, UPDATED FEBRUARY 1995; EBASCO 1994.
WELL AND BORING LOCATIONS ARE APPROXIMATE.
BNI--AM, Figure 1, July, 1999

Figure 3
Facility Map

IR Sub-Site 2A
Mole Pier, Naval Station, San Diego

FOSTER WHEELER ENVIRONMENTAL CORPORATION

APPENDIX D

MISCELLANEOUS SAMPLE DATA

APPENDIX E

FIELD CHANGE REQUESTS AND VARIANCES

TABLE E-1

SUMMARY OF FIELD CHANGES AND VARIANCES TO THE REMOVAL ACTION IMPLEMENTATION PLAN

FCR AND VARIANCE	DATE	CHANGE OR VARIANCE DESCRIPTION	REASON FOR CHANGE OR VARIANCE
CTO 0002 FCR-01	03/01/00	Samples will be collected at various depths (down to 10 feet below ground surface) using a hand auger and analyzed for contaminants of concern. All soil samples will be analyzed by the Navy PWC Environmental Laboratory.	To further investigate contaminants between 5 and 10 feet below the ground surface per the DON's direction.
CTO 0002 FCR-02	03/01/00	Omit field duplicate and rinsate samples for soil characterization.	Field duplicate and rinsate samples will be performed on regular field samples and not on waste characterization samples.
CTO 0002 FCR-03	04/10/00	Project Manager change. Glenn Starr replaced Abram Eloskof.	Personnel change.
CTO 0002 FCR-04	04/12/00	A 3-mil polyethylene liner will be used to cover up soil stockpiles instead of 10-mil polyethylene liner.	The 3-mil polyethylene liner is durable and more manageable (flexible) than the 10-mil polyethylene liner.
CTO 0002 FCR-05	05/10/00	Utilize ballast material as float rock instead of the Type I aggregate.	The ballast material contains less fines and will be more suitable for heavy equipment traffic at the bottom of the excavation.
CTO 0002 FCR-06	05/25/00	Collect random direct push samples at 4, 6, and 9 feet below ground surface along 7th Street and Redondo Electric yard. Samples will be analyzed for hexavalent chromium, total chromium, and total lead.	DON requested that FWENC investigate the lateral extent of contaminated soils along 7th Street.
CTO 0002 FCR-07	06/02/00	Modify Project Plans to reflect actual air emissions sampling scheme. No upwind sampling is being collected.	It was determined by FWENC that downwind sampling sufficiently characterizes the potential for off-site emissions for site activities.
CTO 0002 FCR-08	06/29/00	Revise Figures 16, 17, and 18 for the installation of the 40-mil geomembrane liner.	Installing the liner on the vertical face of the concrete slab would prevent damage to the liner. In addition, the toe anchor trench was reduced to 6 to 8 inches deep since free product may be encountered at a 1 foot depth.

TABLE E-1

SUMMARY OF FIELD CHANGES AND VARIANCES TO THE REMOVAL ACTION IMPLEMENTATION PLAN

FCR AND VARIANCE	DATE	CHANGE OR VARIANCE DESCRIPTION	REASON FOR CHANGE OR VARIANCE
CTO 0002 FCR-09	06/30/00	Ten percent of imported backfill materials will be surveyed for potential radiological activity.	This is a preventative measure that will be taken to assure that materials brought on site do not have elevated radiological levels.
CTO 0039 FCR-01	06/06/01	Changes to various sections of the Final Removal Action Implementation Plan (CTO 0002), including the addition of a figure.	To reuse the Work Plan and the SHSP from CTO 0002 on the new project (CTO 0039).
CTO 0039 FCR-02	06/07/01	Changes to the Revised Final Traffic Control Plan (CTO 0002), including changes to two of the figures.	To reuse the Traffic Control Plan from CTO 0002 on the new project (CTO 0039).
CTO 0039 FCR-03	07/02/01	Changes to Revision 1 of Submittal Register for CTO 0002 (DCN: FWSD-RAC-00-0819) to remove items that are not applicable to CTO 0039, and submit as new Submittal Register. No new items are added.	Various items referenced in Revision 1 of Submittal Register for CTO 0002 (DCN: FWSD-RAC-00-0819) are not applicable to CTO 0039.
CTO 0039 FCR-04	07/02/01	Amend SWPPP for Stormwater Discharges Associated with Construction Activity, CERCLA Non-Time-Critical Removal Action at Installation Restoration Sub-Site 2A Mole Pier (prepared by CDM Federal for CTO 0002) to reflect additional excavation under CTO 0039. Amendment is submitted as Amendment #1 to SWPPP. Amendment consists of a two-page letter format and revised Figure 2.	Required by Sections 2 and 5 of SWPPP. Amendment #1 will be used for stormwater pollution prevention under CTO 0039 during additional excavation at Sub-Site 2A Mole Pier.
CTO 0039 FCR-05	05/31/02	Proposed Plan for backfilling under welding canopy grade beam.	Not covered in Work Plan.

TABLE E-1

SUMMARY OF FIELD CHANGES AND VARIANCES TO THE REMOVAL ACTION IMPLEMENTATION PLAN

FCR AND VARIANCE	DATE	CHANGE OR VARIANCE DESCRIPTION	REASON FOR CHANGE OR VARIANCE
CTO 0039 FCR-06	06/07/02	Additional excavation will be performed on the east sidewall of Area C5 to the Sub-Site 2A boundary. This area measures 90x45x10 feet (1,500 cubic yards). Per DON direction, there will be no sampling required of the excavation material to confirm the waste profile as Non-RCRA Hazardous (California Hazardous).	The DON has requested that additional excavation be performed on the east sidewall of Area C5 to the Sub-Site 2A boundary. The DON has also requested that this notification provide a cost credit for the area that will not be excavated under the existing Sandblast Facility, identified in Modification #002 to CTO #039. This area is 25x60x10 feet (555 cubic yards).
CTO 0039 FCR-07	07/22/02	Shoring Plan for welding canopy.	Shoring Plan not included in Work Plan.
CTO 0039 FCR-08	11/08/02	Shoring Design for Building 198, 7th Street, and electrical substation.	Not previously detailed.
CTO 0039 FCR-09	02/05/03	Install wooden door frame in lieu of steel door frame.	To match the existing construction.
CTO-0039 FCR-10	11/21/02	Design bathroom for Building 198.	Not previously detailed.
CTO 0002 Change 1	06/2000	PWC began excavation in Phase 1B.	To expedite the schedule.
CTO 0002 Change 2	2000	Ca-Marine removed several thousand gallons of water/oil from the excavation.	To help delineate the extent of TPH contamination at the site.
CTO 0002 Change 3	2000	Demolition of Building 3224 and associated buildings.	To remove the impacted soil from beneath the structures.
CTO 0002 Change 4	2000	Construction of structural fill where the dust collection system was to re-installed east of Building 324.	To secure the compaction of the soil beneath the collection system.

TABLE E-1

SUMMARY OF FIELD CHANGES AND VARIANCES TO THE REMOVAL ACTION IMPLEMENTATION PLAN

FCR AND VARIANCE	DATE	CHANGE OR VARIANCE DESCRIPTION	REASON FOR CHANGE OR VARIANCE
CTO 0002 Change 5	2000	Removal of sandblast grit from the floor of the Sandblast Facility.	To decontaminate the structure prior to demolition.
CTO 0002 Change 6	2000	Demolition of the spray paint booth.	To access the soils below for removal.
CTO 0002 Change 7	2000	Demolition of Building 3225 by PWC.	To remove the impacted soil from beneath the structures.
CTO 0002 Change 8	2000	Removal of bathroom from Building 334 by FWENC.	To remove the impacted soil from beneath the structures.
CTO 0002 Change 9	2000	Construction of new bathroom within Building 334 by FWENC.	To replace the bathroom that was demolished.
CTO 0002 Change 10	2000 - 2001	The addition of Phases 4, 5, and 6.	To remove contaminated soil identified by confirmation and site characterization sampling.
CTO 0002 Change 11	2000	The removal of Building 199 by PWC.	To remove the impacted soil from beneath the structures.
CTO 0002 Change 12	2000	The removal of electrical duct banks and replacement by PWC.	To assist in the removal of soil from beneath.
CTO 0002 Change 13	2000	Insulation of 8-inch sewer system to Building 199.	To protect the line from the weather.
CTO 0002 Change 14	2000	Design of electrical lighting for parking lot.	To provide the design specification for PWC to install lighting system.
CTO 0002 Change 15	2000	Grading Plan design.	To provide for adequate drainage of parking area.

TABLE E-1

SUMMARY OF FIELD CHANGES AND VARIANCES TO THE REMOVAL ACTION IMPLEMENTATION PLAN

FCR AND VARIANCE	DATE	CHANGE OR VARIANCE DESCRIPTION	REASON FOR CHANGE OR VARIANCE
CTO 0002 Change 16	2000	Removal of propane tanks from site.	To access the soil beneath the tanks.
CTO 0002 Change 17	2000	Design of the containment system around Building 3224 and the installation of the portion for the north side of the building.	To provide containment for the soil beneath the building which was not originally scoped for demolition.
CTO 0002 Change 18	2000	Excavation below the water table.	Excavation was completed below the water table in several areas to remove source material from the former burn pit.
CTO 0039 Change 1	09/06/01	Over-excavate (beyond the current scope) PAH hot spots on three sidewalls. In addition, conducted a broader analysis of the existing stockpile. A 60-day extension was appended to the schedule to accommodate the changes.	Exceeded the PAH cleanup goals at three sidewall sampling locations.
CTO 0039 Change 2	11/28/01	Over-excavated and performed additional analyses at two hot spot locations.	Hexavalent chromium and total dioxins exceeded the cleanup goals at two sidewall locations.
CTO 0039 Change 3	02/26/02	Over-excavated two sidewall sampling locations (with associated analysis, T&D, and backfill). Additional excavation also performed on the east sidewall of Area C5. Descoped excavation under the existing Sandblast Facility. The schedule was extended to accommodate the changes.	Area C5 indicated dioxin levels exceeding cleanup goals.
CTO 0039 Change 4A	07/23/02	Additional excavation performed on the east sidewall of area C5 to the Sub-Site 2A boundary. This change includes a cost credit for the area not excavated under the existing Sandblast Facility (identified in Change 3). The net additional excavation volume is 945 cubic yards. An additional 2,500 cubic yards excavated from the CST area to a depth of 10 feet below ground surface or to groundwater, whichever is deeper.	C5 and CST excavation areas indicated dioxin and hexavalent chromium levels exceeding cleanup goals.

TABLE E-1

SUMMARY OF FIELD CHANGES AND VARIANCES TO THE REMOVAL ACTION IMPLEMENTATION PLAN

FCR AND VARIANCE	DATE	CHANGE OR VARIANCE DESCRIPTION	REASON FOR CHANGE OR VARIANCE
CTO 0039 Change 4B	07/23/02	Excavation of an additional 2,945 cubic yards from the CST area to a depth of 10 feet below ground surface or to groundwater, whichever is deeper.	CST excavation area indicated dioxin and hexavalent chromium levels exceeding cleanup goals.

Notes:

CDM – Camp, Dresser, and McKee, Inc.
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
CST – collection, storage, and transfer
CTO – Contract Task Order
DON – Department of the Navy
FCR – Field Change Request
FWENC – Foster Wheeler Environmental Corporation
PAH – polynuclear aromatic hydrocarbon
PWC – Public Works Center
RCRA – Resource Conservation and Recovery Act
SHSP – Site-Specific Health and Safety Plan
SWPPP – Stormwater Pollution Prevention Plan
T&D – transport and disposal
TPH – total petroleum hydrocarbons

FIELD CHANGE REQUEST LOG

FCR number	Date	Description
01	03/01/00	Use hand auger for analyzing soils from 5 to 10 feet bgs
02	03/01/00	Omit field duplicate and rinsate sampling for soil characterization
03	04/10/00	Personnel change (Project Management)
04	04/12/00	Use of 3-mil liner to cover up soil stockpiles
05	05/10/00	Utilize ballast material as float rock instead of Type 1
06	05/25/00	Collection of random direct push samples along 7th Street
07	06/02/00	Omit upwind emissions sampling
08	6/29/00	Revised 40-mil liner installation
09	6/30/00	Radiological Survey of Backfill

FOSTER WHEELER ENVIRONMENTAL CORPORATION
FIELD CHANGE REQUEST

Section 1 thru 4 to be filled out by Construction. Section 5 to be filled out by Engineering

Project: Navy RAC CTO No. 0002 – Mole Pier NAVSTA, San Diego, California	OFS No. 1990-002D	Field Change Request: FCR - 01 Rev. 0

To: Darren Belton Dept: Engineering Location: Sub-Site 2A Date: 3/1/00

Re: ☐ Drawing No. _____ Title: _____
☐ Spec. No _____ Title: _____
☐ Other Field Sampling Plan (Section 4.1.2 Confirmation)

1. DESCRIPTION (*Items involved, submit sketch if applicable*) "Samples will be collected at various depths (down to 10 feet below ground surface) using a hand auger and analyzed for contaminants of concern to further define the vertical extent of the contaminants. All soil samples will be analyzed by the Navy Public Work Center (PWC) Environmental Laboratory." @ 6.0 →

2. REASONS FOR CHANGE (*If from disposition of non-conformance report list report number*) To further investigate contaminants between 5 and 10 feet below the ground surface per Navy's direction.

3. RECOMMENDED DISPOSITION ☒ Minor Change ☐ Major Change (Contracting Officer Approval Req'd)
☒ Schedule Impact ☐ Budget Impact

Add the above sentence to the second paragraph Sections 4.1.2 of the Field Sampling Plan (Appendix B of the Final Removal Action Implementation Plan).

Initiator (Signature): _____

4. Site Engineer (*Signature*)	Date	Site Manager Concurrence (*Signature*)	Date
Luis Rivero	March 1, 2000		3/1/00

5. Disposition
☐ Not Approved (give reason)
☒ Considered Minor Changes - Approved per Recommended Disposition - Design Documents will not be normally revised: field to maintain as-built records
☐ Considered Major Changes - Action will be taken as described on DCN

Project Engineer (*Signature*)	Date	ROICC Approval (*Signature*)	Date
Not Applicable		Not Applicable	
		ROICC Approval (*Signature*)	Date
		Not Applicable	

Engineer sign and transmit to Resident Engineer with copies to
PJM Abram Elioskol
PQCM Luis Rivero
QCM Mary Schneider
Superintendent Steve Gray
RPM Darren Belton

Others as required _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION
FIELD CHANGE REQUEST

Section 1 thru 4 to be filled out by Construction. Section 5 to be filled out by Engineering

Project: Navy RAC CTO No. 0002 – Mole Pier NAVSTA, San Diego, California	OFS. No 1990-002D	Field Change Request: FCR – 02 Rev. 0

To: Darren Belton Dept: Engineering Location: Sub-Site 2A Date: _____

Re: ☐ Drawing No. _____ Title: _____
☐ Spec. No. _____ Title: _____
☒ Other Field Sampling Plan (Section 4.4 Field Quality Control Samples).

1 DESCRIPTION (*Items involved submit sketch if applicable*)
Field duplicate and rinsate samples will not be performed for soil characterization.

2 REASONS FOR CHANGE (*If from disposition of non-conformance report list report number*) Field duplicate and rinsate samples will be performed on regular field samples and not on waste characterization samples.

3 RECOMMENDED DISPOSITION ☒ Minor Change ☐ Major Change (Contracting Officer Approval Req d)
☐ Schedule Impact ☐ Budget Impact

Make changes to Section 4.4 of the Field Sampling Plan (Appendix B of the Final Removal Action Implementation Plan).

Initiator (Signature): _____

4 Site Engineer (Signature) Luis Rivero	Date March 1, 2000	Site Manager Concurrence (Signature) Jim Baldwin	Date 3/1/2000

5 Disposition
☐ Not Approved (give reason)
☒ Considered Minor Changes - Approved per Recommended Disposition - Design Documents will not be normally revised. field to maintain as-built records.
☐ Considered Major Changes - Action will be taken as described on DCN

Project Engineer (Signature) Not Applicable	Date	ROICC Approval (Signature) Not Applicable	Date
		ROICC Approval (Signature) Not Applicable	Date

Engineer signs and transmits to Resident Engineer with copies to:
PJM Abram Eloskof
PQCM Luis Rivero
QCM Mary Schneider
Superintendent Jim Baldwin
RPM Darren Belton

Others as required _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION
FIELD CHANGE REQUEST

Section 1 thru 4 to be filled out by Construction Section 5 to be filled out by Engineering

Project	OFS No.	Field Change Request
Navy RAC CTO No. 0002 – Mole Pier NAVSTA, San Diego, California	1990-002D	FCR – 03

To Darren Belton Dept Engineering Location Sub-Site 2A Date 4/10/2000

Re ☐ Drawing No. _____ Title: _____
☐ Spec. No _____ Title: _____
☒ Other Various sections in the Final Removal Action Implementation Plan, December 10, 1999.

1 DESCRIPTION (*Items involved subnit sketch if applicable*)
Project Manager change. Glenn Starr replaced Abram Eloskof.

2 REASONS FOR CHANGE (*If from disposition of non-conformance report, list report number*)
Personnel change.

3 RECOMMENDED DISPOSITION ☒ Minor Change ☐ Major Change (Contracting Officer Approval Req'd)
☐ Schedule Impact ☐ Budget Impact

Insert pages as instructed in the attached Table of Contents.

Initiator (Signature): _____

4 Site Engineer (*Signature*)	Date	Site Manager Concurrence (*Signature*)	Date
Luis Rivero	April 6/5/00	Glenn Starr	6/5/00

5 Disposition
☐ Not Approved (give reason)
☒ Considered Minor Changes - Approved per Recommended Disposition - Design Documents will not be normally revised: field to maintain as-built records
☐ Considered Major Changes - Action will be taken as described on DCN

Project Engineer (*Signature*)	Date	ROICC Approval (*Signature*)	Date
Not Applicable		Not Applicable	
		ROICC Approval (*Signature*)	Date
		Not Applicable	

Engineer signs and transmits to Resident Engineer with copies to
PJM Glenn Starr
PQCM Luis Rivero
QCM Mary Schneider
Superintendent Jim Baldwin
RPM Darren Belton

Others as required _____

TABLE OF CONTENTS FOR FCR-03 INSERTS

Insert 1: Attached pages 6-1 through 6-4 and Figure 12 replace respective pages 6-1 through 6-4 and Figure 12 in the Final Removal Action Project Plan

Insert 2: Attached pages 2-1 through 2-2 and Figure 1 replace respective pages 2-1 through 2-2 and Figure 1 in the Final Quality Assurance Project Plan (Appendix C)

Insert 3: Attached pages 2-1 through 2-2 and Table 3 replace respective pages 2-1 through 2-2 and Table 3 in the Final Site-Specific Health and Safety Plan (Appendix D)

Insert 4: Attached pages 2-1 through 2-2, Figure 1, and (8) miscellaneous QC forms replace respective pages 2-1 through 2-2, Figure 1, and all forms in Attachment 6 in the Final Project Contractor Quality Control Plan (Appendix I)

Insert 5: Attached pages 7-1 through 7-2 and Figure 8 replace respective pages 7-1 through 7-2 and Figure 8 in the Final Environmental Protection Plan/Environmental Conditions Report (Appendix L)

INSERT 1

6.0 PROJECT MANAGEMENT

The project management team will be responsible for all technical and administrative aspects of the removal action. Included among the team's responsibilities are the project schedule, staffing, data management, document control, project meetings, and reporting

6.1 PROJECT RESPONSIBILITIES

The SWDIV RPM for this project is Mr. Darren Belton. Mr. Belton is responsible for project management, budget control, and schedule maintenance. The NAVSTA Environmental Engineer, Ms. Theresa L. Morley, is responsible for regulatory agency contacts and community relations. Ms. Theresa Morley will coordinate the field activities with different Base departments and personnel and will also ensure that the field and remedial activities are in compliance with the applicable rules and regulations. Mr. George Polansky is the ROICC and is responsible for the technical oversight of field activities and quality control. Mr. Chris Leadon is the Navy Remedial Technical Manager (RTM) responsible for the technical oversight and review of the project documents.

Foster Wheeler Environmental's Project Manager, Mr. Glenn Starr, will be responsible for general project administration. Mr. Starr oversees budget, schedule, document preparation, and will ensure the quality of all project activities and deliverables The Project Superintendent, Mr. Jim Baldwin, will manage fieldwork and provide oversight to the subcontractors. Mr. Baldwin will coordinate the field activities with the senior technical staff and the Program Quality Control Manager, Ms. Mary Schneider, to ensure that all field activities are in compliance with the project specifications. He will also coordinate these activities with the SHSO, interact with Navy's personnel, and coordinate efforts among all subcontractors. A project organization chart is outlined in Figure 12.

The following is a list of the key contacts:

Agency	Contact	Project Title
Southwest Division Naval Facilities Engineering Command Code 5SEN.DB 2585 Callagan Highway (Building #99) San Diego, CA 92136-5198	Mr. Darren Belton (619) 556-7617	Remedial Project Manager
Southwest Division Naval Facilities Engineering Command Code 4EN.LH 1220 Pacific Highway (Building #127) San Diego, CA 92132-5190	Ms Lucreatria Holloway (619) 532-2289	Contract Officer Technical Representative

Agency	Contact	Project Title
Foster Wheeler Environmental Corporation 1230 Columbia Street, Suite 640 San Diego, CA 92101	Mr. Glenn Starr (619) 234-8696 ext. 217	Project Manager
Foster Wheeler Environmental Corporation 1230 Columbia Street, Suite 640 San Diego, CA 92101	Mr. Tom Conrad (619) 702-4109	Site Health and Safety Officer

6.2 PROJECT SCHEDULE

The schedule for implementation of the removal action is included in Figure 13. The schedule is presented in a critical-path method format. The schedule has been prepared using a PC-based cost, scheduling, and control system known as PRIMAVERA. PRIMAVERA has many features, including the identification of critical path and the ability to compare initial base plan to current project schedule.

The schedule includes predesign, engineering, pre-construction, construction, and post-construction activities. Construction activities have been planned to start after approval of the RAIP and procurement of the necessary equipment, materials, and subcontracting services.

A total of 4 main stages will be followed during the course of this project:

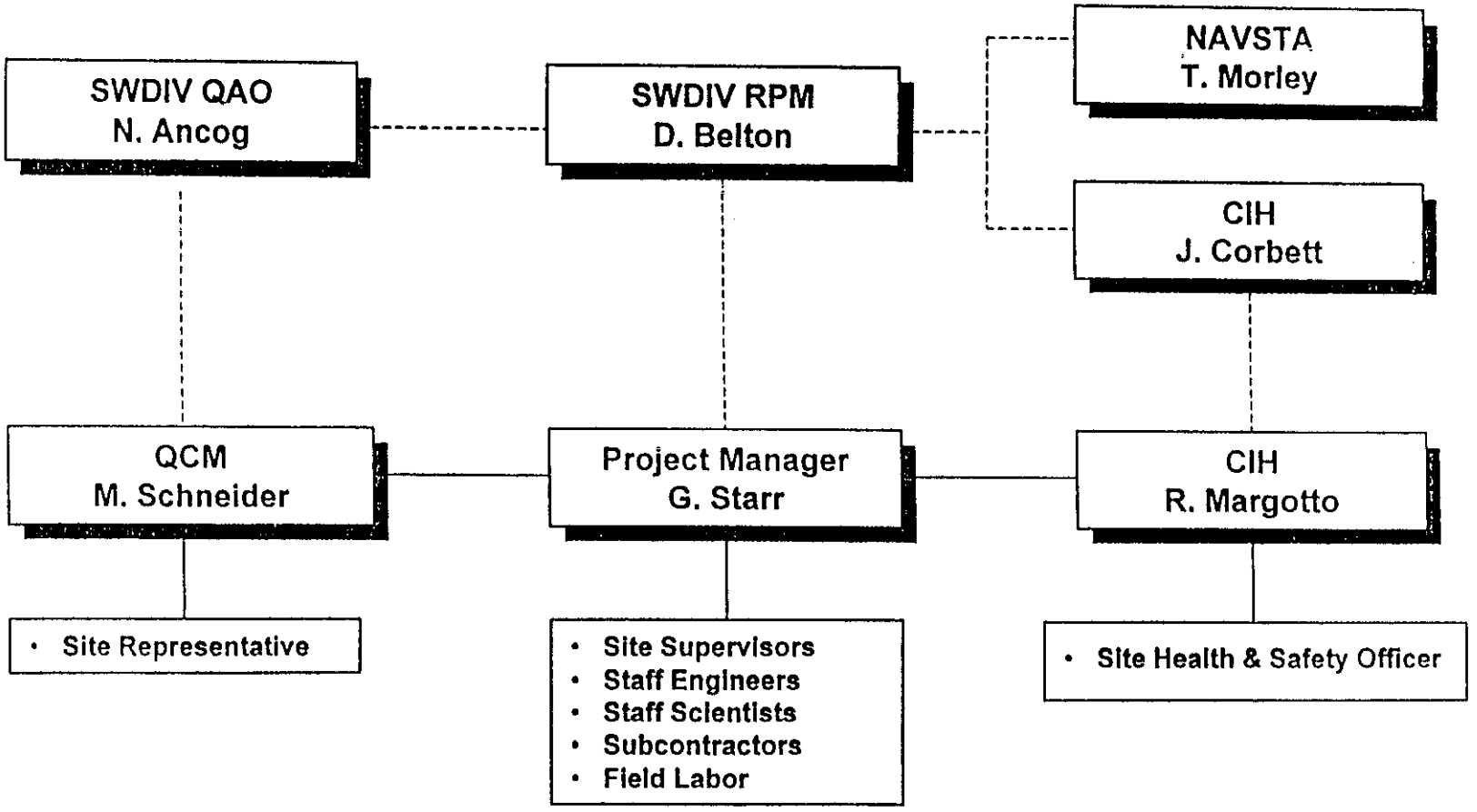
- STAGE 1 – PROJECT STARTUP. This stage includes preparation of project submittals that include the RAIP, FSP, QAPP, CQC, preparation of Construction Specifications, AMP, SHSP, EPP, WMP, Traffic Control Plan, and Construction Schedule.
- STAGE 2 – PRE-CONSTRUCTION ACTIVITIES. This stage includes activities associated with the pre-construction surveys and conducting pre-construction sampling at the site, permitting, subcontracting, and procurement activities.
- STAGE 3 – CONSTRUCTION ACTIVITIES. This stage includes demolition and removal of asphalt and concrete pavements; soil excavation; well abandonment; transportation and off-site disposal of contaminated soil and demolition waste material; confirmation sampling and analysis; backfilling of the excavated areas; and restoration of the site, including reconstruction of the asphalt and concrete pavement areas.
- STAGE 4 – POST-CONSTRUCTION ACTIVITIES. This stage includes demobilization of all equipment, utilities reconnection, and preparation of a final report that documents the results of all remedial action activities performed at IR Sub-Site 2A.

6.3 DATA MANAGEMENT

The following is a summary of the data management tools that will be employed for duration of this project:

Figure 12

Project Organization Chart



INSERT 2

2.0 PROJECT ORGANIZATION

This section identifies the individuals from the Navy, regulatory agencies and Foster Wheeler Environmental who are responsible for the oversight and/or implementation of the proposed removal action. Project Organization Chart is shown in Figure 1. The responsibilities of the team members associated with the sampling activities are presented in Table 1.

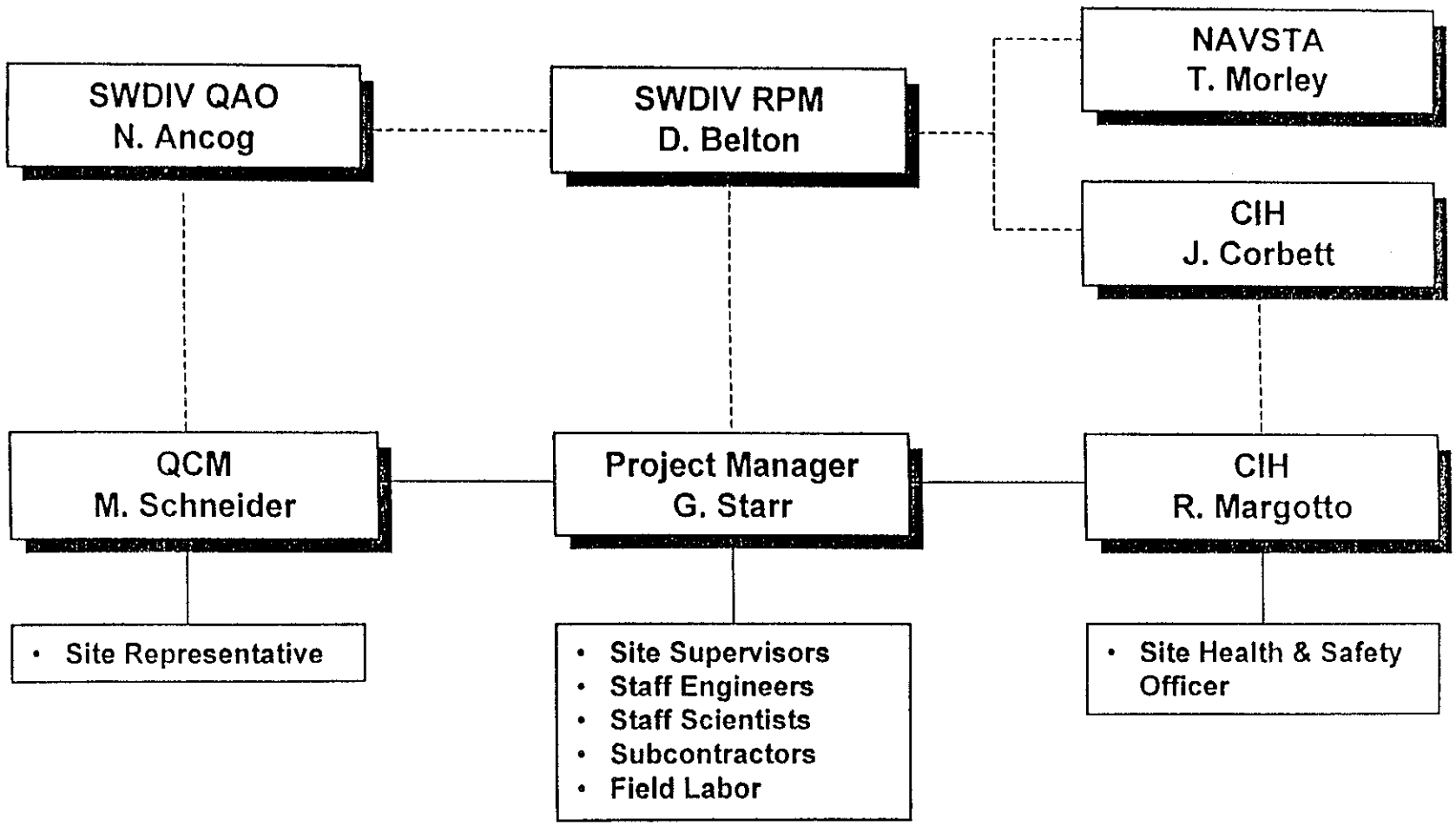
2.1 LIST OF POINTS OF CONTACT

The following is a list of the key contacts for those agencies involved in the removal action at the IR Sub-Site 2A.

Agency	Contact	Project Title
Southwest Division Naval Facilities Engineering Command South Bay Area Focus Team Code 5SEN.DB 2585 Callagan Highway (Building #99) San Diego, CA 92136-5198	Darren L. Belton (619) 556-7617	Remedial Project Manager
Navy Region Southwest Environmental Department Code N4512.TM 33000 Nixie Way Building 50, Suite 326 San Diego, CA 92147-5110	Theresa L. Morley (619) 524-6399	Naval Station San Diego Environmental Engineer
Southwest Division Naval Facilities Engineering Command South Bay Area Focus Team Code 5S02.RP 2585 Callagan Highway (Building #99) San Diego, CA 92136-5198	Rick Phillips (619) 556-9900	Contract Specialist
Southwest Division Naval Facilities Engineering Command Code 4EN.LH 1220 Pacific Hwy San Diego, CA 92132-5190	Lucreatria Holloway (619) 532-1653	Contract Officer Representative
California Regional Water Quality Control Board, San Diego Region 9771 Clairemont Mesa Blvd., Suite B San Diego, CA 92124-1331	Laurie Walsh (619) 467-2970	Water Resource Control Engineer

Figure 1

Project Organization Chart



INSERT 3

2.0 ORGANIZATION OF THE REMOVAL ACTION

This section identifies the individuals from the Navy, regulatory agencies and Foster Wheeler Environmental who will be responsible for the oversight and/or implementation of this removal action

2.1 LIST OF POINTS OF CONTACT

The following is a list of key contacts for those agencies involved in the removal action at IR Sub-Site 2A:

Agency	Contact	Project Title
Southwest Division Naval Facilities Engineering Command Code 1821.RB 2285 Callagan Highway San Diego, CA 92136-5198	Darren Belton (619) 556-9885	Remedial Project Manager
Naval Station San Diego Environmental Department Code N4512.TM 33000 Nixie Way Bldg. 50, Suite 326 San Diego, CA 92147-5110	Theresa L. Morley (619) 556-6438	NAVSTA Environmental Engineer
Southwest Division Naval Facilities Engineering Command RSST 1220 Pacific Highway San Diego, CA 92136-5198	Narcisco A. Ancog (619) 532-2540	Quality Assurance Officer
Department of the Navy Naval Station San Diego Code 5SSO.GP 2585 Callagan Highway San Diego, CA 92136-5198	George Polansky (619) 556-7011	Resident Officer in Charge of Construction
Foster Wheeler Environmental 1230 Columbia Street, Suite 640 San Diego CA 92101	Neil Hart (619) 234-8696 ext 211	RAC III Program Manager

TABLE 3
EMERGENCY INFORMATION
Mole Pier – Site 2

Hospital: Paradise Valley Hospital, 2400 East 4th Street, National City, CA 91950 — (619) 470-4321

Directions: Take 7th street to Cummings Road. Take Cummings Road to the 8th Street exit from the base (a right turn). Take 8th Street and continue east under the Interstate 5 freeway and continue until Euclid Avenue. Turn left on Euclid and proceed North until 4th Street. The hospital is on the right at the intersection of 4th and Euclid.

Clinic: South Coast Medical Center, 408 West 8th Street, National City, CA 91950 — (619) 474-8666

Directions: Take 7th street to Cummings Road. Take Cummings Road to the 8th Street exit from the base (a right turn). Take 8th Street and continue east under the Interstate 5 freeway and continue on 8th until you reach clinic on the right side of the road.

FOSTER WHEELER ENVIRONMENTAL CONTACTS:

Project Manager
Glenn Starr
(619) 234-8696 x217
pager: (619) 206-1204

Project PESM (CIH)
Roger Margotto
(619) 234-8696 x203
pager: (714) 810-3742

Project ESS
Tom Conrad
(619) 702-4109
pager: (800) 350-0297

Superintendent
Jim Baldwin
(619) 702-4109
mobile: (619) 206-1205

CQC Engineer
Luis Rivero
(619) 702-4109
pager: 1-888-876-5635

Project SHSS
Carl Walker
(619) 702-4109

RPM: Darren Belton (619) 556-7617

EMERGENCY PHONE NUMBERS

CHEMTREC	1-800-424-9300
RCRA Hotline	1-800-424-9346
National Response Center	1-800-424-8802
Regional Poison Control Center of San Diego	1-800-876-4766

INSERT 4

2.0 ORGANIZATION AND RESPONSIBILITIES

This section describes the organization and authority for project personnel performing construction operations, including subcontractors. The organizational structure, functional responsibilities, personnel qualifications, levels of authority, and lines of communication established within the organization to ensure high quality work are documented. The project organization chart showing the reporting lines for each individual is provided in Figure 1.

All personnel assigned to this project will be qualified and experienced. The resumes of key QC personnel are presented in Attachment 2. The responsibilities and authorities of the key project personnel are described in the following paragraphs.

2.1 CONTRACT TASK ORDER PROJECT MANAGER

The CTO Project Manager (PJM), Mr. Glenn Starr, is responsible for the direction, execution, and successful completion of project tasks to achieve overall project goals. The PJM has responsibility for and the authority to perform the following quality-affecting activities related to the project:

- Coordinating work activities of subcontractors and Foster Wheeler Environmental personnel and ensuring all personnel adhere to the administrative and technical requirements of the project
- Monitoring and reporting the progress of work and ensuring project deliverables are completed on time and under budget
- Ensuring adherence to the quality requirements of the contract, project scope of work, and the Project CQC Plan
- Ensuring that all work activities are conducted in a safe manner in accordance with the Site Safety and Health Plan (SSHP)
- Serving as the primary contact between Navy personnel and Foster Wheeler Environmental for actions and information related to the work

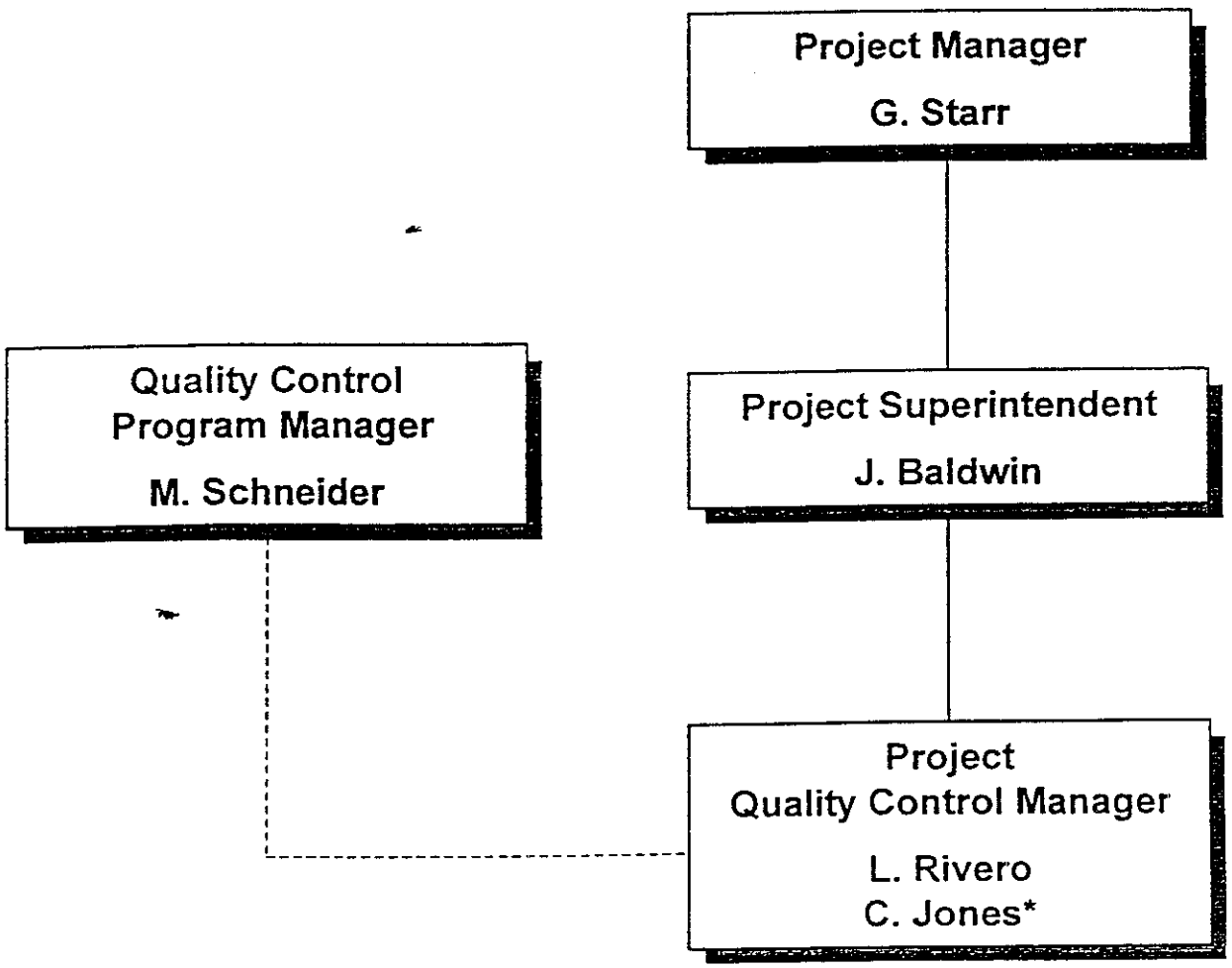
2.2 PROJECT SUPERINTENDENT

The Project Superintendent, Mr. James Baldwin, reports to the PJM and is responsible for coordinating, directing, implementing, and supervising site construction activities. Specific duties of the Construction Superintendent include:

- Implementing construction activities in accordance with the RAIP
- Directing field leaders, support personnel, and subcontractors
- Administering site access
- Maintaining work site, vehicles, and equipment

Figure 1

Foster Wheeler Environmental Quality Organization Chart



* Alternate Quality Control Manager

CONTRACTOR QUALITY CONTROL REPORT - CTO No. 0002

Date:

Phase	Y-Yes, N-No, Blank-Not Applicable		Identify Definable Features of Work and Work Location
PREPARATORY	THE PLANS AND SPECS HAVE BEEN REVIEWED		
	THE SUBMITTALS HAVE BEEN APPROVED		
	MATERIALS COMPLY WITH APPROVED SUBMITTALS		
	MATERIALS ARE STORED PROPERLY		
	PRELIMINARY WORK WAS DONE CORRECTLY		
	TESTING PLAN HAS BEEN REVIEWED		
	WORK METHOD AND SCHEDULE DISCUSSED		

Phase			Tests Performed
INITIAL	PRELIMINARY WORK WAS DONE CORRECTLY		
	SAMPLE HAS BEEN PREPARED/APPROVED		
	WORKMANSHIP IS SATISFACTORY		
	TEST RESULTS ARE ACCEPTABLE		
	WORK IN COMPLIANCE WITH THE CONTRACT		

Phase			Tests Performed
FOLLOW UP	WORK COMPLIES WITH CONTRACT AS APPROVED IN INITIAL PHASE		

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)	REWORK ITEMS CORRECTED TODAY (FROM WORK LIST)

REMARKS:

On behalf of the contractor, I certify that the report is complete and correct and the equipment and material used and work performed during the reporting period are in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

Authorized QC Manager at Site Date

GOVERNMENT QUALITY ASSURANCE REPORT

DATE:

QUALITY ASSURANCE REPRESENTATIVE'S REMARKS AND/OR EXCEPTIONS TO THE REPORT

GOVERNMENT QUALITY CONTROL MANAGER DATE

CONTRACTOR PRODUCTION REPORT
FOSTER WHEELER ENVIRONMENTAL CORP

SWDIV CONTRACT # N68711-98-D-5713

DATE:
PAGE 1 OF 2
REPORT #
CONTRACT TASK ORDER NO. 0002

SUPERINTENDENT: Steve Gray

AM WEATHER:temp: min — wind: mild — cover: — precip: 0

PM WEATHER:temp min min — wind: mild — cover: — precip: 0

WORK PERFORMED TODAY WORK LOCATION AND DESCRIPTION	EMPLOYER	NUMBER	TRADE	HOURS

WAS A JOB SAFETY MEETING HELD THIS DATE?____(ATTACH COPY)

WAS THERE ANY LOST TIME ACCIDENTS THIS DATE? NO

WAS TRENCHING/SCAFFOLDING/ELECTRICAL WORK DONE? NO

WAS HAZARDOUS MATERIAL WASTE RELEASED INTO THE ENVIRONMENT: NO

TOTAL WORK HOURS ON JOB SITE THIS DATE:	0
CUMULATIVE TOTAL OF PREVIOUS WORK HOURS:	
TOTAL HOURS FROM START OF CONSTRUCTION:	0

LIST SAFETY ACTIONS TAKEN TODAY/SAFETY INSPECTIONS CONDUCTED

EQMT/MATERIAL RECEIVED THIS DATE	VENDOR	PO#	CHARGE#	UNITS	UNIT RATE	INCRD COST

CONSTRUCTION AND PLANT EQUIPMENT ON JOB SITE TODAY

EQMT/RENTAL DESCRIPTION	VENDOR	HOURS	PO#	CHARGE#	DAILY RATE	DAYS	TO DATE	PO AMOUNT

SUBCONTRACT SERVICES

DESCRIPTION	VENDOR	PO#	CHARGE#	TYPE?	INCD TODAY	PREVIOUS	TO DATE	% COMPL	PO AMOUNT

LAB SAMPLES

ANALYSIS	TAT	VENDOR	PO#	CHARGE#	NUMBER	UNIT RATE	THIS DATE	PREVIOUS	TOTAL	PO AMOUNT

PRODUCTION SUMMARY

DESCRIPTION	SITE	CHARGE#	UNITS	CUM UNITS	TTL UNITS	COMMENTS

COMMENTS

FWENC SUPERINTENDENT SIGNATURE

FOSTER WHEELER ENVIRONMENTAL CORPORATION
FIELD CHANGE REQUEST

Section 1 thru 4 to be filled out by Construction. Section 5 to be filled out by Engineering

Project: Navy RAC CTO No. 0002 – Mole Pier NAVSTA, San Diego, California	OFS. No 1990-002D	FIELD CHANGE REQUEST: FCR - Rev.

To _____ Dept: Engineering Location: _____ Date: _____

Re: Drawing No _____ Title: _____
Spec. No _____ Title: _____
Other _____

1. DESCRIPTION (*Items involved, submit sketch if applicable*) _____

2. REASONS FOR CHANGE (*If from disposition of non-conformance report, list report number*) _____

3. RECOMMENDED DISPOSITION

Minor Change

Major Change (Contracting Officer Approval Req'd)

Schedule Impact

Budget Impact

Initiator (Signature): _____

4. Site Engineer (*Signature*)	Date	Site Manager Concurrence (*Signature*)	Date

5. Disposition

Not Approved (give reason)

Considered Minor Changes - Approved per Recommended Disposition - Design Documents will not be normally revised: field to maintain as-built records

Considered Major Changes - Action will be taken as described on DCN

Project Engineer (*Signature*)	Date	ROICC Approval (*Signature*)	Date
		ROICC Approval (*Signature*)	Date

Engineer signs and transmits to Resident Engineer with copies to

PJM: Glenn Starr
PQCM: Luis Rivero
QCM: Mary Schneider
Superintendent: Jim Baldwin
RPM: Darren Belton

Others as required _____

REQUEST FOR INFORMATION
(RFI)

Sheet ___ of ___

RFI No. Issue Date_____ Closure Date_____

Work Area:_____

Applicable Plans, Drawings, Specifications:_____

Information Requested:_____

Project Quality Control Manager Signature: _____Date: _____

ROICC Response:_____

ROICC Signature:_____Date:_____

Distribution:
PJM: Glenn Starr
PJQM: Luis Rivero
QCM: Mary Schneider
Superintendent: Jim Baldwin
RPM: Darren Belton
ROICC: John Ohlfest

REQUEST FOR ENGINEERING INFORMATION
(REI)

Sheet ___ of ___

REI No. Issue Date_____ Closure Date_____

Work Area:_____ Subcontractor:_____

Applicable Plans, Drawings, Specifications:_____

Information Requested:_____

Subcontractor Signature: _____ Date:_____

Foster Wheeler Environmental Response:_____

Project Engineer Signature:_____ Date:_____

Project Manager Signature:_____ Date:_____

Distribution:
PJM: Glenn Starr
PJQM: Luis Rivero
QCM: Mary Schneider
Superintendent: Jim Baldwin
RPM: Darren Belton
ROICC (John Ohlfest)
Subcontractor:_____

CONSTRUCTION DEFICIENCY NOTICE

Sheet ___ of ___

CDN No. Issue Date_____ Closure Date_____

Work Area or Feature Inspected: _____ Deficient Subcontractor: _____

Applicable Plans, Drawings, Specifications:_____

Description of Deficient Condition:

Site Manager's Signature:_____ Date:_____

Recommended Disposition: _____

Recommender's Signature:_____Date:_____

Subcontractor Response:

Reinspection Required? Yes _____ No _____

Performed on _____

Acceptable? Yes _____ No _____

Distribution:
PJM: Glenn Starr
PJQM: Luis Rivero
QCM: Mary Schneider
Superintendent: Jim Baldwin
Navy RPM: Darren Belton
ROICC: John Ohlfest

REWORK ITEMS LIST

Contract No. and Title: _____

Contractor: _____

NUMBER	DATE IDENTIFIED	DESCRIPTION	CONTRACT REQUIREMENT (Spec. Section and Para. No., Drawing No. and Detail No., etc.)	ACTION TAKEN BY QC MANAGER	RESOLUTION	DATE COMPLETED

INSERT 5

7.0 RELEASE RESPONSE AND REPORTING

7.1 SPILL PREVENTION

Any waste generated during construction activities will be managed according to provisions established in the Removal Action Implementation Plan and WMP. Secondary containment will be utilized around all hazardous waste storage areas and liquid hazardous substance storage areas to contain spills and releases should they occur. Secondary containment will include lined, bermed areas constructed of polyethylene sheeting. Secondary containment will be inspected and maintained to ensure the integrity of the containment system. In addition, to prevent, minimize, and cleanup oil and/or fluid leaks from construction equipment, all vehicles will be inspected and properly repaired on a daily basis. Equipment leaks will be addressed immediately or the equipment will be removed from the site. Sufficient quantities of drip pans and other spill control materials (absorbent pads, booms, materials, etc.) will be stored on site in readily accessible locations

7.2 SPILL RESPONSE

An emergency response section is included as a part of the Site-Specific Health and Safety Plan (SHSP). The SHSP is designed to prevent the spread of contaminants to adjacent, populated areas and to delineate contingency procedures to be used in the event of injuries to employees or during other site-related accidents. Off-site contamination could occur as a result of an accidental release of contaminated materials. The emergency response includes the procedures to be used to mitigate the harmful effects of such a release as well as rescue and first-aid services to be rendered.

A spill control plan outlining methods, means, and facilities required to prevent contamination is also contained in the SHSP. At least one spill response kit shall be maintained in the work area at all times while work is in progress.

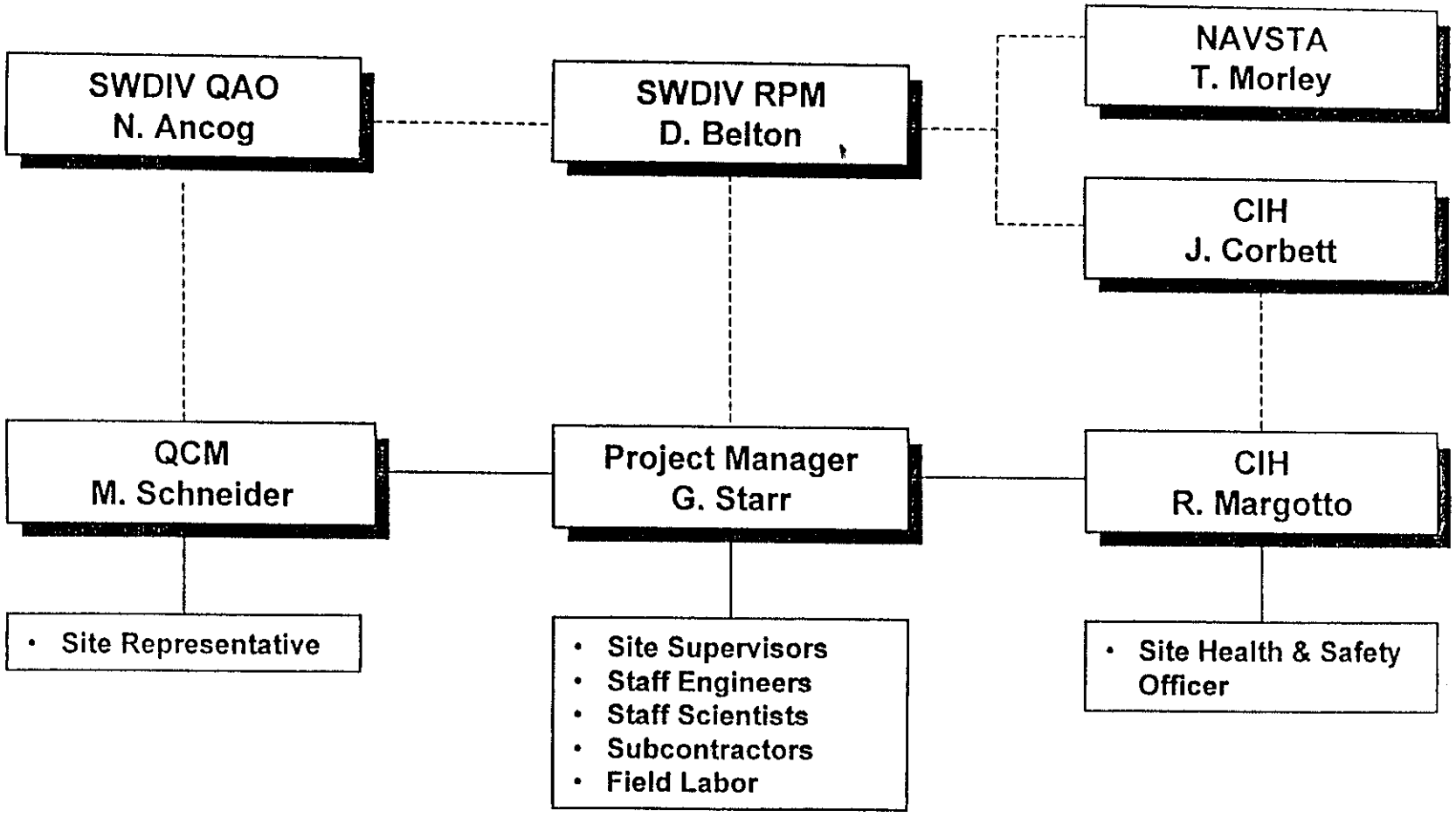
7.3 SPILL REPORTING

In accordance with Foster Wheeler Environmental procedures for reporting spills and releases, the steps below outline the chain of communications to be followed to evaluate reporting requirements if a significant spill of any hazardous substance occurs.

Foster Wheeler Environmental Contact: Site personnel involved in the spill should immediately contact the Foster Wheeler Environmental PJM, the Project Superintendent, or the Site Health and Safety Officer. At least one of these individuals will be on site during all remedial activities.

Figure 8

Project Organization Chart



FOSTER WHEELER ENVIRONMENTAL CORPORATION
FIELD CHANGE REQUEST

FCR-04

Section 1 thru 4 to be filled out by Construction. Section 5 to be filled out by Engineering

Project: Navy RAC CTO No. 0002 – Mole Pier NAVSTA, San Diego, California	OFS. No 1990-002D	Field Change Request: ~~FCR – 02 Rev. 04~~ L-R

To: Darren Belton Dept: Engineering Location: Sub-Site 2A Date: 4/12/00

Re: ☐ Drawing No _____ Title: _____
☐ Spec No. _____ Title: _____
☒ Other Section 7.4.3 (Contaminated Soil Stockpile Management) of the Final Removal Action Implementation Plan December 10, 1999.

1. DESCRIPTION (*Items involved, submit sketch if applicable*)
3-mil polyethylene liner will be used to cover up soil stockpiles instead of 10-mil polyethylene liner.

2. REASONS FOR CHANGE (*If from disposition of non-conformance report, list report number*)
They 3-mil polyethylene liner is durable and more manageable (flexible) then the 10-mil polyethylene liner.

3. RECOMMENDED DISPOSITION ☒ Minor Change ☐ Major Change (Contracting Officer Approval Req'd)
☐ Schedule Impact ☐ Budget Impact

Modify Section 7.4.3 (second paragraph) to read 3-mil, rather than 10-mil polyethylene liner.

Initiator (Signature): _____

4. Site Engineer (*Signature*)	Date	Site Manager Concurrence (*Signature*)	Date
Luis Rivero	April 12, 2000	Jim Baldwin	April 12, 2000

5. Disposition
☐ Not Approved (give reason)
☒ Considered Minor Changes - Approved per Recommended Disposition - Design Documents will not be normally revised: field to maintain as-built records
☐ Considered Major Changes - Action will be taken as described on DCN

Project Engineer (*Signature*)	Date	ROICC Approval (*Signature*)	Date
Not Applicable		Not Applicable	
		ROICC Approval (*Signature*)	Date
		Not Applicable	

Engineer signs and transmits to Resident Engineer with copies to:
PJM: Glenn Starr
PQCM: Luis Rivero
QCM: Mary Schneider
Superintendent: Jim Baldwin
RPM: Darren Belton

Others as required: _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION
FIELD CHANGE REQUEST

Section 1 thru 4 to be filled out by Construction. Section 5 to be filled out by Engineering

Project: Navy RAC CTO No. 0002 – Mole Pier NAVSTA, San Diego, California	OFS. No. 1990-002D	Field Change Request FCR – 02 Rev. 05

To: Darren Belton Dept. Engineering Location: Sub-Site 2A Date: May 10, 2000

Re: ☐ Drawing No. FIGURE 19 Title: Final Removal Action Implementation Plan.
☐ Spec No. _____ Title: _____
☒ Other: _____

1. DESCRIPTION (*Items involved, submit sketch if applicable*)
Utilize ballast material (gradation attached) as float rock instead of the Type 1 Aggregate.

2. REASONS FOR CHANGE (*If from disposition of non-conformance report list report number*)
The ballast material contains less fines and will be more suitable for heavy equipment traffic at the bottom of the excavation.

3. RECOMMENDED DISPOSITION
☒ Minor Change ☐ Major Change (Contracting Officer Approval Req'd)
☐ Schedule Impact ☐ Budget Impact

Replace Figure 19 in the Final Removal Action Implementation Plan with the attached modified drawing.

Initiator (Signature): _____

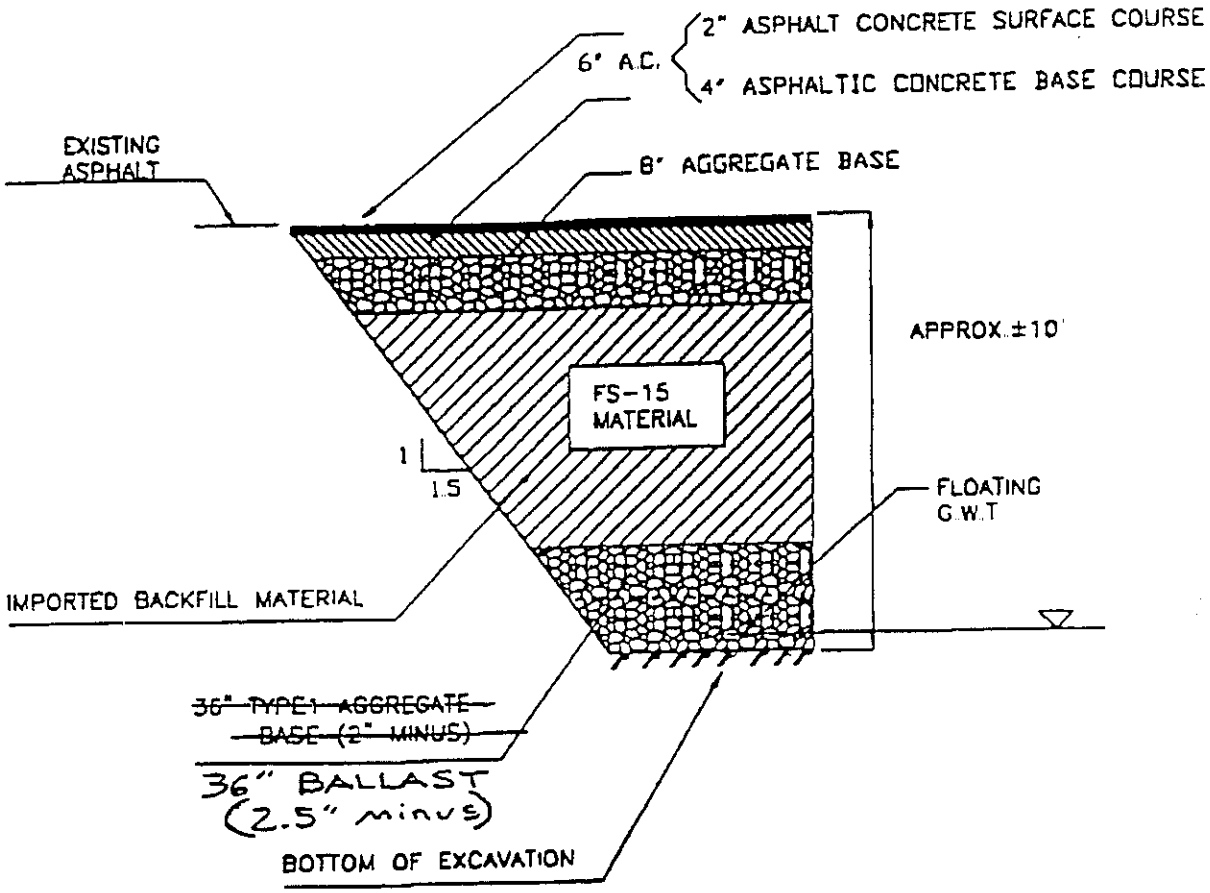
4. Site Engineer (Signature)	Date	Site Manager Concurrence (Signature)	Date
Luis Rivero	May 10, 2000	Jim Baldwin	May 10, 2000

5. Disposition
☐ Not Approved (give reason)
☒ Considered Minor Changes - Approved per Recommended Disposition - Design Documents will not be normally revised: field to maintain as-built records.
☐ Considered Major Changes - Action will be taken as described on DCN

Project Engineer (Signature)	Date	ROICC Approval (Signature)	Date
[illegible]	MAY 11, 2000	Not Applicable	
		ROICC Approval (Signature)	Date
		Not Applicable	

Engineer sign and transmit to Resident Engineer with copies to
PJM: Glenn Starr
PQCM: Luis Rivero
QCM: Mary Schneider
Superintendent: Jim Baldwin
RPM: Darren Belton

Others as required: _____



BACKFILLING CROSS SECTION
AT CTO-2 MOLE PIER
NOT TO SCALE

DRAWN BY: MD	CHECKED BY: ASE	APPROVED BY: ASE	DCN: FWSD-RAC-99-0602
DATE: 12/06/99	REV: REVISION 0, December 10, 1999		CTO #0002

DRAWING NO: 99060219

I:\1990-RAC\CTO-0002\DWG\990602\99060219.DWG
PLOT/UPDATE: DEC 06 1999 17:30:37

Figure 19
BACKFILLING CROSS-SECTION

Southwest Division
NAVSTA, SAN DIEGO MOLE PIER PROJECT

FOSTER WHEELER
ENVIRONMENTAL CORPORATION

MAIN OFFICE
SEVENTH & MAIN STREET
CHULA VISTA, CALIFORNIA
POST OFFICE BOX 488
CHULA VISTA, CA 91912

NELSON & SLOAN
TRANSIT MIXED CONCRETE & AGGREGATE

CORPORATE OFFICE
TELEPHONE (619) 476-8340
FAX (619) 426-8656

PLANTS:
KEARNY MESA
SAN MARCOS
SOUTH BAY
LAKESIDE

SAMPLE			4A BALLAST		
PLT# 11		SAMPLE WEIGHT = 39.1			TECH.GM
				TIME 7:00 Am	Date 9-29-97
SIEVE	WEIGHT	%	%		
SIZE	RETAINED	RETAINED	PASSING	SPECS.	
2.5"	0	~~0~~	100	100	
2"	1.6	4	96	90 - 100	
1.5"	11.9	30	70	60 - 90	
3/4"	36.2	93	7	0 - 10	
3/8"	38.9	99	1	0 - 3	

FOSTER WHEELER ENVIRONMENTAL CORPORATION
FIELD CHANGE REQUEST

Section 1 thru 4 to be filled out by Construction. Section 5 to be filled out by Engineering

Project: Navy RAC CTO No. 0002 – Mole Pier NAVSTA, San Diego, California	OFS No 1990-002D	Field Change Request FCR – 06

To: Darren Belton Dept: **Engineering** Location: Sub-Site 2A Date: May 25, 2000

Re: ☒ Drawing No Field Sampling Plan Title: Final Removal Action Implementation Plan.
☐ Spec. No _____ Title _____
☐ Other _____

1 DESCRIPTION (*Items involved submit sketch if applicable*)
Collect random direct push samples at 4, 6, and 9-feet below ground surface along 7th Street and Redondo Electric yard.
Samples will analyzed for hexavalent chromium, total chromium, and total lead.

2 REASONS FOR CHANGE (*If from disposition of non-conformance report list report number*) *Client directed.*

Navy requested that FWENC investigate the lateral extent of contaminated soils along 7th Street.

3 RECOMMENDED DISPOSITION

☐ Minor Change
☐ Schedule Impact
☐ Major Change (Contracting Officer Approval Req d)
☒ Budget Impact

Make note of FCR-06 in Section 4.1 of the Field Sampling Plan.

Luis Rivero **Initiator (Signature):** _____

4 Site Engineer (*Signature*) Luis Rivero	Date 6/2/00	Site Manager Concurrence (*Signature*) Glenn Starr	Date 6/2/00

5 Disposition
☐ Not Approved (give reason)
☐ Considered Minor Changes - Approved per Recommended Disposition - Design Documents will not be normally revised: field to maintain as-built records
☐ Considered Major Changes - Action will be taken as described on DCN

Project Engineer (*Signature*) Not Applicable	Date	ROICC Approval (*Signature*) Not Applicable	Date
		ROICC Approval (*Signature*) Not Applicable	Date

Engineer signs and transmits to Resident Engineer with copies to

PJM Glenn Starr
PQCM Luis Rivero
QCM Mary Schneider
Superintendent Jim Baldwin
RPM Darren Belton

Others as required _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION
FIELD CHANGE REQUEST

Section 1 thru 4 to be filled out by Construction. Section 5 to be filled out by Engineering

Project	OFS No	Field Change Request
Navy RAC CTO No. 0002 – Mole Pier NAVSTA, San Diego, California	1990-002D	FCR – 07

To: Darren Belton Dept: **Engineering** Location: Sub-Site 2A Date: June 2, 2000

Re: ☒ Drawing No Environmental Protection Plan (App. L) Title: Final Removal Action Implementation Plan.
☐ Spec No _____ Title: _____
☐ Other: _____

1 DESCRIPTION (*Items involved, submit sketch if applicable*)
Modify Project Plans to reflect actual air emissions sampling scheme. No upwind sampling is being collected.

2 REASONS FOR CHANGE (*If from disposition of non-conformance report list report number*) *Client directed.*

It was determined by FWENC that downwind sampling sufficiently characterizes the potential for off-site emissions from site activities.

3 RECOMMENDED DISPOSITION

☒ Minor Change ☐ Major Change (Contracting Officer Approval Req'd)
☐ Schedule Impact ☐ Budget Impact

Modify paragraph 3 of section 6.3 in the Final EPP/ECR (Appendix L) to read the following: "Air sampling will be performed using downwind samplers. Downwind sampler will perform sampling of particulate matter, metals, and PAHs leaving the remediation site. The results of the air monitoring will help determine when and if corrective measures will be needed to control adverse conditions.

Luis Rivero **Initiator (Signature):** _____

4 Site Engineer (Signature)	Date	Site Manager Concurrence (Signature)	Date
Luis Rivero	6/2/00	Jim Baldwin	6/2/00

5 Disposition
☐ Not Approved (give reason)
☐ Considered Minor Changes - Approved per Recommended Disposition - Design Documents will not be normally revised: field to maintain as-built records
☐ Considered Major Changes - Action will be taken as described on DCN

Project Engineer (Signature)	Date	ROICC Approval (Signature)	Date
Not Applicable		Not Applicable	
		ROICC Approval (Signature)	Date
		Not Applicable	

Engineer signs and transmits to Resident Engineer with copies to:
PJM: Glenn Stan
PQCM: Luis Rivero
QCM: Mary Schneider
Superintendent: Jim Baldwin
RPM: Darren Belton

Others as required _____

FOSTER WHEELER ENVIRONMENTAL CORPORATION
FIELD CHANGE REQUEST

Section 1 thru 4 to be filled out by Construction Section 5 to be filled out by Engineering

Project	CFS. No	Field Change Request
Navy RAC CTO No. 0002 – Mole Pier NAVSTA, San Diego, California	1990-002D	FCR – 08

To: Darren Belton Dept: Engineering Location: Sub-Site 2A Date: June 29, 2000

Re: ☒ Drawing No Figures 16, 17, 18 Title: Final Removal Action Implementation Plan.
☐ Spec. No _____ Title: _____
☐ Other _____

1. DESCRIPTION *(Items involved, submit sketch if applicable)*
Revise Figures 16, 17, and 18 for the installation of the 40-mil geomembrane liner.

2. REASONS FOR CHANGE *(If from disposition of non-conformance report, list report number)*
Installing the liner on the vertical face of the concrete slab will prevent damage to the liner. In addition, the toe anchor trench was reduced to 6- to 8-inches deep since free-product may be encountered at a 1-foot depth.

3. RECOMMENDED DISPOSITION ☒ Minor Change ☐ Major Change (Contracting Officer Approval Req'd) ☐ Schedule Impact ☐ Budget Impact

Replace Figures 16, 17 and 18 with the attached revised figures.

Luis Rivero Initiator (Signature)

4. Site Engineer *(Signature)*	Date	Site Manager Concurrence *(Signature)*	Date
Luis Rivero	6/29/00	Glenn Starr	6/29/00

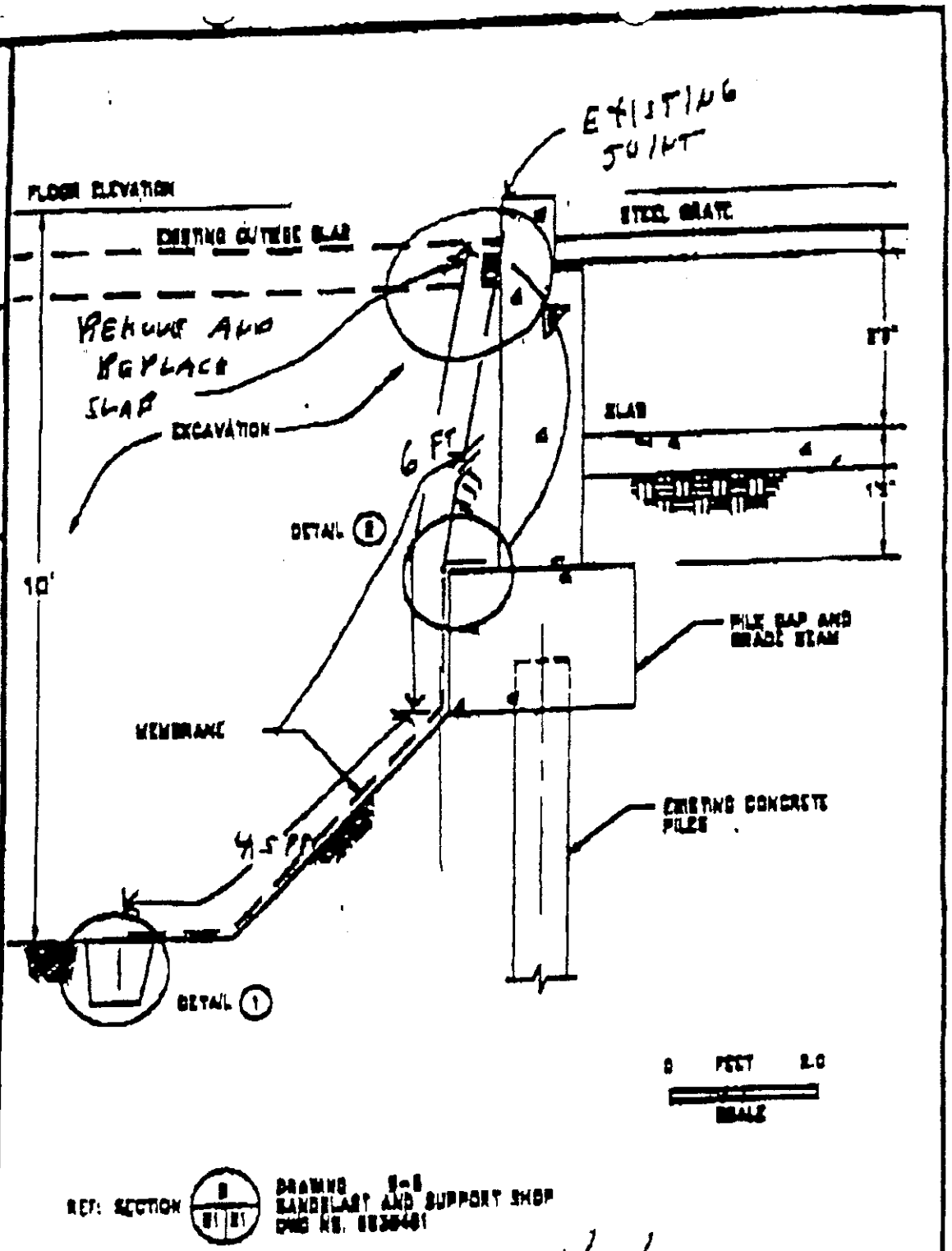
5. Disposition
☐ Not Approved (give reason)
☐ Considered Minor Changes - Approved per Recommended Disposition - Design Documents will not be normally revised; field to maintain as-built records.
☐ Considered Major Changes - Action will be taken as described on DCN

Project Engineer *(Signature)*	Date	ROICC Approval *(Signature)*	Date
Mark Otten	6/29/00	Not Applicable	
		ROICC Approval *(Signature)*	Date
		Not Applicable	

Engineer signs and transmits to Resident Engineer with copies to:
PM: Glenn Starr
PQCM: Luis Rivero
QCM: Mary Schneider
Superintendent: Jim Baldwin
RPM: Darren Belton

Others as required: _____

Note: This copy is [illegible] for w/o Mole's signature [illegible] Figures 16, 17, 18)



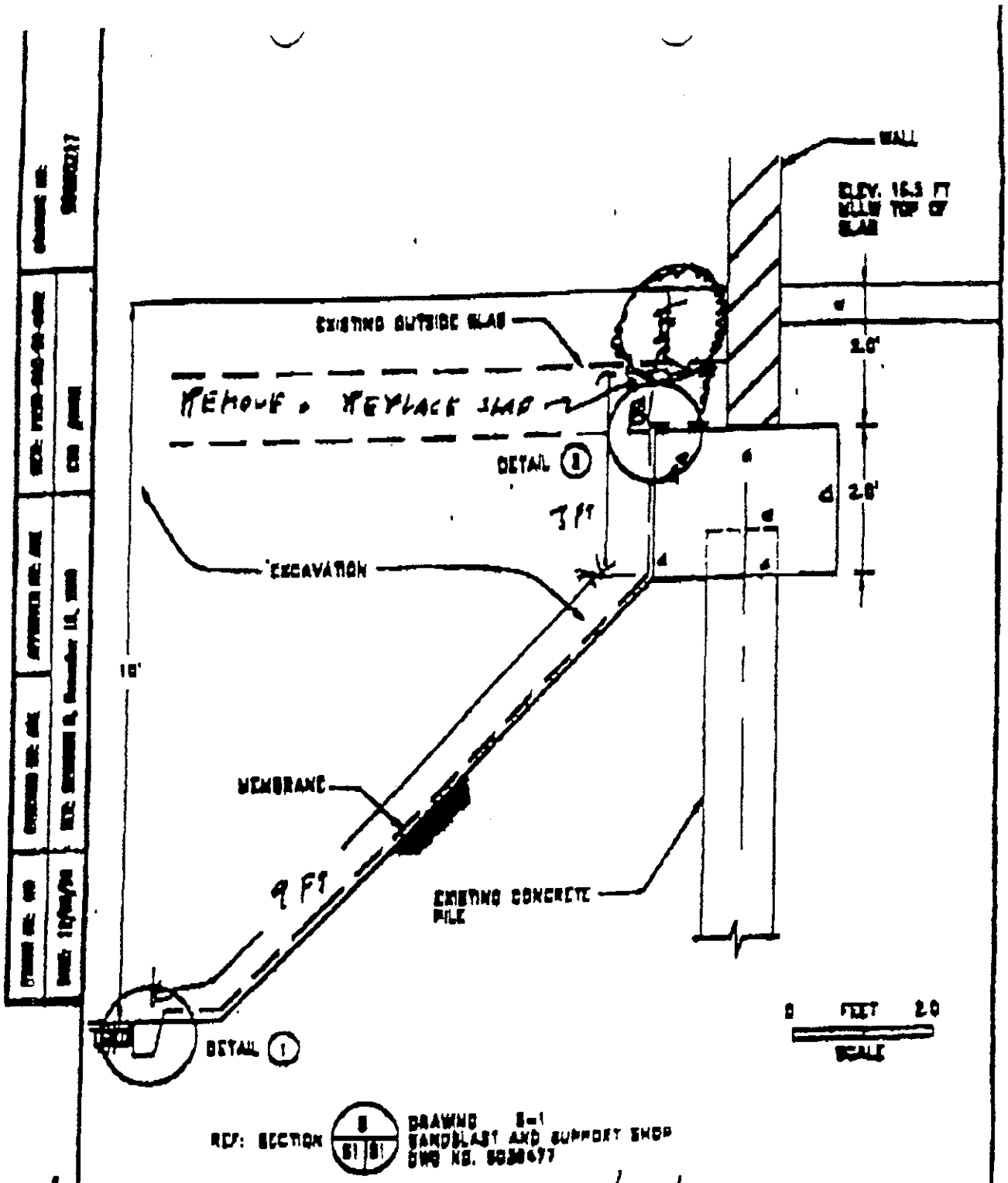
REVISED 1/21/2004

Figure 16

MEMBRANE INSTALLATION AT TYPE I BUILDING FOUNDATION

Southwest Division
NAVSTA, SAN DIEGO MOLE PIER PROJECT

FOSTER WHEELER
ENVIRONMENTAL CORPORATION



REVISED 1/21/2000 MTO 2

Figure 17
MEMBRANE INSTALLATION AT TYPE 2
BUILDING FOUNDATION

Southwest Division
NAVSTA, SAN DIEGO MOLE PIER PROJECT

FOSTER WHEELER
ENVIRONMENTAL CORPORATION

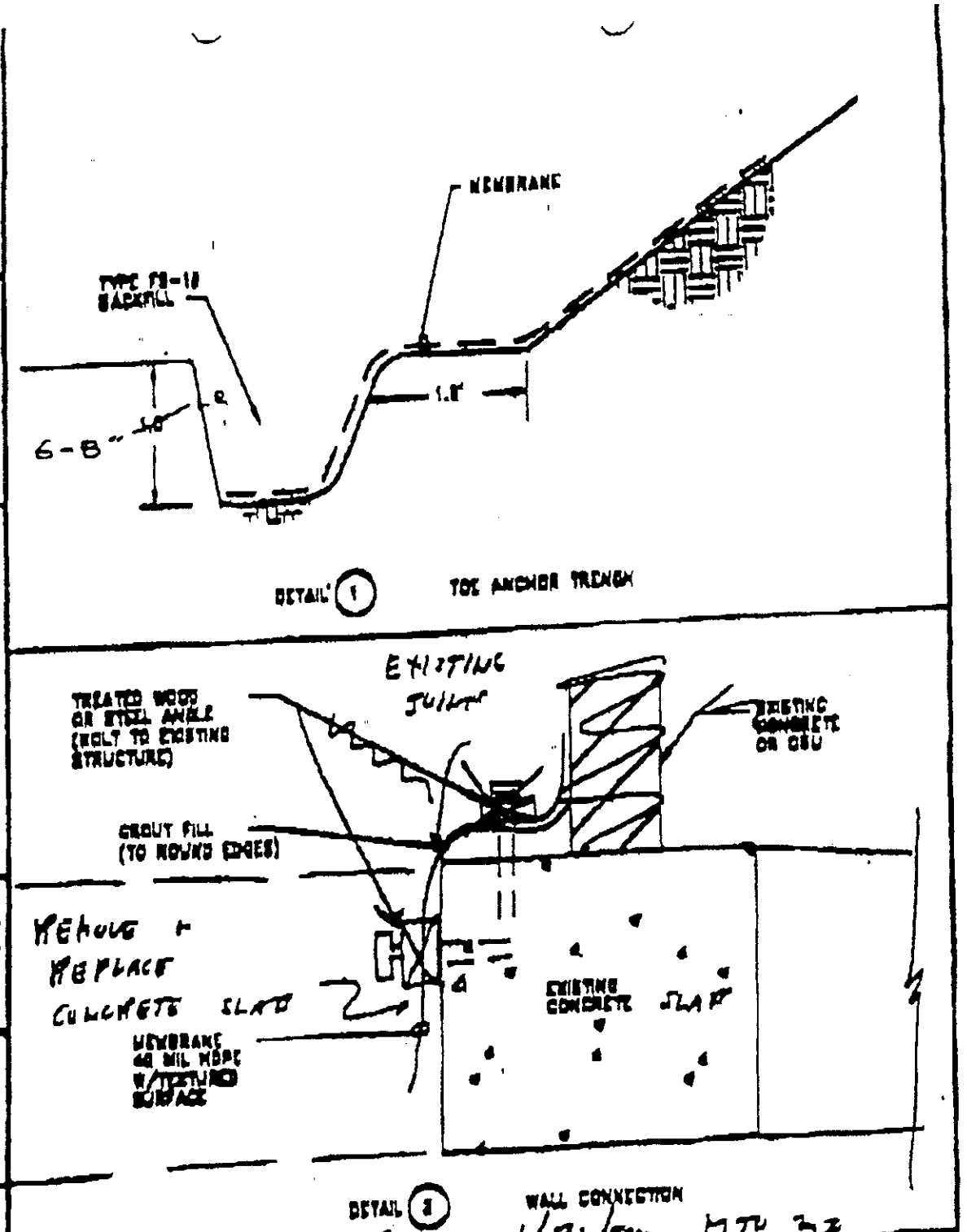


Figure 18

MEMBRANE ANCHORING DETAIL

Southwest Division

NAVSTA, SAN DIEGO MOLE PIER PROJECT

FOSTER WHEELER ENVIRONMENTAL CORPORATION

FOSTER WHEELER ENVIRONMENTAL CORPORATION
FIELD CHANGE REQUEST

Section 1 thru 4 to be filled out by Construction. Section 5 to be filled out by Engineering

Project Navy RAC CTO No. 0002 – Mole Pier NAVSTA, San Diego, California	OFS No 1990-002D	Field Change Request FCR – 09

To: Darren Belton Dept: Engineering Location Sub-Site 2A Date June 30, 2000

Re: ☒ Drawing No _____ Title: Final Removal Action Implementation Plan.
☐ Spec. No. Section 7.5 Title: Backfilling and Compaction
☐ Other: _____

1. DESCRIPTION (*Items involved, submit sketch if applicable*)
10% of imported backfill materials will be surveyed for potential radiological activity.

2. REASONS FOR CHANGE (*If from disposition of non-conformance report, list report number*)
This is a preventative measure that will be taken to assure that materials brought on-site do not have elevated radiological levels.

3. RECOMMENDED DISPOSITION
☒ Minor Change ☐ Major Change (Contracting Officer Approval Req'd)
☐ Schedule Impact ☐ Budget Impact

Revise Section 7.5 in the Final Removal Action Implementation Plan accordingly.

Luis Rivero **Initiator (Signature):** _____

4. Site Engineer (*Signature*) Luis Rivero	Date 6/30/00	Site Manager Concurrence (*Signature*) Glenn Starr	Date 6/30/00

5. Disposition
☐ Not Approved (give reason)
☐ Considered Minor Changes - Approved per Recommended Disposition - Design Documents will not be normally revised: field to maintain as-built records
☐ Considered Major Changes - Action will be taken as described on DCN

Project Engineer (*Signature*)	Date	ROICC Approval (*Signature*) Not Applicable	Date
		ROICC Approval (*Signature*) Not Applicable	Date

Engineer signs and transmits to Resident Engineer with copies to
PJM: Glenn Starr
PQCM: Luis Rivero
QCM: Mary Schneider
Superintendent: Jim Baldwin
RPM: Darren Belton

Others as required _____

No carbon paper is required to complete this form
No transmittal letter required

CATALOG CUT/SHOP DRAWING TRANSMITTAL AND APPROVAL
SOUTHWESTNAVFACENGCOM 4355/2 (10-89)

SUBMITTAL NO.
FWSD-RAC-01-0831

CQC CLAUSE ☒ IS APPLICABLE ☐ IS NOT APPLICABLE

REFERENCES TO USE WHEN CQC CLAUSE IS APPLICABLE

PART I – FOR CONTRACTOR USE

REFERENCES TO USE WHEN CQC CLAUSE IS NOT APPLICABLE

(A) ROICC/REICC

FROM (Contractor)
Foster Wheeler Environmental Corporation
1230 Columbia Street, suite 640
San Diego, CA 92101

TO (A)
John Ohlfest

(A) DESIGNER

CONTRACT NO.
N68711-98-D-5713
CTO 0039

CONTRACT TITLE
CERCLA Non-Time-Critical Removal Action at Installation Restoration Sub-Site 2A Mole Pier, Removal Action Expansion into CST Area. Naval Station San Diego, San Diego, CA

(B) (Check one)

☐ RECORD

☒ APPROVAL

(B) APPROVAL

THE FOLLOWING ITEM IS SUBMITTED FOR (B) PER SPECIFICATION SECTION NUMBER

Specification section number 01330, SD-01
Attached is FCR-001 to change various sections of the Final Removal Action Implementation Plan (CTO 0002), including addition of a figure. Also attached is FCR 002 to change Revised Traffic Control Plan (CTO 0002) including changes to two of the figures.

CERTIFICATION (This form shall not be used to forward proposed substitutions)

IT IS HEREBY CERTIFIED THAT THE ☐ EQUIPMENT ☒ MATERIAL SHOWN AND MARKED IN THIS SUBMITTAL IS THAT PROPOSED TO BE INCORPORATED INTO CONTRACT N68711-98-D-5713, CTO 0039 IS IN COMPLIANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS AND CAN BE INSTALLED IN THE ALLOCATED SPACES

(C) AUTHORIZED CONTRACTOR QUALITY CONTROL REPRESENTATIVE

CERTIFIED BY (C)

DATE
6/22/01

(C) PERSON DESIGNATED BY CONTRACTOR AS HAVING AUTHORITY TO SIGN CERTIFICATION

PART II – FOR DESIGNER USE

FROM (Designer)

TO (ROICC/REICC)

(D) CURSORY REVIEW REQUIRED ON RECORD COMES – REPLY TO ROICC ONLY IF APPROPRIATE. DETAILED REVIEW REQUIRED ON SUBMITTALS FOR GOVERNMENT APPROVAL

STAMP AND MARK EACH COPY AS APPROPRIATE

THIS SUBMITTAL HAS BEEN REVIEWED (D) THE FOLLOWING RECOMMENDATION IS MADE:

(D) DETAILED REVIEW REQUIRED. STAMP AND MARK EACH COPY AS APPROPRIATE

SIGNATURE

DATE

PART III – FOR ROICC/REICC USE

(E) DESIGNER (Copy to OICC)

FROM (ROICC/REICC)

TO (E)

(E) CONTRACTOR (Copy to OICC)

ENCLOSURES ARE RETURNED WITH THE FOLLOWING COMMENTS:

SIGNATURE

DATE

CONTRACT NO. N68711-96-D-5713

FIELD CHANGE REQUEST (FCR)

CONTRACT TASK ORDER NAME Mole Pier Sub-Site 2A, Naval Station San Diego	CTO # 0039	CHANGE REQUEST NO. FCR-001
TO NAVY NTR/RPM/COTR Darren Belton	LOCATION San Diego, CA	DATE June 6, 2001

RE: ___ Drawing No. _____ Title _____

___ Spec Section _____ Title _____

X Other Various sections in the Final Removal Action Implementation Plan and Site-Specific Health and Safety Plan

1. DESCRIPTION (items involved, submit sketch, if applicable):

Changes to various sections of the Final Removal Action Implementation Plan (CTO 0002), including the addition of a figure (see attached).

2. REASON FOR CHANGE

To reuse the Work Plan and the SHSP from CTO 0002 on the new project (CTO 0039)

3. RECOMMENDED DISPOSITION (Submit sketch, if applicable):

New CTO 0039 order for services provided funding. Contracting Officer approval obtained.

___ Minor Change X Major Change (impacts Cost, Schedule or Technical)

3a. Will this change result in a contract cost or time change? ___ YES X NO

3b. Estimate of contract cost or time change (if any) Covered in OFS for CTO 39

PREPARER (Signature)	DATE	PREPARER'S TITLE	SITE SUPERINTENDENT (Signature)	DATE
[signature]	June 6, 2001	Environmental Engineer	[signature]	6/7/01

4. DISPOSITION

___ Not approved (give reason)

___ Considered minor change - approved per Recommended Disposition - Documents will not formally be revised, field to maintain as-built records.

X Considered major change - Navy approval required via contract modification process. Navy Approval OFS obtained via CTO 0039

1) FOSTER WHEELER ENVIRONMENTAL REGIONAL ENGINEER (Signature) IF ENGINEERING RELATED [signature]	DATE 6/14/01	2) FOSTER WHEELER ENVIRONMENTAL PROJECT MANAGER (Signature) [signature]	DATE 6/15/01 6/06/01
3) CIH (Signature) IF HEALTH AND SAFETY RELATED [signature] ___ Comments (attached) ___ No Comments	DATE 6/06/01	4) REGIONAL SCIENTIST (Signature) IF SCIENCE RELATED NA ___ Comments (attached) ___ No Comments	DATE NA
5) QC PROGRAM MANAGER (Signature) [signature] ___ Comments (attached) ___ No Comments	DATE 6/12/01		

Project Manager distributes to:

CAM
Regional Engineer
Regional Scientist

DCM
Site Superintendent

FCR Preparer
CIH

REV 3-13-99

FOSTER WHEELER ENVIRONMENTAL CORPORATION
FIELD CHANGE REQUEST

Section 1 thru 4 to be filled out by Construction. Section 5 to be filled out by Engineering

Project: Navy RAC CTO No. 0039 – Mole Pier NAVSTA, San Diego, California	OFS. No. 1990-039D	Field Change Request: FCR – 39 Rev. 01

To: Darren Belton Dept: Engineering Location: Sub-Site 2A Date: June 6, 2001

Re: ☐ Drawing No _____ Title: _____
☐ Spec. No. _____ Title: _____
☒ Other. Various Sections in the Final Removal Action Implementation Plan and Site-Specific Health and Safety Plan

1. DESCRIPTION (*Items involved, submit sketch if applicable*)
Changes to various sections of the Final Removal Action Implementation Plan, including the addition of a figure (see attached).

2. REASONS FOR CHANGE (*If from disposition of non-conformance report, list report number*)
To reuse the Work Plan from CTO 0002 on the new project (CTO 0039).

3. RECOMMENDED DISPOSITION ☐ Minor Change ☒ Major Change (Contracting Officer Approval Req'd) ☐ Schedule Impact ☐ Budget Impact

New CTO 0039 order for services provided funding. Contracting Officer approval obtained.

Corey Young **Initiator (Signature):** Corey Y

4. Site Engineer (*Signature*) Carl Jones	Date June 6, 2001	Site Manager Concurrence (*Signature*) Jim Baldwin	Date June 6, 2001

5. Disposition
☐ Not Approved (give reason)
☒ Considered Minor Changes - Approved per Recommended Disposition - Design Documents will not be normally revised: field to maintain as-built records.
☐ Considered Major Changes - Action will be taken as described on DCN

Project Engineer (*Signature*) Not Applicable	Date	ROICC Approval (*Signature*) Not Applicable	Date
		ROICC Approval (*Signature*) Not Applicable	Date

Engineer signs and transmits to Resident Engineer with copies to:
PJM: Kent Weingardt
PQCM: Carl Jones
QCM: Mary Schneider
Superintendent: Jim Baldwin
RPM: Darren Belton

Others as required: _____

Introduction

This FCR has been prepared to supplement the "Final Removal Action Implementation Plan" that was prepared under CTO 0002 (DCN: FWSD-RAC-99-0602). This FCR adopts that plan, including the Field Sampling Plan (FSP), Quality Assurance Program Plan (QAPP), Site-Specific Health and Safety Plan (SHSP), Base Wide Health and Safety Plan (BWHSP), Waste Management Plan (WMP), Construction Quality Control (CQC) Plan, Environmental Protection Plan (EPP), and the previous nine FCR's under CTO 0002, with the following changes to execute the scope of work under the new CTO 0039. CTO 0039 is a new order, but is simply an expansion of the same type of work on the same site as CTO 0002 – Sub-Site 2A Mole Pier. The added scope of work involves the excavation of soil to the extents described in number 3 below. The excavated soil will be properly characterized, transported and disposed as described in the original work plan. The excavation areas will be restored to match surrounding features at the site.

1. Section 6.1, Project Responsibilities Change:

The following changes/additions have been made to the organizational chart:

Agency	Contact	Project Title
Foster Wheeler Environmental Corporation 1230 Columbia Street, Suite 640 San Diego, CA 92101	Mr. Glenn Starr (619) 234-8696 ext. 217	Project Manager
Foster Wheeler Environmental Corporation 1230 Columbia Street, Suite 640 San Diego, CA 92101	Mr. Jim Baldwin (619) 702-4109	Site Superintendent
Foster Wheeler Environmental Corporation 1230 Columbia Street, Suite 640 San Diego, CA 92101	Mr. Carl Walker (619) 702-4109	Site Health and Safety Officer
Foster Wheeler Environmental Corporation 1230 Columbia Street, Suite 640 San Diego, CA 92101	Mr. Carl Jones (619) 702-4109	Project Quality Control Manager

A revised emergency contact list is attached.

2. Section 7.2.4, Exposing Underground Utilities Change:

All underground utilities within the excavation area will be field located based on PWC maps and geophysical survey techniques. The underground utilities found in the excavation area through these methods will then be physically exposed for visual identification by potholing. During potholing, soil will be carefully removed from above the utilities and at least one person will be assigned as a spotter to guide the excavation and inspect for evidence of utilities.

Once exposed, the utilities will be supported as needed, and the remaining soil surrounding the utilities will be carefully removed in order to complete the remedial excavation activities.

If asbestos insulation is detected on any of the utility lines, a licensed asbestos contractor will be utilized to perform in place encasement of the asbestos on the utility line. The encasement will remain in place during the excavation activity and backfilling.

3. **Section 7.4.1, Excavation of Contaminated Soil Change:**

There are six proposed areas of excavation as shown on the attached Figure 1 – New Excavation Boundaries. The following table lists the size and depths of each of the excavation areas that correspond to the attached figure.

Location	Size (L x W x Depth)	Approximate Volume (CY)
Excavation Area 1	35' x 50' x 10'	~~~555~~ 648
Excavation Area 2	10' x 15' x 10'	~55
Excavation Area 3	10' x 15' x 10'	~55
Excavation Area 4	160' x 50' x 10'	~~~2,725~~ 2963
Excavation Area 5	10' x 15' x 10'	~55
Excavation Area 6	10' x 15' x 5'	~28

The excavation sidewalls at Sampling Points B1, B4, C1, and C5 will be cut vertically. Engineered shoring systems will be installed in these areas to stabilize excavation sidewalls in order to collect the confirmation samples. The other two excavation area (Excavation Area 1 and 4) sidewalls will be stepped at 1H:1V.

All other excavation procedures will be performed in accordance with the Final Removal Action Implementation Plan.

4. **Section 7.4.2, Confirmation Soil Sampling Change:**

During the excavation operation, FWENC will perform sidewall and bottom confirmation sampling at each of the excavation areas. One sample from each sidewall will be collected from each excavation area for a total of 24 samples. The sidewall samples will be collected along the outer excavation boundary of each excavation area at mid-height and at random locations of each sidewall.

Confirmation samples will also be collected from the floor of the excavation. One floor sample will be collected in each of the excavation areas at random locations, except for Excavation Area 4, where two floor samples will be collected at random. The random locations will be computer generated on an X,Y coordinate system.

Confirmation sample results will be forwarded to the Navy for review prior to backfilling the excavation areas. Only once the Navy has completed their review of the results, and has deemed the areas fit for closure, will the areas be backfilled.

All other confirmation sampling procedures will be performed in accordance with the Final Removal Action Implementation Plan including the Field Sampling Plan and Quality Assurance Program Plan.

5. **Section 7.4.3, Contaminated Soil Stockpile Management Change:**

The proposed contaminated soil stockpile area will be located at Sub-Site 2G (drying yard). The Site Superintendent will coordinate the exact location of the stockpile area with the ROICC. Appropriate fencing and signage will be placed around the stockpile areas.

All other soil stockpiling procedures will be performed in accordance with the Final Removal Action Implementation Plan.

6. **Appendix D, Site-Specific Health and Safety Plan (SHSP)**

The personal air sampling will not be required at this time on a routine basis for the work at NAVSTA CTO 0039. If work activities show that there may be a need to do personal air sampling it would be on a case by case basis (as it is for all plans when there is a change in conditions). The basis for the elimination of personal air sampling is that the Project Environmental Health and Safety Manager has reviewed the data collected under CTO 0002 personal air monitoring and has determined that there is no need to continue.

7. **Appendix D, SHSP, Section 2.1 and Table 3**

The following personnel changes/additions have been made to the organizational chart:

Agency	Contact	Project Title
Foster Wheeler Environmental Corporation 1230 Columbia Street, Suite 640 San Diego, CA 92101	Mr. Glenn Starr (619) 234-8696 ext. 217	Project Manager
Foster Wheeler Environmental Corporation 1230 Columbia Street, Suite 640 San Diego, CA 92101	Mr. Jim Baldwin (619) 702-4109	Site Superintendent
Foster Wheeler Environmental Corporation 1230 Columbia Street, Suite 640 San Diego, CA 92101	Mr. Carl Walker (619) 702-4109	Site Health and Safety Officer
Foster Wheeler Environmental Corporation 1230 Columbia Street, Suite 640 San Diego, CA 92101	Mr. Carl Jones (619) 702-4109	Project Quality Control Manager

8. **Appendix D, SHSP, Attachment 1, Radiological Survey**

All areas will be surveyed in situ at "zero" feet once the asphalt is removed. The survey will consist of a technician walking along a 1-meter by 1-meter grid sweeping the probe portion of the Eberline SPA-3 over 100% of each area.

Excavation Areas 2, 3, 5 and 6 will be surveyed three (3) times at the stockpile location:

1. As the truck load is emptied
2. After the material is leveled to an 18" depth
3. After the material is leveled to a 6"-8" depth

Excavation Areas 1 and 4 will be surveyed in situ in 2-foot excavation depths. The sidewalls will be sloped per the soil type.

9. Field Change Request Form

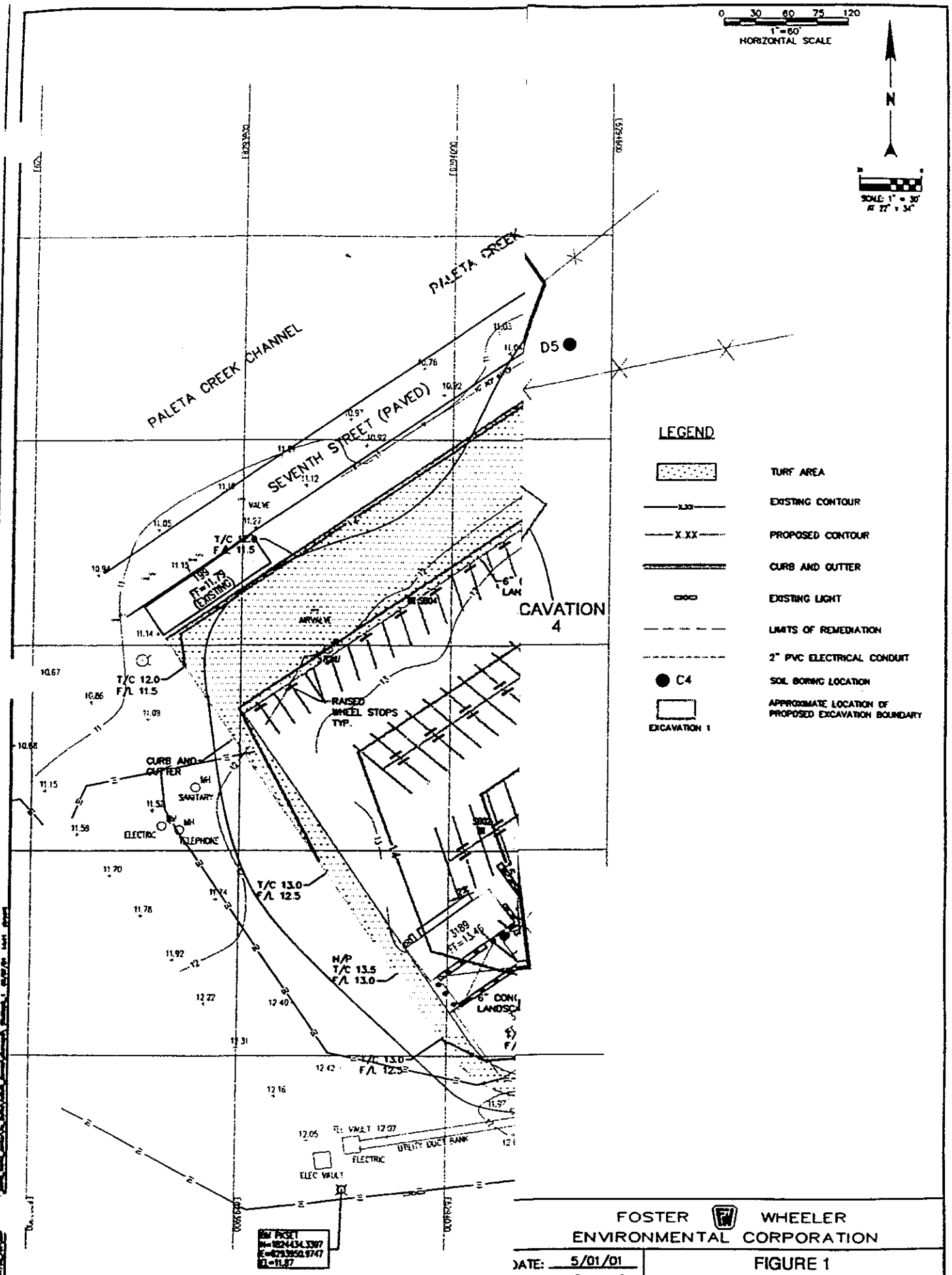
The attached Field Change Request (FCR) form has been adopted for all projects implemented by FWENC on the SW DIV RAC. This form shall be used for the duration of this project.

EMERGENCY RESPONSE NOTIFICATION LIST
Mole Pier - Site 2
2000-2001

NAME	DEPARTMENT	PHONE	MOBILE/PAGER
Glenn Starr	Foster Wheeler - PM	619-471-3517 (direct) 619-234-8696 ext.217	619-206-1204 (cell)
Roger Margotto	Foster Wheeler - PESM	619-471-3503 (direct) 619-234-8696 ext.203	714-810-3742 (pager)
Darren Belton	SWDIV - RPM	619-556-7617	
John Ohlfest	SWDIV - ROICC	619-556-6966	
Jim Baldwin	Foster Wheeler - Superintendent	619-702-3942	619-421-1966 (home)
Carl Walker	Foster Wheeler - ESS	619-702-4109	858-273-0028 (home)
Carl Jones	Foster Wheeler - CQC	619-702-4109	
Federal Fire Department	Navy	619-545-8473 619-545-8474 619-556-3654	
PWC Utilities	Public Works Center	619-556-7960	
PWC Environmental Department	Public Works Center	619-524-6964	
NAVSTA Emergency Dispatch	Navy	911	
NAVSTA Base Security	Navy	911	
Paradise Valley Hospital	Medical	619-470-4321	
South Coast Medical Clinic	Medical	619-474-8666	
Poison Control	General	800-451-1428	
Regional Poison Control Center of SD	General	619-543-6000	
National Response Center	General	800-424-8802	
CHEMTREC	General	800-424-9300	
CAL-OSHA	General	858-467-4048	

***Refer to Emergency Response Plan for proper Notification procedures for various scenarios (I.e., (i.e., spills, injuries, per mit exceedance, etc.)**

****Notifications are NOT listed in order of priority. Order isdependent on type of emergency encountered.**



FOSTER WHEELER
ENVIRONMENTAL CORPORATION

DATE: 5/01/01
SCALE: 1" = 30'
DRAWN: SCB

FIGURE 1
CTO-39
NEW EXCAVATION BOUNDARIES

FOSTER WHEELER ENVIRONMENTAL CORPORATION
NAVY RAC PROJECT

CONTRACT NO. _____

FIELD CHANGE REQUEST
(FCR)

CONTRACT TASK ORDER NAME	CTO #	CHANGE REQUEST NO. FCR-
TO NAVY NTR/RPM/COTR	LOCATION	DATE

RE: ___ Drawing No. _____ Title _____

___ Spec Section _____ Title _____

___ Other _____

1. DESCRIPTION (Items involved, submit sketch, if applicable):

2. REASON FOR CHANGE

3. RECOMMENDED DISPOSITION (Submit sketch, if applicable):

_____ Minor Change _____ Major Change (Impacts Cost, Schedule or Technical)

3a. Will this change result in a contract cost or time change? _____ YES _____ NO

3b. Estimate of contract cost or time charge (if any) _____

PREPARER (Signature)	DATE	PREPARER'S TITLE	SITE SUPERINTENDENT (Signature)	DATE

4. DISPOSITION

___ Not approved (give reason).

___ Considered minor change - approved per Recommended Disposition - Documents will not formally be revised, field to maintain as-built records.

___ Considered major change - Navy approval required via contract modification process.

1) FOSTER WHEELER ENVIRONMENTAL REGIONAL ENGINEER (Signature) (IF ENGINEERING RELATED)	DATE	2) FOSTER WHEELER ENVIRONMENTAL PROJECT MANAGER (Signature)	DATE
3) CIH (Signature) (IF HEALTH AND SAFETY RELATED) ____ Comments (attached) ____ No Comments	DATE	4) REGIONAL SCIENTIST (Signature) (IF SCIENCE RELATED ____ Comments (attached) ____ No Comments	DATE
5) QC PROGRAM MANAGER (Signature)) ____ Comments (attached) ____ No Comments	DATE		

Project Manager distributes to:

CAM
Regional Engineer
Regional Scientist
QCM
Site Superintendent
FCR Preparer
CIH

REV: 3-13-96

FCR.doc

Southwest Division
Naval Facilities Engineering Command
Contracts Department
1220 Pacific Highway, Building 127, Room 112
San Diego, California 92132-5190

CONTRACT NO. N68711-98-D-5713
CTO NO. 0039

AMENDMENT TO FINAL
FIELD SAMPLING PLAN
Revision 2
December 10, 1999

CERCLA NON-TIME-CRITICAL REMOVAL ACTION AT INSTALLATION RESTORATION SUB-SITE 2A MOLE PIER NAVAL STATION SAN DIEGO SAN DIEGO, CALIFORNIA

DCN: FWSD-RAC-01-0786

FOSTER WHEELER ENVIRONMENTAL CORPORATION
1230 Columbia Street, Suite 640
San Diego, CA 92101

Reviewed by: Larry Dudus, RG 5126
Registered Geologist — Date: 6/14/01

Reviewed by: Mary Schneider
Program Quality Control Manager — Date: 6/14/01

Approved by: Narciso A. Ancog
SWDIV Quality Assurance Officer — Date: 6/14/01

REGISTERED GEOLOGIST LARRY A. DUDUS NO. 5126 EXP 7/02 STATE OF CALIFORNIA

This amendment replaces Section 4.1.2 of the Final Field Sampling Plan (DCN: FWSD-RAC-99-0602) in total All other sections do not need modifications This Field Sampling Plan, along with the Final Quality Assurance Project Plan (QAPP), Revision 2, December 10, 1999 (DCN: FWSD-RAC-99-0602), complete the project specific sampling and analysis plan required for this project. The QAPP does not require an addendum since all QAPP elements are already covered

4.1.2 Confirmation Soil Sampling

Excavation activities will involve the removal of the impacted soil and debris from existing ground surface to near the groundwater table. The groundwater table in the vicinity of the site ranges from 7 to 9 feet below ground surface However, the elevation of the groundwater may fluctuate up to one foot due to tidal effects

The boundaries of the excavation have been defined based on prior investigative sampling conducted under CTO 0002. The six defined areas of excavation are shown on the attached Figure 1 – New Excavation Boundaries Prior to commencement of any removal action, the proposed excavation limits will be surveyed and staked.

Excavation will be performed using conventional excavation equipment such as Caterpillar™ (CAT™) 235 excavator or equivalent. The excavated soil will be removed from the excavated area, loaded to articulating trucks by rubber tired loader (CAT™ 950 or equivalent). Excavation Areas 1 and 4 will be sloped at 1H:1V to assure compliance with Occupational Safety and Health Administration's excavation standards. Excavation Areas 2, 3, 5 and 6 will be cut vertically and trench boxes will be placed into the excavated area. Once the excavation floor is extended to the 10-foot depth (5-foot depth for Excavation Area 6), verification sampling will be performed.

Foster Wheeler Environmental will perform sidewall and bottom confirmation sampling at each of the excavation areas. One sample from each sidewall will be collected from each excavation area for a total of 24 samples. The sidewall samples will be collected along the outer excavation boundary of each excavation area at mid-height and at random locations of each sidewall.

Confirmation samples will also be collected from the floor of the excavation. One floor sample will be collected in each of the excavation areas at random locations, except for Excavation Area 4, where two floor samples will be collected at random.

Confirmation sample results will be forwarded to the Navy for review prior to backfilling the excavation areas. Only after the Navy has completed their review of the results, and has deemed the areas fit for closure, will the areas be backfilled.

Confirmation samples will be analyzed for volatile organic compounds (VOCs) (EPA Method 8260B), semi-volatile organic compounds (SVOCs) (EPA Method 8270C), organotin [(Gas Chromatography/Flame Photometric Detector (GC/FPD)], organochlorine pesticide (EPA Method 8081A), PCBs (EPA Method 8082), hexavalent chromium (EPA Method 7196A), dioxins/furans (EPA Method 8290), TPH-extractable (EPA Method 8015-B), and Title 22 Metals (EPA 6010B). A selected number of samples will also be analyzed for gross alpha/beta (EPA Method 900.0) and gamma spectroscopy (USEPA Method 901.1M) as required depending on the results of the radiation monitoring program Confirmation sample results will be compared to established cleanup goals, residential Preliminary Remediation Goals (PRGs) and background concentrations.

See instructions on reverse
No carbon paper is required to complete this form
No transmittal letter required

CATALOG CUT/SHOP DRAWING TRANSMITTAL AND APPROVAL
SOUTHWESTNAVFACENGCOM 4355 / 2 (10-89)

SUBMITTAL NO.
FWSD-RAC-01-0831

CQC CLAUSE ☒ IS APPLICABLE ☐ IS NOT APPLICABLE

REFERENCES TO USE WHEN CQC CLAUSE IS APPLICABLE

PART I – FOR CONTRACTOR USE

REFERENCES TO USE WHEN CQC CLAUSE IS NOT APPLICABLE

(A) ROICC/REICC

FROM (Contractor)
Foster Wheeler Environmental Corporation
1230 Columbia Street, suite 640
San Diego, CA 92101

TO (A)
John Ohlfest

(A) DESIGNER

CONTRACT NO.
N68711-98-D-5713
CTO 0039

CONTRACT TITLE
CERCLA Non-Time-Critical Removal Action at Installation Restoration Sub-Site 2A Mole Pier, Removal Action Expansion into CST Area, Naval Station San Diego, San Diego, CA

(B) *(Check one)*

☐ RECORD

☒ APPROVAL

(B) APPROVAL

THE FOLLOWING ITEM IS SUBMITTED FOR (B) PER SPECIFICATION SECTION NUMBER

Specification section number 01330, SD-01
FCR-001 and FCR-002 (field change requests to incorporate supplements to CTO 0002 project plans for use on CTO 0039 during the removal action expansion **This submittal (originally submitted 6/25/01) is hereby re-submitted, under same submittal No., to include attached additional pages per ROICC and RPM request. This page supercedes the previous "Catalog Cut/Shop Drawing Transmittal and Approval" page.**

CERTIFICATION (This form shall not be used to forward proposed substitutions)

IT IS HEREBY CERTIFIED THAT THE ☐ EQUIPMENT ☒ MATERIAL SHOWN AND MARKED IN THIS SUBMITTAL IS THAT PROPOSED TO BE INCORPORATED INTO CONTRACT N68711-98-D-5713, CTO 0039 IS IN COMPLIANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS AND CAN BE INSTALLED IN THE ALLOCATED SPACES

(C) AUTHORIZED CONTRACTOR QUALITY CONTROL REPRESENTATIVE

CERTIFIED BY (C)

DATE
07/19/01

(C) PERSON DESIGNATED BY CONTRACTOR AS HAVING AUTHORITY TO SIGN CERTIFICATION

PART II – FOR DESIGNER USE

FROM (Designer)

TO (ROICC/REICC)

(D) CURSORY REVIEW REQUIRED ON RECORD COMES – REPLY TO ROICC ONLY IF APPROPRIATE. DETAILED REVIEW REQUIRED ON SUBMITTALS FOR GOVERNMENT APPROVAL

STAMP AND MARK EACH COPY AS APPROPRIATE

THIS SUBMITTAL HAS BEEN REVIEWED (D) THE FOLLOWING RECOMMENDATION IS MADE:

(D) DETAILED REVIEW REQUIRED. STAMP AND MARK EACH COPY AS APPROPRIATE

SIGNATURE

DATE

PART III – FOR ROICC/REICC USE

(E) DESIGNER *(Copy to OICC)*

FROM (ROICC/REICC)

TO (E)

(E) CONTRACTOR *(Copy to OICC)*

ENCLOSURES ARE RETURNED WITH THE FOLLOWING COMMENTS:

SIGNATURE

DATE

FOSTER WHEELER ENVIRONMENTAL CORPORATION

NAVY RAC PROJECT

CONTRACT NO. N68711-98-D-5713

FIELD CHANGE REQUEST (FCR)

CONTRACT TASK ORDER NAME Mole Pier Sub-Site 2A, Removal Action Expansion Into CST Area, Naval Station San Diego	CTO # 0039	CHANGE REQUEST NO. FCR-001
TO NAVY NTR/RPM/COTR Darren Belton	LOCATION San Diego	DATE July 19, 2001

RE: ___ Drawing No. _____ Title _____

___ Spec Section _____ Title _____

X Other CTO 0002 project plans

1. DESCRIPTION (Items involved, submit sketch, if applicable):

Supplements to project plans from CTO 0002 for use on CTO 0039.

2. REASON FOR CHANGE

To reuse the project plans from CTO 0002 on CTO 0039.

3. RECOMMENDED DISP

PER RPM REQUEST, THIS SHEET MODIFIES THE LANGUAGE OF SECTIONS 1 AND 2 OF "FIELD CHANGE REQUEST" SHEET FOR FCR 1 DATED JUNE 6, 2001. REFER TO SHEET DATED JUNE 6, 2001 FOR ALL OTHER INFORMATION.

_____ Minor Change _____ Major Change (Impacts Cost, Schedule or Technical)

3a. Will this change result in a contract cost or time change? _____ YES ___ NO

3b. Estimate of contract cost or time charge (if any) _____

PREPARER (Signature)	DATE	PREPARER'S TITLE	SITE SUPERINTENDENT (Signature)	DATE

4. DISPOSITION

___ Not approved (give reason).

___ Considered minor change - approved per Recommended Disposition - Documents will not formally be revised, field to maintain as-built records.

___ Considered major change - Navy approval required via contract modification process

1) FOSTER WHEELER ENVIRONMENTAL REGIONAL ENGINEER (Signature) (IF ENGINEERING RELATED)	DATE	2) FOSTER WHEELER ENVIRONMENTAL PROJECT MANAGER (Signature)	DATE
3) CIH (Signature) (IF HEALTH AND SAFETY RELATED) _____ Comments (attached) _____ No Comments	DATE	4) REGIONAL SCIENTIST (Signature) (IF SCIENCE RELATED _____ Comments (attached) _____ No Comments	DATE
5) QC PROGRAM MANAGER (Signature)) _____ Comments (attached) _____ No Comments	DATE		

Project Manager distributes to:

CAM	QCM	FCR Preparer
Regional Engineer Regional Scientist	Site Superintendent	CIH

REV: 3-13-96

FOSTER WHEELER ENVIRONMENTAL CORPORATION
NAVY RAC PROJECT

CONTRACT NO. N68711-98-D-5713

FIELD CHANGE REQUEST
(FCR)

CONTRACT TASK ORDER NAME Mole Pier Sub-Site 2A, Removal Action Expansion Into CST Area, Naval Station San Diego	CTO # 0039	CHANGE REQUEST NO. FCR-002
TO NAVY NTR/RPM/COTR Darren Belton	LOCATION San Diego	DATE July 19, 2001

RE: ___ Drawing No. _____ Title _____

___ Spec Section _____ Title _____

X Other CTO 0002 project plans

1. DESCRIPTION (Items involved, submit sketch, if applicable):

Supplements to project plans from CTO 0002 for use on CTO 0039.

2. REASON FOR CHANGE

To reuse the project plans from CTO 0002 on CTO 0039.

3. RECOMMENDED DISP

PER RPM REQUEST, THIS SHEET MODIFIES THE LANGUAGE OF SECTIONS 1 AND 2 OF "FIELD CHANGE REQUEST" SHEET FOR FCR 2 DATED JUNE 7, 2001. REFER TO SHEET DATED JUNE 7, 2001 FOR ALL OTHER INFORMATION.

_____ Minor Change _____ Major Change (Impacts Cost, Schedule or Technical)

3a. Will this change result in a contract cost or time change? _____ YES ___ NO

3b. Estimate of contract cost or time charge (if any) _____

PREPARER (Signature)	DATE	PREPARER'S TITLE	SITE SUPERINTENDENT (Signature)	DATE

4. DISPOSITION

___ Not approved (give reason).

___ Considered minor change - approved per Recommended Disposition - Documents will not formally be revised, field to maintain as-built records.

___ Considered major change - Navy approval required via contract modification process.

1) FOSTER WHEELER ENVIRONMENTAL REGIONAL ENGINEER (Signature) (IF ENGINEERING RELATED)	DATE	2) FOSTER WHEELER ENVIRONMENTAL PROJECT MANAGER (Signature)	DATE
3) CIH (Signature) (IF HEALTH AND SAFETY RELATED) _____ Comments (attached) _____ No Comments	DATE	4) REGIONAL SCIENTIST (Signature) (IF SCIENCE RELATED _____ Comments (attached) _____ No Comments	DATE
5) QC PROGRAM MANAGER (Signature)) _____ Comments (attached) _____ No Comments	DATE		

Project Manager distributes to:

CAM	QCM	FCR Preparer
Regional Engineer Regional Scientist	Site Superintendent	CIH

REV. 3-13-96

BELOW IS FROM FCR 0002 (SUBMITTAL NO. FWSD-RAC-01-0831) FOR THE TRAFFIC PLAN FOR CTO 0039, ORIGINALLY SUBMITTED ON 6/25/01. ADD THIS PAGE TO THOSE CONTAINED IN ORIGINAL SUBMITTAL.

Introduction

No change

1. Section 4.2, Analysis of Potential Impacts:

No change

2. Figure 2, Site Map:

No change

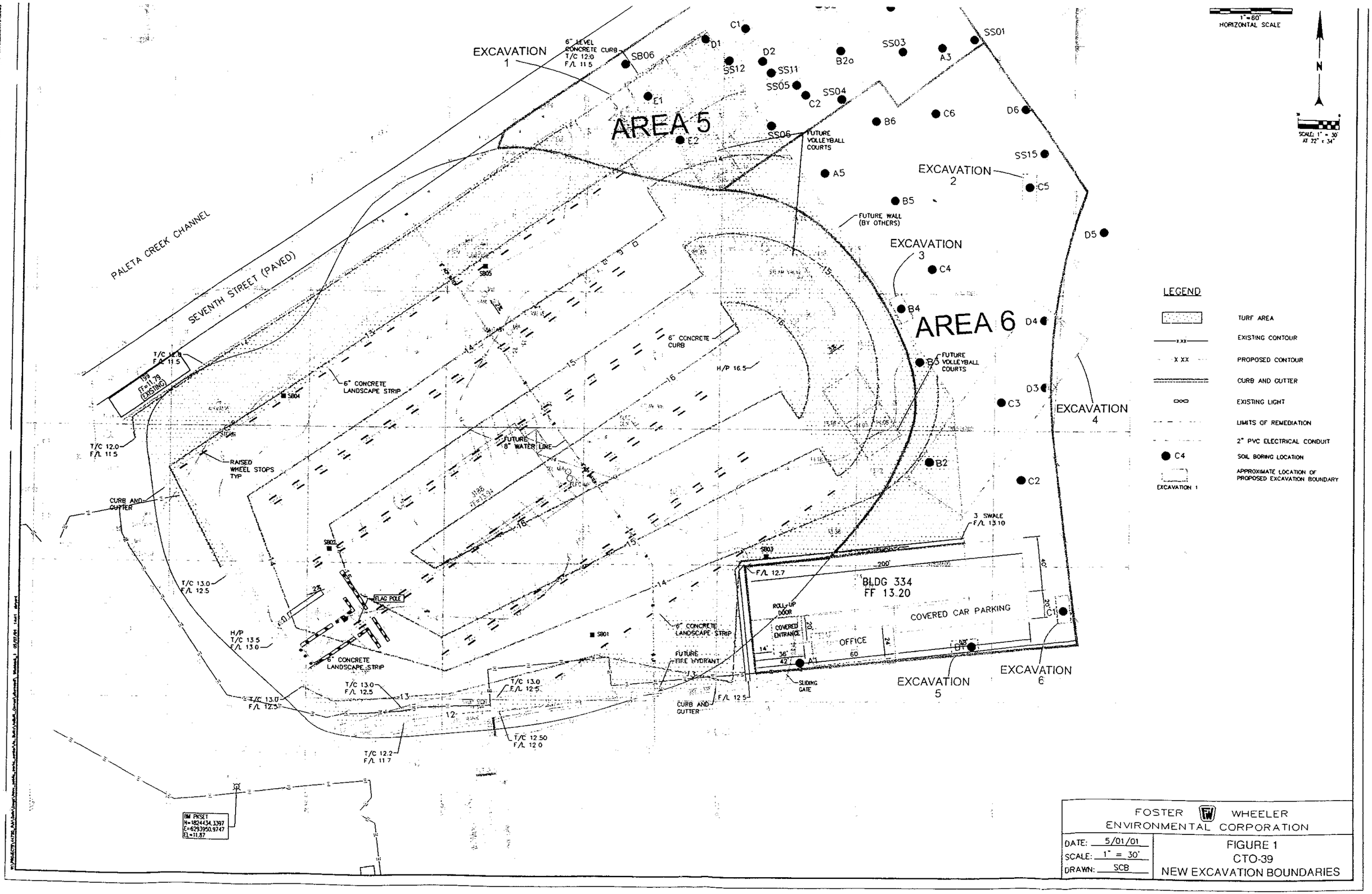
3. Figure 3, Traffic Route Map:

Add the following text after the last sentence in item #3 of FCR 2 (traffic plan):

All backfill material will be brought to the site through Gate 9. During transport and disposal operations, material will leave the base through Gate 9 during regular base hours and Gate 7 during restricted hours.

Restricted use hours for Gate 9 are as follows:

Monday:	**0715 – 0830 and 1400 – 1500**
Tuesday:	**0715 – 0830 and 1400 – 1500**
Wednesday:	**0715 – 0830 and 1400 – 1500**
Thursday:	**0715 – 0830 and 1300 – 1430**
Friday:	**0715 – 0830 and 1400 – 1500**



FOSTER WHEELER ENVIRONMENTAL CORPORATION

DATE: 5/01/01
SCALE: 1" = 30'
DRAWN: SCB

FIGURE 1
CTO-39
NEW EXCAVATION BOUNDARIES

CONTRACT NO N68711-98-D-5713

FIELD CHANGE REQUEST
(FCR)

CONTRACT TASK ORDER NAME	CTO #	CHANGE REQUEST NO
Mole Pier Sub-Site 2A, Naval Station San Diego	0039	FCR-002
TO NAVY NTR/RPM/COTR	LOCATION	DATE
Darren Belton	San Diego, CA	June 7, 2001

RE: ___ Drawing No _____ Title _____

___ Spec Section _____ Title _____

X Other Changes to the Revised Final Traffic Control Plan

1. DESCRIPTION (Items involved, submit sketch, if applicable):

Changes to the Revised Final Traffic Control Plan (CTO 0002), including changes to two of the figures (see attached)

2. REASON FOR CHANGE

To reuse the Traffic Control Plan from CTO 0002 on the new project (CTO 0039).

3. RECOMMENDED DISPOSITION (Submit sketch, if applicable):

New CTO 0039 order for services provided funding. Contracting Officer approval obtained

___ Minor Change X Major Change (Impacts Cost, Schedule or Technical)

3a. Will this change result in a contract cost or time change? ___ YES X NO

3b. Estimate of contract cost or time charge (if any) _____

PREPARER (Signature)	DATE	PREPARER'S TITLE	SITE SUPERINTENDENT (Signature)	DATE
[signature]	June 7, 2001	Environmental Engineer	[signature]	6/7/01

4. DISPOSITION

___ Not approved (give reason)

___ Considered minor change - approved per Recommended Disposition - Documents will not formally be revised, field to maintain as-built records

X Considered major change - Navy approval required via contract modification process. Approval Obtained OFS for CTO 00[illegible]

1) FOSTER WHEELER ENVIRONMENTAL REGIONAL ENGINEER (Signature) (IF ENGINEERING RELATED)	DATE	2) FOSTER WHEELER ENVIRONMENTAL PROJECT MANAGER (Signature)	DATE
NA	NA	[signature]	6/15/01 6/06/01
3) CIH (Signature) (IF HEALTH AND SAFETY RELATED) [signature] ___ Comments (attached) X No Comments	6/07/01	4) REGIONAL SCIENTIST (Signature) (IF SCIENCE RELATED) NA ___ Comments (attached) ___ No Comments	
5) QC PROGRAM MANAGER (Signature) [signature] ___ Comments (attached) ___ No Comments	6/12/01		

Project Manager distributes to:

CAM — QCM — FCR Preparer

Regional Engineer — Site Superintendent — CIH

Regional Scientist

REV 3 13-96

FCR 4-11 sec

OM : FOSTER WHEELER ENVIRONMENTAL PHONE NO. : 6192348592 Jun. 13 2001 06:23AM P3

NAVY RAC PROJECT

CONTRACT NO. N68711-98-D-5713

FIELD CHANGE REQUEST (FCR)

CONTRACT TASK ORDER NAME	CTO #	CHANGE REQUEST NO.
Mole Pier Sub-Site 2A, Naval Station San Diego	0039	FCR-002
TO NAVY NTR/RPM/COTR	**LOCATION**	**DATE**
Darren Belton	San Diego, CA	June 7, 2001

RE: ___ Drawing No. _____ Title _____

___ Spec Section _____ Title _____

X Other Changes to the Revised Final Traffic Control Plan

1. DESCRIPTION (Items involved, submit sketch, if applicable):

Changes to the Revised Final Traffic Control Plan (CTO 0002), including changes to two of the figures (see attached).

2. REASON FOR CHANGE

To reuse the Traffic Control Plan from CTO 0002 on the new project (CTO 0039).

3. RECOMMENDED DISPOSITION (Submit sketch, if applicable):

New CTO 0039 order for services provided funding. Contracting Officer approval obtained.

___ Minor Change X Major Change (Impacts Cost, Schedule or Technical)

a Will this change result in a contract cost or time change? ___ YES X NO

3b. Estimate of contract cost or time charge (if any) _____

PREPARER (Signature)	DATE	PREPARER'S TITLE	SITE SUPERINTENDENT (Signature)	DATE
Cory [illegible]	June 7, 2001	Environmental Engineer	[illegible]	6/7/01

4. DISPOSITION

___ Not approved (give reason).

___ Considered minor change - approved per Recommended Disposition - Documents will not formally be revised, field to maintain as-built records.

X Considered major change - Navy approval required via contract modification process. Approval Obtained OFS for CTO 0039

1) FOSTER WHEELER ENVIRONMENTAL REGIONAL ENGINEER (Signature) (IF ENGINEERING RELATED)	DATE	2) FOSTER WHEELER ENVIRONMENTAL PROJECT MANAGER (Signature)	DATE
NA	NA	[illegible]	6/06/01
3) CIH (Signature) (IF HEALTH AND SAFETY RELATED) Roger N Marzotto ___ Comments (attached) X No Comments	DATE 6/07/01	4) REGIONAL SCIENTIST (Signature) (IF SCIENCE RELATED NA ___ Comments (attached) ___ No Comments	DATE
5) QC PROGRAM MANAGER (Signature)) ___ Comments (attached) ___ No Comments	DATE		

Project Manager distributes to:

CAM	QCM	FCR Preparer
Regional Engineer Regional Scientist	Site Superintendent	CIH

REV: 3-13-96

FCR 39-02.doc

Introduction

This FCR has been prepared to supplement the "Revised Final Traffic Control Plan" that was prepared under CTO 0002. This FCR adopts that plan with the following changes to execute the scope of work under the new CTO 0039. CTO 0039 is a new order, but is simply an expansion of the same type of work on the same site as CTO 0002 – Sub-Site 2A Mole Pier.

1. **Section 4.2, Analysis of Potential Impacts:**

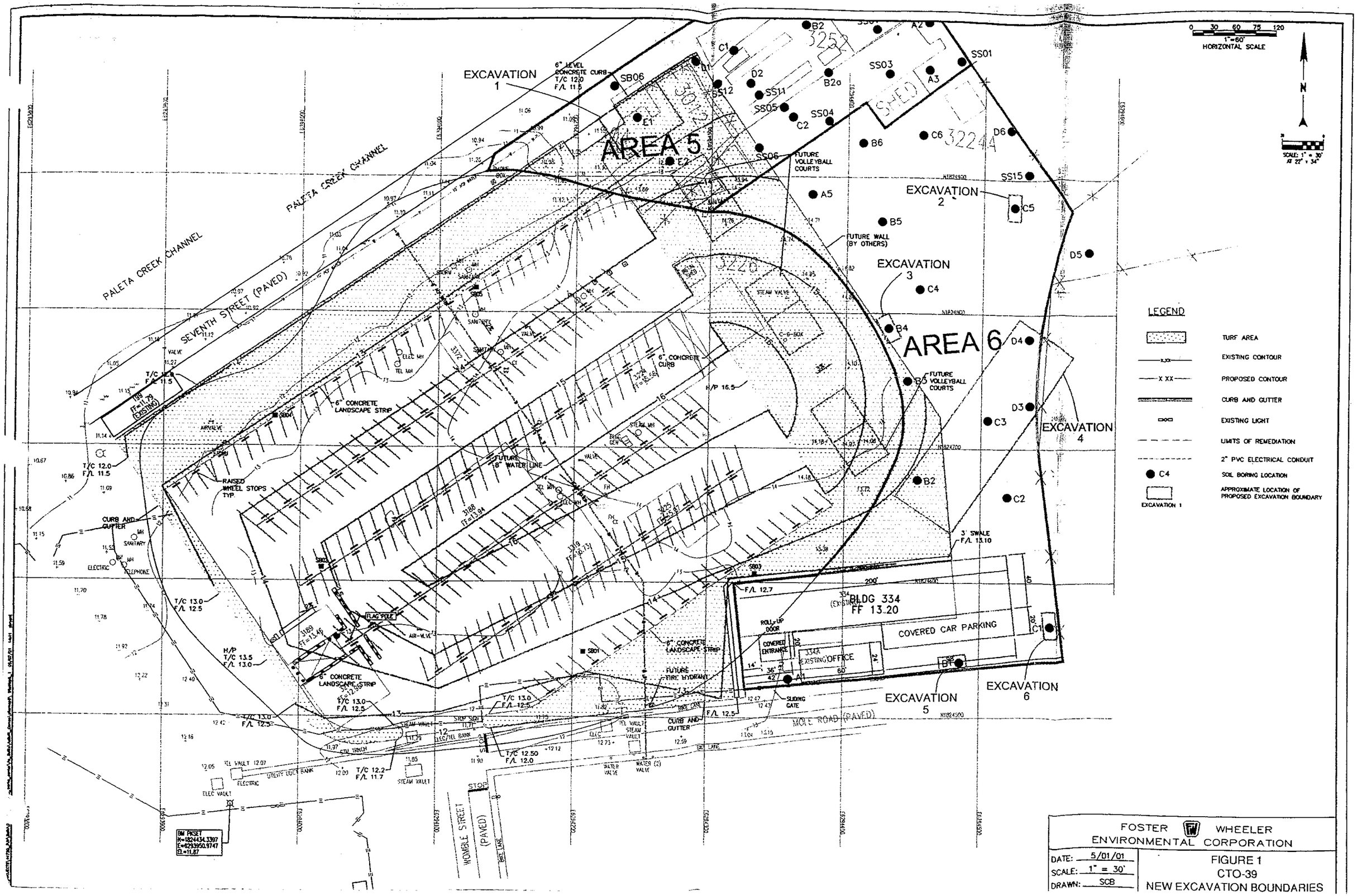
   An analysis of potential impacts was not recalculated for the work to be conducted under the new CTO 0039 because the potential impacts will be much less than that accounted for in the previous plan. There will be less soil to be removed, thus there will be less transport activities.

2. **Figure 2, Site Map:**

   This figure is being replaced with the attached Figure 1 – New Excavation Boundaries. The new drawing shows the excavation locations and limits for the new project. The new figure has been incorporated into the Work Plan via FCR 39-001.

3. **Figure 3, Traffic Route Map:**

   This figure has been modified to reflect changes in the location from CTO 0002, thus the traffic route has changed. The new figure has been attached.



FOSTER WHEELER ENVIRONMENTAL CORPORATION

DATE: 5/01/01
SCALE: 1" = 30'
DRAWN: SCB

FIGURE 1
CTO-39
NEW EXCAVATION BOUNDARIES

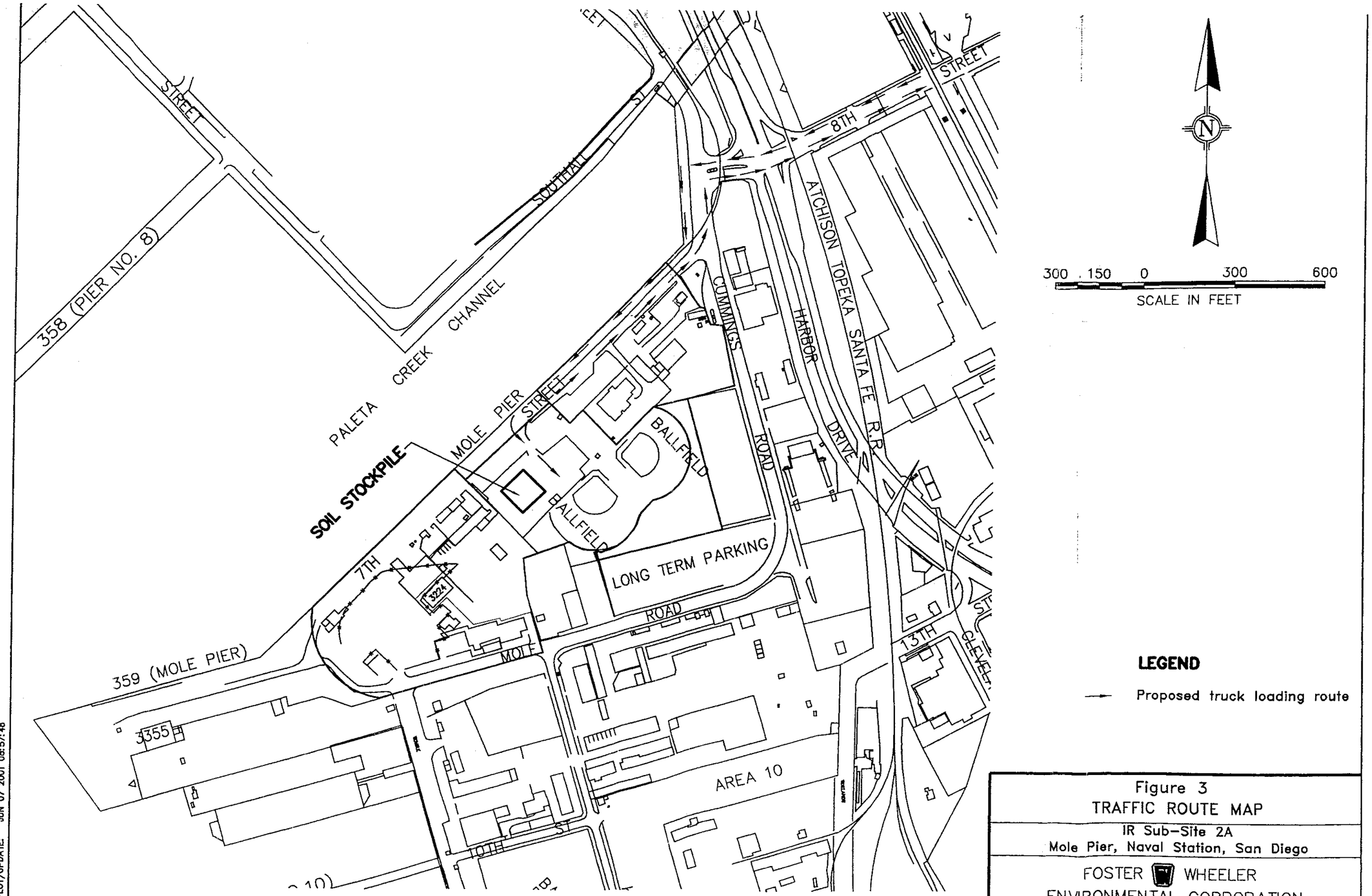


Figure 3
TRAFFIC ROUTE MAP
IR Sub-Site 2A
Mole Pier, Naval Station, San Diego
FOSTER WHEELER ENVIRONMENTAL CORPORATION

I:\1990-MOLE PIER\00027403.DWG
PLOT/UPDATE: JUN 07 2001 08:57:48

FOSTER WHEELER ENVIRONMENTAL CORPORATION

NAVY RAC PROJECT

CONTRACT NO N68711-98-D-5713

FIELD CHANGE REQUEST (FCR)

CONTRACT TASK ORDER NAME Mole Pier Sub-Site 2A, Removal Action Expansion Into CST Area, Naval Station San Diego	CTO # 0039	CHANGE REQUEST NO FCR-003
TO NAVY NTR/RPM/COTR Darren Belton	LOCATION San Diego	DATE July 2 2001

RE: ___ Drawing No. _____ Title _____

X Spec Section 01330, Paragraph 1.4 Title SUBMITTAL PROCEDURES

___ Other _____

1. DESCRIPTION (Items involved, submit sketch, if applicable):

Changes to Revision 1 of Submittal Register for CTO 0002 (DCN: FWSD-RAC-00-0819) to remove items that are not applicable to CTO 0039, and submit as new Submittal Register. No new items are added.

2. REASON FOR CHANGE

Various items referenced in Revision 1 of Submittal Register for CTO 0002 (DCN: FWSD-RAC-00-0819) are not applicable to CTO 0039.

3. RECOMMENDED DISPOSITION (Submit sketch, if applicable):

Incorporate new Submittal Register for CTO 0039.

X Minor Change ___ Major Change (Impacts Cost, Schedule or Technical)

3a Will this change result in a contract cost or time change? ___ YES X NO

3b. Estimate of contract cost or time charge (if any) _____

PREPARER (Signature)	DATE	PREPARER'S TITLE	SITE SUPERINTENDENT (Signature)	DATE
	6/28/01	Project Quality Control Manager		7/2/01

4. DISPOSITION

___ Not approved (give reason)

X Considered minor change - approved per Recommended Disposition - Documents will not formally be revised, field to maintain as-built records

___ Considered major change - Navy approval required via contract modification process.

1) FOSTER WHEELER ENVIRONMENTAL REGIONAL ENGINEER (Signature) (IF ENGINEERING RELATED)	DATE	2) FOSTER WHEELER ENVIRONMENTAL PROJECT MANAGER (Signature)	DATE 7/2/01
3) CIH (Signature) (IF HEALTH AND SAFETY RELATED) ___ Comments (attached) ___ No Comments	DATE	4) REGIONAL SCIENTIST (Signature) (IF SCIENCE RELATED ___ Comments (attached) ___ No Comments	DATE
5) QC PROGRAM MANAGER (Signature)) ___ Comments (attached) ___ No Comments	DATE 6/26 01		

Project Manager distributes to:

CAM	QCM	FCR Preparer
Regional Engineer Regional Scientist	Site Superintendent	CIH

REV: 3-13-96

See instructions on reverse
No carbon paper is required to complete this form
No transmittal letter required

CATALOG CUT/SHOP DRAWING TRANSMITTAL AND APPROVAL
SOUTHWESTNAVFACENGCOM 4355 / 2 (10-89)

SUBMITTAL NO. FWSD-RAC-01-0849

CQC CLAUSE ☒ IS APPLICABLE ☐ IS NOT APPLICABLE

REFERENCES TO USE WHEN CQC CLAUSE IS APPLICABLE

PART I – FOR CONTRACTOR USE

REFERENCES TO USE WHEN CQC CLAUSE NOT APPLICABLE

(A) ROICC/REICC

FROM (Contractor)
Foster Wheeler Environmental Corporation
1230 Columbia Street, suite 640
San Diego, CA 92101

TO (A)
John Ohlfest

(A) DESIGNER

CONTRACT NO.
N68711-98-D-5713
CTO 0039

CONTRACT TITLE
CERCLA Non-Time-Critical Removal Action at Installation Restoration Sub-Site 2A Mole Pier, Removal Action Expansion into CST Area, Naval Station San Diego, San Diego, CA

(B) *(Check one)*

☒ RECORD

☐ APPROVAL

THE FOLLOWING ITEM IS SUBMITTED FOR (B) PER SPECIFICATION SECTION NUMBER

Specification section number 01330, paragraph 1.4 and SD-01
Attached is FCR-003 to revise submittal register for CTO 0002 for use on CTO 0039 Also attached is FCR-004 to amend the SWPPP for CTO 0002, including revised figure, for use on CTO 0039.

(B) APPROVAL

CERTIFICATION (This form shall not be used to forward proposed substitutions)

IT IS HEREBY CERTIFIED THAT THE ☐ EQUIPMENT ☒ MATERIAL SHOWN AND MARKED IN THIS SUBMITTAL IS THAT PROPOSED TO BE INCORPORATED INTO CONTRACT N68711-98-D-5713, CTO 0039 IS IN COMPLIANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS AND CAN BE INSTALLED IN THE ALLOCATED SPACES

(C) AUTHORIZED CONTRACTOR QUALITY CONTROL REPRESENTATIVE

CERTIFIED BY (C)

DATE 7/2/01

(C) PERSON DESIGNATED BY CONTRACTOR AS HAVING AUTHORITY TO SIGN CERTIFICATION

PART II – FOR DESIGNER USE

FROM (Designer)

TO (ROICC/REICC)

(D) CURSORY REVIEW REQUIRED ON RECORD COMES – REPLY TO ROICC ONLY IF APPROPRIATE. DETAILED REVIEW REQUIRED ON SUBMITTALS FOR GOVERNMENT APPROVAL

STAMP AND MARK EACH COPY AS APPROPRIATE

THIS SUBMITTAL HAS BEEN REVIEWED (D) THE FOLLOWING RECOMMENDATION IS MADE:

(D) DETAILED REVIEW REQUIRED. STAMP AND MARK EACH COPY AS APPROPRIATE

SIGNATURE

DATE

PART III – FOR ROICC/REICC USE

(E) DESIGNER *(Copy to OICC)*

FROM (ROICC/REICC)

TO (E)

(E) CONTRACTOR *(Copy to OICC)*

ENCLOSURES ARE RETURNED WITH THE FOLLOWING COMMENTS:

SIGNATURE

DATE

SUBMITTAL REGISTER

TITLE AND LOCATION	CONTRACTOR	CONTRACT NO.
Mole Pier Sub-Site 2A, Removal Action Expansion Into CST Area, Naval Station San Diego	Foster Wheeler Environmental Corporation	N68711-98-D-5713 CTO No. 0039

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	CONTRACTOR SCHEDULE DATES: CLASSIFICATION	CONTRACTOR SCHEDULE DATES: GOVT OR A/E REVWR	CONTRACTOR SCHEDULE DATES: SUBMIT	CONTRACTOR SCHEDULE DATES: APPROVAL NEEDED BY	CONTRACTOR SCHEDULE DATES: MATERIAL NEEDED BY	CONTRACTOR ACTION: ACTION CODE	CONTRACTOR ACTION: DATE OF ACTION	DATE FWD TO APPR AUTH/DATE RCD FROM CONTR	APPROVING AUTHORITY: DATE FWD TO OTHER REVIEWER	APPROVING AUTHORITY: DATE RCD FROM OTH REVIEWER	APPROVING AUTHORITY: ACTION CODE	APPROVING AUTHORITY: DATE OF ACTION	MAILED TO CONTR/DATE RCD FRM APPR AUTH	REMARKS
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		1310	SD-18, Records List of contact personnel	1.2.1	G									A			
		1330	SD-18 Records Submittal Register	1.4		07/02/2001								A			
		1500	SD-02 Manufacturers Catalog Data														
			SD-04 Drawings														
			Construction Site Plan (FCR-001)	1.2.2.1		06/22/2001			A					A			W / work plans
			SD-08 Statements														
			SD-13 Certificates														
		1575	SD-08 Statements														
			Environmental Protection Plan (FCR-001)	1.7	G	06/22/2001								A			W/ work plans
			Dirt and Dust Control Plan (FCR-001)	1.3.1.1		06/22/2001								A			W / work plans
			SD-12 Field Test Reports														
		1575	Laboratory analysis	1.3.2.1		On-going											
			SD-18 Records														
			Solid Waste disposal permit	1.3.3.2		On-going											
			Waste Determination	1.3.3.3		On-going											
			Disposal documentation for hazardous and regulated waste	1.3.3.4		On-going											
			Regulatory notification	1.3.3.6		On-going											If applicable
			Solid waste disposal report	1.3.3.7		On-going											

SUBMITTAL REGISTER

TITLE AND LOCATION	CONTRACTOR	CONTRACT NO.
Mole Pier Sub-Site 2A, Removal Action Expansion Into CST Area, Naval Station San Diego	Foster Wheeler Environmental Corporation	N68711-98-D-5713 CTO No. 0039

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	CLASSIFICATION	GOVT OR A/E REVIEW	CONTRACTOR SCHEDULE DATES: SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	CONTRACTOR ACTION: ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/DATE RCD FROM CONTR	APPROVING AUTHORITY: DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION	MAILED TO CONTR/DATE RCD FRM APPR AUTH	REMARKS
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		2301	SD-08															
			Shoring and sheeting plan (FCR-001)	1.3.1			06/22/2001											
			SD-12 Field Test Reports															
			General Backfill (ballast float rock: gradation, thickness)	1.3.2			July/August 2001		08/2001	A								
			General Backfill (fs-15: gradation, atterburg, thickness, density)	1.3.2			July/August 2001		08/2001									
		2722	SD-11 Factory Test Reports															
			Gradation	1.1.1			July/August 2001		08/2001									
			SD-12 Field Test Reports															
			Density, thickness	1.1.2			On-going											
		2741	SD-08 Statements															
			Mix delivery record	1.2.1.1			On-going		08/2001									
			SD-11 Factory Test Reports															
			Trial batch	1.2.2.1			July/August 2001		08/2001									
			Mix design	1.2.2.2			July/August 2001		08/2001									
		2786	SD-08 Statements															
			Equipment List	1.2.1.1			July/August 2001		08/2001									
			SD-10 Test Reports															
			Emulsified asphalt	2.1			08/2001											
			SD-18 Records															
			Inspection reports	3.1.3.1			On-going											

FOSTER WHEELER ENVIRONMENTAL CORPORATION
NAVY RAC PROJECT
CONTRACT NO N68711-98-D-5713

FIELD CHANGE REQUEST (FCR)

CONTRACT TASK ORDER NAME Mole Pier Sub-Site 2A, Removal Action Expansion Into CST Area, Naval Station San Diego	CTO # 0039	CHANGE REQUEST NO FCR-004
TO NAVY NTR/RPM/COTR Darren Belton	LOCATION San Diego	DATE July 2, 2001

RE: ___ Drawing No _____ Title _____

X Spec Section 01330, SD-01 Title SUBMITTAL PROCEDURES

___ Other _____

1. DESCRIPTION (Items involved, submit sketch, if applicable):

Amend *Storm Water Pollution Prevention Plan (SWPPP) for Storm Water Discharges Associated with Construction Activity, CERCLA Non-Time-Critical Removal Action at Installation Restoration Sub-Site 2A Mole Pier* (prepared by CDM Federal for use on CTO 2) to reflect additional excavation under CTO 39. Amendment is submitted as Amendment #1 to SWPPP. Amendment consists of two page letter format and revised Figure 2.

2. REASON FOR CHANGE

Required by Sections 2 and 5 of SWPPP. Amendment #1 will be used for storm water pollution prevention under CTO 39 during additional excavation at Mole Pier Sub-Site 2A.

3. RECOMMENDED DISPOSITION (Submit sketch, if applicable):

Incorporate Amendment #1 to SWPPP into CTO 0039.

X Minor Change ____ Major Change (Impacts Cost, Schedule or Technical)

3a. Will this change result in a contract cost or time change? ____ YES X NO

3b. Estimate of contract cost or time charge (if any) _____

PREPARER (Signature)	DATE	PREPARER'S TITLE	SITE SUPERINTENDENT (Signature)	DATE
	6/28/01	Project Quality Control Manager		7/2/01

4. DISPOSITION

___ Not approved (give reason).

X Considered minor change - approved per Recommended Disposition - Documents will not formally be revised, field to maintain as-built records

___ Considered major change - Navy approval required via contract modification process.

1) FOSTER WHEELER ENVIRONMENTAL REGIONAL ENGINEER (Signature) (IF ENGINEERING RELATED)	DATE	2) FOSTER WHEELER ENVIRONMENTAL PROJECT MANAGER (Signature)	DATE
			7/2/01
3) CIH (Signature) (IF HEALTH AND SAFETY RELATED) ____ Comments (attached) ____ No Comments	DATE	4) REGIONAL SCIENTIST (Signature) (IF SCIENCE RELATED ____ Comments (attached) ____ No Comments	DATE
5) QC PROGRAM MANAGER (Signature)) ____ Comments (attached) ____ No Comments	DATE 6/26 01		

Project Manager distributes to:

CAM	QCM	FCR Preparer
Regional Engineer Regional Scientist	Site Superintendent	CIH

REV: 3-13-96

INTRODUCTION

This document is Amendment #1 to the Storm Water Pollution Prevention Plan (SWPPP) for Storm Water Discharges Associated with Construction Activity, CERCLA Non-Time-Critical Removal Action at Installation Restoration Sub-Site 2A Mole Pier prepared by CDM Federal Programs Corporation (CDM), dated January 2000. This document describes storm water pollution prevention requirements associated with the removal action expansion into the CST area, and was prepared based on the requirements of Section 5 of the SWPPP (CDM, 2000).

PARTY REQUESTING THE AMENDMENT

Foster Wheeler Environmental Corporation (FWENC) on behalf of the Department of the Navy (DON).

LOCATION OF PROPOSED CHANGE

Six additional areas will be excavated (see revised Figure 2, Water Pollution Control Drawing). Three excavations are located in Area 6, one in Area 5, and two in the vicinity of Building 334. The six excavations will have approximate dimensions as follows:

Excavation #	Length (feet)	Width (feet)	Depth (feet)
1	50	35	10
2	15	10	10
3	15	10	10
4	160	50	10
5	15	10	10
6	15	10	5

The additional excavation will generate approximately 5,327 tons of soil. The total area of all six proposed excavations (existing site conditions) is 10,350 square feet, or 0.24 acres, and the proposed site conditions after construction is 0.24 acres. The original 2.5 acres associated with the original (i.e. unamended) SWPPP have been paved.

The entire perimeter of all six excavations will be surrounded by chain-link fence with stacked sandbags at the Base and 2-feet-high silt fence.

DESCRIBE REASON FOR CHANGE

The reason for the change is to accommodate the removal action expansion into the CST Area. The project name is as follows: CERCLA Non-Time-Critical Removal Action at Installation Restoration Sub-Site 2A Mole Pier, Removal Action Expansion Into the CST Area, Naval Station San Diego, San Diego, California.

The persons responsible for implementing Amendment #1 to the SWPPP are Mr. Glenn Starr and Mr. Jim Baldwin of Foster Wheeler Environmental Corporation, 1230 Columbia Street, Suite 640, San Diego, California 92101. Telephone: (619) 234-8696

The Non-Time-Critical Removal Action (NTCRA) is being undertaken to reduce soil contaminant concentrations to acceptable levels for human health. The NTCRA will involve the following:

- Removal of asphalt and concrete
- Excavation of contaminated soil to 10 feet below ground surface
- Backfilling and compaction of excavations
- Repaving and restoration of disturbed areas

The work is planned to commence in June 2001 and be completed in September 2001.

Two temporary stockpiles will be maintained onsite. One stockpile will be maintained for Resource Conservation and Recovery Act (RCRA) contaminated soil, and one stockpile will be for non-RCRA contaminated soil. Each stockpile will be lined with a 20-mil polyethylene liner over the ground surface and will be bermed with clean soil or sandbags to contain any loose soil and any potential runoff associated with storm water. Contained storm water will be pumped into either 55-gallon drums or into a storage tank. At night, during rain events, and during extended period of no activity, each stockpile will be covered with 3-mil polyethylene liners. After sampling and analysis, the excavated soil will be loaded into trucks and hauled offsite.

Vehicle access to the IR Sub-Site 2A will be from Mole Road and vehicle exit will be onto 7th Street.

Because of the size of the construction site (less than 5 acres), a Notice of Intent is not required to be filed with State Water Resources Control Board (SWRCB), and coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002 for construction sites is also not required.

DESCRIBE THE ORIGINAL BMP PROPOSED, IF ANY

See Attachment H of SWPPP.

DESCRIBE THE NEW BMP PROPOSED

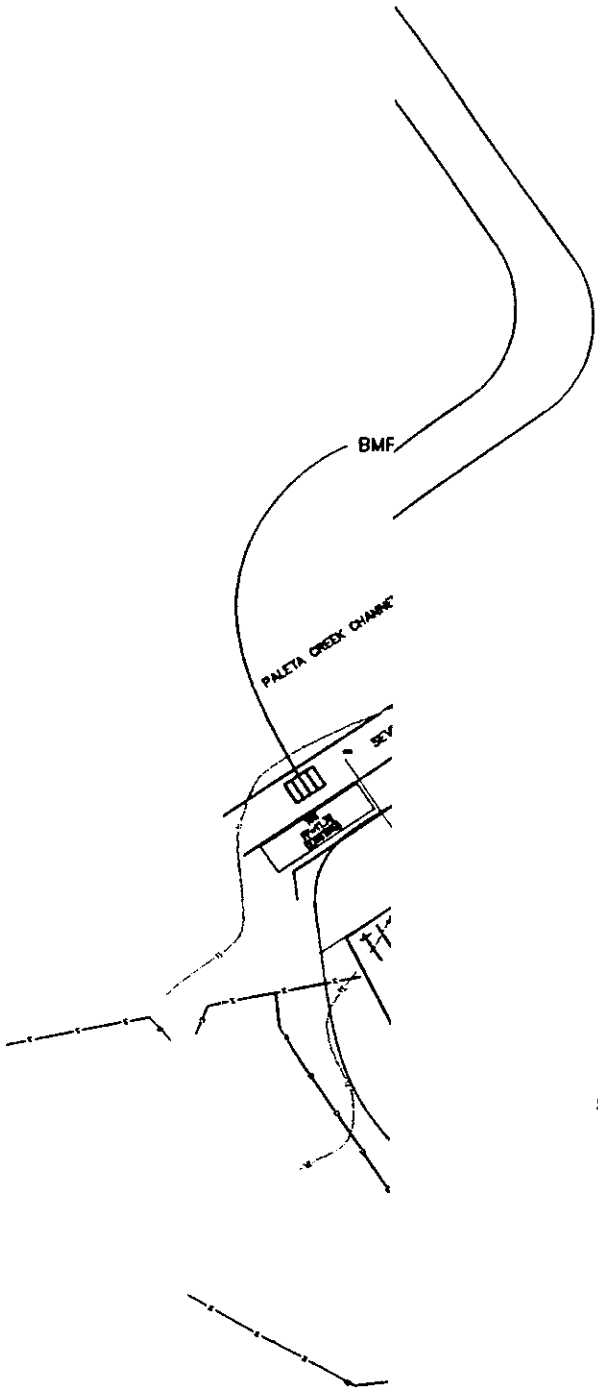
FWENC will utilize the following BMPs for Contractor Activities:

CA2	Paving Operations
CA10	Material Delivery and Storage
CA11	Material Use
CA12	Spill Prevention and Control
CA20	Solid Waste Management
CA21	Hazardous Waste Management
CA24	Sanitary/Septic Waste Management
CA30	Vehicle and Equipment Cleaning
CA32	Vehicle and Equipment Maintenance
CA40	Employee / Subcontractor Training

FWENC will utilize the following BMPs for Erosion and Sediment Control:

ESC1	Scheduling
ESC24	Stabilized Construction Entrance
ESC30	Earth Dike
ESC50	Silt Fence
ESC52	Sand Bag Barrier
ESC54	Storm Drain Inlet Protection

THIS SWPPP AMENDMENT #1 WAS PREPARED BY FWENC (THE CONTRACTOR). THIS SWPPP AMENDMENT #1 WILL BE KEPT IN SECTION 2.0 OF THE SWPPP.



LEGEND

- OUTER EXCAVATION BOUNDARY
- EXISTING FENCE
- PROPOSED TEMPORARY FENCE DURING EXCAVATION
- EXCAVATED SOIL-STOCKPILE ROUTE
- HAULING ROUTE TO OFF-SITE FACILITIES
- RUNOFF FLOW DIRECTION
- CATCH BASIN
- BMP ESC50 SILT FENCE
- BMP ESC52 SAND BAG BARRIER
- BMP ESC54 STORM DRAIN INLET PROTECTION

N

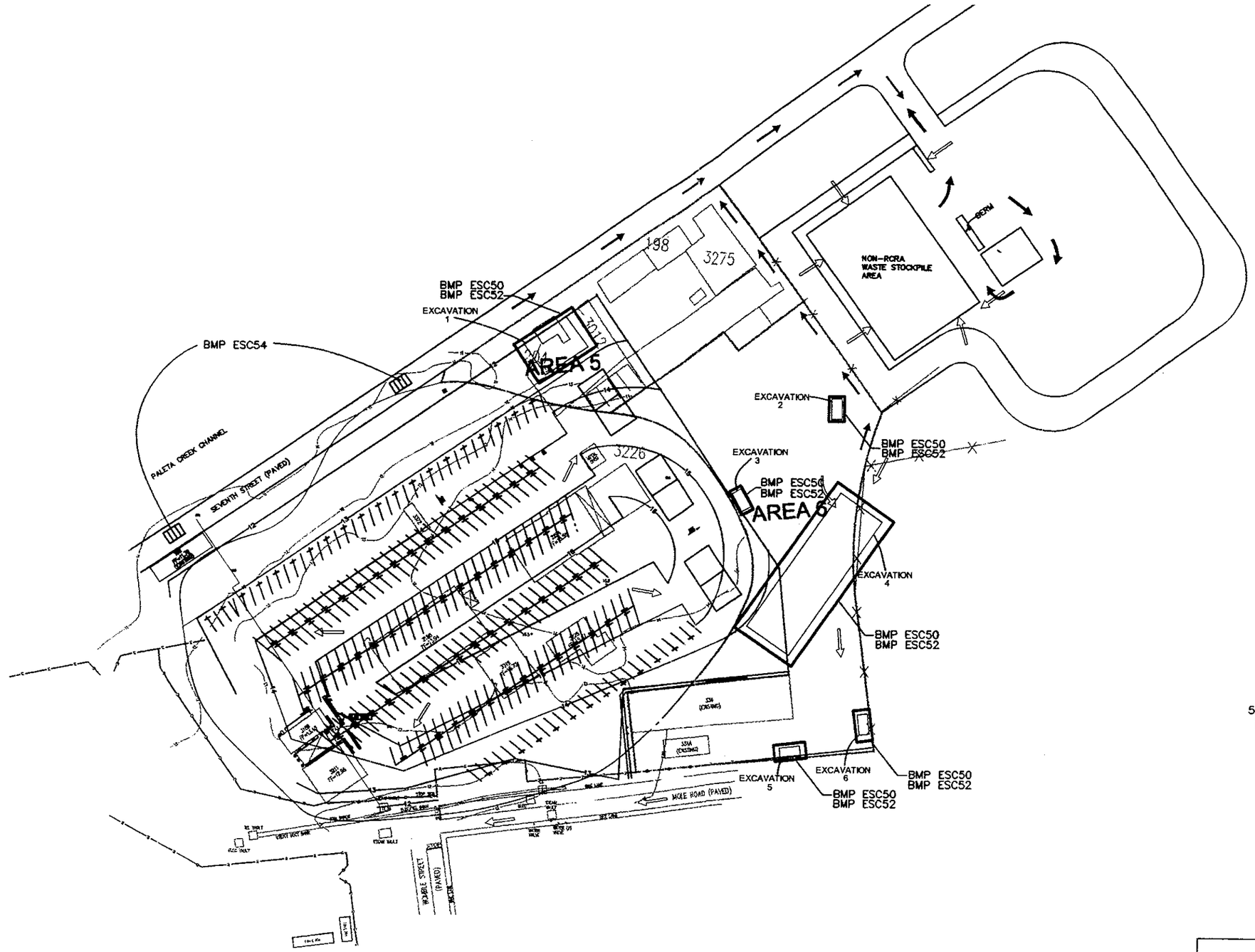
50' 0 50' 100

SCALE: 1" = 100'

FOSTER WHEELER ENVIRONMENTAL CORPORATION

DATE: 07/02/01
SCALE: 1" = 100'
DRAWN: KLD

REVISED FIGURE 2
WATER POLLUTION CONT
DRAWING, CTO 39
MOLE PIER, NAVAL STATION
SAN DIEGO



LEGEND

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- HAULING ROUTE TO OFF-SITE FACILITIES
- RUNOFF FLOW DIRECTION
- CATCH BASIN

BMP ESC50 SILT FENCE
BMP ESC52 SAND BAG BARRIER
BMP ESC54 STORM DRAIN INLET PROTECTION

N

50' 0 50' 100'
SCALE: 1" = 100'

FOSTER WHEELER ENVIRONMENTAL CORPORATION

DATE: 07/02/01
SCALE: 1" = 100'
DRAWN: KLD

REVISED FIGURE 2
WATER POLLUTION CONTROL DRAWING, CTO 39
MOLE PIER, NAVAL STATION
SAN DIEGO

CATALOG CUT/SHOP DRAWING TRANSMITTAL AND APPROVAL
SOUTHWESTNAVFACENGCOM 4355 / 2 (10-89)

See instructions on reverse
No carbon paper is required to complete this form
No transmittal letter required

SUBMITTAL NO.
FWSD-RAC-02-0811

CQC CLAUSE ☒ IS APPLICABLE ☐ IS NOT APPLICABLE

REFERENCES TO USE WHEN CQC CLAUSE IS APPLICABLE

PART I – FOR CONTRACTOR USE

REFERENCES TO USE WHEN CQC CLAUSE IS NOT APPLICABLE

(A) ROICC/REICC

FROM (Contractor)
Foster Wheeler Environmental Corporation
1230 Columbia Street, suite 640
San Diego, CA 92101

TO (A)
John Ohlfest

(A) DESIGNER

CONTRACT NO.
N68711–98–D–5713
CTO 0039

CONTRACT TITLE
CERCLA Non–Time–Critical Removal Action at Installation Restoration
Sub–Site 2A Mole Pier, Naval Station San Diego, San Diego, CA

(B) *(Check one)*

☒ RECORD

☐ APPROVAL

THE FOLLOWING ITEM IS SUBMITTED FOR (B) PER SPECIFICATION SECTION NUMBER

Field Change Request #5 – Backfilling under welding canopy grade beam.

(B) APPROVAL

CERTIFICATION (This form shall not be used to forward proposed substitutions)

IT IS HEREBY CERTIFIED THAT THE ☐ EQUIPMENT ☒ MATERIAL SHOWN AND MARKED IN THIS SUBMITTAL IS THAT PROPOSED TO BE INCORPORATED INTO CONTRACT N68711–98–D–5713, CTO 0039 IS IN COMPLIANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS AND CAN BE INSTALLED IN THE ALLOCATED SPACES

(C) AUTHORIZED CONTRACTOR QUALITY CONTROL REPRESENTATIVE

CERTIFIED BY (C)

DATE
06/07/02

(C) PERSON DESIGNATED BY CONTRACTOR AS HAVING AUTHORITY TO SIGN CERTIFICATION

PART II – FOR DESIGNER USE

FROM (Designer)

TO (ROICC/REICC)

CURSORY REVIEW REQUIRED ON RECORD COMES – REPLY TO ROICC ONLY IF APPROPRIATE. DETAILED REVIEW REQUIRED ON SUBMITTALS FOR GOVERNMENT APPROVAL

STAMP AND MARK EACH COPY AS APPROPRIATE

THIS SUBMITTAL HAS BEEN REVIEWED (D) THE FOLLOWING RECOMMENDATION IS MADE:

(D) DETAILED REVIEW REQUIRED. STAMP AND MARK EACH COPY AS APPROPRIATE

SIGNATURE

DATE

PART III – FOR ROICC/REICC USE

(E) DESIGNER *(Copy to OICC)*

FROM (ROICC/REICC)

TO (E)

(E) CONTRACTOR *(Copy to OICC)*

ENCLOSURES ARE RETURNED WITH THE FOLLOWING COMMENTS:

SIGNATURE

DATE

FOSTER WHEELER ENVIRONMENTAL CORPORATION

NAVY RAC PROJECT

CONTRACT NO. N68711-96-D-5713

FIELD CHANGE REQUEST (FCR)

CONTRACT TASK ORDER NAME	CTO # 0039	CHANGE REQUEST NO.
Mole Pier Sub-Site 2A, Removal Action Expansion Into CST Area, Naval Station San Diego		FCR-005
TO NAVY NTR/RPM/COTR John Ohlfest	LOCATION San Diego	DATE May 31, 2002

RE: ___ Drawing No. _____ Title _____

___ Spec Section _____ Title Proposed plan for backfilling under welding canopy grade beam

X Other _____

1. DESCRIPTION (Items involved, submit sketch, if applicable):

Proposed plan for backfilling under welding canopy grade beam.

2. REASON FOR CHANGE

Not covered in work plan

3. RECOMMENDED DISPOSITION (Submit sketch, if applicable):

Incorporate work into CTO 0039. See attached drawing.

X Minor Change ___ Major Change (Impacts Cost, Schedule or Technical)

3a. Will this change result in a contract cost or time change? ___ YES X NO

3b. Estimate of contract cost or time charge (if any) _____

PREPARER (Signature)	DATE	PREPARER'S TITLE	SITE SUPERINTENDENT (Signature)	DATE
[signature]	5/31/02	Project Quality Control Manager	[signature] FOR RANDY ROSE	5/31/02

4. DISPOSITION

___ Not approved (give reason).

X Considered minor change - approved per Recommended Disposition - Documents will not formally be revised, field to maintain as-built records.

___ Considered major change - Navy approval required via contract modification process.

1) FOSTER WHEELER ENVIRONMENTAL REGIONAL ENGINEER (Signature) (IF ENGINEERING RELATED)	DATE	2) FOSTER WHEELER ENVIRONMENTAL PROJECT MANAGER (Signature)	DATE
[signature]	5/30/02	[signature]	5/31/02
3) CIH (Signature) (IF HEALTH AND SAFETY RELATED) [signature] ___ Comments (attached) X No Comments	5/30/02	4) REGIONAL SCIENTIST (Signature) (IF SCIENCE RELATED) ___ Comments (attached) ___ No Comments	
5) QC PROGRAM MANAGER (Signature) [signature] ___ Comments (attached) X No Comments	5/30/02		

Project Manager distributes to:

CAM — QCM — FCR Preparer

Regional Engineer — Site Superintendent — CIH

Regional Scientist

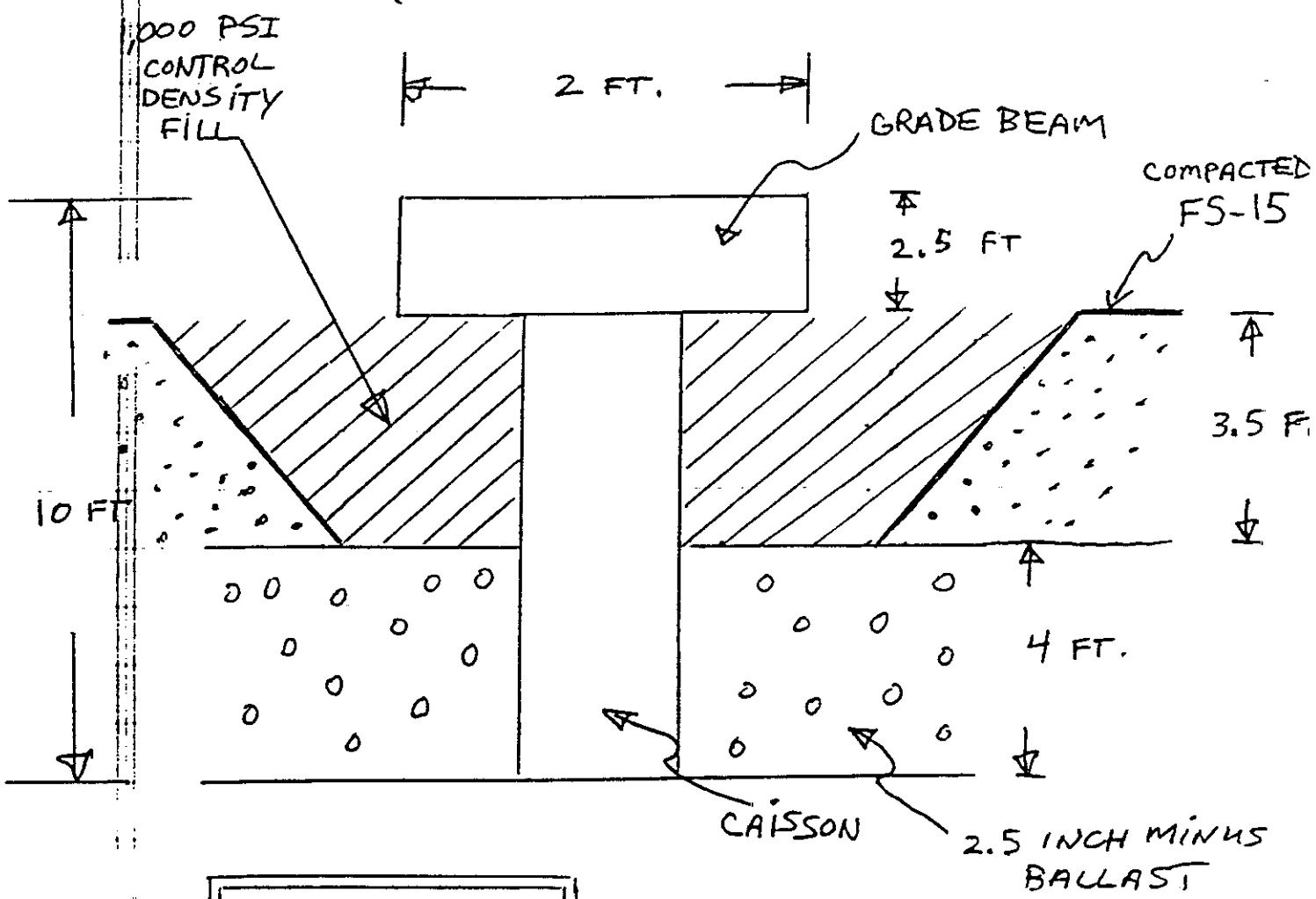
REV 8-13-00

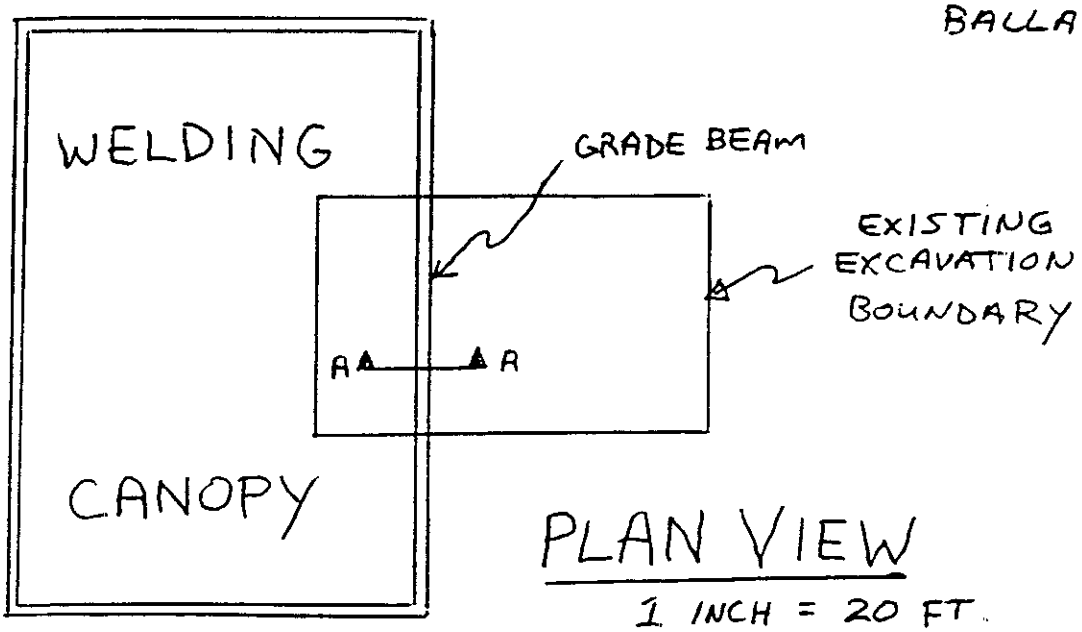
FCR 6 fcr grade beam backfill

PROPOSED PLAN FOR BACKFILLING UNDER WELDING CANOPY GRADE BEAM

SECTION A-A'

NOT TO SCALE





PLAN VIEW

1 INCH = 20 FT.

FOSTER WHEELER ENVIRONMENTAL CORPORATION

NAVY RAC PROJECT

CONTRACT NO. N68711-98-D-5713

FIELD CHANGE REQUEST

(FCR)

DELIVERY ORDER NAME Mole Pier Sub-Site 2A, Removal Action Expansion Into CST Area, Naval Station San Diego	CTO # 0039	CHANGE REQUEST NO FCR- 006
TO NAVY NTR/RPM/COTR John Ohlfest	LOCATION San Diego, CA	DATE June 7, 2002

RE: ___ Drawing No. _____ Title _____

___ Spec Section _____ Title _____

X Other _____ Extend excavation area along east sidewall of area C5.

1. DESCRIPTION (Items involved, submit sketch, if applicable):

Additional excavation will be performed on the east sidewall of area C5 to the Sub-Site 2A boundary. This area measures 90 x 45 x 10 feet (1,500 cubic yards). The additional excavation work will be performed concurrently with the present field work.

Per Navy direction, there will be no sampling required of the excavation material to confirm the waste profile as non-RCRA Hazardous (California Hazardous).

2. REASON FOR CHANGE

The Navy has requested that additional excavation be performed on the east sidewall of area C5 to the Sub-Site 2A boundary. This area measures 90 x 45 x 10 feet (1,500 cubic yards). The Navy has also requested that this notification provide a cost credit for the area that will not be excavated under the existing Sand Blast Facility, identified in Modification #002 to CTO #039. This area is 25 x 60 x 10 feet (555 cubic yards).

A copy of the Notification Of Potential Impact (NOPI #4) submitted to the Navy is attached.

3. RECOMMENDED DISPOSITION (Submit sketch, if applicable):

The proposed excavation boundaries are shown on Figure 1-1 (attached).

___ Minor Change X Major Change (Impacts Cost, Schedule or Technical)

3a. Will this change result in a contract cost or time change? X YES ___ NO

3b. Estimate of contract cost or time charge (if any) $206,473

PREPARER (Signature)	DATE	PREPARER'S TITLE	SITE SUPERINTENDENT (Signature)	DATE
[signature]	6/7/02	Asst. Project Manager	Randy Rose	6-10-02

4. DISPOSITION

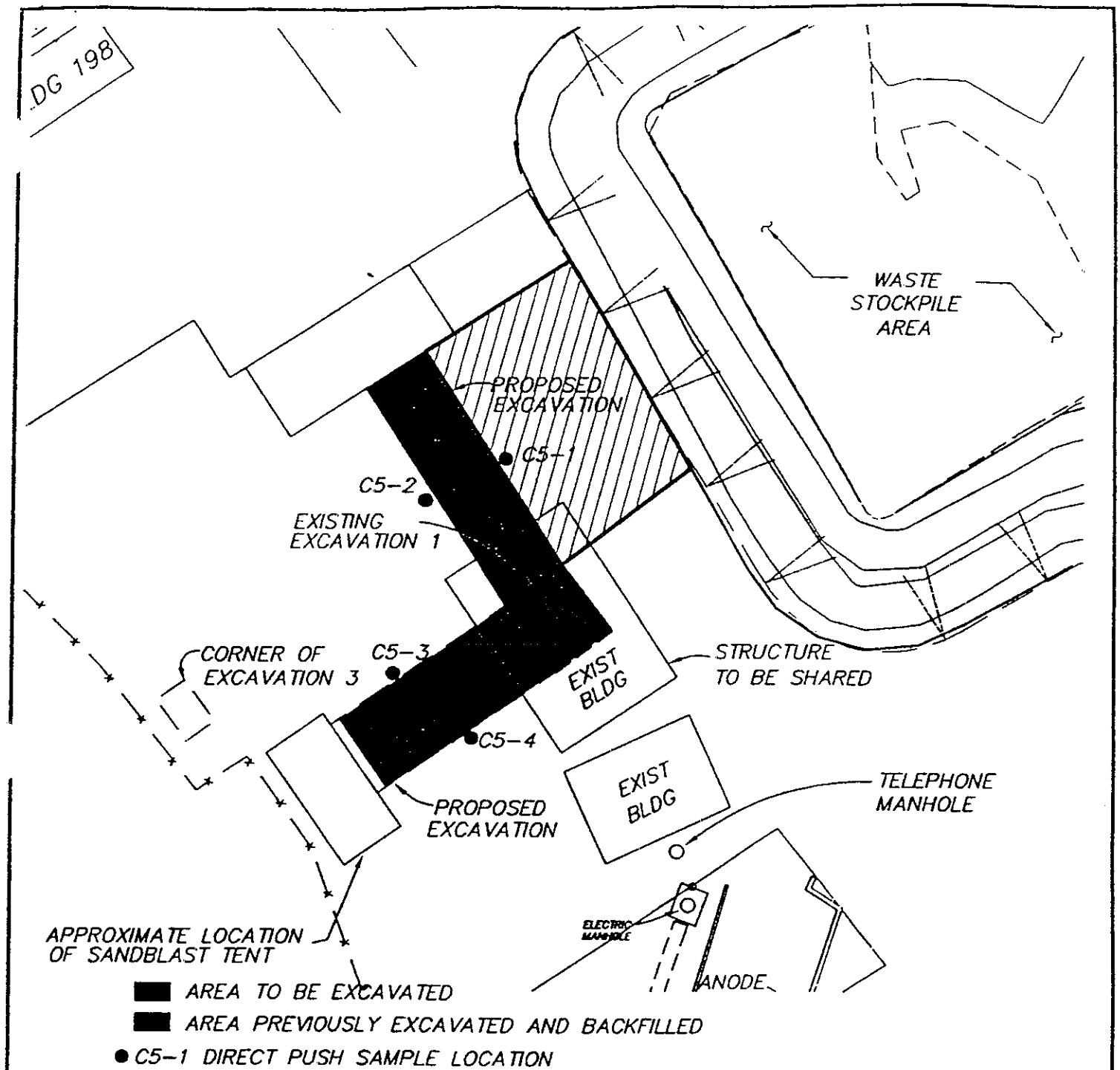
___ Not approved (give reason).

___ Considered minor change - approved per Recommended Disposition - Documents will not formally be revised, field to maintain as-built records.

X Considered major change - Navy approval required via contract modification process.

1) FOSTER WHEELER ENVIRONMENTAL REGIONAL ENGINEER (Signature) (IF ENGINEERING RELATED)	DATE	2) FOSTER WHEELER ENVIRONMENTAL PROJECT MANAGER (Signature)	DATE
NA		[signature]	6/18/02
3) CIH (Signature) (IF HEALTH AND SAFETY RELATED) Roger N Marzotti ___ Comments (attached) X No Comments	DATE 6/18/02	4) REGIONAL SCIENTIST (Signature) (IF SCIENCE RELATED NA ___ Comments (attached) ___ No Comments	DATE
5) QC PROGRAM MANAGER (Signature)) Mary Schneider ___ Comments (attached) X No Comments	DATE 6/18/02		

CTO39_FCR-006.doc



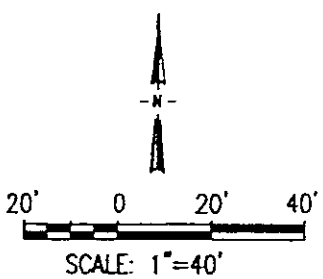


Figure 1-1
PROPOSED EXCAVATION BOUNDARIES AND SITE MAP

IR Sub-Site 2A
Clousure Report
Mole Pier, Naval Station, San Diego

FOSTER WHEELER
ENVIRONMENTAL CORPORATION

FOSTER WHEELER

FOSTER WHEELER ENVIRONMENTAL CORPORATION

NOTIFICATION OF POTENTIAL IMPACT

Project:	Sub-Site 2A Removal Action, NAVSTA San Diego	CTO No.	0039
Project Manager:	Glenn Starr	Notice No.	004

Type of Notice:

	52.232-20	Limitation of Cost (no fee)
	52.232-22	Limitation of Funds (no fee)
	52.243-2,	ALT III Request for Equitable Adjustment (fee)
X	52.243-7	Notification of Change (fee) Contracting Officer's written direction to proceed required by: 5/28/02 to minimize cost, delay, or disruption of performance

Description of Impact:

The Navy has requested that additional excavation be performed on the east sidewall of area C5 to the Sub-Site 2A boundary. This area measures 90 x 45 x 10 feet (1,500 cubic yards). The Navy has also requested that this notification provide a cost credit for the area that will not be excavated under the existing Sand Blast Facility, identified in Modification #002 to CTO #039. This area is 25 x 60 x 10 feet (555 cubic yards).

Per Navy direction, there will be no sampling required of the excavation material to confirm the waste profile as non-RCRA Hazardous (California Hazardous).

This notification assumes that the additional excavation work will be performed concurrently with the present field work. Excavation activities will be complete on 5/29/02, therefore direction to proceed must be received by 5/28/02 so that this additional excavation work can proceed in a cost effective manner.

A detailed cost estimate of the impact associated with the additional work is also attached behind the summary page showing the amount of additional funding required.

Requested Adjustments:

Schedule ____ days 2 weeks
Cost See Attached
Other

Project Manager	Program Manager	Contract Admin Mgr	Date
Glenn Starr	Neil Hart	Carol Hart	

ESTIMATE OF COST IMPACT

Project:	Sub-Site 2A Removal Action, NAVSTA San Diego	CTO No.	0039
Project Manager:	Glenn Starr	Notice No.	004

Summary of Cost Impact:

Additional Costs (see attached detailed spreadsheet)	$187,717
Subtotal:	$187,717
Award Fee:	$18,756
Total Adjustment:	$206,473

FOSTER WHEELER ENVIRONMENTAL CORPORATION

NAVY RAC PROJECT

CONTRACT NO. N68711-98-D-5713

FIELD CHANGE REQUEST (FCR)

CONTRACT TASK ORDER NAME Mole Pier Sub-Site 2A, Removal Action Expansion Into CST Area, Naval Station San Diego	CTO # 0039/0014	CHANGE REQUEST NO FCR-007
TO NAVY NTR/RPM/COTR Darren Belton	LOCATION San Diego	DATE July 22, 2002

RE: ___ Drawing No. _____ Title _____

___ Spec Section _____ Title _____

X Other Work Plan Addendum, Section 7.4

1. DESCRIPTION (Items involved, submit sketch, if applicable):

Shoring plan for welding canopy. (Copy attached)

2. REASON FOR CHANGE

Shoring plan not included in work plan.

3. RECOMMENDED DISPOSITION (Submit sketch, if applicable):

Incorporate shoring plan into work

X Minor Change ___ Major Change (Impacts Cost, Schedule or Technical)

3a. Will this change result in a contract cost or time change? ___ YES X NO

3b. Estimate of contract cost or time change (If any) _____

PREPARER (Signature)	DATE	PREPARER'S TITLE	SITE SUPERINTENDENT (Signature)	DATE

4. DISPOSITION

___ Not approved (give reason).

X Considered minor change - approved per Recommended Disposition - Documents will not formally be revised, field to maintain as-built records.

___ Considered major change - Navy approval required via contract modification process.

1) FOSTER WHEELER ENVIRONMENTAL REGIONAL ENGINEER (Signature) (IF ENGINEERING RELATED)	DATE	3) FOSTER WHEELER ENVIRONMENTAL PROJECT MANAGER (Signature)	DATE
[signature]	7/25/02	[signature]	7/25/02
2) CIH (Signature) (IF HEALTH AND SAFETY RELATED) [signature] ___ Comments (attached) X No Comments	DATE 8/1/02	4) REGIONAL SCIENTIST (Signature) (IF SCIENCE RELATED ___ Comments (attached) ___ No Comments	DATE
5) QC PROGRAM MANAGER (Signature) [signature] ___ Comments (attached) X No Comments	DATE 8/6/02		

Project Manager distributes to:

CAM — QCM — FCR Preparer

Regional Engineer — Site Superintendent — CIH

Regional Scientist

REV. 3-13-96

*CIA done for shoring plan

STRUCTURAL CALCULATIONS

32nd ST. NAVAL STATION
TEMPORARY SHORING
SAN DIEGO, CA

Prepared For:

WESTERN FOUNDATIONS & SHORING

FLC Project No.: 02065
Date Issued: 5/15/02
Revision Dates: _____

Prepared By:

FLC FLORES LUND CONSULTANTS
PROFESSIONAL ENGINEERS

7220 TRADE STREET, SUITE 120 • SAN DIEGO, CALIFORNIA 92121-2325 • (858) 566-0626 - FAX (858) 566-0627

FLC FLORES LUND CONSULTANTS
PROFESSIONAL ENGINEERS
7920 Trade Street, Suite 120
SAN DIEGO, CALIFORNIA 92121-2375
(858) 566-0628 FAX (858) 566-0627

JOB 02065 32nd ST. NAVAL STATION - TEMP. SHORING
SHEET NO. 1 OF 1
CALCULATED BY M. McNEFF DATE 5-15-02
CHECKED BY DATE
SCALE

DESIGN UNDERPIN BEAM

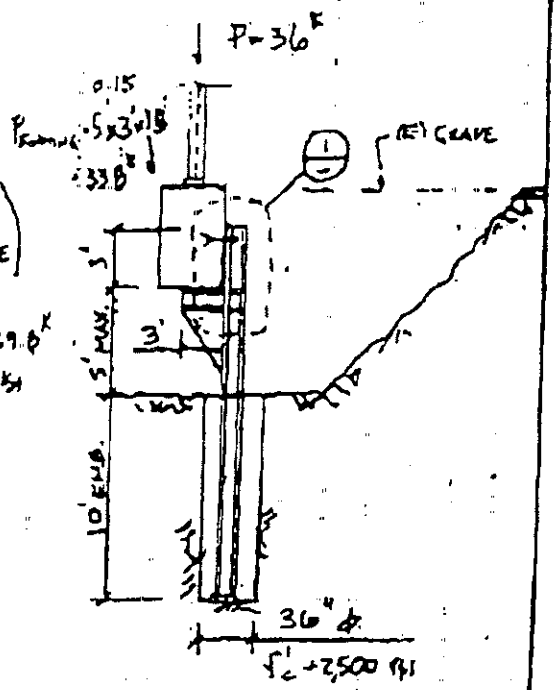
SOIL REACTION

* ASSUME SILTY SAND MATERIAL

$P_a = 1{,}500\ PSF \times (1 + 9' \times 0.2) \times 1.25 = 5250\ PSF$ (ALLOW DESIGN PRESSURE)

SKIN FRICTION = 500 PSF

$R_{PASSIVE\ ALLOW} = \frac{\pi}{4} \times (3)^2 \times 5.25 + \pi \times 3 \times 9' \times 0.5 = 79.5^K > 33.8 + X = 69.8^K$ ok



CHECK BEAM – W12x40^N.S

$P_u = 1.4 \times (33.8 - 36) = 98^K$

$M_u = 98 \times 2.5 = 245^{K'}$

$KL = 1.2 \times 5' = 6'$

$\phi P_n = 453^K \times 1.25 = 566^K > 98^K$

$\phi M_n = 215^{K'} \times 1.25 = 268^{K'} > 245^{K'}$ ok

INTERACTION $\frac{98}{2(566)} + \frac{245}{268} = 1.0$ ok

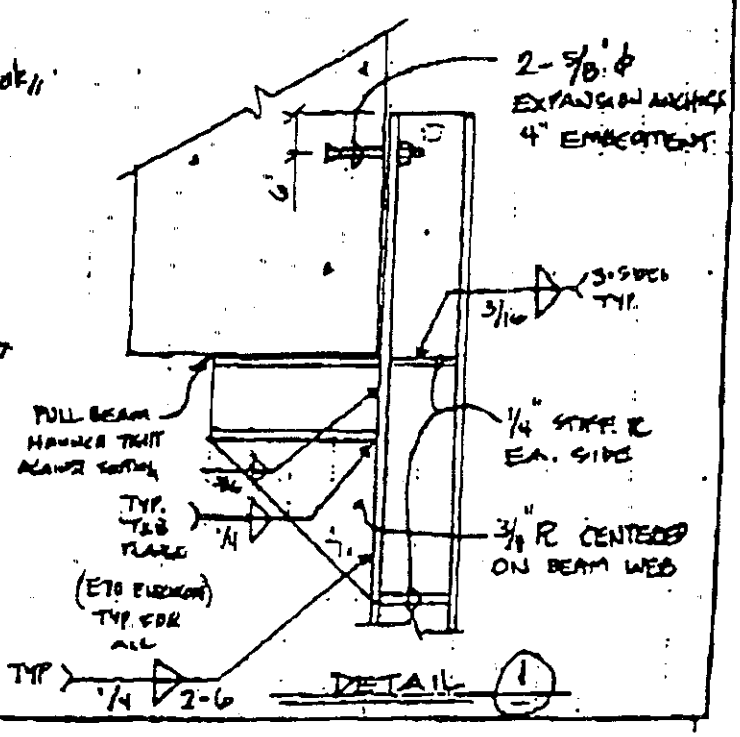
CHECK WELD (USE E70 ELECTRODE)

$V_{u\ WELD} = 98^K$

$A_w = \left(\frac{\sqrt{2}}{2} \times 0.25 \times 2 \times 12\right) = 4.2\ IN^2$

$\phi R_w = 0.75 \times (0.6 \times 70) \times 4.2 \times 1.25 = 165^K > 98^K$ ok

STRUCT. TEE WELD



FOSTER WHEELER ENVIRONMENTAL CORPORATION
NAVY RAC PROJECT

CONTRACT NO. N68711-98-D-5713

FIELD CHANGE REQUEST (FCR)

CONTRACT TASK ORDER NAME	CTO #	CHANGE REQUEST NO
Mole Pier Sub-Site 2A, Removal Action Expansion into CST Area, Naval Station San Diego	0039 / 14	FCR-007
TO NAVY NTR/RPM/COTR John Ohlfest	LOCATION San Diego	DATE November 8 2002

RE: ___ Drawing No. _____ Title _____

___ Spec Section _____ Title Bathroom renovation proposed plan

X Other WORK PLAN ADDENDUM, FWENC, 2002 (DCN FWPB-RAC3-02-0394) SECT. 7.8

1. DESCRIPTION (Items involved, submit sketch, if applicable):

FCR #7 for the bathroom renovation, including FWENC drawings, Miller Brooks drawings, and load calculations for installing an outer door.

2. REASON FOR CHANGE

Not previously detailed. Details contained herein were previously discussed with the client and the ROICC

3. RECOMMENDED DISPOSITION (Submit sketch, if applicable):

Incorporate work into CTO 0039 / 14 See attachments

X Minor Change ____ Major Change (Impacts Cost, Schedule or Technical)

3a Will this change result in a contract cost or time change? ____ YES X NO

3b. Estimate of contract cost or time charge (if any) _____

PREPARER (Signature)	DATE	PREPARER'S TITLE	SITE SUPERINTENDENT (Signature)	DATE
	11/5/02	Project Quality Control Manager		11/5/02

4. DISPOSITION

___ Not approved (give reason)

X Considered minor change - approved per Recommended Disposition - Documents will not formally be revised, field to maintain as-built records

___ Considered major change - Navy approval required via contract modification process

1) FOSTER WHEELER ENVIRONMENTAL REGIONAL ENGINEER (Signature) (IF ENGINEERING RELATED)	DATE	2) FOSTER WHEELER ENVIRONMENTAL PROJECT MANAGER (Signature)	DATE
	11/6/02		11/6/02
3) CIH (Signature) (IF HEALTH AND SAFETY RELATED) ___ Comments (attached) X No Comments	DATE 11/8/02	4) REGIONAL SCIENTIST (Signature) (IF SCIENCE RELATED) ___ Comments (attached) ___ No Comments	DATE
5) QC PROGRAM MANAGER (Signature) ___ Comments (attached) X No Comments	DATE 11/21/02		

Project Manager distributes to:

CAM	QCM	FCR Preparer
Regional Engineer Regional Scientist	Site Superintendent	CIH

REV 3-13-96

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PROJECT:	Mole Pier	DACC NO:		REV: 1	PAGE 1	OF	22
SUBJECT:	Verification of Wall Opening at Building 198						
PREPARED BY:	T.Y. Lai	DATE: 9/20/02	CHECKED BY:	M. Shannon	DATE: 9/20/02		

1.0 CALCULATION COVER SHEET

PROJECT: Mole Pier (Naval Station San Diego)

SUBJECT: Verification of Wall Opening at Building 198

IMPORTANT TO SAFETY ☒ ASME ☐ NOT IMPORTANT TO SAFETY ☐

CLIENT: USNAVY PROJECT NO: 2597.0140.0201.02000

CALCULATION NO: NA NUMBER OF PAGES: 21

CALCULATION BY OTHERS: YES ☐ NO ☒

PREPARER: Timothy Y. Lai

CHECKER: Mike Shannon

VERIFIER: Mike Cowan

APPROVED BY: NA DATE: NA

REGISTERED PROFESSIONAL ENGINEER MICHAEL D. COWAN No C Exp 3/31/04 STATE OF CALIFORNIA

ASSUMPTIONS THAT REQUIRE CONFIRMATION: YES ☒ NO ☐

CONFIRMED BY: Michael Cowan DATE: 9/24/02 INITIAL: MC

PRINT NAME, DATE AND INITIAL

Rev No	Affected Pages	Prepared by Date	Checked by Date	Verified by Date
1	ALL	Timothy Y. Lai 9/20/02 9/24/02	Mike Shannon 9/20/02 9-20-02	Mike Cowan ~~9/20/02~~ 9/24/02

FOSTER WHEELER ENVIRONMENTAL CORPORATION

PROJECT:	Mole Pier	CALC NO:		REV:	1	PAGE	1	OF	21
SUBJECT:	Verification of Wall Opening at Building 198								
PREPARED BY:	T.Y. Lai	DATE:	9/20/02	CHECKED BY:	M. Shannon	DATE:	9/20/02		

1.0 CALCULATION COVER SHEET

PROJECT: Mole Pier (Naval Station San Diego)

SUBJECT: Verification of Wall Opening at Building 198

IMPORTANT TO SAFETY ☒ **ASME** ☐ **NOT IMPORTANT TO SAFETY** ☐

CLIENT: USNAVY **PROJECT NO:** 2597.014D.0201.02000

CALCULATION NO: NA **NUMBER OF PAGES:** 21

CALCULATION BY OTHERS: **YES** ☐ **NO** ☒

PREPARER: Timothy Y. Lai

CHECKER: Mike Shannon

VERIFIER: Mike Cowan

APPROVED BY: NA **DATE:** NA

REGISTERED PROFESSIONAL ENGINEER MICHAEL D COWAN No. C Exp 3/31/04 CIVIL STATE OF CALIFORNIA

ASSUMPTIONS THAT REQUIRE CONFIRMATION: **YES** ☒ **NO** ☐

CONFIRMED BY: MICHAEL COWAN **DATE:** 9/24/02 **INITIAL:** MDC

PRINT NAME, DATE AND INITIAL

Rev No	Affected Pages	Prepared by Date	Checked by Date	Verified by Date
1	ALL	Timothy Y. Lai, 9/20/02	Mike Shannon, 9/20/02	Mike Cowan, MDC 9/20/02 9/24/02

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3.0 PURPOSE

The purpose of this calculation is to verify the adequacy of a proposed wall opening in Building 198 at the Naval Station San Diego, California. The proposed wall opening is part of a bathroom renovation. A description of the scope of work for the entire renovation project is detailed in the Foster Wheeler Environmental (FWENC) Scope of Work (SOW) document, "Design Services, Building 3275 Bathroom Renovation, Contract Task Order (CTO) 39.

4.0 ACCEPTANCE CRITERIA

The renovation project should be designed in accordance with the Southwest Division Architectural-Engineering Guide, January 2000. Non seismic design is based upon load provisions from American Society of Civil Engineers (ASCE) 7-98, "Minimum Design Loads for Buildings and Other Structures." This document is a revision of the ANSI/ASCE 7-95. Seismic design shall comply with the requirements of the US Army Corps of Engineers publication Technical Instruction (TI) 809-04, "Seismic Design for Buildings" dated December 1998. Concrete member design shall comply with American Concrete Institute (ACI) 318-95, "Building Code Requirements for Structural Concrete."

5.0 RESULTS SUMMARY

Based on the analysis performed, Building 198 can still adequately resist potential wind, earthquake, and gravity loads (dead and live loads) after an approximately 3.5 feet wide by 7.5 feet high wall opening is made at one of the shear (bearing) walls. The "South Shear Wall" (see Figure 1 in Section 9.0) where the opening was made was checked against potential earthquake loads (which governed over wind loads). Capacity-demand ratio after the opening was high (over 20). In addition, a "Deep Beam" and "Column Segment" around the wall opening were considered critical because of the localized stresses that will form from the wall opening. Both structural members were considered adequate to resist vertical loads (horizontal loads were assumed to be resisted entirely by the shear walls). The column segmented had a high capacity-demand ratio base on the interaction curves developed. The calculated capacity-demand ratio for the Deep Beam was around 3. Normally, a few diagonal reinforcing bars (rebars) would be sufficient to provide support around the wall opening (as the wall was cast). However, since this is an existing wall, a different alternative must be considered. If a higher safety margin is desired, a steel frame channel can be placed around the opening for additional support.

6.0 INPUTS

The dimensions of the wall opening were estimated based on the architectural design provided by Miller Brooks Environmental, Inc. No as-built drawings for Building 198 were available. Therefore, building dimensions were estimated from visual measurements at the site. These included shear wall dimensions, thickness of second floor slab, and height of the building. Gravity loads (dead and live loads) were estimated based on the use of the building (general office), stucco wall, and typical live loads. Concrete material parameters for concrete and rebar were conservatively assumed. The rebar configuration around the wall opening is considered critical since localized stresses will form. Field verification of the reinforcement arrangement should be performed once drilling of the wall begins. A final check of all dimensions assumed in this calculation should also be made before drilling the wall opening.

7.0 METHODOLOGY

The main resisting structural elements of Building 198 was identified as the shear walls. The walls provide resistance to both horizontal (earthquake and wind loads) and vertical loads (dead and live gravity loads). Three critical structural members of the original shear wall were identified: South Shear Wall, Deep Beam, and Column Segment (see Figure 1 in Section 9.0). The South Shear Wall will be the primary structural member to resist horizontal loads. Both Deep Beam and Column Segment are only checked for gravity loading.

Wind loading was estimated using guidelines from ASCE 7-98, "Minimum Design Loads for Building and Other Structures." An equivalent lateral force procedure (1997 Universal Building Code) was used to obtain the design base shear from earthquake loading. The US Army Corps of Engineers publication Technical Instruction (TI) 809-04 allows the use of this linear elastic static procedure for regular buildings of two to six stories.

A shear check of the South Shear Wall will be made according to American Concrete Institute guidelines (ACI 318/349). The expected lateral loads from earthquake and wind will be compared and the maximum value used for the design check. The Deep Beam, which will be formed after the opening, was modeled as a fixed end beam and checked for shear capacity. Maximum shear can be estimated using standard equilibrium equations. The loading on the Column Segment at the end of the original shear wall comes from the distributed gravity loads and moment from the fixed end Deep Beam. Visual inspection of open vents show that the area of reinforcing bars per foot of wall is around 1.2 in^2 (#6 Rebars at 4 inch on center). A conservative assumption of 0.8 in^2 of steel

per foot of wall was used in developing interaction curves Capacity design ratios for the South Shear Wall and Deep Beam were calculated to provide an idea of the safety factor after the wall opening. The interaction curve provides a description of the safety factor involved with the column segment

8.0 REFERENCES

ACI-318-95, ACI Committee 318, Building Code Requirements for Reinforced Concrete, American Concrete Institute, 1995.

ACI 349-01, ACI Committee 349, Code Requirements for Nuclear Safety Related Concrete Structures, American Concrete Institute, 2001.

ASCE 7-98, Minimum Design Loads for Buildings and Other Structures, American Society of Civil Engineers, 1998.

Foster Wheeler Environmental Scope of Work, Design Services Building 3275 Bathroom Renovation Contract Task Order (CTO 39)

Southwest Division Architectural-Engineering Guide, January 2000.

Technical Instructions (TI) 809-04, Seismic Design for Buildings, US Army Corps of Engineers, Washington, DC, December 1998.

9.0 CALCULATION DETAILS

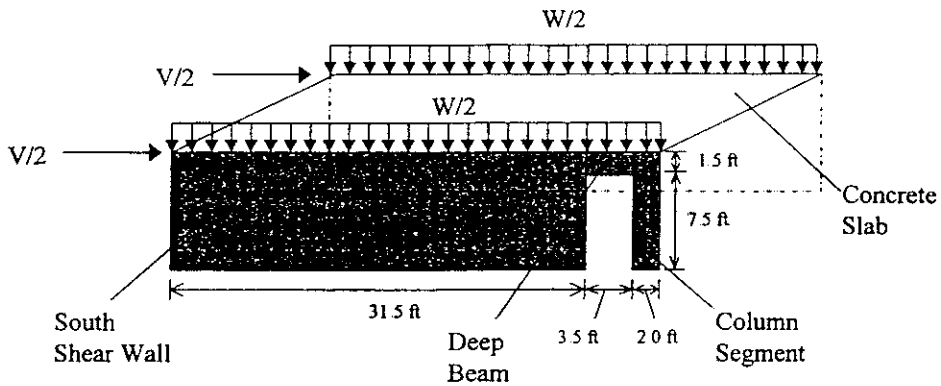


Figure 1 Schematic of load bearing elements and loading condition.

****
Input and Preliminary Calculations
****

Material Properties of Concrete

f'_c = Compressive Strength of Concrete $\quad f'_c := 4000$ psi

γ = Unit Weight of Concrete $\quad \gamma := 150$ pcf

South Shear Wall

sw_{th} = Shear Wall Thickness $\quad sw_{th} := 12$ in

sw_l = Shear Wall Length $\quad sw_l := 31.5$ ft

sw_h = Shear Wall Height $\quad sw_h := 9$ ft

Second Story Concrete Slab

s_{th} = Slab Thickness $\quad s_{th} := 8$ in

s_l = Slab Length $\quad s_l := 37$ ft

s_w = Slab Width $\quad s_w := 20$ ft

Loads

w_l = Live Load on Second Story $\quad w_l := 125$ psf

w_d = Dead Load on Second Story $\quad w_d := 50$ psf (Estimate includes wall partition and permanent eqipment but excluding slab weight)

w_s = Total Slab Weight $\quad w_s := s_{th}\, s_l\, s_w\, \gamma \quad w_s = 74$ kips

W_l = Vertical Live Load (per foot wall) $\quad W_l := \dfrac{w_l\, s_w}{2} \quad W_l = 1.25$ klf

W_d = Vertical Dead Load (per foot wall) $\quad W_d := \dfrac{(w_d\, s_w)}{2} + \dfrac{w_s}{2 s_l} \quad W_d = 1.5$ klf

****
Lateral Load Estimate - Earthquake
****

Earthquake Base Shear, $V = \frac{C_v \cdot I \cdot W}{R \cdot T}$ (Ref. 1997 UBC, Eq 30-4)

C_v = Seismic Coefficient — $C_v := 0.64$ (Ref. 1997 UBC, Table 16-R, base on Soil Type S_D Seismic Zone Factor Z = 0.4 and Near Source Factor N_v = 1.0)

I = Importance Factor — $I := 1.0$ (Ref. 1997 UBC, Table 16-K, base on non essential non hazardous facilities)

W = Total Seismic Dead Load — $W := 2W_{d\,sl}$ $W = 111\,kips$

R = Numerical coefficient representative of the inherent overstrength and global ductility capacity of lateral force resisting systems — $R := 4.5$ (Ref. 1997 UBC, Table 16-N, base on concrete shear wall)

C_a = Seismic Coefficent — $C_a := 0.44$ (Ref. 1997 UBC, Table 16-Q, base on Soil Type S_E Seismic Zone Factor Z = 0.4 and Near Source Factor N_a = 1.0)

Z = Seismic Zone Factor — $Z := 0.4$ (Ref. 1997 UBC, Table 16-I, base on Zone 4)

N_v = Near-Source Factor — $N_v := 1.0$ (Ref. 1997 UBC, Table 16-T)

h_n = Height Above Base — $h_n := sw_h$ $h_n = 9\,ft$

D_e = Length of Shear Wall Parallel to Applied Force — $D_e := sw_l$ $D_e = 31.5\,ft$

A_e = Minimum Cross Sectional Area in Horizontal Plane of All Shear Walls — $A_e := 2 \cdot sw_{th} \cdot sw_l$ $A_e = 63\,ft^2$

Ratio = Ratio of De/hn should not exceed 0.9 — $Ratio := \min\left(0.9, \frac{D_e}{h_n}\right)$

C_t = Numerical Coefficient — $C_t := \frac{0.1}{\sqrt{\frac{A_e}{ft^2}\left[0.2 + (Ratio)^2\right]}}$ $C_t = 0.013$

T = Elastic Fundamental Period of Vibration — $T := C_t\left(\frac{h_n}{ft}\right)^{0.75}$ $T = 0.065$

V_{calc} = Calculated Design Base Shear — $V_{calc} := \frac{C_v \cdot I \cdot W}{R \cdot T}$ $V_{calc} = 242.348\,kips$

Maximum Base Shear (per 1997 UBC, Eq. 30-5)

$$V_{max} := \min\left(V_{calc}, \frac{2.5 C_a \cdot I \cdot W}{R}\right) \qquad V_{max} = 27.133\,\text{kips}$$

Minimum Base Shear (per 1997 UBC, Eq. 30-6, Eq. 30-7)

$$V_{min} := \max\left(V_{max}, 0.11 \cdot C_a \cdot I \cdot W, \frac{0.8 \cdot Z \cdot N_v \cdot I \cdot W}{R}\right) \qquad V_{min} = 27.133\,\text{kips}$$

V_E = Design Earthquake Base Shear $\qquad V_E := V_{min} \qquad V_E = 27.133\,\text{kips}$

****
Lateral Load Estimate - Wind
****

I_w = Importance Factor — $I_w := 1.0$ (ASCE 7: Table 6-1 category II structure)

V_{sp} = Design Wind Speed — $V_{sp} := 85$ mph (ASCE 7: Fig. 6-1 basic wind speed)

K_d = Wind Directionality Factor — $K_d := 0.85$ (ASCE 7: Table 6-6 $K_d = 0.85$)

K_z = Velocity Pressure Exposure Coefficient at Height z — $K_z := 1.12$ (ASCE 7: Table 6-5 z = 25 ft., exposure D)

K_h = Velocity Pressure Exposure Coefficient at Height h — $K_h := 1.12$ (ASCE 7: Table 6-5 h = 25 ft., exposure D)

K_1, K_2, K_3 = Topographic Multipliers: — $K_1 := 0$ $K_2 := 0.0$ $K_3 := 0.0$ (ASCE 7: Fig. 6-2- Kzt = 1 topographic wind speed-up not applicable, H<15 ft.)

K_{zt} = Topographic Factor — $K_{zt} := \left(1 + K_1 \cdot K_2 \cdot K_3\right)^2$ (ASCE 7: Eq. 6-1)

$K_{zt} = 1$

G_w = Gust Effect Factor — $G_w := 0.85$ (ASCE 7: Sect. 6.5.8.1 rigid structure)

q_z = Velocity Pressure at Height z — $q_z := 0.00256 \cdot K_z \cdot K_{zt} \cdot K_d \cdot V_{sp}^2 \cdot I_w$ (ASCE 7: Eq. 6-13)

$q_z = 17.608$ psf

$q_h := q_z$ The value of h and z taken to be identical at the peak height (25 ft)

C_p = External Pressure Coefficient — $C_p := 0.8$ (ASCE 7: Fig. 6-3, Windward Direction)

GC_{pi} = Internal Pressure Coefficient — $GC_{pi} := -0.18$ (ASCE 7: Table 6-7, GCpi value for enclosed buildings +/- 0.18, worst case value taken)

P = Design Wind Pressures (psf): — $P := \left(q_z \cdot G_w \cdot C_p - q_h \cdot G_w \cdot GC_{pi}\right)$ psf (ASCE 7: Eq. 6-15)

$P = 14.67$ psf

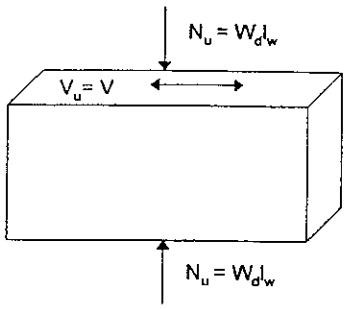
V_W = Total Lateral Wind Load — $V_W := P \cdot s_w \cdot 25\text{ft}$ (Conservatively assuming entire wall height of 25 ft.)

$V_W = 7.334$ kips

V = Design Lateral Load — $V := \max\left(V_W, V_E\right)$

$V = 27.133$ kips

****
Check Capacity of Shear Wall
****



Design Parameters and Assumptions

Strength reduction factor for shear (Section 9.3.2.3): $\Phi := 0.85$

Clear reinforcement cover: $cl := 3\ in$

Shear Plane Dimensions

Overall thickness of member: $h := sw_{th}$ $\quad h = 12\ in$

Distance from extreme compression fiber to centroid of longitudinal tension reinforcement: $d := 0.8 sw_l$ $\quad d = 302.4\ in$

Horizontal length of wall: $l_w := sw_l$ $\quad l_w = 378\ in$

Shear Loads

Factored axial load normal to cross section: $N_u := W_d \cdot l_w$ $\quad N_u = 47.25\ kips$

Factored shear force at section: $V_u := V$ $\quad V_u = 27.133\ kips$

Factored moment (approximated from shear force): $M_u := \frac{2}{3} V_u \cdot sw_h$ $\quad M_u = 162.8\ ft \cdot kips$

Allowable Concrete Shear Strength (ACI 349, Section 11.10.6)

$$\Phi V_{c1} := \Phi \left[3.3 \left(\sqrt{f'_c\ psi}\ h\ d \right) + \frac{N_u\ d}{4\ l_w} \right] \qquad \Phi V_{c1} = 652\ kips \qquad \text{(Eq 11-32)}$$

$$\Phi V_{c2} := \Phi \left[0.6 \sqrt{f'_c\ psi} + \frac{l_w \left(1.25 \sqrt{f'_c\ psi} + 0.2 \frac{N_u}{l_w\ h} \right)}{\frac{M_u}{V_u} - \frac{l_w}{2}} \right] h\ d \qquad \Phi V_{c2} = -692\ kips \qquad \text{(Eq 11-33)}$$

$$\Phi V_c := \text{if}\left[\left(\frac{M_u}{V_u} - \frac{l_w}{2} \right) < 0\ \ \Phi V_{c1}\ \ \min\left(\Phi V_{c1}, \Phi V_{c2} \right) \right] \qquad \Phi V_c = 652\ kips$$

Shear Check

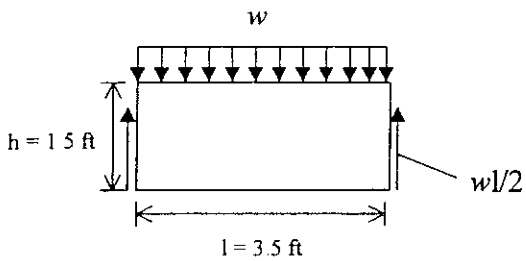
$$check_1 := \begin{cases} x \leftarrow \text{"o.k., shear capacity of concrete is adequate"} & \text{if } \Phi V_c \geq V_u \\ x \leftarrow \text{"concrete shear capacity is inadequate, provide rebars for shear"} & \text{otherwise} \end{cases}$$

$check_1$ = "o k., shear capacity of concrete is adequate"

$$Vs_{req1} := \text{if}\left[\left(V_u - \Phi V_c\right) < 0, 0\text{kips}, \left(V_u - \Phi V_c\right)\right] \qquad Vs_{req1} = 0\,\text{kips}$$

$$CD_{Ratio1} := \frac{\Phi V_c}{V_u} \qquad CD_{Ratio1} = 24\ 022$$

****
Check Shear Capacity of Deep Beam
****



Shear Plane Dimensions

Web width (thickness of wall) and height:	$b_w := 12in$	$h := 1.5ft$
Distance from extreme compression fiber to centroid of longitudinal tension reinforcement:	$d := h - cl$	$d = 15in$
Gross area of section:	$A_g := b_w \cdot sw_{th}$	$A_g = 144in^2$
Beam length:	$l := 3.5\ ft$	

Shear Loads

Factored axial load normal to cross section per unit length:	$N_u := 0\ kips$	$N_u = 0kips$
Factored shear force at section per unit length:	$V_u := \frac{1}{2}(1.4\ W_d + 1.7 \cdot W_l) \cdot l$	$V_u = 7.394kips$

Allowable Concrete Shear Strength (Eq. 11-4 Section 11.3.1.2)

$$\Phi V_c := \Phi\ 2\left(1 + \frac{N_u}{2000\ psi\ A_g}\right)\sqrt{f'_c\ psi}\ b_w\ d \qquad \Phi V_c = 19.353kips$$

Shear Check

$$check_2 := \begin{cases} x \leftarrow \text{"o k , shear capacity of concrete is adequate"} & \text{if } \Phi V_c \geq V_u \\ x \leftarrow \text{"concrete shear capacity is inadequate, provide rebars for shear"} & \text{otherwise} \end{cases}$$

$check_2$ = "o k , shear capacity of concrete is adequate"

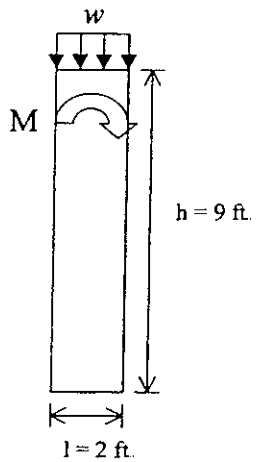
$$Vs_{req2} := if\left[\left(V_u - \Phi V_c\right) < 0, 0kips, \left(V_u - \Phi V_c\right)\right] \qquad Vs_{req2} = 0kips$$

$$CD_{Ratio2} := \frac{\Phi V_c}{V_u} \qquad CD_{Ratio2} = 2.618$$

****

Check Axial/Moment Capacity of Column Segment

****



Column Segment Dimensions

Column height: $h_c := 9ft$

Column thickness: $th_c := 12in$

Column length: $l_c := 2ft$

Estimated Loads

Factored axial load (per foot length): $P_u := (1.4\ W_d + 1.7W_l)$ $\quad P_u = 4.225\,klf$

Factored bending moment (per foot length): $M_u := \frac{1}{12}(1.4 \cdot W_d + 1.7 \cdot W_l) \cdot l^2$ $\quad M_u = 4.313\,ft\,kips$

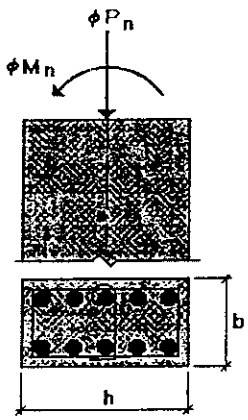
Allowable Axial and Bending Moments for Column

Using an area of steel $A_{st} = 0.8\ in^2$, the axial and bending moment capacity of the column segment was obtained (See the column interaction curve)
Base on the generated interaction curve the column segment is considered adequate to support the loads

Input

Input Variables

Width of member:	b := 12 in
Thickness of member:	h := 12 in
Bar size number (bar number, BarNo):	x := 4 BarNo := x
Number of bars on "h" face, minimum of 2 bars:	$N_h := 2$
Number of bars on "b" face, minimum 2 bars:	$N_b := 2$
Clear reinforcement cover:	cl := 3 in



Computed Variables

A_g	gross area of concrete
A_{st}	total area of longitudinal reinforcement
ρ	ratio of the total area of longitudinal reinforcement to the gross area of concrete
N_{total}	total number of reinforcing bars
E_c	modulus of elasticity of concrete (Section 8.5.1)
ε_y	strain in reinforcement at yield stress f_y
β_1	factor used to calculate depth of equivalent rectangular stress block (Section 10.2.7.3)
c_b	distance to neutral axis at balanced tension/compression failure (Section 10.3.2)
ϕ	strength reduction factor (Section 9.3.2.2)
ϕP_n	usable axial load strength at given eccentricity

ϕM_n usable moment strength with given axial load

P_o nominal axial load strength at zero eccentricity

P_b nominal axial load strength at balanced conditions (Section 10.3.2)

ϕP_{max} maximum usable axial load (Eq. (10-2))

Material Properties & Constants

Enter f'_c, f_y and w_c if different from that shown.

Specified compressive strength of concrete: $f'_c := 4\ ksi$

Specified yield strength of reinforcement: $f_y := 60\ ksi$

Weight of concrete: $w_c := 150\ pcf$

Modulus of elasticity of reinforcement (Section 8.5.2): $E_s := 29000\ ksi$

Strain in concrete at compression failure (Section 10.3.2): $\varepsilon_c := 0.003$

Reinforcing bar number designations, diameters and areas:

$$No := (0\ \ 1\ \ 2\ \ 3\ \ 4\ \ 5\ \ 6\ \ 7\ \ 8\ \ 9\ \ 10\ \ 11\ \ 12\ \ 13\ \ 14\ \ 15\ \ 16\ \ 17\ \ 18)^T$$

$$d_b := (0\ \ 0\ \ 0\ \ 0.375\ \ 0.5\ \ 0.625\ \ 0.75\ \ 0.875\ \ 1.00\ \ 1.128\ \ 1.27\ \ 1.41\ \ 0\ \ 0\ \ 1.693\ \ 0\ \ 0\ \ 0\ \ 2.257)^T\ in$$

$$A_b := (0\ \ 0\ \ 0\ \ 0.11\ \ 0.20\ \ 0.31\ \ 0.44\ \ 0.60\ \ 0.79\ \ 1.00\ \ 1.27\ \ 1.56\ \ 0\ \ 0\ \ 2.25\ \ 0\ \ 0\ \ 0\ \ 4.00)^T\ in^2$$

The following variables are computed from the entered material properties

Modulus of elasticity of concrete for values of w_c not exceeding 155 pcf (Section 8.5.1):

$$E_{c1} := \left(\frac{w_c}{pcf}\right)^{1.5} \cdot 33\sqrt{\frac{f'_c}{psi}}\ psi \qquad E_{c1} = 3834\ ksi$$

Modulus of elasticity of concrete for normal weight concrete may be taken as (Section 8.5.1):

$$E_c := 57000\sqrt{\frac{f'_c}{psi}}\ psi \qquad E_c = 3605\ ksi$$

Strain in reinforcement at yield stress f_y:

$$\varepsilon_y := \frac{f_y}{E_s} \qquad \varepsilon_y = 2.06897 \times 10^{-3}$$

β_1 factor used to calculate depth of equivalent rectangular stress block (Section 10.2.7.3):

$$\beta_1 := \text{if}\left[\left(f'_c \geq 4\,\text{ksi}\right)\left(f'_c \leq 8\,\text{ksi}\right), 0.85 - 0.05\,\frac{f'_c - 4\,\text{ksi}}{\text{ksi}}, \text{if}\left[\left(f'_c \leq 4\,\text{ksi}\right), 0.85, 0.65\right]\right]$$

$$\beta_1 = 0.85$$

Defined Units

$\text{ksi} \equiv 1000\,\text{lbf}\cdot\text{in}^{-2}$ $\quad \text{kip} \equiv 1000\cdot\text{lbf}$ $\quad \text{kips} \equiv 1000\cdot\text{lbf}$ $\quad \text{pcf} \equiv \text{lbf}\cdot\text{ft}^{-3}$

Calculations

Reinforcement yield strengths must be less than 60 ksi in accordance with Section 9.4

$$f_y := \text{if}\left(f_y > 60\,\text{ksi}, 60\,\text{ksi}, f_y\right) \qquad f_y = 60\,\text{ksi}$$

Gross area of section A_g (in^2):

$$A_g := b\,h \qquad A_g = 144\,\text{in}^2$$

Total number of reinforcing bars:

$$N_{total} := N_h \cdot N_b \qquad N_{total} = 4$$

Total area of longitudinal reinforcement A_{st} and reinforcement ratio ρ where ρ must range between a minimum of 1% and a maximum of 8% (Section 10.9):

$$A_{st} := N_{total} \cdot A_{b_x} \qquad A_{st} = 0.8\,\text{in}^2$$

$$\rho := \frac{A_{st}}{A_g} \qquad \rho = 0.556\%$$

Distance from face of column to center of reinforcing bar:

$d' := cl + \frac{d_{b_x}}{2}$ $\qquad d' = 3.25\,in$

Reinforcing bar locations from centroid of reinforcement on tension face:

$n := N_h - 1$ $\qquad n = 1$

$i := 0 .. n$

$s_i := \left(\frac{h - 2 \cdot d'}{N_h - 1} \cdot i\right)$ $\qquad s^T = (0 \;\; 5.5)\,in$

Distance to neutral axis at balanced tension/compression failure:

$c_b := \frac{\varepsilon_c \cdot (h - d')}{\varepsilon_y + \varepsilon_c}$ $\qquad c_b = 5.179\,in$

User specified lower value for neutral axis distance:

$c_{min} := \frac{h}{10000}$ $\qquad c_{min} = 1.2 \times 10^{-3}\,in$

Note ⇒ The value of c may be raised or lowered to show all required compression values of ϕP_n. A value of c = 0 inches will call for all tension values of ϕP_n.

User specified variables m, q and α:

$m := 11 \qquad q := 2 \qquad \alpha := 1$

Note ⇒ Values of ϕPn and ϕMn are calculated for tension (or least compression) face reinforcement stresses at $-f_y$, and from $-\alpha f_y$ to $+f_y$ at intervals of $f_y \cdot (1 + \alpha)/(m - 1)$, and for values of c from c_b to c_{min} at 1/q inch intervals The values of m, q and α may be adjusted to show all required points on the interaction chart

Stress range in tension face reinforcement for which values of ϕP_n and ϕM_n are calculated.

Lower stress: $-\alpha \cdot f_y = -60\,\text{ksi}$

Stress interval: $\dfrac{f_y \cdot (1+\alpha)}{m-1} = 12\,\text{ksi}$

Limiting upper stress, $+f_y$: $f_y = 60\,\text{ksi}$

Range in values of c for which values of ϕP_n and ϕM_n are calculated:

Lower value of $c = c_{min}$: $c_{min} = 1.2 \times 10^{-3}\,\text{in}$

Intervals of c: $\dfrac{1}{q} \cdot \text{in} = 0.5\,\text{in}$

Limiting upper value of $c = c_b$: $c_b = 5.179\,\text{in}$

Range variable j defining all points for which values of ϕP_n and ϕM_n are calculated:

$$j := 0 \ldots m + q\left(\frac{c_b - c_{min}}{\text{in}}\right)$$

Total number of calculated values of ϕP_n and ϕM_n:

$$\text{ceil}\left[m + q\left(\frac{c_b - c_{min}}{\text{in}}\right)\right] = 22$$

Note ⇒ If this value is larger than 35, the last page of this document may need reformatting to provide ample space for the tabulated values of ϕP_n and ϕM_n.

Distance from extreme compression fiber to neutral axis:

$$c_j := \text{if}\left[j = 0, \frac{\varepsilon_c (h-d)}{\varepsilon_c - \varepsilon_y}, \text{if}\left[(j \le m), \frac{\varepsilon_c (h-d')}{\varepsilon_c - \varepsilon_y\left[\alpha - \left[\frac{1+\alpha}{m-1}(j-1)\right]\right]}, c_b - \frac{j-m}{q}\,\text{in}\right]\right]$$

Strains in tension face reinforcing bars :

$$\varepsilon_{s_{0,j}} := \frac{\varepsilon_c \cdot (h - d')}{c_j} - \varepsilon_c \qquad \varepsilon_{s_{i,j}} := \varepsilon_{s_{0,j}} - \frac{s_i}{h - d'} \left(\varepsilon_c + \varepsilon_{s_{0,j}}\right)$$

Stresses in all reinforcing bars:

$$f_{s_{i,j}} := \text{if}\left(\varepsilon_{s_{i,j}} \cdot E_s < -f_y, -f_y, \text{if}\left(\varepsilon_{s_{i,j}} \cdot E_s > f_y, f_y, \varepsilon_{s_{i,j}} \cdot E_s\right)\right)$$

Depth of rectangular stress block, a:

$$a_j := \text{if}\left(\beta_1 \cdot c_j \le h, \beta_1 \cdot c_j, h\right)$$

Reinforcement stresses reduced by 0.85 f'_c for bars within rectangular stress block depth a:

$$f_{se_{i,j}} := \text{if}\left[\left(h - d' - s_i\right) < a_j, f_{s_{i,j}} + 0.85 \cdot f'_c, f_{s_{i,j}}\right]$$

Nominal axial load, P_n:

$$k := 1 .. n - 1$$

$$P_{n_j} := 0.85 \cdot f'_c \cdot a_j \cdot b - A_{b_x} \left[N_b \left(f_{se_{0,j}} + f_{se_{n,j}}\right) + \left(N_h > 2\right) \cdot N_b \left(\sum_k f_{se_{k,j}}\right)\right]$$

Nominal moment M_n:

$$M_{n_j} := 0.85 \cdot f'_c \cdot a_j \cdot b \cdot \left(h - d' - \frac{a_j}{2}\right) - A_{b_x} \left[N_b \cdot f_{se_{n,j}} \cdot (h - 2 \cdot d') + \left(N_h > 2\right) \cdot N_b \left[\sum_k \left(f_{se_{k,j}} \cdot s_k\right)\right]\right] - P_{n_j} \cdot \left(\frac{h}{2} - d\right)$$

Nominal axial load strength P_o at zero eccentricity:

$$P_o := P_{n_0} \qquad P_o = 534.88 \text{ kips}$$

Nominal axial load P_b and moment M_b at balanced tension/compression failure:

$$P_b := P_{n_m} \qquad M_b := M_{n_m}$$

$$P_b = 167.193 \text{ kips} \qquad M_b = 65.016 \text{ kip} \cdot \text{ft}$$

Strength reduction factor ϕ (Section 9.3.2.2):

$$P_1 := \frac{0.10 \cdot f'_c \cdot A_g}{0.7} \qquad P_1 = 82.286\,\text{kips}$$

$$\gamma := \frac{h - 2 \cdot d'}{h} \qquad \gamma = 0.458$$

$$P2_j := \frac{0.7 \cdot P_{n_j}}{0.10 \cdot f'_c \cdot A_g} \qquad P3_j := 0.9 - \frac{0.7 \cdot P_{n_j}}{P_b} \cdot 0.2$$

$$\phi_j := \text{if}\left[P_{n_j} \ge P_1, 0.7, \text{if}\left[P_{n_j} \le 0\,\text{kips}, 0.9, \text{if}\left[(\gamma \ge 0.7) \cdot (f_y \le 60\,\text{ksi}) + (P_b \ge P_1), 0.9 - P2_j \cdot 0.2, P3_j\right]\right]\right]$$

Design axial load and bending moment ϕP_n and ϕM_n:

$$\phi P_{n_j} := \phi_j \cdot P_{n_j} \qquad \phi M_{n_j} := \phi_j \cdot M_{n_j}$$

Maximum usable axial load:

$$\phi P_{max} := \phi_0 \cdot 0.8 \cdot P_o \qquad \phi P_{max} = 299.533\,\text{kips}$$

Summary

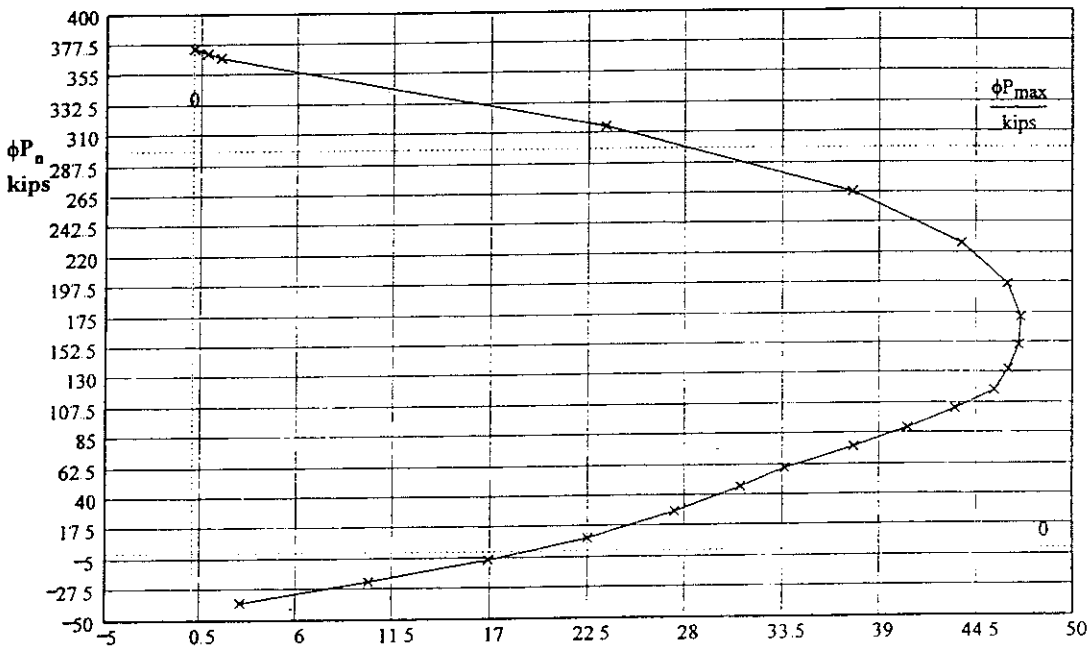
Width of member:	$b = 12\,\text{in}$
Thickness of member:	$h = 12\,\text{in}$
Bar size number:	$BarNo = 4$
Number of bars on h face:	$N_h = 2$
Total number of bars:	$N_{total} = 4$
Reinforcement ratio:	$\rho = 0.556\%$
Clear reinforcement cover of longitudinal bars:	$cl = 3\,\text{in}$
Concrete strength:	$f'_c = 4\,\text{ksi}$
Reinforcement strength:	$f_y = 60\,\text{ksi}$

Unit weight of concrete: $w_c = 150\,pcf$

Number of bars on b face: $N_b = 2$

Maximum usable axial load: $\phi P_{max} = 299.5\,kips$

Area of reinforcement: $A_{st} = 0.8\,in^2$



Notes

1) If curve does not cross $\phi P_n = 0$ lower the value of c_{min}

2) The chart may require reformatting for changes in input.

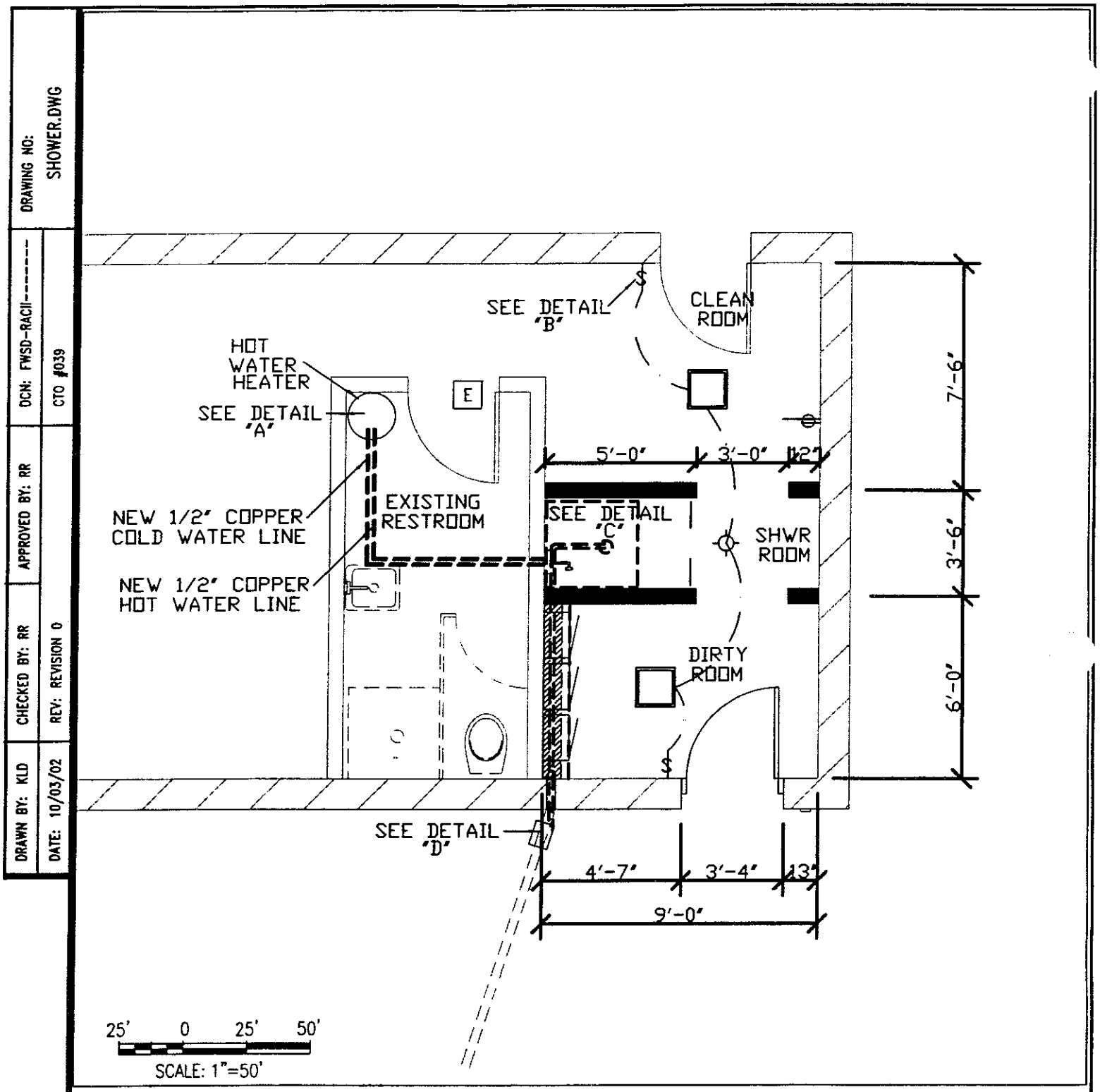
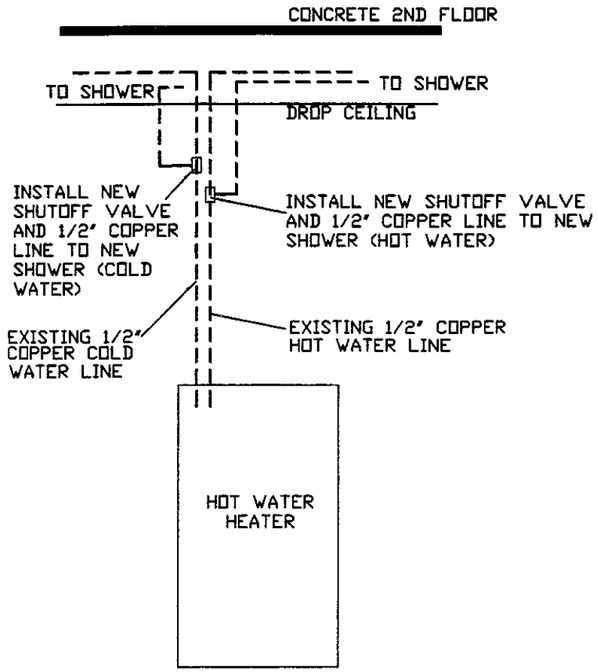


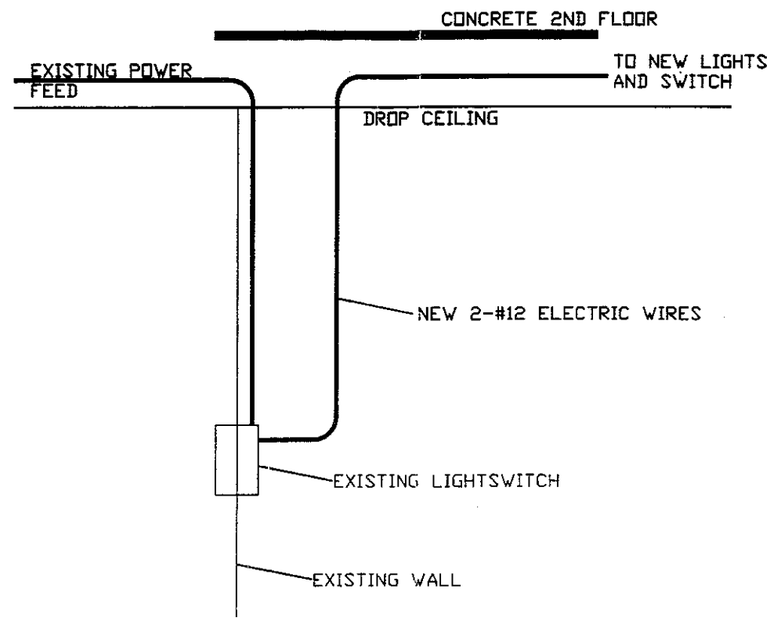
FIGURE 1
SHOWER FLOOR PLAN

IR Sub-Site 2A
Mole Pier, Naval Station, San Diego

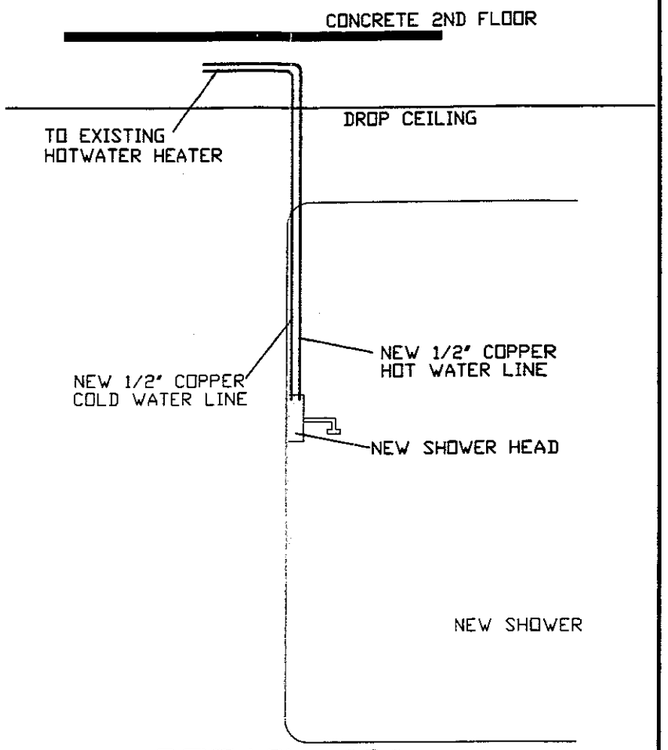
FOSTER WHEELER
ENVIRONMENTAL CORPORATION



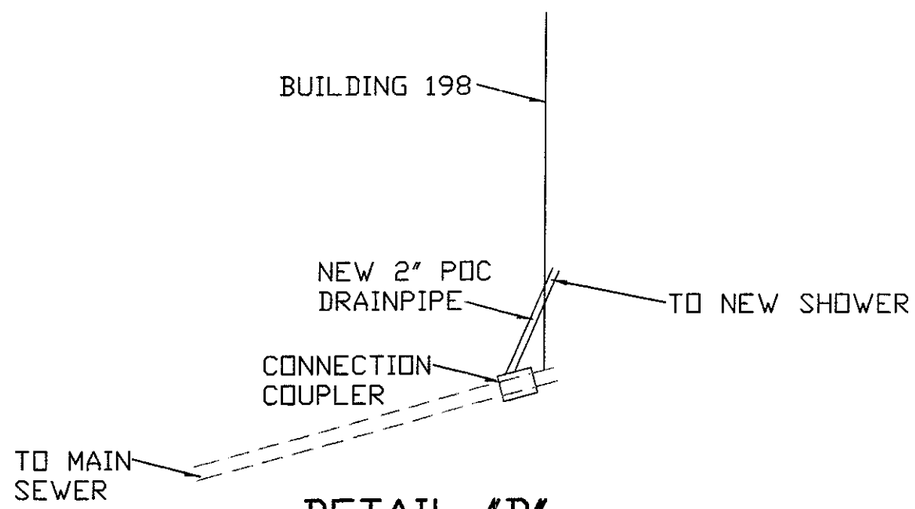
DETAIL "A"
NTS



DETAIL "B"
NTS



DETAIL "C"
NTS



DETAIL "D"
NTS

NOTE
1. ALL CONNECTIONS PER CODE

FIGURE 2
SHOWER FLOOR PLAN DETAILS

IR Sub-Site 2A
Mole Pier, Naval Station, San Diego

FOSTER WHEELER
ENVIRONMENTAL CORPORATION

DRAWING NO: DETAILS.DWG
DCN: FWSD-RAC-----
CTO #0039
APPROVED BY: RR
CHECKED BY: RR
REV: 0
DRAWN BY: KLD
DATE: 10/03/02

I:\CTO-002\020004\DETAIL_A_&_B.DWG
PLOT/UPDATE: OCT 03 2002 10:05:02

GENERAL NOTES

1. EXTREME CARE SHALL BE EXERCISED TO PREVENT DAMAGE TO ADJACENT SURFACES, STRUCTURES AND EQUIPMENT. DAMAGE AS A RESULT OF THIS WORK SHALL BE REPLACED AT NO EXPENSE TO THE OWNER
2. SALVAGE MATERIALS AND EQUIPMENT NOT SCHEDULED FOR REUSE SHALL BE STORED OR DISPOSED OF AS DIRECTED BY THE OWNER
3. UPON COMPLETION OF EACH PHASE OF THE WORK AND AT SUCH OTHER TIMES AS DIRECTED, REMOVE SURPLUS MATERIALS DEBRIS, EQUIPMENT, AND IMPLEMENTS FROM THE SITE AND LEAVE THE WORK IN A CLEAN NEAT CONDITION
4. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DEVIATION FROM THE CONDITION REPRESENTED HEREIN. FAILURE TO DO SO WILL CONSTITUTE ACCEPTANCE OF THE EXISTING CONDITIONS AND ANY ADDITIONAL WORK REQUIRED SHALL BE ACCOMPLISHED AT NO ADDITIONAL COST TO THE OWNER
5. ALL APPLICABLE STATE, FEDERAL AND MUNICIPAL ORDINANCES AND ALL RULES AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION OVER THE CONSTRUCTION OF THIS PROJECT SHALL APPLY TO THE CONTRACT THROUGHOUT AND SHALL BE DEEMED TO BE INCLUDED IN THE CONTRACT AS THOUGH HEREIN WRITTEN OUT IN FULL
6. PROTECTION FROM DUST, DIRT AND MOISTURE SHALL BE PROVIDED FOR THE PROTECTION OF THE WORKMEN, STAFF, EMPLOYEES AND THE PUBLIC AS REQUIRED BY ALL PERTINENT CODES ORDINANCES AND REGULATIONS
7. WORK PERFORMED SHALL COMPLY WITH THE FOLLOWING:
   - A THESE GENERAL NOTES UNLESS OTHERWISE NOTED ON PLANS OR SPECIFICATIONS.
   - B UNIFORM BUILDING CODE, APPLICABLE EDITION.
   - C ALL APPLICABLE LOCAL AND STATE CODES ORDINANCES AND REGULATIONS
8. ON SITE VERIFICATION OF ALL DIMENSIONS AND CONDITIONS SHALL BE THE RESPONSIBILITY OF THE SUB-CONTRACTOR NOTED DIMENSIONS TAKE PRECEDENT OVER SCALE.
9. DEMOLITION PLAN AND NOTES ARE INCLUDED FOR GENERAL INFORMATION ONLY AND ARE NOT INTENDED TO REPRESENT ALL CONDITIONS PRESENT AT THE SITE. THE CONTRACTOR IS RESPONSIBLE FOR PREPARING THE SITE FOR CONSTRUCTION AS DESCRIBED AND DETAILED IN THE CONTRACT DOCUMENTS WITHOUT ADDITIONAL CHARGES TO THE OWNER. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE ARRANGEMENTS WITH THE OWNER TO VISIT THE SITE AND REVIEW ALL CONDITIONS PRIOR TO SUBMITTING FINAL BID PRICE
10. MANUFACTURED DOORS & WINDOWS SHALL HAVE AIR INFILTRATION RATES CERTIFIED BY THE MANUFACTURER AS NOT EXCEEDING THOSE SHOWN IN TABLE 2-53J OF THE REGULATIONS. SITE-CONSTRUCTED DOORS & WINDOWS, EXTERIOR JOINTS, & OPENINGS IN THE BUILDING ENVELOPE SHALL BE CAULKED GASKETED WEATHER STRIPPED OR OTHERWISE SEALED
11. ALL PARTS OF THE DUCT SYSTEM SHALL BE TIGHTLY SEALED WITH MASTIC OR TAPE
12. THERMOSTATCALLY CONTROLLED HEATING OR COOLING SYSTEM (EXCEPT ELECTRIC HEAT PUMPS) SHALL HAVE AN AUTOMATIC THERMOSTAT WITH A CLOCK MECHANISM WHICH THE BUILDING OCCUPANT CAN MANUALLY PROGRAM TO AUTOMATICALLY SET BACK THE THERMOSTAT SET POINTS FOR AT LEAST 2 PERIODS WITHIN 24 HOURS
13. SHOWERS/FAUCETS SHALL BE STATE LISTED FOR WATER CONSERVATION
14. INSTALL ALL NEW EXPOSED ELECTRICAL WIRING IN RIGID CONDUIT TO BE SURFACE MOUNTED TO TOPSIDE OF EXISTING CEILING GRID.

SCHEDULES

DOOR SCHEDULE

SYM.	SIZE	THK.	TYPE	MFG.	CATALOG NO.	FINISH	MATL	JAMB	REMARKS
1	3'-0" x 7'-0"	1 3/4"	SOLID CORE-PANEL	-	-	BLACK	STEEL	STEEL	
E	EXISTING								EXISTING TO REMAIN

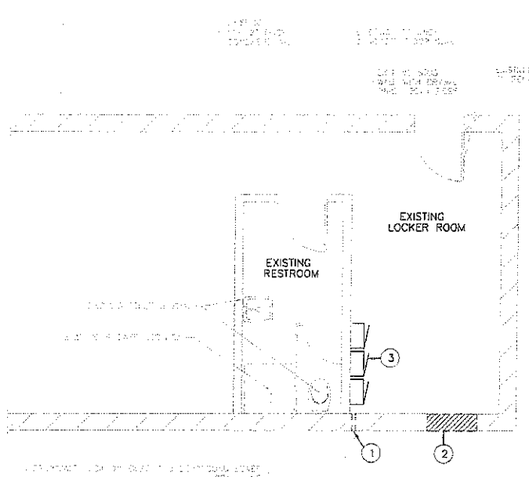
FINISH SCHEDULE

NO	ROOM	MATERIALS					REMARKS
		FLOOR	BASE	WALLS	CEILING	CEIL'G HGT.	
1	DIRTY ROOM	CONCRETE	4" RUBBER TOPSET	1/2" W.R. GYP. BD.	EXISTING	EXISTING	
2	SHOWER ROOM	CONCRETE	4" RUBBER TOPSET	1/2" W.R. GYP. BD.	EXISTING	EXISTING	
3	CLEAN ROOM	CONCRETE	4" RUBBER TOPSET	1/2" W.R. GYP. BD.	EXISTING	EXISTING	

PROJECT INFORMATION & SYMBOLS

ADDRESS	No. 198 32nd STREET & NAVAL STREET
AIN	N/A
BUILDING TYPE	OFFICES
BUILDING ZONE	N/A
BUILDING OCC.	OFFICE PERSONNEL
BUILDING CODE	1998 C.B.C
BUILDING SQUARE FOOTAGE	N/A
LOT AREA	N/A
FLOOR AREA RATIO	N/A
LOT COVERAGE	N/A
PROJECT DESCRIPTION	INSTALLATION OF A NEW CONSTRUCTION CHANGE ROOM AND SHOWER

- CEILING HUNG LIGHT WITH PLASTIC LENS COVER
- 2 X 2 SURFACE MOUNTED FLUORESCENT LIGHT FIXTURE
- EXHAUST FAN
- DUPLEX OUTLET
- GF DUPLEX OUTLET GROUND FAULT INTERRUPTER
- SINGLE POLE SWITCH
- CEIL'G WALL
- EXISTING WALL
- NEW PARTITION WALL
- PIPE CHASE
- NEW ELECTRICAL CONDUIT

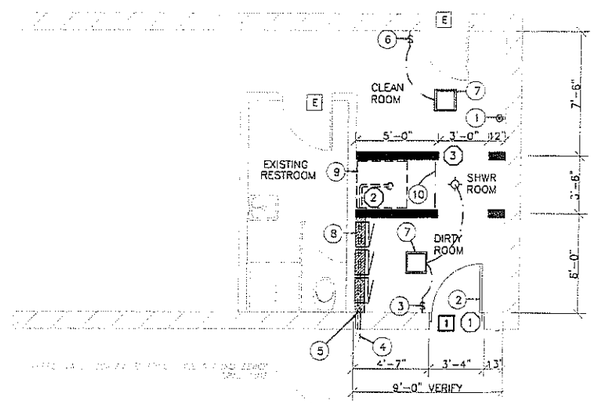


DEMOLITION NOTES

1. CORE DRILL PORTION EXISTING CONCRETE WALL REMOVE CORE FOR NEW SHOWER DRAIN PIPE
2. REMOVE PORTION OF CONCRETE WALL COMPLETE FOR INSTALLATION OF NEW DOOR AND FRAME
3. EXISTING METAL LOCKERS MODIFY AS REQUIRED TO RUN NEW DRAIN PIPE TO EXTERIOR WALL

NORTH

DEMOLITION PLAN & NOTES — SCALE: 1/4" = 1'-0"

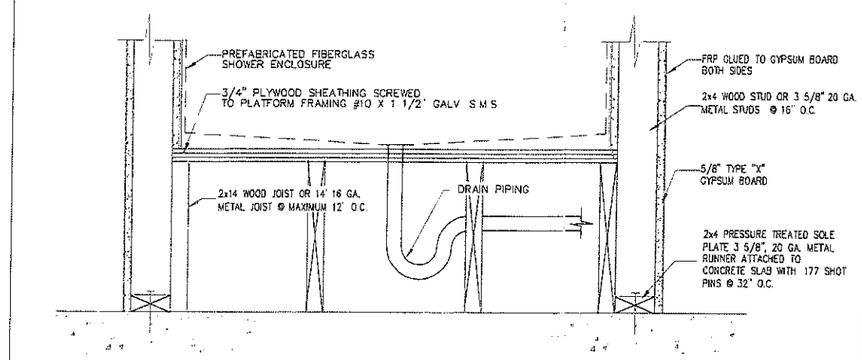


FLOOR PLAN NOTES

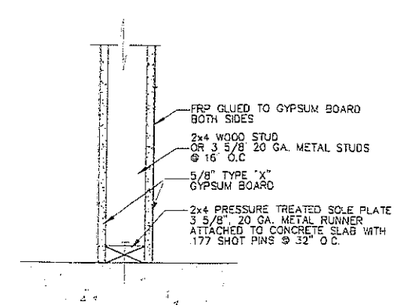
1. ELECTRICAL OUTLET DYSFUNCTIONAL REPAIR AS REQUIRED TO MAKE OPERATIONAL
2. INSTALL NEW EXTERIOR METAL DOOR AND FRAME (SEE DETAIL 1)
3. INSTALL NEW ELECTRICAL LIGHT SWITCH IN J-BOX SURFACE MOUNTED TO EXISTING CONCRETE WALL
4. CONNECT NEW 3" SHOWER DRAIN LINE WITH EXISTING SEWER LINE
5. NEW 3" VENT THROUGH EXISTING ROOF FOR NEW SHOWER DRAIN LINE (OR TIE-IN TO EXISTING VENT LINE FROM ADJACENT (EXISTING) RESTROOM)
6. EXISTING LIGHT SWITCH CONNECTED TO NEW FLUORESCENT LIGHT FIXTURE
7. INSTALL NEW LIGHT TO EXISTING SUSPENDED CEILING GRID
8. INSTALL NEW HORIZONTAL PIPE CHASE UNDER LOCKERS FOR NEW DRAIN PIPE CHASE SHALL BE MINIMUM 12" X 12" AND CONSTRUCTED OUT OF 2X WOOD FRAMING OR METAL STUD FRAMING WRAP FRAMING WITH 3/4" PLYWOOD SHEATHING
9. INSTALL NEW 36" X 36" PREFABRICATED FIBER GLASS SHOWER ENCLOSURE (SEE DETAIL 2) SHOWER ENCLOSURE SHALL BE INSTALLED ON A RAISED PLATFORM IN ORDER TO INSTALL DRAIN PIPING AND TRAP BELOW
10. INSTALL CEILING MOUNTED SHOWER CURTAIN & TRACK
11. INSTALL PARTITIONS IN SHOWER ROOM (SEE DETAIL 3)

NORTH

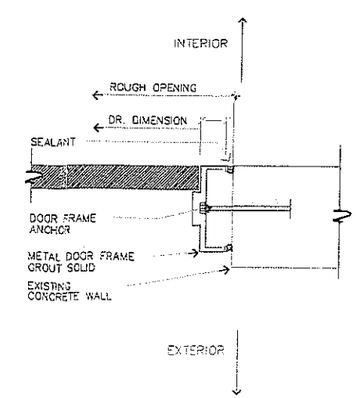
FLOOR PLANS & NOTES — SCALE: 1/4" = 1'-0"



SHOWER PLATFORM — SCALE: NTS — 2



INTERIOR PARTITION — SCALE: NTS — 3



DOOR JAMB DETAIL — SCALE: NTS — 1

REVISIONS	BY

MILLER BROOKS Environmental, Inc.
2124 MAIN STREET, SUITE 200
HUNTINGTON BEACH, CA 92648
TEL: (714) 960-4868 FAX: (714) 960-2462

BUILDING 198 – SHOWER INSTALLATION
SAN DIEGO NAVAL BASE
SAN DIEGO, CALIFORNIA

GENERAL NOTES
DEMOLITION & FLOOR PLANS DETAILS

DRAWN	C.B.
CHECKED	P.B.L.
DATE	SEPT-08-2002
SCALE	AS NOTED
JOB NO.	02-13
SHEET	

A-1

OF 1 SHEET

FOSTER WHEELER ENVIRONMENTAL CORPORATION
NAVY RAC PROJECT

CONTRACT NO. N68711-98-D-5713

FIELD CHANGE REQUEST
(FCR)

CONTRACT TASK ORDER NAME Mole Pier Sub-Site 2A, Removal Action Expansion Into CST Area, Naval Station San Diego	CTO # 0039 / 14	CHANGE REQUEST NO FCR-008
TO NAVY NTR/RPM/COTR John Ohlfest	LOCATION San Diego	DATE November 8 2002

RE: ___ Drawing No _____ Title _____

___ Spec Section _____ Title Building 198 shoring design

X Other WORK PLAN ADDENDUM, FWENC, 2002 (DCN FWPB-RAC3-02-0344), SECT. 7.4

1. DESCRIPTION (Items involved, submit sketch, if applicable):

FCR #8 for the shoring design for Building 198, 7th Street, and the electrical substation.

2. REASON FOR CHANGE

Not previously detailed. Details contained herein were previously discussed with the client and the ROICC

3 RECOMMENDED DISPOSITION (Submit sketch, if applicable):

Incorporate work into CTO 0039 / 14. See attachments.

X Minor Change ____ Major Change (Impacts Cost, Schedule or Technical)

3a Will this change result in a contract cost or time change? ____ YES X NO

3b. Estimate of contract cost or time change (if any) _____

PREPARER (Signature)	DATE	PREPARER'S TITLE	SITE SUPERINTENDENT (Signature)	DATE
	11/5/02	Project Quality Control Manager		11/5/02

4 DISPOSITION

___ Not approved (give reason)

X Considered minor change - approved per Recommended Disposition - Documents will not formally be revised field to maintain as-built records

___ Considered major change - Navy approval required via contract modification process

1) FOSTER WHEELER ENVIRONMENTAL REGIONAL ENGINEER (Signature) (IF ENGINEERING RELATED)	DATE 11/6/02	2) FOSTER WHEELER ENVIRONMENTAL PROJECT MANAGER (Signature)	DATE 11/6/02
3) CIH (Signature) (IF HEALTH AND SAFETY RELATED) ___ Comments (attached) X No Comments	DATE 11/18/02	4) REGIONAL SCIENTIST (Signature) (IF SCIENCE RELATED) ___ Comments (attached) ___ No Comments	DATE
5) QC PROGRAM MANAGER (Signature) ___ Comments (attached) X No Comments	DATE 11/22/02		

Project Manager distributes to:

CAM	QCM	FCR Preparer
Regional Engineer Regional Scientist	Site Superintendent	CIH

REV 3-13-96

Abid Loan

09/23/2002 06:14 PM

To: Terri Ryland/SanDiego/FWENC@FWENC, Carl Jones/CostaMesa/FWENC@FWENC, Randy Rose/SanDiego/FWENC@FWENC
cc: Michael Cowan/CostaMesa/FWENC@FWENC, Timothy Lai/Sacramento/FWENC@FWENC
Subject: Re: Shoring Plan Review

The review of revised calculation prepared by FLC for Mole Pier Sub-Site 2A shoring project has been completed and the design approach appears adequate.

A legible copy of the calculation was faxed 9/23/02 that addressed our comments. It is our understanding that the shoring design has been prepared per Caltrans standards, as the Caltrans Manual along with the Steel Manual were now referenced. A loading Key Summary was also provided as reference.

Additional clarifications required were provided during verbal communications with Mr. Mike McNeff on September 23, 2002. These included information regarding the soil conditions assumptions made to address presence of sandy dredge materials and groundwater table at a depth of 8-feet. The specified information regarding the structural member size as requested was identified in the calculation as a W8 x 18. The size of the wood lagging was not indicated in the calculations, but was verbally communicated by Mr. Mike McNeff to be 3-inch pre-treated lumber, which was stated to be standard usage to 50-feet depth.

As indicated above, the design approach appears to be adequate for this application however, we request that the information regarding calculations for the wood members and the coefficient of soil subgrade "K" value also be provided as a record for our files

Abid Loan

Abid Loan

09/23/02 09:56 AM

To: Michael Cowan/CostaMesa/FWENC@FWENC, Timothy Lai/Sacramento/FWENC@FWENC
cc:
Subject: Re: Shoring Plan Review Comments

FYI
----- Forwarded by Abid Loan/CostaMesa/FWENC on 09/23/02 10:16 AM -----

Carl Jones

09/23/02 09:12 AM

To: aloan@fwenc.com
cc: Abid Loan/CostaMesa/FWENC@FWENC, Randy Rose/SanDiego/FWENC@FWENC, tryland@fwenc.com
Subject: Re: Shoring Plan Review Comments

Abid-

Since the fax copy is unreadable, Western Shoring suggested that the engineer who designed the shoring should speak with you directly to provide the information you requested. His name is Mike McNeff (858) 566-0626. I will have him give you a call.

With regard to your other questions, the soil is Type B sandy-silt but is inconsistent as the source for the soil was dredge spoils. The depth to groundwater is about 8 feet. I will email you a drawing that shows the excavation extents relative to the buildings being shored.

Carl

FLC FLORES LUND CONSULTANTS
PROFESSIONAL ENGINEERS
7220 Trade Street, Suite 120
SAN DIEGO, CALIFORNIA 92121 2325
(858) 566-0626 FAX (858) 566-0627

K/H 02104 MOLE PIER SUB-SITE 2A
SHEET NO 1 OF 1
CALCULATED BY MM DATE 9-9-02
CHECKED BY DATE
SCALE

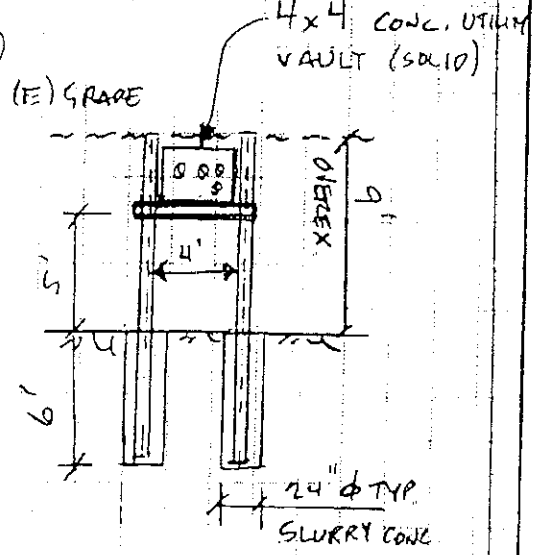
REGISTERED PROFESSIONAL ENGINEER MICHAEL A. MCNEIL No. C61048 Exp. 12/2004 CIVIL STATE OF CALIFORNIA

DESIGN VAULT SUPPORT

REF CALTRANS SHORING MANUAL
AISC STEEL MANUAL (LRFD)

SUPPORTS @ 6' o/c

$W_{VAULT} = 4 \times 4 \times .150 = 2.4^k/FT$



DESIGN DOUBLE CHANNEL SUPPORT

$W = 2.4 \times 3' - 4' = 1.8^k/FT$

$M_u = 1.4/1.25 \times 1.8 \times (4)^2/8 = 5.04^{k'}$

$Z_{REQ} = \frac{5.04 \times 12}{0.9 \times 36} = 1.5\ IN^3$

CHOOSE $\boxed{C8 \times 11.5}$ $Z = 1.6\ IN^3 > 1.5\ IN^3$ ok//

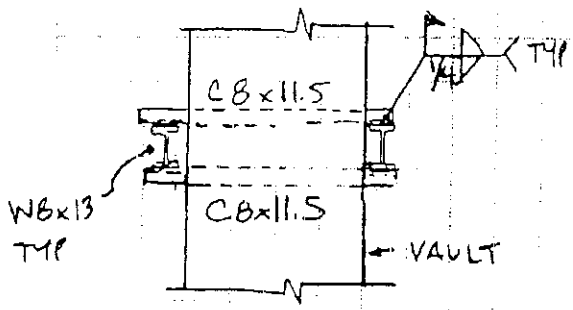
DESIGN SUPPORT PILES

$P_u = 1.4/1.25 \times 1.8 \times 4/2 \times 2 = 8.1^k$ $(P = 7.2^k)$

$KL = 2.1 \times 5 = 10.5'$

CHOOSE W8 x 18

$\phi P_n = 33^k > 8.1^k$

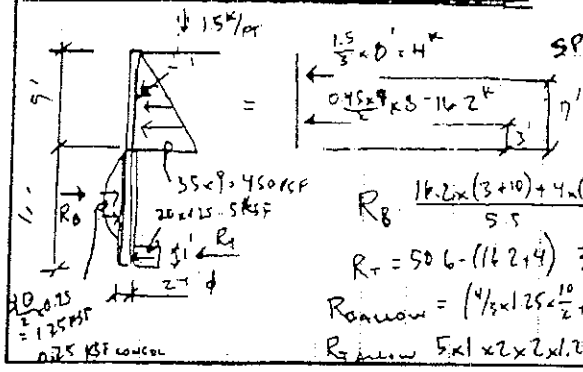


PLAN

CHECK SOIL PRESSURE

$q_s = \frac{7.2^k}{\frac{\pi}{4} \times (2)^2} = 2{,}300\ PSF$ ok//

DESIGN 9' SOLDIER PILE WALL



SPACE @ 8' o/c

$P_a = 35H$
$P_p = 250H$ (WATER)

$R_B = \frac{16.2 \times (3+10) + 4 \times (7+10)}{5.5} = 50.6^{k'}$

$R_T = 50.6 - (16.2 + 4) = 30.4^k$

$R_{BALLOW} = (4/3 \times 1.25 \times \frac{10}{2} + 0.25 \times 10) \times 2' \times 2 \times 1.25 = 54.2^k > 50.6^k$ ok//

R_{TALLOW} $5 \times 1 \times 2 \times 2 \times 1.25 = 25^k = 30.4^k$ ok//

$M_u = 1.4/1.25 \times [16.2 \times (3+1.65) + 4 \times (7+1.25)] = 125^{k'}$

CHOOSE $\boxed{W12 \times 26^{HS}}$

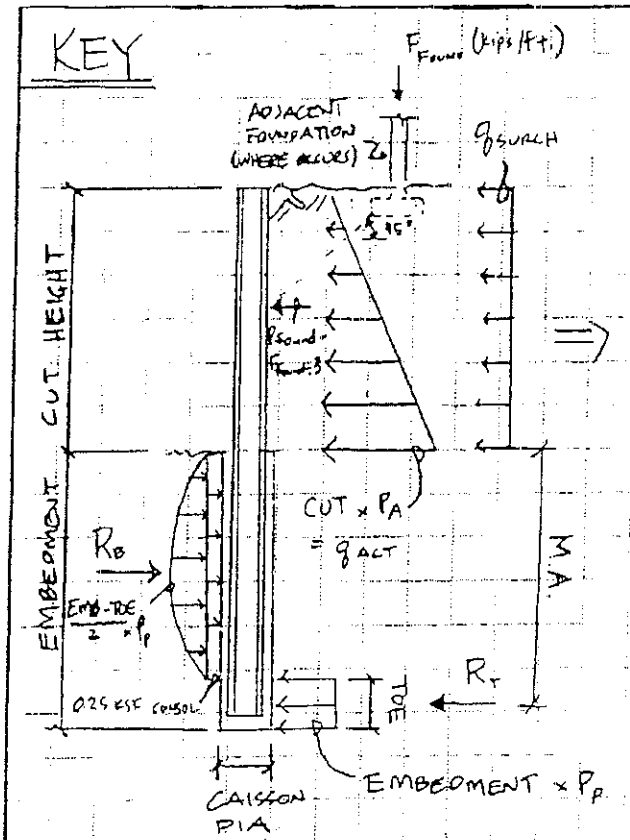
$\phi M_n = 139^{k'} > 125^{k'}$ ok//

11' EMBEDMENT
24" ϕ SLURRY CAISSON

FLM FLORES, LUND & MOBAYED
CONSULTING ENGINEERS
PARTNERS
6362 Ferris Square
SAN DIEGO, CALIFORNIA 92121
(619) 546-1626 FAX (619) 453-3296

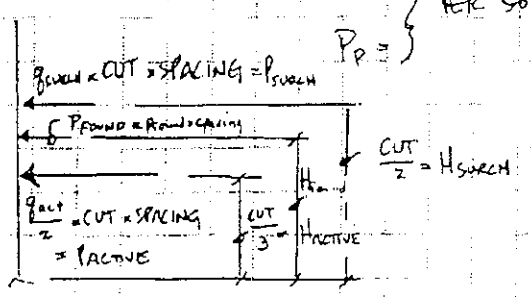
JOB
SHEET NO OF
CALCULATED BY DATE
CHECKED BY DATE
SCALE

KEY



DESIGN PARAMETERS

$P_A =$ } PER SOILS REPORT
$P_P =$ }



SUMMARY

REACTIONS:

$$R_B = \frac{P_{ACTIVE} \times (H_{ACT} + M.A) + P_{SURCH} \times (H_{SURCH} + M.A) + P_{FOUND} \times (H_{FOUND} + M.A)}{EMB/2}$$

$$R_T = R_B - (P_{ACTIVE} + P_{SURCH} + P_{FOUND})$$

ALLOWABLE REACTIONS:

$$R_B = \left[\frac{4}{3} \times P_p \times \frac{(EMB-TOE)^2}{2} + 0.25 \times (EMB-TOE)\right] \times \text{CAISSON DIA} \times \text{ARCHING} \times \text{INCREASE}$$

$$R_T = EMB \times P_p \times \text{CAISSON DIA} \times \text{ARCHING} \times \text{INCREASE}$$

SIZE BEAM

ADD 15% EMB DEPTH TO MOM ARM = 0.15 × EMB

$$M_{SOIL} = P_{ACTIVE} \times (H_{ACTIVE} + 0.15 \times EMB) + P_{SURCH} \times (H_{SURCH} + 0.15 \times EMB) + P_{FOUND} \times (H_{FOUND} + 0.15 \times EMB)$$

$$M_u = 1.4 \times M_{SOIL} \div 1.25$$

↑ SHORT TERM REDUCTION

PRODUCT 204-1 (Single Sheets) 205-1 (Padded)
SEP 23 2002 11:41 858 566 0627 PAGE 03

FLC FLORES LUND CONSULTANTS
PROFESSIONAL ENGINEERS
7220 Trade Street, Suite 120
SAN DIEGO, CALIFORNIA 92121-2325
(858) 566-0626 FAX (858) 566-0627

JOB 02104 NAVY MOLE PIER SUB-SITE 2A (SUPPL CALCS)
SHEET NO. 1 OF 2
CALCULATED BY MW DATE 9/24/02
CHECKED BY DATE
SCALE

DERIVE ACTIVE/PASSIVE PRESSURE VALUES

ASSUME
MATERIAL IS SILTY-SAND (DREDGE MAT'L), UNDRAINED BELOW WT/
DRAINED ABOVE WT

$\phi_{a,p} = \begin{cases} 25^\circ & \text{BELOW WT} \\ 30^\circ & \text{ABOVE WT} \end{cases}$

ASSUME $\gamma = 105$ PCF

RANKINE EARTH PRESSURE COEFFICIENTS:

$K_a = 0.333$ $(\phi_a = 30^\circ)$ $K_p = 2.46$ $(\phi_p = 25^\circ)$

$P_a = K_a \gamma H = 0.333 \times 105 \times H = 35H$ $P_p = K_p \gamma H = 2.46 \times 105 \times H = 258H$

$\therefore$ USE $\left.\begin{array}{l} P_a = 35H \\ P_p = 250H \end{array}\right\}$ PER SOLDIER PILE CALCULATIONS

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PARTNERS
6362 Ferris Square
SAN DIEGO, CALIFORNIA 92121
(858) 546-1626 FAX (858) 453-3295

JOB 02104 SUPR. CALCS
SHEET NO 2 OF 2
CALCULATED BY DATE
CHECKED BY DATE
SCALE

LAGGING DESIGN

VERIFY ADEQUACY OF 3x12 (TYP) LAGGING BOARDS TAKE ADVANTAGE OF SOIL ARCHING IN BETWEEN BEAMS

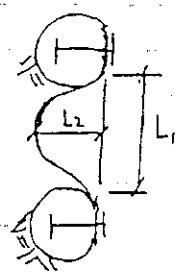
AT DEPTHS BEYOND $H_{LIM} = \frac{\text{CLEAR SPACING}}{2\tan(45-\phi/2)}$, SOIL PRESSURE AGAINST LAGGING REACHES A MAX (CONSTANT) VALUE DUE TO ARCHING ACTION IN THE SOIL. FOR 24" ϕ CAISSONS:

$$H_{LIM} = \frac{6}{2\tan(45-\frac{30}{2})} = 5.2' \qquad \phi = 30^\circ$$

THUS FOR LAGGING BOARDS 5.2' BELOW EXSTG GRADE & BELOW, PRESSURE IS MAXIMIZED AS:

$P_{H\,MAX} = \gamma L_2 \tan(45-\phi/2)$ $\gamma = 110$ MAX

$L_2 \approx \frac{L_1}{2} = 3'$



$P_{H\,MAX} = 110 \times 3 \times \tan(45-\frac{30}{2}) = 191$ PSF

$w = 191$ #/1 PER FOOT OF BOARD

$$M = \frac{191 \times 8^2}{8} = 1528\,\#'/FT = 18366\,\#''/FT$$

FOR 3x LUMBER $b = 2\frac{1}{2}''$ $S_y = \frac{12 \times 2.5^2}{6} = 12.5\ IN^3/FT$

$$f_b = \frac{18{,}366}{12.5} = 1467\ PSI$$

FOR DOUG-FIR/LARCH (NORTH), No: 1/No: 2

$f_b = 850$ PSF

FOR 3x12

$f'_c = f_b \times C_D \times C_M \times C_{fu} \times C_f = 850 \times 1.25 \times 1.15 \times 1.2 \times 1.0 = 1466$ PSI ≈ 1467 PSI ok

FOSTER WHEELER ENVIRONMENTAL CORPORATION

NAVY RAC PROJECT

CONTRACT NO. N68711-98-D-5713

FIELD CHANGE REQUEST (FCR)

CONTRACT TASK ORDER NAME Mole Pier Sub-Site 2A, Removal Action Expansion Into CST Area, Naval Station San Diego	CTO # 0039	CHANGE REQUEST NO FCR-009
TO NAVY NTR/RPM/COTR John Ohlfest	LOCATION San Diego	DATE February 5 2003

RE: ___ Drawing No _____ Title _____

___ Spec Section _____ Title Bathroom renovation revision

X Other General Notes Demolition & Floor Plan Details Building 198 Shower Installation, Sheet A-1

1. DESCRIPTION (Items involved, submit sketch, if applicable):

FCR #9, change to door schedule. Install wooden door frame in lieu of steel door frame All other specifications will remain unchanged. The frame will be matched to the existing entrance door on 7th Street.

2. REASON FOR CHANGE

To match the existing construction.

3. RECOMMENDED DISPOSITION (Submit sketch, if applicable):

Incorporate work into CTO 0039

X Minor Change ____ Major Change (Impacts Cost, Schedule or Technical)

3a Will this change result in a contract cost or time change? ____ YES X NO

3b. Estimate of contract cost or time charge (if any) _____

PREPARER (Signature)	DATE	PREPARER S TITLE	SITE SUPERINTENDENT (Signature)	DATE
	2/5/03	Project Quality Control Manager	Randy Rose	2-5-03

4. DISPOSITION

___ Not approved (give reason)

X Considered minor change - approved per Recommended Disposition - Documents will not formally be revised, field to maintain as-built records

___ Considered major change - Navy approval required via contract modification process

1) FOSTER WHEELER ENVIRONMENTAL REGIONAL ENGINEER (Signature) (IF ENGINEERING RELATED)	DATE	2) FOSTER WHEELER ENVIRONMENTAL PROJECT MANAGER (Signature)	DATE
3) CIH (Signature) (IF HEALTH AND SAFETY RELATED) ____ Comments (attached) ____ No Comments	DATE	4) REGIONAL SCIENTIST (Signature) (IF SCIENCE RELATED ____ Comments (attached) ____ No Comments	DATE
5) QC PROGRAM MANAGER (Signature)) ____ Comments (attached) ____ No Comments	DATE		

Project Manager distributes to:

CAM	QCM	FCR Preparer
Regional Engineer Regional Scientist	Site Superintendent	CIH

REV: 3-13-96

FCR 9 for bathroom renovation door change

APPENDIX F

GEOTECHNICAL FIELD AND LABORATORY TEST RESULTS

Ninyo & Moore

MAXIMUM DENSITY TEST DATA

PROJECT NAME Foster Wheeler / Mole Pier 2 PROJECT NO. 104108-02

DATE 6-29-00 SAMPLE LOCATION #2 DEPTH Pile TECHNICIAN (illegible)

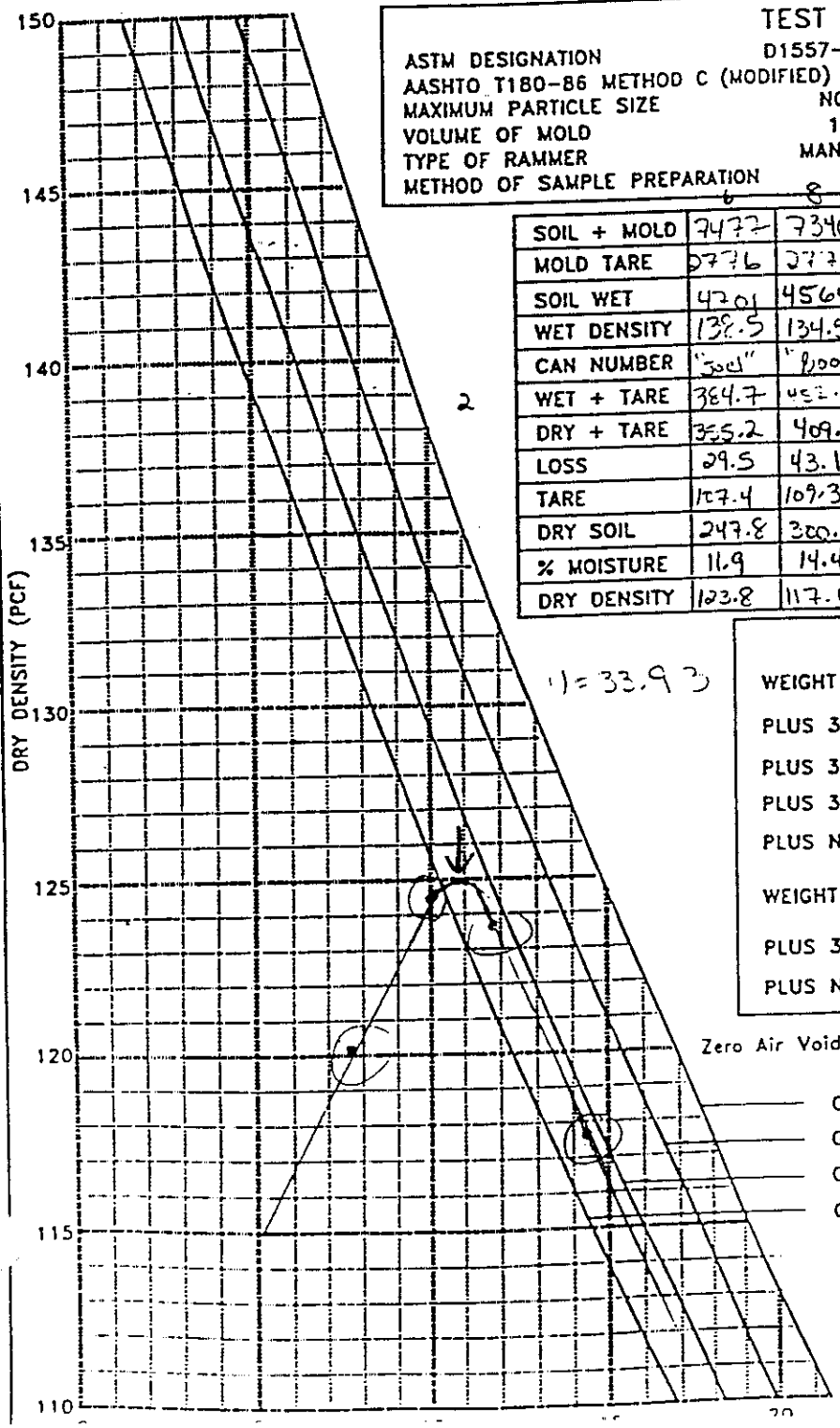
SOIL DESCRIPTION Brown (f/c) silty Sand w/gravel and shells

SAMPLE SOURCE #0002-8002

TEST METHOD

ASTM DESIGNATION	D1557-91 ☒	D698-91 ☐	METHOD C
AASHTO T180-86 METHOD C (MODIFIED)	☐	OVERSIZE CORRECTION	☐
MAXIMUM PARTICLE SIZE	NO. 4 ☐	3/8" ☐	3/4" ☒
VOLUME OF MOLD	1/30 ☐	1/13.33 ☒	
TYPE OF RAMMER	MANUAL ☐	MECHANICAL ☒	
METHOD OF SAMPLE PREPARATION	DRY ☒	MOIST ☐	

	6	8	4	2			AS
SOIL + MOLD	7477	7340	7414	7169			REC'D
MOLD TARE	2776	2776	2776	2776			MOIST
SOIL WET	4701	4564	4638	4393			CONTENT
WET DENSITY	138.5	134.5	136.7	129.5			
CAN NUMBER	"300"	"200"	"200"	"#1"			
WET + TARE	384.7	452.4	456.2	491.2			
DRY + TARE	355.2	409.3	424.4	463.5			
LOSS	29.5	43.1	31.8	27.7			
TARE	107.4	109.3	105.5	107.5			
DRY SOIL	247.8	300.0	318.9	356.0			
% MOISTURE	11.9	14.4	10.0	7.8			
DRY DENSITY	123.8	117.6	124.3	120.1			



ROCK CONTENT

WEIGHT OF TOTAL SAMPLE 24,072 / 24,384

PLUS 3"	WT.		%	
PLUS 3/4"	WT	312	%	1.3
PLUS 3/8"	WT.		%	
PLUS NO.4	WT.		%	

WEIGHT OF ADJUSTED SAMPLE

PLUS 3/4"	WT.		%	
PLUS NO.4	WT		%	

TEST RESULTS

MAXIMUM DENSITY 124.9

OPTIMUM MOISTURE 10.9

OVERSIZE CORRECTION

MAXIMUM DENSITY

OPTIMUM MOISTURE

Ninyo & Moore

MAXIMUM DENSITY TEST DATA

PROJECT NAME Foster Wheeler/Mole Pier #2 PROJECT NO. 104108-02

DATE 7-24-00 SAMPLE LOCATION #3 DEPTH BULK TECHNICIAN RWH/

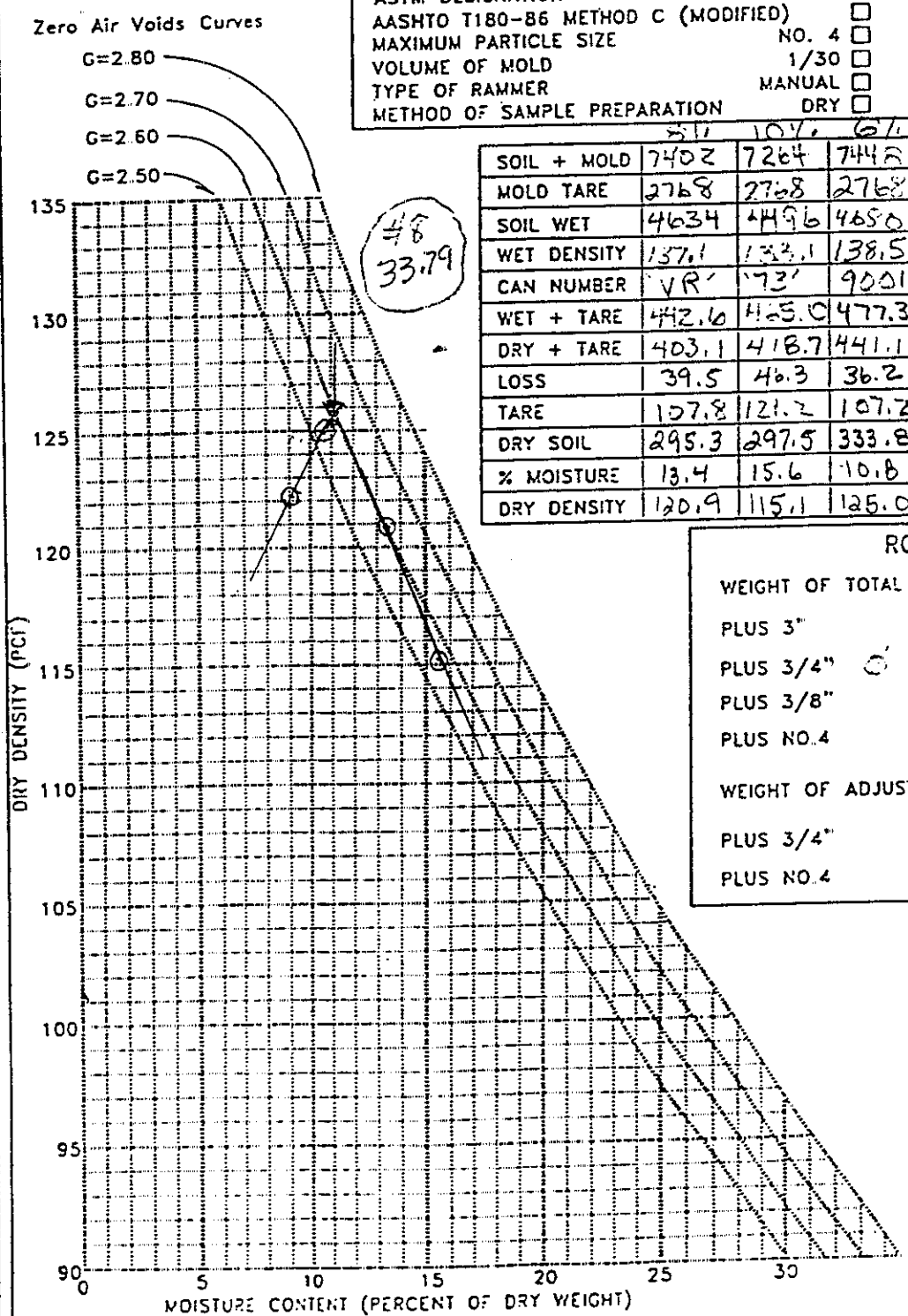
SOIL DESCRIPTION Yellowish Brown silty fine grain sand w/gravel

SAMPLE SOURCE #0002-8005

TEST METHOD

ASTM DESIGNATION	D1557-91 ☑	D698-91 ☐	METHOD 'C'
AASHTO T180-86 METHOD C (MODIFIED)	☐	OVERSIZE CORRECTION	☐
MAXIMUM PARTICLE SIZE	NO. 4 ☐	3/8" ☐	3/4" ☑
VOLUME OF MOLD	1/30 ☐	1/13.33 ☑	
TYPE OF RAMMER	MANUAL ☐	MECHANICAL ☑	
METHOD OF SAMPLE PREPARATION	DRY ☐	MOIST ☑	

	8%	10%	6%	4%			AS
SOIL + MOLD	7402	7264	7442	7270			REC'D
MOLD TARE	2768	2768	2768	2768			MOIST
SOIL WET	4634	4496	4650	4502			CONTENT
WET DENSITY	137.1	133.1	138.5	133.2			
CAN NUMBER	'VR'	'73'	9001	'69'			
WET + TARE	442.6	465.0	477.3	471.9			
DRY + TARE	403.1	418.7	441.1	441.7			
LOSS	39.5	46.3	36.2	30.2			
TARE	107.8	121.2	107.2	105.9			
DRY SOIL	295.3	297.5	333.8	335.8			
% MOISTURE	13.4	15.6	10.8	9.0			
DRY DENSITY	120.9	115.1	125.0	122.2			



ROCK CONTENT

WEIGHT OF TOTAL SAMPLE 23357.0

PLUS 3"	WT.	%	
PLUS 3/4" 0	WT 0	% 0	
PLUS 3/8"	WT.	%	
PLUS NO. 4	WT.	%	

WEIGHT OF ADJUSTED SAMPLE

PLUS 3/4"	WT.	%
PLUS NO. 4	WT	%

TEST RESULTS

MAXIMUM DENSITY 125.4

OPTIMUM MOISTURE 11.1

OVERSIZE CORRECTION

MAXIMUM DENSITY

OPTIMUM MOISTURE

Ninyo & Moore

MAXIMUM DENSITY TEST DATA

PROJECT NAME Foster Wheeler / mole pier 2 PROJECT NO. 104108-02

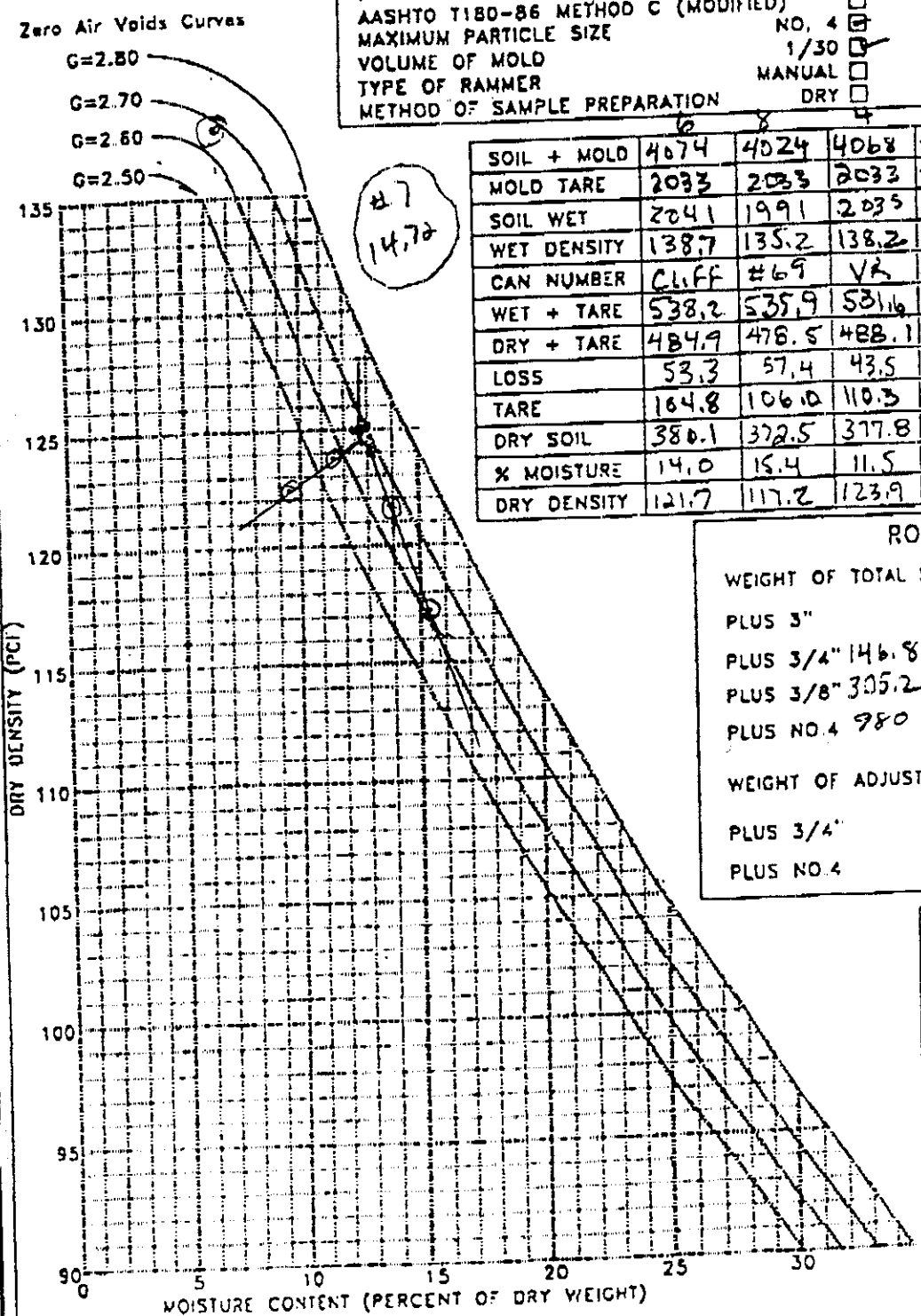
DATE 8-3-00 SAMPLE LOCATION #5 DEPTH BULK TECHNICIAN RWH

SOIL DESCRIPTION Yellow silty soil w/gravel

SAMPLE SOURCE F15 Mix w/Balboa Hospital (Loc. - 0002-8007) (IN-PLACE)

TEST METHOD

ASTM DESIGNATION	D1557-91 ☑	D698-91 ☐	METHOD 'A'
AASHTO T180-86 METHOD C (MODIFIED)	☐	OVERSIZE CORRECTION	☐
MAXIMUM PARTICLE SIZE	NO. 4 ☑	3/8" ☐	3/4" ☐
VOLUME OF MOLD	1/30 ☑	1/13.33 ☐	
TYPE OF RAMMER	MANUAL ☐	MECHANICAL ☑	
METHOD OF SAMPLE PREPARATION	DRY ☐	MOIST ☑	



	6	8	4	2			AS
SOIL + MOLD	4074	4024	4068	4006			REC'D
MOLD TARE	2033	2033	2033	2033			MOIST
SOIL WET	2041	1991	2035	1973			CONTENT
WET DENSITY	138.7	135.2	138.2	134.0			
CAN NUMBER	Cliff	#69	VR	#1			
WET + TARE	538.2	535.9	531.6	538.0			
DRY + TARE	484.9	478.5	488.1	500.8			
LOSS	53.3	57.4	43.5	37.2			
TARE	164.8	106.0	110.3	107.6			
DRY SOIL	380.1	372.5	377.8	393.3			
% MOISTURE	14.0	15.4	11.5	9.5			
DRY DENSITY	121.7	117.2	123.9	119.3			

ROCK CONTENT

WEIGHT OF TOTAL SAMPLE 27398.0 / 27398.0

PLUS 3"		WT.		%
PLUS 3/4" 146.8		WT	146.8	% 0.5
PLUS 3/8" 305.2		WT.	452.	% 1.6
PLUS NO.4 980		WT.	1432	% 4.9

WEIGHT OF ADJUSTED SAMPLE

PLUS 3/4"	WT.	%
PLUS NO.4	WT	%

TEST RESULTS

MAXIMUM DENSITY 124.5

OPTIMUM MOISTURE 12.8

OVERSIZE CORRECTION

MAXIMUM DENSITY

OPTIMUM MOISTURE

Ninyo & Moore

MAXIMUM DENSITY TEST DATA

PROJECT NAME Foster Wheeler/Molepier 2 PROJECT NO. 104108-02

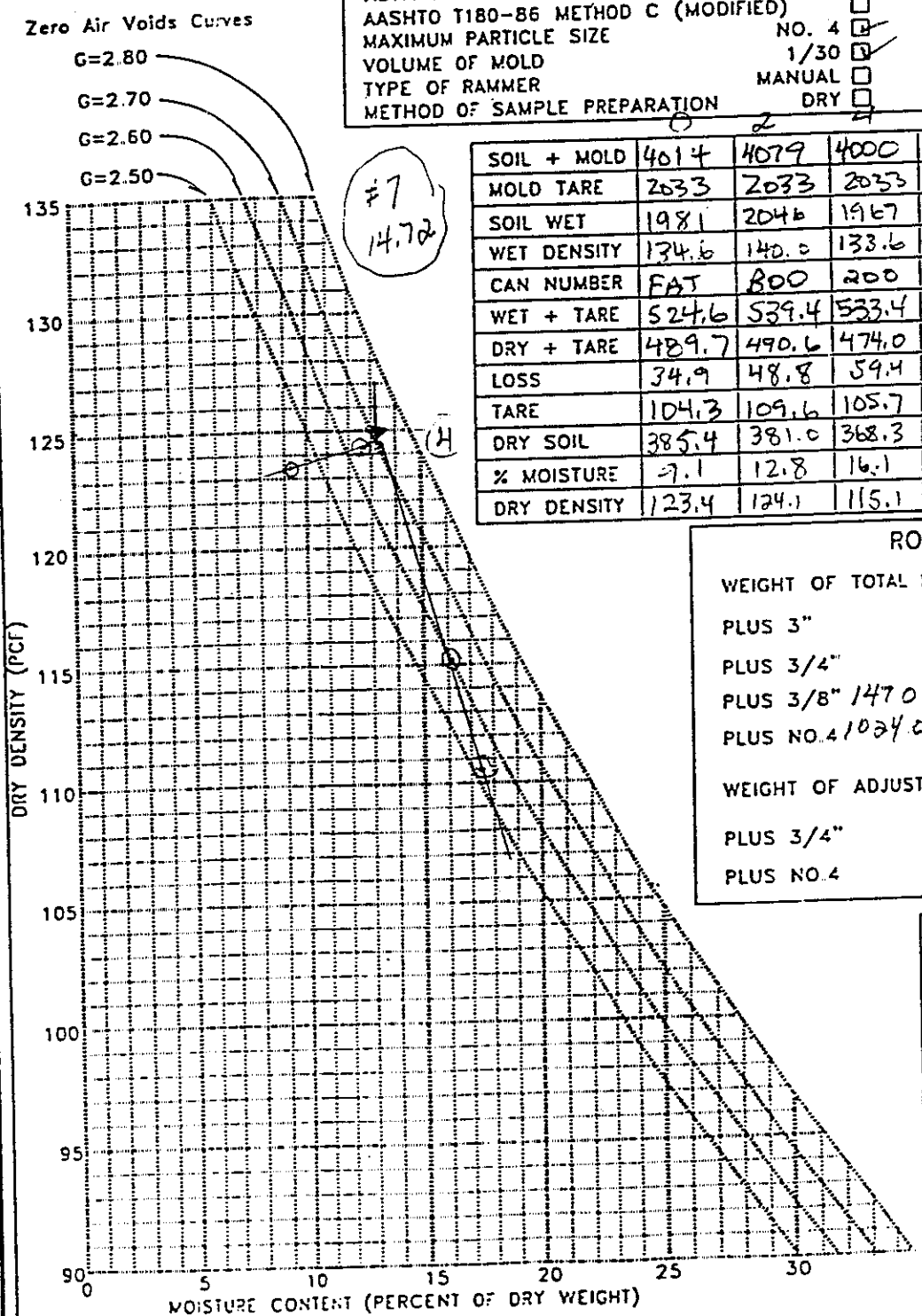
DATE 8-3-00 SAMPLE LOCATION #4 DEPTH BULK TECHNICIAN RWH

SOIL DESCRIPTION Yellow Silty Sand w/ gravel

SAMPLE SOURCE F15 mix w/ Balboa Hospital (Location 0002-8006) (From Stockpile)

TEST METHOD

ASTM DESIGNATION	D1557-91 ☑	D698-91 ☐	METHOD 'A'
AASHTO T180-86 METHOD C (MODIFIED)	☐	OVERSIZE CORRECTION	☐
MAXIMUM PARTICLE SIZE	NO. 4 ☑	3/8" ☐	3/4" ☐
VOLUME OF MOLD	1/30 ☑	1/13.33 ☐	
TYPE OF RAMMER	MANUAL ☐	MECHANICAL ☑	
METHOD OF SAMPLE PREPARATION	DRY ☐	MOIST ☑	



	0	2	4	6			AS
SOIL + MOLD	4014	4079	4000	3941			REC'D
MOLD TARE	2033	2033	2033	2033			MOIST
SOIL WET	1981	2046	1967	1908			CONTENT
WET DENSITY	134.6	140.0	133.6	129.6			
CAN NUMBER	FAT	B00	200	Joel			
WET + TARE	524.6	539.4	533.4	553.0			
DRY + TARE	489.7	490.6	474.0	487.3			
LOSS	34.9	48.8	59.4	65.7			
TARE	104.3	109.6	105.7	107.9			
DRY SOIL	385.4	381.0	368.3	379.4			
% MOISTURE	9.1	12.8	16.1	17.3			
DRY DENSITY	123.4	124.1	115.1	110.5			

ROCK CONTENT

WEIGHT OF TOTAL SAMPLE 29,974.1

PLUS 3"	WT.		%	
PLUS 3/4"	WT		%	
PLUS 3/8" 147.0	WT.	147.0	%	
PLUS NO.4 1024.0	WT.	1171.0	%	3.9

WEIGHT OF ADJUSTED SAMPLE

PLUS 3/4"	WT.		%	
PLUS NO.4	WT		%	

TEST RESULTS

MAXIMUM DENSITY 124.5

OPTIMUM MOISTURE 13.3

OVERSIZE CORRECTION

MAXIMUM DENSITY

OPTIMUM MOISTURE

Ninyo & Moore

MAXIMUM DENSITY TEST DATA

PROJECT NO. 104108-02

PROJECT NAME Foster Wheeler/Mole pier 2

DATE 8-6-00 SAMPLE LOCATION #6 DEPTH BULK TECHNICIAN Ruth

SOIL DESCRIPTION Yellow fine grade silty sand w/gravel

SAMPLE SOURCE F15 mix w/Balboa Hospital (LOC-0002-8008) IN-SITU on 5'

TEST METHOD

ASTM DESIGNATION D1557-91 ☑ D698-91 ☐ METHOD 'C'

AASHTO T180-86 METHOD C (MODIFIED) ☐ OVERSIZE CORRECTION ☐

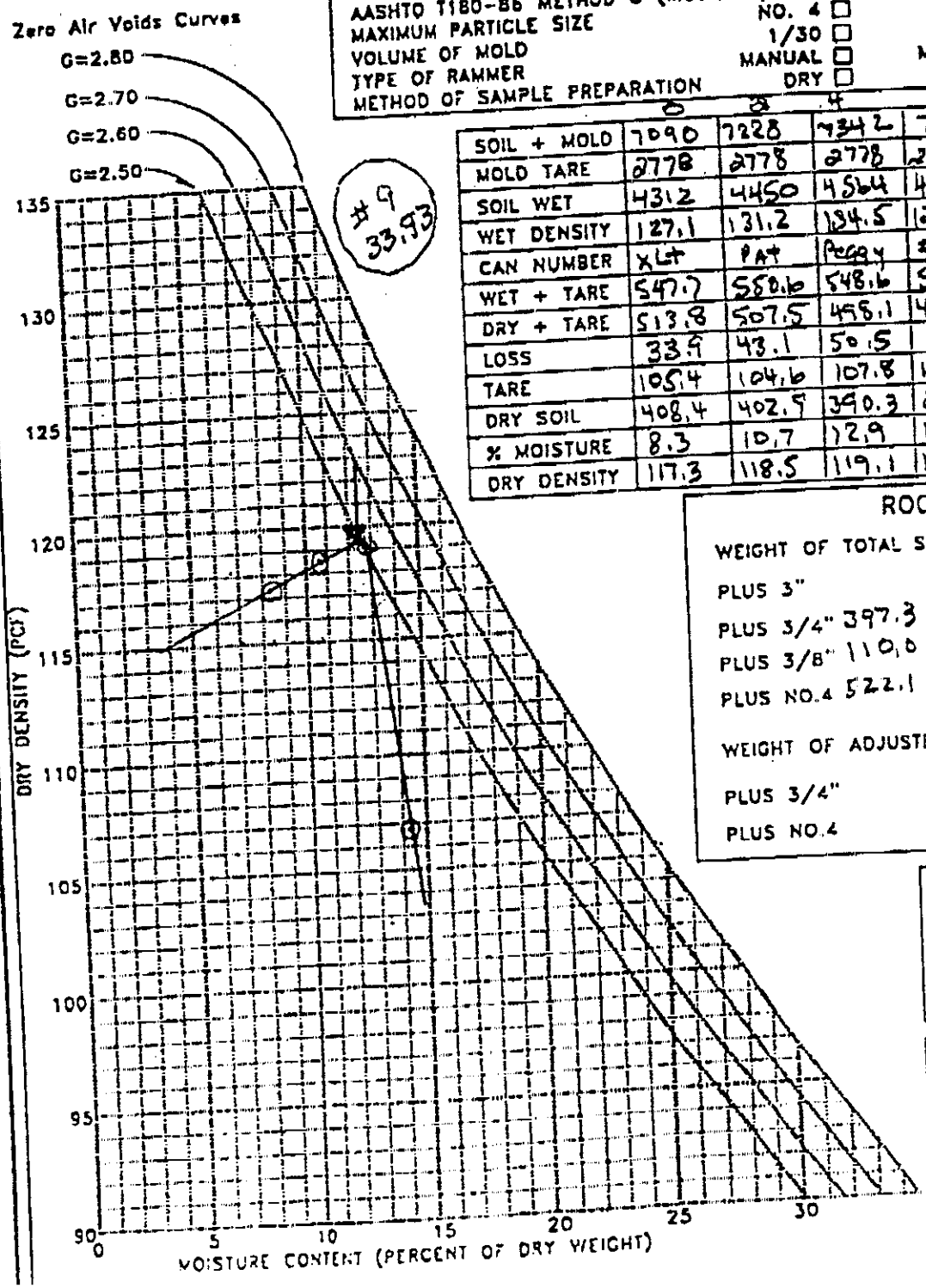
MAXIMUM PARTICLE SIZE NO. 4 ☐ 3/8" ☐ 3/4" ☑

VOLUME OF MOLD 1/30 ☐ 1/13.33 ☑

TYPE OF RAMMER MANUAL ☐ MECHANICAL ☑

METHOD OF SAMPLE PREPARATION DRY ☐ MOIST ☑

	1	2	3	4			AS REC'D MOIST CONTENT
SOIL + MOLD	7090	7228	7342	7282			
MOLD TARE	2778	2778	2778	2778			
SOIL WET	4312	4450	4564	4504			
WET DENSITY	127.1	131.2	134.5	132.7			
CAN NUMBER	XLT	PAT	Peggy	#69			
WET + TARE	547.7	550.6	548.6	549.5			
DRY + TARE	513.8	507.5	498.1	494.1			
LOSS	33.9	43.1	50.5	55.4			
TARE	105.4	104.6	107.8	106.1			
DRY SOIL	408.4	402.9	390.3	388.0			
% MOISTURE	8.3	10.7	12.9	14.3			
DRY DENSITY	117.3	118.5	119.1	106.8			



ROCK CONTENT

WEIGHT OF TOTAL SAMPLE 3798.0

PLUS 3"		WT.	%
PLUS 3/4" 397.3		WT 397.3	% 1.2
PLUS 3/8" 110.0		WT. 507.3	% 1.5
PLUS NO.4 522.1		WT. 1029.4	% 3.1

WEIGHT OF ADJUSTED SAMPLE

PLUS 3/4"	WT.	%
PLUS NO.4	WT	%

TEST RESULTS

MAXIMUM DENSITY 119.3

OPTIMUM MOISTURE 12.5

OVERSIZE CORRECTION

MAXIMUM DENSITY

OPTIMUM MOISTURE

Ninyo & Moore

MAXIMUM DENSITY TEST DATA

PROJECT NAME Foster/Mole Pier 2 PROJECT NO. 104108-02

DATE 8-15-00 SAMPLE LOCATION #8 DEPTH Bulk TECHNICIAN (illegible)

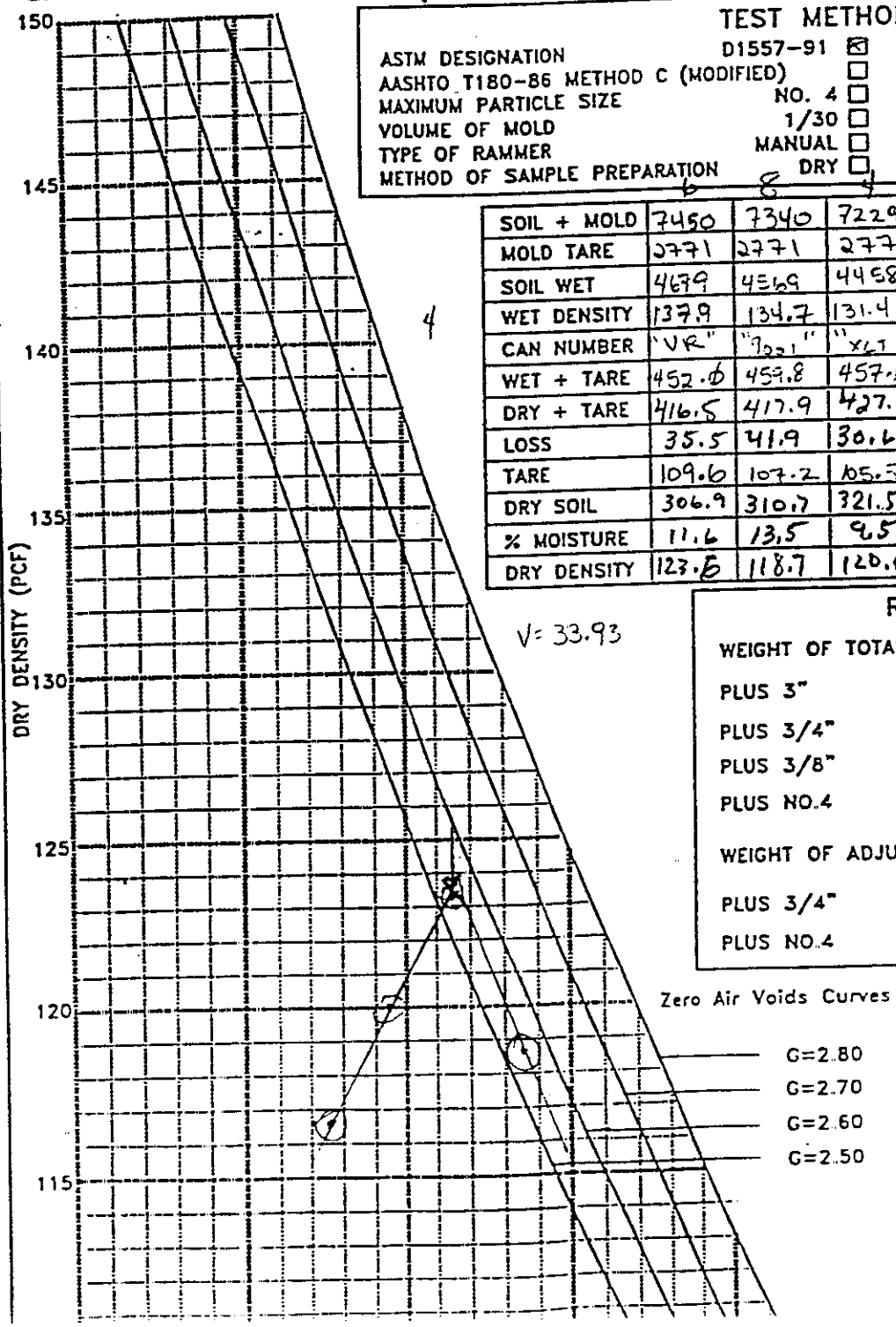
SOIL DESCRIPTION light olive-Brown Sand with gravel

SAMPLE SOURCE : Stockpile

TEST METHOD

ASTM DESIGNATION	D1557-91 ☒	D698-91 ☐	METHOD C
AASHTO T180-86 METHOD C (MODIFIED)	☐	OVERSIZE CORRECTION	☐
MAXIMUM PARTICLE SIZE	NO. 4 ☐	3/8" ☐	3/4" ☒
VOLUME OF MOLD	1/30 ☐	1/13.33 ☒	
TYPE OF RAMMER	MANUAL ☐	MECHANICAL ☒	
METHOD OF SAMPLE PREPARATION	DRY ☐	MOIST ☒	

	6	8	4	2			AS REC'D MOIST CONTENT
SOIL + MOLD	7450	7340	7229	7033			
MOLD TARE	2771	2771	2771	2771			
SOIL WET	4679	4569	4458	4262			
WET DENSITY	137.9	134.7	131.4	125.6			
CAN NUMBER	"VR"	"9221"	"X6T"	"9000"			
WET + TARE	452.6	459.8	457.6	454.4			
DRY + TARE	416.5	417.9	427.0	430.0			
LOSS	35.5	41.9	30.6	24.4			
TARE	109.6	107.2	105.5	107.9			
DRY SOIL	306.9	310.7	321.5	322.1			
% MOISTURE	11.6	13.5	9.5	7.6			
DRY DENSITY	123.6	118.7	120.0	116.7			



ROCK CONTENT

WEIGHT OF TOTAL SAMPLE 32,000

PLUS 3"	WT.	%
PLUS 3/4"	WT	%
PLUS 3/8"	WT.	%
PLUS NO.4	WT.	%

WEIGHT OF ADJUSTED SAMPLE

PLUS 3/4"	WT.	%
PLUS NO.4	WT	%

TEST RESULTS

MAXIMUM DENSITY 123.6

OPTIMUM MOISTURE 11.5

OVERSIZE CORRECTION

MAXIMUM DENSITY

OPTIMUM MOISTURE

70.18

Ninyo & Moore

MAXIMUM DENSITY TEST DATA

PROJECT NAME Fisher/Mole Pier 2 PROJECT NO. 104108-02

DATE 8-16-00 SAMPLE LOCATION #9 DEPTH Bulk TECHNICIAN LR/RWH

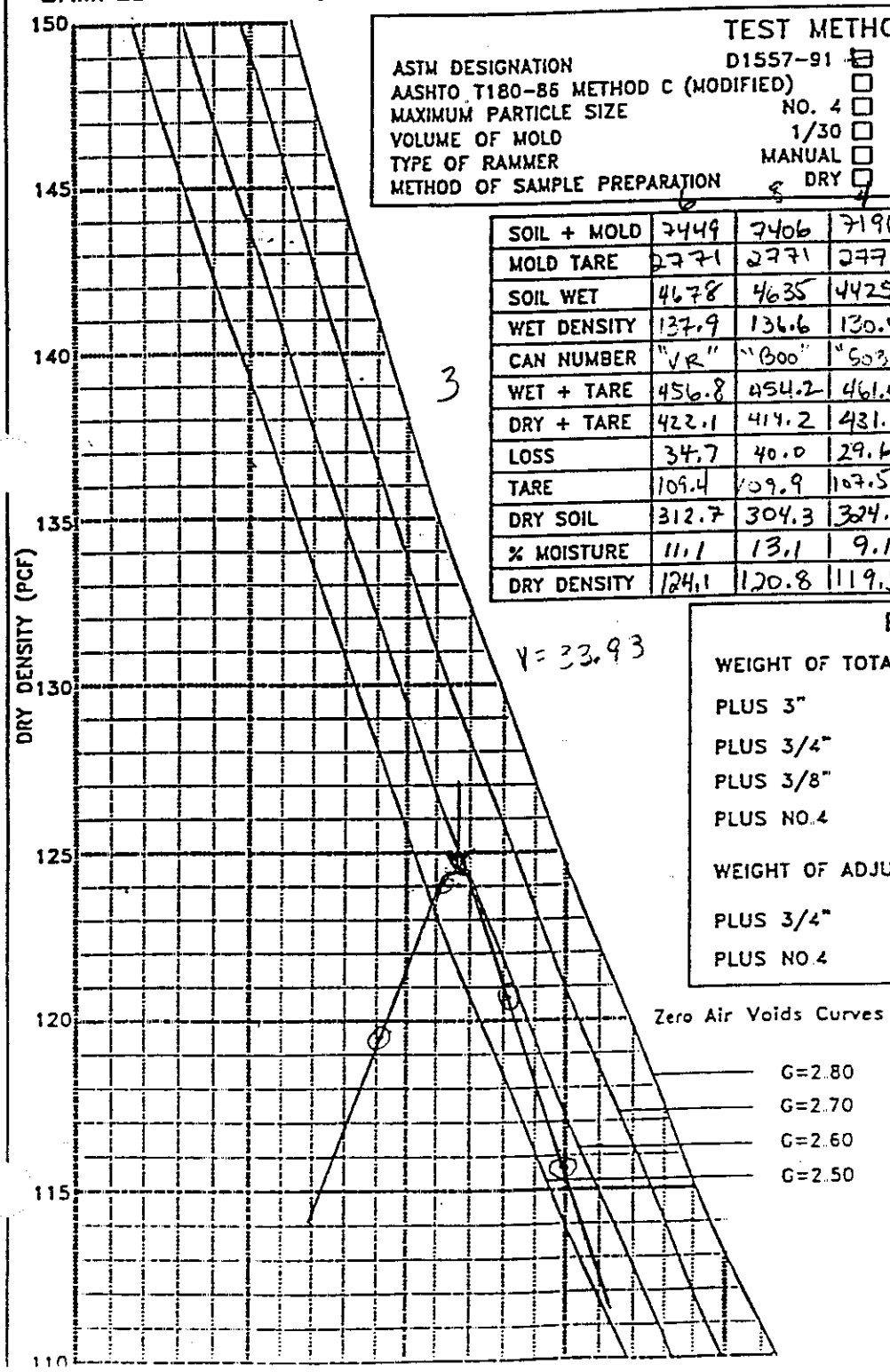
SOIL DESCRIPTION light Olive-Brown fine to medium grained silty Sand w/ gravel

SAMPLE SOURCE Stockpile (0002-8011)

TEST METHOD

ASTM DESIGNATION	D1557-91 ☒	D698-91 ☐	METHOD "C"
AASHTO T180-86 METHOD C (MODIFIED)	☐		OVERSIZE CORRECTION ☐
MAXIMUM PARTICLE SIZE	NO. 4 ☐	3/8" ☐	3/4" ☒
VOLUME OF MOLD	1/30 ☐	1/13.33 ☒	
TYPE OF RAMMER	MANUAL ☐	MECHANICAL ☒	
METHOD OF SAMPLE PREPARATION	DRY ☐	MOIST ☒	

	6	8	9	10			AS
SOIL + MOLD	7449	7406	7196	7283			REC'D
MOLD TARE	2771	2771	2771	2771			MOIST
SOIL WET	4678	4635	4425	4512			CONTENT
WET DENSITY	137.9	136.6	130.4	133.0			
CAN NUMBER	"VR"	"B00"	"503"	"9000"			
WET + TARE	456.8	454.2	461.4	483.3			
DRY + TARE	422.1	414.2	431.8	434.5			
LOSS	34.7	40.0	29.6	48.8			
TARE	109.4	109.9	107.5	108.1			
DRY SOIL	312.7	304.3	324.3	326.4			
% MOISTURE	11.1	13.1	9.1	15.0			
DRY DENSITY	124.1	120.8	119.5	115.6			



ROCK CONTENT

WEIGHT OF TOTAL SAMPLE 33,379

PLUS 3" WT. ____ % ____

PLUS 3/4" WT ____ % ____

PLUS 3/8" ~~WT. ____ % ____~~

PLUS NO.4 WT. ____ % ____

WEIGHT OF ADJUSTED SAMPLE ____

PLUS 3/4" WT. ____ % ____

PLUS NO.4 WT ____ % ____

TEST RESULTS

MAXIMUM DENSITY 124.4

OPTIMUM MOISTURE 11.7

OVERSIZE CORRECTION

MAXIMUM DENSITY ____

OPTIMUM MOISTURE ____

Ninyo & Moore

MAXIMUM DENSITY TEST DATA

PROJECT NAME Foster/Mole Pier 2 PROJECT NO. 104108-02

DATE 8-16-00 SAMPLE LOCATION #10 DEPTH Bulk TECHNICIAN (EA)/RWH

SOIL DESCRIPTION Yellow Brown Silty Sand

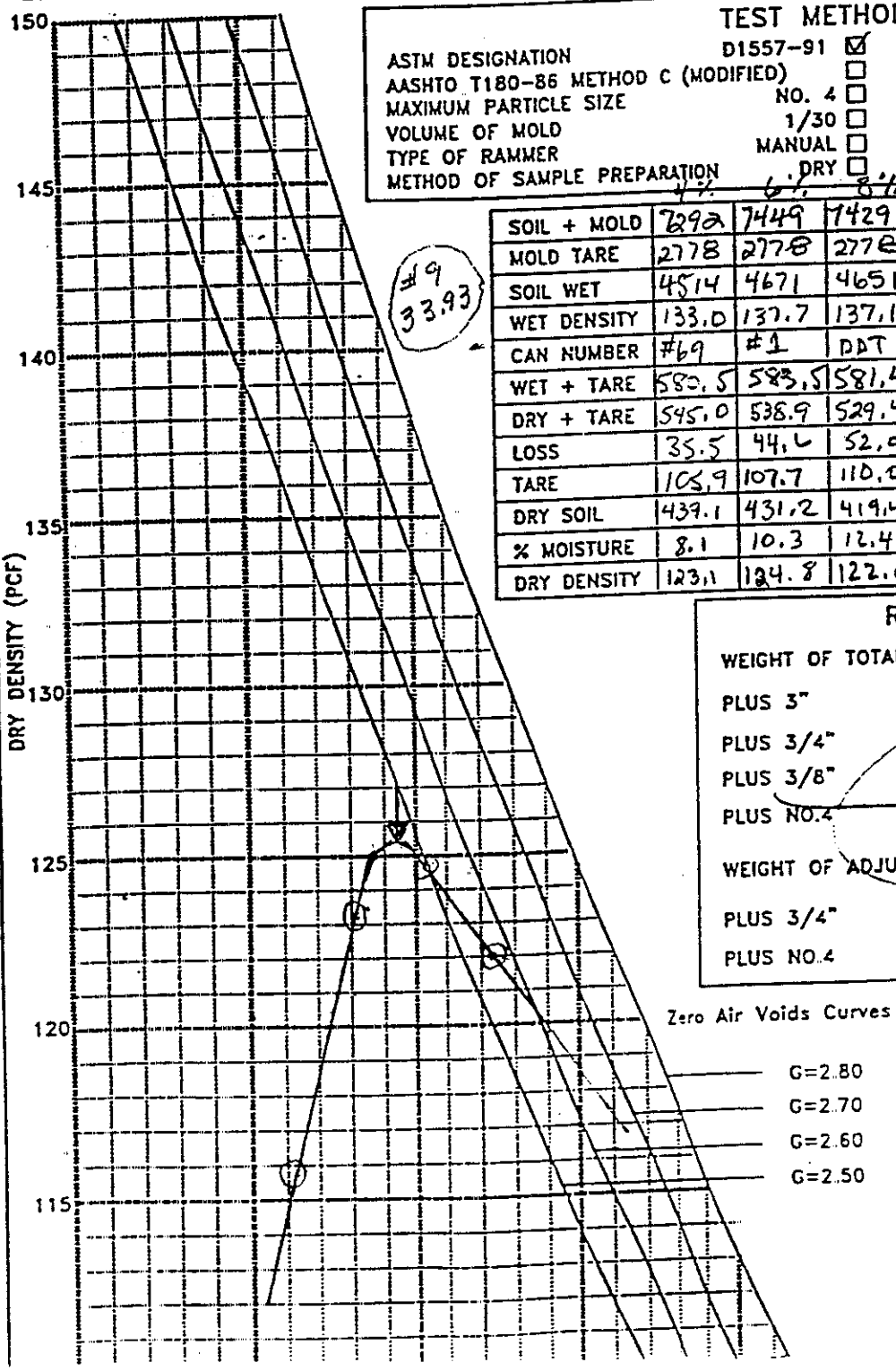
SAMPLE SOURCE Stockpile (0002-8012)

TEST METHOD

ASTM DESIGNATION	D1557-91 ☑	D698-91 ☐	METHOD C
AASHTO T180-86 METHOD C (MODIFIED)	☐		OVERSIZE CORRECTION ☐
MAXIMUM PARTICLE SIZE	NO. 4 ☐		3/8" ☐ 3/4" ☑
VOLUME OF MOLD	1/30 ☐		1/13.33 ☑
TYPE OF RAMMER	MANUAL ☐		MECHANICAL ☑
METHOD OF SAMPLE PREPARATION	DRY ☐		MOIST ☑

	4%	6%	8%	2%			AS REC'D MOIST CONTENT
SOIL + MOLD	7292	7449	7429	6953			
MOLD TARE	2778	2778	2778	2778			
SOIL WET	4514	4671	4651	4175			
WET DENSITY	133.0	137.7	137.1	123.0			
CAN NUMBER	#69	#1	DDT	222			
WET + TARE	580.5	583.5	581.4	582.8			
DRY + TARE	545.0	538.9	529.4	554.7			
LOSS	35.5	44.6	52.0	28.1			
TARE	105.9	107.7	110.0	107.4			
DRY SOIL	439.1	431.2	419.4	447.3			
% MOISTURE	8.1	10.3	12.4	6.3			
DRY DENSITY	123.1	124.8	122.0	115.8			

#9 33.93



ROCK CONTENT

WEIGHT OF TOTAL SAMPLE 26,953

PLUS 3" WT. ____ % ____

PLUS 3/4" WT ____ % ____

PLUS 3/8" WT. ____ % ____

PLUS NO.4 WT. ____ % ____

WEIGHT OF ADJUSTED SAMPLE ____

PLUS 3/4" WT. ____ % ____

PLUS NO.4 WT ____ % ____

TEST RESULTS

MAXIMUM DENSITY 125.3

OPTIMUM MOISTURE 9.4

OVERSIZE CORRECTION

MAXIMUM DENSITY ____

OPTIMUM MOISTURE ____

Ninyo & Moore

MAXIMUM DENSITY TEST DATA

PROJECT NAME Foster Wheeler / Mole Pier 2 PROJECT NO. 12-4108-02

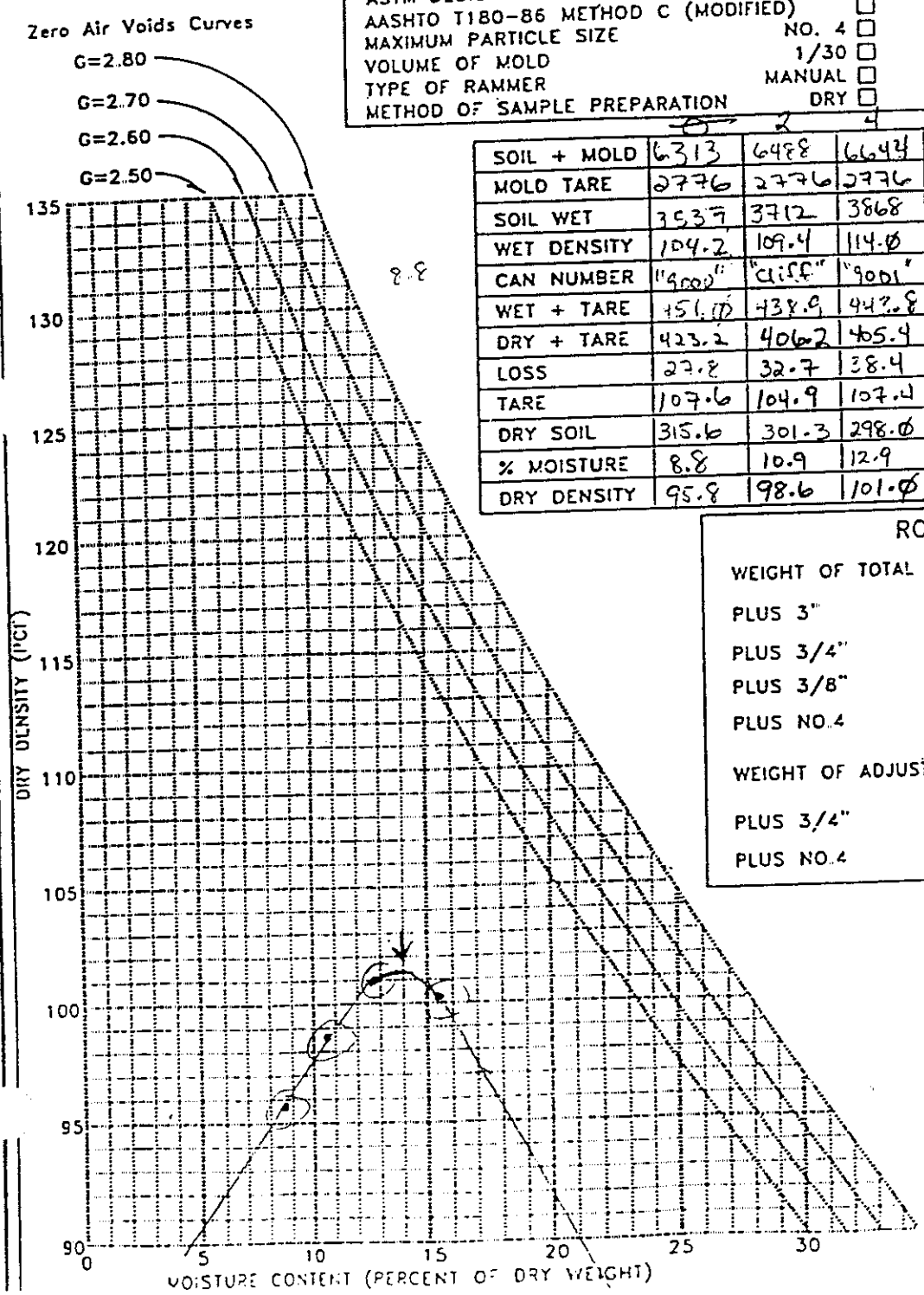
DATE _____ SAMPLE LOCATION #1 DEPTH _____ TECHNICIAN [illegible]

SOIL DESCRIPTION Olive-yellow silt with trace of Clay

SAMPLE SOURCE _____

TEST METHOD

ASTM DESIGNATION	D1557-91 ☐	D698-91 ☐	METHOD C
AASHTO T180-86 METHOD C (MODIFIED)	☐	OVERSIZE CORRECTION ☐	
MAXIMUM PARTICLE SIZE	NO. 4 ☐	3/8" ☐	3/4" ☐
VOLUME OF MOLD	1/30 ☐	1/13.33 ☐	
TYPE OF RAMMER	MANUAL ☐	MECHANICAL ☐	
METHOD OF SAMPLE PREPARATION	DRY ☐	MOIST ☐	



	0	2	4	6			AS
SOIL + MOLD	6313	6488	6644	6695			REC'D
MOLD TARE	2776	2776	2776	2776			MOIST
SOIL WET	3537	3712	3868	3919			CONTENT
WET DENSITY	104.2	109.4	114.0	115.5			"222"
CAN NUMBER	"9000"	"cliff"	"9001"	"303"			462.6
WET + TARE	451.0	438.9	443.8	435.1			433.9
DRY + TARE	423.2	406.2	405.4	391.5			28.7
LOSS	27.8	32.7	38.4	43.6			107.3
TARE	107.6	104.9	107.4	107.1			326.6
DRY SOIL	315.6	301.3	298.0	284.4			8.8
% MOISTURE	8.8	10.9	12.9	15.3			
DRY DENSITY	95.8	98.6	101.0	100.2			

ROCK CONTENT

WEIGHT OF TOTAL SAMPLE _____

PLUS 3" WT. _____ % _____

PLUS 3/4" WT _____ % _____

PLUS 3/8" WT. _____ % _____

PLUS NO.4 WT. _____ % _____

WEIGHT OF ADJUSTED SAMPLE _____

PLUS 3/4" WT. _____ % _____

PLUS NO.4 WT _____ % _____

TEST RESULTS

MAXIMUM DENSITY 101.2

OPTIMUM MOISTURE 14.0

OVERSIZE CORRECTION

MAXIMUM DENSITY _____

OPTIMUM MOISTURE _____

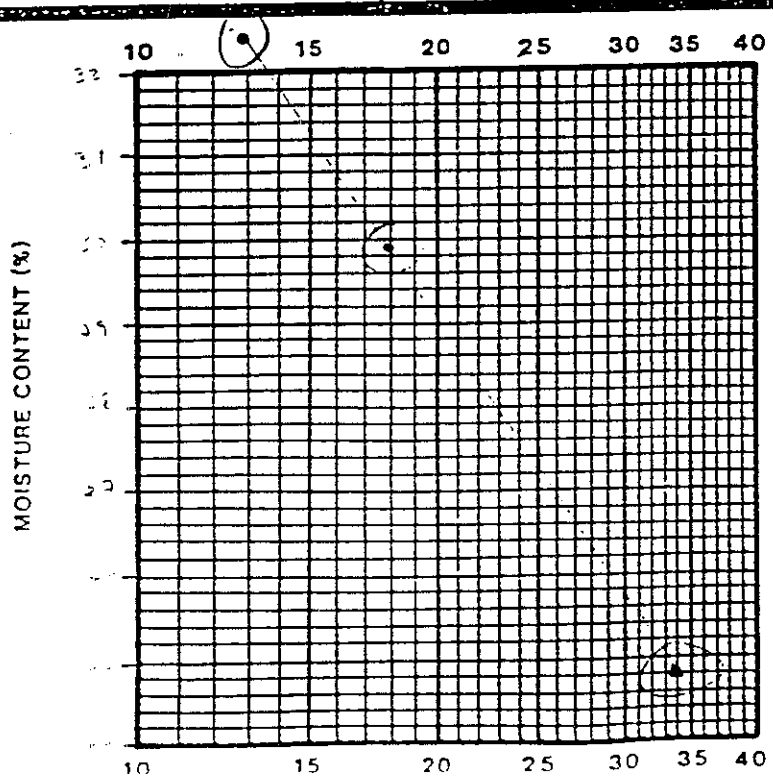
Ninyo & Moore

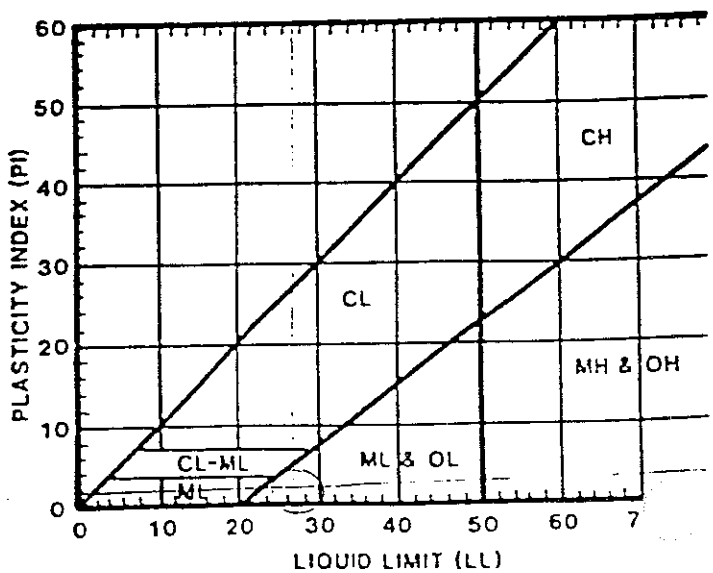
ATTERBERG LIMITS TEST DATA

PROJECT NAME Foster Wheeler / Mdc Pier 2 PROJECT NUMBER 104128-02

SAMPLE LOCATION #1	DEPTH		TECHNICIAN (10)		DATE	
SYMBOL ⊕	LIQUID LIMIT			PLASTIC LIMIT		SUMMARY
CAN NO.	"4"	"2002"	"11"	"5"	"103"	
WEIGHT OF WET SOIL + TARE	27.56	27.28	N/P			LL =
WEIGHT OF DRY SOIL + TARE						PL =
WEIGHT OF WATER						
TARE	10.92	10.95	10.95	10.95	10.94	PI =
WEIGHT OF DRY SOIL						
WATER CONTENT (%)			Couldn't Roll a			UNIFIED SOIL CLASSIFICATIO
NO. OF BLOWS	16	28	dry point	—	—	

SAMPLE LOCATION #2	DEPTH		TECHNICIAN (KA)		DATE	
SYMBOL ⊕	LIQUID LIMIT			PLASTIC LIMIT		SUMMARY
CAN NO.	"15"	"41"	"13"	"100"	"18"	
WEIGHT OF WET SOIL + TARE	28.49	27.76	28.80	14.36	13.90	LL = 27
WEIGHT OF DRY SOIL + TARE	25.06	23.88	24.42	13.66	13.31	PL = 25
WEIGHT OF WATER	3.49	3.88	4.38	0.7	0.59	
TARE	10.92	10.89	10.92	10.90	10.84	PI = 2
WEIGHT OF DRY SOIL	14.08	12.99	13.50	2.76	2.47	
WATER CONTENT (%)	24.8	29.9	32.4	25.4	23.9	UNIFIED SOIL CLASSIFICATIO
NO. OF BLOWS	34	18	13	—	—	ML





CONSTRUCTION TESTING & ENGINEERING, INC.

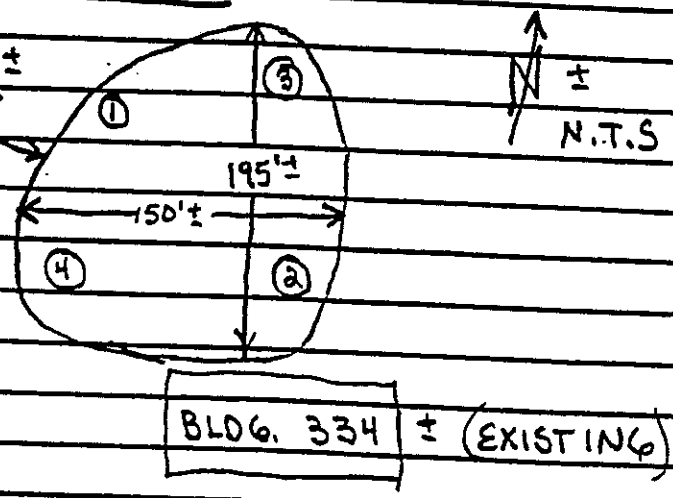
GRADING OBSERVATION

PAGE 1 OF 1

Job Name: CONTAMINATION SITE	Job Number: 30-0378
Job Address: MOLE ROAD NATIONAL CITY	Date(s): 1-8-01
Plan File: / Permit #	Tech: Brad
Gen.Contractor: NAVY PUBLIC WORKS DEPT.	Contr.Wkg: NAVY PUB. WORKS
Superintendent: GARRY HALL	Foreman: GARRY
Weather Condition: CLOUDY - COOL - DRIZZLE	

Summary of Work: COMPACTION TESTING PROVIDED AS NOTED AND SHOWN BELOW. COMPACTION TESTS COMPLY WITH THE PROJECT REQUIREMENTS.

"ROUGH FIELD SKETCH"



* PLEASE NOTE CORRECTED ELEVATIONS! *

TEST SUMMARY

Test No.	Location	Elev. Feet	Density PCF	Moist. Content % Dry Weight	Maximum Density	Relative Compact.
1	PROPOSED FUTURE	2' ±	116.7	12.0	119.5@11.5	97.7 %
2	PARKING LOT		116.2	11.6		97.2
3		4' ±	114.6	12.7		95.9
4			115.9	12.2		97.0

FILE/FORMS/GRADING.FRM REVISED 7-21-94

c. GARRY HALL @ SITE

B

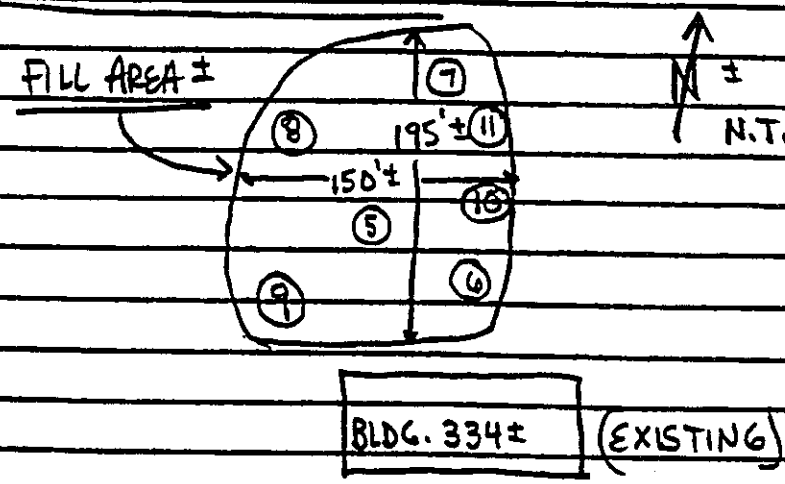
CONSTRUCTION TESTING & ENGINEERING, INC.

GRADING OBSERVATION

Job Name: CONTAMINATION SITE	Job Number: 30-0378
Job Address: MOLE RD. NATIONAL CITY	Date(s): 1-9-01
Plan File: | Permit #	Tech: Brad
Gen.Contractor: NAVY PUBLIC WORKS DEPT.	Contr.Wkg: NAVY PUB. WORKS
Superintendent: GARRY HALL	Foreman: GARRY
Weather Condition: P/C- MILD	

Summary of Work: COMPACTION TESTING PROVIDED AS NOTED AND SHOWN BELOW. COMPACTION TESTS COMPLY WITH THE PROJECT REQUIREMENTS.

"ROUGH FIELD SKETCH"



* PLEASE NOTE CORRECTED ELEVATIONS! *

TEST SUMMARY

Test No.	Location	Elev. Feet	Density PCF	Moist. Content % Dry Weight	Maximum Density	Relative Compact.
5.	PROPOSED FUTURE	5' ±	115.8	11.3	119.5 @ 11.5	96.9 %
6.	PARKING LOT	6' ±	115.3	11.5		96.5
7.		6' ±	113.2	13.3		94.7
8.		7' ±	113.9	12.4		95.3
9.		7' ±	114.8	11.6		96.1
10.		8' ±	114.1	11.9		95.5
11.		8' ±	114.5	11.5		95.8

cc: FILE/FORMS/GRADING.FRM REVISED 7-21-94

c.c. GARRY HALL @ SITE

B

CONSTRUCTION TESTING & ENGINEERING, INC.

GRADING OBSERVATION

Job Name: CONTAMINATION SITE	Job Number: 30-0378
Job Address: MOLE RD. NATIONAL CITY	Date(s): 1-10-01
Plan File: / Permit #	Tech: Brad
Gen. Contractor: NAVY PUBLIC WORKS DEPT.	Contr. Wkg: NAVY PUB. WORKS
Superintendent: GARRY HALL	Foreman: GARRY
Weather Condition: M/S- MILD	

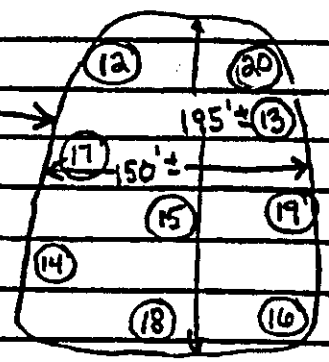
Summary of Work: COMPACTION TESTING PROVIDED AS NOTED AND SHOWN BELOW. COMPACTION TESTS COMPLY WITH THE PROJECT REQUIREMENTS.

"ROUGH FIELD SKETCH"

N.T.S.

FILL AREA ±

* PLEASE NOTE CORRECTED ELEVATIONS! *



BLDG. 334 ± (EXISTING)

- - MOLE RD. ± - -

TEST SUMMARY

Test No.	Location	Elev. Feet	Density PCF	Moist. Content & Dry Weight	Maximum Density	Relative Compact.
12'	PROPOSED FUTURE	7'±	113.9	11.7	119.5 @ 11.5	95.3 %
13'	PARKING LOT	9'±	114.2	11.3		95.6
14'		7'±	116.6	11.5		97.6
15'		7.5'±	115.3	11.0		96.5
16'		8'±	115.8	11.6		96.9
17'		8'±	114.4	12.1		95.7
18'		8.5'±	116.3	11.4		97.3
19'		9.5'±	116.0	11.8		97.1
20'		10'±	114.7	12.2		96.0

CC: FILE/FORMS/GRADING.FRM REVISED 7-21-94

c.c. GARRY HALL @ SITE

B

CONSTRUCTION TESTING & ENGINEERING, INC.

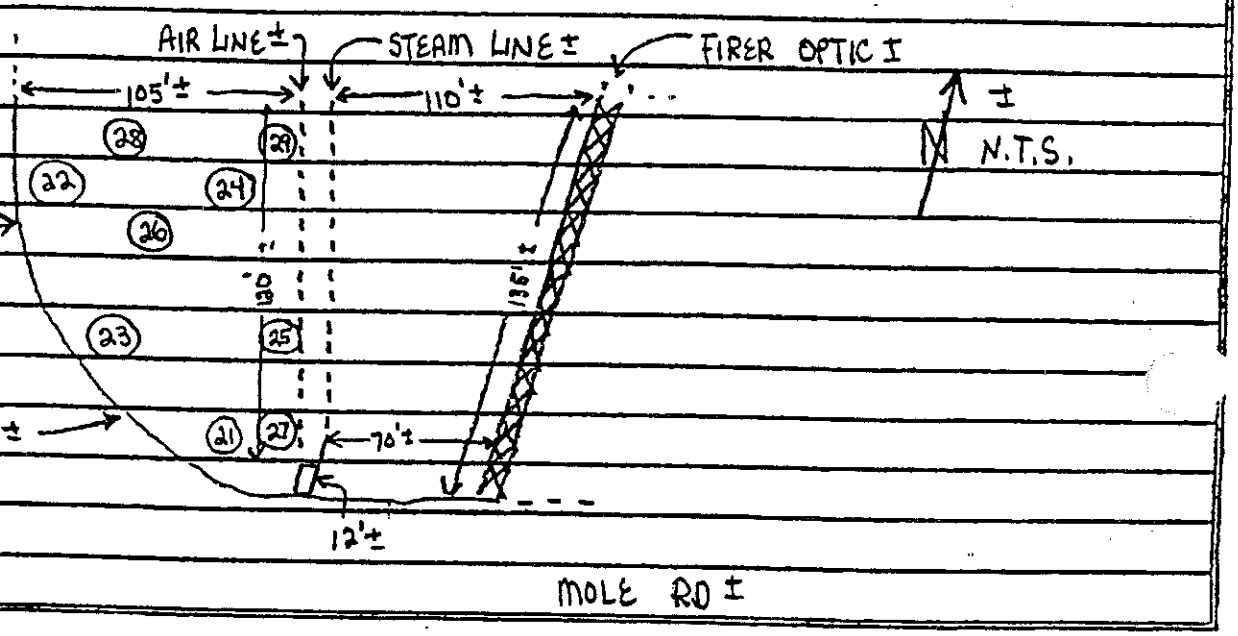
GRADING OBSERVATION

PAGE 1 OF 1

Job Name: CONTAMINATION SITE	Job Number: 30-0378
Job Address: MOLE RD. NATIONAL CITY	Date(s): 1-19-01
Plan File: / Permit #	Tech: Brad
Gen. Contractor: NAVY PUBLIC WORKS DEPT.	Contr. Wkg: NAVY PUB. WORKS
Superintendent: GARRY HALL	Foreman: GARRY
Weather Condition: M/S- COOL	

Summary of Work: COMPACTION TESTING PROVIDED AS NOTED & SHOWN BELOW. COMPACTION TESTS COMPLY WITH THE PROJECT REQUIREMENTS.

"ROUGH FIELD SKETCH"



TEST SUMMARY

Test No.	Location	Elev. Feet	Density PCF	Moist. Content % Dry Weight	Maximum Density	Relative Compact.
21'	PROPOSED FUTURE	9' ±	114.5	11.3	119.5 @ 11.5	95.8 %
22'	PARKING LOT	10' ±	113.6	12.0		95.1
23'		10' ±	115.0	11.6		96.2
24'		11' ±	115.4	11.0		96.6
25'		11 ±	114.7	12.3		96.0
26'		12' ±	116.0	11.7		97.1
27'		12' ±	113.0	12.1		94.6
28'		13' ±	115.4	11.5		96.6
29'		13' ±	114.7	11.9		96.0

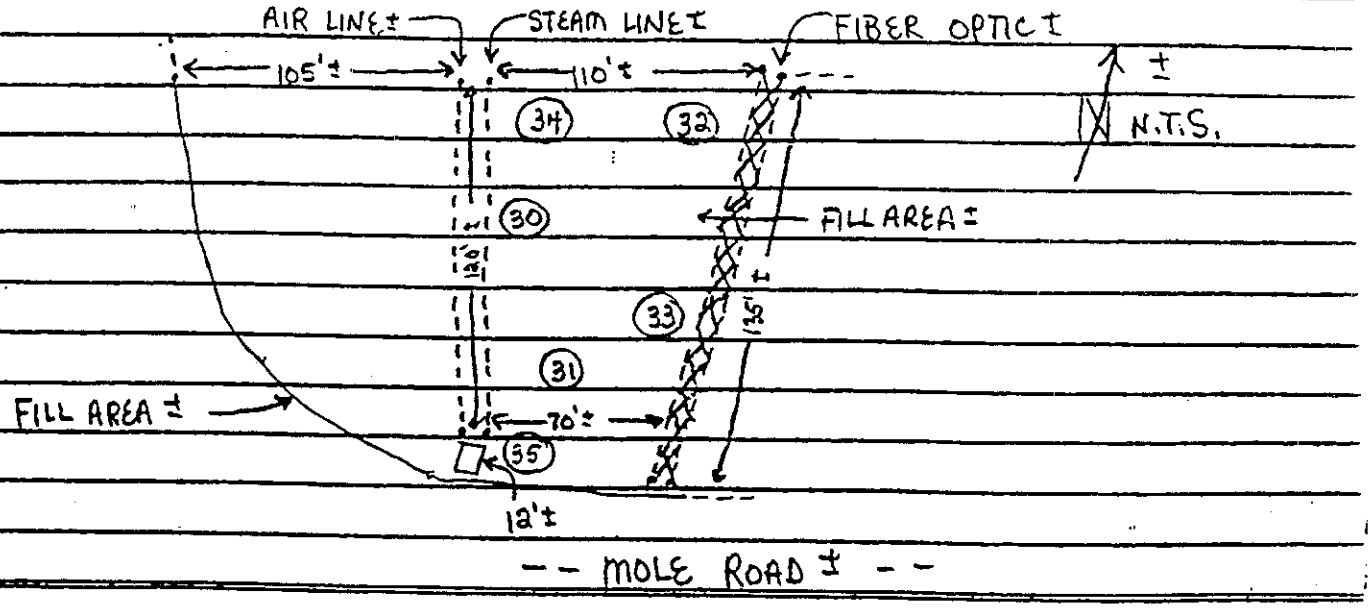
CONSTRUCTION TESTING & ENGINEERING, INC.

GRADING OBSERVATION

Job Name: CONTAMINATION SITE	Job Number: 30-0378
Job Address: MOLE RD. NATIONAL CITY	Date(s): 1-22-01
Plan File: | Permit #	Tech: Grad
Gen.Contractor: NAVY PUBLIC WORKS DEPT.	Contr.Wkg: NAVY PUB. WORKS
Superintendent: GARRY HALL	Foreman: GARRY
Weather Condition: P/C-MILD	

Summary of Work: COMPACTION TESTING PROVIDED AS NOTED & SHOWN BELOW. COMPACTION TESTS COMPLY WITH THE PROJECT REQUIREMENTS.

"ROUGH FIELD SKETCH"



TEST SUMMARY

Test No.	Location	Elev. Feet	Density PCF	Moist. Content % Dry Weight	Maximum Density	Relative Compact.
30'	PROPOSED FUTURE	9' ±	112.6	12.4	119.5 @ 11.5	94.2 %
31'	PARKING LOT	10' ±	114.2	11.8	-	95.6
32'		9' ±	113.7	12.0		95.1
33'		10' ±	115.6	11.3		96.7
34'		11' ±	115.0	11.7		96.2
35'		12' ±	116.0	11.5		97.1

CONSTRUCTION TESTING & ENGINEERING, INC.

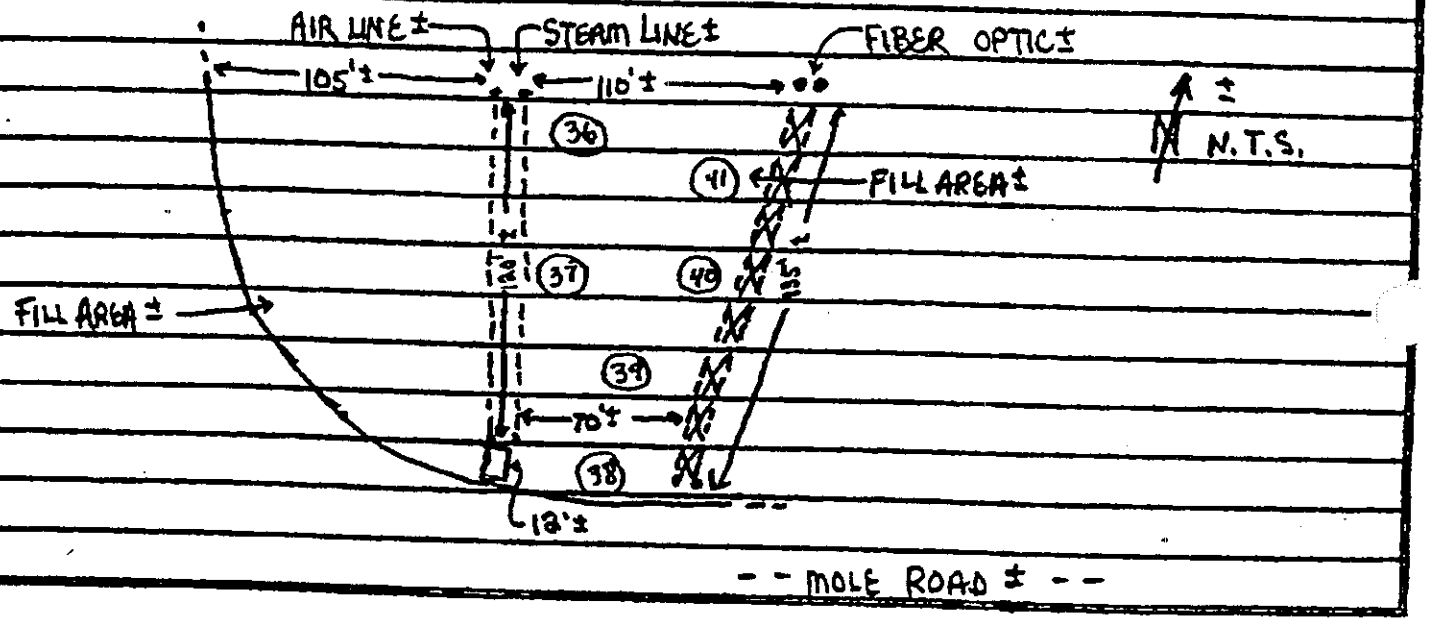
GRADING OBSERVATION

PAGE 1 OF 1

Job Name: CONTAMINATION SITE	Job Number: 30-0378
Job Address: MOLE ROAD NATIONAL CITY	Date(s): 1-23-01
Plan File: / Permit #	Tech: Brad
Gen.Contractor: NAVY PUBLIC WORKS DEPT.	Contr.Wkg: NAVY PUB. WORKS
Superintendent: GARRY HALL	Foreman: GARRY
Weather Condition:	

Summary of Work: COMPACTION TESTING PROVIDED AS NOTED & SHOWN BELOW. COMPACTION TESTS COMPLY WITH THE PROJECT REQUIREMENTS.

"ROUGH FIELD SKETCH"



TEST SUMMARY

Test No.	Location	Elev. Feet	Density PCF	Moist. Content % Dry Weight	Maximum Density	Relative Compact.
36'	PROPOSED FUTURE	12' ±	115.8	11.3	119.5 @ 11.5	96.9 %
37'	PARKING LOT	13' ±	113.6	12.4		95.1
38'		11' ±	115.3	11.6		96.5
39'		10' ±	114.4	11.9		95.7
40'		11' ±	113.9	12.2		95.3
41'		10' ±	115.1	11.5		96.3

CONSTRUCTION TESTING & ENGINEERING, INC.

GEOTECHNICAL AND CONSTRUCTION ENGINEERING TESTING AND INSPECTION

2414 VINEYARD AVENUE, STE G ESCONDIDO CA 92029 (760) 746-1955

* PLEASE NOTE CORRECTED ELEVATIONS *

SANDCONE CALCULATIONS

JOB NAME: CONTAMINATION SITE	JOB NUMBER: 30-0378
JOB ADDRESS: MOLE RD. NATIONAL CITY	DATE: 1-29-01
GEN. CONTRACTOR NAVY PUBLIC WORKS DEPT.	TECH: Brad

DENSITY TEST NO.: SC-1	DENSITY TEST NO.: SC-2
ELEVATION: 11.5' ± (N. OF EXISTING BLDG. 334)	ELEVATION: 10' ± (N. OF EXISTING BLDG. 334)
LOCATION: PROPOSED FUTURE PARKING LOT (ADJ. TO NUCLEAR TEST 19) ±	LOCATION: PROPOSE FUTURE PARKING LOT (ADJ. TO NUCLEAR TEST 17) ±

GROUND SURFACE CALIBRATION

A. CONTAINER NUMBER	1 (1/29/01)		CALIBRATED 1/29/01	
B. WT. INITIAL CONT + SAND	13.35	LBS		LBS
C. WT. AFTER CONT + SAND	10.10	LBS		LBS
D. WT. SAND (B-C) USE FOR K	3.25	LBS	3.25	LBS

DENSITY DETERMINATION

E. WET SAMPLE + CONTAINER	6.05	LBS	5.41	LBS
F. WT. CONTAINER	.63	LBS	.63	LBS
G. WT. WET SAMPLE (E-F)	5.42	LBS	4.78	LBS
H. SAND + CONTAINER START (FULL)	14.45	LBS	14.98	LBS
I. SAND + CONTAINER FINISH	7.62	LBS	8.59	LBS
J. SAND IN HOLE + CONE (H-I)	6.83	LBS	6.39	LBS
K. SAND IN LOWER CONE + PLATE (D)	3.25	LBS	3.25	LBS
L. SAND IN HOLE ONLY (J-K)	3.58	LBS	3.14	LBS
M. DENSITY OF SAND (LAB)	85.65	PCF	85.65	PCF
N. VOLUME OF HOLE (L / M)	.041798	CU FT	.0366608	CU FT
P. UNIT WET WT. SAMPLE (G / N)	129.7	PCF	130.4	PCF
R. UNIT DRY WT. SAMPLE (P / 1+Y)	115.4	PCF	114.8	PCF

MOISTURE CONTENT

S. CONTAINER NUMBER	1		1	
T. WT. MOIST SAMPLE ~~+ CONTAINER~~	200	GMS	200	GMS
U. WT. DRY SAMPLE ~~+ CONTAINER~~	178	GMS	176	GMS
V. WT. OF WATER (T-U)	22	GMS	24	GMS
~~W. WT. OF CONTAINER~~		GMS		GMS
~~X. WT. OF DRY SAMPLE (U-W)~~		GMS		GMS
Y. PERCENT MOISTURE (V / X)	12.4	%	13.6	%

DEGREE OF COMPACTION

1. MAXIMUM DENSITY	119.5	PCF	119.5	PCF
2. OPTIMUM MOISTURE	11.5	%	11.5	%
3. COMPACTION REQUIRED	90% +	%	90% +	%
4. DEGREE OF COMPACTION (R / 1)	96.6	%	96.1	%

C.C. GARRY @ SITE

B

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SANDCONE CALCULATIONS

JOB NAME: CONTAMINATION SITE	JOB NUMBER: 30-0378
JOB ADDRESS: MOLE RD. NATIONAL CITY	DATE: 1-29-01
GEN. CONTRACTOR NAVY PUBLIC WORKS DEPT.	TECH: Brad

DENSITY TEST NO.: SC-1

ELEVATION: 17.5' ± (N. OF EXISTING BLDG. 334)

LOCATION: PROPOSED FUTURE PARKING LOT (ADJ. TO NUCLEAR TEST 19) ±

GROUND SURFACE CALIBRATION

A. CONTAINER NUMBER	1 (1/29/01)	
B. WT. INITIAL CONT + SAND	13.35	LBS
C. WT. AFTER CONT + SAND	10.10	LBS
D. WT. SAND (B-C) USE FOR K	3.25	LBS

DENSITY DETERMINATION

E. WET SAMPLE + CONTAINER	6.05	LBS
F. WT. CONTAINER	.63	LBS
G. WT. WET SAMPLE (E-F)	5.42	LBS
H. SAND + CONTAINER START (FULL)	14.45	LBS
I. SAND + CONTAINER FINISH	7.62	LBS
J. SAND IN HOLE + CONE (H-I)	6.83	LBS
K. SAND IN LOWER CONE + PLATE (D)	3.25	LBS
L. SAND IN HOLE ONLY (J-K)	3.58	LBS
M. DENSITY OF SAND (LAB)	85.65	PCF
N. VOLUME OF HOLE (L / M)	.041798	CU FT
P. UNIT WET WT. SAMPLE (G / N)	129.7	PCF
R. UNIT DRY WT. SAMPLE (P / 1+Y)	115.4	PCF

MOISTURE CONTENT

S. CONTAINER NUMBER	1	
T. WT. MOIST SAMPLE + CONTAINER	200	GMS
U. WT. DRY SAMPLE + CONTAINER	178	GMS
V. WT. OF WATER (T-U)	22	GMS
~~W. WT. OF CONTAINER~~		GMS
~~X. WT. OF DRY SAMPLE (U-W)~~		GMS
Y. PERCENT MOISTURE (V / X)	12.4	%

DEGREE OF COMPACTION

1. MAXIMUM DENSITY	119.5	PCF
2. OPTIMUM MOISTURE	11.5	%
3. COMPACTION REQUIRED	90% +	%
4. DEGREE OF COMPACTION (R / 1)	96.6	%

DENSITY TEST NO.: SC-2

ELEVATION: 16' ± (N. OF EXISTING BLDG. 334)

LOCATION: PROPOSE FUTURE PARKING LOT (ADJ. TO NUCLEAR TEST 17) ±

GROUND SURFACE CALIBRATION

A. CONTAINER NUMBER	CALIBRATED 1/29/01	
B. WT. INITIAL CONT + SAND		LBS
C. WT. AFTER CONT + SAND		LBS
D. WT. SAND (B-C) USE FOR K	3.25	LBS

DENSITY DETERMINATION

E. WET SAMPLE + CONTAINER	5.41	LBS
F. WT. CONTAINER	.63	LBS
G. WT. WET SAMPLE (E-F)	4.78	LBS
H. SAND + CONTAINER START (FULL)	14.98	LBS
I. SAND + CONTAINER FINISH	8.59	LBS
J. SAND IN HOLE + CONE (H-I)	6.39	LBS
K. SAND IN LOWER CONE + PLATE (D)	3.25	LBS
L. SAND IN HOLE ONLY (J-K)	3.14	LBS
M. DENSITY OF SAND (LAB)	85.65	PCF
N. VOLUME OF HOLE (L / M)	.0366608	CU FT
P. UNIT WET WT. SAMPLE (G / N)	130.4	PCF
R. UNIT DRY WT. SAMPLE (P / 1+Y)	114.8	PCF

MOISTURE CONTENT

S. CONTAINER NUMBER	1	
T. WT. MOIST SAMPLE + CONTAINER	200	GMS
U. WT. DRY SAMPLE + CONTAINER	176	GMS
V. WT. OF WATER (T-U)	24	GMS
~~W. WT. OF CONTAINER~~		GMS
~~X. WT. OF DRY SAMPLE (U-W)~~		GMS
Y. PERCENT MOISTURE (V / X)	13.6	%

DEGREE OF COMPACTION

1. MAXIMUM DENSITY	119.5	PCF
2. OPTIMUM MOISTURE	11.5	%
3. COMPACTION REQUIRED	90% +	%
4. DEGREE OF COMPACTION (R / 1)	96.1	%

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SANDCONE CALCULATIONS

JOB NAME: CONTAMINATION SITE	JOB NUMBER: 30-0378
JOB ADDRESS: MOLE RD. NATIONAL CITY	DATE: 1-29-01
GEN. CONTRACTOR: PUBLIC NAVY WORKS DEPT.	TECH: Brad

DENSITY TEST NO.: SC-3

ELEVATION: 10' ± (W. OF EXISTING AIR LINE)

LOCATION: PROPOSED FUTURE PARKING LOT (ADJ. TO NUCLEAR TEST 23) ±

GROUND SURFACE CALIBRATION

A. CONTAINER NUMBER	CALIBRATED 1-29-01	
B. WT. INITIAL CONT + SAND		LBS
C. WT. AFTER CONT + SAND		LBS
D. WT. SAND (B-C) USE FOR K	3.25	LBS

DENSITY DETERMINATION

E. WET SAMPLE + CONTAINER	5.27	LBS
F. WT. CONTAINER	.63	LBS
G. WT. WET SAMPLE (E-F)	4.64	LBS
H. SAND + CONTAINER START (FULL)	14.52	LBS
I. SAND + CONTAINER FINISH	8.19	LBS
J. SAND IN HOLE + CONE (H-I)	6.33	LBS
K. SAND IN LOWER CONE + PLATE (D)	3.25	LBS
L. SAND IN HOLE ONLY (J-K)	3.08	LBS
M. DENSITY OF SAND (LAB)	85.65	PCF
N. VOLUME OF HOLE (L / M)	.0359603	CU FT
P. UNIT WET WT. SAMPLE (G / N)	129.0	PCF
R. UNIT DRY WT. SAMPLE (P / 1+Y)	114.2	PCF

MOISTURE CONTENT

S. CONTAINER NUMBER	1	
T. WT. MOIST SAMPLE ~~+ CONTAINER~~	200	GMS
U. WT. DRY SAMPLE ~~+ CONTAINER~~	177	GMS
V. WT. OF WATER (T-U)	23	GMS
~~W. WT. OF CONTAINER~~		GMS
~~X. WT. OF DRY SAMPLE (U-W)~~		GMS
Y. PERCENT MOISTURE (V / X)	13.0	%

DEGREE OF COMPACTION

1. MAXIMUM DENSITY	119.5	PCF
2. OPTIMUM MOISTURE	11.5	%
3. COMPACTION REQUIRED	90% +	%
4. DEGREE OF COMPACTION (R / 1)	95.6	%

DENSITY TEST NO.: SC-4

ELEVATION: 10' ± (E. OF EXISTING STEAM LINE)

LOCATION: PROPOSED FUTURE PARKING LOT (ADJ. TO NUCLEAR TEST 39) ±

GROUND SURFACE CALIBRATION

A. CONTAINER NUMBER	CALIBRATED 1-29-01	
B. WT. INITIAL CONT + SAND		LBS
C. WT. AFTER CONT + SAND		LBS
D. WT. SAND (B-C) USE FOR K	3.25	LBS

DENSITY DETERMINATION

E. WET SAMPLE + CONTAINER	5.59	LBS
F. WT. CONTAINER	.63	LBS
G. WT. WET SAMPLE (E-F)	4.96	LBS
H. SAND + CONTAINER START (FULL)	14.89	LBS
I. SAND + CONTAINER FINISH	8.32	LBS
J. SAND IN HOLE + CONE (H-I)	6.57	LBS
K. SAND IN LOWER CONE + PLATE (D)	3.25	LBS
L. SAND IN HOLE ONLY (J-K)	3.32	LBS
M. DENSITY OF SAND (LAB)	85.65	PCF
N. VOLUME OF HOLE (L / M)	.0387624	CU FT
P. UNIT WET WT. SAMPLE (G / N)	128.0	PCF
R. UNIT DRY WT. SAMPLE (P / 1+Y)	115.2	PCF

MOISTURE CONTENT

S. CONTAINER NUMBER	1	
T. WT. MOIST SAMPLE ~~+ CONTAINER~~	200	GMS
U. WT. DRY SAMPLE ~~+ CONTAINER~~	180	GMS
V. WT. OF WATER (T-U)	20	GMS
~~W. WT. OF CONTAINER~~		GMS
~~X. WT. OF DRY SAMPLE (U-W)~~		GMS
Y. PERCENT MOISTURE (V / X)	11.1	%

DEGREE OF COMPACTION

1. MAXIMUM DENSITY	119.5	PCF
2. OPTIMUM MOISTURE	11.5	%
3. COMPACTION REQUIRED	90% +	%
4. DEGREE OF COMPACTION (R / 1)	96.4	%

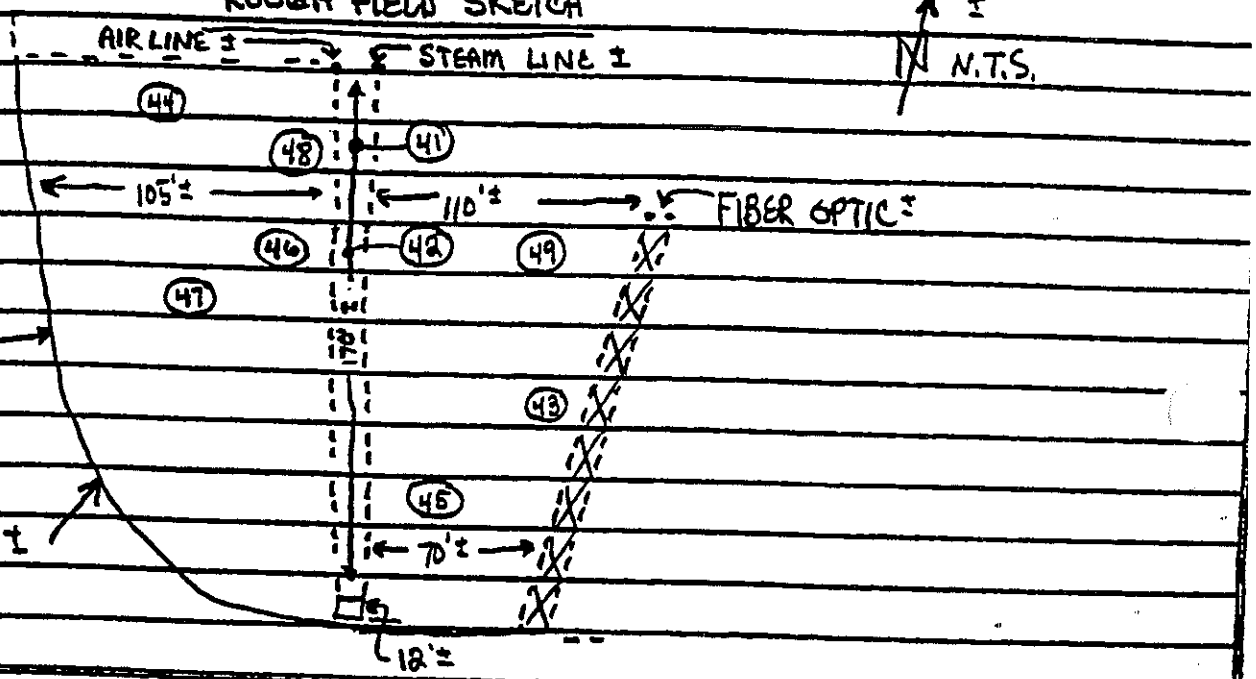
CONSTRUCTION TESTING & ENGINEERING, INC.

GRADING OBSERVATION

Job Name: CONTAMINATION SITE	Job Number: 30-0378
Job Address: MOLE ROAD NATIONAL CITY	Date(s): 2-7-01
Plan File: / Permit #	Tech: Brad
Gen. Contractor: NAVY PUBLIC WORKS DEPT.	Contr. Wkg: NAVY PUB. WORKS
Superintendent: GARRY HALL	Foreman: GARRY
Weather Condition: P/C- COLD	

Summary of Work: COMPACTION TESTING PROVIDED AS NOTED & SHOWN BELOW. COMPACTION TESTS COMPLY WITH THE PROJECT REQUIREMENTS.

"ROUGH FIELD SKETCH"



TEST SUMMARY - MOLE RD ± - -

Test No.	Location	Elev. Feet	Density PCF	Moist. Content % Dry Weight	Maximum Density		Relative Compact.
H1'	PROPOSED FUTURE	6'±	113.9	12.4	119.5	@11.5	95.3 %
42'	PARKING LOT	7'±	114.0	11.8			95.4
43'		5'±	116.1	11.3			97.2
44'		6'±	115.0	12.0			96.2
45'		6'±	116.5	11.0			97.5
46'		8'±	115.5	11.6			96.7
47'		9'±	114.3	12.2			95.6
48'		7'±	115.1	11.5			96.3
49'		4'±	114.7	11.4			96.0

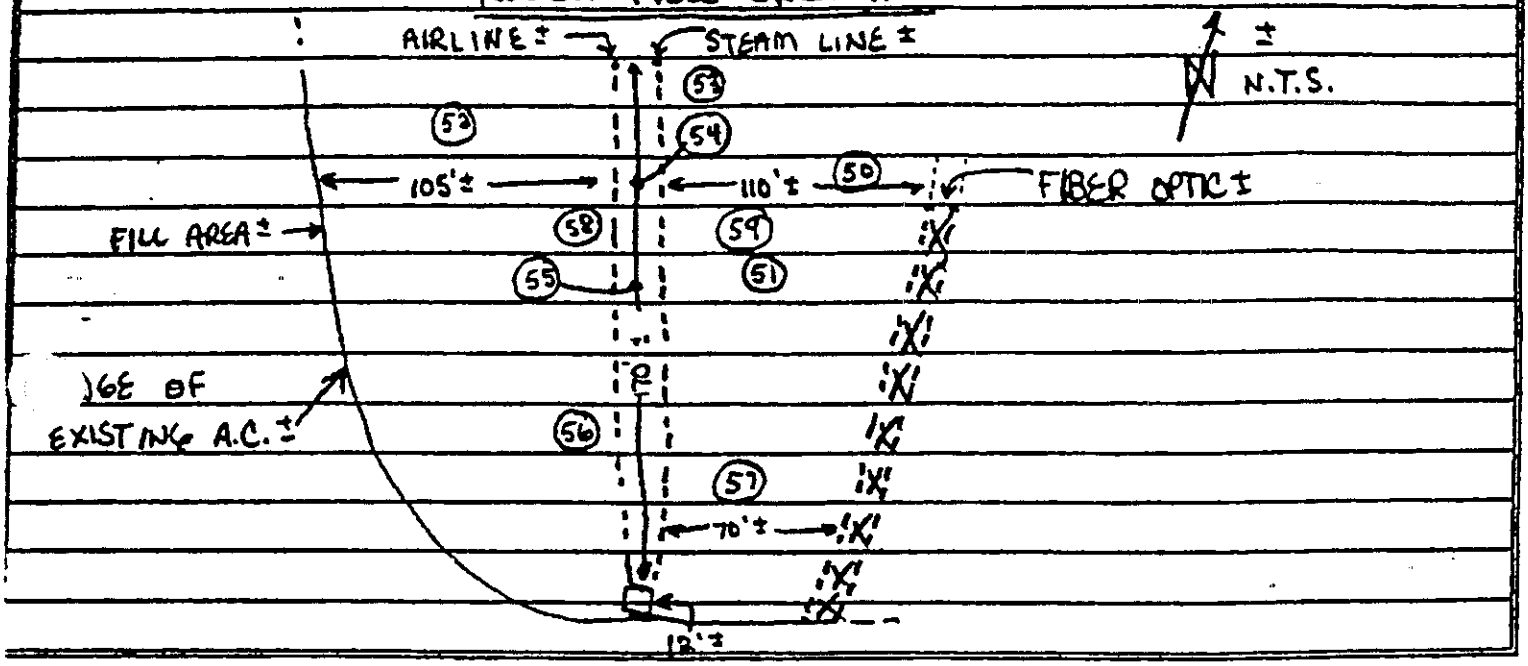
CONSTRUCTION TESTING & ENGINEERING, INC.

GRADING OBSERVATION

Job Name: CONTAMINATION SITE	Job Number: 30-0378
Job Address: MOLE ROAD NATIONAL CITY	Date(s): 2-8-01
Plan File: | Permit #	Tech: Brad
Gen.Contractor: NAVY PUBLIC WORKS DEPT.	Contr.Wkg: NAVY PUB. WORKS
Superintendent: GARRY HALL	Foreman: GARRY
Weather Condition: SUNNY- COOL	

Summary of Work: COMPACTION TESTING PROVIDED AS NOTED & SHOWN BELOW. COMPACTION TESTS COMPLY WITH THE PROJECT RECOMMENDATIONS.

"ROUGH FIELD SKETCH"



TEST SUMMARY -- MOLE RD. ± - - -

Test No.	Location	Elev. Feet	Density PCF	Moist. Content % Dry Weight	Maximum Density		Relative Compact.
50	PROPOSED FUTURE	4'±	116.0	10.8	119.5	@ 11.5	97.1 %
51	PARKING LOT	5'±	115.3	11.7			96.5
52		7'±	115.0	11.1			96.2
53		6'±	113.2	12.3	-		94.7
54		8'±	116.5	10.6			97.5
55		9'±	114.6	11.4			95.9
56		8'±	114.8	11.8			96.1
[illegible]		7'±	113.7	12.1			95.1
58		9.5'±	114.0	11.5			95.4

: FILE/FORMS/GRADING.PRN REVISED 7-21-94

C.C DENNY @ SITE

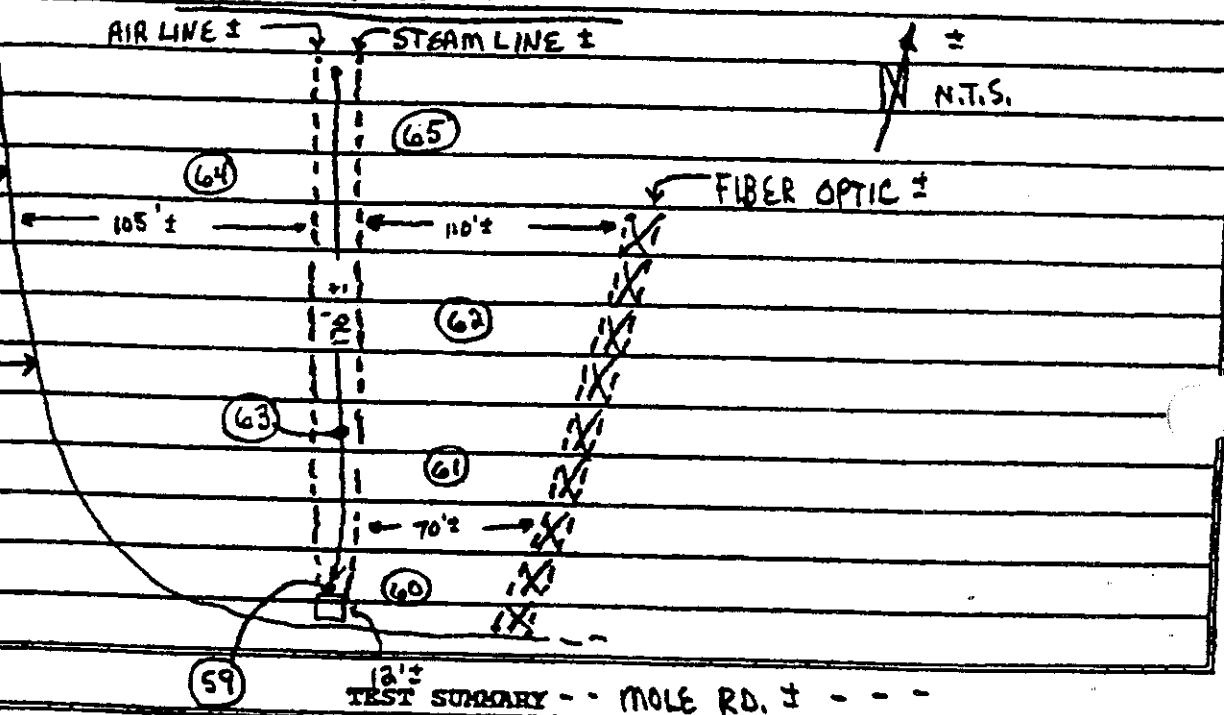
CONSTRUCTION TESTING & ENGINEERING, INC.

GRADING OBSERVATION

Job Name: CONTAMINATION SITE	Job Number: 30-0378
Job Address: MOLE ROAD NATIONAL CITY	Date(s): 2-9-01
Plan File: / Permit #	Tech: Brad
Gen.Contractor: NAVY PUBLIC WORKS DEPT.	Contr.Wkg: NAVY PUB. WORKS
Superintendent: GARRY HALL	Foreman: GARRY
Weather Condition: SUNNY- COOL	

Summary of Work: COMPACTION TESTING PROVIDED AS NOTED & SHOWN BELOW. COMPACTION TESTS COMPLY WITH THE PROJECT RECOMMENDATIONS.

"ROUGH FIELD SKETCH"



TEST SUMMARY -- MOLE RD. ± - - -

Test No.	Location	Elev. Feet	Density PCF	Moist. Content % Dry Weight	Maximum Density	Relative Compact.
59'	PROPOSED FUTURE	10' ±	115.2	11.6	119.5 @ 11.5	96.4 %
60'	PARKING LOT	9' ±	114.4	12.4		95.7
61'		8' ±	115.7	10.8		96.8
62'		7' ±	116.0	11.9		97.1
63'		9' ±	114.7	12.2		96.0
64'		10 ±	115.0	11.4		96.2
65'		8' ±	116.3	12.7		97.3

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SANDCONE CALCULATIONS

JOB NAME: CONTAMINATION SITE	JOB NUMBER: 30-0378
JOB ADDRESS: MOLE ROAD NATIONAL CITY	DATE: 2-9-01
GEN. CONTRACTOR NAVY PUBLIC WORKS DEPT.	TECH: Brad

DENSITY TEST NO.: SC-5

ELEVATION: 9' ±

LOCATION: PROPOSED FUTURE PARKING LOT (ADJACENT TO NUCLEAR TEST 60)

GROUND SURFACE CALIBRATION

A. CONTAINER NUMBER: CALIBRATED 1-29-01
B. WT. INITIAL CONT + SAND: (NO CHANGE TO — LBS
C. WT. AFTER CONT + SAND: CONE NOR PLATE) — LBS
D. WT. SAND (B-C) USE FOR K: 3.25 LBS

DENSITY DETERMINATION

E. WET SAMPLE + CONTAINER	6.68	LBS
F. WT. CONTAINER	.63	LBS
G. WT. WET SAMPLE (E-F)	6.05	LBS
H. SAND + CONTAINER START (FULL)	14.63	LBS
I. SAND + CONTAINER FINISH	7.35	LBS
J. SAND IN HOLE + CONE (H-I)	7.28	LBS
K. SAND IN LOWER CONE + PLATE (D)	3.25	LBS
L. SAND IN HOLE ONLY (J-K)	4.03	LBS
M. DENSITY OF SAND (LAB)	85.65	PCF
N. VOLUME OF HOLE (L / M)	.0470519	CU FT
P. UNIT WET WT. SAMPLE (G / N)	128.6	PCF
R. UNIT DRY WT. SAMPLE (P / 1+Y)	115.1	PCF

MOISTURE CONTENT

S. CONTAINER NUMBER	1	
T. WT. MOIST SAMPLE + CONTAINER	200	GMS
U. WT. DRY SAMPLE + CONTAINER	179	GMS
V. WT. OF WATER (T-U)	21	GMS
~~W. WT. OF CONTAINER~~		GMS
~~X. WT. OF DRY SAMPLE (U-W)~~		GMS
Y. PERCENT MOISTURE (V / X)	11.7	%

DEGREE OF COMPACTION

1. MAXIMUM DENSITY	119.5	PCF
2. OPTIMUM MOISTURE	11.5	%
3. COMPACTION REQUIRED	90% +	%
4. DEGREE OF COMPACTION (R / 1)	96.3	%

DENSITY TEST NO.: SC-6

ELEVATION: 8' ±

LOCATION: PROPOSED FUTURE PARKING LOT (ADJACENT TO NUCLEAR TEST 65)

GROUND SURFACE CALIBRATION

A. CONTAINER NUMBER: CALIBRATED 1-29-01
B. WT. INITIAL CONT + SAND: (NO CHANGE TO — LBS
C. WT. AFTER CONT + SAND: CONE NOR PLATE) — LBS
D. WT. SAND (B-C) USE FOR K: 3.25 LBS

DENSITY DETERMINATION

E. WET SAMPLE + CONTAINER	7.30	LBS
F. WT. CONTAINER	.63	LBS
G. WT. WET SAMPLE (E-F)	6.67	LBS
H. SAND + CONTAINER START (FULL)	14.81	LBS
I. SAND + CONTAINER FINISH	7.09	LBS
J. SAND IN HOLE + CONE (H-I)	7.72	LBS
K. SAND IN LOWER CONE + PLATE (D)	3.25	LBS
L. SAND IN HOLE ONLY (J-K)	4.47	LBS
M. DENSITY OF SAND (LAB)	85.65	PCF
N. VOLUME OF HOLE (L / M)	.0521891	CU FT
P. UNIT WET WT. SAMPLE (G / N)	127.8	PCF
R. UNIT DRY WT. SAMPLE (P / 1+Y)	115.7	PCF

MOISTURE CONTENT

S. CONTAINER NUMBER	1	
T. WT. MOIST SAMPLE + CONTAINER	200	GMS
U. WT. DRY SAMPLE + CONTAINER	181	GMS
V. WT. OF WATER (T-U)	19	GMS
~~W. WT. OF CONTAINER~~		GMS
~~X. WT. OF DRY SAMPLE (U-W)~~		GMS
Y. PERCENT MOISTURE (V / X)	10.5	%

DEGREE OF COMPACTION

1. MAXIMUM DENSITY	119.5	PCF
2. OPTIMUM MOISTURE	11.5	%
3. COMPACTION REQUIRED	90% +	%
4. DEGREE OF COMPACTION (R / 1)	96.8	%

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GRADING OBSERVATION

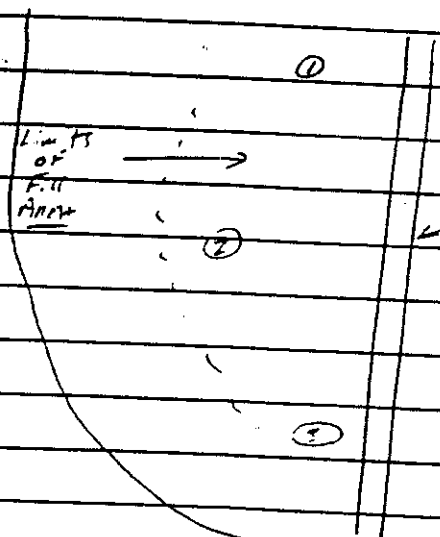
Job Name: CONTAMINATION SITE	Job Number: 30-0370
Job Address: MOLE RD. NATIONAL CITY	Date(s): 2-22-2001
Plan File: Ø | Permit# Ø	Tech: M MADDOCK
Gen. Contractor: NAVY PUBLIC WORKS	Contr. Wkg: NAVY PUB WORKS
Superintendent: CARRY	Foreman: CARRY
Weather Condition: OVERCAST	

Summary of Work: TECHNICIAN ARRIVED TWICE TODAY AS REQUESTED AND MET W/ CARRY (NAVY PUBLIC WORKS). PERFORMED VISUAL OBSERVATION PROBING AND RANDOM COMPACTION TESTING. MATERIAL WAS STRONGLY RESISTANT TO PROBING, COMPACTION TESTS COMPLY WITH THE PROJECT RECOMMENDATIONS.

* 119.5 @ 11.5

TEST SUMMARY

Test No.	LOCATION AND NOTES	Elev. Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact/ Required
1	PROPOSED FUTURE	45±	119.5	11.5	130.0 / 115.3	12.7	96	95
2	PARKING LOT	80±	119.5	11.5	131.1 / 116.2	12.8	96	95
3	" " "	60±	119.5	11.5	133.0 / 118.1	13.2	98	95



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GEOTECHNICAL AND CONSTRUCTION ENGINEERING TESTING AND INSPECTION

2414 VINEYARD AVENUE, SUITE G ESCONDIDO CA 92029 (760) 746-4955

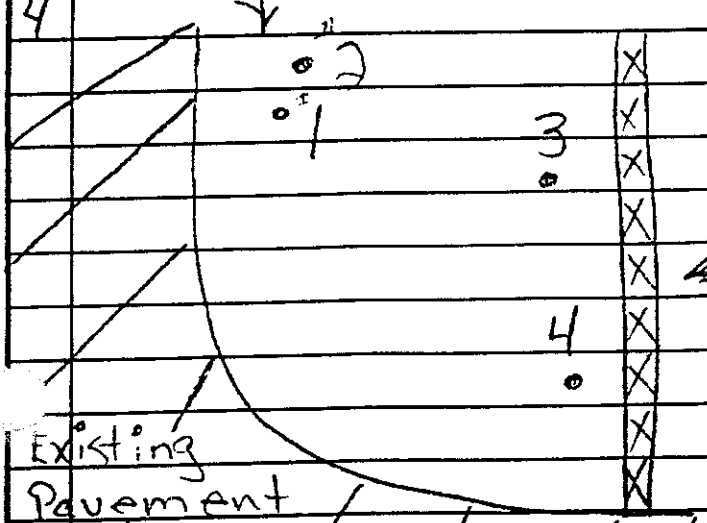
GRADING OBSERVATION

Job Name: Mole Pier	Job Number: 30-0375
Job Address: Mole Pier 32nd St Naval Base	Date(s): 3-5-01
Plan File: | Permit#	Tech: S Shean
Gen. Contractor: Navy Public Works	Contr. Wkg: Navy Public Wks
Superintendent Garry	Foreman: Garry
Weather Condition:	

Summary of Work: On site as requested to test compaction of fill placement at Phase 2A & 2B locations. The import fill material was placed with "Bally dumps," a 963 track loader was used to mix and place as well. The material was placed in 12" lifts, each lift was compacted with a 12 ton vibrating sheepsfoot teldrum roller. Random density tests indicate 95% compaction. Note: Wet material was removed, mixed and recompacted.

TEST SUMMARY

Test No	LOCATION AND NOTES	Elev Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact/ Required
1	Proposed Park Area	6	119.5	11.5	117.7	13.6	98	95
2		9			114.7	11.5	96	
3		5			113.3	14.0	95	
4		7			114.0	14.4	95	



Fiber optics

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GRADING OBSERVATION

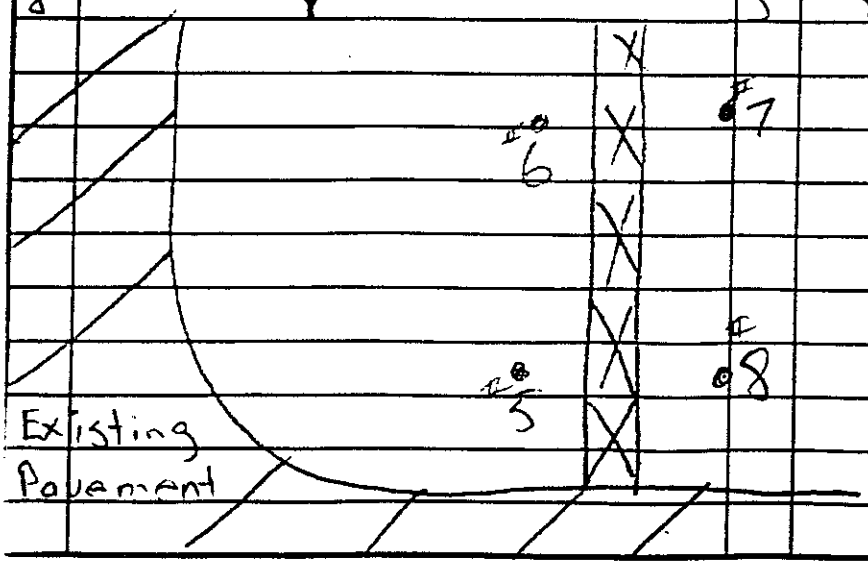
Job Name: Mid Pier	Job Number: 30-0378
Job Address: Mole Rd 37th St. Naval	Date(s): 3-9-01
Plan File: | Permit#	Tech: S. Sheen
Gen. Contractor: Navy Public Works	Contr. Wkg: N. P. W.
Superintendent Garry	Foreman: Danny
Weather Condition:	

Summary of Work: On site as requested to observe & test the continuous placement of fill at Phase 7A & 7B. Random density tests and probing indicate 95% compaction. Observation and testing is periodic throughout the day.

Bellydumps, 960 loader, 963 track loader, 17 ton sheepsfoot roller

TEST SUMMARY

Test No.	LOCATION AND NOTES	Elev Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact/ Required
5	Proposed Park Area	9	119.5	11.5	115.9	11.1	99	95
6	↓	8	↓	↓	115.6	17.4	99	↓
7	↓	4	↓	↓	116.0	11.0	97	↓
8	↓	5	↓	↓	117.2	11.5	98	↓



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2414 VINEYARD AVENUE SUITE G ESCONDIDO CA 92029 (760) 746-4955

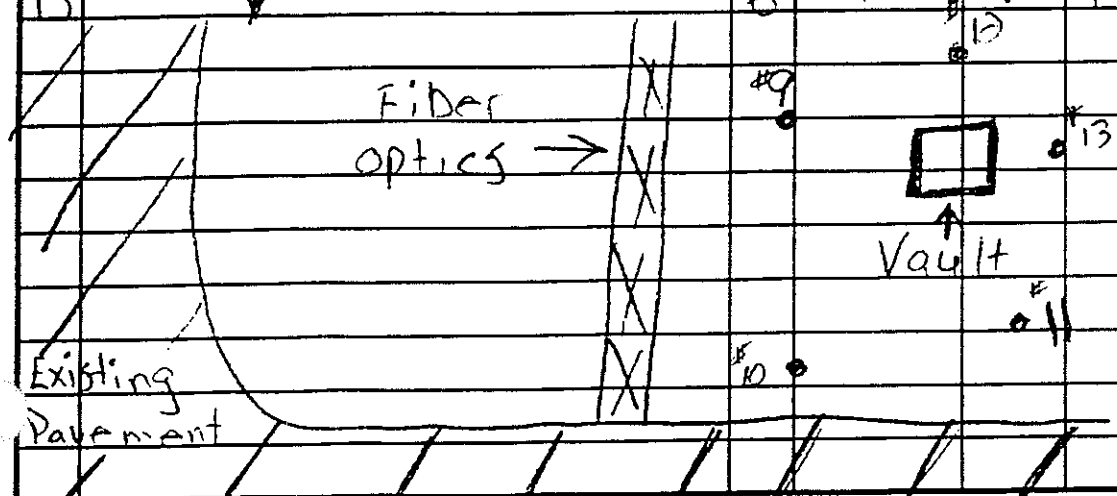
GRADING OBSERVATION

Job Name: Mole Pier Contamination Site	Job Number: 30 0375
Job Address: Mole Rd. 3rd St Naval Base	Date(s): 3-17 01
Plan File: | Permit#	Tech: J Chen
Gen. Contractor: Navy Public Works	Contr. Wkg: N.P.W.
Superintendent Garry	Foreman:
Weather Condition: Partly Cloudy	

Summary of Work: On site as requested to periodically observed test the continuous fill procedures at the proposed park on Mole Pier. Random density tests and probes indicate 95% compaction.

TEST SUMMARY

Test No.	LOCATION AND NOTES	Elev Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative "Compact/ Required
9	Proposed Park Area	6	119.5	11.5	113.6	10.4	95	95
10		7			114.5	10.9	96	
11		3			114.7	13.6	95.5	
12		5			116.0	13.1	97	
13		6			115.1	11.9	96	



CONSTRUCTION TESTING & ENGINEERING, INC.
GEOTECHNICAL AND CONSTRUCTION ENGINEERING TESTING AND INSPECTION
2414 VINEYARD AVENUE SUITE G ESCONDIDO CA 92029 (760) 746-4955

GRADING OBSERVATION

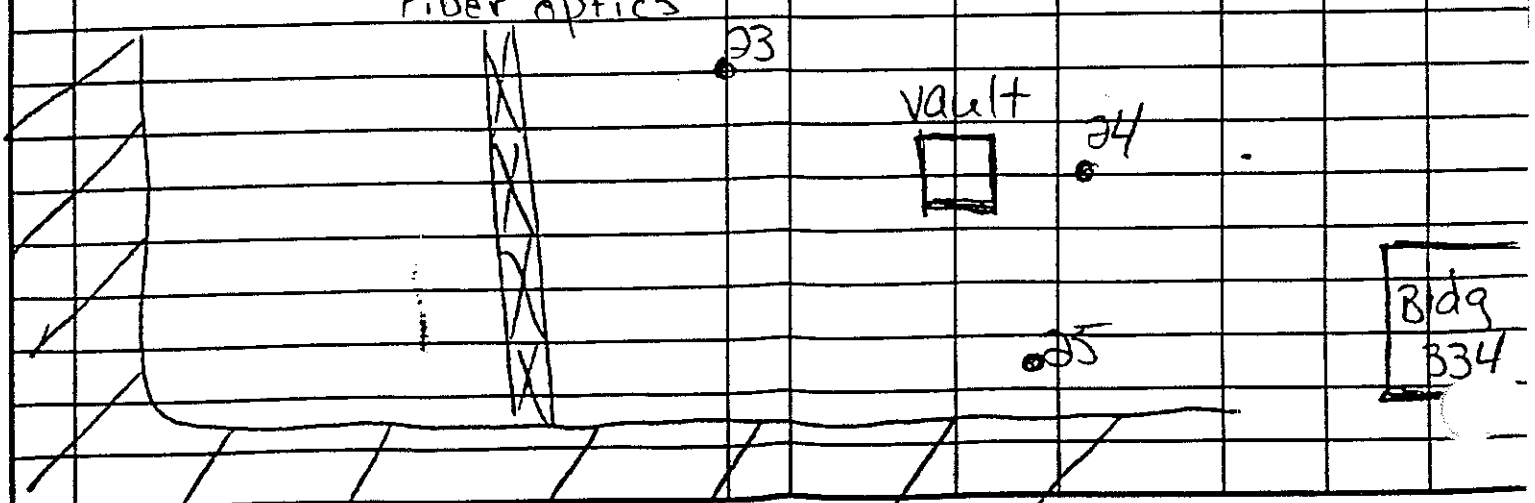
Job Name: Contamination Site	Job Number: 30 0375
Job Address: Mole Rd 32nd St Naval	Date(s): 3-15-01
Plan File: | Permit#	Tech: J Green
Gen. Contractor: Navy Public Works	Contr. Wkg: N. P. W.
Superintendent J Garry	Foreman: Danny
Weather Condition:	

Summary of Work: On site as requested to observe & test the continuous fill procedures at the proposed park to the north of Mole Rd. Random density tests indicate 95%.

963 track loader, 962 loader, 12 ton roller, Bell dump

TEST SUMMARY

Test No.	LOCATION AND NOTES	Elev. Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact/ Required
93	Proposed Park	11	119.5	11.5	115.8	12.7	97	95
94	↓	11	↓	↓	116.6	13.0	97.5	↓
95	↓	10	↓	↓	114.7	12.5	96	↓



CONSTRUCTION TESTING & ENGINEERING, INC
GEOTECHNICAL AND CONSTRUCTION ENGINEERING TESTING AND INSPECTION
2414 VINEYARD AVENUE, STE O ESCONDIDO CA 92029 (760) 746-4955

SANDCONE CALCULATIONS

JOB NAME: Contamination Site	JOB NUMBER: 30-0378
JOB ADDRESS: Mole Rd 32nd St	DATE: 3-19-01
GEN. CONTRACTOR Navy Public Works	TECH: S Green

DENSITY TEST NO	DENSITY TEST NO.:
ELEVATION: 11	ELEVATION:
LOCATION: Proposed Park	LOCATION:

GROUND SURFACE CALIBRATION

A. CONTAINER NUMBER		
B. WT. INITIAL CONT + SAND	11.98	LBS
C. WT. AFTER CONT + SAND	8.73	LBS
D. WT. SAND (B-C) USE FOR K	3.25	LBS

GROUND SURFACE CALIBRATION

A. CONTAINER NUMBER		
B. WT. INITIAL CONT + SAND		LBS
C. WT. AFTER CONT + SAND		LBS
D. WT. SAND (B-C) USE FOR K		LBS

DENSITY DETERMINATION

E. WET SAMPLE + CONTAINER	6.56	LBS
F. WT. CONTAINER	.25	LBS
G. WT. WET SAMPLE (E-F)	6.31	LBS
H. SAND + CONTAINER START (FULL)	11.30	LBS
I. SAND + CONTAINER FINISH	4.11	LBS
J. SAND IN HOLE + CONE (H-I)	7.19	LBS
K. SAND IN LOWER CONE + PLATE (D)	3.25	LBS
L. SAND IN HOLE ONLY (J-K)	3.94	LBS
M. DENSITY OF SAND (LAB)	81.08	PCF
N. VOLUME OF HOLE (L / M)	.0485939	CU FT
P. UNIT WET WT. SAMPLE (G / N)	129.8	PCF
R. UNIT DRY WT. SAMPLE (P / 1+Y)	116.3	PCF

DENSITY DETERMINATION

E. WET SAMPLE + CONTAINER		LBS
F. WT. CONTAINER		LBS
G. WT. WET SAMPLE (E-F)		LBS
H. SAND + CONTAINER START (FULL)		LBS
I. SAND + CONTAINER FINISH		LBS
J. SAND IN HOLE + CONE (H-I)		LBS
K. SAND IN LOWER CONE + PLATE (D)		LBS
L. SAND IN HOLE ONLY (J-K)		LBS
M. DENSITY OF SAND (LAB)		PCF
N. VOLUME OF HOLE (L / M)		CU FT
P. UNIT WET WT. SAMPLE (G / N)		PCF
R. UNIT DRY WT. SAMPLE (P / 1+Y)		PCF

MOISTURE CONTENT

S. CONTAINER NUMBER		
T. WT. MOIST SAMPLE + CONTAINER		GMS
U. WT. DRY SAMPLE + CONTAINER		GMS
V. WT. OF WATER (T-U)		GMS
W. WT. OF CONTAINER		GMS
X. WT. OF DRY SAMPLE (U-W)		GMS
Y. PERCENT MOISTURE (V / X)	11.6	%

MOISTURE CONTENT

S. CONTAINER NUMBER		
T. WT. MOIST SAMPLE + CONTAINER		GMS
U. WT. DRY SAMPLE + CONTAINER		GMS
V. WT. OF WATER (T-U)		GMS
W. WT. OF CONTAINER		GMS
X. WT. OF DRY SAMPLE (U-W)		GMS
Y. PERCENT MOISTURE (V / X)		%

DEGREE OF COMPACTION

1. MAXIMUM DENSITY	119.5	PCF
2. OPTIMUM MOISTURE	11.5	%
3. COMPACTION REQUIRED	95	%
4. DEGREE OF COMPACTION (R / 1)	97	%

DEGREE OF COMPACTION

1. MAXIMUM DENSITY		PCF
2. OPTIMUM MOISTURE		%
3. COMPACTION REQUIRED		%
4. DEGREE OF COMPACTION (R / 1)		%

CONSTRUCTION TESTING & ENGINEERING, INC.
GEOTECHNICAL AND CONSTRUCTION ENGINEERING TESTING AND INSPECTION
2414 VINEYARD AVENUE SUITE G ESCONDIDO CA 92029 (760) 746-4955

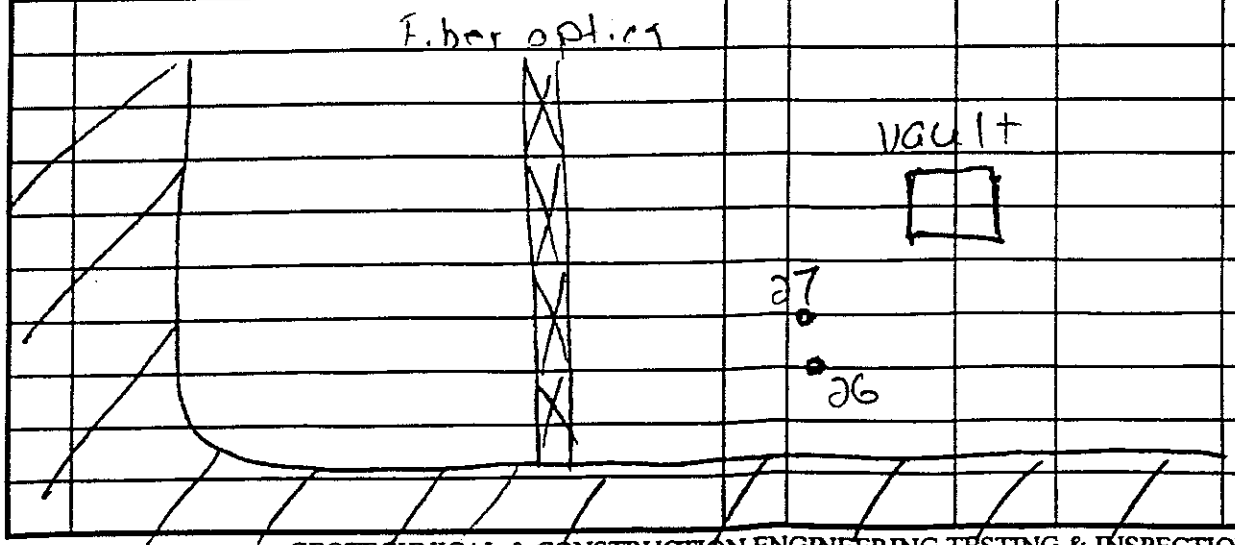
GRADING OBSERVATION

Job Name: Contamination Site	Job Number: 30-0375
Job Address: Mole Rd 32nd St Naval	Date(s): 3-19-01
Plan File: | Permit#	Tech: T Green
Gen. Contractor: Naval Public Works	Contr. Wkg: N.P.W.
Superintendent Garry	Foreman: Danny
Weather Condition:	

Summary of Work: On site as requested to perform a sandcone density tests.
Note: Fill was placed on 3-16-01

TEST SUMMARY

Test No	LOCATION AND NOTES	Elev Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact/ Required
26	Proposed Park	11	119.5	11.5	116.3	11.6	97	95
27	↓	11	↓	↓	115.1	11.6	96	↓



Ninyo & Moore

SIEVE ANALYSIS

Project Name Foster Wheeler / Mole Pier 2

Project Number 104108-02

Technician CKA

Date Tested 6-28-00

Sample Location #1

Depth [illegible]

	-#4 Before Wash		-#4 After Wash	
Total Sample Weight	Wet Soil & Tare	684.5	Dry Soil & Tare	314.9
Soil & Tare	Dry Soil & Tare	639.2	Tare "360" =	122.0
Tare	Tare "360" =	122.0	Dry Soil	192.9
Soil	Dry Soil	517.2		

Sieve Size	Weight Retained	% Retained	% Passing	Corrected % Passing	Spec
6"					
5"					
4"					
3"					
2"					
1-1/2"					
1"					
3/4"					
1/2"					
3/8"	0	0	100		
#4	2.5	0.5	99.5		
#8	1.8	0.3	99.2		
#16	[illegible]	0.5	98.7		
#30	6.8	1.3	97.4		
#50	13.7	2.6	94.8		
#100	12.4	2.4	92.4		
#200	[illegible]	[illegible]	[illegible]		

Ninyo & Moore

SIEVE ANALYSIS

Project Name: Foster Wheeler / Mole Pier 2

Project Number: 104108-02

Technician: (KF)

Date Tested: 6-29-00

Sample Location: #2

Depth: #002-8002

	-#4 Before Wash		-#4 After Wash
Total Sample Weight	Wet Soil & Tare	794.8	Dry Soil & Tare 647.8
Soil & Tare	Dry Soil & Tare	763.4	Tare "60" = 122.5
Tare	Tare "60" =	122.5	Dry Soil 525.3
Soil	Dry Soil	640.9	

Sieve Size	Weight Retained	% Retained	% Passing	Corrected % Passing	Spec
6"					
5"					
4"					
3"					
2"					
1-1/2"					
1"	~~0~~	~~0~~	100		
3/4"	76.1	11.9	88.1		
1/2"	14.4	2.2	85.9		
3/8"	~~3.5~~	0.5	85.4		
#4	24.0	3.7	81.7		
#8	36.9	5.8	75.9		
#16	38.7	6.0	69.9		
#30	59.0	9.2	60.7		
#50	119.5	18.6	42.1		
#100	99.7	15.6	26.5		
#200	50.2	7.8	18.7		

Geotechnics Incorporated

STANDARD TEST METHOD FOR MOISTURE - DENSITY RELATIONSHIP ASTM D 1557

REV 7/28/00

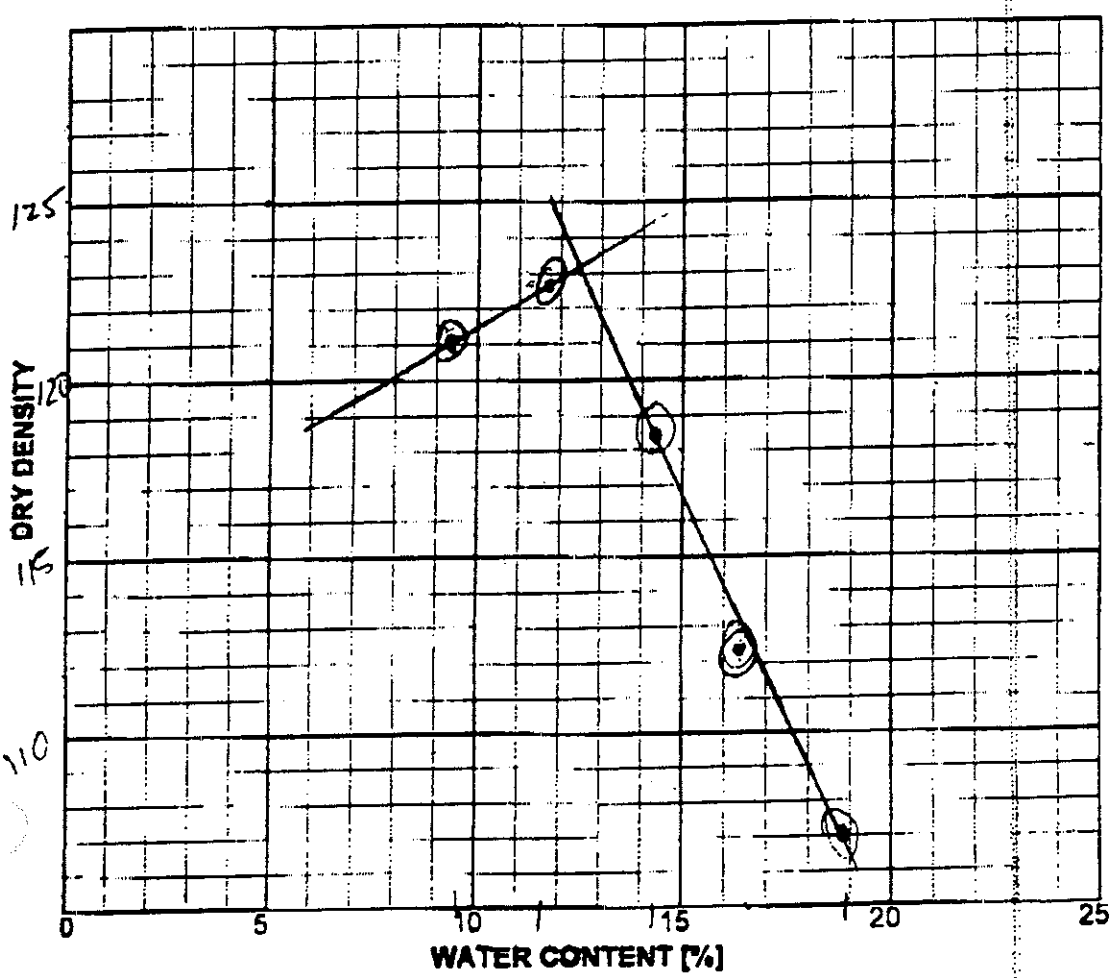
PROJECT: MOLE PIER
PROJECT NO: 1990.002D
TESTED BY: [illegible]
SAMPLE DESCRIPTION: BROWN (SM)
review: CEE

SAMPLE ID: SF 15
DATE: 8-15-00
CHECKED BY: [illegible]

VOLUME CORRECTION (V): 4 INCH (4-1: V=15.100 pcf/gm, 4-3: V=15.026 pcf/gm); 6 INCH (V=34.020 pcf/gm)

	2%	4%	6%	8%			
A) WATER ADDED	50	100	150	200	0		mililiters
B) MOLD TARE WEIGHT	2023.0	2023.0	2023.0	2023.0	2023.0		grams
C) WEIGHT OF WET SOIL AND MOLD	4083.9	4054.9	3991.3	3933.9	4010.0		grams
D) WET SOIL WEIGHT (C - B)	2060.9	2031.9	1968.9	1910.9	1987.0		grams
E) WET DENSITY (D / V)	137.2	135.2	131.0	127.2	132.2		pcf
F) DRY DENSITY (E / [(L/100) + 1])	122.8	118.4	112.3	107.0	121.1		pcf

	L-2	L-7	L8	E-7			
G) TARE WEIGHT	135.7	153.0	153.3	135.4	704.1		grams
H) WEIGHT OF WET SOIL AND TARE	841.3	853.6	877.4	850.2	1041.4		grams
I) WEIGHT OF DRY SOIL AND TARE	767.2	766.7	773.6	736.6	1012.8		grams
J) WEIGHT OF WATER (H - I)	74.1	86.9	103.8	113.6	28.6		grams
K) DRY WEIGHT OF SOIL (I - G)	631.5	613.7	620.3	601.2	308.7		grams
L) MOISTURE CONTENT (J / K * 100)	11.7	14.2	16.7	18.9	9.3		percent



B	METHOD USED (A,B or C)
15.026	MOLD VOLUME
3/8"	SIEVE NUMBER
<1%	PERCENT RETAINED
123	MAXIMUM DENSITY [PCF]
12½	OPTIMUM MOISTURE [%]

WORKSHEET-SPECIFIC GRAVITY TESTS

Job FM/325T Mole Pier2	No. 104108-02	By	Date 7/28/00

SPECIFIC GRAVITY OF SOLIDS (G_s)

Bor.		I-16					
Depth		10'					
Flask No.		C					
Temperature of Water and Soil, T, °C		23°C					
Pan No.							
Wt. in grams: Pan + Dry Soil		—					
Wt. in grams: Pan		—					
Wt. in grams: Dry Soil	W_s	80.0					18
Wt. in grams: Flask + Water at T, °C	W_{bw}	683.5					
Wt. in grams: $W_s + W_{bw}$		763.5					
Wt. in grams: Flask + Water + Immersed Soil	W_{bws}	733.7					
Wt. in grams: Displaced Water, $W_s + W_{bw} - W_{bws}$		29.8					
Correction Factor	K	0.9993					
$(W_s K) \div (W_s + W_{bw} - W_{bws})$	G_s	2.68					

APPARENT (G_a) AND BULK (G_m) SPECIFIC GRAVITY					Temp.	Corr. Factor
Source					°C	K
Temperature of Water and Soil, T, °C					14	1.0010
Wt. in grams: Pan + Saturated Surface - Dry Soil					15	1.0009
Wt. in grams: Tare Weight					16	1.0007
Wt. in grams: Saturated Surface - Dry Soil	B				17	1.0006
Wt. in grams: (Wire Basket + Soil) in Water					18	1.0004
Wt. in grams: Wire Basket in Water					19	1.0002
Wt. in grams: Saturated Soil in Water	C				20	1.0000
Wt. in grams: Tare Weight + Dry Soil					21	0.9998
Wt. in grams: Tare Weight					22	0.9996
Wt. in grams: Dry Soil	A				23	0.9993
Correction Factor	K				24	0.9991
(AK) ÷ (A-C) (Apparent)	G_a				25	0.9988
(AK) ÷ (B-C) (Bulk)	G_m				26	0.9986
					27	0.9983
					28	0.9980
					29	0.9977
					30	0.9974
					31	0.9971

Remarks:
FLASK → 184.4
79.9 (+10) 0.8
TOTAL WT = 80.7
+(10) = 0.8

Tested by: _____ Computed by: _____ Checked by: _____

Kingo & Moore

MOISTURE - DENSITY TEST DATA

SPECIFIC GRAVITY: 2.65

PROJECT Fm 32 st. Mole Pier 2 PROJECT NO. 104108-02 TECHNICIAN KA DATE

SAMPLE LOCATION		I-16												
SAMPLE DEPTH		10-11'												
VISUAL SOIL CLASSIFICATION TOP / BTM		SM												
TORVANE SHEAR (TSF)														
POCKET PENETROMETER (TSF)														
WEIGHTS	WEIGHT OF MOIST SOIL AND RINGS	1340.7												
	NUMBER OF RINGS	7												
	TOTAL WEIGHT OF RING(S)	315												
	WEIGHT OF MOIST SOIL	1025.7												
	DISH NUMBER	"Air"												
	WEIGHT OF MOIST SOIL AND DISH	256.2												
	WEIGHT OF DRY SOIL AND DISH	221.2												
	WEIGHT OF DISH	26.5												
RESULTS	WET DENSITY (PCF	121.6												
	MOISTURE CONTENT (%)	18.0												
	DRY DENSITY (PCF)	103.1												
	DEGREE OF SATURATION (%)	79.6												
	SOIL TYPE NUMBER													
		* Seastrella												

Ninyo & Moore

CONSOLIDATION TEST DATA

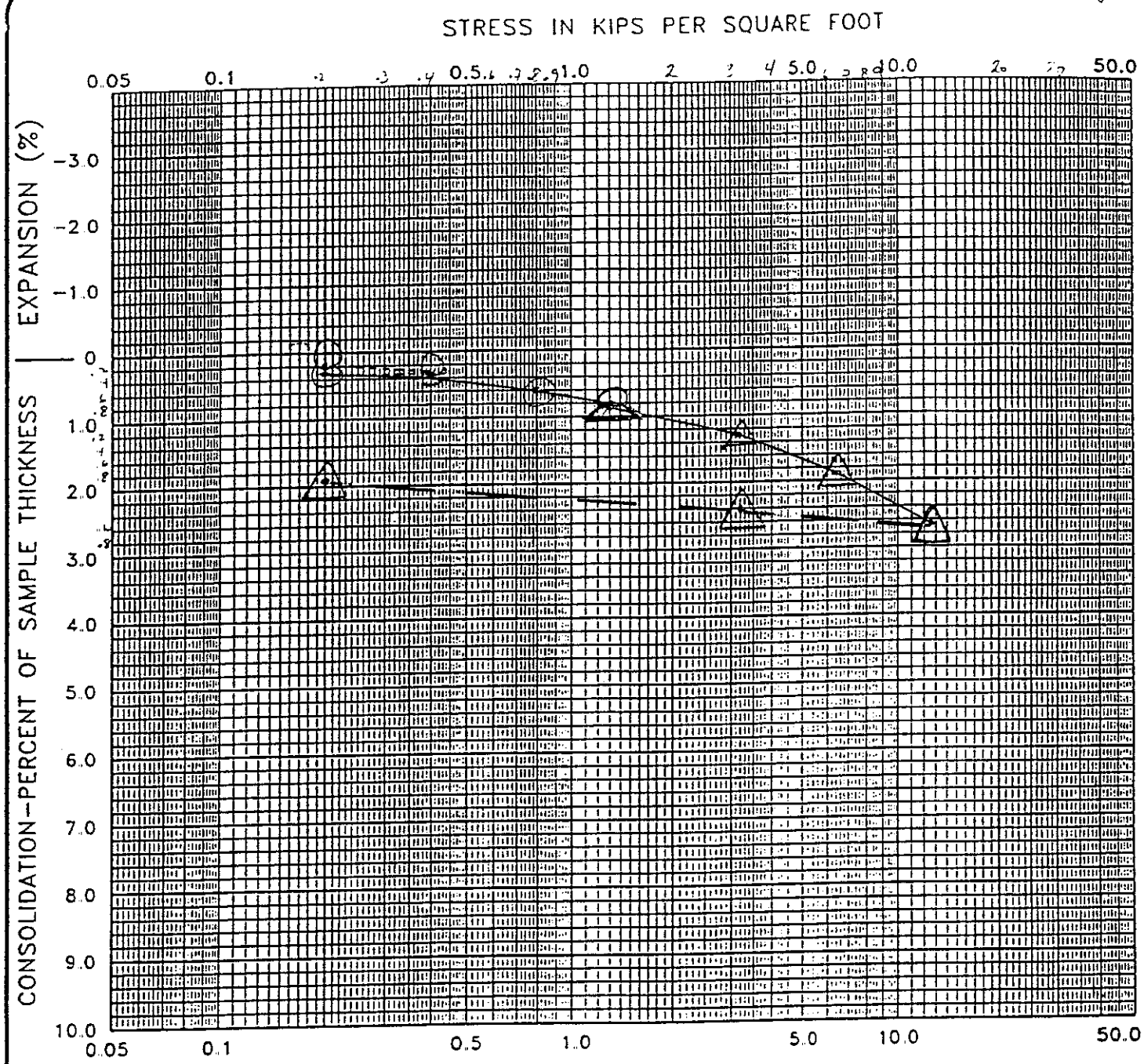
PROJECT NAME Fm / 32 st. Mole Pier 2
PROJECT NO. 104108-02
SAMPLE LOCATION I-16 DEPTH 10-11'
DATE TESTED 7-25-00 TECHNICIAN [illegible]
SOIL DESCRIPTION SP
LOAD INCREMENTS (KSF) ~~.2, .4, .2, .4, .8, 1.3, H2O~~ ~~3.2, 6.4, 12.8~~ MACHINE NO. 1
REBOUND INCREMENTS (KSF) 3.2, .2
WATER ADDED AT (KSF) 1.3
TIME-RATE CONSOL. AT INCREMENT(S) (KSF)

MOISTURE AND DENSITY DATA	BEFORE CONSOL	AFTER CONSO
WEIGHT OF WET SOIL + RING	199.6	199.6
WEIGHT OF DRY SOIL + RING	175.5	175.5
WEIGHT OF WATER	24.1	24.1
WEIGHT OF RING	42.9	42.9
WEIGHT OF DRY SOIL	132.6	132.6
PERCENT MOISTURE	18.2	18.2
DRY DENSITY	110.1	—

Date	Time	Stress (ksf)	Dial Reading	Consol. (inches)	Consol. (Percent)
7/25	11.30	—	.1000		
	11.31	.2	.1017		
	12.45		.1021	.0021	.21
	12.46	.4	.1030		
	1.50		.1035	.0035	.35
	1.51	.2	.1032		
	3.20		.1031	.0031	.31
	3.21	.4	.1035		
	4.30		.1037		
	6.00		.1037	.0037	.37
	6.01	.8	.1051		
7/26	7.20		.1061		
	8.25		.1061	.0061	.61
	8.26	1.3	.1072		
	10.00		.1080		
	1.35		.1081	.0081	.81
	1.36	H_2O	.1081		
7/27	8.20		.1083		
	10.45		.1084	.0084	.84
	10.46	3.2	.1120		
	11.47		.1132		
	12.50		.1133	.0133	1.33
	12.51	6.4	.1170		
	3.05		.1188		
	5.30		.1192		
7/28	7.30		.1194		
	9.20		.1194	.0194	1.94
	9.21	12.8	.1240		
	12.30		.1264		
	1.35		.1265	.0265	2.65

Date	Time	Stress (ksf)	Dial Reading	Consol. (inches)	Consol. (Percent)
	1.36	3.2	.1241		
7-31-00	6.00		.1241	.0241	2.41
	6.02	.2	.1200		
	7.25		.1197		
	9.40		.1195		
	10.45		.1196	.0196	1.96

REMARKS



● Field Moisture

▲ Inundated

Loading

Rebound

Seating Cycle

Boring No I-16

Depth (Ft.) 10-11.0'

Soil Type CP

b:\new\nconsol.dwg

Ninyo & Moore

CONSOLIDATION TEST RESULTS

Fm | 32 St Mole Pier 2

PROJECT NO.	DATE	FIGURE
104108-02	7-31-00	

Ninyo & Moore

DIRECT SHEAR TEST DATA

Project Name	Em 32 st. Mole Pier 2	Date	7-24-00
Project No.	104108-02	Technician	KA
Sample Location	C-14	Depth	7-8'
Soil Description	SM		

TEST PROCEDURE

Undisturbed [X]

Remolded [ ]

Residual Shear [ ]

Samples Consolidated [X] Yes [ ] No

Rate of Shear, (in/min) .005

D.A.T. 4108C14 A B C

A: A B: B C: B

_____ % Relative Compaction

_____ pcf, Maximum Density

_____ %, Optimum Moisture

Remarks:

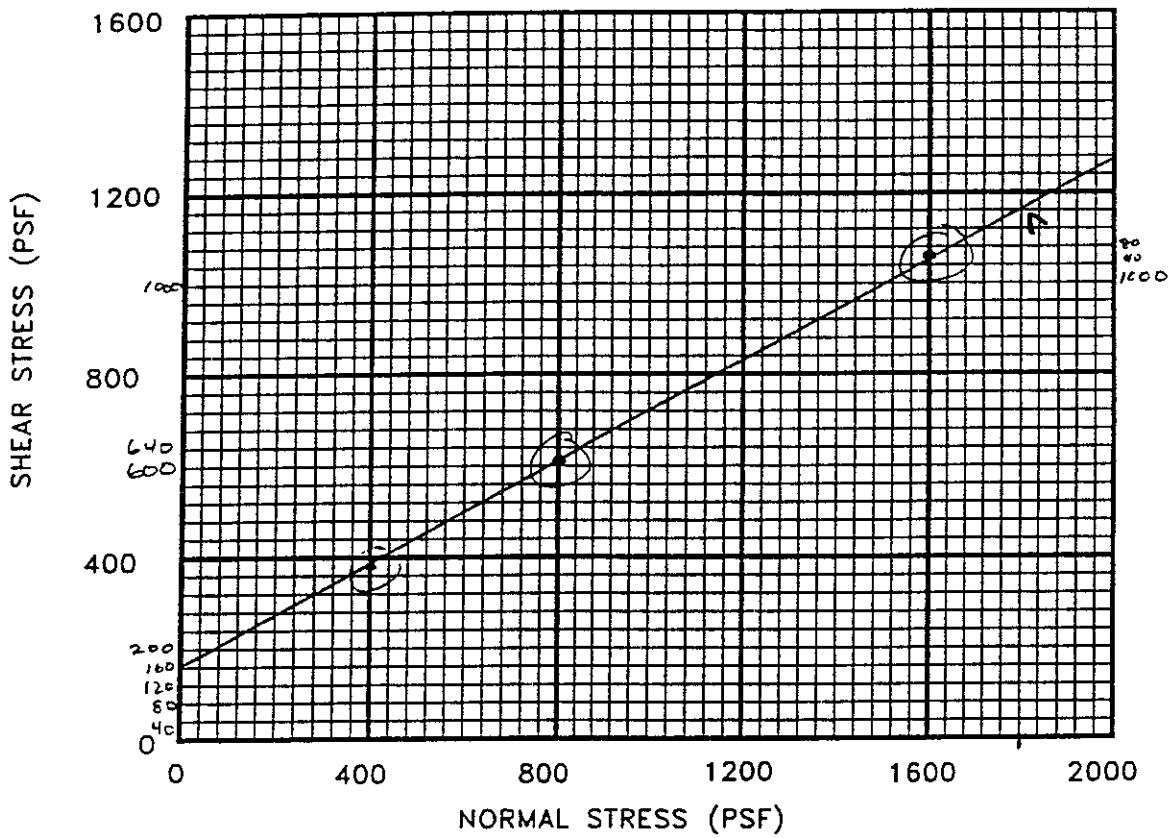
MOISTURE AND DENSITY DATA

Sample	A			B			C		
Surcharge (psf)	400			800			1600		
Condition	Before Shear		After Shear	Before Shear		After Shear	Before Shear		After Shear
Wet Weight & Tare (g)	176.7	191.5	170.9	175.4	192.1	167.7	177.2	190.6	167.[illegible]
Dry Weight & Tare (g)	162.7		142.1	165.3		141.9	165.4		143.[illegible]
Tare (g)	45.4		25.9	45.2		26.4	45.4		26.[illegible]
Dry Weight (g)	117.3		116.2	120.1		115.5	120.0		116.[illegible]
Weight of Water (g)	14.0		28.8	10.1		25.8	11.8		24.[illegible]
Moisture Content (%)	11.9		24.5	8.4		22.3	9.8		21.[illegible]
Dry Density (pcf)	97.4		Tare No "Spock"	99.7		Tare No "Casey"	99.6		Tare "Cha[illegible]

TEST RESULT DATA

Peak Shear (psf)	385	610	1067
Deflection (in.)	.2327	.2499	.2241

Remarks:



1160 - 165

1800

Description	Symbol	Boring Number	Sample Number	Depth (Feet)	Cohesion (PSF)	Friction Angle	Soil Type
Peak	⊙	C-14		7-8.0'	165	29°	SM

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DIRECT SHEAR TEST RESULTS

Fm 32 St. Mole Pier 2

PROJECT NO.	DATE	FIGURE 2
104108-02	7-28-00	

directsh.dwg

Ninyo & Moore

DIRECT SHEAR TEST DATA

:t Name	Fm | 32st. Mole Pier 2	Date	7-24-00
:t No.	104108-02	Technician	EA
·le Location	I-16	Depth	10-11
)escription	Sm		

TEST PROCEDURE

Undisturbed [X]

Remolded [ ]

Residual Shear [ ]

Samples Consolidated [X] Yes [ ] No

Rate of Shear, (in/min) .005

D.A.T. 4108I16 ABC

A: A B: B C: A

_____ % Relative Compaction

_____ pcf, Maximum Density

_____ %, Optimum Moisture

ıarks:

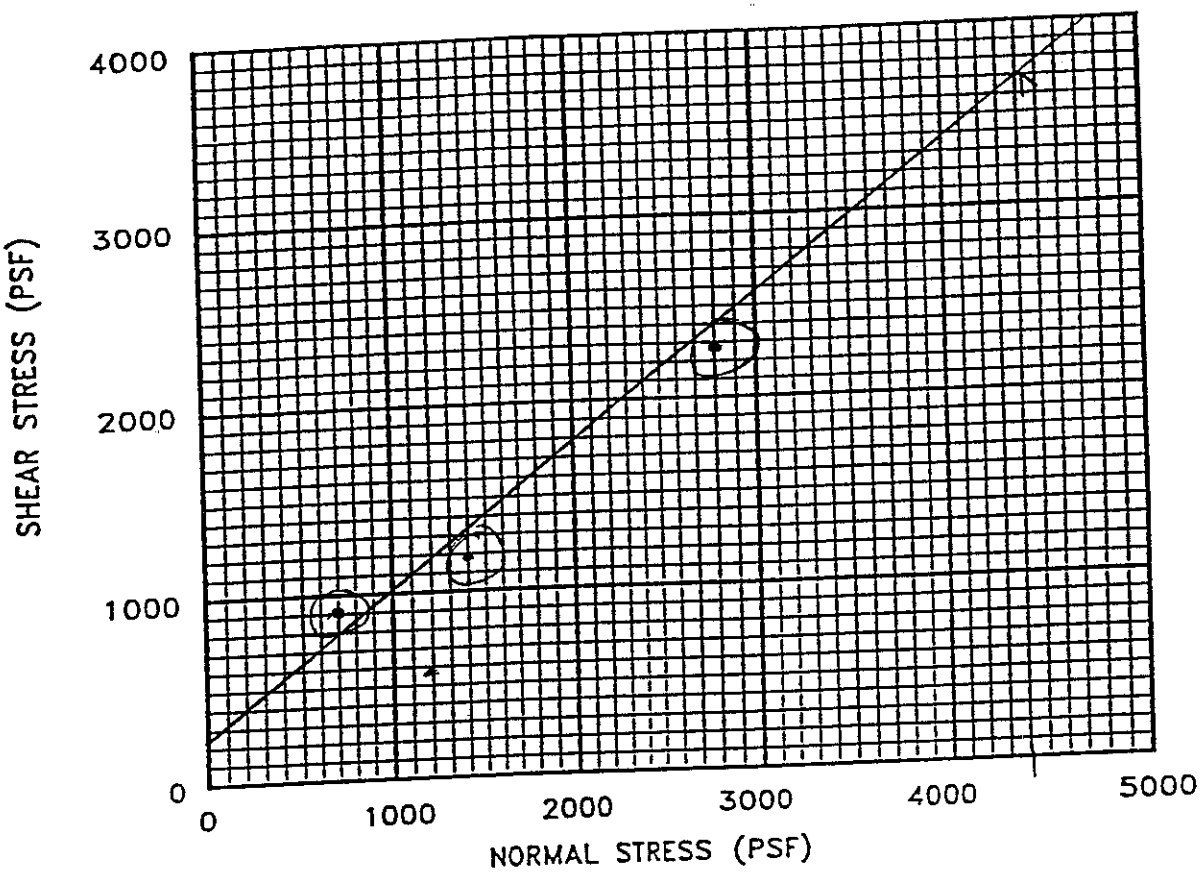
MOISTURE AND DENSITY DATA

Sample	A			B			C		
Surcharge (psf)	700			1400			2800		
Condition	Before Shear		After Shear	Before Shear		After Shear	Before Shear		After Shear
Wet Weight & Tare (g)	195.2	195.2	174.2	199.4	199.4	174.0	197.7	198.3	176.0
Dry Weight & Tare (g)	166.4		146.4	169.3		145.4	170.1		148.6
Tare (g)	42.2		26.6	43.8		26.0	43.7		25.8
Dry Weight (g)	124.2		119.8	125.5		119.4	126.4		122.8
Weight of Water (g)	28.8		27.8	30.1		28.6	27.6		27.4
Moisture Content (%)	23.2		23.2	24.0		24.0	21.8		22.3
Dry Density (pcf)	103.1		Tare No. "wild"	104.2		Tare No "Hope"	104.9		Tare No. "Nasa"

TEST RESULT DATA

Peak Shear (psf)	905	1194	2285
Deflection (In.)	.0722	.0934	.1065

:emarks:



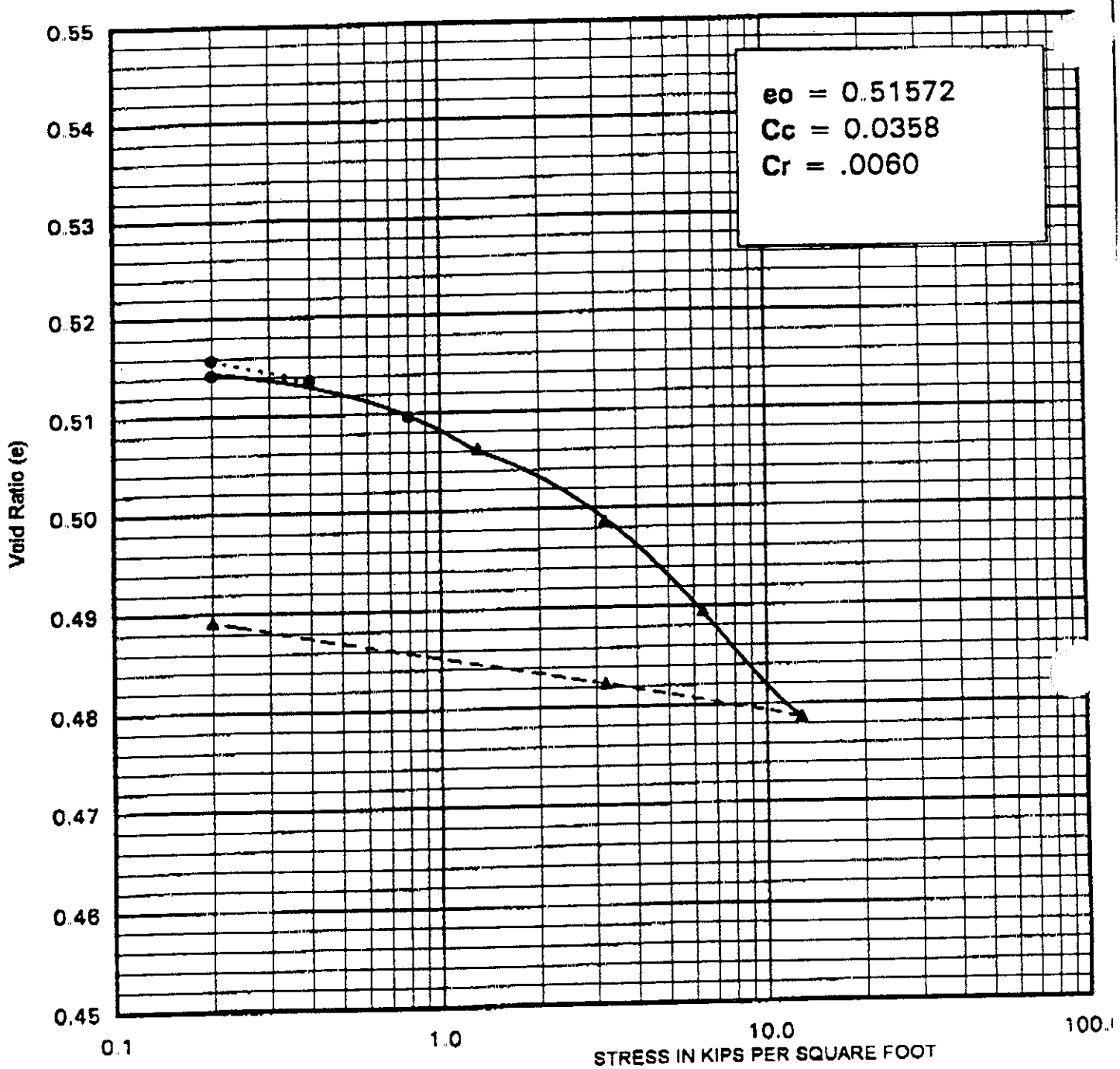
$$\frac{3700 - 240}{4400}$$

Description	Symbol	Boring Number	Sample Number	Depth (Feet)	Cohesion (PSF)	Friction Angle	Soil Type
Peak	⊙	I-16		10-11.0'	240'	38°	SP.

DIRECT SHEAR TEST RESULTS

Fm 32 St. Mole Pier 2

PROJECT NO.	DATE	FIGURE 2



- - ◆ - - Seating Cycle
● Loading Prior to Inundation
▲ Loading After Inundation

Boring No. I-16
Depth (ft.) 10-11
Soil Type SP

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2435-96

Ninyo & Moore

CONSOLIDATION TEST RESULTS

32nd Street Mole Pier 2
National City, California

PROJECT NO.	DATE	FIGURE
104108-02	8/00	1

FOSTER WH ENVIRONMENTAL CORPORATION
1230 Columbia Street, Su San Diego, CA 92101 (619) 234-8696

NUMBER 02061

CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Sub site 2A	PURCHASE ORDER NO.: 23599
PROJECT LOCATION: Mole Pict	PROJECT NO: 010-02
SAMPLER NAME: Luis Lalmac	SAMPLER SIGNATURE:
PROJECT CONTACT:	AIRBILL NUMBER:

ANALYSES REQUIRED: Pesticide, Glycol, Sand Value, R-Value, Asbestos

LABORATORY NAME:

LABORATORY ID (FOR LABORATORY):

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL C	LEVEL D	TYPE	TAT	Pesticide	Glycol	Sand Value	R-Value	Asbestos	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
0002-8006	8/3/00	0800	1					X					FS-15 & Balboa Hospital MIX	East of Pilings	N/A		
0002-8007	8/3/00	1100	1					X					[illegible] MIX IN PLACE	IN-Place			
0002-8008	8/4/00	1000	1					X					IN-SITU Place 5' bgs				
0002-8009	8/4/00	[illegible]	1					X	X	X	X	X	Class II Aggregate				

RELINQUISHED BY (Signature)	DATE [illegible]	RECEIVED BY (Signature)	
COMPANY FWI INC	TIME 0800	COMPANY [illegible]	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)	
COMPANY	TIME	COMPANY	

LABORATORY INSTRUCTIONS/COMMENTS

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

FOSTER WHEELER ENVIRONMENTAL CORPORATION
1230 Columbia Street, Suite 640 San Diego, CA 92101 (619) 234-8696

NUMBER 02061

CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Sub-site 2A	PURCHASE ORDER NO.: 23599
PROJECT LOCATION: Mole Pier	PROJECT NO.: CTO-02
SAMPLER NAME: Luis Labiada	SAMPLER SIGNATURE: River
PROJECT CONTACT:	AIRBILL NUMBER:

LABORATORY NAME:

LABORATORY ID (FOR LABORATORY):

Project Information Section Do not submit to Laboratory

ANALYSES REQUIRED

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL C	LEVEL D	TYPE	TAT	Proctor	Gradation	Sand Equiv	R-Value	~~Pilar~~ Atterberg	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
0002-8006	8/3/00	0800	1					X					Stockpiles FS-15 & Balboa Hospital Mix	East of Pilings	N/A		
0002-8007	8/3/00	1100	1					X					FS-15 & Balbo Mix IN-PLACE	IN-Place			
0002-8008	8/4/00	1000	1					X					IN-SITU, Proctor on ≈5' bgs				
0002-8009	8/4/00	1030	1					X	X	X	X	X	Class II Aggregate Bri-				

9000000 000 Relocation

00 00620

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[signature]	8/4 ~~8/3/00~~	[signature]
COMPANY: FWENC	TIME: 0800	COMPANY: NINJA'S MOORE
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: [illegible]TACT ☐ BROKEN

SAMPLING COMMENT:

White - Laboratory: Pink - Laboratory: [illegible]

FOSTER WHI ENVIRONMENTAL CORPORATION
1230 Columbia Street, Sui San Diego, CA 92101 (619) 234-8696

NUMBER 02060

CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Sub-Site 2A Mole Ho
PURCHASE ORDER NO.: 23599
PROJECT LOCATION: 32nd Naval Station
PROJECT NO.: 32 C10-002
SAMPLER NAME: Ninjo + Moore
SAMPLER SIGNATURE:
PROJECT CONTACT: Luis Rivero (619) 701 4004
AIRBILL NUMBER:

LABORATORY NAME:
LABORATORY ID (FOR LABORATORY):

Project Information Section Do not submit to Laboratory

ANALYSES REQUIRED

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL C	LEVEL D	TYPE	TAT	Direct shear	Atterberg limits	Sieve only	Sieve/hydrometer	Max density/optimum moisture	Gradation	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
0002 8003	7/24/00	1130	4				7	X							~~E-16~~	4		/
0002 8004	7/24/00	1145	3				7	X	X	X	X				I-16	10'	10'	/
0002 8005	7/24/00	1430	1				7					XX			STOCKPILE			

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

FOSTER WHEELER ENVIRONMENTAL CORPORATION
1230 Columbia Street, Suite 640 San Diego, CA 92101 (619) 234-8696

NUMBER 00628

CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Subsite 2A	PURCHASE ORDER NO.: 23599
PROJECT LOCATION: 32nd Naval [illegible]	PROJECT NO.: [illegible] 02
SAMPLER NAME: Robert Mann	SAMPLER SIGNATURE:
PROJECT CONTACT: [illegible]	AIRBILL NUMBER:

ANALYSES REQUIRED: Mon Dessus/[illegible]

LABORATORY NAME:

LABORATORY ID (FOR LABORATORY):

Project Information Section Do not submit to Laboratory

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL C	LEVEL D	TYPE	TAT	Mon Dessus/[illegible]	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
0002-~~800~~ 8010	[illegible]/15/[illegible]	0800	1					X	FS-15 [illegible] 12 [illegible] today				

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
	[illegible]/15/[illegible]	[illegible]
COMPANY: [illegible]	TIME: 0750	COMPANY: [illegible]
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)

TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN

COOLER SEAL: ☐ [illegible]ACT ☐ BROKEN

SAMPLING COMMENT:

White - Laboratory; Pink - Laboratory; Ca[illegible] - Project File; Manila - Data Management

FOSTER WHE[illegible] ENVIRONMENTAL CORPORATION
1230 Columbia Street, Su[illegible] an Diego, CA 92101 (619) 234-8696

NUMBER 00630

CHAIN-OF-CUSTODY REC[illegible]RD

PROJECT NAME: Sub Site 2A	PURCHASE ORDER NO.: [illegible]5594
PROJECT LOCATION: Mole Pier	PROJECT NO.: [illegible]
SAMPLER NAME: Robert	SAMPLER SIGNATURE:
PROJECT CONTACT:	AIRBILL NUMBER:

LABORATORY NAME:

LABORATORY ID (FOR LABORATORY):

Project Information Section Do not submit to Laboratory

ANALYSES REQUIRED

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL C	LEVEL D	TYPE	TAT	Muxdens/Mo[illegible]	Gradation								COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
0002-8011	[illegible]/16	1000	1					X	X								Reddish Silt Sand Clay ([illegible]5)	1st loads FS-15			
0002-8012	8/16	1005	1					X	X								Reddish w/ Clean Sand [illegible]-15	different loads			

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY: FWENC	TIME: [illegible]	COMPANY: [illegible]
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)

TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN

COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 3 APRIL 2000	DAY MONDAY	AUTHOR M.H. DENNY	NO. Ø1
PROJ. NAME		PROJ. NO. 104108-02	

CLIENT FOSTER WHEELER	CONTRACTOR
EQUIPMENT SOIL TEST CL-700	FOREMAN
POCKET PENETROMETER	WEATHER
	PERMIT NO

CODE	DESCRIPTION OF WORK PERFORMED
	MHD ON SITE @ 1300 PER CLIENT REQUEST
	FOR PENETROMETER TESTS @ MOLE PIER
	PHASE I EXCAVATION

SUMMARY OF PENETROMETER READINGS

LOCATION	~~FEET~~ BGS	READING	SOIL DESC.
#1	≅ 3'	Ø.75	BLACK SILTY SAND (WET)
#1	≅ 6'	Ø.25	BLACK SILTY SAND (WET)
#2	≅ 3'	2.25	YELLOW BROWN SILTY SAND W/SH
#2	≅ 5'	>4.5	GRAY BROWN SILTY SAND W/SHELLS
#3	≅ 3'	3.25	GRAY BROWN SILTY SAND W/SHELLS
#4	≅ 4'	1.5	GRAY FINE SAND W/SHELLS
#5	≅ 5'	1.0	GRAY FINE GRAINED SAND W/SHELLS
#6	≅ 5'	0.25	GRAY FINE GRAINED SAND W/SHELLS

NOTE: ALL READINGS IN TONS/FT²

MHD LEFT SITE @ 1420

FIELD TECHNICIAN	HOURS	O.T.
M.H. DENNY	3	

VISITORS

CLIENT REP

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 06/30/00	DAY FRIDAY	AUTHOR L. LABRADA	NO. 1
PROJ NAME FOSTER/MOLE PIER SITE 2		PROJ NO. 104108-02	
CLIENT FOSTER WHEELER			

EQUIPMENT	CONTRACTOR FOSTER WHEELER
	FOREMAN LUIS RIVERO
	WEATHER SUNNY
	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
	- LAL (PROJECT MANAGER - NINYO & MOORE) ARRIVED ON-SITE @ 7:15 AM PER CLIENT REQUEST TO MEET FOR A PRE-CONSTRUCTION MEETING.
	- MET WITH LUIS RIVERO (FOSTER WHEELER - SITE REP.) AT SITE, TO GO OVER PROJECT SPECIFICATIONS AND SCOPE OF WORK AT THE SITE.
	- WE FOUND SEVERAL ITEMS NOT IN OUR ORIGINAL P.O. ORDER SUCH AS: R-VALUE TESTING, SAND EQUIVALENT AC COILING TEST, CONCRETE SAMPLING TESTING, REVIEW OF MIX DESIGNS.
	- DURING MY VISIT I COMPILED THE INFORMATION NEEDED (PROJECT SPEC'S) TO PERFORM OUR SCOPE OF WORK.
	LAL OFF SITE 10:15 AM

FIELD TECHNICIAN / GEOTECH ENGINEER	HOURS	OT	VISITORS
LAL			
SITE	3.0		
TRAVEL	0.5		
	3.5		CLIENT REP

Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 3/05/00	DAY WEDNESDAY	AUTHOR L. LABRADA	NO. 3
PROJ NAME MOLE PIEL, SITE 2		PROJ. NO. 104108-02	
CLIENT FOSTER WHEELER			

EQUIPMENT (1) MALINIAX	CONTRACTOR F.W.
(1) LOADER	FOREMAN LUIS RIVERO
(1) TRACK DOZER	WEATHER SUNNY
	PERMIT NO

CODE	DESCRIPTION OF WORK PERFORMED
	- LAL ARRIVED ON SITE @ 9:00 AM PER CLIENT
	REQUEST TO PERFORM FIELD DENSITY TEST ON
	COMPACTED FILL @ EXCAVATION (GRID NO. 614, 613, 612)
	- CONTRACTOR WAS NOT READY FOR COMPACTION
	TESTING. ASK ME TO COME BACK AT 2:00 PM.
	- LEFT SITE @ 10:30 AM

FIELD TECHNICIAN	HOURS	OT	VISITORS
LAL			
SITE	2 (HRS)	MIN. CHARGE	
			CLIENT REP

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 7/5/00	DAY WEDNESDAY	AUTHOR L. LABRADA	NO. 1
PROJ. NAME MOLE DIEH, SITE 2		PROJ. NO 104108-02	
CLIENT FOSTER WHEELER			

EQUIPMENT (1) DAMMAX	CONTRACTOR F.W.
(1) LOADER	FOREMAN LUIS RIVERO
(1) TRACK DOZER	WEATHER SUNNY
	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
	- LAL ARRIVED ON-SITE @ 2:00PM PER CLIENT REQUEST TO PERFORM FIELD DENSITY TEST ON COMPACTED FILL @ ELEVATION ALONG GRID LINE G14, G13 & G12.
	- OBSERVED CONTRACTOR PLACING 6" THICK LIFT USING A VIBRATORY SHEEPSFOOT ROLLER.
	- PERFORMED 2 COMPACTION TEST, 1 TEST MET MIN. COMPACTION OF 90%. 1 FAIL TO MET 90% RECOMENDED COMPACTION IN REWORK AREA. PERFORMED A RE-TEST. TEST MET MIN. COMP. REPORT
	- OFF SITE @ 4:30 PM

FIELD TECHNICIAN	HOURS	O.T.	VISITORS
LAL			
SITE	2.5		
TRAVEL	0.5		
	3.0		CLIENT REP

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 7/06/00	DAY THURSDAY	AUTHOR L. LABRADA	NO.
PROJ. NAME MOLE PIER 2		PROJ. NO 104108-01	
CLIENT FOSTER WHEELER			

EQUIPMENT (1) TRACK DOZER	CONTRACTOR F.W.
(1) VIBRATORY SHEEPSFOOT COMPACTOR	FOREMAN LUIS RIVERA
(1) HAND WACKER	WEATHER SUNNY
(1) LOADER	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
(1)	- LAL ARRIVED ON-SITE @ 10:00 AM PER CLIENT REQUEST TO PERFORM FIELD DENSITY TEST ON COMPACTED FILL.
	- OBSERVED CONTRACTOR PLACING 2 1/2" MINUS ROCK MATERIAL OVER THE FILL MATERIAL. TEST WAS NOT PERFORMED DUE TO THE CHARACTERISTICS OF THE SOIL. CONTRACTOR WANT ME TO CALL BACK AT 2:00 PM.
(2)	- LAL ARRIVED ON-SITE @ 2:15 PM PER CLIENT REQUEST TO PERFORM FIELD DENSITY TEST ON COMPACTED FILL ALONG THE NORTH SIDE OF BLDG. 3224.
	- PERFORMED 1 TEST ON G-13 & ONE @ G-14. BOTH TESTS MET MINIMUM COMP. EFFORT OF 90% R.C.
	- RECCOMENDED CLIENT TO USE A FILTER FABRIC BETWEEN THE 2 1/2" MINUS MATERIAL & THE GRANULAR SOIL. A TRANSMITTAL LETTER WILL BE ISSUE
	- OFF SITE @

FIELD TECHNICIAN LAL	HOURS	OT	VISITORS
(1) SITE	2.0 min		
(2) SITE	2.0 min		CLIENT REP
	4.0 min		

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 7/18/00	DAY TUESDAY	AUTHOR L. LABRADA	NO. 6
PROJ NAME FOSTER WHEELER/MOLE PIER		PROJ NO 104108-02	
CLIENT FOSTER WHEELER			

EQUIPMENT (1) VIBRATORY DRUM COMPACTOR	CONTRACTOR F.W.
(1) TRACK DOZER	FOREMAN LUIS MIRAO
	WEATHER SUNNY
	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
	- LAL ARRIVED ONSITE @ 10:15 AM PER CLIENT REQUEST TO PERFORM FIELD DENSITY TESTS ON COMPACTED FILL FROM GRID LINE A2C/3-9.
	- OBSERVED CONTRACTOR SPREADING IMPORT GRANULAR FILL MATERIAL IN 6" COMPACTED LIFT USING A DOZER & VIBRATORY DRUM COMPACTOR. OBSERVED NO FILTER BARRIER PLACED IN BETWEEN ROCK MATERIAL & GRANULAR FILL, AS RECOMMENDED BY N&M ENGINEER.
	- PERFORMED 3 TESTS ON GRID LINES B-9, B-7 & B-5. ALL TESTS MET MINIMUM COMPACTION REQUIREMENT OF 90% R.C.
	- LEFT SITE @ 2:15 PM
	- ELAPSED 1/2 HR.

FIELD TECHNICIAN	HOURS	OT	VISITORS
LAL	3.5		
SITE	~~3.5~~		
TRAVEL	0.5		
	4.0		CLIENT REP.

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 7/19/00	DAY WEDNESDAY	AUTHOR L. LABADA	NO. 7
PROJ NAME MOLE PIER 2		PROJ NO 104108-02	
CLIENT FOSTER WHEELER			

EQUIPMENT ( ) SMOOTH DRUM COMPACTOR	CONTRACTOR F.W.
(1) DOZER	FOREMAN LUIS FIGUEROA
	WEATHER SUNNY
	PERMIT NO

CODE	DESCRIPTION OF WORK PERFORMED
	- LAL ARRIVED ON-SITE AT 10:00 AM PER CLIENT REQUEST TO PERFORM FIELD DENSITY TEST ON COMPACTED FILL IN AREA #1 & #2
	- OBSERVED CONTRACTOR PLACING IMPORT FILL MATERIAL IN 6" COMPACTED LIFT USING A SMOOTH DRUM COMPACTOR.
	- PERFORMED 6 FIELD DENSITY TESTS INCLUDING A SAND CONE TEST. ALL TESTS MET MINIMUM COMPACTION EFFORT OF 90 % R.C. (2 AREAS FAIL TO MEET COMPACTION, RECOMMENDED CONTRACTOR TO RE-WORK FAILING AREAS, AFTER RE-WORKED, BOTH AREAS MET MINIMUM COMPACTION EFFORT).
	- LEFT SITE @ 3.00 PM
	- LUNCH - 1/2 HR.

FIELD TECHNICIAN	HOURS	OT	VISITORS
LAL			
SITE	4.5		
TRAVEL	1.0		
	5.5		CLIENT REP

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 7/20/00	DAY THURSDAY	AUTHOR L. LABRADA	NO. 8
PROJ NAME LIDIE PIER		PROJ NO 104108-01	
CLIENT FOSTER WHEELER			

EQUIPMENT (1) SMOOTH DRUM COMPACTOR	CONTRACTOR F.W.
(1) TRACK DOZER	FOREMAN Luis Rivera
	WEATHER SUNNY
	PERMIT NO

CODE	DESCRIPTION OF WORK PERFORMED
	- LAL ARRIVED ON-SITE @ 2:00 PM PER CLIENT REQUEST
	TO PERFORM FIELD DENSITY TEST ON COMPACTED FILL
	FROM A,B,C/1-15.
	- PERFORMED 3 TESTS, 2 TESTS MET MINIMUM COMPACTION
	REQUIREMENT OF 90% R.C. 1 TEST FAIL (A-8)
	TO MEET MIN. COMP. REQ'S OF 90% R.C. • RECOMMENDED
	CONTRACTOR TO REWORK FAILING AREA
	- LEFT SITE @ 3:15 PM

FIELD TECHNICIAN	HOURS	O.T	VISITORS
LAL			
SITE	1.5		
PREP.	1.0		
	2.5		CLIENT REP.

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 7/21/00	DAY F	AUTHOR SPBowler	NO. 9
PROJ NAME Mole Pier		PROJ NO 104108-01	
CLIENT Foster Wheeler			
EQUIPMENT N/A		CONTRACTOR F.W.	
		FOREMAN Luis Rivera	
		WEATHER Clear	
		PERMIT NO. —	

CODE	DESCRIPTION OF WORK PERFORMED
	Onsite 7.00 AM on request.
	Walked thru the fill area that had failed to meet the mem. req. of 90% RC. The compacted fill (A-8 line) appeared to be lamenated with the lifts ~~[illegible]~~ not bonding to each other. Material is a fine grade sand and the roller is a ~~smooth~~ smooth drum steel roller.
	Testing services will not be needed until Mon @ 7.00 AM 7/23/00

FIELD TECHNICIAN	HOURS	O.T.
SPBowler SITE	1.5	
TRAVEL	1.0	
	2.5	

VISITORS

CLIENT REP.

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 7/24/00	DAY MONDAY	AUTHOR L LABRADA	NO. 10
PROJ NAME MOLE PIER SITE 2		PROJ. NO 104105-02	
CLIENT FOSTER WHEELER			

EQUIPMENT	CONTRACTOR
	FOREMAN
	WEATHER
	PERMIT NO

DESCRIPTION OF WORK PERFORMED

- LAL ARRIVED ON-SITE @ 8:50 AM PER CLIENT REQUEST TO PERFORM & MONITOR FIELD DENSITY TEST ALONG AREA 1 & 2 AND BETWEEN PIER CAISSON

- OBSERVED THE PLACEMENT OF FILL MATERIAL BETWEEN THE PILES. PERFORMED 1 DENSITY TEST OF F-16 ELEV. 10' TEST MET MINIMUM COMPACTION REQUIREMENT OF 90% R.C.

- AT 9:30 AM MET WITH R. WHEELER AT SITE TO COLLECT SOIL SAMPLES TO RUN LAB TEST FROM CONTAMINATED AREA AND FROM PLACED IMPORT FILL MATERIAL. (B-11)

- SOIL WILL CONTINUE TO BE PLACED TOMORROW AT SAME AREAS.

- LUNCH TAKEN 1/2 HR.

- LEFT SITE @ 3 50 PM

FIELD TECHNICIAN	HOURS	OT
LAL SITE	6.5	
TRAVEL	1.0	
	7.50	

VISITORS (CWS) TRAINING - 2 0

CLIENT REP

Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 7/25/00	DAY Tues	AUTHOR SPBowles	NO. 11
PROJ NAME Mole Pier #2		PROJ NO 104108-02	
CLIENT Foster Wheeler			
EQUIPMENT (1) Steel drum roller (1) Water truck (1) bomag (1) Walker (1) Rubber Tire Backhoe (1) D-5 dozer		CONTRACTOR Foster Wheeler	
		FOREMAN Lance	
		WEATHER Clear	
		PERMIT NO	

CODE	DESCRIPTION OF WORK PERFORMED
	Onsite 7.00 AM, per request, for observation & compaction testing in area # 1, 2 & 3.
	Material being imported was a clean #15 silty sand from the Vulcan Plant in Mission Valley. A field check point was pounded out compared to the lab max density. Point was within 1% point of the density & moisture
	Material was ~~spread~~ spread & compacted in uniform lift of approx. 6" Compaction was achieved by the steel drum vibrating roller.
	A total of 9 relative compaction tests were taken (one by sand cone method) two failed to achieve the min spec. of 90%, this was along the edge of the existing piping. After re compaction efforts both tests indicated ≥ 90% or greater.
	The concrete cassion AREA WAS ~~were~~ included in today testing
	off site 3.30 PM

FIELD TECHNICIAN	HOURS	O.T.
SPBowles	8.0	

VISITORS

CLIENT REP.

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 7/26/00	DAY Wed.	AUTHOR SPBowles	NO. 13
PROJ. NAME Mole Pier #2		PROJ. NO 104108-02	
CLIENT Foster Wheeler			

EQUIPMENT ① Steel drum Roller ① Wacker ① Bomag ① Rubber Tire Backhoe ① D-5 Dozer ① Loader ① Water Truck	CONTRACTOR Foster Wheeler
	FOREMAN Lance
	WEATHER Clear
	PERMIT NO

CODE	DESCRIPTION OF WORK PERFORMED
	On site 8:00AM per request, for observation & compaction testing of the fill placement in areas #1, 2 & 3. Material is a imported silty sand (SP15) from the Vulcan Plant in Mission Valley.
	Material was spread in uniform lifts of approx 6", with compaction being achieved by the Steel drum vibratory roller, Bomag & Wacker.
	Did (6) relative compaction test (one by sand cone) all indicated ≥ 90% or greater.
	off site ~ 1200hr.

FIELD TECHNICIAN	HOURS	OT	VISITORS
SPBowles	4.0		
Travel	1.0		
	5.0		CLIENT REP

White - File Copy Yellow - Client Copy Pink - Field Copy

Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 7/27/00	DAY Thur	AUTHOR SP Bowler	NO. 14
PROJ NAME Mole Pier		PROJ NO 104108-02	
CLIENT Foster Wheeler			
EQUIPMENT (1) Dozer		CONTRACTOR Foster Wheeler	
		FOREMAN Jim	
		WEATHER Clear	
		PERMIT NO —	

CODE	DESCRIPTION OF WORK PERFORMED
	Onsite 1200 hrs – off site at approximately 3:00 P.M
	Contractor had spread & compacted a approx.
	lift of 5" To 6" of the imported SP #15 sand from
	the Mission Valley Vulcan Plant.
	Fill was placed from the East Gate to the
	West Gate and from the Fence line to the
	Steam Box.
	Both tests were by the Nuke Gauge and
	Both tests indicated 90% or greater relative
	compaction.
	Also a loose lift of the stockpiled
	soil, on the East side of the site, was
	spread over the area ~~of the~~ west of the
	concrete caisson.
	* ~~Please note that the concrete for the seam [illegible]~~
	~~base was hauled in from [illegible] Haul your own~~
	~~[illegible]~~

FIELD TECHNICIAN	HOURS	OT	VISITORS
SP Bowler	3.0		
Travel	1.0		
	4.0		CLIENT REP. [signature]

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 7/31/00	DAY MONDAY	AUTHOR L LABRADA	NO. 15
PROJ. NAME MOIF PIER 2		PROJ NO 104108-02	
CLIENT FW			

EQUIPMENT (1) SMOOTH DRUM COMP.	CONTRACTOR FLU
(1) TRACK DOZER	FOREMAN LUIS
	WEATHER SUNNY
	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
	- LAL ARRIVED ON-SITE @ 9:10 AM PER CLIENT REQUEST TO PERFORM FIELD DENSITY TESTS ON COMPACTED FILL AT REMEDIATION BACKFILL EXCAVATION.
	- PERFORM 2 RE-TEST & 4 DENSITY TEST ON GRID NO. E12, F13, F12 & E-14. ALL TESTS MET MINIMUM COMPACTION REQUIREMENT OF 90% R.C.
	- OBSERVED CONTRACTOR PLACING 10-12" THICK LIFTS USING A TRACK DOZER & SMOOTH DRUM TO COMPACT THE SOIL.
	- LEFT SITE @ 11:30 AM

FIELD TECHNICIAN	HOURS	OT	VISITORS
LAL			
SITE	2.5		
TRAVEL	1.0		
	3.5		CLIENT REP

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 8-1-00	DAY TUE	AUTHOR Johnny Cruz	NO. 16
PROJ. NAME Foster/Mclerick Site 2		PROJ. NO. 104108-02	
CLIENT Foster			

EQUIPMENT	
Smooth Drum Compactor	CONTRACTOR FW
Track Dozer	FOREMAN Ron
water truck	WEATHER Hot & Sunny
	PERMIT NO

CODE	DESCRIPTION OF WORK PERFORMED
	JGC - Arrived on site at 9:00 Am
	per client request to perform
	field density test on compaction fill
	Perform 15 test with 5 were failing test
	The 5 failing tests were on
	Grid line = C-9, C6-C8, C6-C7 Foreman was
	notified and they reworked area
	I retested my failing test and meet the
	relative compaction of 90%
	JGC - Observed 5 ft of soil placed on grid
	line D15 to D17 E15 to E17 F15 to F17
	soil layer from bottom to top had not
	been tested. The area was observed
	to be used as stockpile for imported
	material. Told contractor that area must be
	excavated at least 3 ft below top surface
	left site [illegible]

FIELD TECHNICIAN	HOURS	OT
LAL	3.0	
RMM	3.5	
TRAVEL	1.0	
	7.5	

VISITORS JGC (Training) 7.5

CLIENT REP [signature]

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Page ____ of ____

Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE: 9-2-00	DAY: WEDNESDAY	AUTHOR: Robert [illegible]	NO. 17
PROJ. NAME: FOSTER/MOLE PIER SITE 2		PROJ. NO: 104108-02	
CLIENT: FOSTER WHEELER			

EQUIPMENT	CONTRACTOR: FOSTER WHEELER
CAT D5M DOZER	FOREMAN: LOUIS
(3) THREE 10 WHEEL END DUMP W/ TRAILERS	WEATHER: HOT / PARTLY CLOUDY
	PERMIT NO

CODE	DESCRIPTION OF WORK PERFORMED
	ARRIVED ON SITE @ 10:09 AM AS REQUESTED BY THE CLIENT, FOR FIELD DENSITY TEST OF THE COMPACTED FILL MATERIAL.
	PROCEEDED TO TEST THE AREA BETWEEN LINES 15 THRU 17 AND C THRU F. OBTAINED TWO (2) TESTS AT 2' DEPTH, EL. 10.71± AND EL 11.16± AND (1) ONE @ (1) ONE FOOT DEPTH @ EL. 11.66± @ THE FOLLOW LOCATIONS RESPECTFULLY: LINE 15.75/E.B; ~~15.75~~ 17 RMM/D/E AND 15.75/D/E. ALL (3) THREE TEST FAILED, COMPACTION RANGED FROM 77% TO 82%. REQUIRES REMOVAL OF 2' OF MATERIAL AND AREA REWORKED. INFORMED SUPERINTENDENT OF THE SITUATION @ 12:30 PM. (JIM THE SUPERINTENDENT STATED THAT HE WOULD REMOVE 2 FEET OF MATERIAL (2 LIFTS) AND REWORK THE AREA AGAIN.
	CONTRACTOR CONTINUED PLACING MATERIAL BETWEEN LINES 9-11/B-C 6" to 8" LIFT AS REQUIRE TO GRADE, AND TRACK ROLLING THE MATERIAL WITH THE CAT D5M DOZER. COMPLETING THIS OPERATION BY NOON.
	CONTRACTOR'S CREW BEGAN REMOVING TWO (2) FEET OF MATERIAL (2 LIFT) BETWEEN LINES 15-17/C-F TO REWORK BOTTOM LIFTS WHICH FAILED. THIS OPERATION WAS PERFORMED THRU OUT THE REMAINDER OF THIS SHIFT. LEFT SITE @ 2:00 PM

FIELD TECHNICIAN	HOURS	O.T.	VISITORS
[signature]	4		
TRAVEL	1		
TOTAL	5		CLIENT REP: [signature]

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FOSTER WHEELER ENVIRONMENTAL CORPORATION
230 Columbia Street, Suite 640 San Diego, CA 92101 (619) 234-8696

NUMBER 02060

CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Sub-Site 2A Mole Pic	PURCHASE ORDER NO.: 23599
PROJECT LOCATION: 32nd Naval Station	PROJECT NO.: ~~32~~ CTO-002
SAMPLER NAME: Ninyo + Moore	SAMPLER SIGNATURE:
PROJECT CONTACT: Luis Rivero (619) 702-4104	AIRBILL NUMBER:

LABORATORY NAME:

LABORATORY ID (FOR LABORATORY):

Project Information Section Do not submit to Laboratory

ANALYSES REQUIRED

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL C	LEVEL D	TYPE	TAT	Direct shear (ASTM 3080)	Consolidation (ASTM 2435 90)	Spec. Gravity	Soil moisture/density	Max density (Proctor)	Gradation					COMMENTS	LOCATION LA ~~C-14~~	DEPTH START	DEPTH END	QC
0002 8003	7/24/00	1130	2		/	Bag Rng	7 day	X										compacted clean fill	~~I-16~~ C-14 LE	5'	6'	✓
0002 8004	7/24/00	1145	3		/	Bag	7 day	X	X	X	X							in place clay @ 10' bgs	I-16	10'	11'	✓
0002 8005	7/24/00	1230	1				7 day						X	X				clean fill	stockpile			

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:

White - Laboratory; Pink - Laboratory; Cana[illegible] roject File; Manila - Data Management

Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 8/3/00	DAY THURSDAY	AUTHOR L. LABRADA	NO. 18
PROJ NAME MOLE PIER 2		PROJ NO 104108-02	
CLIENT FOSTER WHEELER			

EQUIPMENT (1) TRACK DOZER	CONTRACTOR FW
(1) SMOOTH DRUM COMPACTOR	FOREMAN JIM / LUIS
	WEATHER SUNNY
	PERMIT NO.

DESCRIPTION OF WORK PERFORMED – LAL ARRIVED ON-SITE @ 8:00 AM PER CLIENT REQUEST TO PERFORM FIELD DENSITY TEST ON COMPACTED FILL PLACED EAST OF THE CONCRETE PRESS

– OBSERVED CONTRACTOR EXCAVATED 3 FEET OF SOIL. PERFORMED 2 DENSITY TEST AT THE MIDDLE OF THIS AREA, HOWEVER A CHECK POINT WAS FOUND FROM SOIL BENEATH THE FOOTPRINT OF THE CANOE. CHECK POINT CAME OUT TO BE DD= 109.0 PCF WITH W=10.1 %. 5 FEET AWAY FROM 1ST CHECK POINT, ANOTHER CHECK POINT WAS PERFORM RESULTING WITH A DD= 114.0 PCF WITH W= 10.4 % MOISTURE CONTENT. THIS TELL US THAT SOIL DOES NOT HAVE THE SAME PROPERTIES, CONSISTENCY AND UNIFORMITY THROUGH OUT THIS AREA. SOIS MUST BE OVER-EXCAVATED DOWN TO 1ST LAYER, BLEND & PROCESSES FOR BETTER UNIFORMITY AND CONSISTENCY. TWO SOIL SAMPLES WERE TAKEN TO THE LAB TO PERFORM A MAX DENSITY / MOISTURE CURVE. SOIL #4 WAS TAKEN FROM MIX STOCKPILE. SOIL #5 REPRESENTS 1/2 bag of ML MATERIAL & 1/2 BAG OF IMPORT (SM) MATERIAL

LEFT SITE @ 11:15 AM

FIELD TECHNICIAN	HOURS	OT
~~SITE~~ LAL		
SITE	3.5	
TRAVEL	1.0	
	4.5	

VISITORS

CLIENT REP [signature] 8/4/00

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 8-4-00	DAY FRIDAY	AUTHOR Robert M. Mais	NO. 19
PROJ. NAME FOSTER/MOLE PIER SITE 2		PROJ NO 104108-02	
CLIENT FOSTER WHEELER			
EQUIPMENT INGERSOLLRAND 70 SMOOTH DRUMP VIBRATORY Roller Compactor WATER TRUCK CAT. D5M DOZER		CONTRACTOR FOSTER WHEELER FOREMAN RON WEATHER HOT / CLEAR PERMIT NO.	

CODE	DESCRIPTION OF WORK PERFORMED
	ARRIVED ON SITE @ 7:00 AM AS PER CLIENTS REQUEST, FOR FIELD DENSITY TEST of THE COMPACTED FILL MATERIAL; UTILIZING THE NUCLEAR GAGE.
	CONTRACTOR CREW RIPPED THE MATERIAL TO ONE (1) FOOT DEPTH AND PROCESSED THE MATERIAL IN PLACE. CONTRACTOR RAN TWO (2) TEST STRIPS FOR NUMBER of PASSES AND DENSITY. UTILIZED TWO (2) PROCTORS THE 101.2 AND THE NEW PR. of 124.5. BOTH PROCTORS DID NOT PRODUCE GOOD RESULTS. OBTAINED AND OTHER TEST SAMPLE FOR THE LAB TO RUN. TRANSPORTED SAMPLE to THE LAB.
	CONTRACTOR ELECTED TO SHUT DOWN ALL OPERATIONS ON THE FILL MATERIAL UNTIL RESULTS COULD BE OBTAINED, WHICH IS MONDAY MORNING @ THE EARLYEST
	LEFT SITE @ 10:00 AM.

FIELD TECHNICIAN	HOURS	O T
[signature]	5	
Travel	1	
Total	4	

VISITORS L. LABRADA 2.5 HOURS (1-4-13-2)

CLIENT REP. [signature]

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 8-4-00	DAY FRIDAY	AUTHOR Robert M. Mais	NO. 20
PROJ NAME Foster/Mole Pier Site 2		PROJ NO 104108-02	
CLIENT Foster Wheeler			

EQUIPMENT	CONTRACTOR Foster Wheeler
	FOREMAN Ron
	WEATHER Hot/Clear
	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
	Picked up and transported Class II base from Chula Vista Hanson Plant to Ninyo & Moore Lab for Foster Wheeler Job #104108-02.

FIELD TECHNICIAN	HOURS	O T	VISITORS
[signature]	2		
			CLIENT REP [signature]

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 8/7/00	DAY Mon	AUTHOR SPBowl	NO. 21
PROJ. NAME Malpeno		PROJ NO	
CLIENT Foster Wheeler			
EQUIPMENT N/A		CONTRACTOR F. W.	
		FOREMAN [illegible]	
		WEATHER [illegible]	
		PERMIT NO.	

CODE	DESCRIPTION OF WORK PERFORMED
	onsite 7.00AM.
	Services were not needed.
	Returned to N. M office

FIELD TECHNICIAN	HOURS	OT
SPBowl	20	

VISITORS

CLIENT REP [signature]

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 8/10/00	DAY Thur	AUTHOR SPBowler	NO.
ROJ NAME Mole Pier		PROJ NO. 104108-02	
CLIENT Foster Wheeler			
EQUIPMENT (1) Water truck		CONTRACTOR Foster Wheeler	
(1) Blade		FOREMAN Jim	
(1) Steel Drum Vibrating roller		WEATHER Clear	
		PERMIT NO. —	

CODE	DESCRIPTION OF WORK PERFORMED
	onsite 630AM for compaction testing of placed subgrade material and placement / compaction testing of class II base. Area of operation line #5 thru #12 and A thru B. Two relative compaction tests of subgrade indicated ≥ 93% (spec of SG is 93%) The Class II was spread in windrows by the "belly" dump truck and spread out & moisturized by the blade & water truck. Trucking in Base took all day and compaction efforts were ongoing at quitting time. Thickness of Base placement when done = 8"
	* → Fill material between line 15 – 17 and D to F was tested at Elevations 10.7, 11.7 and 11.2 on Test #56, #57 & #58. Grade is now at ~8.5 – 9.0 approximately 2' to 2½' has been removed as compaction tests dates are at Aug 2, 2000. Grade was shot from FF of Building #3229 (15.56) on the site plan Map

FIELD TECHNICIAN	HOURS	OT	VISITORS
[illegible]			
SPBowler	8.0		
			CLIENT REP

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 8/11/00	DAY Fri	AUTHOR SPBowler	NO. 23
PROJ. NAME Mole Dun		PROJ. NO. 104108-02	
CLIENT Foster Wheeler			

EQUIPMENT (1) Loader	CONTRACTOR F. W.
(1) D-3 Dozer	FOREMAN Ron
(1) Water truck	WEATHER Clear
(1) Steel Drum Roller	PERMIT NO

CODE	DESCRIPTION OF WORK PERFORMED
	onsite 7.00 for compaction testing of the AGG. BASE, Between Line #5 Thru #12 & A. Thru B.
	Two relative compaction tests indicated ≥ 95% or greater.
	a "controlled" fill was placed from line #13 Thru #14 & E.& Thru F.5.
	a SP #15 sand was placed -N- compacted in two 6" lifts Prior to placement the Existing surface was scarified & moisture condition with water. Each lift was moisturized and compacted by the steel drum roller.
	Two relative compaction tests were taken of the 1' compacted lift & one by sand cone & one by the Nuke gauge. Both indicated "less than" 90%.
	Contractor was notified and was bring in a larger roller on Mon 8/14/00 off site mid afternoon

FIELD TECHNICIAN	HOURS	OT	VISITORS
SPBowler Y Travel	8.0		
			CLIENT REP Jim Bellman

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 3-14-00	DAY MONDAY	AUTHOR Robert M. Gais	NO. 24
PROJ. NAME FOSTER WHEELER/MOLE PIER SITE 2		PROJ. NO 103108-01	
CLIENT FOSTER WHEELER			

EQUIPMENT CAT. D5M DOZER	CONTRACTOR FOSTER WHEELER
VOLVO L90C FRONT END LOADER	FOREMAN Luis
INGERSOLLRAND PRO-PAC 70 VIBRATORY DUMP Roller	WEATHER Cool/OVERCAST
WATER TRUCK	PERMIT NO

CODE	DESCRIPTION OF WORK PERFORMED
	ARRIVED ON SITE @ 7:00 AM AS PER CLIENTS REQUEST, FOR FIELD DENSITY TEST OF THE COMPACTED FILL MATERIAL IN PLACE.
	PERFORMED (3) THREE TEST IN THE FOLLOWING AREAS, F-13, G-13 & F-12. ALL (3) THREE TEST FAILED WITH TEST ~~RESULTING~~ RMM, RESULTS RANGING FROM 83% TO 87% COMPACTION, UTILIZING THE PROCTOR OF 124.9 @ 10.9% MISTURE.
	CONTRACTOR'S CREW PROCEEDED TO RE-ROLL THE AREA AGAIN, THIS TIME UTILIZING THE VOLVO L90C FRONT END LOADER TO WHEEL ROLLER THE FS-15 FILL MATERIAL @ EL. 10.0 ±. ON COMPLETION OF REWORKING THE PERFORMED A FOURTH (4th) TEST @ AREA E-12, OBTAIN THE SAME RESULTS - COMPACTION @ 87%. (FAILED.)
	CONTRACTOR ELECTED TO RIP AND REWORK THE AREA, WITH THE UNDERSTANDING THAT IF IT FAILED AGAIN HE WOULD REQUEST A NEW PROCTOR, WILL PLACE (10) TEN PASSES W/ THE VIBRATORY ROLLER.
	NOTE: LUIS THE FOREMAN, STATED, THAT HE HAD TALKED TO VOLCAN THE MATERIAL SUPPLIER, AND THAT THEY HAD SAID, THAT THE MATERIALS PROCTOR VARIED FROM A 112 TO A 125. IF IN FACT THIS IS TRUE, A NEW PROCTOR MAY BE REQUIRED ON THE DAILY BASES OR ON ALL SHIPMENTS OF MATERIAL.
	(CONTINUE ON PAGE 2)

FIELD TECHNICIAN	HOURS	O.T.	VISITORS
[illegible]	8		
Travel	1		
Total	9		CLIENT REP [signature]

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Page 1 of 2

Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE	DAY	AUTHOR	CONTINUATION
8-14-00	MONDAY	Robert M. MAIS	NO. 24

PROJ. NAME: Foster / Mike Pick Site 2

PROJ NO: 103108-01

CLIENT: Foster Wheeler.

EQUIPMENT

CONTRACTOR

FOREMAN

WEATHER

PERMIT NO

CONTINUATION OF REPORT 24

CODE	DESCRIPTION OF WORK PERFORMED
	Completed Reworking the area from 11.75 thru 13.75/ E thru G after lunch, 12:40 pm. Retested area @ two (2) locations 12.5E and @ 12.5F, both passing with 91% to 92% compaction. Proceeded to work the area 13-14.5/D thru F and completed it @ 1:25 pm. Retested also at (2) two locations 13.5E and 13.5F with both test passing 91% and 90% compaction. All four failing test taken today were retested as well as one from 8-11-00 area is good.
	Contractor elected to rework area from 15-17/D thru F, area had pending failing test, taken on 8-2-00. Crew did not complete reworking this area this shift to be completed @ the A.M 8-15-00 then retested.
	Lift site @ 3:30 pm

FIELD TECHNICIAN	HOURS	O T	VISITORS
[signature]			
			CLIENT REP [signature]

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 3-15-00	DAY TUESDAY	AUTHOR Robert M. Mais	NO. 25
PROJ. NAME FOSTER/MULE PIER SITE #2		PROJ NO 104108-02	
CLIENT FOSTER WHEELER			

EQUIPMENT CAT. D5M DOZER	CONTRACTOR FOSTER WHEELER
CAT. CS 563C STEEL DUMP Roller Compactor	FOREMAN Ron
WATER TRUCK	WEATHER HOT / HAZZY
(5) 10 WHEEL Double Trailer END DUMPS	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
	ARRIVED ON LOCATION @ 7:00 AM AS REQUESTED BY THE CLIENT, FOR Field DENSITY TEST OF THE COMPACTED FILL MATERIAL IN PLACE.
	CONTRACTOR'S CREW COMPLETED RE-WORKING THE AREA FROM LINES 15 THRU 17 AND D THRU F THIS A.M. NOTE: AREA HAD (3) THREE FAILING TEST @ EL. 11.8, 9.8 & 11.0. THAT LIFT/MATERIAL WAS REMOVED. THIS AREA IS NOW @ EL. 10.0. TEST TAKEN @ (3) THREE LOCATION AS FOLLOW 15.75/E.8; 15.75/D&E AND 17/D.75 ALL PASSING WITH 90% OR BETTER. THE PROCTOR UTILIZED FOR THE TEST WAS 101.2 AND 119.3. THE 101.2 WAS UTILIZED @ 15.75/E.8 DUE TO MORE OF THE YELLOWISH MATERIAL VISIBLE, THE OTHER TWO (2) TEST UTILIZED 119.3 proctor WHICH WAS FOR THE MIX MATERIAL IN THAT AREA.
	* OBTAINED A NEW SOIL SAMPLE FOR THE MATERIAL BEING DELIVERED THIS SHIFT FOR A NEW PROCTOR. PREVIOUSLY PROCTORS ARE NOT PRODUCING GOOD RESULTS ON THE MATERIAL BEING TESTED. -- ALSO OBSERVED, THAT THE MATERIAL BEING DELIVERED THIS SHIFT IS NOT UNIFORM IN MOISTURE AND APPEARS TO BE FROM DIFFERENT SOURCES FROM THE STOCK PILE @ THE PLANT.

(CONTINUE ON PAGE 2)

FIELD TECHNICIAN	HOURS	O.T	VISITORS
R. M. Mais	4		
Travel	1		
Total	5		CLIENT REP

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 8-15-00	DAY TUESDAY	AUTHOR Robert M. Mars	NO. 25
PROJ. NAME Foster/Moore Pit Site #2		PROJ. NO. 104108-02	
CLIENT Foster Wheeler			

EQUIPMENT	CONTRACTOR Foster Wheeler
Continuation of Report 25	FOREMAN Ron
	WEATHER Hot/Hazy
	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
	Contractor elected to place a (1) one foot lift over the area from lines 11 thru 14 and D thru F and from lines 15 thru 18 and D thru F and stop all activity pending results of the proctor tomorrow @ the L.M.
	Contractor's foreman requested for me to leave the site @ 11:00 am, placing on area 15-18/D-F still on going.
	Lift site 11:00 am
	(Requested B.M.C. tomorrow 8-16-00 @ 7:00 am)

FIELD TECHNICIAN	HOURS	OT	VISITORS
Robert M. Mars			
			CLIENT REP.

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 3-16-00	DAY WEDNESDAY	AUTHOR Robert M. Mais	NO. 26
PROJ. NAME Foster/Mole Pier Site #2		PROJ NO 104108-02	
CLIENT Foster Wheeler			
EQUIPMENT CAT CS 563C STEEL DRUM VIBRATORY COMPACTOR		CONTRACTOR Foster Wheeler	
		FOREMAN Ron	
(6) 18 WHEEL Double Trailer End Dumps		WEATHER Hot/Hazzy	
		PERMIT NO	

CODE	DESCRIPTION OF WORK PERFORMED
	ARRIVED ON LOCATION @ 7:00 AM AS REQUESTED BY THE CLIENT FOR FIELD DENSITY TEST OF THE FILL MATERIAL.
	PERFORMED (4) FOUR FIELD DENSITY TEST UTILIZING THE NUCLEAR GAUGE. ALL FOUR (4) TEST FAILED @ 87% TO 88%. WITH THE NEW PARCTOR OF 123.6 @ 4.5% MOISTURE.
	PERFORMED ONE (1) ADDITIONAL FIELD DENSITY TEST ON PAD #2 BEING @ LINES 12.25/E-95 WITH GOOD RESULTS - 92% COMPACTION
	OBTAINED TWO (2) ADDITIONAL SAMPLES AND TRANSPORTED SAMPLES TO THE LAB 11:30 AM. & 12:30 PM. (ALSO CHANGED NUCLEAR GAUGE)
	ON RETURN TO SITE. PERFORMED (3) THREE MORE DENSITY TEST UTILIZING THE SAND CONE METHOD, RESULTS ON ALL (3) THREE SAND CONE TEST PAST WITH RESULTS RANGING FROM 93% TO 95% COMPACTION. CLEARING TWO (2) OF THE PREVIOUS FAILING TEST (TWO (2) FAILING TEST STILL PENDING) AS NOTED ON THE FIELD DENSITY SHEET.
	PERFORMED TWO (2) TEST ON THE CLASS II MATERIAL BEING PLACED ON TOP OF THE BALLEST BETWEEN LINES 16-18/G-I ONE (1) @ 6" DEPTH AND ANOTHER @ 12" DEPTH BOTH TEST PASSING WITH 90% TO 95% RESPECTFULLY. ~~LEFT SITE @ 4 PM~~ RMM 30 ~~NO LUNCH~~

FIELD TECHNICIAN	HOURS	OT
[signature]	9.5	
Report & Travel	1+1	
Total	11.5	

VISITORS CONTINUE ON PAGE 2

CLIENT REP [signature]

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 8-16-00	DAY WEDNESDAY	AUTHOR Robert M. MAS	NO. 26
PROJ. NAME Foster/Mole Pier Site #2		PROJ NO. 104108-02	
CLIENT Foster Wheeler			

EQUIPMENT	CONTRACTOR Foster Wheeler
CONTINUATION	FOREMAN Ron
OF REPORT 26	WEATHER Hot/Hazzy
	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
	NOTE: NAVAL REP. TOM VARSHUCK (NAVAL GEO. TECH)
	ON SITE THIS AM TO DISCUSS THE ON GOING PROBLEM
	ACHIEVING COMPACTION. ITEM DISCUSSED WERE THE
	TESTING EQUIPMENT, METHOD OF TESTING THE EQUIPMENT
	UTILIZED FOR COMPACTING THE MATERIAL AND THE
	MATERIAL BEING DELIVERED TO THE SITE.
	RECOMMENDATIONS MADE BY THE GEO. TECH
	TOM VARSHUCK WAS TO PERFORM ALL FAILED DENSITY
	TEST WITH THE SAND CONE AND OBTAIN A VIBRATOR
	SHEETS FOOT ROLLER RATHER THAN UTILIZING THE
	STEEL DRMP (SMOOTH DRUM) ROLLER.
	CONTRACTOR SHUT DOWN OPERATION UNTILL A
	SHEEP FOOT ROLLER COULD BE OBTAINED.
	LEFT SITE @ 4:30 PM NO LUNCH

FIELD TECHNICIAN	HOURS	OT	VISITORS
[signature]			
			CLIENT REP [signature]

P.O. 25577

Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 8-18-00	DAY FRIDAY	AUTHOR Robert M. Ross	NO. 27
PROJ NAME Foster/Wheeler Pier site #2		PROJ. NO 104108-02	
CLIENT Foster Wheeler			
EQUIPMENT CAT D5M Track Dozer		CONTRACTOR Foster Wheeler	
CAT CP433C Vibratory Sheep Foot Roller		FOREMAN Ron	
Water Truck		WEATHER H. 85 Hot & Clear	
(10) 18 Wheel Double Trailer End Dumps		PERMIT NO.	

CODE	DESCRIPTION OF WORK PERFORMED
	Arrived on site @ 7:00 & per client's request, for field density test of the fill material.
	Contractor ship in a vibratory sheep foot roller on Thursday 8-17-00
	Reworked all areas again.
	Performed (4) four nuclear gauge test on the north & east section with all test passing with 90% to 96% compaction.
	Performed (1) one sand cone field density test @ the northeast section which failed the nuclear gauge test on Wednesday 8-16-00
	Retest passed with a 93% compaction — (Note: was also recompacted with the vibratory sheep foot roller).
	Contractor resumed placing fill material on the east side of the structure @ 11:00 and proceeded to compact 6" lifts. (All lifts are 6" lift, testing every other lift or @ every 1 foot of material placed vertically. Crew placing from 10 to 12 passes with the vibratory roller and in some cases up to 15 passes to obtain compaction.
	Performed 1 field density test on the 2nd lift directly east of the structure, test passed with a 96% compaction.
	(Continued on page 2)

FIELD TECHNICIAN	HOURS	OT
[illegible]	8	
Travel	1	
Total	9	

VISITORS

CLIENT REP. Thomas W. [illegible]

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 8-18-00	DAY FRIDAY	AUTHOR Robert M. Davis	NO. 87
PROJ. NAME FOSTER/MOLE PICK SITE #2		PROJ. NO. 104108-02	
CLIENT FOSTER WHEELER			

EQUIPMENT	CONTRACTOR FOSTER WHEELER
CONTINUATION OF	FOREMAN Rex
REPORT 27	WEATHER HOT/CLEAR
	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
	CONTRACTOR'S CREW CONTINUED WORKING ALL OTHER AREAS IN
	ATTEMPT TO HAVE THEM TESTED PRIOR TO THE END OF THE SHIFT.
	AREA 18-20/G-I, AREA 15-19/D-F & AREA 11-13/E-G
	CREW COMPLETED WORKING AREA 11-13/C-G PERFORMED
	A FIELD DENSITY TEST UTILIZING A PROCTOR of 124.4 WITH
	A RESULT of 92% COMPACTION (PASS)
	AREAS 18-20/G-I & 15-A/D-F WERE NOT COMPACTED
	THIS SHIFT. PENDING TESTING ON MONDAY PRIOR TO
	PLACING ANOTHER LIFT.
	LEFT SITE @ 3:30 PM

FIELD TECHNICIAN	HOURS	OT	VISITORS
[signature]			
			CLIENT REP. [signature]

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 8/21/00	DAY Mon.	AUTHOR SP Bowl	NO. 28
PROJ NAME Mole pier		PROJ NO. 104108.02	
CLIENT Foster Wheeler			

EQUIPMENT (1) Bomag	CONTRACTOR Foster Wheeler
(1) Steel drum Roller	FOREMAN Ron
(1) Loader	WEATHER Clear
(1) Water truck	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
	On site 7:00AM for observation & compaction ~~testing~~ of a imported clean SP #15 sand. Material was being uniformly mixed, moisturized, spread, & compacted in the East side of Building # 3224 and in line with the N/W corner of the Building.
	When I first arrived I performed two relative compaction tests at the existing grade of ~ 10Ø, prior to placement. Both tests indicated ≥ 90% or greater. Both by nuke gauge.
	One sand cone (Relative compaction test) was taken of the compacted fill in the N/W area. Relative compaction ≥ 90% also at ~ 10Ø.
	After ~ 1' had been placed N compacted in East side of the Building (near the end of the day work) two Relative compaction test indicated ≥ 90%.
	5 compaction test today = ≥ 90%
	off site mid afternoon

FIELD TECHNICIAN	HOURS	OT	VISITORS
SP Bowl	8.0		
Eq. Pick up & Return	1.0		CLIENT REP Jim Baldwin

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 8/22/00	DAY Tues	AUTHOR SP Bowler	NO. 29
PROJ NAME Mole Pier		PROJ NO 104108-02	
CLIENT Foster Wheeler			

EQUIPMENT (1) Dozer (1) Water truck	CONTRACTOR Foster Wheeler
(1) Loader	FOREMAN Ron
(1) Bomag / sheepfoot.	WEATHER Clear / windy
(1) Steel Drum Roller	PERMIT NO

CODE	DESCRIPTION OF WORK PERFORMED
	Onsite approximately 630AM to 230/300PM (APPROX).
	Contractor continued to import a clean SP #15
	sand, from Mission Valley Vulcan Plant, into the
	East side of Building #3224 between lines 16 TO 20
	& F to J.
	Material was uniformly placed, mixed, moist-
	urized & compacted in ~6" lift. Depth of
	placement today ~1'
	Prior to placement two relative compaction
	tests were taken, ~10°, and after the 1' of
	compacted fill, ~11 TO 11½.
	All four relative compaction tests were by
	Nuke gauge as it was fairly windy for the
	set-up of the scales for a sand cone.
	All relative compaction tests indicated ≥ 90%
1K	or greater with moisture near the optimum
	range.

FIELD TECHNICIAN	HOURS	OT	VISITORS
SP Bowler	8.0		
Eq. Pickup & return	1.0		CLIENT REP [signature]

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 8/23/00	DAY Wed	AUTHOR SPBowler	NO. 30
PROJ NAME Mole Pass		PROJ. NO. ~~1020~~/04108-02	
CLIENT Foster Wheeler			
EQUIPMENT (1) Water truck (1) Steel Drumroller (1) Bomag w/sheepsfoot (1) D-5 Dozer (1) Loader		CONTRACTOR Foster Wheeler	
		FOREMAN Ron	
		WEATHER Clear	
		PERMIT NO. —	

CODE	DESCRIPTION OF WORK PERFORMED
	onsite approx. 630AM (contractor begins at 6:00AM)
	The area on the East side of Building #3224, existing grade ~ 11^{S}, was scarified & moisture conditioned prior to today's placement.
	Material being placed was a SP#15 clean sand imported from the Mission Valley Vulcan Plant.
	Truck time (round trips were longer in time than in the past) and one 6" to 10" lift was placed moisture conditioned & compacted .... compaction was ongoing at quitting time. Area will be tested for relative compaction first thing on Thurs Morning 8/24/00.
	Grade was "shot" on the North side of the Building just West of the Rail Road Blocks and was Near or at rail grade Elevation ~ 12° - 12^{S}
	One relative compaction test (SAND CONE) indicated ≥ 93% (spec 93%) or greater
	off site ~ 2:30PM to 3:00PM

FIELD TECHNICIAN	HOURS	OT
SPBowler	8.0	
Eq. Pickup & Return	1.0	

VISITORS

CLIENT REP

Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 8/24/00	DAY Thur	AUTHOR SPBowler	NO. 31
PROJ NAME Mob Pier		PROJ NO 104108-02	
CLIENT Foster Wheeler			
EQUIPMENT (1) Water truck (1) D5 Dozer (1) Loader (1) Bomag w/ Sheepsfoot (1) Steel Drum roller		CONTRACTOR Foster Wheeler	
		FOREMAN Ron	
		WEATHER Clear	
		PERMIT NO	

CODE	DESCRIPTION OF WORK PERFORMED
	Onsite 6.30AM, Contractor began at 6.00AM.
	First thing in the morning the contractor cut 3 small pits (~4' in depth) at different locations in the East fill area at Building #3224.
	Material, SP#15 sand, had been placed & compacted on Wed. 8/23/00
	Three relative compaction tests, at ~ Elev 12' all indicated ≥ 90%
	Contractor began placing, mixing moisturizing & compacting, in ~ 6" lifts, the SP#15 sand imported from the Vulcan sand plant in Mission Valley.
	Near mid day relative compaction testing, in the North East area, Between line #D TO G, indicated ≥ 90% at ~ Elev 13'.
	Contractor continued placing & compacting from G. TO I.5 until quitting time.
	*Sub Grade ~~Footing~~ Testing will be needed in this area at ~ 13' Elev. Next time on site. / off site 2:30PM - 3:00PM

FIELD TECHNICIAN	HOURS	OT	VISITORS
SPBowler —	8.0		
Eq. Pickup & Fuel	1.0		CLIENT REP

Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 9.22.00	DAY Fr	AUTHOR SPBowler	NO. 32
PROJ. NAME Mole Pass		PROJ. NO 104108.02	
CLIENT Foster Wheeler			

EQUIPMENT (1) Loader (1) D-5 Dozer (1) Vibrating Steel Drum Sheepfoot compactor	CONTRACTOR Foster Wheeler FOREMAN Ron WEATHER Fair PERMIT NO —

CODE	DESCRIPTION OF WORK PERFORMED
	Onsite approximately 10.00 AM for observation & compaction testing of the fill being placed on the South East area of Building # 3224.
	A lt Brown Silty Sand, from the Vulcan Sand Plant in Miramar Valley, was placed & compacted as the dump trucks unloaded. Lift thickness were in inches, to a total depth today of ~ 1½' or elevation of ~ 10'.
	Two relative compaction tests both indicated ≥ 90 % with moisture near optimum (±2%).
	Grid lines of fill placement Approx:
	I.4 To L.N. 0
	16.0 To L.N. 19.0
	*- No Sand cones Tests. To windy for Scales.
	OFF Site 2.30 PM

FIELD TECHNICIAN	HOURS	OT	VISITORS
SPBowler	4.0		
Eq Pick-up & Travel	1.0		CLIENT REP

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 9-25-00	DAY Mon.	AUTHOR SPBowler	NO. 33
PROJ NAME Mole Pass		PROJ NO. 104108-02	
CLIENT Foster Wheeler			

EQUIPMENT (1) water truck	CONTRACTOR Foster Wheeler
(1) D-5 Dozer	FOREMAN Ron
(1) Vibrating Compactor	WEATHER Clear
	PERMIT NO. —

CODE	DESCRIPTION OF WORK PERFORMED
	Onsite 630AM – 230PM
	Contractor continued to place & compact a imported Silty Sand, from Vulcan sand plant in Mission Valley, in the area of the South East of Building # 3224. Area was also widen out by ~ 25'.
	Material was spread & compacted as soon as the trucks dumped. Water was added as material was spread.
	Approximately 1' – 1½' of material was placed & compacted by the D-5 dozer & Vibrating compactor. Two relative compaction tests, Both sand cone, indicated ≥ 90% with Moisture ± 2%.

FIELD TECHNICIAN	HOURS	OT	VISITORS
Bowler	8.0		
			CLIENT REP

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DAILY REPORT OF FIELD OBSERVATIONS

DATE 9.26.00	DAY Tues.	AUTHOR SPBowler	NO. 34
PROJ. NAME Mole Pier		PROJ NO 104108-02	
CLIENT Foster Wheeler			
EQUIPMENT (1) D.S Dozer (1) Water truck (1) Vibrating Compactor		CONTRACTOR Foster Wheeler	
		FOREMAN Ron	
		WEATHER Clear	
		PERMIT NO —	

CODE	DESCRIPTION OF WORK PERFORMED
	Onsite ~ 9.30AM for observation & compaction testing of the Ut Slice Br Silty Sand imported from the Vulcan sand Plant in Mission Valley.
	Area of placement is in the South East of Building #3224.
	Approximately 1 - 1½ (elev. 9.5 To 11.0) of fill was placed N. compacted as the dump trucks dump the soil. Lift thickness were very thin. Compaction was achieved by the Steel drum Vibrating Compactor with water added by the Water truck.
	Four relative compaction tests were taken, one indicated < less than 90% after reworking area tests indicate > 90. Two Nuke gauge & Two sand cone were taken.
	* - AC elev is ~14.00 Last Tests ~11.0 off Site 2.30PM

FIELD TECHNICIAN	HOURS	OT	VISITORS
— — — — —	4.5	.	
Eq Pick up + Travel	.5		
			CLIENT REP

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 9.27.00	DAY Wed	AUTHOR SPBowler	NO. 35
PROJ NAME Mole Pier		PROJ NO ~~1040~~ 104108.02	
CLIENT Foster Wheeler			

EQUIPMENT (1) Water truck	CONTRACTOR Foster Wheeler
(1) DS Dozer	FOREMAN Ron Graber
(1) Sheepfoot compactor	WEATHER over cast
(1) large Steel drum roller	PERMIT NO

CODE	DESCRIPTION OF WORK PERFORMED
	Onsite ~ 11:00 AM & replaced Louis L., of N.M., as the soil tech
	Louis walked me out thru the site. Contractor was placing a imported Olive Br. silty sand in the zone for the Sub Grade. Area is along the East side of Building # from line ~ 16 – 20 and D – N.
	Contractor also had another piece of compaction eq., a large ~~small~~ drum compaction roller.
	Fill was placed & compacted as the trucks unloaded the soil. Water was added as soil was spread & compacted. Depth of fill placement ~ 1' to 1½. Four relative compaction tests, all at ~ Elev 12.6, indicated ≥ 93 with moisture ± 280.
	off site 300 PM

FIELD TECHNICIAN	HOURS	OT	VISITORS
Louis L.	4.0		
SPBowler	4.0		
Eq. Pick up Travel —	1.0		CLIENT REP

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 9-28-00	DAY Thur.	AUTHOR SPBowle	NO. 36
PROJ. NAME Mali Pier		PROJ. NO. 104108-02	
CLIENT Foster Wheeler			
EQUIPMENT (1) D5 Dozer (1) Vibratory compactor (1) Water truck (1) Wacker		CONTRACTOR Foster Wheeler	
		FOREMAN Ron Graber	
		WEATHER Windy / Clear	
		PERMIT NO. —	

CODE	DESCRIPTION OF WORK PERFORMED
	onsite 630 AM -
	Fill placement & compaction was mainly in the area West of Building # 3224 and the west fence line.
	Material was the imported olive Br. Silty Sand and was being placed on top of ~ 1'-2' of -2" gravel
	a ramp was built and the trucks unloaded at a Elev. of ~ 6'. Material was spread & compacted as soon as it was unloaded.
	Water was added by the water truck.
	Three relative compaction tests all indicated >90% with Moisture ±2%.
	The testing included the small area Between the Steam Vault & Building # 199.
	Compaction was achieved by the use of the large Roller, D.5 Dozer, Vibratory compactor w/ Sheepsfoot & a Wacker
	off Site 300 PM
	(Wind Prevented Scales being use for sand cones).

FIELD TECHNICIAN	HOURS	OT	VISITORS
SPBowle	8.8		
Eq Pickup - Return + Travel	1.0		CLIENT REP.

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DAILY REPORT OF FIELD OBSERVATIONS

DATE 9-29-00	DAY Fri	AUTHOR SP Bowler	NO. 37
PROJ NAME Mob Pier		PROJ NO. 104208-02	
CLIENT Foster Wheeler			

EQUIPMENT (1) D-5 Dozer (1) Water truck (1) large steel Drum Roller (1) Compactor w/ Sheepsfoot (1) water truck	CONTRACTOR Foster Wheeler
	FOREMAN Ron Graber
	WEATHER Slightly Overcast
	PERMIT NO —

CODE	DESCRIPTION OF WORK PERFORMED
	Onsite for observation and compaction testing at 6:30AM
	Fill area (approx) is from lines C-7 to G-8 and Line 1 to 9.
	Material is a Olive Br. Silty sand imported from the Vulcan sand plant in Mission Valley.
	Material is placed in stockpiles where the D-5 dozer can spread it out in even lift of ~4" to 6". The water truck then follows adding water, then the two compactors, #1 a sheepsfoot vibrating compactor #2 a large steel drum vibrating roller.
	Elev. was shot by a Hand level at ~4^{S} – 5° (Elev. on Daily #36 9-28-00 was not accurate).
	Sand Cone relative compaction test, Elev. 5^{S}, indicated ≥ 90%, Moisture ±2%.
	Two relative compaction tests at ~6° – 6^{S} (nuke gauge) Both indicated ≥ 90%, Moisture ±2%
	off site ~3:00PM

FIELD TECHNICIAN	HOURS	O.T
SP Bowler	8	
Eq. Pick-up-return + Trav. Time	1.5	

VISITORS

CLIENT REP [signature]

Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 10/2/00	DAY MONDAY	AUTHOR L. LABRADA	NO. 38
PROJ. NAME MOLF PIER 2		PROJ. NO 104108-02	
CLIENT FOSTER WHEELER			

EQUIPMENT - SHEEPSFOOT ROLLER	CONTRACTOR FW
- SKID LOADER	FOREMAN
- WATER TRUCK	WEATHER SUNNY - OVERCAST
- PUD DUMP TRUCKS.	PERMIT NO

CODE	DESCRIPTION OF WORK PERFORMED
	LAL ARRIVED ON-SITE AT 8:22 AM PER CLIENT REQUEST TO PERFORMED FIELD DENSITY TEST ON COMPACTED FILL BETWEEN GRID LINES D3 TO D7 AND F3 TO F-7.
	- OBSERVED CONTRACTOR PLACING IMPORT SOIL MATERIAL THROUGHOUT THE ABOVE MENTIONED GRIDLINES. CONTRACTOR PLACED APPROXIMATELY 1 FOOT VERTICAL OF SOIL IN TWO 6-INCH LIFTS, MOISTURE CONDITIONED AND COMPACTED USING A SHEEPSFOOT ROLLER. APPROX. ELEV. 6.5 TO 8.0.
	- PERFORMED 4 FIELD DENSITY TEST, ALL TESTS MET MINIMUM COMPACTION REQUIREMENT OF 90% RELATIVE COMPACTION.
	- LEFT SITE @ 2:46 PM

FIELD TECHNICIAN	HOURS	OT	VISITORS
LAL			
SITE	6.5		
Q. PICK-UP & RETURN TRAVEL	1.0		
	7.5		CLIENT REP

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DAILY REPORT OF FIELD OBSERVATIONS

DATE 10/3/00	DAY TUESDAY	AUTHOR L. LABADA	NO. 39
PROJ NAME FW/MOLE DIER SITE 2		PROJ NO 104108-02	
CLIENT FOSTER WHEELER			

EQUIPMENT SHEEPSFOOT ROLLER	CONTRACTOR FW
SKID LOADER	FOREMAN LUIS
WATER TRUCK	WEATHER OVERCAST
BUD DUMP TRUCK	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
	- IAL ARRIVED ON-SITE @ 7:30 AM PER CLIENT REQUEST TO
	OBSERVED BACKFILL PROCEDURES AND PERFORM FIELD DENSITY TESTS
	ON COMPACTED FILL BETWEEN GRIDLINES. B3 TO D7 AND
	F3 TO F7.
	- OBSERVED CONTRACTOR PLACING IMPORT SOIL MATERIAL THROUGHOUT
	THE ABOVED MENTIONED GRIDLINES. CONTRACTOR PLACED APPROX.
	2 FT TO 3 FT OF MATERIAL VERTICAL IN 6-INCH LIFTS
	USING A SHEEPSFOOT ROLLER WHEEL.
	- PERFORMED 6 DENSITY TEST, 2 RETESTS AND 4 PASSING TESTS.
	ALL TESTS MET MINIMUM COMPACTION REQUIREMENT OF
	90 % R.C.
	- LUNCH 1/2 HR.
	- LEFT SITE @ 3:15 PM

FIELD TECHNICIAN	HOURS	OT	VISITORS
LAL			
SITE	6.75		
PICK UP / RETURN TRAVEL	1.0		
	7.75		CLIENT REP.

Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 10/4/00	DAY WEDNESDAY	AUTHOR L. IBARADA	NO. 40
PROJ NAME MOLF PIER 2		PROJ NO 104108-02	
CLIENT FOSTER WHEELER			

EQUIPMENT SHEEPSFOOT ROLLER	CONTRACTOR FW
SKIP LOADER	FOREMAN LUIS
WATER TRUCK	WEATHER CLOUDY
END DUMP TRUCKS.	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
	— LAL ARRIVED ON-SITE @ 8:30 AM PER CLIENT REQUEST TO OBSERVED BACKFILL PROCEDURES AND PERFORM FIELD DENSITY TESTS ON COMPACTED FILL AT SECTION 7A AND BELOW BLDG. 199.
	— PERFORM 2 DENSITY TESTS, 1 AT SECTION 7A, SOUTHWEST CORNER AROUND ELEV. 7.5, AND 1 TEST BELOW BLDG. 199 @ ELEV. 6.5 FT., BOTH TESTS MET MINIMUM COMPACTION REQUIREMENT OF 90 % R.C.
	-ON-SITE 8:30 AM
	-LEFT-SITE 10:00 AM
	-ON-SITE @ 2:00 PM
	-OFF-SITE @ 3:30 PM

FIELD TECHNICIAN	HOURS	OT	VISITORS
LAL			
SITE	3.0		
TRAVEL	1.0		
	4.0		CLIENT REP

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DAILY REPORT OF FIELD OBSERVATIONS

DATE 10-5-00	DAY THUR	AUTHOR CC MANANSALA	NO. 41
PROJ NAME MOLE PIER SITE 2		PROJ NO	
CLIENT FOSTER WHEELER			

EQUIPMENT	W/ SHEEPS FOOT & FLAT ROLLER	CONTRACTOR	FOSTER WHEELER
	SKIP LOADER	FOREMAN	RON GRABER
	WATER TRUCK	WEATHER	CLEAR
	DOZER, DUMP TRUCKS	PERMIT NO	

CODE	DESCRIPTION OF WORK PERFORMED
	- OBSERVED BACKFILLING OF IMPORTED MATERIAL ON
	SECTION (BETWEEN LINE 4-10 & D-I)
	- I TOOK 1 SAND CONE TESTING BETWEEN
	LINES D-I & 1-3 AND RESULT WAS IN CONFORMANCE
	WITH PROJECT SPECIFICATION OF 90%.
	- NOTICE PLACEMENT OF CONCRETE SLURRY AT BOTTOM OF
	PIPE AT LINE 3 & D-6.
	RELIEVED LUIS LABRADOR FOR THIS PROJECT.

FIELD TECHNICIAN	HOURS	OT	VISITORS
LDL	4		
CCM	3		
TRAVEL	1		CLIENT REP
	8		

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Page _____ of _____

Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 10-6-00	DAY FRIDAY	AUTHOR CC MANANSALA	NO. 42
PROJ. NAME MOLE PIER SITE 2		PROJ NO. 104108-02	
CLIENT FOSTER WHEELER			

EQUIPMENT SHEERS FOOT & FLAT ROLLER	CONTRACTOR FOSTER WHEELER
SKIP LOADER	FOREMAN RON GRABER
WATER TRUCK	WEATHER RAIN
DOZER, DUMP TRUCKS	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
WC-	WORK CANCELLED DUE TO RAIN. MATERIAL TO WET
	TO TEST

FIELD TECHNICIAN	HOURS	O T
CCM		

VISITORS

CLIENT REP

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 10-9-00	DAY MONDAY	AUTHOR CIPRIANO C MANANGALA	NO. 43
PROJ. NAME FOSTER / MOLE PIER SITE 2		PROJ. NO 104108-02	
CLIENT			

EQUIPMENT	ROLLER, FLAT & SHEEPSFOOT	CONTRACTOR	FOSTER WHEELER
	WATER TRUCK, JUMPING JACK	FOREMAN	RON GRABER
	SKIP LOADER	WEATHER	CLEAR
	DOZER, PUMP TRUCKS	PERMIT NO.	

CODE	DESCRIPTION OF WORK PERFORMED
	CONTINUED BACKFILLING OF IMPORTED MATERIAL TO GRADE
	I TOOK 3 SAND CONE TEST FOR WHICH ALL RESULT
	IN CONFORMANCE WITH PROJECT SPECS FOR COMPACTION
	OF 93 % FOR UPPER FOOT OF SUBGRADE (EXCLUDING AB)
	ALSO CONTINUED WATERING AREA WITH WATER TRUCK
	AREA STILL LOW BETWEEN SECTION 0-2 & B-6
	AND BETWEEN 6-8 & E6 AND NEED TO BE TESTED
	BEFORE PLACEMENT OF AGGREGATE BASE.
	ON SITE 0730 AM
	LEFT SITE 1235 PM

FIELD TECHNICIAN	HOURS	OT	VISITORS
CCM			
ON SITE	5		
TRAVEL	1		CLIENT REP
	6		

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 10-10-2000	DAY TUESDAY	AUTHOR CIPRIANO C MANANSALA	NO. 44
PROJ. NAME FOSTER / MOLE PIER SITE 2		PROJ. NO 104108 - 02	
CLIENT			

EQUIPMENT ROLLER, FLAT & SHEEPSFOOT	CONTRACTOR FOSTER WHEELER
JUMPING JACK	FOREMAN RON GRABER
WATER TRUCK	WEATHER CLEAR
LOADER, DUMP TRUCK	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
	FINAL
	FINAL TESTING OF SUBGRADE AND NO CLASS II AB
	PLACE AT THIS TIME. THERE IS AN OPEN TRENCH
	BETWEEN LINES 8-11 & C-G.
	ALL TEST CONFORMS WITH PROJECT SPECS OF
	93% FOR UPPER FOOT OF SUBGRADE.
	RECOMMEND TO WATER SUBGRADE EACH DAY
	UNTIL AB IS PLACE.
	2 TEST OF SANDCONE & 2 TEST OF NUCLEAR
	GAUGE USE DURING TESTING.
	ON SITE 0830
	LEFT SITE 1315

FIELD TECHNICIAN CCM	HOURS	OT
ON SITE	5	
TRAVEL (NOT TO PROJECT)	1	

VISITORS

CLIENT REP Thomas W. Cox

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DAILY REPORT OF FIELD OBSERVATIONS

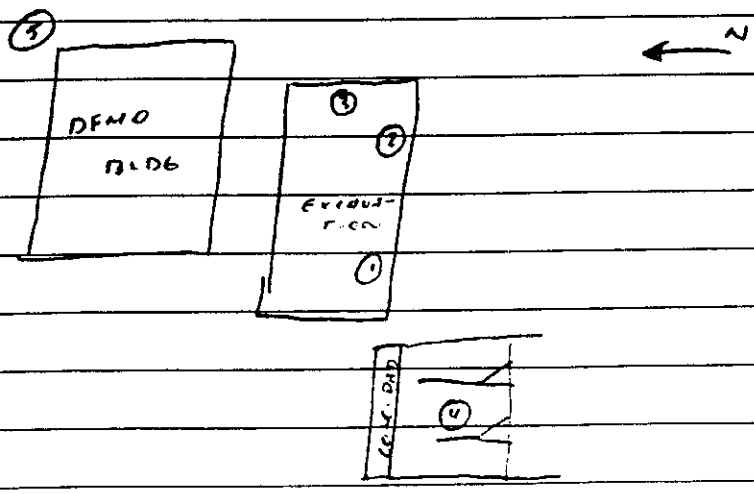
DATE 10/18/00	DAY WEDNESDAY	AUTHOR L. LABRADA	NO. 15
PROJ NAME MOLE PIER		PROJ NO 104108-02	
CLIENT FOSTER WHEELER			

EQUIPMENT POCKET PENETROMER	CONTRACTOR
	FOREMAN
	WEATHER OVERCAST
	PERMIT NO

CODE	DESCRIPTION OF WORK PERFORMED

LAL ARRIVE ON SITE AT 7:30AM PER CLIENT REQUEST FOR PENETROMETER TEST @ MOLE PIER EXCAVATION.

LOCATION	FEET BGS	READING	SOIL DESCRIPTION
1	4	0.75	DARK BROWN, WET, SANDY CLAY
2	3	3.25	LIGHT GRAY, MOIST, SILTY SAND
3	2	1.75	LIGHT BROWN, MOIST, SILTY SAND
4	4	1.75	YELLOWISH BROWN, MOIST, SILTY SAND
5	2	2.0	REDDISH BROWN SILTY SAND w/GRAVEL, MOIST



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FIELD TECHNICIAN	HOURS	OT	VISITORS
LAL			
SITE	2.0	MIN. CHARGE	
			CLIENT REP.

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SUMMARY REPORT OF SOIL AND AGGREGATE TESTS

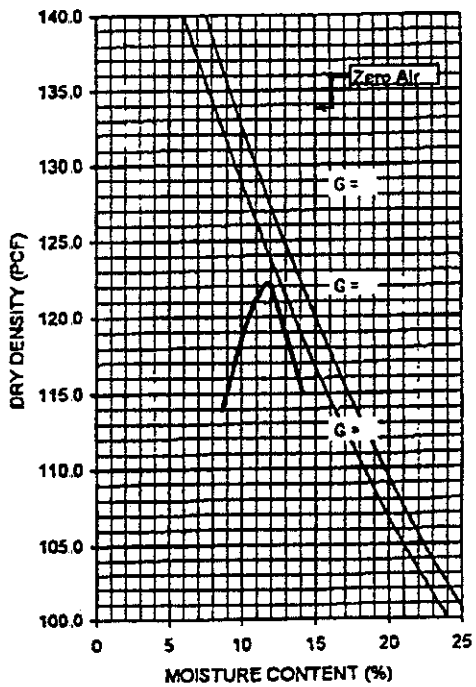
Project Name: Foster Wheeler/Mole Pier 2
Project Number: 104108005
Sampled By: JCG Date Sampled: 05/17/2002
Sample Source: 1
Sample Location: Stockpile
Sample Description: Clayey SAND with Gravel

FILE PLAN NO:
PERMIT / APPLICATION NO:

Sample Number
1

TEST DESCRIPTION	TEST RESULTS	SPEC. RANGE MIN.	SPEC. RANGE MAX	COMMENTS
Sulfate Soundness, % Loss (C 88)				
Moisture Content % (D 2216)				
R-Value (D 2844)				
Liquid Limits (D 4318)	41			
Plastic Limits (D 4318)	20			
Plasticity Index (D 4318)	21			
Sand Equivalent (D 2419)				
Cleanness Value (CT227)				
Durability Index (CT 229)				
Fractured Faces				
L.A. Abrasion 100 Rev.(C 131 & 535)				
L.A. Abrasion 500 Rev.(C 131 & 535)				
Organic Impurities (C 40)				
Solubility, % Loss				
Clay Lumps & Friable Parts (C 142)				
Bulk Spec. Gravity (SSD) (C 127 & 128)				
Absorption % (C 127 & 128)				
Finess Modules (C 136)				
Chemical Soluble Sulfate % (CT 422)				
Expansion @ 60 psf, % (D 4546)				
Expansion Index (UBC 18-2)				

MOISTURE DENSITY RELATIONSHIP CURVE



Test Procedure: ASTM D 1557-91
Test Method: C
Rammer Type: Mechanical
Preparation Procudure: Moist

Max. Dry Density (pfc): 122.0
Optimum Moisture Content(%): 11.5

OVERSIZE CORRECTION
Oversize Correction of Sieve: 3/4
Percent of Oversize: 1.5
Specific Gravity: 2.76
Corrected Max Density: N/A
Corrected Optimum Moisture: N/A

SIEVE ANALYSIS OF DRY SAMPLE (ASTM C 421)

SIEVE OR SCREEN SIZE	PERCENT PASSING	SPEC MIN.	SPEC MAX.	COMMENTS
6" (150.0mm)				
3" (75.0mm)				
2-1/2" (63.0mm)				
2" (50.0mm)				
1-1/2" (37.5mm)				
1" (25.0mm)				
3/4" (19.0mm)	99			
1/2" (12.5mm)	91			
3/8" (9.5mm)	84			
1/4" (6.3mm)				
No.4 (4.75mm)	75			
No.8 (2.36mm)	70			
No.10 (2.00mm)				
No.16 (1.18mm)	67			
No.30 (0.600mm)	59			
No.40 (0.425mm)				
No.50 (0.300mm)	34			
No.100 (0.150mm)	21			
No.200 (0.075mm)	15			
0.02mm				
0.002mm				
0.001mm				

Note: GRAN= Granular, NP=Non Plastic, NV=No Value

Reviewed By:

Date:

Ninyo & Moore — MAXIMUM DENSITY TEST DATA

PROJECT NAME: FOSTER WHEELER / MOLE PIER 2 PROJECT NO. 104108005

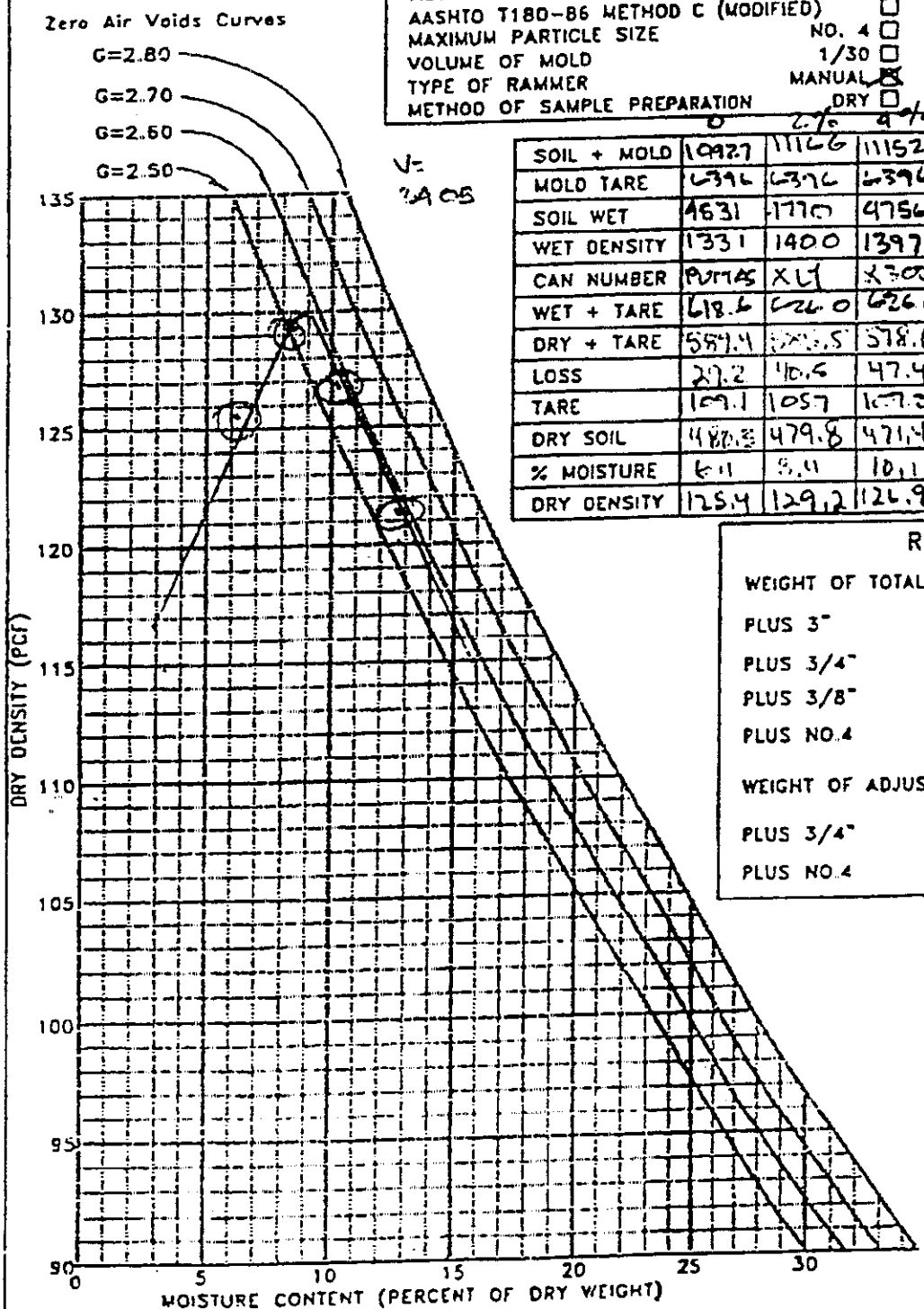
DATE: 6/04/02 SAMPLE LOCATION: 2 DEPTH: BULK TECHNICIAN: JCG

SOIL DESCRIPTION: REDDISH BROWN ~~SANDY CLAY~~ clayey sand

SAMPLE SOURCE: MISSION VALLEY WEST SIDE (1.5')

TEST METHOD

ASTM DESIGNATION	D1557-91 ☒	D698-91 ☐	METHOD C
AASHTO T180-86 METHOD C (MODIFIED)	☐	OVERSIZE CORRECTION ☐	
MAXIMUM PARTICLE SIZE	NO. 4 ☐	3/8" ☐	3/4" ☒
VOLUME OF MOLD	1/30 ☐	1/13.33 ☒	
TYPE OF RAMMER	MANUAL ☒	MECHANICAL ☐	
METHOD OF SAMPLE PREPARATION	DRY ☐	MOIST ☒	



	0	2%	4%	6%			
SOIL + MOLD	10927	11166	11152	11055			AS
MOLD TARE	6396	6396	6396	6396			REC'D
SOIL WET	4631	4770	4756	4659			MOIST
WET DENSITY	1331	1400	1397	1368			CONTENT
CAN NUMBER	PUMAS	XLY	X300	#69			
WET + TARE	618.6	626.0	626.0	609.3			
DRY + TARE	589.4	[illegible]	578.6	[illegible]			
LOSS	29.2	40.6	47.4	57.2			
TARE	109.1	105.7	107.2	106.3			
DRY SOIL	480.3	479.8	471.4	445.8			
% MOISTURE	6.1	8.4	10.1	12.8			
DRY DENSITY	125.4	129.2	126.9	121.3			

ROCK CONTENT

WEIGHT OF TOTAL SAMPLE 27117.7 / 27757.5

PLUS 3"	WT.		%	
PLUS 3/4"	WT	659.8	%	2.3
PLUS 3/8"	WT.		%	
PLUS NO.4	WT.		%	

WEIGHT OF ADJUSTED SAMPLE

PLUS 3/4"	WT.		%	
PLUS NO.4	WT		%	

TEST RESULTS

MAXIMUM DENSITY 130.0

OPTIMUM MOISTURE 9.0

OVERSIZE CORRECTION

MAXIMUM DENSITY

OPTIMUM MOISTURE

Ninyo & Moore — SIEVE ANALYSIS

Project Name FOSTER WHEELER / MOLE PIER 2 Project Number 104108005

Technician JCG Date Tested 6/05/02

Sample Location WEST SIDE #2 Depth 1.5'

Sample Description: REDDISH BROWN SANDY CLAY		
Total Sample Weight	Wet Soil & Tare 927.3	-#4 After Wash
Soil & Tare	Dry Soil & Tare 895.4	Dry Soil & Tare 769.5
Tare	Tare Ryan 107.9	Tare RYAN 208.6
~~Soil~~ TOTAL 130729	Dry Soil 787.5	Dry Soil

Sieve Size	Weight Retained	% Retained	% Passing	Corrected % Passing	Spec
5"					
4"					
3"					
2"					
1-1/2"					
1"	31.6	0.2	99.8	99.8	
3/4"	294.5	2.2	97.8	97.8	
1/2"	1060.7	8.2	91.8	91.8	
3/8"	1427.8	10.9	89.1	89.1	
#4	2114.4	16.2	83.8	83.8	
#8/#10	46.3	5.9	94.1	78.9	
#16	[illegible]	15.1	84.9	71.1	
#30/#40	[illegible]	29.4	70.6	59.2	
#50	[illegible]	49.8	50.2	42.1	
#100	[illegible]	62.8	37.2	31.2	
#200	[illegible]	69.8	30.2	25.3	

NOTE: Total weight retained cannot differ more than 0.3% from dry soil weights for acceptance purposes.

Ninyo & Moore

ATTERBERG LIMITS TEST DATA

PROJECT NAME [illegible] PROJECT NUMBER 104108005

SAMPLE LOCATION #2 DEPTH BULK TECHNICIAN KA DATE 6-6-9

SYMBOL	LIQUID LIMIT			PLASTIC LIMIT	
CAN NO.	[illegible]	7141	MM	[illegible]	[illegible]
WEIGHT OF WET SOIL + TARE	32.64	30.80	29.59	15.07	15.64
WEIGHT OF DRY SOIL + TARE	27.91	26.01	24.97	14.47	14.95
WEIGHT OF WATER	4.53	4.79	4.62	0.60	0.69
TARE	11.44	10.97	11.01	[illegible]	[illegible]
WEIGHT OF DRY SOIL	16.07	15.04	13.96	3.61	4.03
WATER CONTENT (%)	28.19	31.85	33.10	16.62	17.12
NO. OF BLOWS	34	25	15	—	—

SUMMARY

LL = 31

PL = 17

PI = 14

UNIFIED SOIL CLASSIFICATION: CL

SAMPLE LOCATION DEPTH TECHNICIAN DATE

SYMBOL	LIQUID LIMIT			PLASTIC LIMIT	
CAN NO.					
WEIGHT OF WET SOIL + TARE					
WEIGHT OF DRY SOIL + TARE					
WEIGHT OF WATER					
TARE					
WEIGHT OF DRY SOIL					
WATER CONTENT (%)					
NO. OF BLOWS				—	—

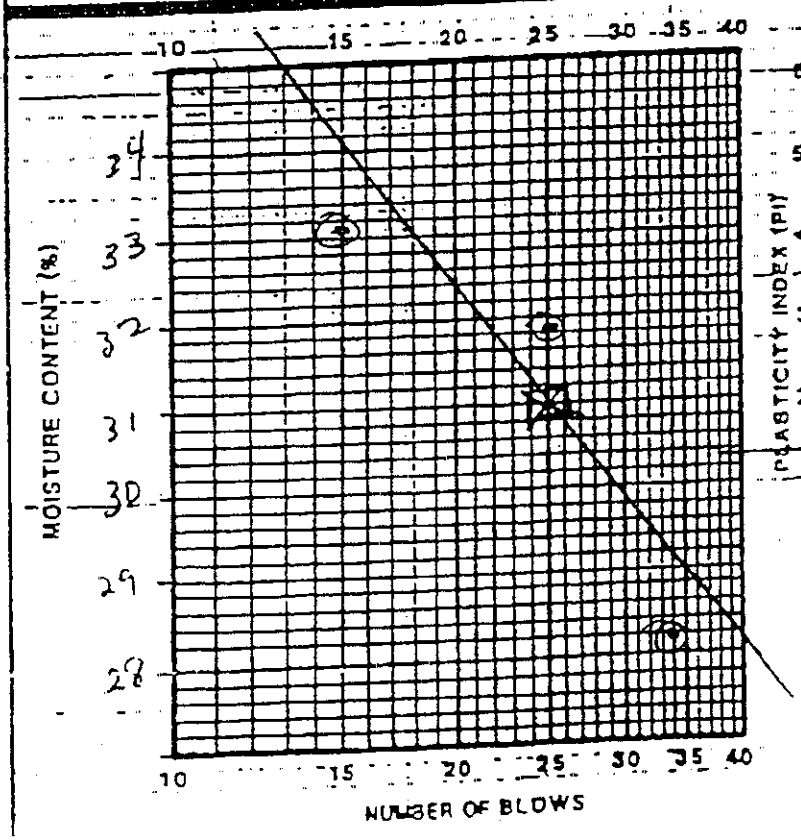
SUMMARY

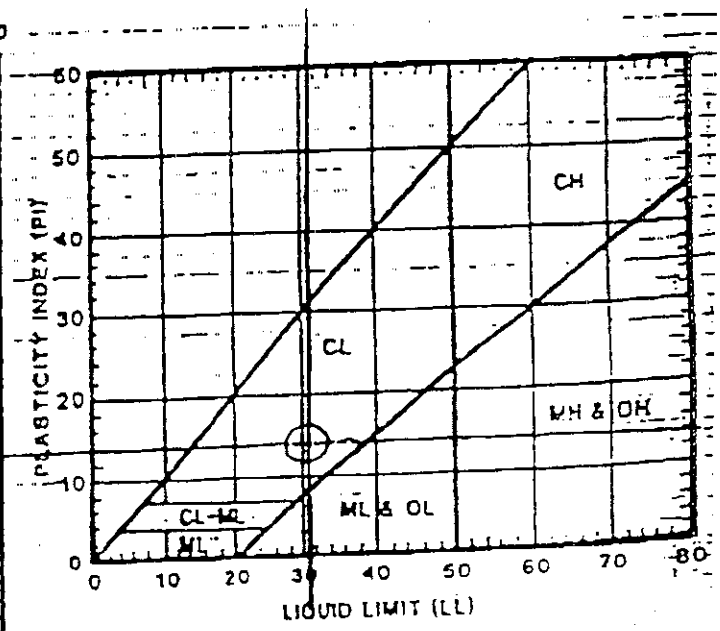
LL =

PL =

PI =

UNIFIED SOIL CLASSIFICATION:





Ninyo & Moore — SIEVE ANALYSIS

Project Name: FOSTER WHEELER / MPZ
Project Number: 104108005
Technician: JG
Date Tested: 5/17/02
Sample Location: 1
Depth: BULK

Sample Description: Clayey sand w/ (3/4) gravel					
Total Sample Weight		Wet Soil & Tare	1099.6	-#4 After Wash	
Soil & Tare		Dry Soil & Tare	1076.6	Dry Soil & Tare	945.7
Tare		Tare 1001 B	427.5	Tare	427.5
~~Soil~~ TOTAL	7081.8	Dry Soil	649.1	Dry Soil	518.2

Sieve Size	Weight Retained	% Retained	% Passing	Corrected % Passing	Spec
5"					
4"					
3"					
2"					
1-1/2"					
1"					
3/4"	99.0	1.4	98.6	98.6	
1/2"	655.6	9.3	90.7	90.7	
3/8"	1140.1	16.1	83.9	83.9	
#4	1783.1	25.2	74.8	74.8	
#8/#10	45.1	6.9	93.1	69.6	
#16	70.7	10.9	89.1	66.6	
#30/#40	138.9	21.4	78.6	58.8	
#50	352.8	54.3	45.7	34.2	
#100	164.2	71.5	28.5	21.3	
#200	516.8	79.6	20.4	15.3	
	-	-	-		

FS-15 Gradation from Field Sample

NOTE: Total weight retained cannot differ more than 0.3% from dry soil weights for acceptance purposes.

Ninyo & Moore

TEST DATA

PROJECT NUMBER 104 108005

PROJECT NAME Foster Wheeler

SAMPLE LOCATION #1	DEPTH		TECHNICIAN		DATE
SYMBOL ⊕	LIQUID LIMIT			PLASTIC LIMIT	
CAN NO.	Marcia	Leo	Vito	MM	"88"
WEIGHT OF WET SOIL + TARE	38.06	37.23	34.56	18.77	17.56
WEIGHT OF DRY SOIL + TARE	30.57	29.62	27.39	17.42	16.49
WEIGHT OF WATER	7.49	7.61	7.17	1.35	1.07
TARE	10.93	10.90	10.92	11.00	11.00
WEIGHT OF DRY SOIL	19.64	18.72	16.47	6.42	5.49
WATER CONTENT (%)	38.1	40.7	43.5	21.0	19.5
NO. OF BLOWS	34	25	18	—	—

SUMMARY

LL = 41

PL = 20

PI = 21

UNIFIED SOIL CLASSIFICATION: CL

SAMPLE LOCATION	DEPTH		TECHNICIAN		DATE
SYMBOL ⊕	LIQUID LIMIT			PLASTIC LIMIT	
CAN NO.					
WEIGHT OF WET SOIL + TARE					
WEIGHT OF DRY SOIL + TARE					
WEIGHT OF WATER					
TARE					
WEIGHT OF DRY SOIL					
WATER CONTENT (%)					
NO. OF BLOWS					

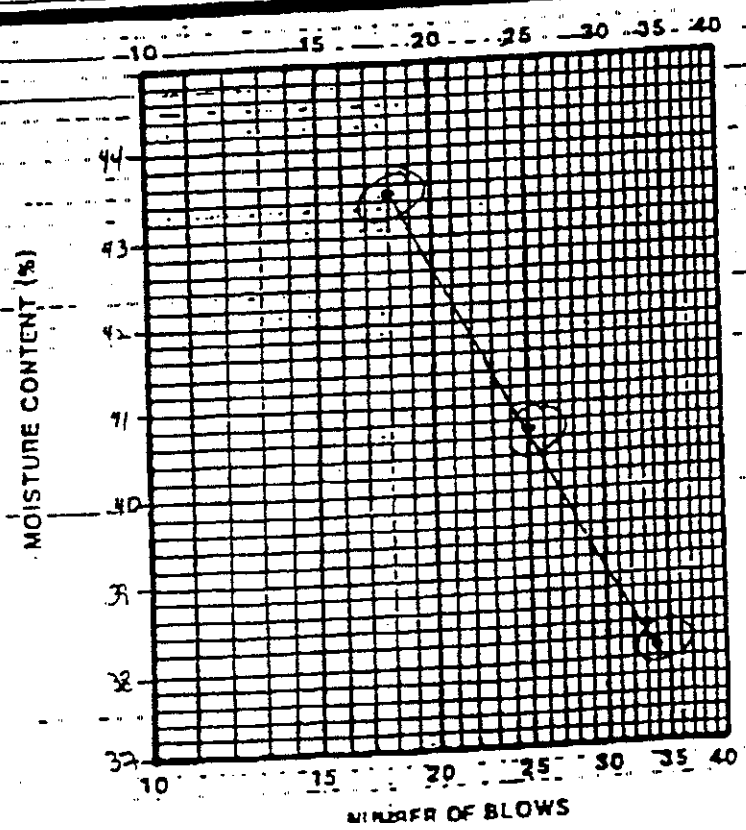
SUMMARY

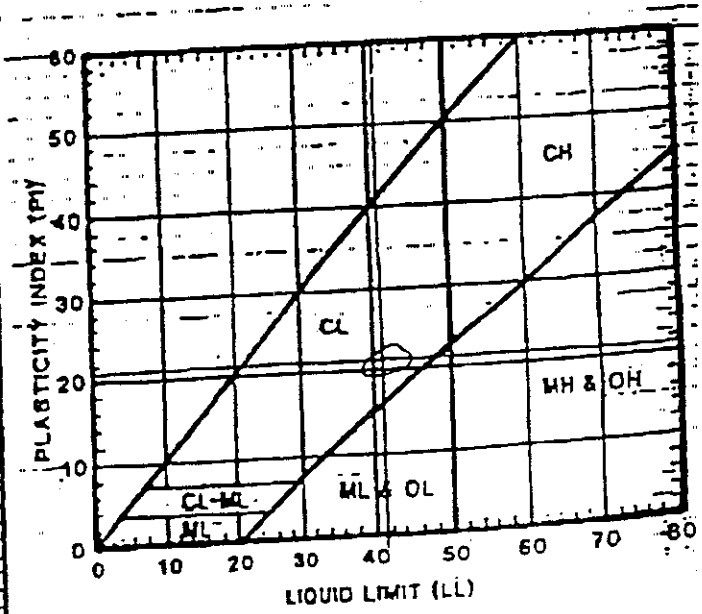
LL =

PL =

PI =

UNIFIED SOIL CLASSIFICATION:





Ninyo & Moore Transmittal

5710 Ruffin Road, San Diego, California 92123 ◆ Phone 858/576-1000 ◆ Fax 858/974-6989 ◆ www.ninyoandmoore.com

To:	Mr. Carl Walker	**Date:**	May 29, 2002
Firm:	Foster Wheeler	**Fax No:**	619-702-4113
Address:	6080 Miramar Road San Diego, California 92121	**Telephone No:**	619-234-8696
From:	E. David Gasaway	**Total Pages:**	4
Subject:	Laboratory Test Results for Soils, 32nd Street Naval Station	**Project No:**	104108005

☐ **Urgent**	☐ **For Approval**	☒ **For Your Use**	☐ **Please Reply**	☒ **As Requested**
Original Document:	☒ **Will Not Follow**	☐ **Will Follow**	☐ **By U.S. Mail**	☐ **By Other**

Hi Carl.

I have attached the raw lab results you requested. Let me know if you need the results in a more presentable format.

I am handling this project for Dick Roberts, so if you have any questions you can call me at the office (ext. 1286), or on my cell (619-843-7609).

E. David Gasaway
Senior Staff Engineer

Ninyo & Moore — MAXIMUM DENSITY TEST DATA

PROJECT NAME Foster Wheeler / MP2 PROJECT NO. 104108005

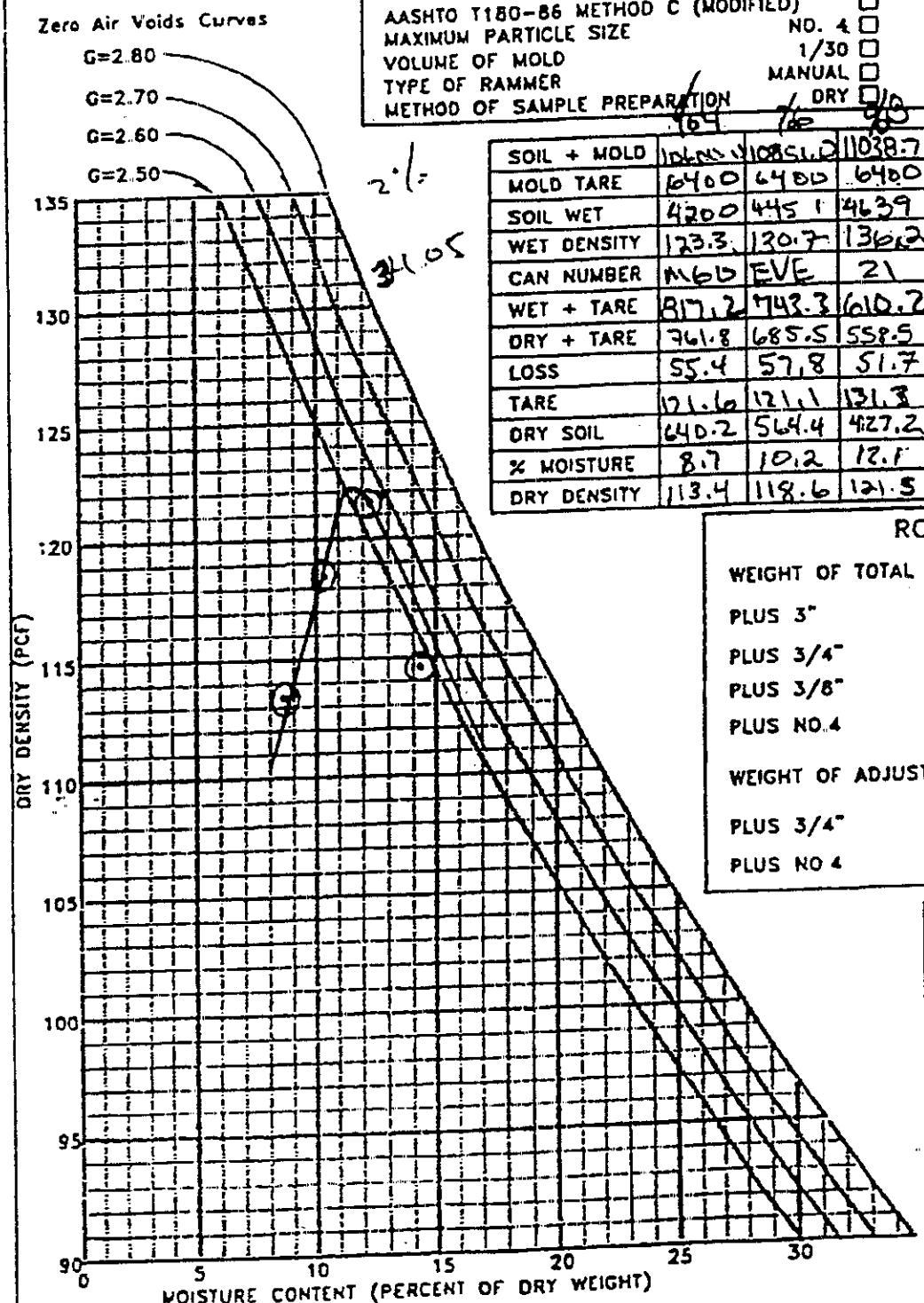
DATE 5-17-02 SAMPLE LOCATION #1 DEPTH Bulk TECHNICIAN MAM/RWT

SOIL DESCRIPTION Clayey SAND w/(-3/4) gravel, (Base material)

SAMPLE SOURCE Stockpile

TEST METHOD

ASTM DESIGNATION	D1557-91 ■	D698-91 □	METHOD C
AASHTO T180-86 METHOD C (MODIFIED)	□	OVERSIZE CORRECTION	□
MAXIMUM PARTICLE SIZE	NO. 4 □	3/8" □	3/4" ■
VOLUME OF MOLD	1/30 □	1/13.33 ■	
TYPE OF RAMMER	MANUAL □	MECHANICAL ■	
METHOD OF SAMPLE PREPARATION	DRY □	MOIST ■	



							AS REC'D MOIST CONTENT
SOIL + MOLD	10600	10851.2	11038.7	10853.3			
MOLD TARE	6400	6400	6400	6400			
SOIL WET	4200	4451	4639	4453			
WET DENSITY	123.3	130.7	136.2	130.8			
CAN NUMBER	M60	EVE	21	22			
WET + TARE	817.2	743.3	610.2	976.8			
DRY + TARE	761.8	685.5	558.5	695.4			
LOSS	55.4	57.8	51.7	81.4			
TARE	121.6	121.1	131.3	122.8			
DRY SOIL	640.2	564.4	427.2	572.6			
% MOISTURE	8.7	10.2	12.1	14.2			
DRY DENSITY	113.4	118.6	121.5	114.5			

ROCK CONTENT

WEIGHT OF TOTAL SAMPLE 29453.2/29900.0

PLUS 3"	WT.		%
PLUS 3/4"	WT	446.8	% 1.5
PLUS 3/8"	WT.	–	%
PLUS NO.4	WT.	–	%

WEIGHT OF ADJUSTED SAMPLE

PLUS 3/4"	WT.		%
PLUS NO 4	WT		%

TEST RESULTS

MAXIMUM DENSITY 122.0

OPTIMUM MOISTURE 11.5

OVERSIZE CORRECTION

MAXIMUM DENSITY

OPTIMUM MOISTURE

ASSOCIATED SOILS ENGINEERING, INC
Consulting Foundation Engineers

3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler	JOB NO: 02-14499	DATE: 8-23-02
JOB ADDRESS: 32nd St Naval Station CITY: San Diego	TECHNICIAN: Todd	PROJECT ENGINEER:
GENERAL LOCATION OF FILL: West of Waste Station	GRADING OR EARTHWORK CONTRACTOR & SUPT: Foster Wheeler	MAX DENSITY STANDARD: ☑ 5 LAYER ☐ C.I.
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED:	
GEN CONTRACTOR'S SUPT: Randy Rose		
SOURCE AND CLASSIFICATION OF FILL MATERIAL: Import 126.0 @ 11.0	TIME (AM/PM): 9:00	
	TIME CHARGED TO PROJECT: 8	
	TIME ACKNOWLEDGED: R. Jones	

COMPACTION EQUIPMENT USED: Self propelled Vibrating Sheepsfoot

SPREADING EQUIPMENT: D5 Dozer

WATERING EQUIPMENT: Water Truck

GENERAL DESCRIPTION OF AREA BEING WORKED MEETINGS, VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC

On site per clients Request to test and observe fill placement West of waste stockpile. Observed contractor place and compact Import soil in approx. 6" Lifts. Observation, probing, Testing and Retesting indicates 90% Relative compaction has been achieved.

Test #'s 33, 36, 37 + 38 are Failing Tests, #35, 39, 40 + 41 are Retests of #'s 33, 36, 37 + 38.

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
32	ND	West of waste Stockpile		-3'		13.3	114.6	11.0	126.0	90.9	
33	ND			-2'		11.4	110.2			87.4	
34	ND			-1.5'		10.0	120.1			95.3	
35	ND			-2'		10.9	116.8			92.6	#32
36	ND			-2'		9.7	110.9			88.0	
37	ND			-2.5'		8.8	108.4			86.0	
38	ND			-1.5'		11.9	112.9			89.5	
39	ND			-2'		11.3	120.6			95.6	#36
40	ND			-2.5		11.0	113.5			90.0	#37
41	ND			-1.5		9.4	116.3			92.3	#38

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ASSOCIATED SOILS ENGINEERING, INC
Consulting Foundation Engineers

3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler	JOB NO: 02-144/99	DATE: 8-22-02
JOB ADDRESS: 32nd St Naval Station — CITY: San Diego	TECHNICIAN: Todd	PROJECT ENGINEER:
GENERAL LOCATION OF FILL: West of Waste Stockpile	GRADING OR EARTHWORK CONTRACTOR & SUPT: Foster Wheeler	MAX DENSITY STANDARD: ☑ 5 LAYER ☐ C.I.
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED: Driveway	
GEN. CONTRACTOR'S SUPT: Randy Rose		
SOURCE AND CLASSIFICATION OF FILL MATERIAL: Import 126.0@ 11.0	TIME (AM/PM): 7:00	
	TIME CHARGED TO PROJECT: 8	
	TIME ACKNOWLEDGED: [signature]	

COMPACTION EQUIPMENT USED: Self propelled Vibrating Sheeps Foot Roller

SPREADING EQUIPMENT: Cat D5 Dozer

WATERING EQUIPMENT: Water Truck

GENERAL DESCRIPTION OF AREA BEING WORKED MEETINGS, VISITORS TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC

On site per clients Request to Test and observe Fill placement west of the waste stockpile. Observed contractor place Import soil in approx 6" Lifts and compact. Observation, probing and testing indicates 90% Relative compaction has been achieved.

Test #28 is a Retest of Test #25

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
22	ND	west of waste Stockpile		-3.5		10.3	113.9	11.0	126.0	90.3	
23	ND	↓		-3.5		10.0	117.4	↓	↓	93.1	
24	ND	↓		-4.5		10.2	113.4	↓	↓	90.0	
25	ND	↓		-3		8.0	111.7	↓	↓	88.6	
26	ND	↓		-3		9.9	118.2	↓	↓	93.8	
27	ND	↓		-2		9.5	117.7	↓	↓	93.4	
28	ND	↓		-3		8.4	114.7	↓	↓	91.0	#25
29	ND	↓		-2		8.5	115.7	↓	↓	91.8	
30	ND	↓		-2.5		9.1	117.8	↓	↓	93.5	
31	ND	↓		-2.5		12.8	114.8	↓	↓	91.1	

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ASSOCIATED SOILS ENGINEERING, INC
Consulting Foundation Engineers

3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler		JOB NO: 02-14499	DATE: 8-21-02
JOB ADDRESS: 32nd St Naval Station	CITY: San Diego	TECHNICIAN: Todd	PROJECT ENGINEER:
GENERAL LOCATION OF FILL: West of Waste Stockpile	GRADING OR EARTHWORK CONTRACTOR & SUPT:		MAX DENSITY STANDARD: ☑ 5 LAYER ☐ C.I
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED: Asphalt pavement		
GEN CONTRACTOR'S SUPT: Randy Rose			
SOURCE AND CLASSIFICATION OF FILL MATERIAL: Import 126.0 @ 11.0		TIME - AM/PM: 7:00	
		TIME CHARGED TO PROJECT: 8.0	
		TIME ACKNOWLEDGED: Rand Rose	

COMPACTION EQUIPMENT USED: Self propelled vibrating sheepsfoot roller + Handwacker

SPREADING EQUIPMENT: Cat D6 Dozer

WATERING EQUIPMENT: Water Truck

GENERAL DESCRIPTION OF AREA BEING WORKED MEETINGS VISITORS TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC

On site per clients Request to test and observe Import Fill placement and compaction at the west side of the waste stockpile Observed contractor place and compact Import soil in ≈6" lifts. Observation probing and testing indicates 90% Relative compaction has been achieved

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
9	ND	west of waste stockpile	-8"	-5		9.0	116.4	11.0	126.0	92.3	
10	ND		-8"	-5		9.5	117.7	11.0	126.0	93.4	
11	ND		-8"	-4.5		9.2	116.8	11.0	126.0	92.6	
12	ND		-8"	-4		10.1	119.2	11.0	126.0	94.6	
13	ND		-8"	-3		10.8	119.2	11.0	126.0	94.6	
14	ND		-8"	-5		10.7	119.5	11.0	126.0	94.8	
15	S/C		-6"	-4'		11.1	119.2	11.0	126.0	94.6	
16	ND		-8'	-3.5'		11.5	113.5	11.0	126.0	90.0	
17	ND		-8"	-3'		9.9	115.4	11.0	126.0	91.5	
18	ND		-8'	-3'		9.3	114.5	11.0	126.0	90.8	

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ASSOCIATED SOILS ENGINEERING, INC
Consulting Foundation Engineers

3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler		JOB NO: 02-14499	DATE: 8-21-02
JOB ADDRESS: 32nd St Naval Station	CITY: San Diego	TECHNICIAN	PROJECT ENGINEER
GENERAL LOCATION OF FILL	GRADING OR EARTHWORK CONTRACTOR & SUPT	MAX DENSITY STANDARD ☐ 5 LAYER ☐ C.I.	
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED		
GEN CONTRACTOR'S SUPT: Brandy Rose			
SOURCE AND CLASSIFICATION OF FILL MATERIAL		TIME - AM/PM	
		TIME CHARGED TO PROJECT	
		TIME ACKNOWLEDGED: Randy Rose	

COMPACTION EQUIPMENT USED

SPREADING EQUIPMENT

WATERING EQUIPMENT

GENERAL DESCRIPTION OF AREA BEING WORKED MEETINGS, VISITORS TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC

Page 2 of 2

#20 Failed on moisture content. #21 is Retest of #20

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
19	ND	West of Waste Stockpile		-3'		9.6	115.2	11.0	126.0	91.4	
20	ND	↓		-4'		7.6	114.1	11.0	126.0	90.5	
21	ND	↓		-4'		9.1	117.1	11.0	126.0	92.9	#20

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ASSOCIATED SOILS ENGINEERING, INC.
Consulting Foundation Engineers

3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler		JOB NO: 02-144/99	DATE: 8-20-02
JOB ADDRESS: 32nd St Naval Station	CITY: San Diego	TECHNICIAN: Todd	PROJECT ENGINEER:
GENERAL LOCATION OF FILL: West of Waste Stockpile	GRADING OR EARTHWORK CONTRACTOR & SUPT:	MAX DENSITY STANDARD: ☑ 5 LAYER ☐ C.I	
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED: Asphalt pavement		
GEN. CONTRACTOR'S SUPT: Randy Rose			
SOURCE AND CLASSIFICATION OF FILL MATERIAL: Import 126.0 @ 11.0		TIME AM/PM: 7.00	
		TIME CHARGED TO PROJECT: 8	
		TIME ACKNOWLEDGED: Randy Rose	

COMPACTION EQUIPMENT USED: Self propelled vibrating sheeps Foot Roller

SPREADING EQUIPMENT: Cat D5 dozer

WATERING EQUIPMENT: Water Truck

GENERAL DESCRIPTION OF AREA BEING WORKED, MEETINGS, VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC

On site per clients Request to test and observe Import Fill placement at Removal area adjacent the waste stockpile. Observed contractor place and compact Import soil. Observation probing and testing indicates 90% Relative compaction has been achieved. A sample of the import was collected and delivered to ASE Lab For Max.

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS.	% COMPACT	RETEST REMARKS
1	ND	W/O waste Stockpile	-6"	-7'		9.0	~~127.6~~ 118.8	11.0	126.0	94.2	
2	ND		-6"	-7'		9.1	~~128.0~~ 117.6			93.3	
3	ND		-6"	-6.5'		9.1	~~126.3~~ 115.9			91.8	
4	ND		-6"	-6.5'		9.0	119.0			94.4	
5	SK		-6"	-6.5'		9.9	120.2			95.3	
6	ND		-6"	-6.0'		16.0	117.9			93.5	
7	ND		-6"	-5.5'		9.1	118.6			94.1	
8	ND		-6'	-6.0'		9.2	120.3			95.4	

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 8/13/02	DAY TUESDAY	AUTHOR JULIO C GUZMAN	NO. 12
PROJ. NAME MOLE PIER / SITE 2		PROJ. NO. 104108005	
CLIENT FOSTER WHEELER			

EQUIPMENT	CONTRACTOR FOSTER WHEELER
CAT 420 D BACKHOE	FOREMAN GREG
MIKASA MT 75HS HAND TAMPER	WEATHER OVERCAST AM / SUNNY PM
	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
	ON-SITE AT 7:30 AM AS REQUESTED TO PERFORM OBSERVATION &
	SOIL DENSITY TESTING ON COMPACTED FILL AT THE PROPOSED MASONRY
	WALL AREA AT NORTHSIDE OF BUILDING 334.
	BACKFILL AREA IS APPROXIMATELY 7' WIDE x 213' LENGTH & 35"
	DEPTH & IS LOCATED AT 44.3' NORTH OF BUILDING 334.
	IMPORT MATERIAL IS USED AS BACKFILL, THE MATERIAL WAS
	PLACED IN LIFTS & COMPACTED W/ A MIKASA HAND TAMPER
	PERFORMED 6 SOIL DENSITY TESTS BY NUCLEAR METHOD & 2
	TESTS BY SAND CONE METHOD.
	ALL TESTS MET OR EXCEEDED SPECIFIED REL. COMPACTION
	OF 92%.
	MR CARL JONES STATED THAT THE SPECIFIED REL. COMPACTION
	FOR THIS AREA IS 93% ACCORDING W/ PROJECT SPECS.
	LEFT SITE AT 3:00 PM

FIELD TECHNICIAN JULIO C GUZMAN	HOURS	OT	VISITORS
ON SITE	7.0		
TRAVEL	1.0		
			CLIENT REP
TOTAL HOURS	8.0		

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DAILY REPORT OF FIELD OBSERVATIONS

DATE 7/12/02	DAY FRIDAY	AUTHOR JULIO C. GUZMAN	NO. 11
PROJ NAME MOLE PIER / SITE 2		PROJ. NO. 109108005	
CLIENT FOSTER WHEELER			

EQUIPMENT WATER TRUCK.	CONTRACTOR F.W / VERN PERRY
CAT 320 B EXCAVATOR W/SHEEPSFOOT WHEEL	FOREMAN RON
DEERE 210 E SKIPLOADER.	WEATHER PARTLY CLOUDY
INGERSOLL RAND DD28 HF VIB. DOUBLE SMOOTH R.	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
	ARRIVED ON-SITE @ 7:00 AM AS REQUESTED TO PERFORM OBSERVATION
	& IN-PLACE SOIL DENSITY TESTING ON AGGREGATE BASE & COMPACTED
	FILL @ C-5 BUILDING.
	PERFORMED 2 DENSITY TESTS USING A TROXLER 3430 NUCLEAR GAUGE
	ON IMPORT FILL MATERIAL. TEST RESULTS WERE AS FOLLOWS:

TEST #	DEPTH	% REL. COMPACTION	% MOISTURE	COMMENTS
35	1.5'	96%	8.0%	PASS
36	2.5'	93%	11.0%	PASS

	OBSERVED PLACEMENT & COMPACTION OF AGGREGATE BASE (APPROXIMA-
	TELY 8" THICK) AROUND C-5 BUILDING.
	PERFORMED 3 NUCLEAR TESTS & 1 SAND CONE TEST. TEST RESULTS
	WERE AS FOLLOWS:

TEST #	DEPTH	% REL COMPACTION	% MOISTURE	COMMENTS
1	6"	97%	4.8%	PASS
2	6"	95%	8.1%	PASS (SAND CONE)
3	6"	97%	5.1%	PASS
4	6"	97%	4.5%	PASS

	ASPHALTIC CONCRETE (3/4" MIX) WILL BE PLACED & COMPACTED
	LEFT SITE @ 1:15 PM

FIELD TECHNICIAN JULIO C. GUZMAN	HOURS	O.T	VISITORS
ON-SITE	6.25		
TRAVEL	1.0		
			CLIENT REP
TOTAL HOURS	7.25		

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DAILY REPORT OF FIELD OBSERVATIONS

DATE 7/11/02	DAY THURSDAY	AUTHOR JULIO C. GUZMAN	NO. 10
PROJ. NAME MOLE PIER / SITE 2		PROJ. NO. 104108005	
CLIENT FOSTER WHEELER.			

EQUIPMENT	CONTRACTOR FOSTER WHEELER
INGERSOLL RAND SD 40 D/F VIBRATORY SHEEPSFOOT ROLLER.	FOREMAN RON GRABER.
JOHN DEERE 550G LGP DOZER.	WEATHER OVERCAST (MORNING) SUNNY (AFTERNOON)
WATER TRUCK	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
	ARRIVED ON-SITE @ 8:00 AM AS REQUESTED TO PERFORM
	FIELD OBSERVATION & IN-PLACE SOIL DENSITY TESTING @
	NORTH & EAST SIDES OF BUILDING C-5.
	THE CREW CONTINUES W/ PLACEMENT & COMPACTION OF IMPORT
	FILL MATERIAL. MATERIAL IS PLACED IN LIFTS & COMPACTED W/
	A VIBRATORY SHEEPSFOOT ROLLER.
	PERFORMED 9 NUCLEAR TESTS USING A TROXLER 3430 SOIL-
	DENSITY GAUGE & 1 SAND CONE TEST ON COMPACTED FILL.
	TEST RESULTS WERE AS FOLLOW:

TEST #	DEPTH	% REL. COMPACTION	% MOISTURE	TEST #	DEPTH	% R/C	% MOISTURE
25	3.5'	93 %	10.5 %	30	2.0'	97 %	13.1 % (S.C
26	3.5'	95 %	10.3 %	31	1.5'	94 %	11.8 %
27	3.0'	90 %	9.6 %	32	1.5'	90 %	12.3 %
28	3.0'	93 %	10.7 %	33	5.0'	97 %	11.7 %
29	2.0'	93 %	11.5 %	34	4.0'	98 %	9.7 %

TEST RESULTS INDICATED THAT THE SPECIFIED RELATIVE COMPACTION IS ACHIEVED.

LEFT SITE @ 4:45 PM

FIELD TECHNICIAN JULIO C. GUZMAN	HOURS	O.T.
ON-SITE	8.25	
TRAVEL	1.0	
TOTAL HOURS	9.25	

VISITORS

CLIENT REP Ron Graber

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DAILY REPORT OF FIELD OBSERVATIONS

DATE 7/10/02	DAY WEDNESDAY	AUTHOR JULIO C. GUZMAN	NO. ~~8~~ 9
PROJ. NAME MOLE PIER/SITE 2		PROJ. NO 104108005	
CLIENT FOSTER WHEELER			

EQUIPMENT	CONTRACTOR FOSTER WHEELER
INGERSOLLRAND SD 40 D/F VIBRATORY SHEEPS-FOOT DRUMROLLER.	FOREMAN RON GRABER
JOHN DEERE 550 G LGP DOZER.	WEATHER OVERCAST
	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
	ON-SITE @ 11:30 AM AS REQUESTED BY CLIENT TO PERFORM
	OBSERVATION & SOIL DENSITY TESTING @ C-5 NORTH.
	CONTINUED PLACEMENT & COMPACTION OF IMPORT MATERIAL, MATERIAL
	IS PLACED IN LIFTS & COMPACTED W/ A VIBRATORY SHEEPSFOOT
	ROLLER.
	PERFORMED 2 SOIL DENSITY TESTS USING A TROXLER 3430
	NUCLEAR GAUGE & 1 SOIL DENSITY TEST BY SAND CONE METHOD.
	TEST RESULTS WERE AS FOLLOWS:

TEST #	DEPTH	% REL. COMPACTION	% MOISTURE	COMMENTS
22	4'	92 %	10.0 %	PASS
23	4'	93 %	8.7 %	PASS
24	4'	92 %	12.4 %	PASS (SAND CONE)

LEFT SITE @ 2:15 PM

FIELD TECHNICIAN JULIO C GUZMAN	HOURS	O.T.	VISITORS
ON SITE	2.75		
TRAVEL	1.0		
			CLIENT REP.
TOTAL HOURS	3.75		

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DAILY REPORT OF FIELD OBSERVATIONS

DATE 7/10/92	DAY WEDNESDAY	AUTHOR JULIO C GUZMAN	NO. 8
PROJ. NAME MOLE PIER SITE 2		PROJ. NO 109108005	
CLIENT FOSTER WHEELER			

EQUIPMENT	CONTRACTOR FOSTER WHEELER.
	FOREMAN RON
	WEATHER OVERCAST
	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
	JCG ON-SITE @ 9:30 AM AS PER CLIENT'S REQUEST TO
	PICK-UP A BULK SAMPLE OF AGGREGATE BASE @ VULCAN PLANT
	@ MISSION CENTER RD.
	SAMPLE WAS TAKEN FROM A STOCKPILE INDICATED BY A
	LABORATORY REP.
	MATERIAL WILL BE TRANSPORTED TO N+M LABORATORY FOR
	SIEVE ANLYSIS + MAXIMUM DENSITY TESTS.
	LEFT SITE @ 10:00 AM

FIELD TECHNICIAN JULIO C GUZMAN	HOURS	O.T	VISITORS
1 PICK-UP	1.5		
			CLIENT REP Ron Graber

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DAILY REPORT OF FIELD OBSERVATIONS

DATE 7/09/02	DAY TUESDAY	AUTHOR JULIO C. GUZMAN	NO. 7
PROJ NAME MOLE PIER/SITE 2		PROJ NO 104108005	
CLIENT FOSTER WHEELER			

EQUIPMENT	CONTRACTOR FOSTER WHEELER.
INGERSOLL RAND SD 40 DF VIBRATORY SHEEPS FOOT DRUM ROLLER.	FOREMAN RON GRABER
JOHN DEERE 550 G LGP DOZER.	WEATHER OVERCAST.
	PERMIT NO

CODE	DESCRIPTION OF WORK PERFORMED
	ARRIVED ON-SITE @ 9:45 AM AS REQUESTED BY CLIENT TO
	PERFORM SOIL DENSITY TESTING & OBSERVE BACKFILL OPERATIONS
	@ C-5 NORTH.
	CONTINUED PLACEMENT & COMPACTION OF IMPORT MATERIAL,
	MATERIAL IS PLACED IN LIFTS & COMPACTED WITH A VIBRATORY
	SHEEPSFOOT ROLLER.
	PERFORMED 3 DENSITY TESTS USING A TROXLER 3430 NUCLEAR
	GAUGE & 1 DENSITY TEST BY SAND CONE METHOD.
	TEST RESULTS WERE AS FOLLOW:

TEST #	DEPTH	% REL. COMPACTION	% MOISTURE	COMMENTS
18	6'	89	9.3%	FAIL
19	6'	91	9.0%	PASS (RETEST OF # 18)
20	6'	90	9.1%	PASS (SAND CONE)
21	5'	93	10.1%	PASS

CODE	DESCRIPTION OF WORK PERFORMED
	CONTRACTOR REP. WAS INFORMED ABOUT ALL RESULTS.
	LEFT SITE @ 1:30 PM

FIELD TECHNICIAN JULIO C. GUZMAN	HOURS	O.T.	VISITORS
ON SITE	3.75		
TRAVEL	1.0		
			CLIENT REP. Ron Graber
TOTAL HOURS	4.75		

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DAILY REPORT OF FIELD OBSERVATIONS

DATE 7/08/02	DAY MONDAY	AUTHOR JULIO C. GUZMAN	NO. 6
PROJ. NAME MOLE PIER / SITE 2		PROJ NO 104108005	
CLIENT FOSTER WHEELER			

EQUIPMENT	CONTRACTOR FOSTER WHEELER
	FOREMAN RON GRABER
	WEATHER OVERCAST
	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
	ARRIVED ON-SITE AT 9:30 AM AS REQUESTED BY CLIENT TO
	PERFORM SOIL DENSITY TESTING AND OBSERVE BACKFILL OPERA-
	TIONS @ CS-NORTH.
	BACKFILL OPERATIONS WERE NOT PERFORMED IN THIS SHIFT,
	DUMP TRUCKS DID NOT SHOW UP.
	LEFT SITE @ 12:45 PM.

FIELD TECHNICIAN JULIO C. GUZMAN	HOURS	OT	VISITORS
ON SITE	3.25		
TRAVEL	1.0		
			CLIENT REP
TOTAL HOURS	4.25		

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DAILY REPORT OF FIELD OBSERVATIONS

DATE 7/03/02	DAY WEDNESDAY	AUTHOR JULIO C. GUZMAN	NO. 5
PROJ. NAME MOLE PIER SITE 2		PROJ. NO. 109108005	
CLIENT FOSTER WHEELER.			

EQUIPMENT	CONTRACTOR F.W.
JOHN DEERE 550G LGP DOZER	FOREMAN RON GRABER
INGERSOLL-RAND SD 40 D/F VIBRATORY SHEEPSFOOT ROLLER	WEATHER CLEAR SUNNY
	PERMIT NO

CODE	DESCRIPTION OF WORK PERFORMED
	ARRIVED ON-SITE AT 7:30 AM AS REQUESTED TO PERFORM
	OBSERVATION & SOIL DENSITY TESTING AT C-5 NORTH.
	OBSERVED THE PLACEMENT & COMPACTION OF IMPORT MATERIAL,
	MATERIAL WAS PLACED & COMPACTED W/ A SHEEPSFOOT ROLLER.
	APPROXIMATELY 1.5' OF FILL WERE PLACED OVER 3/4" ROCK.
	PERFORMED 2 NUCLEAR TESTS & 1 SAND CONE TEST.
	TEST RESULTS WERE AS FOLLOW:

TEST #	DEPTH	% REL. COMPACTION	% MOISTURE	COMMENTS
15	8'	90 %	8.1 %	PASS
16	7'	90 %	9.6 %	PASS
17	7'	92 %	10.1 %	PASS (SAND CONE)

RON WAS INFORMED ABOUT RESULTS.

LEFT SITE AT 2:00 PM

FIELD TECHNICIAN JULIO C GUZMAN	HOURS	OT
ON-SITE	6.0	
TRAVEL	1.0	
TOTAL HOURS	7.0	

VISITORS

CLIENT REP

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DAILY REPORT OF FIELD OBSERVATIONS

DATE 6/05/02	DAY WEDNESDAY	AUTHOR Julio C. Guzman	NO. 1
PROJ. NAME MOLE PIER SITE 2		PROJ. NO 104IC8005	
CLIENT FOSTER WHEELER			

EQUIPMENT	CONTRACTOR FOSTER WHEELER
CAT 320 B EXCAVATOR W/SHEEPSFOOT WHEEL	FOREMAN CARL JONES (QC ENGINEER)
CAT 420 D BACKHOE	WEATHER
WATER TRUCK	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
	ARRIVED ON-SITE AT 7:00 AM AS PER CLIENTS REQUEST TO PERFORM
	SOIL DENSITY TESTING AND OBSERVE BACKFILL OPERATIONS AT MOLE
	PIER SITE 2.
	CONTINUED THE PLACEMENT OF IMPORT MATERIAL AT EAST SIDE OF
	PIER. MATERIAL WAS PLACED AND COMPACTED WITH A SHEEPSFOOT WHEEL.
	PERFORMED 2 SOIL DENSITY TESTS BY NUCLEAR METHOD AND
	1 SOIL DENSITY TEST BY SAND CONE METHOD.
	TEST RESULTS WERE AS FOLLOW:

TEST #	DEPTH	% REL. COMPACTION	% MOISTURE	COMMENTS
12	3'	99 %	10.3 %	PASS
13	3'	93 %	10.6 %	PASS (SAND CONE)
19	1'	93 %	10.2 %	PASS

* RESULTS FOR TESTS TAKEN ON 6/04 (WITH NEW MDD)

TEST #	DEPTH	% REL. COMPACTION	% MOISTURE	COMMENTS
9	1.5'	90	7.5 %	PASS (WEST SIDE)
10	1.5'	90	9.9 %	PASS (WEST SIDE)
11	1.5'	95	5.6 %	PASS (EAST SIDE)

LEFT SITE AT 11:00 AM

FIELD TECHNICIAN J.C. GUZMAN	HOURS	O.T
ON SITE	4.0	
TRAVEL	1.0	
TOTAL HOURS	5.0	

VISITORS

CLIENT REP [signature]

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DAILY REPORT OF FIELD OBSERVATIONS

DATE 6/09/02	DAY TUESDAY	AUTHOR Julio C. Guzmán	NO. 3
PROJ. NAME MOLE PIER SITE 2		PROJ. NO 109108005	
CLIENT FOSTER WHEELER.			

EQUIPMENT	CONTRACTOR FOSTER WHEELER
CAT 320 B EXCAVATOR W/SHEEPSFOOT WHEEL.	FOREMAN
CAT 420 D BACKHOE.	WEATHER CLEAR SUNNY
WATER TRUCK	PERMIT NO

CODE	DESCRIPTION OF WORK PERFORMED
	ARRIVED ON-SITE AT 7:00 AM AS REQUESTED TO PERFORM
	SOIL DENSITY TESTING AND OBSERVE BACKFILL OPERATIONS AT
	MOLE PIER SITE 2.
	IMPORT MATERIAL IS USED AS BACKFILL.
	NOTICED THAT TODAYS FIRST AND SECOND LOADS WERE DIFFERENT AND
	INFORMED QC ENGINEER.
	A CHECK POINT WAS PERFORMED OBTAINING A ~~[illegible]~~ DRY DENSITY OF 126.9 PCF
	WITH A MOISTURE CONTENT OF 8.3%.
	PICKED-UP 1 BULK SAMPLE OF IMPORT MATERIAL.
	SAMPLE WILL BE TRANSPORTED TO N&M'S LABORATORY FOR MDD TEST.
	PERFORMED DENSITY TESTS BY NUCLEAR METHOD AND 1 TEST
	BY SAND CONE METHOD. TESTED AREAS PROBED FIRM AND UNYELDING.
	RESULTS FOR RELATIVE COMPACTION ARE PENDING UNTIL THE MDD
	IS DETERMINED.
	LEFT SITE AT 2:00 PM

FIELD TECHNICIAN J.C. GUZMAN	HOURS	O.T.	VISITORS
ON SITE	7.0		
TRAVEL	1.0		
			CLIENT REP
TOTAL HOURS	8.0		

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DAILY REPORT OF FIELD OBSERVATIONS

DATE 6/03/02	DAY MONDAY	AUTHOR JULIO C. GUZMAN	NO. 2
PROJ. NAME MOLE PIER		PROJ. NO. 104108005	
CLIENT FOSTER WHEELER			
EQUIPMENT		CONTRACTOR B & B	
CAT 320 B EXCAVATOR W/SHEEPSFOOT WHEEL		FOREMAN RON GRABER.	
		WEATHER	
		PERMIT NO.	

CODE	DESCRIPTION OF WORK PERFORMED
	ARRIVED ON-SITE AT 7:00 AM AS REQUESTED BY CLIENT TO PERFORM SOIL DENSITY TESTING, ON COMPACTED FILL.
	OBSERVED THE PLACEMENT AND COMPACTION OF IMPORT MATERIAL. MATERIAL IS PLACED IN LIFTS AND COMPACTED WITH A SHEEPSFOOT WHEEL ON A CAT 320 B TRACKHOE.
	PERFORMED 5 DENSITY TESTS BY NUCLEAR METHOD AND ONE BY SAND CONE METHOD. ALL TESTS WERE TAKEN AT WEST SIDE
	TEST RESULTS WERE AS FOLLOW:

TEST #	DEPTH	% REL COMPACTION	% MOISTURE	COMMENTS
3*	4.5	91 %	14.7 %	PASS
4	4.0	91 %	13.1 %	PASS
5	3'	94 %	9.0 %	PASS
6	3'	91 %	9.7 %	PASS
7	2.5'	96 %	9.1 %	PASS
8	2.5'	95 %	9.3 %	PASS (SAND CONE)

* TEST #3 WAS A RETEST FOR TEST #2 FAILED ON 5/31

LEFT SITE AT 2:30 PM

FIELD TECHNICIAN	HOURS	OT
ON SITE	7.5	
TRAVEL	1.0	
TOTAL HOURS	8.5	

VISITORS

CLIENT REP

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Ninyo & Moore

DAILY REPORT OF FIELD OBSERVATIONS

DATE 5/31/02	DAY FRIDAY	AUTHOR JULIO C. GUZMAN	NO. 1
PROJ. NAME MOLE PIER 2		PROJ. NO. 109108005	
CLIENT FOSTER WHEELER			

EQUIPMENT	CONTRACTOR B & B.
	FOREMAN RON.
	WEATHER SUNNY
	PERMIT NO.

CODE	DESCRIPTION OF WORK PERFORMED
	ARRIVED ON-SITE AT 1:30 PM AS REQUESTED TO PERFORM
	SOIL DENSITY TESTING ON COMPACTED FILL
	PERFORMED 2 SOIL DENSITY TESTS BY NUCLEAR METHOD
	USING A TROXLER NUCLEAR GAUGE.
	TESTS WERE TAKEN AT EAST AND WEST SIDE OF MOLE PIER
	TEST RESULTS WERE AS FOLLOW:

TEST #	LOCATION	% REL. COMPACTION	% MOISTURE	COMMENTS
1	EAST SIDE	93%	9.9%	PASS
2	WEST SIDE	88%	18.0%	FAIL

CONTRACTOR WILL REWORK WEST SIDE AREA NEXT MONDAY FOR RETEST.

STAND BY TIME 2 HRS (11:30-13:30) FOR PERSONAL BADGE AND VEHICULE PASS.

LEFT SITE AT 2:15 PM

FIELD TECHNICIAN J.C.G.	HOURS	O.T.
ON SITE	0.75	
STAND BY	2.0	
TRAVEL	1.0	
TOTAL HOURS	3.75	

VISITORS

CLIENT REP. Ron Graber

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SOILS ENGINEERING, INC
3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler	JOB NO: 02-14499	DATE: 8-20-02
JOB ADDRESS: 32nd St Naval Station — CITY: San Diego	TECHNICIAN: Todd	PROJECT ENGINEER:
GENERAL LOCATION OF FILL: West of Waste Stockpile	GRADING OR EARTHWORK CONTRACTOR & SUPT	MAX DENSITY STANDARD: ☑ 1 LAYER ☐ C.I.
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED: Asphalt pavement	
GEN. CONTRACTOR'S SUPT.: Randy Rose		
SOURCE AND CLASSIFICATION OF FILL MATERIAL: Import 126.0 @ 11.0	TIME - BEGIN: 7:00	
	TIME CHARGED TO PROJECT: 8	
	TIME ACKNOWLEDGED: Randy Rose	

COMPACTION EQUIPMENT USED: Self propelled vibrating sheeps foot Roller

SPREADING EQUIPMENT: D4 D5 dozer

WATERING EQUIPMENT: Water Truck

GENERAL DESCRIPTION OF AREA BEING WORKED, MEETINGS, VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC

On site per clients request to test and observe Import Fill placement at Annual area adjacent the waste stockpile. Observed contractor place and compact Import soil. Observation probing and testing indicates 90% Relative compaction has been achieved. A sample of the import was collected and delivered to ASE Lab for Max.

TEST NO.	TEST TYPE	LOCATION	ELEVATIONS: TEST	FILL	NATURAL	FIELD MOIST.	DRY PCF	OPT MUM MOIST.	MAX DENS	% COMPACT	RETEST REMARKS
1	ND	W/O waste Stockpile	-6"	-7'		9.0	~~118.8~~ ~~117.6~~	11.0	126.0	94.2	
2	ND		-6"	-7'		9.1	~~117.6~~ ~~116.4~~			93.3	
3	ND		-6"	-6.5'		9.1	~~115.9~~ ~~114.7~~			91.8	
4	ND		-6"	-6.5'		9.0	119.0			94.4	
5	SLC		-6"	-6.5'		9.9	120.2			95.3	
6	ND		-6"	-6.0'		11.0	117.9			93.5	
7	ND		-6"	-5.5'		9.1	118.6			94.1	
8	ND		-6"	-6.0'		9.2	120.3			95.4	

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SOILS ENGINEERING, INC
Consulting Foundation Engineers
3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler		JOB NO: 02-14499	DATE: 8-21-02
JOB ADDRESS: 32nd St Naval Station	CITY: San Diego	TECHNICIAN	PROJECT ENGINEER
GENERAL LOCATION OF FILL	GRADING OR EARTHWORK CONTRACTOR & SUPT	MAX DENSITY STANDARD ☐ 5 LAYER ☐ C.I.	
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED		
GEN. CONTRACTOR'S SUPT: Randy Rose			
SOURCE AND CLASSIFICATION OF FILL MATERIAL		TIME AM/PM	
		TIME CHARGED TO PROJECT	
		THIS TICKET ACKNOWLEDGED: Randy Rose	
COMPACTION EQUIPMENT USED			
SPREADING EQUIPMENT			
WATERING EQUIPMENT			

GENERAL DESCRIPTION OF AREA BEING WORKED, MEETINGS, VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC

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#20 failed on moisture content #21 is Retest of #20

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST.	MAX DENS	% COMPACT	RETEST REMARKS
19	NUD	west of Waste Stockpile		-3'		9.6	115.2	11.0	126.0	91.4	
20	NUD	↓		-4'		7.6	114.1	11.0	126.0	90.5	
21	NUD	↓		-4'		9.1	117.1	11.0	126.0	92.9	#20

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SOILS ENGINEERING, INC
Consulting Foundation Engineers
3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler		JOB NO.: 02-11499	DATE: 8-21-02
JOB ADDRESS: 32nd St Naval Station	CITY: San Diego	TECHNICIAN: Todd	PROJECT ENGINEER:
GENERAL LOCATION OF FILL: West of Waste Stockpile	GRADING OR EARTHWORK CONTRACTOR & SUPT		MAX DENSITY STANDARD: ☑ 5 LAYER ☐ C.I.
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED: Asphalt pavement		
GEN. CONTRACTOR'S SUPT: Randy Rose			
SOURCE AND CLASSIFICATION OF FILL MATERIAL: Import 126.0 @ 11.0		TIME AM/PM: 7:00	
		TIME CHARGED TO PROJECT: 8.0	
		TIME ACKNOWLEDGED: [signature]	

COMPACTION EQUIPMENT USED: Self propelled vibrating sheepsfoot roller + Hand tamper

SPREADING EQUIPMENT: Cat D6 Dozer

WATERING EQUIPMENT: Water Truck

GENERAL DESCRIPTION OF AREA BEING WORKED, MEETINGS, VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC

On site per clients request to test and observe Import fill placement and compaction at the west side of the waste stockpile. Observed contractor place and compact Import soil in ±6" lifts. Observation probing and testing indicates 90% Relative compaction has been achieved

TEST NO.	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST.	DRY PCF	OPTIMUM MOIST.	MAX DENS.	% COMPACT	RETEST REMARKS
9	NID	West of Waste Stockpile	-8"	-5		9.0	116.4	11.0	126.0	92.3	
10	NID		-8"	-5		9.5	117.7	11.0	126.0	93.4	
11	NID		-8"	-4.5		9.2	116.8	11.0	126.0	92.6	
12	NID		-8"	-4		10.1	119.2	11.0	126.0	94.6	
13	NID		-8"	-3		10.5	119.2	11.0	126.0	94.6	
14	NID		-8"	-5		10.7	119.5	11.0	126.0	94.8	
15	SIC		-6"	-4'		11.1	119.2	11.0	126.0	94.6	
16	NID		-8"	-3.5'		11.5	113.5	11.0	126.0	90.0	
17	NID		-8"	-3'		9.9	115.4	11.0	126.0	91.5	
18	NID		-8'	-3'		9.2	114.5	11.0	126.0	90.8	

COPY SENT TO CLIENT ☐ CONTINUED ON NEXT PAGE ☐ PAGE 1 OF 2

SOILS ENGINEERING INC
Consulting Foundation Engineers
3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler	JOB NO.: 02-144/99	DATE: 8-22-02
JOB ADDRESS: 32nd St Naval Station — CITY: San Diego	TECHNICIAN: Todd	PROJECT ENGINEER:
GENERAL LOCATION OF FILL: West of Waste Stockpile	GRADING OR EARTHWORK CONTRACTOR & SUPT: Foster Wheeler	MAX DENSITY STANDARD: ☑ 5 LAYER ☐ C.I.
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED: Driveway	
GEN. CONTRACTOR'S SUPT: Randy Rose		
SOURCE AND CLASSIFICATION OF FILL MATERIAL: Import 126.0@ 11.0	TIME AM/PM: 7:00	
	TIME CHARGED TO PROJECT: 8	
	TIME ACKNOWLEDGED: [signature]	

COMPACTION EQUIPMENT USED: Self propelled Vibrating sheeps foot Roller

SPREADING EQUIPMENT: Cat D5 Dozer

WATERING EQUIPMENT: Water Truck

GENERAL DESCRIPTION OF AREA BEING WORKED, MEETINGS, VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC

On site per clients Request to Test and observe Fill placement west of the waste stockpile. Observed contractor place Import soil in approx 6" lifts and compact. Observation, probing and testing indicates 90% Relative compaction has been achieved.

Test #28 is a Retest of Test #25

TEST NO.	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
22	ND	West of waste Stockpile		-3.5		10.3	113.9	11.0	126.0	90.3	
23	ND	↓		-3.5		10.0	117.4	↓	↓	93.1	
24	ND	↓		-4.5		10.2	113.4	↓	↓	90.0	
25	ND	↓		-3		8.0	111.7	↓	↓	88.6	
26	ND	↓		-3		11.9	118.2	↓	↓	93.8	
27	ND	↓		-2		9.5	117.7	↓	↓	93.4	
28	ND	↓		-3		8.4	114.7	↓	↓	91.0	#25
29	ND	↓		-2		8.5	115.7	↓	↓	91.8	
30	ND	↓		-2.5		9.1	117.8	↓	↓	93.5	
31	ND	↓		-2.5		12.8	114.8	↓	↓	91.1	

COPY SENT TO CLIENT ☐ CONTINUED ON NEXT PAGE ☐ PAGE 1 OF 1

SOILS ENGINEERING INC
Consulting Foundation Engineers
3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler	JOB NO.: 02-14499	DATE: 8-23-02
JOB ADDRESS: 32nd st Naval Station CITY: San Diego	TECHNICIAN: Todd	PROJECT ENGINEER:
GENERAL LOCATION OF FILL: West of Waste Station	GRADING OR EARTHWORK CONTRACTOR & SUPT: Foster Wheeler	MAX DENSITY STANDARD: ☑ 5 LAYER ☐ C.
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED:	
GEN. CONTRACTOR'S SUPT.: Randy Rose		
SOURCE AND CLASSIFICATION OF FILL MATERIAL: Import 126.0 @ 11.0	TIME AM/PM: 9:00	
	TIME CHARGED TO PROJECT: 8	
	TIME ACKNOWLEDGED: [signature]	

COMPACTION EQUIPMENT USED: Self propelled Vibrating Sheepsfoot

SPREADING EQUIPMENT: D5 Dozer

WATERING EQUIPMENT: Water Truck

GENERAL DESCRIPTION OF AREA BEING WORKED, MEETINGS, VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC.

On site per clients Request to test and observe fill placement West of waste stockpile. Observed contractor place and compact Import soil in approx. 6" lifts. Observation, probing, Testing and Retesting indicates 90% Relative compaction has been achieved.

Test #'s 33, 36, 37 & 38 are Failing Tests, #35, 39, 40 + 41 are Retests of #33, 36, 37 + 38.

TEST NO	TEST TYPE	LOCATION	ELEVATIONS: TEST	ELEVATIONS: FILL	ELEVATIONS: NATURAL	FIELD MOIST.	DRY PCF	OPTIMUM MOIST.	MAX DENS.	% COMPACT	RETEST REMARKS
32	ND	West of Waste Stockpile		-3'		13.3	114.6	11.0	126.0	90.9	
33	ND			-2'		11.4	110.2			87.4	
34	ND			-1.5'		10.0	120.1			95.3	
35	ND			-2'		10.9	116.8			92.6	#33
36	ND			-2'		9.7	110.9			88.0	
37	ND			-2.5'		8.8	108.4			86.0	
38	ND			-1.5'		11.9	112.9			89.5	
39	ND			-2'		11.3	120.6			95.6	#36
40	ND			-2.5		11.0	113.5			90.0	#37
41	ND			-1.5		9.4	116.3			92.3	#38

COPY SENT TO CLIENT ☐ CONTINUED ON NEXT PAGE ☐ PAGE 1 OF 1

CATALOG CUT/SHOP DRAWING TRANSMITTAL AND APPROVAL
SOUTHWESTNAVFACENGCOM 4355 / 2 (10-89)

No carbon paper is required to complete this form
No transmittal letter required

SUBMITTAL NO.
FWPB-RAC3-03-0727

CQC CLAUSE ☒ IS APPLICABLE ☐ IS NOT APPLICABLE

REFERENCES TO USE WHEN CQC CLAUSE IS APPLICABLE

PART I – FOR CONTRACTOR USE

REFERENCES TO USE WHEN CQC CLAUSE IS NOT APPLICABLE

(A) ROICC/REICC

FROM (Contractor)
Foster Wheeler Environmental Corporation
1230 Columbia Street, suite 640
San Diego, CA 92101

TO (A)
John Ohlfest

(A) DESIGNER

CONTRACT NO.
N68711-98-D-5713
CTO 0039

CONTRACT TITLE
CERCLA Non-Time-Critical Removal Action at Installation Restoration Sub-Site 2A Mole Pier, Naval Station San Diego, San Diego, CA

(B) *(Check one)*

☒ RECORD

☐ APPROVAL

THE FOLLOWING ITEM IS SUBMITTED FOR (B) PER SPECIFICATION SECTION NUMBER

Geotechnical test results for subgrade (FS-15) and aggregate base, CST excavation & excavation C5.

(B) APPROVAL

CERTIFICATION (This form shall not be used to forward proposed substitutions)

IT IS HEREBY CERTIFIED THAT THE ☐ EQUIPMENT ☒ MATERIAL SHOWN AND MARKED IN THIS SUBMITTAL IS THAT PROPOSED TO BE INCORPORATED INTO CONTRACT N68711-98-D-5713, CTO 0039 IS IN COMPLIANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS AND CAN BE INSTALLED IN THE ALLOCATED SPACES

(C) AUTHORIZED CONTRACTOR QUALITY CONTROL REPRESENTATIVE

CERTIFIED BY (C)

DATE
01/30/03

(C) PERSON DESIGNATED BY CONTRACTOR AS HAVING AUTHORITY TO SIGN CERTIFICATION

PART II – FOR DESIGNER USE

FROM (Designer)

TO (ROICC/REICC)

(D) CURSORY REVIEW REQUIRED ON RECORD COMES – REPLY TO ROICC ONLY IF APPROPRIATE. DETAILED REVIEW REQUIRED ON SUBMITTALS FOR GOVERNMENT APPROVAL

STAMP AND MARK EACH COPY AS APPROPRIATE.

THIS SUBMITTAL HAS BEEN REVIEWED (D) THE FOLLOWING RECOMMENDATION IS MADE:

(D) DETAILED REVIEW REQUIRED. STAMP AND MARK EACH COPY AS APPROPRIATE

SIGNATURE

DATE

PART III – FOR ROICC/REICC USE

(E) DESIGNER *(Copy to OICC)*

FROM (ROICC/REICC)

TO (E)

(E) CONTRACTOR *(Copy to OICC)*

ENCLOSURES ARE RETURNED WITH THE FOLLOWING COMMENTS:

SIGNATURE

DATE

ASSOCIATED SOILS ENGINEERING INC

Liquid and PLastic Limit Determinations

Data and Computation Sheet

ASTM D4318

Name FOSTER WHEELER

Sample Number 14499 - # 4 - IMPORT

Date 1/08/03

Sheet Number

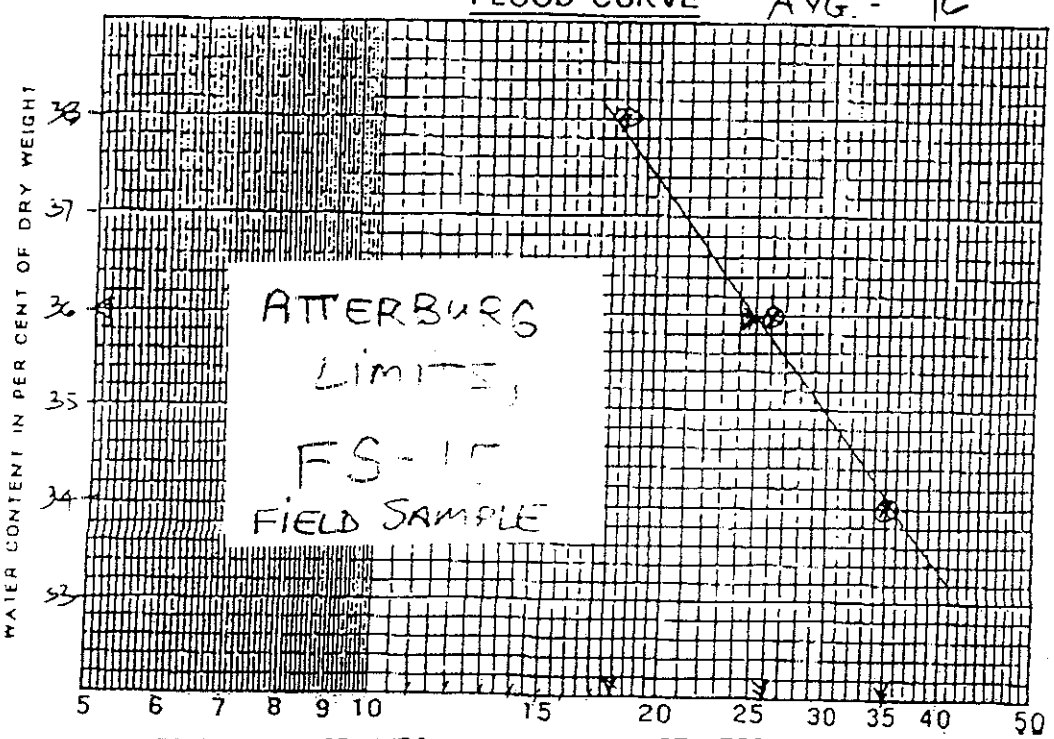
LL = Liquid Limit Test

PL = Plastic Limit Test

Type of Test		LL	LL	LL	LL	LL
Container Number		A1	B1	C1		
Number of Blows		35	26	18		
Wt. Sample + Tare Wet		18.66	20.47	20.52		
Wt. Sample + Tare Dry		16.76	18.07	17.83		
Wt. of Water		1.90	2.40	2.69		
Tare		11.16	11.35	10.72		
Wt. of Dry Soil		5.60	6.72	7.11		
Water Content		34	36	38		

Type of Test			PL	PL	PL	
Container Number			B	C		
Number of Blows						
Wt. Sample + Tare Wet			8.82	9.10		
Wt. Sample + Tare Dry			8.22	8.44		
Wt. of Water			.60	.66		
Tare			4.31	4.31		
Wt. of Dry Soil			3.91	4.13		
Water Content			15	16		

FLOOD CURVE AVG. = 16



RESULTS

LIQUID LIMT = 36

PLASTIC LIMIT = 16

PLASTICITY INDEX = 20

FLOW INDEX =

TOUGHNESS INDEX =

REMARKS

FROM : ASSOCIATED SOILS ENGINEERING I FAX NO. : 562 426 1842 Jan. 09 2003 02:12PM P5

Max. Density and Moisture Curves
ASTM D1557 or D698

Sample No 4 1-6-2

Location Foster Wheeler

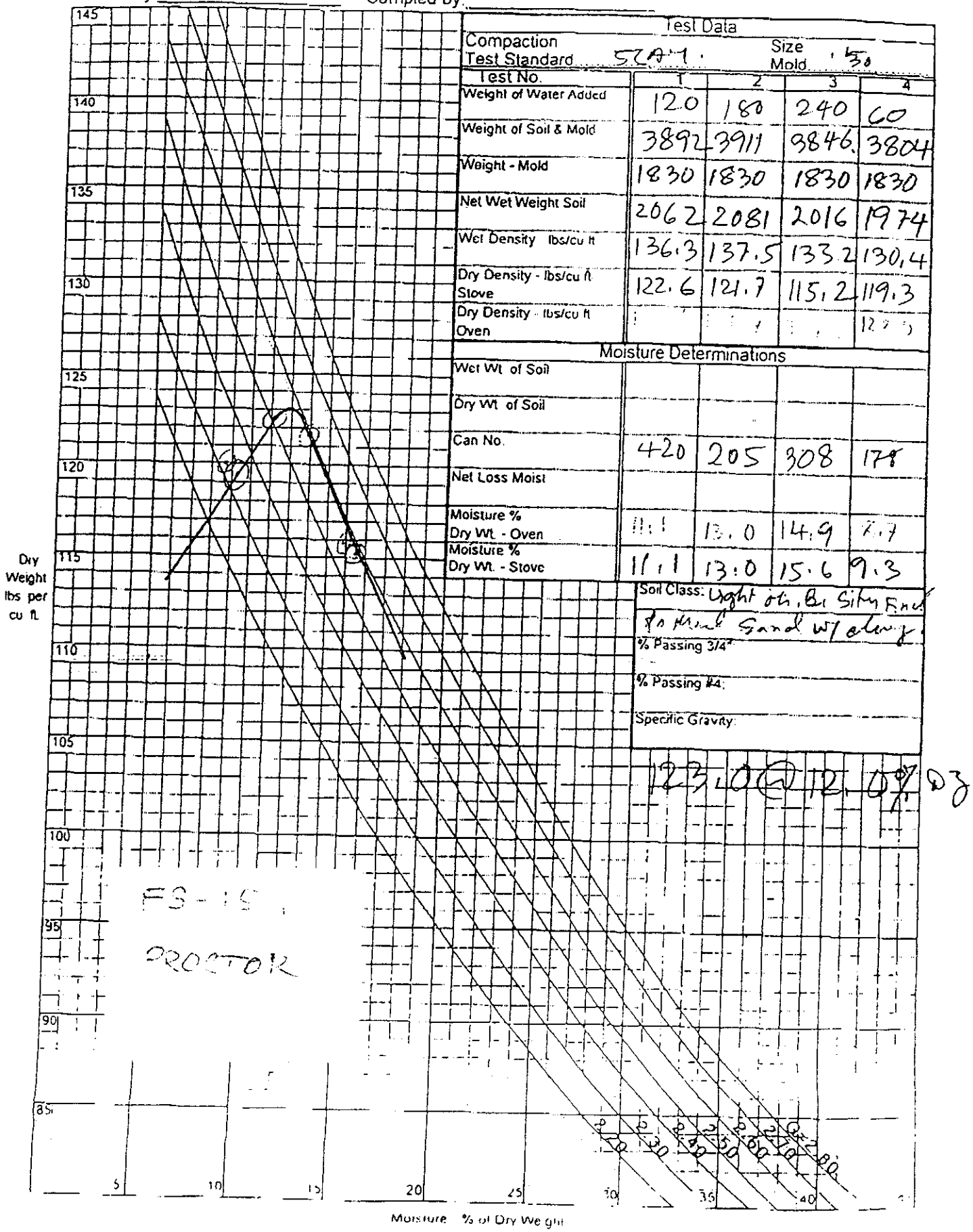
Elevation Ignition

Date 01-07-02

Sta

Tested by: Z. C

Sampled by:



FS-15

PROCTOR

Test Data

Compaction Test Standard 5CAM. Size Mold 1.50

Test No.	1	2	3	4
Weight of Water Added	120	180	240	60
Weight of Soil & Mold	3892	3911	3846	3804
Weight - Mold	1830	1830	1830	1830
Net Wet Weight Soil	2062	2081	2016	1974
Wet Density lbs/cu ft	136.3	137.5	133.2	130.4
Dry Density - lbs/cu ft Stove	122.6	121.7	115.2	119.3
Dry Density - lbs/cu ft Oven				12[illegible]

Moisture Determinations

Wet Wt of Soil				
Dry Wt of Soil				
Can No.	420	205	308	178
Net Loss Moist				
Moisture % Dry Wt. - Oven	11.1	13.0	14.9	8.7
Moisture % Dry Wt. - Stove	11.1	13.0	15.6	9.3

Soil Class: Light oh, Br Silty Fine to Med Sand w/ clay

% Passing 3/4"

% Passing #4:

Specific Gravity:

123.0 @ 12.0% DZ

FROM : ASSOCIATED SOILS ENGINEERING I FAX NO. : 562 426 1842 Jan 09 2003 02:13PM P6

Associated Soils Engineering, Inc. (ASE)

SAND EQUIVALENT – GRADATION

JOB NO.: 14499 DATE SAMPLED: 1-6-03

SOURCE: Foster Wheeler TEST METHODS:

I.D./NO.: Prop. Import SPEC.

LOCATION SAMPLED: TECH: Cory T.

Sample No.	Trial No.	Sand Reading	Clay Reading	S.E.%	Set-Up Time	Reading Time	Remarks
	1						
	2						
	3						
	Total:				N/A		
	Average:						

SIEVE ANALYSIS

SIEVE	Cum. Wt. Retained	Percent Retained		Percent Passing	Specified Limits
1	0	0		100	
3/4	.23	1.1		98.9	
1/2	1.62	7.8		92.2	
3/8	2.72	13.1		86.9	
#4	4.55	21.9		78.1	
8	22	5.7	94.3	73.6	
10	27	7.0	93.0	72.6	
16	40	10.3	89.7	70.1	
30	78	20.2	79.8	62.3	
40	138	35.7	64.3	50.2	
50	207	53.5	46.5	36.3	
60	228	58.9	41.1	32.1	
100	271	70.0	30.0	23.4	
200	301	77.8	22.2	17.3	
PAN	4				

FS-15, GRADATION

+4 Σ = 20.75

-4 Σ = 387

ASE1

Job No 14499

Associated Soils Engineering
Max. Density and Moisture Curves
ASTM D1557 or D698

Sample No #2 1-2-3

Location Foster Wheeler

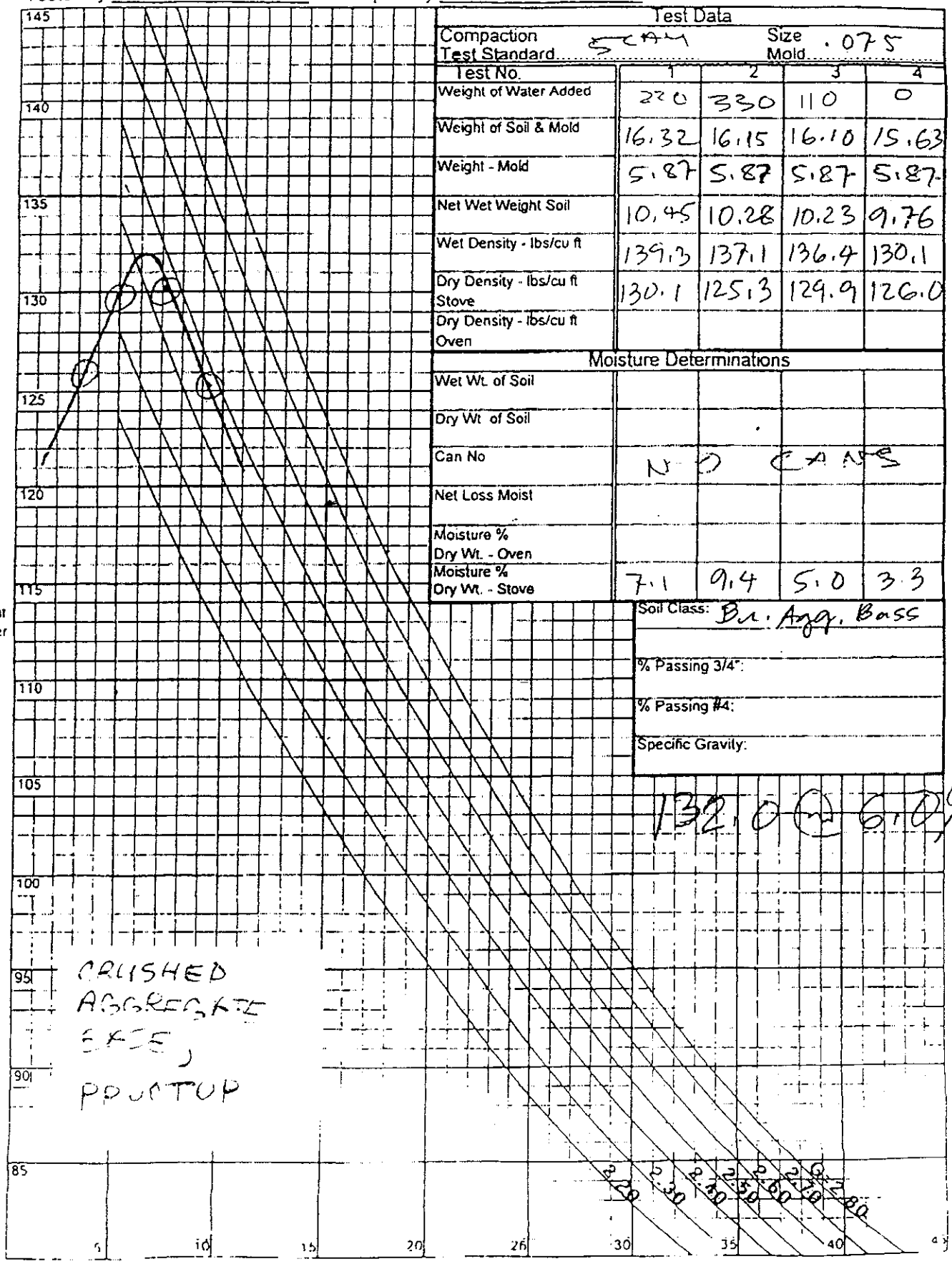
Elevation

Date 01-03-03

Sta 3

Tested by 2 e

Sampled by:



Test Data

Compaction Test Standard SCAM

Size Mold .075

Test No.	1	2	3	4
Weight of Water Added	220	330	110	0
Weight of Soil & Mold	16.32	16.15	16.10	15.63
Weight - Mold	5.87	5.87	5.87	5.87
Net Wet Weight Soil	10.45	10.28	10.23	9.76
Wet Density - lbs/cu ft	139.3	137.1	136.4	130.1
Dry Density - lbs/cu ft Stove	130.1	125.3	129.9	126.0
Dry Density - lbs/cu ft Oven				

Moisture Determinations

Wet Wt. of Soil				
Dry Wt of Soil				
Can No	NO CANS			
Net Loss Moist				
Moisture % Dry Wt. - Oven				
Moisture % Dry Wt. - Stove	7.1	9.4	5.0	3.3

Soil Class: Br. Agg. Base

% Passing 3/4":

% Passing #4:

Specific Gravity:

Job No 14499

Location Foster wheeler

Date 12-18-02

Tested by: Z.C

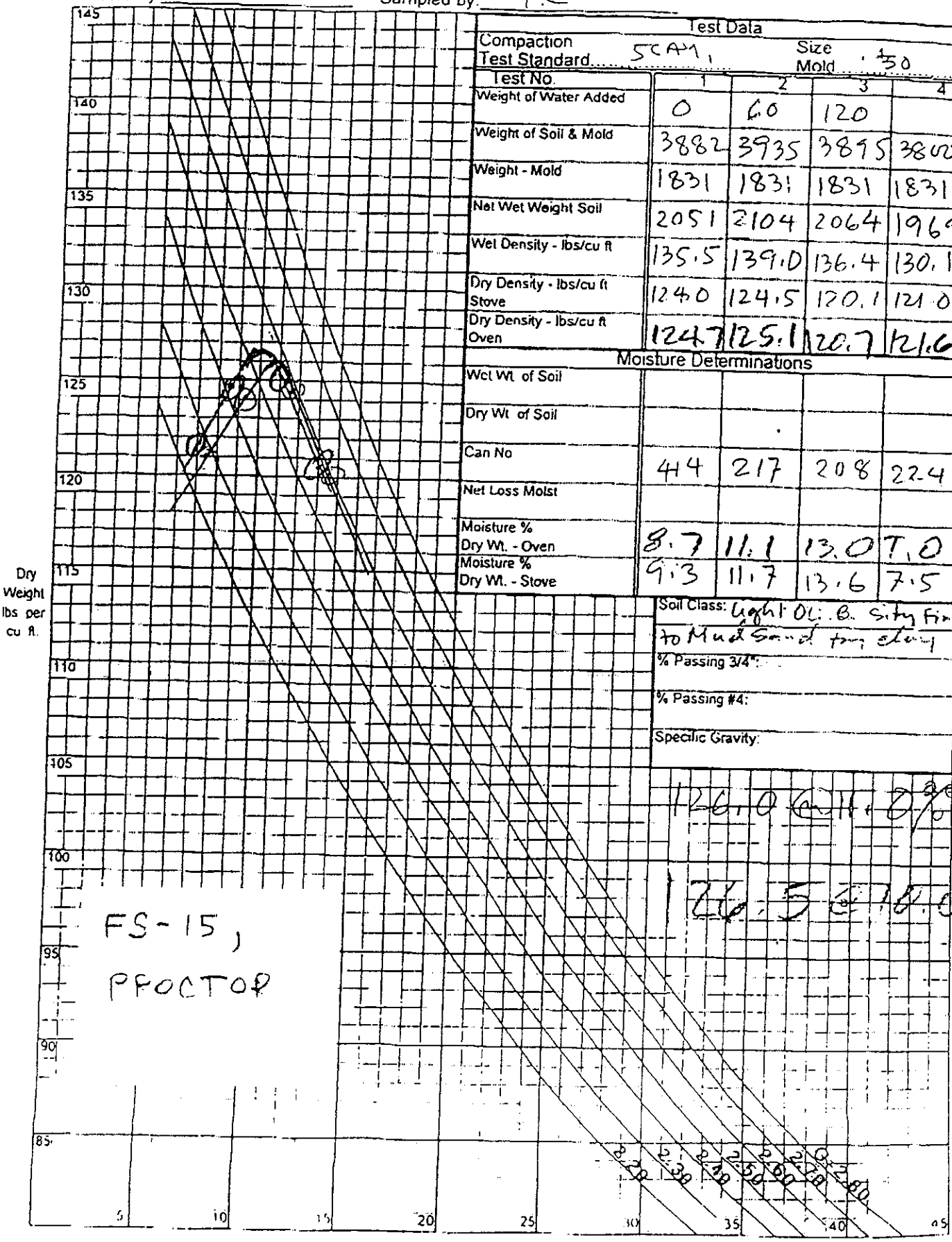
Associated Soils Engineering
Max. Density and Moisture Curves
ASTM D1557 or D698

Sample No # 2 12-17-02

Elevation

Sta 2

Sampled by: T.C



Test Data

Compaction Test Standard: SCAM, Size Mold: 50

Test No.	1	2	3	4
Weight of Water Added	0	60	120	
Weight of Soil & Mold	3882	3935	3895	3800
Weight - Mold	1831	1831	1831	1831
Net Wet Weight Soil	2051	2104	2064	1969
Wet Density - lbs/cu ft	135.5	139.0	136.4	130.1
Dry Density - lbs/cu ft Stove	124.0	124.5	120.1	121.0
Dry Density - lbs/cu ft Oven	124.7	125.1	120.7	121.6

Moisture Determinations

Wet Wt. of Soil				
Dry Wt. of Soil				
Can No	414	217	208	224
Net Loss Moist				
Moisture % Dry Wt. - Oven	8.7	11.1	13.0	7.0
Moisture % Dry Wt. - Stove	9.3	11.7	13.6	7.5

Soil Class: Light OL. B. Silty Fine to Mud Sand tan clay

% Passing 3/4":

% Passing #4:

Specific Gravity:

126.0 @ 11.0% OZ

126.5 @ 10.0%

FS-15, PROCTOR

FROM : ASSOCIATED SOILS ENGINEERING I FAX NO. : 562 426 1842 Jan 09 2003 02:11PM P3

Associated Soils Engineering

Sample No. [illegible]

Max. Density and Moisture Curves

ASTM D1557 or D698

Location: Foster wheeler

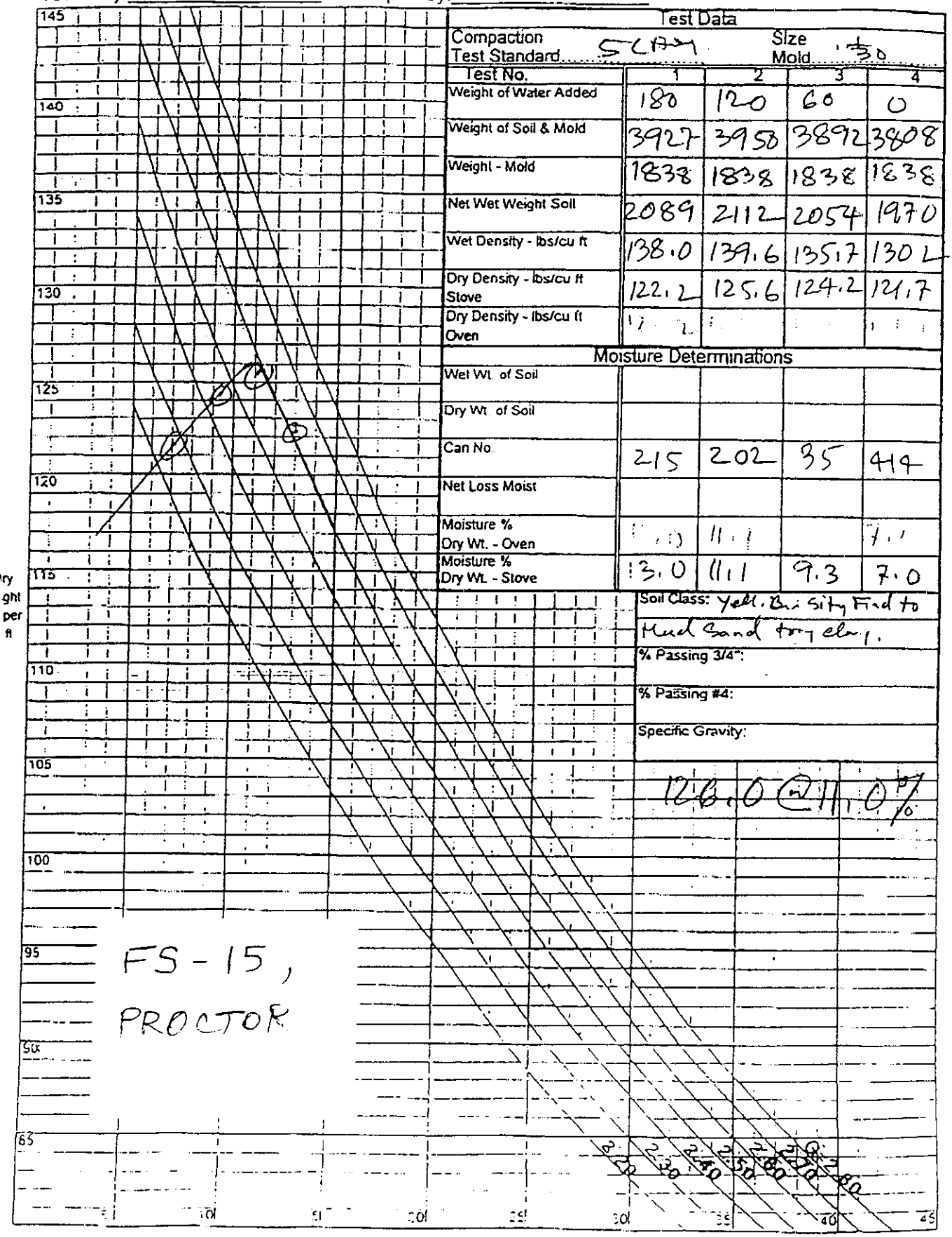
Elevation:

Date: 8-21-2

Sta.: 1

Tested by: 2 e

Sampled by:



FS-15, PROCTOR

Test Data

Compaction Test Standard: 5 [illegible]

Size Mold: 1/30

Test No.	1	2	3	4
Weight of Water Added	180	120	60	0
Weight of Soil & Mold	3927	3958	3892	3808
Weight - Mold	1838	1838	1838	1838
Net Wet Weight Soil	2089	2112	2054	1970
Wet Density - lbs/cu ft	138.0	139.6	135.7	130.2
Dry Density - lbs/cu ft Stove	122.2	125.6	124.2	121.7
Dry Density - lbs/cu ft Oven	[illegible]			[illegible]

Moisture Determinations

Wet Wt. of Soil				
Dry Wt. of Soil				
Can No.	215	202	35	414
Net Loss Moist				
Moisture % Dry Wt. - Oven	[illegible]	11.1		7.1
Moisture % Dry Wt. - Stove	13.0	11.1	9.3	7.0

Soil Class: Yell. Brn Silty Fine to Med Sand trace clay.

% Passing 3/4":

% Passing #4:

Specific Gravity:

126.0 @ 11.0%

CATALOG CUT/SHOP DRAWING TRANSMITTAL AND APPROVAL
SOUTHWESTNAVFACENGCOM 4355 / 2 (10-89)

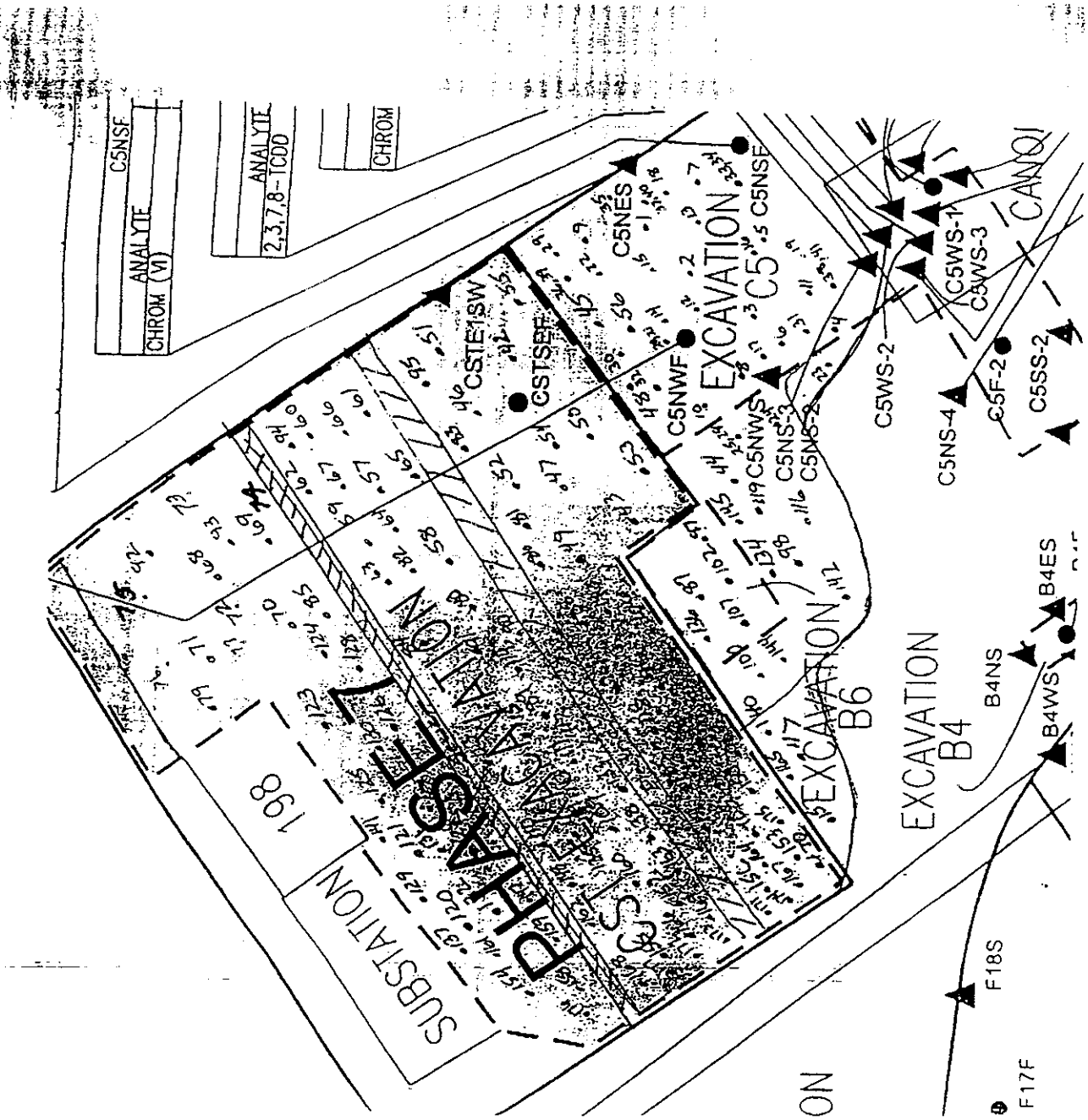
No carbon paper is required to complete this form
No transmittal letter required

SUBMITTAL NO.
FWPB-RAC3-03-0726

CQC CLAUSE ☒ IS APPLICABLE ☐ IS NOT APPLICABLE

REFERENCES TO USE WHEN CQC CLAUSE IS APPLICABLE	PART I – FOR CONTRACTOR USE	REFERENCES TO USE WHEN CQC CLAUSE IS NOT APPLICABLE
(A) ROICC/REICC	FROM (Contractor): Foster Wheeler Environmental Corporation, 1230 Columbia Street, suite 640, San Diego, CA 92101 — TO (A): John Ohlfest	(A) DESIGNER
	CONTRACT NO.: N68711-98-D-5713 CTO 0039 — CONTRACT TITLE: CERCLA Non-Time-Critical Removal Action at Installation Restoration Sub-Site 2A Mole Pier, Naval Station San Diego, San Diego, CA	
(B) *(Check one)* ☒ RECORD ☐ APPROVAL	THE FOLLOWING ITEM IS SUBMITTED FOR (B) PER SPECIFICATION SECTION NUMBER Compaction test results for subgrade (FS-15) and aggregate base, CST excavation	(B) APPROVAL
	CERTIFICATION (This form shall not be used to forward proposed substitutions) IT IS HEREBY CERTIFIED THAT THE ☐ EQUIPMENT ☒ MATERIAL SHOWN AND MARKED IN THIS SUBMITTAL IS THAT PROPOSED TO BE INCORPORATED INTO CONTRACT N68711-98-D-5713, CTO 0039 IS IN COMPLIANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS AND CAN BE INSTALLED IN THE ALLOCATED SPACES.	
(C) AUTHORIZED CONTRACTOR QUALITY CONTROL REPRESENTATIVE	CERTIFIED BY (C): [signature] — DATE: 01/30/03	(C) PERSON DESIGNATED BY CONTRACTOR AS HAVING AUTHORITY TO SIGN CERTIFICATION
	PART II – FOR DESIGNER USE	
	FROM (Designer): — TO (ROICC/REICC):	
(D) CURSORY REVIEW REQUIRED ON RECORD COMES – REPLY TO ROICC ONLY IF APPROPRIATE. DETAILED REVIEW REQUIRED ON SUBMITTALS FOR GOVERNMENT APPROVAL STAMP AND MARK EACH COPY AS APPROPRIATE	THIS SUBMITTAL HAS BEEN REVIEWED (D). THE FOLLOWING RECOMMENDATION IS MADE:	(D) DETAILED REVIEW REQUIRED. STAMP AND MARK EACH COPY AS APPROPRIATE
	SIGNATURE — DATE	
	PART III – FOR ROICC/REICC USE	
(E) DESIGNER *(Copy to OICC)*	FROM (ROICC/REICC): — TO (E):	(E) CONTRACTOR *(Copy to OICC)*
	ENCLOSURES ARE RETURNED WITH THE FOLLOWING COMMENTS:	
	SIGNATURE — DATE	

CTO2CATALOG



COMPACTION TEST LOCATIONS

NOTE: AN AUTOCAD DRAWING OF THESE LOCATIONS IS CURRENTLY BEING PREPARED BY THE COMPACTION TESTING VENDOR AND WILL BE AVAILABLE UPON REQUEST WHEN COMPLETED.

SOILS ENGINEERING, INC
Consulting Foundation Engineers

3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler	JOB NO: 02-14499	DATE: 1-23-03
JOB ADDRESS: 32nd St. Naval Station — CITY: San Diego	TECHNICIAN: Todd	PROJECT ENGINEER:
GENERAL LOCATION OF FILL: West of Waste Stockpile	GRADING OR EARTHWORK CONTRACTOR & SUPT: Foster Wheeler	MAX DENSITY STANDARD: [X] 5 LAYER [ ] C.I.
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED: Parking Lot	
GEN. CONTRACTOR'S SUPT: Randy Rose		
SOURCE AND CLASSIFICATION OF FILL MATERIAL: 123.0 @ 12.0	TIME AM/PM: 7:00	
126.0 @ 11.0	TIME CHARGED TO PROJECT: 8.0	
	TIME ACKNOWLEDGED: X M Zeller	
COMPACTION EQUIPMENT USED: Vibrating Sheepsfoot Roller		
SPREADING EQUIPMENT: Dozer		
WATERING EQUIPMENT: Water Truck		

GENERAL DESCRIPTION OF AREA BEING WORKED MEETINGS VISITORS TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS ETC

On site per clients Request to test and observe Fill placement at the Removal area west of the waste stockpile. Observed contractor place and compact Import soil in 6" Lifts. Observation, probing and testing indicates 90% Relative compaction has been achieved.

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
171	N	West of Waste		-3		11.1	111.9	12.0	123.0	91.0	
172	N	Stockpile		-3		11.9	112.6			91.5	
173	N			-2.5		13.0	113.3			92.2	
174	N			-2.5		8.8	117.3	11.0	126.0	93.1	
175	N			-2		11.5	114.8			91.1	
176	N			-2.5		9.7	117.4			93.1	
177	N			-2.0		11.8	117.5			93.3	

COPY SENT TO CLIENT [ ] CONTINUED ON NEXT PAGE [ ] PAGE 1 OF 1

ASSOCIATED SOILS ENGINEERING, INC
Consulting Foundation Engineers
3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler	JOB NO: 14499	DATE: 1-22-03
JOB ADDRESS: 32nd St Naval Station — CITY: San Diego	TECHNICIAN: Todd	PROJECT ENGINEER:
GENERAL LOCATION OF FILL: West of Waste Stockpile	GRADING OR EARTHWORK CONTRACTOR & SUPT: Foster Wheeler	MAX DENSITY STANDARD: ☒ 5 LAYER ☐ C1
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED: Parking lot	
GEN CONTRACTOR'S SUPT: Randy Rose		
SOURCE AND CLASSIFICATION OF FILL MATERIAL: 126.0 @ 11.0 123.0 @ 12.0	TIME (AM) PM: 7:00	
	TIME CHARGED TO PROJECT: 8	
	TIME ACKNOWLEDGED: Randy Rose	

COMPACTION EQUIPMENT USED: Vibrating sheepsfoot Roller

SPREADING EQUIPMENT: Dozer

WATERING EQUIPMENT: Water Truck

GENERAL DESCRIPTION OF AREA BEING WORKED MEETINGS VISITORS TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS ETC

On site per clients Request to test and observe Fill placement at the Removal area west of the waste stockpile. Observed contractor place and compact Import soil ~~[illegible]~~ in 6" Lifts. Observation probing and testing indicates 90% Relative compaction has been achieved.

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
164	N	West of Waste		-4		10.3	113.5	11.0	126.0	90.0	
165	N	Stockpile		-3.5		13.8	114.1			90.5	
166	N			-3		14.2	113.7			90.2	
167	N			-3.5		10.8	113.4			90.0	
168	N			-2.5		14.3	114.1			90.5	
169	N			-3		12.8	113.1	12.0	123.0	92.0	
170	N			-4		10.2	113.2			92.1	

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ASSOCIATED SOILS ENGINEERING, INC
Consulting Foundation Engineers
3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT	JOB NO	DATE
Foster Wheeler	02-14499	1-21-03
JOB ADDRESS / CITY	TECHNICIAN	PROJECT ENGINEER
32nd St. Naval Station / San Diego	Todd	

GENERAL LOCATION OF FILL	GRADING OR EARTHWORK CONTRACTOR & SUPT	MAX DENSITY STANDARD
West of Waste Stockpile	Foster Wheeler	☒ S LAYER ☐ C.I.
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED: Parking Lot	
GEN. CONTRACTOR'S SUPT: Randy Rose		

SOURCE AND CLASSIFICATION OF FILL MATERIAL	TIME AM/PM
126.0 @ 11.0	7:00
	TIME CHARGED TO PROJECT: 8.0
	TIME ACKNOWLEDGED BY: Randy Rose

COMPACTION EQUIPMENT USED: Viborating sheepsfoot Roller

SPREADING EQUIPMENT: Dozer

WATERING EQUIPMENT: Water truck

GENERAL DESCRIPTION OF AREA BEING WORKED, MEETINGS, VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC

On site per clients Request to test and observe Fill placement at the Removal area west of the waste Stockpile. Observed contractor place and compact Import soil in 6" Lifts. Observation probing and testing indicates 90% Relative compaction has been achieved.

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
157	N	West of Waste		-5		10.5	113.9	11.0	126.0	90.4	
158	N	Stockpile		-4.5		13.2	116.5			92.4	
159	N			-4		12.2	113.7			90.2	
160	N			-4.5		13.1	115.2			91.4	
161	S			-3.5		14.2	119.3			94.6	
162	S			-3		12.3	117.5			93.2	
163	N			-3		12.5	113.4			90.0	

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ASSOCIATED SOILS ENGINEERING, INC
Consulting Foundation Engineers

3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler	JOB NO: 14499	DATE: 1-20-03
JOB ADDRESS: 32nd St Naval Station — CITY: San Diego	TECHNICIAN: Todd	PROJECT ENGINEER:
GENERAL LOCATION OF FILL: West of Waste Stockpile	GRADING OR EARTHWORK CONTRACTOR & SUPT: Foster Wheeler	MAX DENSITY STANDARD: ☒ 5 LAYER ☐ C.I.
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED: Parking Lot	
GEN. CONTRACTOR'S SUPT: Randy Rose		
SOURCE AND CLASSIFICATION OF FILL MATERIAL: 126.0 @ 11.0	TIME (AM) PM: 7:00	
	TIME CHARGED TO PROJECT: 8.0	
	TIME ACKNOWLEDGED: Randy Rose	

COMPACTION EQUIPMENT USED: Viborating Sheepsfoot Roller

SPREADING EQUIPMENT: Dozer

WATERING EQUIPMENT: Water Truck

GENERAL DESCRIPTION OF AREA BEING WORKED MEETINGS VISITORS TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS ETC

On site per clients Request to test and Observe Fill placement at the Removal Area west of the waste stockpile. Observed contractor place and compact Import soil in 6" Lifts. Observation probing and testing indicates 90% Relative compaction has been achieved.

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
152	N	West of Waste		-6.5		8.9	117.8	11.0	126.0	93.5	
153	N	Stockpile		-6		12.5	114.6			91.0	
154	N			-5		9.6	115.9			92.0	
155	S			-5.5		10.9	118.0			93.6	
156	N			-5		13.2	114.5			90.8	

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SOILS ENGINEERING, INC
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3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler	JOB NO: 02-14499	DATE: 1-17-03
JOB ADDRESS: 32nd St Naval Station — CITY: San Diego	TECHNICIAN: Todd	PROJECT ENGINEER:
GENERAL LOCATION OF FILL: West of Waste Stockpile	GRADING OR EARTHWORK CONTRACTOR & SUPT: Foster Wheeler	MAX DENSITY STANDARD: ☒ 5 LAYER ☐ C.I.
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED: Parking Lot	
GEN. CONTRACTOR'S SUPT: Randy Rose		
SOURCE AND CLASSIFICATION OF FILL MATERIAL: Import 126.0 @ 11.0	TIME AM/PM: 7:00	
	TIME CHARGED TO PROJECT: 8	
	TIME ACKNOWLEDGED: Rand, Rose	
COMPACTION EQUIPMENT USED: Vibrating Sheepsfoot Roller		
SPREADING EQUIPMENT: Dozer		
WATERING EQUIPMENT: Water Truck		

GENERAL DESCRIPTION OF AREA BEING WORKED MEETINGS VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC

On site per clients Request to test and observe Fill placement at the Removal area west of waste stockpile. Observed contractor place and compact Import soil in 6" Lifts. Observation, probing and testing indicates 90% Relative compaction has been achieved.

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
147	N	West of Waste		-3'		8.7	115.7	11.0	126.0	91.5	
148	N	Stockpile		-4'		8.6	113.8			90.3	
149	N			-3.5'		11.8	121.4			96.3	
150	N			-6		10.6	113.9			90.4	
151	N			-4		11.7	116.5			92.4	

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SOILS ENGINEERING, INC.
Consulting Foundation Engineers

3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT	JOB NO.	DATE
Foster Wheeler	02-14499	1-13-03

JOB ADDRESS	CITY	TECHNICIAN	PROJECT ENGINEER
32nd St. Naval Station	San Diego	Todd	

GENERAL LOCATION OF FILL	GRADING OR EARTHWORK CONTRACTOR & SUPT	MAX DENSITY STANDARD
West of Waste Stockpile	Foster Wheeler	☒ S LAYER ☐ C.I.

GENERAL CONTRACTOR	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED
Foster Wheeler	

GEN. CONTRACTOR'S SUPT
Randy Rose

SOURCE AND CLASSIFICATION OF FILL MATERIAL	TIME AM/PM
126.0 @ 11.0	7:00
	TIME CHARGED TO PROJECT: 4.0
	TIME ACKNOWLEDGED: Randy Rose

COMPACTION EQUIPMENT USED: Vibrating sheepsfoot Roller

SPREADING EQUIPMENT: Dozer

WATERING EQUIPMENT: Water truck

GENERAL DESCRIPTION OF AREA BEING WORKED, MEETINGS, VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC

On site per clients Request to test and observe Fill placement at the Removal area west of the waste stockpile. Observed contractor place and compact Import soil in 6" Lifts. Observation probing and testing indicates 90% Relative compaction has been achieved.

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
144	N	West of Waste		-3'		10.2	121.0	11.0	126.0	96.0	
145	N	Stockpile		-2'		9.9	121.7	|	|	96.6	
146	N			-2'		9.8	117.8	|	|	93.4	

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ASSOCIATED SOILS ENGINEERING, INC.
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3320 AIRPORT WAY
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DAILY REPORT OF GRADING CONTROL

CLIENT	JOB NO	DATE
Foster Wheeler	02-14499	1-10-02

JOB ADDRESS	CITY	TECHNICIAN	PROJECT ENGINEER
32nd St. Naval Station	San Diego	Todd	

GENERAL LOCATION OF FILL	GRADING OR EARTHWORK CONTRACTOR & SUPT	MAX DENSITY STANDARD
West of Waste Stockpile	Foster Wheeler	☒ 5 LAYER ☐ C.I.

GENERAL CONTRACTOR	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED
Foster Wheeler	Parking Lot

GEN CONTRACTOR'S SUPT: Randy Rose

SOURCE AND CLASSIFICATION OF FILL MATERIAL: 126.0 @ 11.0

TIME (AM/PM): 7:00

TIME CHARGED TO PROJECT: 8.0

TIME ACKNOWLEDGED: Randy Rose

COMPACTION EQUIPMENT USED: Vibrating Sheepsfoot Roller, Hand wacker

SPREADING EQUIPMENT: Dozer

WATERING EQUIPMENT: Water Truck

GENERAL DESCRIPTION OF AREA BEING WORKED, MEETINGS, VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC

On site per clients Request to test and observe fill placement at the Removal area west of the waste stockpile. Observed contractor place and compact Import soil in 6" lifts. Observation probing and testing indicates 90% Relative compaction has been achieved.

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
138	N	West of Waste		-3.5		8.4	117.1	11.0	126.0	92.9	
139	S	Stockpile		-3		10.4	118.6			94.1	
140	N			-3		9.8	118.8			94.3	
141	S			-2.5		10.7	116.0			92.0	
142	N			-2.5		12.3	119.6			94.9	
143	N			-2.0		11.9	115.6			91.7	

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SOILS ENGINEERING, INC
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3320 AIRPORT WAY
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CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler		JOB NO: 02-14499 ~~1-9-03~~	DATE: 1-9-03
JOB ADDRESS: 32nd St Naval Station	CITY: San Diego	TECHNICIAN: Todd	PROJECT ENGINEER:
GENERAL LOCATION OF FILL: West of Waste Stockpile	GRADING OR EARTHWORK CONTRACTOR & SUPT: Foster Wheeler	MAX DENSITY STANDARD: ☒ S LAYER ☐ C.I	
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED: Parking Lot		
GEN. CONTRACTOR'S SUPT.: Randy Rose			
SOURCE AND CLASSIFICATION OF FILL MATERIAL: 126.0 @ 11.0		TIME AM/PM: 7:00	
		TIME CHARGED TO PROJECT: 8.0	
		TIME ACKNOWLEDGED: Randy Rose	

COMPACTION EQUIPMENT USED: Vibrating Sheepsfoot Roller, Hand tracker

SPREADING EQUIPMENT: Dozer

WATERING EQUIPMENT: Water truck

GENERAL DESCRIPTION OF AREA BEING WORKED, MEETINGS, VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC

On site per clients Request to test and observe Fill placement at the Removal area west of the waste Stockpile. Observed contractor place and compact Import in 6" Lifts. Observation, probing and Testing indicates 90% Relative compaction has been achieved.

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
134	N	West of Waste		-4		10.1	118.2	11.0	126.0	93.8	
135	N	Stockpile		-3.5		9.7	114.2			90.6	
136	N			-3.5		9.7	116.0			92.0	
137	N			-3		11.8	113.6			90.1	

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SOILS ENGINEERING, INC
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CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler	JOB NO: 02-14499	DATE: 1-8-03
JOB ADDRESS: 32nd St Naval Station — CITY: San Diego	TECHNICIAN: Todd	PROJECT ENGINEER:
GENERAL LOCATION OF FILL: West of Waste Stockpile	GRADING OR EARTHWORK CONTRACTOR & SUPT: Foster Wheeler	MAX DENSITY STANDARD: ☒ 5 LAYER ☐ CI
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED:	
GEN. CONTRACTOR'S SUPT: Randy Rose		
SOURCE AND CLASSIFICATION OF FILL MATERIAL: 126.0 @ 11.0	TIME (AM/PM): 7:00	
	TIME CHARGED TO PROJECT: 8.0	
	TIME ACKNOWLEDGED: Randy Ros	

COMPACTION EQUIPMENT USED: Viborating Sheepsfoot Roller, Handwacker

SPREADING EQUIPMENT: Dozer

WATERING EQUIPMENT: Water Truck

GENERAL DESCRIPTION OF AREA BEING WORKED MEETINGS VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS ETC

On site per clients Request to test and observe fill placement at The Removal Area west of the waste stockpile. Observed contractor place Import soil and compact. Observation, probing and Testing indicates 90% Relative compaction has been achieved.

Page 1 of 2

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
117	N	West of Waste		-4		10.3	121.0	11.0	126.0	96.0	
118		Stockpile		-3.5		10.5	113.7			90.2	
119				-3.5		7.5	119.7			94.9	
120				-7.5		11.7	114.1			90.5	
121				-7.5		9.4	115.8			91.9	
122				-7		8.7	118.6			94.9	
123				-5		11.5	114.5			90.9	
124				-3		13.4	113.5			90.0	
125				-6.5		13.1	114.0			90.4	
126				-6		10.8	117.1			92.9	

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SOILS ENGINEERING, INC
Consulting Foundation Engineers

3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT	JOB NO	DATE
Foster Wheeler	02-14199	1-8-03

JOB ADDRESS	CITY	TECHNICIAN	PROJECT ENGINEER
32nd St Naval Station	San Diego	Todd	

GENERAL LOCATION OF FILL	GRADING OR EARTHWORK CONTRACTOR & SUPT	MAX DENSITY STANDARD ☐ S LAYER ☐ C.I.
GENERAL CONTRACTOR	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED	
GEN. CONTRACTOR'S SUPT.		

SOURCE AND CLASSIFICATION OF FILL MATERIAL	TIME AM/PM
	TIME CHARGED TO PROJECT
	TIME ACKNOWLEDGED

COMPACTION EQUIPMENT USED

SPREADING EQUIPMENT

WATERING EQUIPMENT

GENERAL DESCRIPTION OF AREA BEING WORKED, MEETINGS, VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC

Page 2 of 2

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
127	N	West of Waste		-5.5		10.1	118.7	11.0	126.0	94.1	
128	N	Stockpile		-3.5		10.7	117.1			92.9	
129	N			-5		10.4	115.3			91.5	
130	N			-4		9.2	120.2			95.3	
131	N			-5		9.8	113.9			10.4	
132	N			-3.5		9.6	121.7			96.5	
133	N			-4		8.7	116.7			92.6	

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SOILS ENGINEERING, INC.
3320 AIRPORT WAY
LONG BEACH, CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler	JOB NO.: 02-14499	DATE: 1-7-03
JOB ADDRESS: 32nd St. Naval Station — CITY: San Diego	TECHNICIAN: Todd	PROJECT ENGINEER:
GENERAL LOCATION OF FILL: West of Waste Stockpile	GRADING OR EARTHWORK CONTRACTOR & SUPT: Foster Wheeler	MAX DENSITY STANDARD: ☒ 5 LAYER ☐ C.I.
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED: Parking Lot	
GEN. CONTRACTOR'S SUPT.: Randy Rose		
SOURCE AND CLASSIFICATION OF FILL MATERIAL: 126.0 @ 11.0	TIME ~~AM~~ PM: 7:00	
	TIME CHARGED TO PROJECT: 8.0	
	TIME ACKNOWLEDGED: Randy Rose	

COMPACTION EQUIPMENT USED: Vibrating Sheepsfoot Roller, Handwacker

SPREADING EQUIPMENT: Dozer

WATERING EQUIPMENT: Water truck

GENERAL DESCRIPTION OF AREA BEING WORKED, MEETINGS, VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC

On site per Clients Request to test and observe Fill placement at the Removal area west of the waste stockpile. Observed contractor place and compact Import soil in 6' Lifts. Observation probing, testing and Retesting indicates 90% Relative Compaction has been achieved.

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
109	N	West of Waste		-7		8.5	115.0	11.0	126.0	91.3	
110	N	Stockpile		-6.5		9.7	114.8			91.3	
111	N			-6		12.0	106.4			84.4	
112	N			-6		8.0	115.8			91.2	RT 114
113	N			-5.5		11.6	119.7			95.0	
114	N			-5		9.6	117.9			93.6	
115	N			-4.5		9.0	116.5			92.4	
116	N			-4.0		8.6	114.6			90.9	

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ASSOCIATED SOILS ENGINEERING, INC.
Consulting Foundation Engineers

3320 AIRPORT WAY
LONG BEACH, CA
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler	JOB NO: 02-14499	DATE: 1-6-03
JOB ADDRESS: 32nd St. Naval Station — CITY: San Diego	TECHNICIAN: Todd	PROJECT ENGINEER:
GENERAL LOCATION OF FILL: West of Waste Stockpile	GRADING OR EARTHWORK CONTRACTOR & SUPT: Foster Wheeler	MAX DENSITY STANDARD: [X] 5 LAYER [ ] C.I.
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED: Parking Lot	
GEN CONTRACTOR'S SUPT: Randy Rose		
SOURCE AND CLASSIFICATION OF FILL MATERIAL: Import 126.0 @ 11.0	TIME (AM) PM: 7:00	
	TIME CHARGED TO PROJECT: 8.0	
	TIME ACKNOWLEDGED: Randy Rose	

COMPACTION EQUIPMENT USED: Vibocating Sheepsfoot Roller, Hardwacker

SPREADING EQUIPMENT: Dozer

WATERING EQUIPMENT: Water Truck

GENERAL DESCRIPTION OF AREA BEING WORKED MEETINGS VISITORS TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS ETC

On site per clients Request to test and Observe Fill placement at the Removal area west of waste stockpile. Observed contractor place and compact Import soil in 6' Lifts. Observation probing and testing indicates 90% Relative compaction has been achieved.

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
103	N	West of Waste		-7'		7.6	117.9	11.0	126.0	93.6	
104	N	Stockpile		-5'		9.8	120.4			95.5	
105	N			-6'		8.5	113.6			90.1	
106	N			-4'		7.0	113.6			90.1	
107	N			-3'		8.7	114.3			90.7	
108	N			-4'		8.9	116.9			92.8	

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SOILS ENGINEERING, INC
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3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler		JOB NO: 02-14499	DATE: 1-4-03
JOB ADDRESS: 32nd Naval Station	CITY: San Diego	TECHNICIAN: Todd	PROJECT ENGINEER:
GENERAL LOCATION OF FILL: West of Waste Stockpile	GRADING OR EARTHWORK CONTRACTOR & SUPT.: Foster Wheeler	MAX DENSITY STANDARD: ☒ 5 LAYER ☐ C.I.	
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED: Parking Lot		
GEN. CONTRACTOR'S SUPT: Randy Rose			
SOURCE AND CLASSIFICATION OF FILL MATERIAL: 126.0 @ 11.0		TIME AM/PM: 7:00	
		TIME CHARGED TO PROJECT: 8.0	
		TIME ACKNOWLEDGED: Randy Rose	

COMPACTION EQUIPMENT USED: Vibrating Sheepsfoot Roller, Handwacker

SPREADING EQUIPMENT: Dozer

WATERING EQUIPMENT: Water Truck

GENERAL DESCRIPTION OF AREA BEING WORKED MEETINGS VISITORS TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS ETC

On site per clients Request to test and Observe Fill placement at the Removal Area West of the waste stockpile. Observed contractor place and compact native soil in Approximately 6" Lifts. Observation probing and testing indicates 90% Relative compaction has been achieved.

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
96	N	West of Waste		-6'		8.3	117.4	11.0	126.0	93.2	
97	N	Stockpile		-3'		10.3	123.0			97.5	
98	N			-5'		9.5	117.7			93.3	
99	S			-7'		9.4	116.1			92.1	
100	N			-6'		8.6	114.8			91.0	
101	N			-5'		9.9	115.4			91.5	
102	N			-4'		9.3	117.5			93.2	

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SOILS ENGINEERING, INC
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3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler	JOB NO: 02-14499	DATE: 1-3-03
JOB ADDRESS: 32nd St Naval Station — CITY: San Diego	TECHNICIAN: Todd	PROJECT ENGINEER:
GENERAL LOCATION OF FILL: West of Waste Stockpile	GRADING OR EARTHWORK CONTRACTOR & SUPT: Foster Wheeler	MAX DENSITY STANDARD: ☒ S LAYER ☐ C1
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED: Parking Lot	
GEN. CONTRACTOR'S SUPT: Randy Rose		
SOURCE AND CLASSIFICATION OF FILL MATERIAL: 126.0 @ 11.0 Import; 132.0 @ 6.0 Base	TIME AM/PM: 7:00	
	TIME CHARGED TO PROJECT: 8.0	
	TIME ACKNOWLEDGED:	

COMPACTION EQUIPMENT USED: 2- Vibrating Rollers

SPREADING EQUIPMENT: Dozer

WATERING EQUIPMENT: Water truck

GENERAL DESCRIPTION OF AREA BEING WORKED MEETINGS, VISITORS TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS ETC

On site per clients Request to test and observe import soil and class II Base placement at the Removal area west of the waste Stockpile. Test Results indicate 90% Relative compaction has been achieved on the import soil placement and 95% Relative compaction has been achieved on the Class II Base material

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
87	N	West of waste pile Import Soil		-4'		9.0	114.3	11.0	126.0	90.8	
88				-3'		9.0	113.7			90.2	
89				-6		8.4	113.8			90.3	
90				-5'		8.9	113.7			90.2	
91				-3'		8.4	113.7			90.2	
92		Class II Base		-6'		5.8	129.9	6.0	132.0	98.4	
93				-6		5.8	130.0			98.5	
94				-6		5.8	127.4			96.5	
95				-6"		6.4	131.3			99.5	

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ASSOCIATED SOILS ENGINEERING, INC
Consulting Foundation Engineers

3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT	JOB NO	DATE
Foster Wheeler	02-14499	1-2-03
JOB ADDRESS / CITY	TECHNICIAN	PROJECT ENGINEER
32nd St. Naval Station San Diego	Todd	

GENERAL LOCATION OF FILL	GRADING OR EARTHWORK CONTRACTOR & SUPT	MAX DENSITY STANDARD
West of waste stockpile	Foster Wheeler	☒ 5 LAYER ☐ C.L
GENERAL CONTRACTOR	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED	
Foster Wheeler	Parking Lot	
GEN. CONTRACTOR'S SUPT		
Randy Rose		

SOURCE AND CLASSIFICATION OF FILL MATERIAL	TIME (AM) PM
126.0 @ 11.0	7:00
	TIME CHARGED TO PROJECT
	8.0
	TIME ACKNOWLEDGED

COMPACTION EQUIPMENT USED: Vibrating Sheepsfoot Roller

SPREADING EQUIPMENT: Dozer

WATERING EQUIPMENT: Water truck

GENERAL DESCRIPTION OF AREA BEING WORKED, MEETINGS, VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC

On site per clients Request to test and observe import soil placement at the Remedial area west of the waste stockpile observed contractor place and compact native soil in 6" Lifts. Observation probing and testing indicates 90% Relative compaction has been achieved.

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
83	N	West of waste		-1.5		9.0	119.5	11.0	126.0	94.8	
84	N	Stockpile		-4		9.4	119.9			95.1	
85	N			-3		10.1	117.6			93.3	
86	N			-2		9.6	118.3			93.8	

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ASSOCIATED SOILS ENGINEERING, INC
Consulting Foundation Engineers

3320 AIRPORT WAY
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DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler	JOB NO: 02-14499 ~~12-31-02~~	DATE: 12-31-02
JOB ADDRESS: 32nd St. Naval Station — CITY: San Diego	TECHNICIAN: Todd	PROJECT ENGINEER:

GENERAL LOCATION OF FILL: west of Waste Stockpile	GRADING OR EARTHWORK CONTRACTOR & SUPT: Foster Wheeler	MAX DENSITY STANDARD: ☒ 5 LAYER ☐ C.I.
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED: Parking lot	
GEN. CONTRACTOR'S SUPT: Randy Rose		

SOURCE AND CLASSIFICATION OF FILL MATERIAL: 126.0 @ 11.0	TIME AM/PM: 7:00
	TIME CHARGED TO PROJECT: 5
	TIME ACKNOWLEDGED:

COMPACTION EQUIPMENT USED: Vibrating Sheeps foot Roller

SPREADING EQUIPMENT: Dozer

WATERING EQUIPMENT: Water Truck

GENERAL DESCRIPTION OF AREA BEING WORKED MEETINGS VISITORS TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS ETC

On site per Clients Request to Test and Observe Import Fill placement at the Removal Area west of the waste stockpile. Observed contractor place and compact native soil in 6" Lifts Observation probing and testing indicates 90% Relative compaction has been achieved.

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
78	N	West of Waste		-4		11.9	118.3	11.0	126.0	93.8	
79	N	Stockpile		-3		8.5	114.0			90.4	
80	N			-3		8.1	113.5			90.0	
81	N			-2		10.0	113.6			90.1	
82	N			-2.5		9.6	116.6			92.5	

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ASSOCIATED SOILS ENGINEERING, INC.
Consulting Foundation Engineers

3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: FOSTER WHEELER	JOB NO: 14A99	DATE: 12-24-9
JOB ADDRESS: 32ND ST NAVAL STATION CITY: SAN DIEGO	TECHNICIAN: [illegible]	PROJECT ENGINEER:
GENERAL LOCATION OF FILL: West of Stockpile	GRADING OR EARTHWORK CONTRACTOR & SUPT: Foster Wheeler	MAX DENSITY STANDARD: ☑ SLAYER ☐ C.I.
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED: Parking lot	
GEN. CONTRACTOR'S SUPT:		
SOURCE AND CLASSIFICATION OF FILL MATERIAL: 126.0 @ 11.0	TIME (AM/PM): 7:00	
	TIME CHARGED TO PROJECT: 6 hrs	
	TIME ACKNOWLEDGED: [illegible]	

COMPACTION EQUIPMENT USED: Hand Wacker, Vibrating Roller

SPREADING EQUIPMENT: 550 Dozer

WATERING EQUIPMENT:

GENERAL DESCRIPTION OF AREA BEING WORKED, MEETINGS, VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC.

On job site per clients request to observe and test fill operations at the removal area west of the waste stockpile

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
76	N	West of Waste Stockpile	-2.5			8.1	1212	11.0	1260	96.2	
77	N		-3.0			10.6	1196	"	"	94.9	

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SOILS ENGINEERING, INC
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3320 AIRPORT WAY
LONG BEACH
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DAILY REPORT OF GRADING CONTROL

CLIENT: FOSTER WHEELER	JOB NO: 14499	DATE: 12-23-02
JOB ADDRESS: 32ND ST. NAVAL STATION CITY: SAN DIEGO	TECHNICIAN: F Nolen	PROJECT ENGINEER:
GENERAL LOCATION OF FILL: WEST OF STOCKPILE	GRADING OR EARTHWORK CONTRACTOR & SUPT: FOSTER WHEELER	MAX DENSITY STANDARD: ☒ S LAYER ☐ CL
GENERAL CONTRACTOR: FOSTER WHEELER	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED: PARKING LOT	
GEN CONTRACTOR'S SUPT: RANDY ROSE		
SOURCE AND CLASSIFICATION OF FILL MATERIAL: 126.0 @ 11.0	TIME AM/PM: 700	
	TIME CHARGED TO PROJECT: 8 hrs	
	TIME ACKNOWLEDGED: Randy Rose	

COMPACTION EQUIPMENT USED: HAND WACKER, INGERSOLL RAND VIBRATING ROLLER

SPREADING EQUIPMENT: 450 DOZER

WATERING EQUIPMENT:

GENERAL DESCRIPTION OF AREA BEING WORKED MEETINGS, VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC

On job site per clients request to observe and test fill operations at the removal area west of the waste stockpile.
Rock was being placed at bottom that was below water level.
Native soil was being placed in 6" lifts

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
72	N	West of waste stockpile	-5.0			9.4	116.9	11.0	126.0	92.8	
73	N		-4.0			10.0	115.7			91.8	
74	N		-3.0			8.7	119.4			94.8	
75	N		-2.0			10.6	116.[illegible]			93.2	

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ASSOCIATED GEOTECHNICAL ENGINEERING INC
SOILS ENGINEERING INC
Consulting Foundation Engineers

3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT	JOB NO	DATE
Foster Wheeler	02-14499	12-19-02
JOB ADDRESS / CITY	TECHNICIAN	PROJECT ENGINEER
32nd St. Naval Station San Diego	Todd	

GENERAL LOCATION OF FILL	GRADING OR EARTHWORK CONTRACTOR & SUPT	MAX DENSITY STANDARD
West of Waste Stockpile	Foster Wheeler	☑ S LAYER ☐ C.I.
GENERAL CONTRACTOR	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED	
Foster Wheeler	Parking lot	
GEN. CONTRACTOR'S SUPT		
Randy Rose		

SOURCE AND CLASSIFICATION OF FILL MATERIAL	TIME (AM) PM
126.0 @ 11.0	7:00
	TIME CHARGED TO PROJECT
	7.0
	TIME ACKNOWLEDGED
	Randy Rose

COMPACTION EQUIPMENT USED: Ingersoll Rand Vibrating Roller

SPREADING EQUIPMENT: John Deere Dozer

WATERING EQUIPMENT: Water Truck

GENERAL DESCRIPTION OF AREA BEING WORKED MEETINGS, VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC

On site per clients Request to test and observe Fill placement and compaction at the Remoal area west of the waste stockpile. Observed contractor place and compact native soil in 6" Lifts. Observation probing and testing indicates 90% Relative compaction has been achieved.

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
68	N	West of waste		-7.5		8.6	118.0	11.0	126.0	93.6	
69	N	Stockpile		-7.0		12.5	113.9			90.3	
70	S			-6.5		11.7	116.7			92.6	
71	N			-6.0		10.0	113.5			90.0	

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SOILS ENGINEERING, INC
Consulting Geotechnical Engineers

3320 AIRPORT WAY
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DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler	JOB NO: 02-14499	DATE: 12-18-02
JOB ADDRESS: 32nd St. Naval Station — CITY: San Diego	TECHNICIAN: Todd	PROJECT ENGINEER:

GENERAL LOCATION OF FILL: West of Waste Stockpile Foster Wheeler	GRADING OR EARTHWORK CONTRACTOR & SUPT: Foster Wheeler	MAX DENSITY STANDARD: ☒ 5 LAYER ☐ C.I.
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED: Parking Lot	
GEN. CONTRACTOR'S SUPT: Randy Rose		

SOURCE AND CLASSIFICATION OF FILL MATERIAL: 126.0 @ 11.0	TIME (AM/PM): 7:00
	TIME CHARGED TO PROJECT: 8.0
	TIME ACKNOWLEDGED: Randy Rose

COMPACTION EQUIPMENT USED: Ingersol Rand Vibrating Roller

SPREADING EQUIPMENT: John Deere Dozer

WATERING EQUIPMENT: Water truck

GENERAL DESCRIPTION OF AREA BEING WORKED, MEETINGS, VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC.

On site per clients Request to test and observe Fill placement and compaction west of the waste stockpile. Observed contractor place and compact ~~native~~ Import soil. Observation, probing and testing indicates 90% Relative compaction has been achieved

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
61	N	West of Waste		-6'		9.4	124.0	11.0	126.0	98.4	
62	N	Stockpile		-5'		8.6	118.9			94.3	
63	S			-5.5'		10.4	121.3			96.2	
64	N			-4'		9.6	116.7			92.6	
65	N			-3'		8.9.7	119.1			94.5	
66	N			-3'		8.6	120.7			95.7	
67	N			-2.5'		10.6	122.2			97.0	

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ASSOCIATED SOILS ENGINEERING, INC
Consulting Foundation Engineers

3320 AIRPORT WAY
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DAILY REPORT OF GRADING CONTROL

CLIENT	JOB NO	DATE
Foster Wheeler	02-14499	12-17-02

JOB ADDRESS	CITY	TECHNICIAN	PROJECT ENGINEER
32nd Street Naval Station	San Diego	Todd	

GENERAL LOCATION OF FILL	GRADING OR EARTHWORK CONTRACTOR & SUPT	MAX DENSITY STANDARD
West of Waste Stockpile	Foster Wheeler	☒ 5 LAYER ☐ C.I.

GENERAL CONTRACTOR	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED
Foster Wheeler	Parking Lot

GEN. CONTRACTOR'S SUPT.
Randy Rose

SOURCE AND CLASSIFICATION OF FILL MATERIAL	TIME AM/PM	TIME CHARGED TO PROJECT	TIME ACKNOWLEDGED
126.0 @ 11.0	7:00	8.0	Randy Rose

COMPACTION EQUIPMENT USED: Cat 433C Vibrating Roller

SPREADING EQUIPMENT: John Deere 550 Dozer

WATERING EQUIPMENT: Water Truck

GENERAL DESCRIPTION OF AREA BEING WORKED, MEETINGS, VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC

On site per clients Request to test and Observe Fill placement and compaction at the Removal area west of the waste Stockpile. Observed contractor place and compact import soil in 6" Lifts. Observation, probing and testing indicates 90% Relative compaction has been achieved

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
57	N	West of Waste		-7.5'		9.5	117.5	11.0	126.0	93.2	
58	N	Stockpile		-7'		9.3	113.4			90.0	
59	S			-7'		11.1	115.8			91.9	
60	N			-6.5'		8.9	113.4			90.0	

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ASSOCIATED SOILS ENGINEERING, INC
Consulting Foundation Engineers

3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler	JOB NO: 02-14499	DATE: 12-16-02
JOB ADDRESS: 32nd St Naval Station — CITY: San Diego	TECHNICIAN: Todd	PROJECT ENGINEER:
GENERAL LOCATION OF FILL: West of Waste Stockpile	GRADING OR EARTHWORK CONTRACTOR & SUPT: Foster Wheeler	MAX DENSITY STANDARD: [X] 5 LAYER [ ] C.I.
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED: Parking lot	
GEN. CONTRACTOR'S SUPT: Randy Rose		
SOURCE AND CLASSIFICATION OF FILL MATERIAL: 126.0 @ 11.0	TIME (AM) PM: 7:00	
	TIME CHARGED TO PROJECT: 8.0	
	TIME ACKNOWLEDGED: Randy Rose	
COMPACTION EQUIPMENT USED: Cat 433C Vibrating Roller		
SPREADING EQUIPMENT: John Deere 550 Dozer		
WATERING EQUIPMENT: Water Truck		

GENERAL DESCRIPTION OF AREA BEING WORKED MEETINGS VISITORS TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC.

On site per clients Request to test and observe Fill placement at the Removal area west of the waste stockpile. Observed contractor place and compact Import soil in 6" Lifts. Observation, probing and testing indicates 90% Relative compaction has been achieved.

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
53	N	West of Waste		-4'		9.6	114.2	11.0	126.0	90.6	
54	S	Stockpile		-3.5'		10.4	118.3			93.8	
55	N			-3'		11.2	115.3			91.5	
56	N			-2'		8.6	114.1			90.5	

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ASSOCIATED SOILS ENGINEERING, INC
Consulting Foundation Engineers

3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT	JOB NO	DATE
Foster Wheeler	02-14499	12-14-02

JOB ADDRESS	CITY	TECHNICIAN	PROJECT ENGINEER
32nd St Naval Station	San Diego	Todd	

GENERAL LOCATION OF FILL	GRADING OR EARTHWORK CONTRACTOR & SUPT	MAX DENSITY STANDARD
West of Waste Stockpile	Foster Wheeler Randy Rose	☒ 5 LAYER ☐ C.I.

GENERAL CONTRACTOR	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED
Foster Wheeler	Parking Lot

GEN. CONTRACTOR'S SUPT: Randy Rose

SOURCE AND CLASSIFICATION OF FILL MATERIAL	TIME AM/PM
126.0 @ 11.0	7:00
	TIME CHARGED TO PROJECT: 7.0
	TIME ACKNOWLEDGED: Randy Rose

COMPACTION EQUIPMENT USED: Cat 433 C Vibrating Drum Roller

SPREADING EQUIPMENT: John Deere 550 Dozer

WATERING EQUIPMENT: Water Truck

GENERAL DESCRIPTION OF AREA BEING WORKED, MEETINGS, VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC

On site per clients Request to test and Observe Fill placement at the Removal area west of the waste Stockpile. Observed contractor place and compact Import soil in 6" Lifts. Observation, probing and Testing indicates 90% Relative compaction has been achieved.

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
46	N	West of Waste		-6'		10.4	117.9	11.0	126.0	93.5	
47	N	Stockpile		-6'		8.1	120.7			95.8	
48	N			-5'		9.7	113.9			90.4	
49	S			-5.5		11.6	119.8			95.0	
50	N			-5		10.9	117.5			93.2	
51	N			-4.5		9.8	119.8			95.0	
52	N			-4.5		10.0	114.3			90.7	

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SOILS ENGINEERING, INC.
Consulting Foundation Engineers
3320 AIRPORT WAY
LONG BEACH
CALIFORNIA 90806

DAILY REPORT OF GRADING CONTROL

CLIENT: Foster Wheeler		JOB NO: 02-14499	DATE: 12-13-07
JOB ADDRESS: 32nd St Naval Station	CITY: San Diego	TECHNICIAN: Todd	PROJECT ENGINEER:
GENERAL LOCATION OF FILL: West of Waste Stockpile	GRADING OR EARTHWORK CONTRACTOR & SUPT: Foster Wheeler Randy Rose	MAX DENSITY STANDARD: [X] 5 LAYER [ ] C.I.	
GENERAL CONTRACTOR: Foster Wheeler	PURPOSE OF FILL OR NATURE OF STRUCTURE TO BE SUPPORTED: Parking Lot		
GEN. CONTRACTOR'S SUPT: Randy Rose			
SOURCE AND CLASSIFICATION OF FILL MATERIAL: 126.0 @ 11.0		TIME (AM) PM: 7:00	
		TIME CHARGED TO PROJECT: 8.0	
		TIME ACKNOWLEDGED: Randy Rose	

COMPACTION EQUIPMENT USED: Cat 433C Vibrating Roller

SPREADING EQUIPMENT: John Deere 550 Dozer

WATERING EQUIPMENT: Water Truck

GENERAL DESCRIPTION OF AREA BEING WORKED, MEETINGS, VISITORS, TRENCH WIDTHS AND DEPTHS FOR UTILITY LINE TESTS, ETC.

On site per clients Request to test and observe Import Fill placement at the Removal area west of the Waste Stockpile. Observed Contractor place and compact Import soil in 6" Lifts. Observation, probing and testing indicates 90% Relative compaction has been achieved.

TEST NO	TEST TYPE	LOCATION	ELEVATIONS TEST	ELEVATIONS FILL	ELEVATIONS NATURAL	FIELD MOIST	DRY PCF	OPTIMUM MOIST	MAX DENS	% COMPACT	RETEST REMARKS
42	N	West of Waste Stockpile		-7'		8.0	116.0	11.0	126.0	92.0	
43	N			-7.5'		9.7	113.6			90.2	
44	N			-7'		9.8	117.1			92.9	
45	N			-6.5'		12.3	114.2			90.6	

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CONSTRUCTION TESTING & ENGINEERING, INC.
GEOTECHNICAL AND CONSTRUCTION ENGINEERING TESTING AND INSPECTION
2414 VINEYARD AVENUE SUITE G ESCONDIDO CA 92029 (760) 746-4955

GRADING OBSERVATION

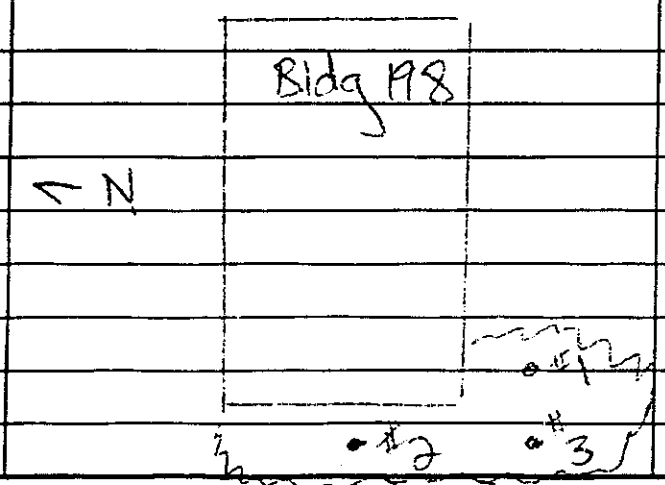
Job Name: Mado Pen / Bldg 198	Job Number: 10-6151
Job Address: 30th St. Novato	Date(s): 2-10-03
Plan File: | Permit#	Tech: S. Dineen
Gen. Contractor: PWC	Contr. Wkg: PWC
Superintendent Danny	Foreman:
Weather Condition:	

Summary of Work: On site, as requested to test parking lot subgrade to the south and west of Bldg 198. An 8-10 ton vibrating sheepsfoot roller was used to re-compact the yellow fill import material to 95%. Random density tests at finish subgrade indicate 95% was achieved.

Note: Tests #2+3 were taken in the area of electric trench backfill.

TEST SUMMARY

Test No	LOCATION AND NOTES	Elev Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact/ Required
1	Parking Lot at Bldg 198	FSG	122.0	11.7	119.2	11.8	98	95
2		↓	↓	↓	116.1	13.1	95	↓
3		↓	↓	↓	117.5	12.2	96	↓



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GEOTECHNICAL AND CONSTRUCTION ENGINEERING TESTING AND INSPECTION
2414 VINEYARD AVENUE SUITE G ESCONDIDO CA 92029 (760) 746-4955

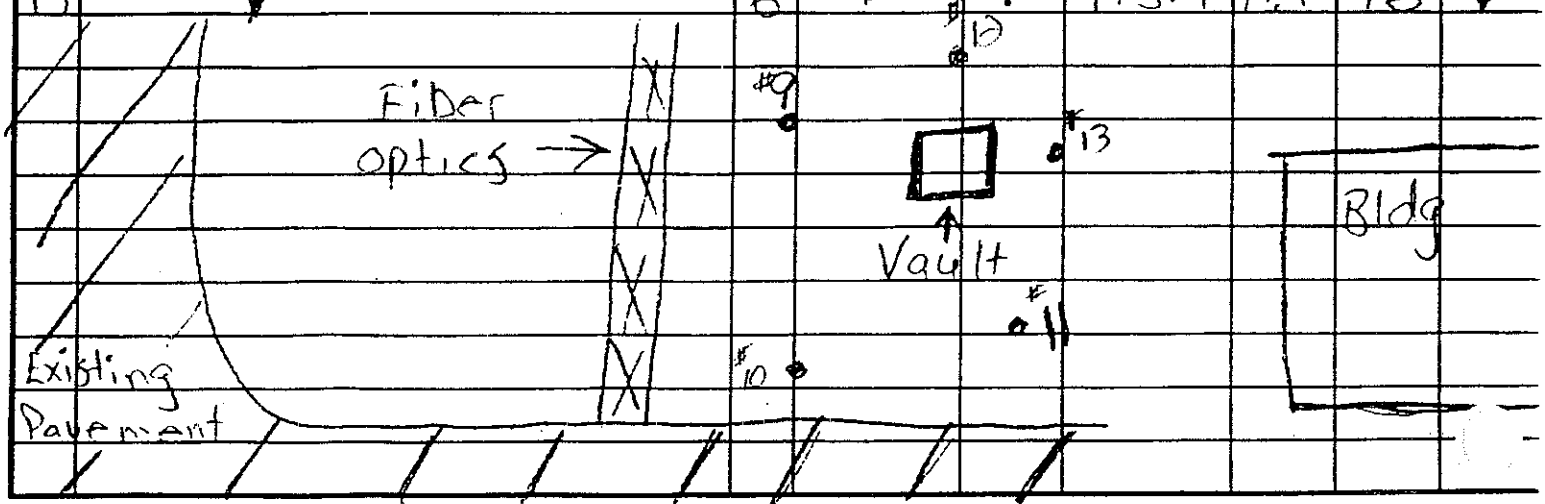
GRADING OBSERVATION

Job Name: Mole Pier Contamination Site	Job Number: 30-0378
Job Address: Mole Rd. 32nd St Naval Base	Date(s): 3-17-01
Plan File: | Permit#	Tech: S Sheen
Gen. Contractor: Navy Public Works	Contr. Wkg: N.P.W.
Superintendent: T Garry	Foreman:
Weather Condition: Partly Cloudy	

Summary of Work: On site as requested to periodically observed test the continuous fill procedures at the proposed park on Mole Pier. Random density tests and probing indicate 95% compaction.

TEST SUMMARY

Test No.	LOCATION AND NOTES	Elev Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact/ Required
9	Proposed Park Area	6	119.5	11.5	113.6	12.4	95	95
10		7			114.5	12.9	96	
11		3			114.7	13.6	95.5	
12		5			116.0	13.1	97	
13		6			115.1	11.9	96	



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GEOTECHNICAL AND CONSTRUCTION ENGINEERING TESTING AND INSPECTION
2414 VINEYARD AVENUE, SUITE G ESCONDIDO CA. 92029 (760) 746-4955

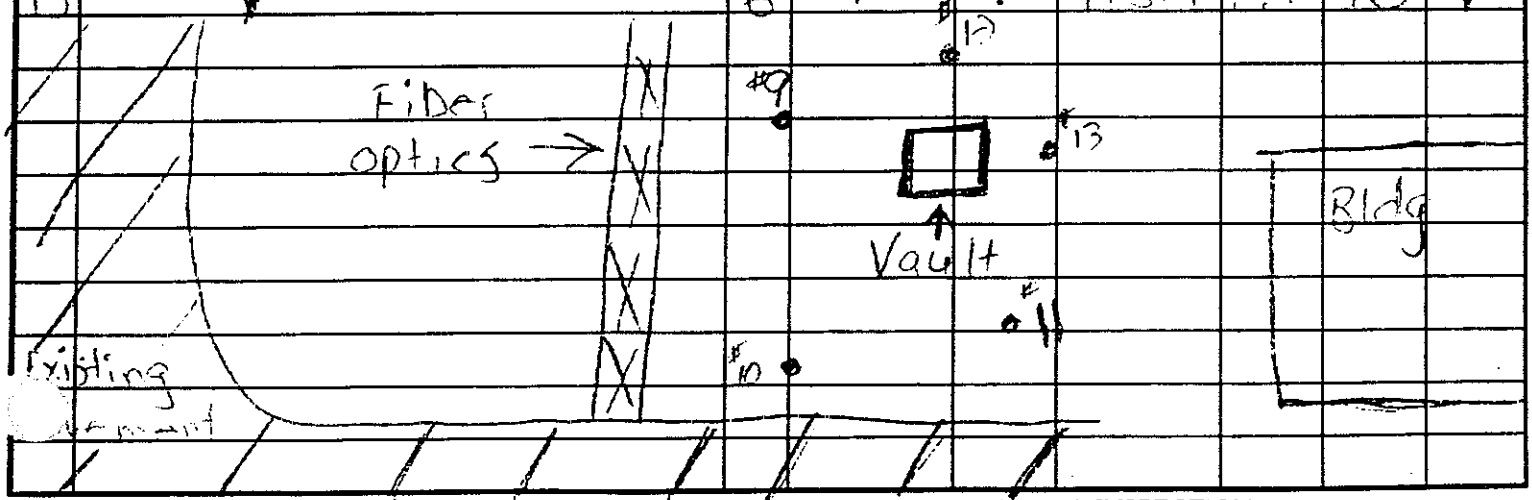
GRADING OBSERVATION

Job Name: Mole Pier Contamination Site	Job Number: 30 0375
Job Address: Mole Rd. 32nd St Naval Base	Date(s): 3-12 01
Plan File: | Permit#	Tech: S Green
Gen. Contractor: Navy Public Works	Contr. Wkg: N.P.W.
Superintendent Garry	Foreman:
Weather Condition: Partly Cloudy	

Summary of Work: On site as requested to periodically observed test the continuous fill procedures at the proposed park on Mole Pier. Random density tests and probing indicate 75% compaction.

TEST SUMMARY

Test No.	LOCATION AND NOTES	Elev Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact/ Required
9	Proposed Park Area	6	119.5	11.5	113.6	12.4	95	95
10		7			114.5	12.9	96	
11		3			114.2	13.6	95.5	
12		5			116.0	13.1	97	
13		6			113.1	11.9	96	



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2414 VINEYARD AVENUE, SUITE G ESCONDIDO CA 92029 (760) 746-4955

GRADING OBSERVATION

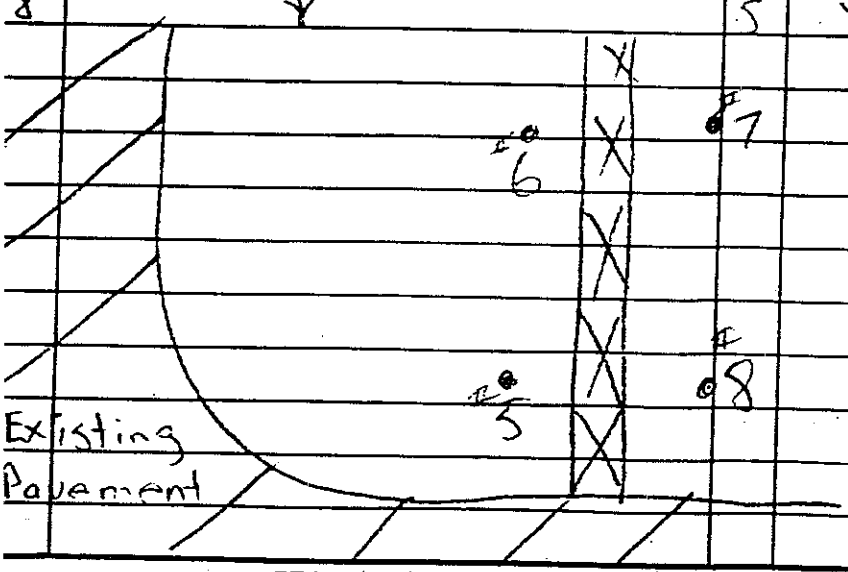
Job Name: Mole Pier	Job Number: 30-0378
Job Address: Mole Rd 33rd St. Naval	Date(s): 3-9-01
Plan File: | Permit#	Tech: S. Shear
Gen. Contractor: Navy Public Works	Contr. Wkg: N. P. W.
Superintendent Garry	Foreman: Danny
Weather Condition:	

Summary of Work: On site as requested to observe & test the continuous placement of fill at Phase 2A & 2B. Random density tests and probing indicate 95% compaction. Observation and testing is periodic throughout the day.

Bellydumps, 960 loader, 963 track loader, 12 ton sheepsfoot Roller

TEST SUMMARY

Test No.	LOCATION AND NOTES	Elev Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact/ Required
5	Proposed Park Area	9	119.5	11.5	115.9	11.1	99	95
6		5			115.6	12.4	99	
7		4			116.0	11.0	97	
8		5			117.2	11.5	98	



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2414 VINEYARD AVENUE, SUITE G ESCONDIDO CA 92029 (760) 746-4955

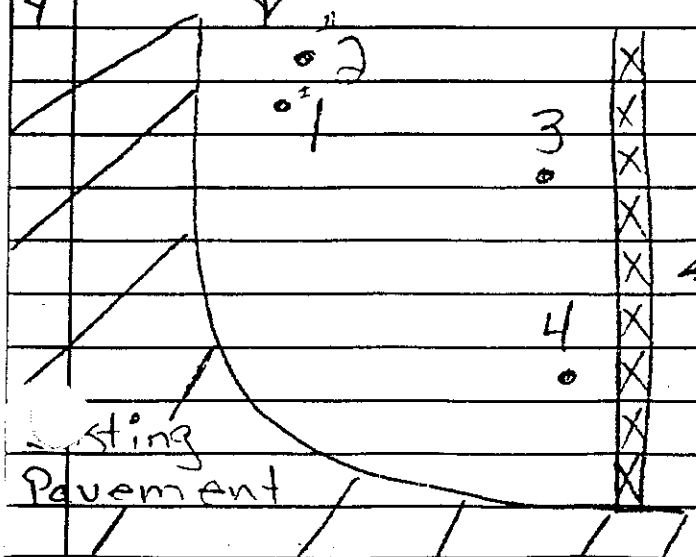
GRADING OBSERVATION

Job Name: Mole Pier	Job Number: 30-0375
Job Address: Mole Pier 32nd St Naval Base	Date(s): 3-5-01
Plan File: | Permit#	Tech: S Shcen
Gen. Contractor: Navy Public Works	Contr. Wkg: Navy Public Wks
Superintendent Garffy	Foreman: Garffy
Weather Condition:	

Summary of Work: On site as requested to test compaction of fill placement at Phase 2A & 2B locations. The import fill material was placed with "Bellydumps", a 963 track loader was used to mix and place as well. The material was placed in 12" lifts, each lift was compacted with a 12 ton vibrating sheepsfoot steeldrum roller. Random density tests indicate 90% compaction. Note: Wet material was removed, mixed and recompacted.

TEST SUMMARY

Test No	LOCATION AND NOTES	Elev Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact/ Required
1	Proposed Park Area	6	119.5	11.5	117.7	13.6	98	95
2		9			114.7	11.5	96	
3		5			113.3	14.0	95	
4		7			114.0	14.4	95	



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2414 VINEYARD AVENUE SUITE G ESCONDIDO CA 92029 (760) 746-4955

GRADING OBSERVATION

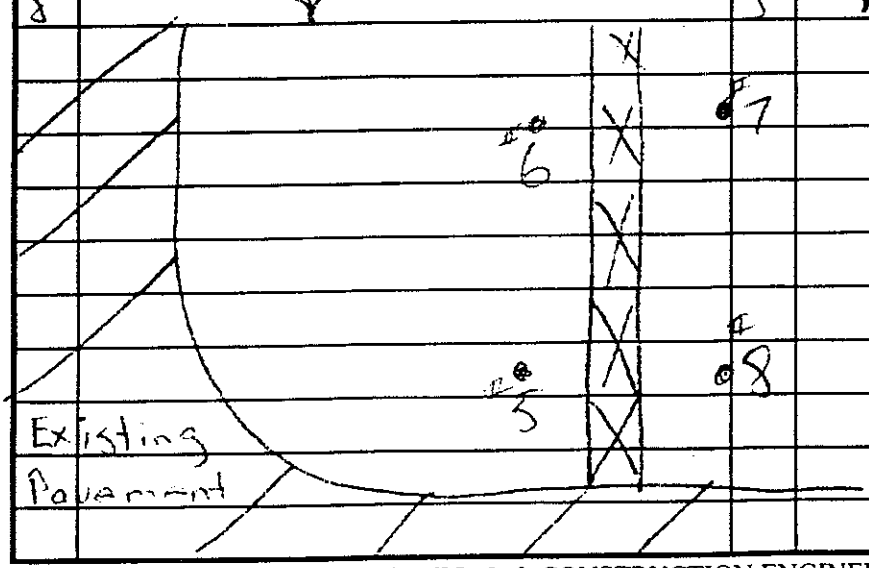
Job Name: Mid Pier	Job Number: 30-0375
Job Address: Mole Rd 32nd St. Naval	Date(s): 3-9-01
Plan File: | Permit#	Tech: [illegible]
Gen. Contractor: Navy Public Works	Contr. Wkg: N.P.W.
Superintendent Garry	Foreman: Dan
Weather Condition:	

Summary of Work: On site as requested to observe & test the continuous placement of fill at Pier 7A & 7B. Random density tests and probing indicate 95% compaction. Observation and testing is periodic throughout the day.

Bellydumps, 960 loader, 963 track loader, 12 ton sheepsfoot roller

TEST SUMMARY

Test No.	LOCATION AND NOTES	Elev. Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact/ Required
5	Proposed Park Area	9	119.5	11.5	115.9	11.1	99	95
6		5			115.6	12.4	99	
7		4			116.0	11.0	97	
8		5			117.2	11.5	98	



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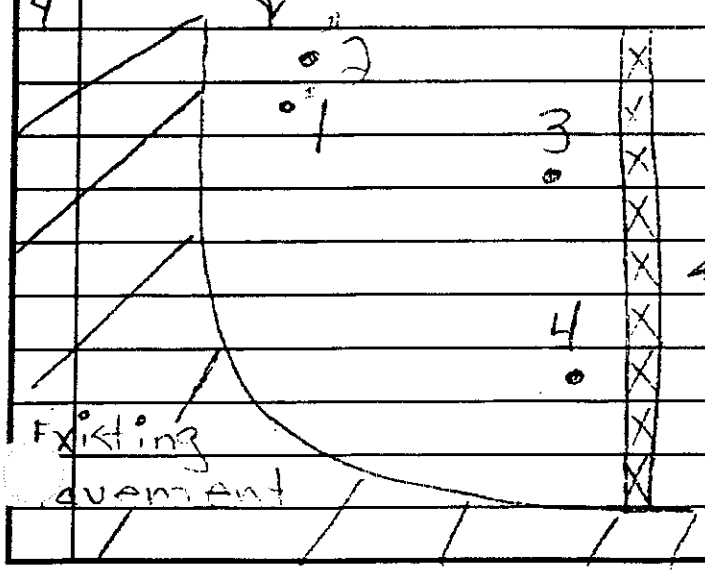
GRADING OBSERVATION

Job Name: Mole Pier	Job Number: 50-0375
Job Address: Mole Pier 32nd St Naval Base	Date(s): 3-5-01
Plan File: | Permit#	Tech: S Shaw
Gen. Contractor: Navy Public Works	Contr. Wkg: Navy Public Works
Superintendent Garry	Foreman: Garry
Weather Condition:	

Summary of Work: On site as requested to test compaction of fill placement at Piers 3A & 3B locations. The import fill material was placed with "Rollydumps", a 963 track loader was used to mix and place as well. The material was placed in 12" lifts, each lift was compacted with a 12 ton vibrating sheepsfoot steeldrum roller. Random density tests indicate 95% compaction. Note: Wet material was removed, aired and recompacted.

TEST SUMMARY

Test No	LOCATION AND NOTES	Elev Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact/ Required
1	Proposed Park Area	6	119.5	11.5	117.7	13.6	98	95
2		9			114.7	11.5	96	
3		5			113.3	14.0	95	
4		7			114.0	14.4	95	



Fiber optics

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2414 VINEYARD AVENUE STE G ESCONDIDO CA 92029 (760) 746-4955

SANDCONE CALCULATIONS

JOB NAME: Contamination Site	JOB NUMBER: 30-0378
JOB ADDRESS: Mole Rd 32nd St Naval	DATE: 3-13-01
GEN. CONTRACTOR: Navy Public Works	TECH: S Green

DENSITY TEST NO: #16 REF next to #15	DENSITY TEST NO.:
ELEVATION: ± 9	ELEVATION:
LOCATION: Proposed Park	LOCATION:

GROUND SURFACE CALIBRATION

A. CONTAINER NUMBER	/	
B. WT. INITIAL CONT + SAND	12.45	LBS
C. WT. AFTER CONT + SAND	9.20	LBS
D. WT. SAND (B-C) USE FOR K	3.25	LBS

GROUND SURFACE CALIBRATION

A. CONTAINER NUMBER		
B. WT. INITIAL CONT + SAND		LBS
C. WT. AFTER CONT + SAND		LBS
D. WT. SAND (B-C) USE FOR K		LBS

DENSITY DETERMINATION

E. WET SAMPLE + CONTAINER	6.91	LBS
F. WT. CONTAINER	.51	LBS
G. WT. WET SAMPLE (E-F)	6.40	LBS
H. SAND + CONTAINER START (FULL)	12.02	LBS
I. SAND + CONTAINER FINISH	4.86	LBS
J. SAND IN HOLE + CONE (H-I)	7.16	LBS
K. SAND IN LOWER CONE + PLATE (D)	3.25	LBS
L. SAND IN HOLE ONLY (J-K)	3.91	LBS
M. DENSITY OF SAND (LAB)	81.08	PCF
N. VOLUME OF HOLE (L / M)	.0482239	CU FT
P. UNIT WET WT. SAMPLE (G / N)	132.7	PCF
R. UNIT DRY WT. SAMPLE (P / 1+Y)	119.5	PCF

DENSITY DETERMINATION

E. WET SAMPLE + CONTAINER		LBS
F. WT. CONTAINER		LBS
G. WT. WET SAMPLE (E-F)		LBS
H. SAND + CONTAINER START (FULL)		LBS
I. SAND + CONTAINER FINISH		LBS
J. SAND IN HOLE + CONE (H-I)		LBS
K. SAND IN LOWER CONE + PLATE (D)		LBS
L. SAND IN HOLE ONLY (J-K)		LBS
M. DENSITY OF SAND (LAB)		PCF
N. VOLUME OF HOLE (L / M)		CU FT
P. UNIT WET WT. SAMPLE (G / N)		PCF
R. UNIT DRY WT. SAMPLE (P / 1+Y)		PCF

MOISTURE CONTENT

S. CONTAINER NUMBER		
T. WT. MOIST SAMPLE + CONTAINER		GMS
U. WT. DRY SAMPLE + CONTAINER		GMS
V. WT. OF WATER (T-U)		GMS
W. WT. OF CONTAINER		GMS
X. WT. OF DRY SAMPLE (U-W)		GMS
Y. PERCENT MOISTURE (V / X)	11.0	%

MOISTURE CONTENT

S. CONTAINER NUMBER		
T. WT. MOIST SAMPLE + CONTAINER		GMS
U. WT. DRY SAMPLE + CONTAINER		GMS
V. WT. OF WATER (T-U)		GMS
W. WT. OF CONTAINER		GMS
X. WT. OF DRY SAMPLE (U-W)		GMS
Y. PERCENT MOISTURE (V / X)		%

DEGREE OF COMPACTION

1. MAXIMUM DENSITY	124.0	PCF
2. OPTIMUM MOISTURE	11.1	%
3. COMPACTION REQUIRED	95%	%
4. DEGREE OF COMPACTION (R / 1)	96.4	%

DEGREE OF COMPACTION

1. MAXIMUM DENSITY		PCF
2. OPTIMUM MOISTURE		%
3. COMPACTION REQUIRED		%
4. DEGREE OF COMPACTION (R / 1)		%

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SANDCONE CALCULATIONS

JOB NAME: Contamination Site	JOB NUMBER: 30-0378
JOB ADDRESS: Mole Rd 32nd St Naval	DATE: 3-13-01
GEN. CONTRACTOR: Navy Public Works	TECH: S Green

DENSITY TEST NO: #16 REF next to #15	DENSITY TEST NO:
ELEVATION: ± 9	ELEVATION:
LOCATION: Proposed Park	LOCATION:

GROUND SURFACE CALIBRATION

A CONTAINER NUMBER	✓	
B WT INITIAL CONT + SAND	12.45	LBS
C WT AFTER CONT + SAND	9.20	LBS
D WT SAND (B-C) USE FOR K	3.25	LBS

GROUND SURFACE CALIBRATION

A. CONTAINER NUMBER		
B. WT INITIAL CONT + SAND		LBS
C WT AFTER CONT + SAND		LBS
D WT. SAND (B-C) USE FOR K		LBS

DENSITY DETERMINATION

E WET SAMPLE + CONTAINER	6.91	LBS
F WT CONTAINER	.51	LBS
G WT WET SAMPLE (E-F)	6.40	LBS
H SAND + CONTAINER START (FULL)	12.02	LBS
I SAND + CONTAINER FINISH	4.86	LBS
J SAND IN HOLE + CONE (H-I)	7.16	LBS
K SAND IN LOWER CONE + PLATE (D)	3.25	LBS
L SAND IN HOLE ONLY (J-K)	3.91	LBS
M DENSITY OF SAND (LAB)	81.08	PCF
N VOLUME OF HOLE (L / M)	.0482239	CU FT
P UNIT WET WT SAMPLE (G / N)	132.7	PCF
R UNIT DRY WT SAMPLE (P / 1+Y)	119.5	PCF

DENSITY DETERMINATION

E WET SAMPLE + CONTAINER		LBS
F WT CONTAINER		LBS
G WT WET SAMPLE (E-F)		LBS
H SAND + CONTAINER START (FULL)		LBS
I. SAND + CONTAINER FINISH		LBS
J. SAND IN HOLE + CONE (H-I)		LBS
K SAND IN LOWER CONE + PLATE (D)		LBS
L SAND IN HOLE ONLY (J-K)		LBS
M. DENSITY OF SAND (LAB)		PCF
N VOLUME OF HOLE (L / M)		CU FT
P UNIT WET WT. SAMPLE (G / N)		PCF
R UNIT DRY WT SAMPLE (P / 1+Y)		PCF

MOISTURE CONTENT

S CONTAINER NUMBER		
T WT MOIST SAMPLE + CONTAINER		GMS
U WT DRY SAMPLE + CONTAINER		GMS
V WT OF WATER (T-U)		GMS
W WT OF CONTAINER		GMS
X WT OF DRY SAMPLE (U-W)		GMS
Y PERCENT MOISTURE (V / X)	11.0	%

MOISTURE CONTENT

S CONTAINER NUMBER		
T WT MOIST SAMPLE + CONTAINER		GMS
U WT DRY SAMPLE + CONTAINER		GMS
V WT OF WATER (T-U)		GMS
W WT OF CONTAINER		GMS
X. WT OF DRY SAMPLE (U-W)		GMS
Y. PERCENT MOISTURE (V / X)		%

DEGREE OF COMPACTION

1 MAXIMUM DENSITY	124.0	PCF
2 OPTIMUM MOISTURE	11.1	%
3 COMPACTION REQUIRED	95%	%
4 DEGREE OF COMPACTION (R / 1)	96.4	%

DEGREE OF COMPACTION

1 MAXIMUM DENSITY		PCF
2. OPTIMUM MOISTURE		%
3 COMPACTION REQUIRED		%
4 DEGREE OF COMPACTION (R / 1)		%

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SANDCONE CALCULATIONS

JOB NAME: Contamination Site	JOB NUMBER: 30-0378
JOB ADDRESS: Mole Rd 32nd St Naval	DATE: 3-13-01
GEN. CONTRACTOR: Navy Public Works	TECH: S Green

DENSITY TEST NO: #16 REF next to #15	DENSITY TEST NO.:
ELEVATION: ± 9	ELEVATION:
LOCATION: Proposed Park	LOCATION:

GROUND SURFACE CALIBRATION

A. CONTAINER NUMBER	/	
B. WT. INITIAL CONT + SAND	12.45	LBS
C. WT. AFTER CONT + SAND	9.20	LBS
D. WT. SAND (B-C) USE FOR K	3.25	LBS

GROUND SURFACE CALIBRATION

A. CONTAINER NUMBER		
B. WT. INITIAL CONT + SAND		LBS
C. WT. AFTER CONT + SAND		LBS
D. WT. SAND (B-C) USE FOR K		LBS

DENSITY DETERMINATION

E. WET SAMPLE + CONTAINER	6.91	LBS
F. WT. CONTAINER	.51	LBS
G. WT. WET SAMPLE (E-F)	6.40	LBS
H. SAND + CONTAINER START (FULL)	12.02	LBS
I. SAND + CONTAINER FINISH	4.86	LBS
J. SAND IN HOLE + CONE (H-I)	7.16	LBS
K. SAND IN LOWER CONE + PLATE (D)	3.25	LBS
L. SAND IN HOLE ONLY (J-K)	3.91	LBS
M. DENSITY OF SAND (LAB)	81.08	PCF
N. VOLUME OF HOLE (L / M)	.0482239	CU FT
P. UNIT WET WT. SAMPLE (G / N)	132.7	PCF
R. UNIT DRY WT. SAMPLE (P / 1+Y)	119.5	PCF

DENSITY DETERMINATION

E. WET SAMPLE + CONTAINER		LBS
F. WT. CONTAINER		LBS
G. WT. WET SAMPLE (E-F)		LBS
H. SAND + CONTAINER START (FULL)		LBS
I. SAND + CONTAINER FINISH		LBS
J. SAND IN HOLE + CONE (H-I)		LBS
K. SAND IN LOWER CONE + PLATE (D)		LBS
L. SAND IN HOLE ONLY (J-K)		LBS
M. DENSITY OF SAND (LAB)		PCF
N. VOLUME OF HOLE (L / M)		CU FT
P. UNIT WET WT. SAMPLE (G / N)		PCF
R. UNIT DRY WT. SAMPLE (P / 1+Y)		PCF

MOISTURE CONTENT

S. CONTAINER NUMBER		
T. WT. MOIST SAMPLE + CONTAINER		GMS
U. WT. DRY SAMPLE + CONTAINER		GMS
V. WT. OF WATER (T-U)		GMS
W. WT. OF CONTAINER		GMS
X. WT. OF DRY SAMPLE (U-W)		GMS
Y. PERCENT MOISTURE (V / X)	11.0	%

MOISTURE CONTENT

S. CONTAINER NUMBER		
T. WT. MOIST SAMPLE + CONTAINER		GMS
U. WT. DRY SAMPLE + CONTAINER		GMS
V. WT. OF WATER (T-U)		GMS
W. WT. OF CONTAINER		GMS
X. WT. OF DRY SAMPLE (U-W)		GMS
Y. PERCENT MOISTURE (V / X)		%

DEGREE OF COMPACTION

1. MAXIMUM DENSITY	124.0	PCF
2. OPTIMUM MOISTURE	11.1	%
3. COMPACTION REQUIRED	95%	%
4. DEGREE OF COMPACTION (R / 1)	96.4	%

DEGREE OF COMPACTION

1. MAXIMUM DENSITY		PCF
2. OPTIMUM MOISTURE		%
3. COMPACTION REQUIRED		%
4. DEGREE OF COMPACTION (R / 1)		%

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GRADING OBSERVATION

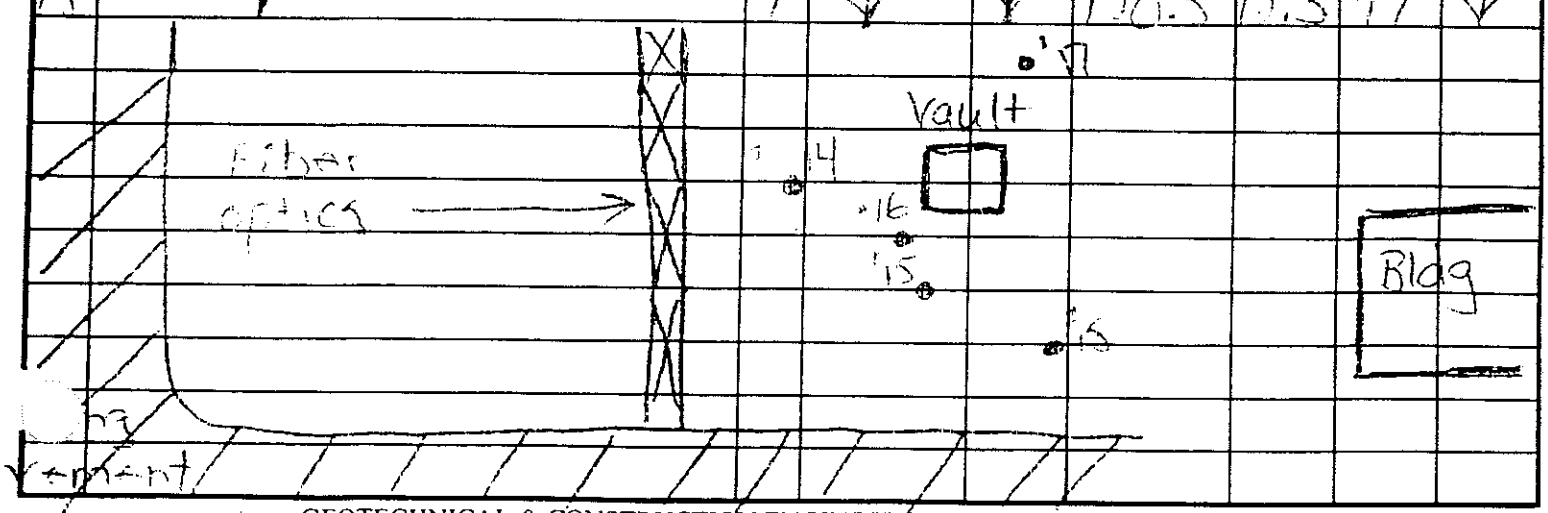
Job Name: Contamination Site	Job Number: 30-0375
Job Address: Mole Rd. 32nd St Naval Base	Date(s): 3-13-01
Plan File: | Permit#	Tech: [illegible]
Gen. Contractor: Navy Public Works	Contr. Wkg: N.P.W.
Superintendent: Garry	Foreman: Danny
Weather Condition: Sunny	

Summary of Work: On site as requested to periodically observe & test the continous fill procedures at the proposed park area to the north of Mole Rd. Random nuclear density tests and sand cone test indicate 95% compaction.

elly dumps, 965 track loader, 962 loader, 12 ton roller

TEST SUMMARY

Test No	LOCATION AND NOTES	Elev Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact/ Required
14	Proposed Park	8	124.0	11.1	120.1	11.7	97	95
15		9			118.2	12.0	95	
16		9			119.5	11.0	96	
17		7			118.9	11.5	96	
15		7			120.5	12.3	97	



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2414 VINEYARD AVENUE, SUITE G ESCONDIDO CA 92029 (760) 746-4955

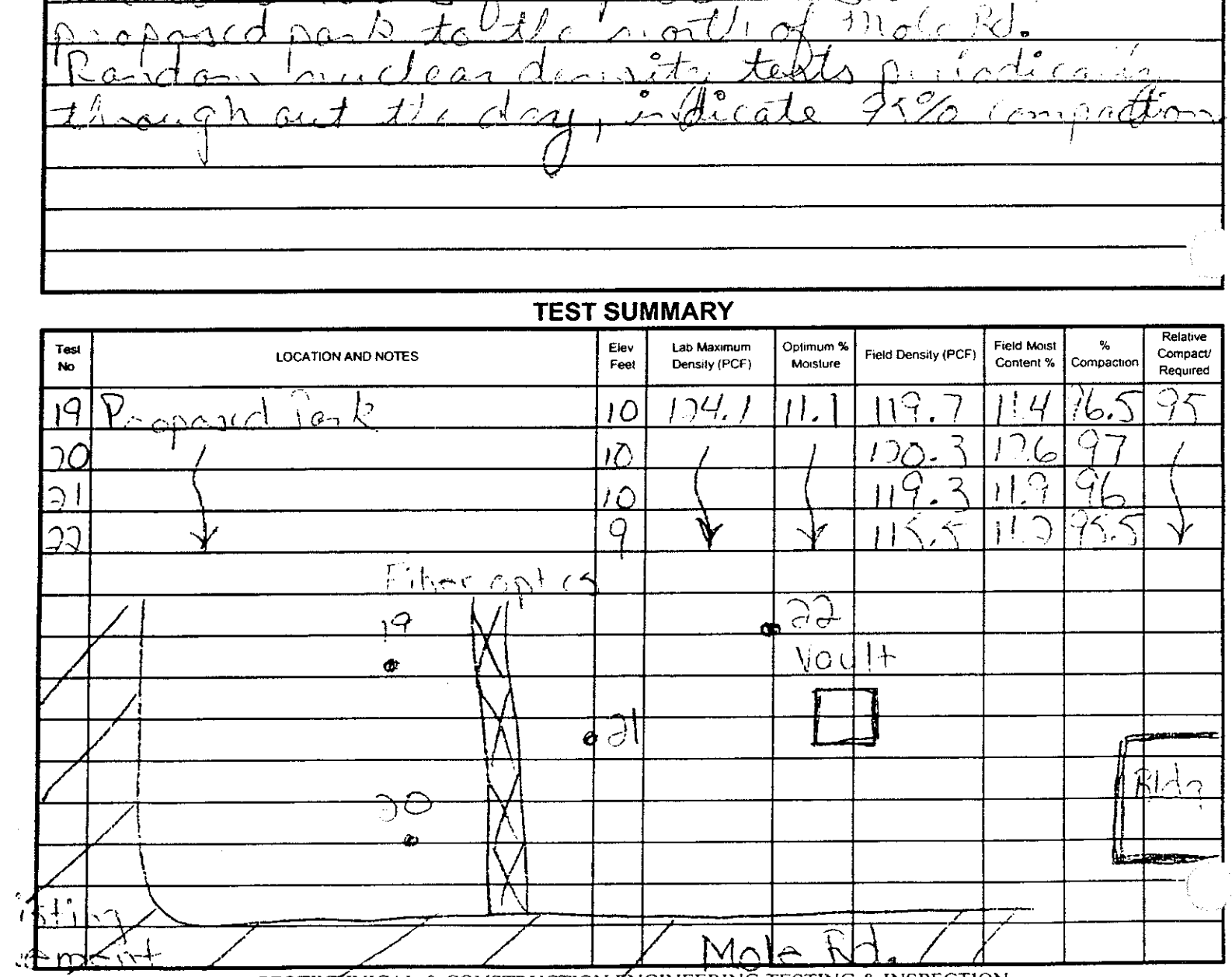
GRADING OBSERVATION

Job Name: Contamination Site	Job Number: 30 0375
Job Address: Mole Rd	Date(s): 3-14-01
Plan File: | Permit#	Tech: Samson
Gen. Contractor: Navy Public Works	Contr. Wkg: N.P.W.
Superintendent J Garry	Foreman: Danny
Weather Condition: Sunny	

Summary of Work: On site was requested to observe that the continuous fill procedures at the proposed park to the north of Mole Rd. Random nuclear density tests periodically throughout the day, indicate 95% compaction.

TEST SUMMARY

Test No	LOCATION AND NOTES	Elev Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact/ Required
19	Proposed Park	10	124.1	11.1	119.7	11.4	96.5	95
20		10			120.3	12.6	97	
21		10			119.3	11.9	96	
22		9			115.5	11.9	93.5	

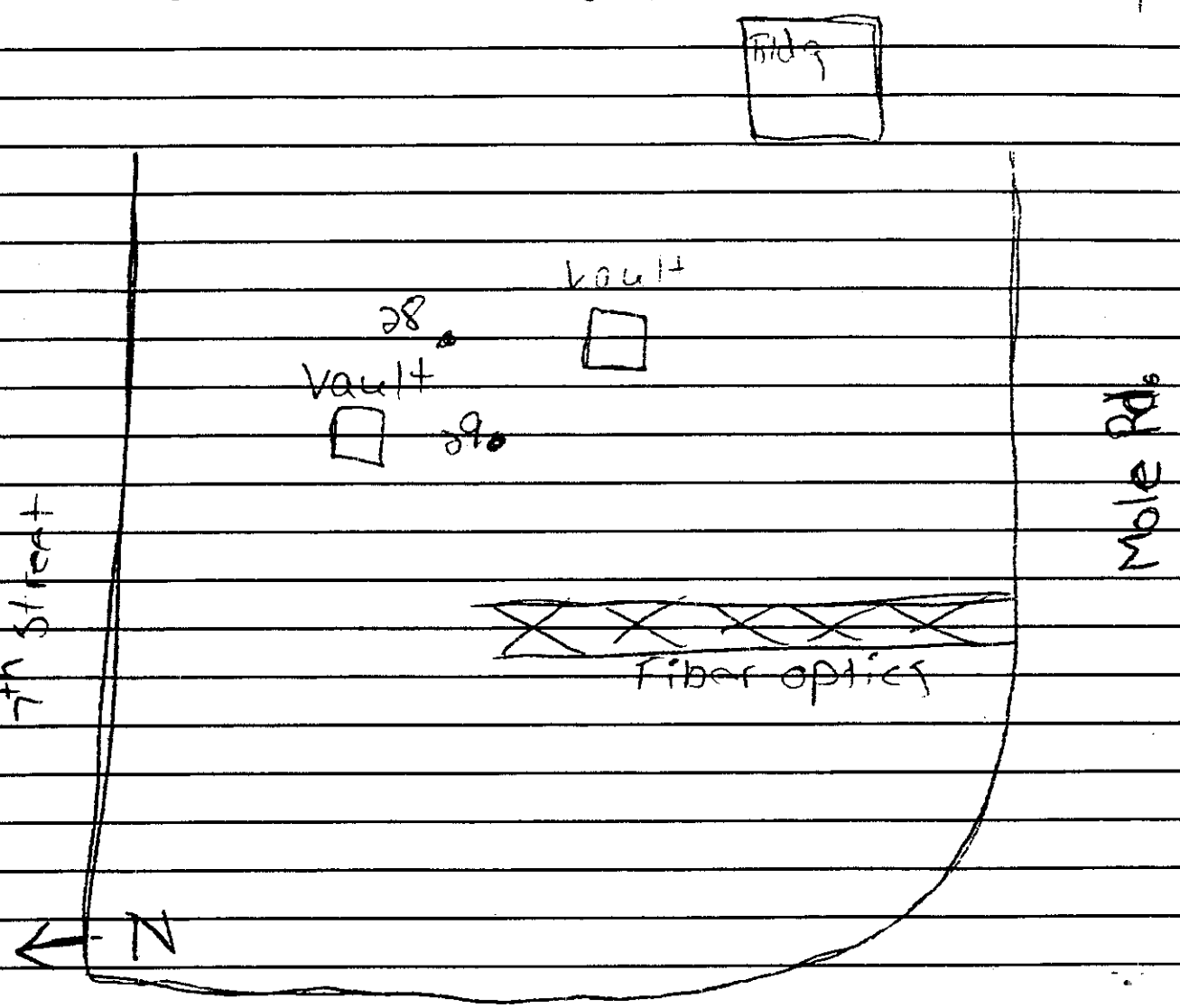


CONSTRUCTION TESTING & ENGINEERING, INC.

INSPECTION REPORT

CTE JOB # 30-0378

PROJECT NAME: Contamination site 32201



Note: locations approx.

Certification of Compliance: All work, unless otherwise noted, complies with the approved plans and specifications and the uniform building code.

NAME: (PRINT) _____ SIGNATURE: Steve [illegible]

CERTIFICATION NO.: _____

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GEOTECHNICAL AND CONSTRUCTION ENGINEERING TESTING AND INSPECTION
2414 VINEYARD AVENUE, SUITE G ESCONDIDO CA 92029 (760) 746-4955

GRADING OBSERVATION

Job Name: Contamination Site	Job Number: 30 0375
Job Address: Mole Rd 32nd St. Naval Base	Date(s): 3 23 01
Plan File: | Permit#	Tech: [illegible]
Gen. Contractor: Navy Public Works	Contr. Wkg: N. P. W.
Superintendent Garry	Foreman:
Weather Condition: overcast	

Summary of Work: On site as requested to periodically observe & test the continuous fill procedures at the proposed park to the north of Mole Rd. Tests # 30 & 31 were pothole and did not pass 95% compaction. The material was removed, reworked and recompacted. Random density tests after recompaction indicate 95%.

963 track loader, 962 loader, 12 ton roller, belly dumps and 14G Blade

TEST SUMMARY

Test No	LOCATION AND NOTES	Elev. Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact/ Required
30		4	119.5	11.5	110.4	11.9	92	95
31		6			111.2	12.6	93	
32	Retest 30	4			113.6	12.1	95	
33	↓ 31	6			115.0	12.4	96	
	vault ☒							
			☒ vault					
					30 & 32		Bldg	
					31 & 33		334	
	Mole Rd							

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GRADING OBSERVATION

Job Name: Contamination Site	Job Number: 30-0378
Job Address: Mole Rd. 32nd St Naval Base	Date(s): 3-22-01
Plan File: | Permit#	Tech: Sullivan
Gen. Contractor: Navy Public Works	Contr. Wkg: N.P.W.
Superintendent J Garry	Foreman:
Weather Condition: overcast	

Summary of Work: On site as requested to periodically test compaction of continuous fill procedures at the proposed park area to the north of Mole Rd. Random nuclear density tests indicate 95% compaction.

TEST SUMMARY

Test No	LOCATION AND NOTES	Elev Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact/ Required
08	Proposed Park	6	124.1	11.1	119.0	12.4	96	95
09		8	↓	↓	117.5	11.5	95	↓

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GEOTECHNICAL AND CONSTRUCTION ENGINEERING TESTING AND INSPECTION
2414 VINEYARD AVENUE, SUITE G ESCONDIDO CA 92029 (760) 746-4955

GRADING OBSERVATION

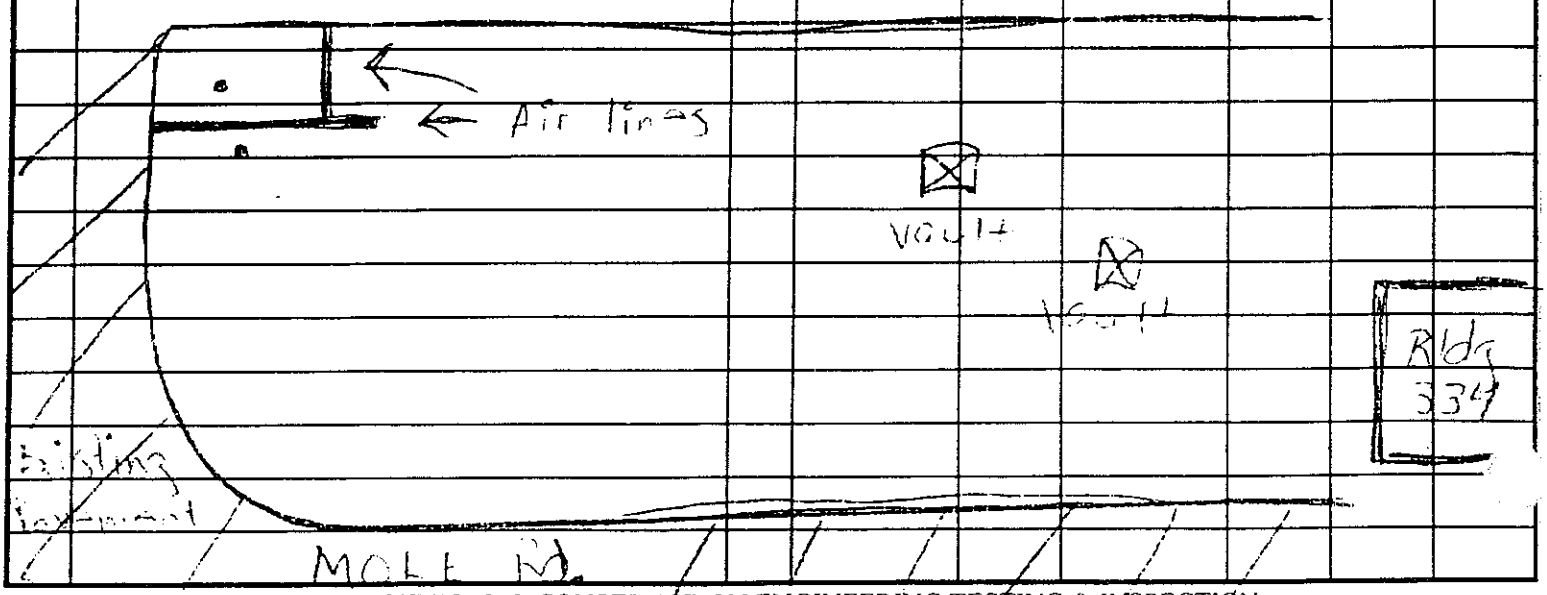
Job Name: Continuation Site	Job Number: [illegible] 0375
Job Address: Mole Rd. 32nd St. Naval Base	Date(s): 3 25 01
Plan File: | Permit#	Tech: [illegible]
Gen. Contractor: Naval Public Works	Contr. Wkg: N.P.W.
Superintendent Gaary	Foreman: [illegible]
Weather Condition: Overcast	

Summary of Work: On site as requested to test compaction of continuous backfill procedure. Dwell at on site to observe the methods of placement and compaction, tests were performed. Random density tests indicate 95% compaction.

963 track loader, 330 track hoe (sheepsfoot roller), 10 ton roller.

TEST SUMMARY

Test No	LOCATION AND NOTES	Elev Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact/ Required
	Proposed Park N(W) corner	4	124.0	11.1	119.0	11.9	95	95
		7	↓	↓	119.3	10.7	96	↓



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2414 VINEYARD AVENUE, SUITE G ESCONDIDO CA 92029 (760) 746-4955

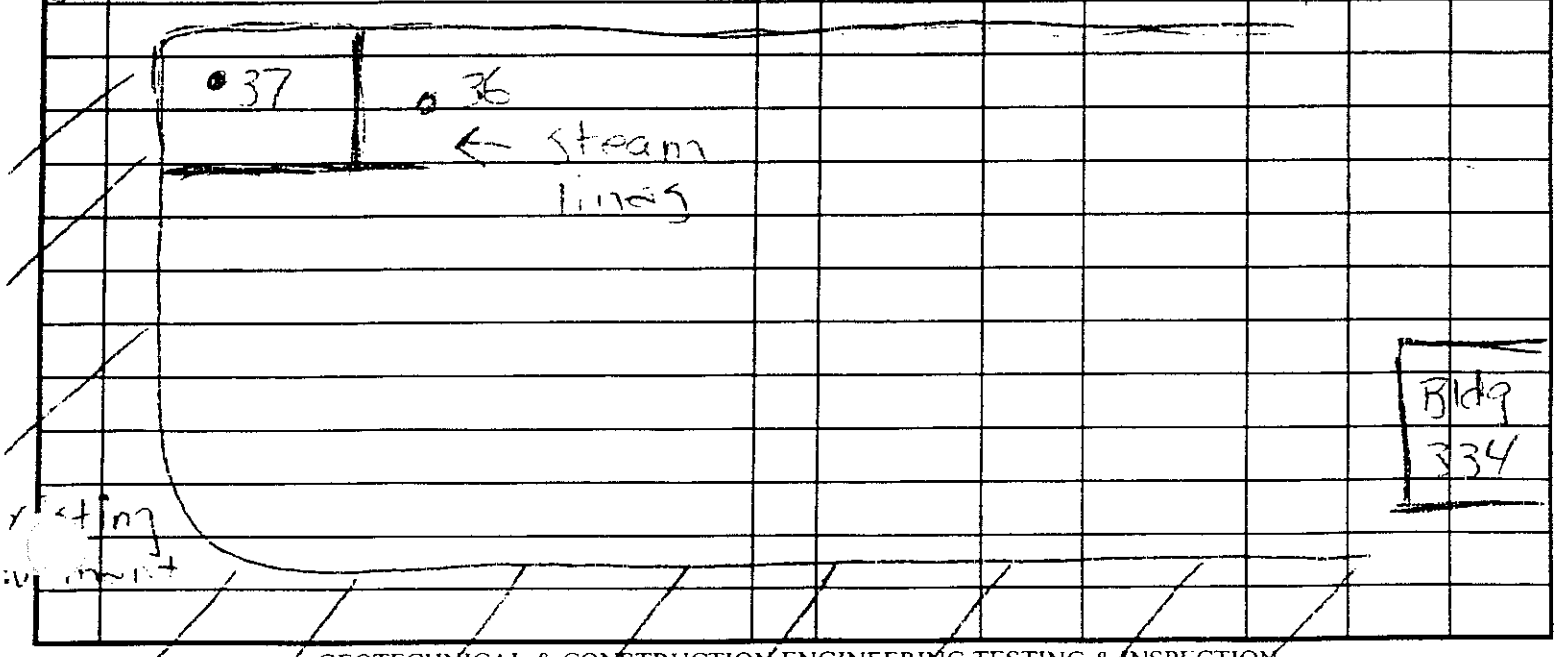
GRADING OBSERVATION

Job Name: Contamination Site	Job Number: 30-0375
Job Address: Mol Rd 52 St. Naval Base	Date(s): 3-29-01
Plan File: | Permit#	Tech: [illegible]
Gen. Contractor: Naval Public Works	Contr. Wkg: NPW
Superintendent Gary	Foreman:
Weather Condition: Overcast	

Summary of Work: On site as requested to periodically test compaction of continuous backfill procedures. Random density tests indicate 95% compaction.

TEST SUMMARY

Test No	LOCATION AND NOTES	Elev Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact/ Required
36	Proposed Park area NW corner	8	124.0	11.1	121.9	13.0	98	95
37		10	↓	↓	117.6	12.4	95	↓



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SANDCONE CALCULATIONS

JOB NAME: Contamination Site	JOB NUMBER: 30-0378
JOB ADDRESS: Mole Rd 32nd St Naval Base	DATE: 3-30-01
GEN. CONTRACTOR: Naval Public Works	TECH: S Green

DENSITY TEST NO.	DENSITY TEST NO.:
ELEVATION: 11	ELEVATION:
LOCATION: Proposed park NW corner	LOCATION:

GROUND SURFACE CALIBRATION

A. CONTAINER NUMBER		
B. WT INITIAL CONT + SAND	12.77	LBS
C. WT AFTER CONT + SAND	9.52	LBS
D. WT SAND (B-C) USE FOR K	3.25	LBS

GROUND SURFACE CALIBRATION

A. CONTAINER NUMBER		
B. WT INITIAL CONT + SAND		LBS
C. WT AFTER CONT + SAND		LBS
D. WT SAND (B-C) USE FOR K		LBS

DENSITY DETERMINATION

E. WET SAMPLE + CONTAINER	6.38	LBS
F. WT CONTAINER	.57	LBS
G. WT WET SAMPLE (E-F)	5.81	LBS
H. SAND + CONTAINER START (FULL)	12.94	LBS
SAND + CONTAINER FINISH	5.97	LBS
J. SAND IN HOLE + CONE (H-I)	6.97	LBS
K. SAND IN LOWER CONE + PLATE (D)	3.25	LBS
L. SAND IN HOLE ONLY (J-K)	3.72	LBS
M. DENSITY OF SAND (LAB)	85.65	PCF
N. VOLUME OF HOLE (L / M)	.0434325	CU FT
P. UNIT WET WT SAMPLE (G / N)	133.7	PCF
R. UNIT DRY WT SAMPLE (P / 1+Y)	119.5	PCF

DENSITY DETERMINATION

E. WET SAMPLE + CONTAINER		LBS
F. WT CONTAINER		LBS
G. WT WET SAMPLE (E-F)		LBS
H. SAND + CONTAINER START (FULL)		LBS
I. SAND + CONTAINER FINISH		LBS
J. SAND IN HOLE + CONE (H-I)		LBS
K. SAND IN LOWER CONE + PLATE (D)		LBS
L. SAND IN HOLE ONLY (J-K)		LBS
M. DENSITY OF SAND (LAB)		PCF
N. VOLUME OF HOLE (L / M)		CU FT
P. UNIT WET WT SAMPLE (G / N)		PCF
R. UNIT DRY WT SAMPLE (P / 1+Y)		PCF

MOISTURE CONTENT

S. CONTAINER NUMBER		
T. WT MOIST SAMPLE + CONTAINER		GMS
U. WT DRY SAMPLE + CONTAINER		GMS
V. WT OF WATER (T-U)		GMS
W. WT OF CONTAINER		GMS
X. WT OF DRY SAMPLE (U-W)		GMS
Y. PERCENT MOISTURE (V / X)	11.8	%

MOISTURE CONTENT

S. CONTAINER NUMBER		
T. WT MOIST SAMPLE + CONTAINER		GMS
U. WT DRY SAMPLE + CONTAINER		GMS
V. WT OF WATER (T-U)		GMS
W. WT OF CONTAINER		GMS
X. WT OF DRY SAMPLE (U-W)		GMS
Y. PERCENT MOISTURE (V / X)		%

DEGREE OF COMPACTION

1. MAXIMUM DENSITY	124	PCF
2. OPTIMUM MOISTURE	11.1	%
3. COMPACTION REQUIRED	95	%
4. DEGREE OF COMPACTION (R / 1)	96	%

DEGREE OF COMPACTION

1. MAXIMUM DENSITY		PCF
2. OPTIMUM MOISTURE		%
3. COMPACTION REQUIRED		%
4. DEGREE OF COMPACTION (R / 1)		%

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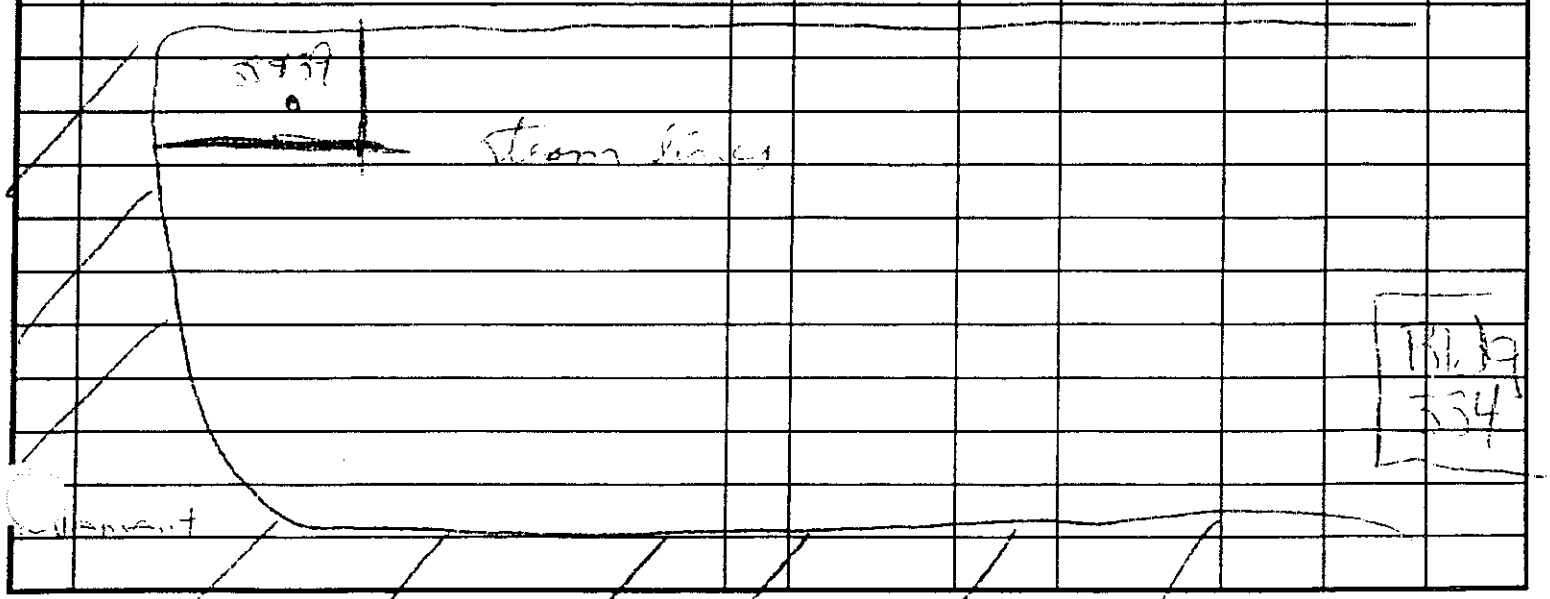
GRADING OBSERVATION

Job Name: Contamination Site	Job Number: [illegible]
Job Address: Mole Rd 32nd St Naval Base	Date(s): 7 30 01
Plan File: | Permit#	Tech: [illegible]
Gen. Contractor: Naval Public Works	Contr. Wkg: NPW
Superintendent Garry	Foreman:
Weather Condition: Sun/Wind	

Summary of Work: On site as requested to perform a sand cone density test for compaction of backfill procedures at the proposed park area. Performed one sand density test and one nuclear density test, both passed 95%

TEST SUMMARY

Test No.	LOCATION AND NOTES	Elev Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact/ Required
38	Proposed Park N(W) corner	11	124.0	11.1	119.5	11.5	96.3	95
39		11	↓	↓	120.5	11.5	97	↓



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GRADING OBSERVATION

Job Name: Contamination Site	Job Number: 30 0575
Job Address: Mole Rd. 32nd St. Naval Base	Date(s): 4-5-01
Plan File: | Permit#	Tech: S Slaven
Gen. Contractor: Naval Public Works	Contr. Wkg: NPW
Superintendent Garry	Foreman:
Weather Condition: Partly Cloudy	

Summary of Work: On site as requested to periodically test compaction of continuous backfill procedures at the proposed Park area to the West of Bldg 334. Random nuclear density tests indicate 95% compaction.

TEST SUMMARY

Test No	LOCATION AND NOTES	Elev Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact Required
	Proposed Park Area	7	124.0	11.1	119.1	11.9	96	95
		8	↓	↓	119.6	11.6	96	↓
	Mole Rd							

Bldg 334

N

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GRADING OBSERVATION

Job Name:	Job Number:
Job Address:	Date(s):
Plan File: | Permit#	Tech:
Gen. Contractor:	Contr. Wkg:
Superintendent	Foreman:
Weather Condition:	

Summary of Work:

TEST SUMMARY

Test No.	LOCATION AND NOTES	Elev Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact/ Required
1		12±	119.5	11.5	115.2	10.9	96.4	95%
2		13.5±			116.3		97.3	
3		13.5±			116.1		97.1	
4		13.5±			115.9		96.9	

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GRADING OBSERVATION

Job Name: [illegible]	Job Number: [illegible]
Job Address: [illegible]	Date(s): [illegible]
Plan File: | Permit#	Tech: [illegible]
Gen. Contractor: NAVAL [illegible]	Contr. Wkg: [illegible]
Superintendent GARY	Foreman: [illegible]
Weather Condition: OVERCAST/COOL ([illegible]) A.M.	

Summary of Work: ARRIVED ON SITE AS REQUESTED MET WITH GARY. BELLY-DUMP AND END DUMP TRUCKS CONTINUE TO IMPORT [illegible] FILL. GALION [illegible] BLADE USED TO MIX/INSTALL [illegible] AND DYNAPAC [illegible] VIBRATORY SHEEPSFOOT DRUM USED TO ATTAIN COMPACTION.
SANDCONE AND NUCLEAR DENSITY TESTING COMPLETED AS LISTED BELOW (UNDER GARY'S DIRECTION)
RESULTS GIVEN TO GARY

TEST SUMMARY

Test No	LOCATION AND NOTES	Elev Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact/ Required
01	PER DRAWING (SANDCONE)	1[illegible]	119.[illegible]	1[illegible]	118.1	12.2	9[illegible]	[illegible]
[illegible]	" (NUCLEAR)	115	"		117.[illegible]	12.7	9[illegible]	
[illegible]	" "	"	"		11[illegible]	[illegible]	[illegible]	
[illegible]	" "	11[illegible]	"		11[illegible]	1[illegible]	[illegible]	
[illegible] TEST [illegible]								

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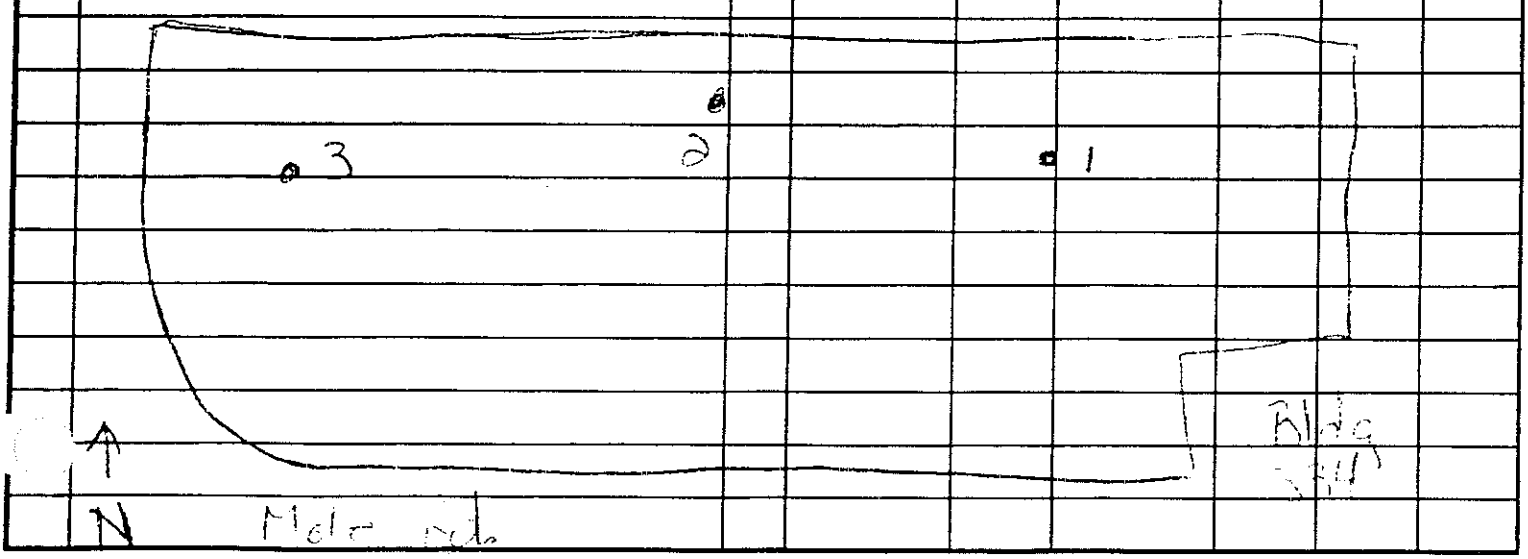
GRADING OBSERVATION

Job Name: Contamination Site	Job Number: 30 0375
Job Address: Mole Rd. 32nd St Naval Base	Date(s): 4-24-01
Plan File: | Permit#	Tech: [illegible]
Gen Contractor: Navy Public Works	Contr. Wkg: NPW
Superintendent: Gary	Foreman:
Weather Condition: Sunny	

Summary of Work: On site as requested to periodically test compaction of fill placed at the proposed parking lot on Mole Rd. Random density tests indicate 95% compaction.

TEST SUMMARY

Test No	LOCATION AND NOTES	Elev Feet	Lab Maximum Density (PCF)	Optimum % Moisture	Field Density (PCF)	Field Moist Content %	% Compaction	Relative Compact/ Required
1	Proposed Parking lot	15	124.0	11.1	121.0	11.7	97.5	95
2	↓	14	↓	↓	121.8	12.4	98	↓
3	↓	15	↓	↓	115.3	11.9	95	↓



APPENDIX G

AIR MONITORING DATA

APPENDIX H

WASTE MANIFESTS AND ASSOCIATED DOCUMENTATION

TABLE H-1

DRUM TRACKING LOG

Drum ID	Accumulation Date	Type of Container	Matrix	Labelled (Y/N)	Disposal Location	Disposal Date
0002-SD-000	SAP	Steel Drum	PPE	Y	Waste Management	8/16/2000
0002-SD-001	2/11/2000	Steel Drum	Absorbent material	Y	Waste Management	8/16/2000
0002-SD-002	4/19/2000	Steel Drum	Absorbent material	Y	Waste Management	8/16/2000
0002-SD-003	4/4/2000	Steel Drum	Radiation point source 01	Y	DON	5/30/2000
0002-SD-004	5/18/2000	Steel Drum	Radiation point source 02	Y	DON	5/30/2000
0002-SD-005	5/30/2000	Steel Drum	Drill cuttings from 7th Street	Y	Waste Management	9/12/2000
0002-SD-006	5/30/2000	Steel Drum	Decon water from drilling activities	Y	NAVSTA	9/12/2000
0002-SD-007	6/2/2000	Steel Drum	Used absorbent material (7th St. Drilling)	Y	Waste Management	8/16/2000
0002-SD-008	6/5/2000	Steel Drum	Asbestos insulation debris from steam line	Y	Waste Management	8/10/2000
0002-SD-009	6/5/2000	Steel Drum	Asbestos insulation debris from steam line	Y	Waste Management	8/10/2000
0002-SD-010	6/5/2000	Steel Drum	PPE - asbestos activities (steam line)	Y	Waste Management	8/10/2000
0002-SD-011	6/8/2000	Steel Drum	Asbestos insulation debris from steam line	Y	Waste Management	8/10/2000
0002-SD-012	6/12/2000	Steel Drum	Absorbent material - pads, booms, and soil	Y	Waste Management	8/17/2000
0002-SD-013	6/12/2000	Steel Drum	Absorbent material - pads, booms, and soil	Y	Waste Management	8/17/2000
0002-SD-014	6/20/2000	Steel Drum	PPE/bailers from B3224 hopper sampling	Y	Waste Management	8/10/2000
0002-SD-015	6/16/2000	Steel Drum	Absorbent material - pads, booms, and soil	Y	Waste Management	8/17/2000
0002-SD-016	6/22/2000	85-gal Overpack	35-gallon AST found in excavation	Y	Waste Management	3/1/2001
0002-SD-017	6/22/2000	5-gal Steel Drum	Point sources from excavation activities	Y	DON	9/20/2000
0002-SD-018	7/20/2000	35-gal Steel Drum	Point sources from excavation activities	Y	DON	9/20/2000
0002-SD-019	8/2/2000	Steel Drum	Asbestos insulation debris from steam line	Y	Waste Management	8/10/2000
0002-SD-020	8/2/2000	Steel Drum	Asbestos insulation debris from steam line	Y	Waste Management	8/10/2000
0002-SD-021	8/2/2000	Steel Drum	Asbestos insulation debris from steam line	Y	Waste Management	8/10/2000
0002-SD-024	8/2/2000	Steel Drum	Asbestos insulation debris from steam line	Y	Waste Management	8/10/2000
0002-SD-025	8/9/2000	Steel Drum	Water filter media - abandoned sand filter	Y	Waste Management	9/12/2000
0002-SD-026	8/9/2000	Steel Drum	Water filter media - abandoned sand filter	Y	Waste Management	9/12/2000
0002-SD-027	8/10/2000	Steel Drum	Absorbent pads - Phase II excavation	Y	Waste Management	8/17/2000
0002-SD-028	9/11/2000	Steel Drum	Asbestos insulation debris from steam line	Y	Waste Management	9/18/2000
0002-SD-029	9/14/2000	Steel Drum	Spray paint booth filters	Y	Waste Management	10/31/2000
0002-SD-030	9/14/2000	Steel Drum	Spray paint booth filters	Y	Waste Management	10/31/2000
0002-SD-031	9/14/2000	Steel Drum	Spray paint booth filters	Y	Waste Management	10/31/2000
0002-SD-032	6/29/2000	Steel Drum	PWC - paint chips and sweepings	Y	Waste Management	9/28/2000
0002-SD-033	9/14/2000	Steel Drum	PWC - spray paint booth floor	Y	Waste Management	10/31/2000
0002-SD-034	10/18/2000	Steel Drum	Decon water from drilling activities.	Y	NAVSTA	12/13/2000
0002-SD-035	10/18/2000	Steel Drum	Drill cuttings from 1-inch wells (P2B / Mole Road)	Y	Waste Management	12/13/2000

TABLE H-1

DRUM TRACKING LOG

Drum ID	Accumulation Date	Type of Container	Matrix	Labelled (Y/N)	Disposal Location	Disposal Date
0002-SD-036	11/16/2000	Steel Drum	Asbestos insulation debris from steam line	Y	Waste Management	12/22/2000
0002-SD-037	11/17/2000	Steel Drum	Asbestos insulation debris from steam line	Y	Waste Management	12/22/2000
0002-SD-038	11/20/2000	Steel Drum	Asbestos insulation debris from steam line	Y	Waste Management	12/22/2000
0002-SD-039	12/8/2000	Steel Drum	Asbestos insulation debris from steam line	Y	Waste Management	12/22/2000
0002-SD-040	12/8/2000	Steel Drum	Asbestos insulation debris from steam line	Y	Waste Management	12/22/2000
0002-SD-041	1/5/2001	Steel Drum	No. 2 diesel fuel from spill - quint truck	Y	Waste Management	1/17/2001
0002-SD-042	1/18/2001	Steel Drum	CST direct push - rinsate water/decon	Y	NAVSTA	2/27/2001
0002-SD-043	1/18/2001	Steel Drum	CST direct push - soil cuttings and debris	Y	Waste Management	2/27/2001
0002-SD-044	1/22/2001	Steel Drum	Asbestos insulation debris from steam line	Y	Waste Management	3/1/2001
0002-SD-045	2/5/2001	Steel Drum	Well abandonment debris and soil cuttings	Y	Waste Management	2/16/2001
0002-SD-046	2/5/2001	Steel Drum	Well abandonment debris and soil cuttings	Y	Waste Management	2/16/2001
0039-SD-001	11/13/2002	Steel Drum	Asbestos insulation debris from steam line	Y	La Paz	1/10/2003
0039-SD-002	11/13/2002	Steel Drum	Asbestos insulation debris from steam line	Y	La Paz	1/10/2003
0039-SD-003	11/14/2002	Steel Drum	Asbestos insulation debris from steam line	Y	La Paz	1/10/2003
0039-SD-004	11/14/2002	Steel Drum	Asbestos insulation debris from steam line	Y	La Paz	1/10/2003
0039-SD-005	11/14/2002	Steel Drum	Asbestos insulation debris from steam line	Y	La Paz	1/10/2003
0039-SD-006	12/12/2002	Steel Drum	Asbestos insulation debris from steam line	Y	La Paz	1/10/2003
0039-SD-007	12/12/2002	Steel Drum	Asbestos insulation debris from steam line	Y	La Paz	1/10/2003
0039-SD-008	12/12/2002	Steel Drum	Asbestos insulation debris from steam line	Y	La Paz	1/10/2003
0039-SD-009	12/12/2002	Steel Drum	Asbestos insulation debris from steam line	Y	La Paz	1/10/2003
0039-SD-010	12/12/2002	Steel Drum	Asbestos insulation debris from steam line	Y	La Paz	1/10/2003
0039-SD-011	12/12/2002	Steel Drum	Asbestos insulation debris from steam line	Y	La Paz	1/10/2003
0039-SD-012	12/12/2002	Steel Drum	Asbestos insulation debris from steam line	Y	La Paz	1/10/2003

Notes:

AST - aboveground storage tank
CST - collection, storage, and transfer
Decon - decontamination
DON - Department of the Navy
gal - gallon
ID - identification
NAVSTA - Naval Station
PPE - personal protective equipment
PWC - Public Works Center
SAP - Sampling and Analysis Plan

TABLE H-2

SOIL STOCKPILE TRACKING

Stockpile Number[4]	Lab	Date Sampled	Date Due	Analytical Received	Designation	for Disposal[1]	Date Shipped[3]	Comments
PNR-01	APCL	02/09/00	02/14/00	02/15/00	Cal-Haz (Lead)	Yes	03/27/00	Resampled on 2/25/00 and 2/29/00.
RAD-01[2]	APCL	02/23/00	03/02/00	03/28/00	LLR	Yes	06/16/00	LLR waste, soil removed from site by NWI and taken to WCS Landfill in Andrews, Texas. Additional samples taken on 3/08/00.
PR-01	APCL	02/24/00	03/03/00	03/03/00	Cal-Haz (Lead)	Yes	03/29/00	Resampled on 2/25/00.
RAD-02[2]	APCL	03/08/00	03/16/00	4/12/00 and 6/30/00 for re-sampling	LLR	Yes	06/13/00	LLR waste, soil removed from site by NWI and taken to WCS Landfill in Andrews, Texas. Additional samples taken on 5/30/00.
STK-05	APCL	04/13/00	04/21/00	04/20/00	Cal-Haz (Lead)	Yes	04/27/00	Originally labelled as RAD-03 no potential for rad contamination was determined.
STK-06	APCL	04/13/00	04/21/00	04/20/00	Cal-Haz (Lead)	Yes	05/08/00	
STK-07	APCL	04/24/00	05/01/00	05/02/00	Cal-Haz (Lead)	Yes	05/09/00	
STK-08	APCL	04/26/00	05/03/00	05/03/00	Cal-Haz (Lead)	Yes	05/09/00	
STK-09	APCL	05/04/00	05/11/00	05/12/00	Cal-Haz (Lead)	Yes	05/16/00	
STK-10	APCL	05/12/00	05/19/00	05/22/00	Cal-Haz (Lead)	Yes	05/22/00	
STK-11	PWC	05/25/00	06/06/00	07/11/00	Cal-Haz (Lead)	Yes	07/17/00	Initially believed to be RCRA haz for lead, sample was re-run by PWC and also additional sample was analyzed by APCL on 6/13/00.
STK-12	PWC	06/13/00	06/21/00	06/26/00	Cal-Haz (Lead)	Yes	06/27/00	
STK-13	-----	-----	-----	-----	-----	Yes	06/14/00	Load out stockpile - no sampling required, due to change in procedure. Sampling one stockpile per week for 1-day excavation.
STK-14	PWC	06/23/00	06/30/00	07/10/00	RCRA Haz (Lead)	Yes	08/02/00	
STK-15	APCL	06/29/00	07/07/00	07/24/00	RCRA Haz (Lead)	Yes	08/03/00	
STK-16	APCL	07/06/00	07/13/00	07/12/00	Cal-Haz (Lead)	Yes	07/14/00	
STK-17	APCL	07/07/00	07/13/00	07/12/00	RCRA Haz (Lead)		08/07/00	
STK-18	APCL	07/10/00	07/14/00	07/13/00	Cal-Haz (Lead)	Yes	07/17/00	
STK-19	APCL	07/13/00	07/20/00	07/19/00	Cal-Haz (Lead)	Yes	07/19/00	
PWC-01	*APCL*	*07/13/00*	*07/20/00*	*07/19/00*	*Non-Haz*	*Yes*	*07/20/00*	*Disposed of as RCRA non-haz per Craig O Rourke.*
STK-20	APCL	07/20/00	07/26/00	07/26/00	Cal-Haz (Lead)	Yes	07/27/00	
PWC-02	*APCL*	*07/20/00*	*07/26/00*	*07/26/00*	*Cal-Haz (Lead)*	*Yes*	*07/31/00*	
STK-21	APCL	07/25/00	07/28/00	07/31/00	Cal-Haz (Lead)	Yes	08/01/00	
PWC-03	*APCL*	*07/31/00*	*08/04/00*	*08/04/00*	*Cal-Haz (Lead)*	*Yes*	*08/07/00*	*Verbal approval from Craig O'Rourke.*
STK-22	APCL	08/01/00	08/07/00	08/08/00	Cal-Haz (Lead)	Yes	08/14/00	
PWC-04	*APCL*	*08/07/00*	*08/14/00*	*08/15/00*	*Cal-Haz (Lead)*	*Yes*	*08/15/00*	
STK-23	APCL	08/07/00	08/14/00	08/15/00	Cal-Haz (Lead)	Yes	08/16/00	
STK-24	APCL	08/17/00	08/22/00	08/23/00	Cal-Haz (Lead)	Yes	08/28/00	
PWC-05	*APCL*	*08/21/00*	*08/25/00*	*08/25/00*	*Cal-Haz (Lead)*	*Yes*	*08/28/00*	
STK-25	APCL	08/24/00	08/29/00	08/30/00	Cal-Haz (Lead)	Yes	09/05/00	Moist soil also had paint filter test.
PWC-06	*APCL*	*08/28/00*	*08/31/00*	*08/31/00*	*Cal-Haz (Lead)*	*Yes*	*09/07/00*	
STK-26	APCL	08/28/00	08/31/00	08/31/00	Cal-Haz (Lead)	Yes	09/06/00	
STK-27	APCL	09/05/00	09/09/00	09/08/00	Non-Haz	Yes	09/12/00	STLC (3.6 mg/L) ship as RCRA non-haz.
PWC-07	*APCL*	*09/07/00*	*09/12/00*	*09/13/00*	*Non-Haz*	*Yes*	*09/14/00*	*Ship as RCRA non-haz.*
PWC-08	*APCL*	*09/13/00*	*09/18/00*	*09/18/00*	*Non-Haz*	*Yes*	*09/18/00*	*Ship as RCRA non-haz.*
PWC-09	*APCL*	*09/19/00*	*09/22/00*	*09/25/00*	*Non-Haz*	*Yes*	*09/25/00*	
STK-28	APCL	09/19/00	09/22/00	09/25/00	Cal-Haz (Lead)	Yes	09/27/00	
PWC-10	*APCL*	*11/09/00*	*11/13/00*	*11/15/00*	*Cal-Haz (Lead)*	*Yes*	*11/22/00*	
STK-29	APCL	10/16/00	10/23/00	10/24/00	Cal-Haz (Lead)	Yes	11//8/00	Added to Stockpile 30 for disposal.
STK-30	APCL	10/24/00	10/30/00	10/30/00	Cal-Haz (Lead)	Yes	11/06/00	Cal-Haz for lead and copper.
STK-31	APCL	10/30/00	11/03/00	11/07/00	Cal-Haz (Lead)	Yes	11/08/00	
STK-32	APCL	11/06/00	11/09/00	11/13/00	Cal-Haz (Lead)	Yes	11/14/00	Cal-Haz for lead and copper.
STK-33	APCL	11/07/00	11/10/00	11/14/00	Cal-Haz (Lead)	Yes	11/15/00	

TABLE H-2

SOIL STOCKPILE TRACKING

Stockpile Number[4]	Lab	Date Sampled	Date Due	Analytical Received	Designation	for Disposal[1]	Date Shipped[3]	Comments
STK-34	APCL	11/20/00	11/28/00	11/30/00	Cal-Haz (Lead)	Yes	12/08/00	As part of PWC-11 load-out.
STK-35	APCL	11/13/00	11/17/00	11/20/00	Cal-Haz (Lead)	Yes	11/21/00	Moving remaining soil to PWC-12 to make additional stockpile room (12/13/00).
PWC-11	*APCL*	*11/20/00*	*11/28/00*	*11/30/00*	*Cal-Haz (Lead)*	*Yes*	*12/01/00*	*Moving remaining soil to Stockpile 34 (12/7/00) to allow PWC more room.*
PWC-12	*APCL*	*11/28/00*	*12/05/00*	*12/08/00*	*Cal-Haz (Lead)*	*Yes*	*01/03/01*	
STK-36	APCL	12/04/00	12/08/00	12/10/00	Cal-Haz (Lead)	Yes	12/14/00	Moved about 200 cy to PWC-14.
PWC-13	*APCL*	*12/13/00*	*12/19/00*	*12/19/00*	*Cal-Haz (Lead)*	*Yes*	*12/20/00*	
STK-37	APCL	12/20/00	12/29/00	01/03/01	Cal-Haz (Lead)	Yes	01/04/01	
PWC-14	*APCL*	*01/04/01*	*01/10/01*	*01/11/01*	*Cal-Haz (Lead)*	*Yes*	*01/17/01*	
STK-38	APCL	01/04/01	01/10/01	01/10/01	Cal-Haz (Lead)	Yes	01/18/01	
STK-39	APCL	01/19/01	01/24/01	01/26/01	Cal-Haz (Lead)	Yes	01/29/01	
STK-40	APCL	01/31/01	02/06/01	02/07/01	Cal-Haz (Lead)	Yes	02/07/01	
PWC-15	*APCL*	*02/02/01*	*02/08/01*	*02/07/01*	*Cal-Haz (Lead)*	*Yes*	*02/12/01*	
PWC-16	*APCL*	*02/06/01*	*02/12/01*	*02/13/01*	*Non-Haz*	*Yes*	*02/15/01*	*High in diesel content.*
PWC-17	*APCL*	*02/08/01*	*02/15/01*	*02/14/01*	*Non-Haz*	*Yes*	*03/09/01*	*High in diesel content.*
PWC-18	*APCL*	*02/22/01*	*02/28/01*	*02/28/01*	*Non-Haz*	*Yes*	*03/12/01*	
STK-E-01	APCL	07/27/01	08/05/01	08/05/01	Non-Haz	Yes	12/20/01	CTO-0039 Hot Spot Removal.
STK-C5-1	APCL	07/27/01	08/05/01	08/05/01	Non-Haz	Yes	06/13/02	Shipped under STK-E-01 profile.
STK-C5-2	APCL	07/27/01	08/05/01	08/05/01	Non-Haz	Yes	07/08/02	Shipped under STK-E-01 profile.
STK-CST-1	APCL	08/01/02	08/30/02	08/30/02	Cal-Haz (Lead)	Yes	08/21/02	CST soil southeast area.
STK-CST-2	APCL	08/01/02	08/30/02	08/30/02	Cal-Haz (Lead)	Yes	10/24/02	CST soil east area.
STK-CST-3	APCL	08/01/02	08/30/02	08/30/02	Cal-Haz (Lead)	Yes	11/25/02	CST soil east area.
STK-CST-4	APCL	08/01/02	08/30/02	08/30/02	Cal-Haz (Lead)	Yes	12/30/02	CST soil west area.
PWC-19	*APCL*	*08/01/02*	*08/30/02*	*08/30/02*	*Cal-Haz (Lead)*	*Yes*	*02/13/03*	*CST soil west area (by PWC).*

Notes:

1 Approval prior to off-site transport and disposal was provided by Craig O Rourke, FWENC Project Environmental Compliance Manager
2 All radiochemistry analyses were sent to Berringer labs as a subcontractor to APCL
3 Date represents the day stockpile transport began.
4 When reviewing analytical data for stockpiles, the location code is 2A-STK (stockpile number - i.e. 01
5 No sampling performed. Shipped soil under existing waste profile
Italics Represents stockpiles associated with PWC excavation activities.

APCL - Applied Physics and Chemical Laboratory
CST - collection, storage, and transfer
CTO - Contract Task Order
cy - cubic yard
FWENC - Foster Wheeler Environmental Corporation
Haz - hazardous
LLR - low-level radiation
NWT - New World Technology
PWC - Public Works Center
RAD - radiation
RCRA - Resource Conservation and Recovery Act
STLC - soluble threshold limit concentration

APPENDIX I

RESTORATION ADVISORY BOARD MEETING MINUTES AND TRANSCRIPTS

1

18:20:42 2

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18:20:42 6 RESIORAIION ADVISORY BOARD MEETING

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18:20:42 9 WEDNESDAY, JULY 25, 2001

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18:20:42 22 REPORTED BY: Nancy A. Lee, CSR No. 3870

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18:20:42 1 A I I E N D A N C E

18:20:42 2	NAVY REGION SOUIHWEST:	Ms. Iheresa Morley
18:20:42		Capt. I.R. Hering
18:20:42 3		
18:20:42	SOUTHWEST DIVISION NAVAL	
18:20:42 4	FACILITIES ENGINEERING	
18:20:42	COMMAND:	Mr. Dareen Belton
18:20:42 5		Mr. Julius Miller
18:20:42		Mr. Edward Dias
18:20:42 6		
18:20:42		
18:20:42 7	DISC:	Mr. Douglas Bautista
18:20:42		Ms. Leticia Hernandez
18:20:42 8		
18:20:42	BECHTEL NAIIONAL:	Mr. Jerald Bailey
18:20:42 9		Mr. Pete Stang
18:20:42		Ms. KAREN G. Collins
18:20:42 10		Ms. Hamide Kayaci
18:20:42		
18:20:42 11	FOSTER WHEELER:	Mr. Glenn Starr
18:20:42		
18:20:42 12	PUBLIC ATTENDANCE:	Ms. Helen Bourne
18:20:42		Ms. Anita Boyd
18:20:42 13		Nr. Bill Kinney
18:20:42		Ms. Nancy Lee
18:20:42 14		Ms. Nohelia Ramos
18:20:42		
18:20:42 15	RAB MEMBERS:	Mr. Peter Bishop
18:20:42		Mr. Jerry McNutt
18:20:42 16		Ms. Rita McIntyre
18:20:42		
18:20:42 17		
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18:20:42 18		
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18:20:42 1 NATIONAL CITY, CA. WED., JULY 25, 2001, 6:40 P.M.

18:20:42 2

18:34:43 3 MS. MORLEY: Thanks everyone for coming, and

18:34:49 4 it's supposed to cool down. I know it's a little

18:34:50 5 warm. I apologize, but we're working on that.

18:34:53 6 Most of the people you know, but there's a

18:34:56 7 few new people. Hamide Kayaci, and she's from

18:35:02 8 Bechtel, so she'll be helping us.

18:35:05 9 Leticia Hernandez is replacing Holly Kress

18:35:05 10 as our Public Participation Specialist for DTSC, so

18:35:05 11 she is our new person.

18:35:12 12 And we're working on another fact sheet.

18:35:15 13 Remember how we used to send out those fact sheets?

18:35:15 14 So we're working on an update to the fact sheet, and

18:35:19 15 that should be out probably in another month or so.

18:35:23 16 You guys know Doug and Pete and Glenn.

18:35:23 17 I think you remember Glenn Starr from

18:35:23 18 Foster Wheeler. He'll be bringing us an update

18:35:27 19 about Sub-Site 2A.

18:35:34 20 You know Jerry and Ed.

18:35:34 21 Julius Miller. Actually, he used to have

18:35:37 22 my job at Naval Station like nine years ago, and he

18:35:41 23 went to Southwest Div, and now he's back. And he's

18:35:45 24 temporarily replacing Kathie Beverly, but we're

18:35:50 25 hoping that will become permanent because Julius

18:35:52 1 knows the Naval Station very well. He knows our
18:35:54 2 priorities and all that stuff, and he used to be in
18:35:57 3 the Navy. He knows Captain Hering very well.
18:36:04 4 And, of course, you all remember Captain
18:36:06 5 Hering, the Commanding Officer.
18:36:06 6 And Nancy is from DSP, which is our
18:36:10 7 contractor to take the meeting minutes.
18:36:12 8 William Kinney is from Southwestern
18:36:14 9 College, and he's here as a public member to observe
18:36:18 10 and all that stuff.
18:36:20 11 And you know Pete Bishop.
18:36:21 12 Unfortunately, George Buben had to resign.
18:36:25 13 He started taking Bible study classes that were
18:36:27 14 interfering with the RAB dates, so he said he's
18:36:29 15 going to try to come or if we need him to review a
18:36:31 16 document, he's still willing to do that, but he
18:36:31 17 won't be able to attend RAB meetings, which was sad
18:36:36 18 because he was lively.
18:36:40 19 And Jim Mullins is excused today.
18:36:40 20 I'm going to pass this around. Remember
18:36:48 21 our interdisciplinary curriculum that we had done
18:36:50 22 before that you guys are all proud of? We took this
18:36:54 23 to one of our trainings where Alvin Chung, who works
18:36:57 24 for the EPA, and he's also with the Department of
18:37:01 25 Public Health Services which is a department -- it's

18:37:02 1 a military department underneath the transportation?
18:37:09 2 They wear uniforms. They look like Coast Guard kind
18:37:13 3 of. And he's really good, Captain Chung. He does a
18:37:15 4 lot of EPA trainer/trainer classes, and he does a
18:37:20 5 lot of risk communication. He is very well known in
18:37:23 6 the environmental field, and especially around the
18:37:26 7 Navy. So he sent back comments on our curriculum,
18:37:30 8 and he really liked it, and he wanted some copies to
18:37:32 9 hand out to people, so we're going nationwide.
18:37:37 10 The other thing I wanted to say is we now
18:37:39 11 have a Spanish translation of that curriculum. We
18:37:44 12 had a contractor put it in -- I'm not sure if it's
18:37:49 13 called street Spanish or slang Spanish. It's not
18:37:52 14 proper, stuffy -- not stuffy.
18:37:57 15 CAPT. HERING: Formal.
18:37:57 16 MS. MORLEY: Formal. And it's designed more so
18:38:04 17 that it doesn't come across like lecturing or boring
18:38:07 18 or something. It's more that people can relate to
18:38:09 19 because it would be the language that they would use
18:38:12 20 everyday.
18:38:13 21 One of the reasons that we did this was,
18:38:13 22 one, because we have a largely Hispanic community
18:38:13 23 and we want to reach out to them, but two, the Chief
18:38:13 24 of Naval Operations saw the curriculum and they
18:38:13 25 really liked it.

18:38:14 1 And I don't know if you've heard about the
18:38:14 2 Vieques Reservation in Puerto Rico and how the Navy
18:38:14 3 has to leave and we're kind of in controversy with
18:38:14 4 that. So Chief of Naval Operations came in and
18:38:14 5 wanted to look at this and try a similar technique
18:38:14 6 to reach the children at Vieques and try to bow out
18:38:14 7 gracefully and talk about the things that are going
18:38:14 8 to happen at the range and all that stuff, and then
18:38:53 9 see if the children can talk to the parents because
18:38:57 10 so far there hasn't been a lot of two-way
18:38:58 11 communication.
18:39:00 12 So we're really excited that this module
18:39:03 13 seems to be making a lot more impact than just here
18:39:06 14 in San Diego.
18:39:07 15 And I only have three copies with me, so I
18:39:10 16 don't know. Does anybody want a copy. It has a CD
18:39:13 17 so you can make copies inside. They're up here if
18:39:22 18 you guys want them. And Captain Hering is going to
18:39:26 19 be even more famous than he was before over there.
18:39:33 20 And then we also have the annual report
18:39:35 21 from Congress that has all the bases -- all Air
18:39:37 22 Force, Navy -- and it also has Naval Station. I
18:39:46 23 don't know if you guys want these. If so, I have
18:39:47 24 four copies here.
18:39:49 25 Does anyone have comments other than Jerry

18:39:54 1 made a comment on last January's meeting minutes
18:39:57 2 that we said the October meeting minutes were going
18:40:01 3 to sent out, but he doesn't know if he did. So if
18:40:03 4 someone could check to see if we did send out
18:40:04 5 October 2000 meeting minutes, then we'll do that.
18:40:08 6 Does anyone have any other comments on the
18:40:11 7 January or April meeting minutes? Those are
18:40:14 8 approved.
18:40:15 9 And are you public members?
12:05:12 10 MS. RAMOS: I'm representing the Environmental
18:40:25 11 Health Coalition. I'm the new CLEAN campaign
18:40:29 12 organizer. I'm Nohelia Ramos.
18:40:42 13 MS. MORLEY: So do you work with Jill Williams?
12:05:12 14 MS. RAMOS: Yes.
18:40:47 15 MS. MORLEY: Actually, would you mind taking
18:40:48 16 one of these to her because I was going to mail her
18:40:48 17 one. This is the curriculum that we did for 7th and
18:40:53 18 8th graders. That's the Spanish one -- we also have
18:40:56 19 one in English -- and it uses the Naval Station's IR
18:40:58 20 program as a background and it has a teaching module
18:40:59 21 that's been approved by the San Diego Unified School
18:41:03 22 District and is taught in two schools so far this
18:41:08 23 summer. And it's kind of a way for us to reach
18:41:11 24 people that maybe wouldn't come to these meetings.
18:41:14 25 If we can get to their children, they might learn

18:41:14 1 more about the program and be interested.

18:41:19 2 Thank you for doing that.

12:05:12 3 MR. BISHOP: Have we gotten any feedback from

18:41:22 4 the schools and the public?

18:41:25 5 MS. MORLEY: Yeah, they did, but it's called

18:41:26 6 like a pre-post test. And they do -- they test the

18:41:31 7 knowledge beforehand and then the knowledge

18:41:33 8 afterwards, and it was 100 percent improvement. So

18:41:36 9 basically they didn't know all that much about it,

18:41:38 10 and then afterwards they had learned a lot from the

18:41:42 11 experiments and stuff.

18:41:43 12 One of the assignments was to go meet with

18:41:46 13 their parents and talk about the program and then

18:41:48 14 report back. And the parents reported being very

18:41:51 15 interested in the program and we got some new people

18:41:54 16 added to the mailing list because of that, and they

18:41:57 17 really like Captain Hering and his tour, and they

18:41:59 18 came on board and looked at the recycling center and

18:42:03 19 all that stuff. So that's the girls that you see.

18:42:04 20 This is one of the schools on the front cover that

18:42:07 21 was on their tour when we took that picture.

12:05:12 22 MR. BISHOP: Great.

18:42:14 23 MS. MORLEY: We're trying to get more teachers.

18:42:18 24 Pete, are you going to talk about Site 1?

18:42:23 25 MR. STANG: Thank you very much.

18:42:23 1 MS. MORLEY: Pete Stang is going to talk about
18:42:23 2 the Site 1 and the Conceptual Site Model.
08:11:12 3 MR. STANG: Good evening. My name is Pete
18:42:31 4 Stang. I'll be speaking briefly this evening on
18:42:38 5 Installation/Restoration Site 1, the former ship
18:42:38 6 repair basins.
18:42:57 7 Everybody knows where Naval Station is
18:42:58 8 located, and Installation/Restoration IR Site 1 is
18:43:02 9 located immediately south of the Mole Pier and south
18:43:07 10 of Paleta Creek along the pier lines.
18:43:14 11 A brief history of
18:43:16 12 Installation/Restoration Site 1: In 1986 the
18:43:19 13 initial assessment study identified Ship Repair
18:43:22 14 Basins 3 and 4. In 1993 a site inspection was
18:43:26 15 completed on those two basins.
18:43:26 16 In 1997 a removal action was conducted at
18:43:29 17 Basin 4 with the upper ten feet of soil throughout
18:43:37 18 the majority of the basin -- approximately 80
18:43:39 19 percent of the basin -- was removed as an immediate
18:43:46 20 step to reduce the threat of human health impacts.
18:43:50 21 MS. MORLEY: Can you briefly remind them that
18:43:54 22 that used to be 1 and 2 and now its 3 and 4?
08:11:12 23 MR. STANG: Thank you, Theresa.
18:44:00 24 Basins 3 and 4 were previously identified
18:44:03 25 as Basin 3, the northern basin, and Basin 4, the

18:44:06 1 southern basin, for those of you who are familiar
18:44:10 2 with the RSE that was conducted in the removal
18:44:14 3 action on those basins, and maybe even a little
18:44:17 4 additional background.
18:44:19 5 These basins were constructed somewhere
18:44:22 6 between 1942 and 1943 with steel sheet pile walls
18:44:28 7 but no bottom, essentially similar to a dry dock but
18:44:32 8 no floor. No concrete, steel or otherwise
18:44:34 9 constructed floor constructed directly into the
18:44:39 10 former base sediments.
18:44:40 11 Ship repair activities similar to those
18:44:43 12 that might have occurred in a dry dock but probably
18:44:49 13 much smaller vessels on the order of yard oilers,
18:44:52 14 barges, smaller vessels that wouldn't have sunk
18:44:55 15 significantly deep into the sediments were repaired
18:44:58 16 on a quick turn-around basis during the war years,
18:45:02 17 and to some extent after the war years.
18:45:05 18 Following World War II, Basins 3 and 4
18:45:08 19 were utilized as informal disposal areas where a
18:45:13 20 series of both solid and liquid wastes were
18:45:17 21 discharged into these basins until the 1970s at
18:45:22 22 which time they were completely filled in and paved
18:45:25 23 over for use as a parking lot.
18:45:27 24 Thank you for pointing that out, Theresa.
18:45:30 25 In 2000 the Removal Site Evaluation was

18:45:33 1 completed and finalized. In 1999 shortly before the
18:45:39 2 2000 RSE finalization, two additional ship repair
18:45:42 3 basins were identified -- identified on a 1946
18:45:47 4 Station Condition Map as 1 and 2, and those are
18:45:50 5 located to the north of Basins 3 and 4.
18:45:53 6 Currently the Navy and the RSE has
18:45:58 7 recommended that further investigation is warranted
18:46:01 8 for Site 1.
18:46:03 9 This is just a schematic, a site plan of
18:46:08 10 the basins.
18:46:10 11 Basins 3 and 4 where the investigations
18:46:13 12 have previously occurred are the former north basin
18:46:17 13 and south basin. Basin 3 has not been excavated.
18:46:23 14 The upper 10 feet of the basin, although
18:46:24 15 there is a waste that goes down at least 38 feet, is
18:46:29 16 present in Basin 4, and the upper ten feet of most
18:46:33 17 of Basin 4 but not the area immediately adjacent to
18:46:37 18 the seawall or the keywall was left in place due to
18:46:41 19 concerns for both utilities and failure of the
18:46:46 20 keywall -- the structural tieback structure that
18:46:49 21 secures the keywall to the land.
18:46:53 22 Basins 1 and 2 have a somewhat different
18:46:56 23 history and no investigation to date. In essence,
18:47:01 24 Basins 1 and 2 were operated from about 1942 or 1943
18:47:08 25 until no later than June of 1946 when the Station

18:47:13 1 Condition Map indicates that they were discontinued
18:47:16 2 and filled at that time. So apparently the 30-odd
18:47:21 3 years of undocumented fill activities that occurred
18:47:28 4 at Basins 3 and 4 did not occur at Basins 1 and 2.
18:47:33 5 That in fact is confirmed at least as early as
18:47:36 6 approximately 1951 by aerial photographs that
18:47:40 7 indicate that these two basins are no longer present
18:47:43 8 and it was in fact either a lay down yard or a
18:47:48 9 parking area or other activities.
18:47:51 10 And as you can see, all four of these
18:47:53 11 basins are located immediately adjacent to San Diego
18:47:56 12 Bay and the keywall.
18:47:57 13 To summarize, no investigations have
18:48:01 14 occurred to date for Basins 1 and 2. There are
18:48:04 15 currently nine wells on site, and those are
18:48:06 16 primarily located in and around Basins 3 and 4. The
18:48:11 17 upper 10 feet of soil at Basin 4 is clean fill.
18:48:16 18 Contaminants of Concern or COCs for both
18:48:17 19 soil and groundwater include PCBs, volatile organic
18:48:21 20 compounds, metals, semi-volatile organic compounds,
18:48:32 21 pesticides and herbicides.
18:48:32 22 In addition, there is localized low
18:48:32 23 groundwater pH conditions that have been identified
18:48:36 24 in the groundwater at Basins 3 and 4 with pH as low
18:48:40 25 as approximately 3 in the groundwater near the

18:48:44 1 sidewalls of those basins.

18:48:46 2 What is a conceptual site model? A

18:48:49 3 conceptual site model essentially helps anybody --

18:48:53 4 in this case, in particular the Navy -- with

18:48:53 5 understanding the site and the contaminant migration

18:48:56 6 and exposure pathways.

18:49:00 7 For lack of a better term, it's a

18:49:00 8 cartoon -- a sophisticated cartoon where you can

18:49:03 9 look at the site and make some inferences. Is the

18:49:07 10 site unpaved? Is there contaminated soil at the

18:49:10 11 surface that might be available for rain taking the

18:49:14 12 contaminated soil and having it drain to a body of

18:49:19 13 water such as San Diego Bay? Is the site paved and

18:49:21 14 does it not allow infiltration of rainwater? Is the

18:49:28 15 site a protected wetland? What is it in three

18:49:33 16 dimension? Is the groundwater deep or shallow? Is

18:49:35 17 the contamination shallow and groundwater deep and

18:49:38 18 maybe groundwater doesn't come into play at your

18:49:40 19 site or are the contaminants in immediate contact

18:49:46 20 with groundwater where groundwater can act as a

18:49:49 21 pathway for contaminant migration?

18:49:52 22 In our case the site is a paved parking

18:49:54 23 lot, Basins 3 and 4. The basins have steel sheet

18:50:00 24 pile sides and back that go deeper than the waste.

18:50:04 25 The basin bottom is unlined, as we've discussed.

18:50:07 1 The fronts of the basins are enclosed by
18:50:10 2 the former dual wall concrete caissons, essentially
18:50:13 3 the plug that fit in front of what -- although
18:50:18 4 individual wet docks, the equivalent of a dry
18:50:19 5 dock -- so that when the water was pumped out,
18:50:23 6 vessels could be repaired.
18:50:25 7 Those are still in place and supported by
18:50:29 8 a concrete sill, essentially like the threshold
18:50:31 9 underneath the door that supported that concrete
18:50:35 10 dual wall caisson and then supported in front by the
18:50:39 11 new keywall structure that was put in place in the
18:50:42 12 early 1980s.
18:50:44 13 That sheet pile is driven to approximately
18:50:47 14 60 feet below the current ground surface or
18:50:51 15 approximately 22 feet below the bottom of the
18:50:53 16 current waste.
18:50:55 17 This is a cross-section view, a
18:51:00 18 cartoon, that shows the ground surface, San Diego
18:51:04 19 Bay out here to the left, essentially this dual wall
18:51:11 20 caisson that sat in front was basically the plug for
18:51:15 21 the basin, with the driven steel sheet pile in front
18:51:22 22 and then essentially a large piece of concrete that
18:51:23 23 acted as the threshold or the sill for the basin.
18:51:30 24 If this were, say, Basin 4 where the
18:51:35 25 excavation had occurred, formerly referred to as the

18:51:36 1 south basin, the upper ten feet of soil essentially
18:51:42 2 right to the surface of groundwater has been
18:51:46 3 excavated and removed, clean fill put back in its
18:51:50 4 place and paved over, and it's currently in use as a
18:51:54 5 parking lot.
18:51:55 6 Some of what keeps the keywall -- the
18:52:01 7 seawall from falling essentially into San Diego Bay
18:52:04 8 is a series of structural supports. There's a steel
18:52:09 9 tieback structure that comes back to a large
18:52:12 10 concrete deadman that basically supports it. That
18:52:17 11 deadman is supported by a series of compressional
18:52:20 12 intentional piles that are driven significantly deep
18:52:24 13 as well.
18:52:25 14 In addition, there's a significant
18:52:27 15 utility corridor that runs along the keywall, and as
18:52:31 16 you might imagine, with all of that structured steel
18:52:34 17 concrete in the ground makes investigation at times
18:52:39 18 a rather difficult process to try and get some
18:52:44 19 investigative points into the ground.
18:52:46 20 And this is essentially our
18:52:48 21 conceptual site model, and I'm going to turn the
18:52:52 22 other light off as well here. Hopefully, that will
18:52:52 23 show up a little bit better.
18:52:57 24 What we have are the basins that are
18:53:02 25 in place. Ihis represents the caisson. Outside of

18:53:08 1 the caisson, again, is the steel sheet pile with a
18:53:12 2 head wall and then the sheet pile.
18:53:15 3 This is the bay bottom immediately
18:53:19 4 outside of the keywall near Piers 10 and 11. It
18:53:25 5 shows the paving, it shows that the precipitation
18:53:28 6 essentially hits the pavement and runs off without
18:53:33 7 percolating directly through the basins and the
18:53:34 8 wastes that are left in place, and it really
18:53:39 9 provides and gives us -- and, again, also with the
18:53:43 10 concrete and asphalt surface minimizes any possible
18:53:48 11 volatile organic compound discharging into the
18:53:52 12 atmosphere that could be a problem for exposure to
18:53:56 13 either human health and the environment, and really
18:53:58 14 gives us an understanding that the most likely
18:54:00 15 contaminant pathway toward either human health or
18:54:05 16 ecological receptor problem is groundwater transport
18:54:11 17 of chemicals from the solid waste into the
18:54:13 18 groundwater and then presumably either under or to a
18:54:19 19 much lower but still a possible level through the
18:54:24 20 keywall itself.
18:54:25 21 Essentially it gives us a good
18:54:30 22 talking point with our regulatory agency partners,
18:54:34 23 with the Navy, with other contractors to explain it,
18:54:38 24 discuss it, and determine where and how we should
18:54:42 25 conduct our investigation.

18:54:44 1 And the site conditions: Paved, so
18:54:49 2 no surface water or aeolean or transport by the wind
18:54:53 3 of fine particulate matter.
18:54:55 4 The soil is contained laterally by
18:54:55 5 steel sheet pile and/or concrete, and that pile acts
18:54:59 6 as either a partial or complete barrier to shallow
18:55:04 7 advective groundwater flow.
18:55:07 8 The potential primary pathway of
18:55:09 9 concern is the downward migration from the basins of
18:55:11 10 the groundwater and seepage to the bay below
18:55:15 11 60 feet. And, again, just to reiterate the slide
18:55:20 12 that shows that in particular, this is the pathway
18:55:26 13 that in our interpretation of site conditions is the
18:55:28 14 most likely method of contaminant transport toward a
18:55:33 15 receptor.
18:55:34 16 Data quality objectives: Data quality
18:55:36 17 objectives also are a tool to help us focus the
18:55:43 18 investigation that we plan and to determine where
18:55:46 19 we're going to go. In essence, giving us a road map
18:55:51 20 on how to collect the right data to get the answers
18:55:55 21 we need to move forward in the investigation and get
18:55:58 22 these sites cleaned up or put in a position where
18:56:03 23 they don't represent any potential present or future
18:56:08 24 threat to the environment or human health.
18:56:11 25 It's an EPA process. It's

18:56:13 1 quantitative or qualitative statements that specify
18:56:15 2 the quality of data required for a project. It's
18:56:18 3 been developed by the USEPA. It's a 7-step process,
18:56:23 4 and it's designed to focus the investigation or
18:56:25 5 cleanup to make sure the correct data are collected.
18:56:28 6 The seven steps are essentially state
18:56:31 7 the problem, number one.
18:56:35 8 No. 2, develop the decision
18:56:37 9 questions.
18:56:38 10 No. 3, develop the data or the inputs
18:56:41 11 to help make those decisions.
18:56:44 12 No. 4, define the study area
18:56:46 13 boundaries -- where and when.
18:56:51 14 Step 5, decision rules, which are
18:56:53 15 essentially a series of if/then statements.
18:56:57 16 No. 6, determining what limits we
18:56:58 17 want to place on our decision errors. Is it okay to
18:57:03 18 be 80 percent certain? 90 percent certain? What
18:57:07 19 level of certainty do you want to have in your
18:57:11 20 investigation to, number one, make sure that you
18:57:13 21 don't have a false positive event -- in other words,
18:57:16 22 my site's clean but I think it's dirty -- or a false
18:57:21 23 negative event where my site is dirty but my
18:57:26 24 investigation indicates that it's actually clean,
18:57:26 25 and what are acceptable limits?

18:57:32 1 And No. 7, optimizing and sampling
18:57:34 2 the site. Essentially once you go through your
18:57:34 3 first six steps and decide what it is you need to
18:57:39 4 do, how you're going to do it, how are you going to
18:57:43 5 optimize? How are you going to get the most bang
18:57:46 6 for your buck?
18:57:47 7 For Basins 3 and 4 where we already
18:57:49 8 have a significant amount of information, I've gone
18:57:54 9 through what our current DPDOs are in consultation
18:57:58 10 with the Navy.
18:58:00 11 One, our problem statement obviously
18:58:02 12 will be greater, and these in general turn out to be
18:58:07 13 a couple page, two large table type -- but in
18:58:09 14 summary, for Basins 3 and 4 contaminated groundwater
18:58:14 15 is present, and our focus for Basins 3 and 4 will be
18:58:19 16 further assessment of groundwater conditions at
18:58:22 17 Basins 3 and 4.
18:58:24 18 Our decision questions: What are the
18:58:27 19 extent of our Contaminants of Concern? What is
18:58:30 20 their extent both horizontally north, south, and
18:58:32 21 east of the basins, but how deep does the
18:58:37 22 contamination go as well?
18:58:41 23 Three, what are the inputs? Well,
18:58:44 24 the inputs to our investigation will be the result
18:58:47 25 of putting in borings to determine more specifically

18:58:54 1 the site geology, installation of wells to collect
18:58:57 2 groundwater data, what that chemical data tells us,
18:59:02 3 and the criteria that we compare it against.
18:59:04 4 In other words, if I detect metals --
18:59:08 5 well, metals are ubiquitous. They're everywhere in
18:59:10 6 groundwater. Even in the groundwater that comes out
18:59:11 7 of a pristine artesian well in the mountains has
18:59:19 8 some level of metals in it. So we need to know what
18:59:22 9 those metals represent. Do they represent ambient
18:59:26 10 concentrations that we would find at a
18:59:28 11 non-contaminated site or are those concentrations of
18:59:31 12 metals that represent contamination may be present?
18:59:39 13 Essentially what is the criteria?
18:59:40 14 For Naval Station there are
18:59:40 15 background concentrations established for seven or
18:59:48 16 eight metals. And we know if they're greater than
18:59:50 17 that amount, it is likely to represent
18:59:51 18 contamination. If it's less than that amount in the
18:59:55 19 groundwater sample, it's probably similar to the
18:59:59 20 seawater conditions associated with the groundwater
19:00:02 21 in the western part of Naval Station.
19:00:06 22 What are the boundaries of our
19:00:07 23 investigative area both in space and time? We want
19:00:11 24 to know, for instance, would you take your samples
19:00:13 25 at high tide? Low tide? Does it matter what tide?

19:00:18 1 And in space do we want to investigate 10 or 20 feet
19:00:23 2 away from the basins or several hundred feet away
19:00:26 3 from the basins? What essentially do we define so
19:00:30 4 that we have a well-thought out, well-developed
19:00:34 5 investigation before we put our first hole in the
19:00:36 6 ground and collect our first sample?
19:00:38 7 As I mentioned earlier, No. 5 is
19:00:40 8 decision rules, a series of if/then statements. If
19:00:43 9 we go out and perform our investigation and we find
19:00:47 10 that risk is at an acceptable level based on, let's
19:00:51 11 say the NCP, the National Contingency Plan, where
19:00:56 12 risk is acceptable under the criteria of one in a
19:01:01 13 million cancer risk in a hazard index less than 1
19:01:05 14 for exposure to human health, then there's no human
19:01:09 15 health problem, then we don't have a problem and we
19:01:14 16 can exit. Or if we find the contamination is
19:01:19 17 excessive and represents a risk greater than 1 times
19:01:23 18 10 to the minus 4th or one cancer risk in 10,000, we
19:01:27 19 do a have significant problem and we need to move on
19:01:31 20 to somehow alleviate that risk in the process.
19:01:35 21 Six, the error limits. Define what
19:01:39 22 is acceptable. Again, is 80 percent acceptable? Is
19:01:42 23 90 percent acceptable? Defining that up front.
19:01:46 24 And finally, the design --
19:01:48 25 where/when/how/how many samples, what are we going

19:01:52 1 to analyze for, what aren't we going to analyze for,
19:01:54 2 where are we going to analyze for it, and the like.
19:01:58 3 I'd be happy to entertain any
19:02:01 4 questions. Thank you for your time.
19:02:20 5 MS. McINTYRE: I'm sorry I missed the
19:02:28 6 first part of your presentation.
19:02:28 7 Historically don't they already have a lot
19:02:30 8 of data that you're able to use? I mean, I missed
19:02:36 9 the first part so is this a brand new data quality
19:02:41 10 objective where you're going to go back and
19:02:43 11 evaluate, and using that historical data of that
19:02:48 12 site and incorporate that, which should make it less
19:02:53 13 that you have to do.
19:02:55 14 MR. STANG: We certainly plan to use the data
19:02:58 15 we have to help us focus the current investigation.
19:03:02 16 We're not going out at Basins 3 and 4 assuming that
19:03:03 17 there is no information.
19:03:08 18 The information that came out of the
19:03:12 19 removal site evaluation that was finalized last year
19:03:17 20 did provide some information that under a very
19:03:23 21 conservative assessment of site conditions, there is
19:03:26 22 a possible risk to San Diego Bay. That's not to say
19:03:34 23 that there is contamination reaching San Diego Bay.
19:03:37 24 We don't know that. But the Navy at this point
19:03:40 25 cannot conclude at the degree of certainty that they

19:03:46 1 need to that they are not having an impact on San
19:03:48 2 Diego Bay, and that's why they recommended the
19:03:50 3 further action for Basins 3 and 4.
19:03:54 4 Now, Basins 1 and 2 I talked a little bit
19:03:54 5 about -- and I'm not sure exactly when you came in,
19:03:57 6 Rita. Basins 1 and 2 have had no investigation
19:04:01 7 associated with them whatsoever, and it really just
19:04:05 8 became apparent in the past two years, since 1999,
19:04:08 9 that the Navy going through some of their archival
19:04:12 10 information identified those basins on a single
19:04:16 11 aerial photograph, and one former station condition
19:04:22 12 map.
19:04:23 13 We don't know what was put in Basins 1 and
19:04:25 14 2. We do know that it wasn't filled over 30 years
19:04:29 15 such as Basins 3 and 4 were. It might be a fairly
19:04:35 16 clean dredge material or other inert material that
19:04:38 17 may not pose a risk. But because of the industrial
19:04:43 18 nature of the site, the Navy has recommended that
19:04:46 19 they conduct a site inspection level, which is less
19:04:51 20 than an RI level.
19:04:52 21 Essentially the goal of the SI for Basins
19:04:55 22 1 and 2 will be a much more limited investigation to
19:05:01 23 determine whether a release did occur rather than
19:05:05 24 what is the complete nature and extent. In order to
19:05:10 25 both save time and money and make that decision the

19:05:16 1 correct path at this point is to, again, in the site
19:05:19 2 inspection simply determine if a release occurred at
19:05:23 3 those two basins because we do not have any
19:05:26 4 information at this point.
12:05:12 5 MS. McINTYRE: Thank you.
19:05:31 6 MR. STANG: Thank you very much.
19:05:37 7 And stepping in for Theresa, I think our
19:05:37 8 next presenter is Karen Collins with Bechtel, Navy
19:05:44 9 Clean.
08:11:12 10 MS. COLLINS: I've got some handouts of the
19:06:11 11 presentation and the conceptual site model for Site
19:06:16 12 4. The presentation is identical to what's on the
19:06:28 13 screen, just for your reference.
19:06:41 14 We're in the process of planning stages
19:06:41 15 for conducting a Remedial Investigation for IR Site
19:06:45 16 4, and I know that's a dyslectic nightmare -- IR/RI.
19:06:51 17 What is it?
19:06:51 18 We're doing a Remedial Investigation for
19:06:53 19 IR Site 4. It's the former DPDO storage yard. It's
19:06:54 20 actually on the dry side of the base across Harbor
19:07:00 21 Drive.
19:07:02 22 Naval Station, the same map that Pete
19:07:02 23 showed. Site 1, where we were discussing, is here;
19:07:08 24 Site 2 is here. Site 4 is across Harbor, which is
19:07:14 25 here, between Harbor Drive if you follow the tracks

19:07:17 1 and north of Paleta Creek.

19:07:25 2 Site 4 is a large site. It's 14

19:07:27 3 acres. I think it's the second largest site

19:07:30 4 aerially on Naval Station bounded again by Harbor

19:07:35 5 Drive. The northern portion of the site was paved

19:07:38 6 in 1975. Apparently it's used for a recycling

19:07:42 7 storage of Department of Defense property and

19:07:47 8 warehousing.

19:07:49 9 The site is pretty flat. It's been

19:07:52 10 graded a little bit, mostly for surface water

19:07:53 11 control.

19:07:56 12 There are two warehouses, Buildings

19:07:59 13 249 and 250, located roughly in the center on the

19:08:01 14 eastern portion of the site in an unpaved area, and

19:08:06 15 they are used to store batteries and high scrap

19:08:11 16 metal.

19:08:11 17 And the recycling area is located

19:08:14 18 generally north of the warehouses. Actually, it's

19:08:18 19 visible from Harbor Drive the next time you're

19:08:22 20 making the trip.

19:08:23 21 The history of Site 4 in a nutshell:

19:08:26 22 Between 1943 and 1975 it was used for Navy supplies

19:08:30 23 storage, and the reason the site was identified in

19:08:34 24 the IAS in 1986 was because in those early years it

19:08:39 25 was estimated that somewhere between 35,000 and

19:08:42 1 75,000 gallons of oil were used to suppress dust
19:08:46 2 over the site. That was common practice.
19:08:50 3 Obviously, it's not done now because we know better,
19:08:52 4 but between '43 and '75 that was the standard
19:08:56 5 operating procedure for dirt sites.
19:09:00 6 Also, in the IAS it was noted that
19:09:02 7 there were leaking containers of electrical
19:09:05 8 insulating oil stored on the site, and that was in
19:09:08 9 the 1970s. Additionally, there were drummed paints,
19:09:09 10 lubrication oils, and PD-680 which is a
19:09:14 11 non-chlorinated solvent also stored at the site.
19:09:18 12 Between 1975 and 1981 the site was
19:09:22 13 used as currently for DPDO storage, and from 1981 to
19:09:30 14 the present the southern portion of the site was
19:09:31 15 divided off, and it's been used to store landing
19:09:35 16 craft.
19:09:37 17 Previous Investigations: In 1986 the
19:09:41 18 NEESA report, the Initial Assessment Study, was the
19:09:43 19 study where the site was identified along with the
19:09:47 20 other sites, 1 through 6, the first of the Navy
19:09:49 21 stations -- Naval Station IR sites.
19:09:53 22 In 1987 a geotechnical and soil
19:09:55 23 contamination investigation was conducted because
19:09:58 24 the site was being considered as a new location for
19:10:05 25 the fire-fighter training area. It ended up not

19:10:06 1 being relocated as that FIA, actually Site 8, but it
19:10:11 2 was under consideration in 1987.
12:05:12 3 CAPT. HERING: It was relocated to an alternate
19:10:17 4 site.
08:11:12 5 MS. COLLINS: And in 1992 IT conducted a site
19:10:23 6 inspection, and in 2000 the Removal Site Evaluation
19:10:28 7 for Sites 1, 2, and 4 was finalized.
19:10:33 8 This is a map of Site 4. Basically
19:10:39 9 the fence line doesn't show up very well, but the
19:10:42 10 fence line is roughly here, and the landing craft
19:10:45 11 are stored in the southern portion of the site.
19:10:47 12 These are the warehouses 249 and 250. The entrance
19:10:49 13 to the site is right here. There's a paved drive.
19:10:54 14 And this concrete pad is where most of the recycling
19:10:55 15 activity takes place, and there's a small office
19:11:03 16 right here.
19:11:08 17 Unfortunately, this washes out, but
19:11:09 18 this is the cartoon that you have in hand. And
19:11:17 19 basically in developing this conceptual site
19:11:23 20 model -- part of the central purposes for developing
19:11:30 21 the conceptual site model are to identify
19:11:34 22 contaminant transport mechanisms and potential
19:11:38 23 receptors both human and environmental.
19:11:42 24 The pathways are the colored arrows.
19:11:44 25 They're kind of vectors, and the dark purple is

19:11:48 1 rainfall or infiltration. The blue kind of squiggly
19:11:54 2 arrows are aeolean transport or wind blown transport
19:12:00 3 in the unpaved portion of the site, and then the
19:12:02 4 blue arrows are the surface water runoff.
19:12:06 5 Site 4 currently is graded so that
19:12:09 6 surface water falling off of the site in the form of
19:12:11 7 rain generally is directed off-site to the south.
19:12:12 8 Here there are three outfalls: one to the south, one
19:12:19 9 here, and another third about midway up the northern
19:12:23 10 portion of the site. And these drain -- these two
19:12:26 11 drain into a ditch and this portion outfalls here.
19:12:37 12 The conceptual site model, again, is
19:12:44 13 just sort of a helpful cartoon that's developed in
19:12:45 14 the planning stages of the Remedial Investigation to
19:12:53 15 help identify known or expected locations of
19:12:55 16 contaminants based on a considerable amount of data
19:12:59 17 that we already have in hand, identifying potential
19:13:02 18 sources of contaminants and potential transport
19:13:06 19 pathways, the media that are impacted, and at Site 4
19:13:08 20 we know that soil and groundwater are impacted, and
19:13:13 21 then using that information to determine receptors
19:13:15 22 and exposure scenarios.
19:13:19 23 Transport pathways that have been
19:13:20 24 preliminarily identified at Site 4 include the
19:13:25 25 surface water runoff that we just talked about from

19:13:27 1 the unpaved portions of Site 4. Generally the
19:13:32 2 southern portion is unpaved, and that area flows
19:13:36 3 into the storm drain channels, and that southern
19:13:41 4 storm drain channel outfalls into Paleta Creek. The
19:13:45 5 two along the western margin of the site outfall
19:13:48 6 into a ditch that flows into Paleta Creek.
19:13:53 7 Really in the scheme of things, very,
19:13:57 8 very minor potential for wind-born migration of
19:14:01 9 shallow soil contaminants to the atmosphere, and an
19:14:07 10 even more minor potential for offgasssing of
19:14:07 11 volatile organic compounds from groundwater through
19:14:11 12 the vadose zone into the atmosphere.
19:14:15 13 We know we have TCE in maybe 50 parts
19:14:20 14 per billion in the middle monitoring well on the
19:14:23 15 site. So it does happen -- offgassing does occur,
19:14:27 16 but by the time those molecules travel through the
19:14:28 17 10-foot soil column and then offgas into the
19:14:32 18 atmosphere, it's accounted for in our risk
19:14:34 19 assessment but it's very, very minor.
19:14:37 20 Potential ecological receptors
19:14:41 21 include a rare native salt marsh habitat that's
19:14:43 22 identified in Paleta Creek -- actually, upgradient
19:14:46 23 kind of where Paleta Creek dog legs. It's not
19:14:51 24 adjacent to the site, but it's in the sphere of
19:14:55 25 influence.

19:14:56 1 There are over 35 bird species that
19:14:58 2 have been identified in the Naval Station area.
19:15:00 3 Considering that this is on part of the Pacific
19:15:06 4 flyway, there are a lot of birds that don't
19:15:07 5 necessarily live here or live at Site 4, but they
19:15:11 6 are observed in route and maybe make a stop here on
19:15:14 7 their migration.
19:15:17 8 Three of those species that were
19:15:19 9 identified include California Fish & Game special
19:15:21 10 concern species, and one of those is a federal and
19:15:25 11 state endangered species.
19:15:27 12 MR. BISHOP: Are all these 35 species found in
19:15:30 13 the Paleta Creek habitat or this 35 species on the
19:15:34 14 Naval Station?
19:15:35 15 MS. COLLINS: On Naval Station with a survey
19:15:37 16 that was conducted -- a wildlife survey for Naval
19:15:40 17 Station, and I think there were several different
19:15:42 18 monitoring points. The 35 species were observed
19:15:49 19 collectively.
19:15:51 20 MR. BISHOP: Thank you.
19:15:52 21 MS. COLLINS: Also, the Paleta Creek banks and
19:15:54 22 portions of the bottom of the creek are classified
19:15:56 23 as jurisdictional wetlands, so they would be
19:15:59 24 considered ecological receptors.
19:16:03 25 Potential human receptors, currently the

19:16:03 1 on-site workers in the unpaved portion of the site
19:16:10 2 would have an opportunity for exposure to shallow
19:16:14 3 contaminated soil. Again, the unpaved portion is
19:16:17 4 generally in the southern half of the site.
19:16:21 5 Looking at future potential scenarios:
19:16:23 6 Construction workers, if there was a trenching
19:16:30 7 project lines installed or something of that nature
19:16:33 8 that would involve subsurface digging, those workers
19:16:37 9 could be exposed in either the paved or the unpaved
19:16:44 10 portions of the site.
19:16:47 11 And then depending on future scenarios, if
19:16:54 12 something happens and changes life as we know it
19:16:57 13 radically and Naval Station were to be a residential
19:16:59 14 land use designation, then there may be residential
19:17:05 15 receptors. That's one of the scenarios that will be
19:17:11 16 considered in the risk assessment. It may not
19:17:11 17 really be a viable one, but it's done as part of the
19:17:16 18 practice.
19:17:17 19 The Data Quality Objectives for Site 4:
19:17:21 20 Pete already introduced the seven steps that EPA
19:17:25 21 follows.
19:17:27 22 The problem statement for Site 4 is pretty
19:17:30 23 simple. Contaminated soil and groundwater are
19:17:32 24 present. They've already been identified based on
19:17:35 25 previous investigations.

19:17:37 1 The questions that we're identifying and
19:17:40 2 addressing now are what are the nature and extent of
19:17:42 3 the Contaminants of Concern and what is the risk to
19:17:45 4 human health and the environment? We want to assign
19:17:47 5 quantitative values to those risk numbers.
19:17:51 6 The inputs that we'll be using to factor
19:17:58 7 into the RI questions are both chemical data and
19:18:04 8 then regulatory criteria.
19:18:08 9 The boundaries of the site are basically
19:18:11 10 the site boundary, and then we're going to step
19:18:13 11 off-site to assess the potential off-site impact,
19:18:17 12 and in time the study is planned for 2001 and 2002.
19:18:23 13 The decision rules are basically
19:18:26 14 equivalent to what Pete introduced for Site 1, and
19:18:31 15 that is to identify contamination and if the risk
19:18:33 16 exceeds 10 to the minus 4, then we'll recommend
19:18:35 17 action. If the risk is in the risk management range
19:18:39 18 10 to the minus 4, 10 to the minus 6, we'll
19:18:42 19 negotiate an appropriate response with the
19:18:45 20 regulatory agencies and the community. And if the
19:18:48 21 risk is in the NCP generally acceptable criteria,
19:18:51 22 less than one in a million cancer risk, hazard index
19:18:51 23 less than 1, then no further action would be
19:18:55 24 recommended.
19:19:00 25 Error limits: In structuring the design,

19:19:02 1 basically there are two sources of error, and in the
19:19:08 2 design we're basically addressing the design errors,
19:19:10 3 and that's what Pete talked about. We want to
19:19:13 4 structure a sampling scheme that will give us at
19:19:17 5 least a 90 and optimally a 95 percent confidence
19:19:21 6 that we are not going to miss contamination -- in
19:19:24 7 other words, the false negative.
19:19:30 8 You drill, let's say, two holes in the
19:19:31 9 site. They both come up clean. You make a
19:19:32 10 determination on a 14-acre site that "It's clean."
19:19:33 11 And we want to optimize the study so that we come up
19:19:41 12 with an appropriate number of samplings so that
19:19:43 13 we're ensured that we're going to be making sound
19:19:45 14 conclusions.
19:19:47 15 The measurement error is actually when you
19:19:51 16 get to the field. We'll be following standard
19:19:53 17 operating procedures that have been developed and
19:19:56 18 have been shared with DTSC and EPA for collecting
19:19:59 19 field data in analyzing samples.
19:20:02 20 The design when/where/how many/and how the
19:20:09 21 samples will be collected, those details will be
19:20:11 22 included in the RI work plan.
19:20:14 23 Basically the RI strategy is designed to
19:20:18 24 support the risk assessment -- the human health and
19:20:20 25 ecological risk assessments that were discussed.

19:20:25 1 Soil samples will be collected to
19:20:28 2 characterize both the nature and the extent of
19:20:31 3 contamination.
19:20:33 4 Three existing monitoring wells are
19:20:35 5 already on Site 4, and we're going to augment that
19:20:39 6 coverage with up to 12 new monitoring wells. That
19:20:42 7 number may be -- we may not need that many,
19:20:46 8 depending on the results of the soil investigation.
19:20:51 9 And one of the other open questions is we
19:20:53 10 need to determine how much hydraulic communication
19:20:56 11 there is between Paleta Creek and groundwater
19:21:00 12 underlying Site 4. We know that the groundwater is
19:21:04 13 tidally influenced -- in other words, when the tide
19:21:06 14 is high, groundwater kind of sloshes north; and when
19:21:10 15 the tide is low, groundwater sloshes south. It's
19:21:13 16 generally localized around the southern portion of
19:21:14 17 the site where it's more adjacent to Paleta Creek.
19:21:20 18 So we know that the site is tidally
19:21:21 19 influenced. The question is if we have contaminated
19:21:24 20 groundwater, is that impacting Paleta Creek? So
19:21:28 21 that's one of the questions that we're going to be
19:21:31 22 addressing in this study.
19:21:33 23 And then we're going to collect off-site
19:21:38 24 surface soil samples to assess any potential
19:21:39 25 off-site impact.

19:21:43 1 And that's it in nutshell. Any questions
19:21:49 2 or comments?
19:21:49 3 MR. BISHOP: Where do you intend to collect
19:21:51 4 those off-site soil samples?
19:21:55 5 MS. COLLINS: Back to the conceptual site
19:22:03 6 model. I mentioned the storm water outfalls --
19:22:11 7 actually, here's the dry dock -- these are dry and
19:22:13 8 they're actually just little kind of low spots in
19:22:19 9 the surface; and when it rains, the water -- the
19:22:23 10 site is kind of sloped such that surface water in
19:22:27 11 roughly the third -- upper third drains out of this
19:22:32 12 outlet, and the central portion drains to this one,
19:22:38 13 and then this other unpaved portion drains out to
19:22:40 14 the outfall near Paleta Creek.
19:22:42 15 So our strategy is that -- and this is
19:22:46 16 still on the table and we're refining the strategy
19:22:47 17 internally, but we want to focus on the areas
19:22:53 18 adjacent to the outfalls and identify if there's any
19:22:59 19 chemical indicators that suggest that there's a
19:23:02 20 contribution from Site 4.
19:23:04 21 It's going to be tough because the next
19:23:06 22 time you're on Harbor Drive and if you have a chance
19:23:09 23 to stop and slow down or even get out and walk along
19:23:13 24 this ditch -- there's actually two ditches. The
19:23:16 25 railroad runs right here adjacent to the site, and

19:23:18 there's two ditches, one on either side of the
19:23:20 railroad, and both of them are just jammed with
19:23:25 mattresses, beach balls, tricycles, you name it.
19:23:31 Oil cans. There's a lot of evidence of dumping --
19:23:34 just urban dumping.
19:23:36 MR. BISHOP: So my next question was if you
19:23:38 find contamination at these off-site samples, then
19:23:42 how do you know where it comes from?
19:23:46 CAPT. HERING: It's Caltrans' problem.
19:23:47 MS. COLLINS: We've been discussing that
19:23:50 internally, and the biologist statistician who's on
19:23:56 board as part of the development team has suggested
19:23:59 that we actually take five samples from the ditch
19:24:02 adjacent to Site 4 and five samples from the ditch
19:24:06 that's on the other side of the railroad tracks. It
19:24:09 runs the same extent of the north/south terrain but
19:24:14 it's separated by the railroad berms from Site 4.
19:24:18 So one of the ideas that we're batting
19:24:20 around is do an analysis of variance, which is just
19:24:22 a statistical test to determine if the population to
19:24:26 data set from the Site 4 ditch is comparable, the
19:24:31 same, or if it's very different from the ditch
19:24:34 that's independent of Site 4.
19:24:37 MR. BISHOP: Where are you going to take your
19:24:38 samples in Paleta Creek?

19:24:40 1 MS. COLLINS: Paleta Creek is a little more
19:24:42 2 complicated. What we'd like to do there is the same
19:24:48 3 statistical analysis and also the variance for
19:24:51 4 ANOVA, but collect five samples along Paleta Creek
19:24:58 5 adjacent to Site 4 near this outfall, compare that
19:25:03 6 to the data set that's being collected for the bay
19:25:04 7 toxic hot spot; and see, again, if the
19:25:11 8 concentrations that we're seeing in this area are
19:25:16 9 part of the ambient background contamination that we
19:25:19 10 know is in Paleta Creek, or if there's a localized
19:25:25 11 area that looks like maybe there's a contribution
19:25:26 12 there from Site 4.
19:25:29 13 If the compounds of concern match and if
19:25:31 14 there's a gradient in the concentrations that
19:25:34 15 suggest that that's a potential source, then that
19:25:37 16 would be something that we would evaluate.
19:25:39 17 MR. BISHOP: We did more than five samples. I
19:25:40 18 wouldn't want to compare the outfall there to the
19:25:44 19 conditions in the bay where things are fairly
19:25:46 20 dilute.
19:25:48 21 I would say sample back upstream of Paleta
19:25:51 22 Creek.
19:25:53 23 MS. COLLINS: We have one up creek sample and
19:25:54 24 then the others more localized right around the
19:25:59 25 outfall.

19:26:02 1 MR. DIAZ: We are still at the planning stage.
19:26:05 2 We haven't decided anything about that yet.
08:11:12 3 MS. COLLINS: This is really -- that really
19:26:15 4 can't be clarified enough.
19:26:17 5 This is early, early planning, and these
19:26:18 6 are just some of the ideas that have been on the
19:26:21 7 table, and they're still being refined and we're
19:26:24 8 still looking to the agencies for input and have a
19:26:28 9 lot of --
19:26:29 10 MR. BISHOP: Is there not information available
19:26:31 11 on contamination at Paleta Creek? Has no one ever
19:26:34 12 done a study of that area?
19:26:36 13 MS. COLLINS: There's been a lot done. In
19:26:37 14 fact, a couple of years ago when we did the removal
19:26:38 15 action at Site 3, PCBs were one of the main drivers
19:26:42 16 there.
19:26:44 17 And as part of the data set that was
19:26:46 18 looked at for that study, we went upstream for a
19:26:49 19 background sample, and the highest PCB hit that we
19:26:53 20 had was the upstream background sample.
19:26:57 21 So there is data for Paleta Creek. The
19:26:59 22 usefulness is another question. It doesn't always
19:27:05 23 support the purpose at hand. And that sediment
19:27:12 24 issue is actually something that Theresa's been
19:27:15 25 involved in more directly, but it's kind of an

19:27:17 1 ancillary part of this RI. It's an important part
19:27:20 2 but that is off-site and once you leave the site
19:27:23 3 boundaries, that's outside the fence line, the Navy
19:27:26 4 really has kind of limited control over what happens
19:27:29 5 there.
19:27:38 6 Thank you.
19:27:40 7 MS. MORLEY: Glenn Starr from Foster Wheeler is
19:27:42 8 going to talk about the removal action that's still
19:27:45 9 going on at Sub-Site 2A.
18:44:10 10 MR. STARR: I just want to start out with a
19:27:52 11 little bit of a history on the site usage of
19:28:15 12 Sub-Site 2A.
19:28:16 13 The Mole Pier was created by hydraulic
19:28:18 14 fill, and from approximately 1945 to 1972 the Mole
19:28:28 15 Pier was used for disposal and open burning of
19:28:29 16 debris. As part of the accelerant to help that open
19:28:32 17 burning, the Navy used gasoline, motor oil and
19:28:32 18 diesel, and the area after its use in 1972 was
19:28:39 19 covered with fill in 1975.
19:28:42 20 Contaminants of Concern that were
19:28:47 21 identified at this site were arsenic, hexavalent
19:28:47 22 chromium, dioxins, lead, and various what we call
19:28:54 23 polynuclear aromatic hydrocarbons or PAHs.
19:29:00 24 As part of the original investigation that
19:29:02 25 was performed by Bechtel, they completed the

19:29:06 1 Engineering Evaluation/Corrective Action plan or
19:29:08 2 what we call an EE/CA in August of 1999. That was
19:29:13 3 followed by the Action Memo which was signed on
19:29:15 4 December 10, 1999. We thought we were developing
19:29:19 5 the final Removal Action Implementation Plan in
19:29:23 6 parallel with Bechtel's action, and we completed
19:29:24 7 that at the same day that the Action Memo was
19:29:26 8 signed.
19:29:27 9 With the memo signed on the 10th of
19:29:31 10 December, we got to the field on the 2nd of January
19:29:34 11 2000 and commenced the removal action.
19:29:36 12 Some important project milestones: about
19:29:42 13 six to seven months after we started, the site
19:29:44 14 boundaries had expanded and the Navy Public Works
19:29:45 15 Center also entered the site on the end of June 2000
19:29:50 16 to assist with removal of contaminated soils.
19:29:53 17 I'll talk some more about the next two
19:29:55 18 bullets a little bit later, but we did some
19:29:56 19 additional sampling in the former collection of
19:29:59 20 storage and transfer facility, which is also in
19:30:03 21 Sub-Site 2A but directly east of our excavation
19:30:05 22 boundary. That's the old haz waste yard. And based
19:30:09 23 on results from that sampling, we did some
19:30:10 24 additional sampling just to the south of the CST of
19:30:16 25 what we call Phase 6.

19:30:19 1 As part of our original removal action we
19:30:22 2 completed all the excavation activities in what we
19:30:25 3 call Phases 1 through 5, and without getting into a
19:30:28 4 lot of history here, we originally started out with
19:30:31 5 a 2-phase approach for the excavation because we
19:30:32 6 were trying to work around an active paint shop
19:30:35 7 facility right smack dab in the middle of the site.
19:30:38 8 And as things progressed, a decision was
19:30:38 9 made by the Navy to remove that paint shop, and
19:30:43 10 every time we stepped out, we just gave it a new
19:30:43 11 phase number. So we started with 1 and 2; we ended
19:30:43 12 with 1 through 5.
19:30:43 13 But all that excavation was completed in
19:30:51 14 March of this year. The site was fully restored in
19:30:55 15 June, about six week ago, and we have gone to Phase
19:31:00 16 6 and we started the excavation activities on June
19:31:04 17 25th.
19:31:05 18 And maybe it'd be best if I showed
19:31:07 19 this map right now. This is Sub-Site 2A. This is
19:31:12 20 where we had done our original removal action. This
19:31:15 21 is the former haz waste yard. And this is what we
19:31:20 22 call Phase 6, and we have specific removal actions
19:31:24 23 to perform based on the sampling we performed in
19:31:27 24 this area.
19:31:28 25 Based on our current schedule, we

19:31:30 1 completed all the restoration activities in all
19:31:30 2 these areas shown in red. I think there's a total
19:31:36 3 of six individual excavation zones. We completed
19:31:38 4 all that last week on the 18th of July, and if we
19:31:43 5 stay on our current schedule, we'll have the site
19:31:45 6 fully restored by the end of August.
19:31:48 7 From the beginning of the project, we
19:31:52 8 established a down-wind air monitoring station to
19:31:57 9 make sure that any contaminants we were removing
19:31:58 10 from the site were not released into the air and
19:32:02 11 cause a hazard. The air monitoring program was
19:32:05 12 based on the American Conference of Government
19:32:08 13 Industrial Hygenist in what they call the Threshold
19:32:09 14 Limit Values which are basically occupational
19:32:09 15 standards for exposure to contaminants, and to date
19:32:15 16 there have been no exceedances observed in the
19:32:17 17 down-wind air monitoring station at any of the
19:32:19 18 contaminants of concern.
19:32:21 19 To give a recap of the amount of work
19:32:25 20 we did out there, we removed a total of 75,700 and
19:32:29 21 change cubic yards of contaminated soil from Phases
19:32:33 22 1 through 5. And to give a breakdown if we
19:32:36 23 classified this waste for off-site disposal, about a
19:32:39 24 thousand cubic yards was classified as RCRA
19:32:40 25 hazardous, another 63,700 cubic yards was classified

19:32:44 1 as what they call California hazardous, a lower
19:32:44 2 classification or hazard classification than RCRA.
19:32:48 3 Of that another 10,000 was non-hazardous in nature.
19:32:56 4 And then we had about 900 cubic yards that was
19:32:59 5 shipped off to a certified landfill in Texas that
19:33:03 6 was suspect low-level radioactive soils.
19:33:07 7 In Phase 6 we're planning on a
19:33:08 8 removal action of about another 3,800 cubic yards.
19:33:13 9 Here's an aerial photo. I believe
19:33:16 10 when Darren Belton gave his presentation in January,
19:33:19 11 this showed basically our excavation boundary. You
19:33:23 12 can see our soil stockpiles here. This is where
19:33:27 13 they're actually doing backfill and site restoration
19:33:30 14 work. Over here in this green area is where they're
19:33:35 15 actually doing an active removal action. We're
19:33:35 16 excavating some of the soils, and this is some of
19:33:35 17 the rock backfill. So it's a site where we're
19:33:46 18 restoring soil. The site is being restored and
19:33:46 19 excavated all at the same time in parallel.
19:33:49 20 MR. BELTON: Glenn, where's the hazardous waste
19:33:49 21 area on that photo?
19:33:53 22 MR. STARR: The haz waste area is this area
19:33:53 23 right here called the Ihorasea Key facility. It's
19:33:55 24 right here in this boundary.
19:34:02 25 MS. MORLEY: And the green is water.

08:11:12 1 MR. STARR: And the black is not bad stuff.
19:34:05 2 The black is just plastic covering the stockpiles.
19:34:13 3 The first time I showed that photo, everyone goes
19:34:13 4 "Oh, you've got oil on the site." Okay?
19:34:16 5 And this photo was taken in June, and this
19:34:20 6 is the same area. Again, here is the hazardous
19:34:22 7 waste or CST facility. The site has been fully
19:34:24 8 restored. There's now a parking lot there. This
19:34:28 9 area shown in brown will eventually be nice green
19:34:31 10 grass. They've been hydro-seeded. It still needs a
19:34:32 11 little more work to get it growing.
19:34:37 12 CAPT. HERING: If we can ever get it to grow.
08:11:12 13 MR. STARR: But basically you don't know --
19:34:42 14 when you look at it -- and one of the pains of doing
19:34:44 15 an environmental project, when you're all done, all
19:34:44 16 you've got left is a parking lot. No one ever sees
19:34:48 17 everything you went through to get all that stuff
19:34:49 18 out of there in the first place.
19:34:52 19 MS. MORLEY: And, Glenn, if I can interrupt you
19:34:52 20 just for a second, one of the reasons that we're
19:34:56 21 putting the grass around that site is what's called
19:34:59 22 a vegetative swale, and Captain Hering has decreed
19:35:01 23 that any new construction, any parking lot on Naval
19:35:01 24 Station will have a vegetative swale to capture
19:35:03 25 storm water runoff. We want to limit the amount

19:35:07 1 that does get off the base, so that's something that
19:35:13 2 he's instituted since this time.
08:11:12 3 MR. STARR: Okay. There's some other photos
19:35:19 4 here.
19:35:21 5 We have some detail photos showing our
19:35:23 6 soil backfill, and this is probably Phase 1A. What
19:35:27 7 you see down here is what we call the crush rock
19:35:29 8 ballast. It's about three- to four-inch rock minus,
19:35:32 9 which uses four inches a size or smaller. The
19:35:35 10 bottom three feet of our backfill was the ballast
19:35:38 11 rock because we were digging ten feet below ground
19:35:39 12 surface or groundwater, whichever was greater, and
19:35:42 13 we did not want the clean fill coming in contact
19:35:45 14 with the groundwater, so we did this three-foot
19:35:47 15 ballast backfill, and then what we call FS-15 or
19:35:49 16 basically a sand engineered backfill on top.
19:35:54 17 This shows the excavation around the
19:36:00 18 underground utility line. It's kind of hard to see,
19:36:01 19 but this is basically a concrete encased electrical
19:36:04 20 ductbank, so there's high voltage electrical cables
19:36:06 21 running through here. And in order to get the
19:36:07 22 contaminated soils out from underneath this
19:36:10 23 ductbank, we devised a plan where we would take it
19:36:12 24 out in sections, the soils supporting that ductbank,
19:36:15 25 and then we would backfill what I call control

19:36:19 1 density fill, which is essentially light-weight
19:36:19 2 concrete. So to allow this structure to be
19:36:23 3 supported so they could take all the contaminated
19:36:24 4 soil out from underneath the ductbanks and
19:36:27 5 utilities.
19:36:31 6 This is another photo. You can see
19:36:33 7 the ballast rock being stockpiled on the site for
19:36:38 8 the backfill. We are taking out some DPH or diesel
19:36:41 9 impacted soils we found below groundwater in this
19:36:42 10 location, and there's some excavation going on
19:36:42 11 behind that.
19:36:48 12 Again, we're just doing some backfill
19:36:53 13 work. You can see some more of the utility lines
19:36:58 14 that had to be dealt with. The yellow line is an
19:36:58 15 air line, and the line next to it is a high pressure
19:37:00 16 steam line, and the white you see on there -- the
19:37:04 17 steam lines were encased in a steel jacket with
19:37:05 18 asbestos installation. When we'd uncover this,
19:37:05 19 basically the metal would fall off, and so we would
19:37:08 20 have to re-encapsulate all the asbestos before we
19:37:14 21 could do the excavation and then the backfill.
19:37:18 22 Here's a nice photo. We do have
19:37:22 23 grass in this location, so it's a little bit later
19:37:23 24 than the last one. This was taken on the 4th of
19:37:23 25 July. And we have the three flag poles that were

19:37:29 1 placed on the site, and you can see the parking lot
19:37:30 2 in the background.
19:37:33 3 I have to apologize for the next set
19:37:33 4 of photos because my photographer was technically
19:37:36 5 challenged. What we're trying to show is the
19:37:41 6 excavation we're professionally doing in Area 6.
19:37:44 7 Right now we're showing a photo in the excavation
19:37:46 8 we're doing in Excavation Area 4 which is part of
19:37:50 9 Phase 6.
19:37:52 10 This is another really fine picture
19:37:55 11 of a hole in the ground.
19:38:02 12 And this is to show -- some of these
19:38:03 13 areas are very small. They're only about 10 feet
19:38:03 14 wide, 15 feet long, and 10 feet deep. This is a
19:38:10 15 very small area, and we have to dig vertically down
19:38:11 16 in order to take out the hot spots of contamination.
19:38:16 17 And actually what's interesting --
19:38:16 18 and I didn't have a picture of it -- in order for us
19:38:19 19 to do our confirmation samples on the sidewalls and
19:38:21 20 the floor of the excavation, we actually had to
19:38:22 21 place a trench box inside of that excavation area so
19:38:27 22 we could get a technician down into the hole to take
19:38:30 23 his samples. That's a Health and Safety requirement
19:38:32 24 because this is a vertical sidewall and so it could
19:38:33 25 potentially collapse.

19:38:36 1 And this is another more shallow
19:38:40 2 area. We had to dig to five feet, and right here is
19:38:42 3 another one of these steam lines. Fortunately, this
19:38:42 4 one was in actually pretty good shape. We didn't
19:38:43 5 have to do anything with it.
19:38:48 6 Any questions?
19:38:54 7 MR. BELTON: One clarification on the removal
19:38:54 8 action. The area and the CST area were not touching
19:38:57 9 at this time. So when you go in and finish up with
19:38:59 10 the removal action, we'll be done with the area.
19:39:04 11 Show the areas that you're digging right
19:39:04 12 now.
08:11:12 13 MR. STARR: The areas that we're digging right
19:39:09 14 now is right here, right here, here, here, and
19:39:12 15 there's two small ones down here. The one that
19:39:14 16 Darren's referring to is not part of our scope right
19:39:16 17 now at this time.
19:39:18 18 MR. BELTON: That's correct. That's the CST
19:39:18 19 area. We're waiting for funding in October before
19:39:22 20 we proceed to that area.
08:11:12 21 MR. STARR: Okay. Any questions? Thank you.
19:39:31 22 MS. MORLEY: The status update on the Solid
19:39:36 23 Waste Management Units, we're not really going to be
19:39:37 24 going through that presentation because we were a
19:39:41 25 little bit further behind than we had anticipated.

19:39:45 1 I don't know if you guys remember, but the
19:39:46 2 Solid Waste Management Units are under hazardous
19:39:49 3 waste laws RCRA as opposed to CERCLA, which governs
19:39:52 4 IR, but we still work with the Department of Toxic
19:39:56 5 Substances on those sites.
19:39:59 6 And basically I think you remember before
19:40:05 7 when we had done a RCRA facility investigation, and
19:40:05 8 there were seven SWMUs that went from Phase 1 to
19:40:14 9 Phase 2. Now, the ones that -- there were three
19:40:17 10 that were identified that needed to go to Phase 3
19:40:20 11 for further action, as well as other SWMUs that were
19:40:25 12 in our Part B permit which is what allows Naval
19:40:27 13 Station to store hazardous waste on base for longer
19:40:31 14 than 90 days. Otherwise, under the RCRA laws, you
19:40:35 15 can only store it there for 90 days before you have
19:40:37 16 to transport it to an appropriate facility.
19:40:40 17 So under that Part B permit there were
19:40:41 18 other SWMUs that the Department of Toxic Substances
19:40:45 19 wanted us to look at. So they will be sending us a
19:40:48 20 letter. When we get that letter, we will either --
19:40:52 21 if we have information where we can work with them
19:40:54 22 to say, "No, these don't need to go into Phase 3,"
19:40:57 23 or not, they will make that decision. And then
19:40:57 24 finally, once we have the SWMUs that are identified
19:40:58 25 to go to Phase 3 and we get funding, then we'll move

19:41:04 1 forward on investigating that last group before we
19:41:08 2 can go to corrective action. So that's the update
19:41:11 3 on that.
19:41:11 4 And then groundwater, we're not going to
19:41:13 5 do that presentation either. Basically we're
19:41:16 6 looking at groundwater on a site-by-site basis and
19:41:21 7 looking for data gaps. For example, are there --
19:41:24 8 did we look at all the constituents for groundwater
19:41:27 9 at this site or have we sampled across the user site
19:41:30 10 or are there groundwater samplings done during the
19:41:33 11 dry season and the rainy season because things can
19:41:36 12 change there -- and looking for those gaps to try to
19:41:39 13 make sure that -- on an IR program there's a hole
19:41:42 14 that we have enough information to be making
19:41:45 15 decisions on a site-by-site basis, but we're not
19:41:46 16 quite at that place yet where we have that
19:41:49 17 information, so that will be coming later.
19:41:53 18 And that's it. So are there any general
19:41:57 19 questions?
19:42:01 20 The next RAB will be the end of October,
19:42:04 21 the last Wednesday in October, and I don't know what
19:42:07 22 date that is. I think we're going to be in this
19:42:12 23 hotel now.
19:42:13 24 MR. DIAZ: Ihe 31st.
19:42:15 25 MS. MORLEY: The 31st? That's Halloween, so

19:42:15 1 everyone has to come in costume or you won't be
19:42:21 2 allowed in. We can't do that? Come in costume or
19:42:29 3 come to the RAB?
19:42:29 4 CAPT. HERING: You have to come in costume
19:42:29 5 because that's where everybody will be.
19:42:36 6 MS. MORLEY: And Bechtel's volunteered to make
19:42:29 7 cupcakes and stuff like that for everybody out of
19:42:29 8 the goodness of their hearts. Just kidding.
19:42:41 9 And thank you, Bill, for coming, and thank
19:42:45 10 you EHC. I hope that you guys continue to come. We
19:42:46 11 miss not having your input, and thank you everybody
19:42:51 12 else.
19:42:54 13 This meeting is now adjourned.
19:42:59 14
19:42:59 15 (Whereupon, at 7:45 p.m. the RAB meeting
22:39:25 16 was adjourned.)
22:39:25 17
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22:39:25 1 STATE OF CALIFORNIA)

22:39:25 2 : SS

22:39:25 3 COUNTY OF SAN DIEGO)

22:39:25 4

22:39:25 5 I, Nancy A. Lee, CSR No. 3870, do hereby

22:39:25 6 certify that I reported in shorthand the above

22:39:25 7 proceedings on Wednesday, July 25, 2001, at the Red

22:39:25 8 Lion Inn in the USS Jason Room, in the City of

22:39:25 9 National City, County of San Diego, State of

22:39:25 10 California; and I do further certify that the above

22:39:25 11 and foregoing pages numbered 1 to 51, inclusive,

22:39:25 12 contain a true and correct transcript of all of said

22:39:25 13 proceedings.

22:39:25 14 Dated: _____, 2001.

22:39:25 15

22:39:25 16

22:39:25 17

22:39:25 18

22:39:25 19 _____

22:39:25 20 NANCY A. LEE

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RESTORATION ADVISORY BOARD MEETING

WEDNESDAY, APRIL 24, 2002

NATIONAL CITY, CALIFORNIA

REPORTED BY: Nancy A. Lee, CSR No. 3870

1 A I I E N D A N C E

2 NAVY REGION SOUTHWEST:	Ms. Iheresa Morley Capt. L.R. Hering
3 SOUTHWEST DIVISION NAVAL 4 FACILITIES ENGINEERING COMMAND:	Mr. Darren Belton 5 Mr. Pete Stang Mr. Kevin Brinkman
6	
7 DTSC:	Mr. Douglas Bautista Ms. Leticia Hernandez
8	
9 BECHTEL NATIONAL:	Mr. Jerry Bailey Ms. Karen G. Collins 10 Ms. Carol Yamane Ms. Teresa Sherman
11	
12 PUBLIC WORKS CENTER:	Ms. Susan Van Winkle
13 PUBLIC ATTENDANCE:	Ms. Anita Boyd 14 Ms. Nancy Lee
15 RAB MEMBERS:	Mr. Peter Bishop 16 Mr. Eugene Mullaly

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1 NAIIONAI CIIY, CA., WED., APRIL 24, 2002, 5:45 P.M.

18:26:18 2

18:44:49 3 MS. MORLEY: This is Captain Hering. He's

17:47:40 4 commander of Naval Station.

17:47:45 5 CAPT. HERING: I'm only going to be here for

17:47:47 6 just a couple of minutes, so I just wanted to take

17:47:50 7 the opportunity to thank this group for being

17:47:54 8 actively engaged and involved in this particular

17:47:57 9 process.

17:47:59 10 As you know, when I took over three

17:48:01 11 years ago, I came on board and made a commitment and

17:48:05 12 I think that, for the most part, we've been able to

17:48:09 13 live up to that commitment.

17:48:11 14 Through the help of this group, we have

17:48:14 15 made absolutely certain that the Navy's obligation

17:48:18 16 to returning the property that we particularly have

17:48:23 17 responsibility for is given the utmost concern to

17:48:31 18 make absolutely certain that we return it back to a

17:48:34 19 safe environment for the local community, so much so

17:48:38 20 that we didn't accept when we first started the idea

17:48:41 21 of returning most of our properties to the

17:48:44 22 industrial standard, but more pushing towards what

17:48:46 23 would be residential standards.

17:48:48 24 I think as a local community you have to

17:48:49 25 understand that that's a huge obligation, and I'm

17:48:53 1 glad that the Navy agreed with our philosophy and
17:48:56 2 where we went to and have returned those particular
17:49:00 3 pieces of property that we've been working on for
17:49:02 4 the last couple of years to the point where even on
17:49:05 5 my own facility now, I have grassy knolls instead of
17:49:09 6 blacktop and paved areas.
17:49:11 7 If I wanted to put a child care
17:49:13 8 development center over what used to be a disposal
17:49:15 9 site, I now have no threats even for my own people
17:49:18 10 to be able to recommend to my boss that any one of
17:49:21 11 those reclaimed sites have been restored to that
17:49:24 12 condition.
17:49:24 13 So as a community, you should feel good
17:49:26 14 that you were responsible for part of that in making
17:49:29 15 absolutely certain that we've done what we should be
17:49:32 16 doing as good neighbors.
17:49:35 17 I pledge to you, and my relief --
17:49:35 18 unfortunately, had to go off to another meeting in
17:49:40 19 preparation for part of the turnover on Friday --
17:49:45 20 but he, too, was committed to making absolutely
17:49:49 21 certain that we are the first major Naval facility
17:49:51 22 to close out all of our sites ahead of schedule. So
17:49:55 23 I think we're right now almost three years ahead of
17:49:59 24 schedule, thanks to Theresa and her efforts.
17:50:02 25 Truly, I can't thank you enough, for

17:50:05 1 certainly without the person behind it and pushing
17:50:07 2 to get the dollars and trying to make my vision
17:50:12 3 possible, we couldn't have gotten there.
17:50:14 4 But, anyway, I wanted to say thank you,
17:50:16 5 and I know there's been some consistency in the
17:50:20 6 team, and I truly do appreciate your involvement.
17:50:22 7 As I keep telling the environmentalists all the
17:50:25 8 time, we're not hiding anything. We're not the Navy
17:50:28 9 of the '60s and '70s. We are trying to do what's
17:50:32 10 right. And involvements like the RAB are perfect
17:50:36 11 examples of how the communities have to be the
17:50:39 12 spokesperson for making sure that what we are doing
17:50:43 13 is in compliance with the environmental regulations.
17:50:46 14 And as I move into the next job, I will
17:50:51 15 tell you that if there's environmental concerns as
17:50:54 16 part of that job, I will use the same application
17:50:56 17 that I did here, and that is, that operations and
17:50:59 18 environmental compliance are not mutually exclusive.
17:51:03 19 They just require proper planning and execution of
17:51:05 20 tasks to make sure that we remain good neighbors and
17:51:09 21 protect our community and our environment -- my
17:51:09 22 environment.
17:51:13 23 So, again, thank you very much for your
17:51:15 24 efforts. I hope that within the next three years
17:51:21 25 that this process will no longer be required because

17:51:25 1 we will have a completely clean site and you folks
17:51:29 2 can live in comfort that we've done the right thing.
17:51:32 3 Again, thank you very much for your help
17:51:34 4 and contributions and I do appreciate it.
17:51:37 5 (Applause.)
17:51:50 6 MS. MORLEY: I have to say he was one of the
17:51:51 7 best commanding officers because as far as
17:51:52 8 environmental, he really pushed a lot of things.
17:51:54 9 Like the grassy knoll that he talks about are the
17:51:57 10 vegetative swells for storm water runoff.
17:52:00 11 And I think, Gene, you were still part
17:52:02 12 of the RAB when he had that site tour, and that was
17:52:04 13 one thing that the Environmental Health Coalition
17:52:05 14 brought up, and I'm glad to see that he really
17:52:09 15 pushed to make sure that any new facility that was
17:52:12 16 built had that.
17:52:15 17 So he's a good guy. Plus he's the only
17:52:17 18 C.O. that's ever come to almost every RAB -- have
17:52:20 19 you ever noticed that? -- unless he had a prior
17:52:23 20 meeting or something. I think that was really neat.
17:52:27 21 MR. MULLALY: Theresa, do you know where he's
17:52:27 22 going?
17:52:30 23 MS. MORLEY: He was going to go to SURFPAC,
17:52:31 24 and he thought he had been selected to be Admiral,
17:52:39 25 but I guess he just found out like yesterday that he

17:52:39 1 was going to be Admiral, but he hasn't been given
17:52:41 2 his command yet.
17:53:17 3 MR. BISHOP: We need to kick this off and get
17:53:21 4 rolling.
17:53:23 5 Welcome everyone to the RAB meeting for
17:53:25 6 Wednesday, the 24th of April.
17:53:28 7 We need to take a look at the minutes
17:53:30 8 from the last meeting. The copies were on the
17:53:33 9 table. Everyone has had a chance to take a look at
17:53:36 10 a copy, I would hope, by this time.
17:53:39 11 Are there any questions or comments on
17:53:41 12 the minutes from the last meeting? Hearing none,
17:53:52 13 can I have a motion for approval of the minutes of
17:53:56 14 the meeting?
17:53:57 15 MR. MULLALY: So move.
17:54:00 16 MR. BISHOP: Any second?
17:54:00 17 MS. HERNANDEZ: Second.
17:54:02 18 MR. BISHOP: All in favor? The minutes from
17:54:04 19 the last meeting are approved then.
17:54:11 20 Introductions. We know everybody.
17:54:21 21 MS. MORLEY: You just have to introduce the
17:54:21 22 ones that are new.
17:54:23 23 MR. BISHOP: Who's new?
17:54:24 24 MR. BRINKMAN: Kevin Brinkman. I'm an intern
17:54:26 25 with Southwest Div Environmental with Darren here,

17:54:32 1 and my internship rotates through, so I'm here for
17:54:34 2 three months total.
17:54:47 3 MR. BISHOP: So will you be with us for the
17:54:47 4 next meeting, Kevin?
17:54:52 5 MR. BRINKMAN: No. It's my first and last
17:54:54 6 meeting.
17:54:56 7 MR. BISHOP: And you managed to choose the
17:54:58 8 one where we're having the beg feed put on. He's
17:55:01 9 obviously on the way up.
17:55:04 10 I'm Pete Bishop, Community Co-Chair.
17:55:04 11 I'd like to introduce ourselves around. So Kevin's
17:55:05 12 the only new guy; right?
17:55:09 13 MR. MULLALY: I'm Gene Mullaly. I'm a
17:55:09 14 community member.
17:55:14 15 MS. HERNANDEZ: I'm Leticia Hernandez with
17:55:15 16 the Department of Toxics.
17:55:17 17 MR. BAUTISTA: Douglas Bautista, Department
17:55:17 18 of Toxics.
17:55:23 19 MR. STANG: Pete Stang with Bechtel.
17:55:25 20 MS. SHERMAN: Ieresa Sherman. I'm with
17:55:27 21 Bechtel. Actually, I'm new, not to the team. I've
17:55:34 22 been on it two months.
17:55:37 23 MS. VAN WINKLE: Susan Van Winkle, Navy
17:55:44 24 Public Works Center.
17:55:45 25 MS. YAMANE: Carol Yamane with Bechtel.

17:55:47 1 MR. BAILEY: Jerry Bailey with Bechtel.

17:55:50 2 MS. MORLEY: Iheresa Morley, Navy Region

17:55:50 3 Southwest.

17:55:52 4 MR. BELTON: Darren Belton, Southwest

17:55:52 5 Division.

17:55:54 6 And I just want to say that Susan is

17:55:54 7 coming on board with the Southwest Division team.

17:55:59 8 So the next time you see her I hope she's going to

17:56:02 9 be with Southwest Division.

17:56:09 10 MS. MORLEY: We have some other people that

17:56:10 11 we'd like you to hire.

17:56:16 12 MS. BOYD: I'm Anita Boyd, and I'm with DSP.

17:56:19 13 MS. COLLINS: I'm Karen Collins with Bechtel.

17:56:30 14 MS. LEE: I'm Nancy Lee. I'm the court

17:56:30 15 reporter.

17:56:31 16 MR. BISHOP: The first event on the agenda

17:56:32 17 here is Update on Installation Restoration Program

17:56:33 18 Site 3, Karen Collins, Bechtel.

17:56:39 19 MR. BAILEY: Actually, Carol Yamane will be

17:56:42 20 doing the presentation.

17:56:45 21 MS. YAMANE: We have a new fangled projector.

17:57:11 22 MS. MORLEY: Carol, while that's warming up,

17:57:11 23 can I say something?

17:57:14 24 I think it wasn't the last meeting but

17:57:15 25 the one before, one of the RAB members wanted to

17:57:19 1 know about the desalinization plant in Chula Vista.

17:57:22 2 Was that you?

17:57:23 3 MR. BISHOP: Yes.

17:57:27 4 MS. MORLEY: I found out that it has not been

17:57:27 5 approved. The design has not been approved, so they

17:57:28 6 are not constructing it.

17:57:30 7 MR. BISHOP: Okay. Good.

17:57:32 8 MR. BELTON: Theresa, what was the question?

17:57:34 9 MS. MORLEY: What was the status of that.

17:57:34 10 That was the one that was going to take -- they were

17:57:35 11 going to pump groundwater -- this brackish

17:57:35 12 groundwater from Chula Vista and desalinate it and

17:57:43 13 use it as at least probably reclaimed water but

17:57:47 14 possibly drinking water. But there were concerns

17:57:49 15 about what was that going to do to the water table

17:57:52 16 and everything else.

17:57:53 17 MR. BISHOP: The flow of contaminants.

17:57:57 18 MS. MORLEY: But that has not been approved.

17:58:01 19 MS. YAMANE: Thanks everybody. I'm going to

17:58:04 20 give you an update on IR Site 3, which is the former

17:58:06 21 salvage yard.

17:58:15 22 IR Site 3 is located in the central

17:58:20 23 portion of the base. It's bordered by Harbor Drive

17:58:31 24 to the east, the Navy Public Works Center

17:58:35 25 maintenance and repair shop to the north, Cummings

17:58:39 1 Road to the west, and Paleta Creek to the south.

17:58:44 2 The salvage yard operated from

17:58:45 3 approximately 1943 to 1975. During that time,

17:58:49 4 excess Navy materials were brought to the site for

17:58:52 5 incineration, for sale to outside bidders, and for

17:58:56 6 reuse by other Department of Defense offices.

17:59:01 7 There's three incinerators at the site.

17:59:03 8 One of them in the northern portion of the site,

17:59:09 9 this square here, was used to burn classified

17:59:13 10 documents; and then there were two right here that

17:59:16 11 were used to burn other types of waste materials.

17:59:20 12 There were also three underground

17:59:22 13 storage tanks, and those are shown by the squares.

17:59:27 14 And also, based on historical aerial photographs, we

17:59:31 15 know that waste was stored in various portions of

17:59:34 16 the site over the years.

17:59:36 17 Currently the entire site is used as a

17:59:42 18 parking lot. Physically the northern area is

17:59:48 19 separated from the southern area. There's a fence

17:59:53 20 that surrounds a portion of the northern area; and

17:59:56 21 in this photograph we're looking north east, and you

18:00:00 22 can see the fence and you can also see that there's

18:00:04 23 some natural gas dispensers.

18:00:08 24 This is what the southern area parking

18:00:12 25 lot looks like, and we're just looking south along

18:00:17 1 Cummings Road.

18:00:19 2 Just a real quick little tidbit on the

18:00:24 3 technical aspect. The depth to groundwater at the

18:00:27 4 site is about eight to ten feet below the ground

18:00:29 5 surface, and it generally flows to the north and

18:00:35 6 northwest, except very close to Paleta Creek, and in

18:00:40 7 that area the groundwater is tidally influenced.

18:00:44 8 Don't worry, I'm not going to talk about

18:00:45 9 each one of these investigations, but I just wanted

18:00:47 10 to remind you that there has been a lot of work done

18:00:50 11 at IR Site 3, and during many of these

18:00:54 12 investigations, soil samples and groundwater samples

18:00:57 13 were collected and analyzed.

18:00:59 14 For instance, just to give you a flavor

18:01:02 15 of the number of soil samples, there's been an

18:01:06 16 extensive number of samples collected across the

18:01:09 17 entire site.

18:01:11 18 And there's also been some groundwater

18:01:13 19 samples collected as well. Currently there's five

18:01:16 20 wells existing at the site, and those wells are

18:01:20 21 shown in green. If you'll notice, all of the wells

18:01:24 22 are located in the southern portion of the site.

18:01:27 23 There are no wells in the northern or the

18:01:30 24 downgradient portion of the site, and this is

18:01:32 25 important with regard to the upcoming work that

18:01:36 1 needs to be done.

18:01:37 2 There has also been four soil removals

18:01:42 3 conducted. Three the removals were initiated during

18:01:46 4 construction activities, and the Navy initiated one

18:01:51 5 removal, a time critical removal action, as part of

18:01:55 6 the IR and CERCLA programs.

18:01:58 7 In 1976 there were some soils removed in

18:02:03 8 the vicinity of the dual incinerators. In 1993

18:02:08 9 there was some fuel impacted soil excavated when the

18:02:14 10 underground storage tanks were removed, and then

18:02:17 11 after the time critical removal action during

18:02:20 12 construction activities, there was a little bit of

18:02:24 13 soil removed in the southern part of the site.

18:02:28 14 In 1997 the Navy conducted a large time

18:02:32 15 critical removal action that covered a large portion

18:02:36 16 of the southern area, and that removal action

18:02:40 17 consisted of excavating soil -- more than 21,000

18:02:46 18 cubic yards of soil -- and then properly disposing

18:02:51 19 of that soil off-site.

18:02:52 20 The boxes on this figure represent --

18:02:55 21 each color represents the depth that the excavation

18:02:57 22 extended to, and in the deepest portion the

18:03:02 23 excavation went to 12 feet.

18:03:04 24 After the Time Critical Removal Action

18:03:08 25 was completed and confirmation of soil samples were

18:03:13 1 collected, the Navy prepared and submitted a
18:03:21 2 Preliminary Final Remedial Investigation Report, and
18:03:21 3 this report focused on soil. As part of this
18:03:25 4 effort, a Human Health Risk Assessment was performed
18:03:29 5 that evaluated potential risk posed by chemicals
18:03:34 6 remaining in the soil outside of where the large
18:03:37 7 Time Critical Removal Action excavation was
18:03:41 8 performed. The risk assessment did not consider
18:03:46 9 potential contributions from chemicals in
18:03:48 10 groundwater because the groundwater evaluation had
18:03:50 11 not been completed, and the study also didn't
18:03:59 12 evaluate ecological risk.
18:04:01 13 So that kind of brings us where we are
18:04:04 14 today. The scope of work that we're planning on
18:04:09 15 proposing includes completing the groundwater
18:04:12 16 evaluation. It also includes performing an
18:04:16 17 ecological risk evaluation, if needed. And I say
18:04:20 18 "if needed" because our biologist who would perform
18:04:24 19 the ecological risk evaluation went out to the site
18:04:27 20 to take a look and see if there were any potential
18:04:30 21 ecological receptors, and he didn't identify any
18:04:34 22 potential ecological receptors in the parking lots.
18:04:38 23 However, if groundwater is contaminated and that
18:04:41 24 impacted groundwater is flowing to Paleta Creek,
18:04:45 25 then we need to evaluate potential ecological

18:04:49 1 receptors in the creek.

18:04:52 2 And then we're also going to re-evaluate

18:04:54 3 potential risk to human health considering the

18:04:58 4 groundwater data.

18:05:00 5 So the specific tasks that we'll be

18:05:05 6 doing include preparing a work plan that will

18:05:08 7 describe our proposed activities, and those proposed

18:05:12 8 activities will include installing the shallow

18:05:14 9 groundwater wells and then sampling those wells

18:05:18 10 along with the existing wells. There may be

18:05:21 11 additional work required, but the need for

18:05:25 12 additional work will be evaluated based on the

18:05:27 13 results of the groundwater sampling.

18:05:30 14 Once all of the field work is completed,

18:05:32 15 the Navy will finalize the Remedial Investigation

18:05:35 16 Report.

18:05:36 17 So where are we today. After the Navy

18:05:41 18 submitted the Preliminary Final Remedial

18:05:45 19 Investigation Report, DTSC provided comments on that

18:05:49 20 report in October of 2000. Because the Navy and

18:05:54 21 DTSC acknowledged that more work would need to be

18:05:57 22 done, they agreed that those comments could be

18:06:00 23 addressed in the next phase of work, which is where

18:06:03 24 we are now.

18:06:03 25 So we're preparing responses to those

18:06:05 1 comments, and we'll include those responses in the
18:06:08 2 work plan.
18:06:10 3 We're also working on developing data
18:06:13 4 quality objectives which is going to be our road map
18:06:17 5 for how we do work that's proposed, and that also
18:06:20 6 will be included and presented in the work plan.
18:06:25 7 Additionally, we've started working on
18:06:27 8 some of our supporting plans. For instance, a
18:06:30 9 health and safety plan is critical whenever we're
18:06:33 10 doing field work. Then we're going to roll all of
18:06:35 11 these components up into a Preliminary Draft
18:06:40 12 Remedial Investigation Work Plan, and we'll present
18:06:43 13 that to the Navy. They'll provide comments to us.
18:06:47 14 We'll incorporate that, and then we'll issue a Draft
18:06:51 15 Work Plan to the public and the agencies for review.
18:06:56 16 Based on our current schedule, we expect
18:06:59 17 to issue that in September 2002, and that's where we
18:07:05 18 are today.
18:07:06 19 If anybody has any questions, I'll be
18:07:09 20 happy to try and answer them.
18:07:10 21 MR. BELTON: Just for clarification, on the
18:07:14 22 response to DTSC comments -- the regulatory
18:07:16 23 comments, we may not include those in the work plan
18:07:19 24 but respond to those before we issue the work plan.
18:07:30 25 MS. YAMANE: Thank you.

18:07:31 1 MR. BISHOP: What do we think the possible
18:07:33 2 sources of contamination are?
18:07:35 3 MS. YAMANE: Well, the possible sources of
18:07:36 4 contamination could have been waste that was brought
18:07:40 5 to the site and temporarily stored there. From
18:07:46 6 reports that we have, we understand that some of the
18:07:50 7 waste was placed in drums, and some of the drums may
18:07:53 8 have leaked, and some of the waste may have been
18:07:56 9 placed directly on the ground. So those are a
18:07:59 10 couple of examples.
18:08:01 11 MR. BISHOP: We dug out a lot of that, and
18:08:04 12 the sample what we took out was down to where there
18:08:07 13 was clean soil.
18:08:08 14 MS. MORLEY: In the southern area. We
18:08:08 15 haven't done any in the northern area yet.
18:08:12 16 MR. BISHOP: So we're thinking there may be
18:08:12 17 some contamination in the northern area.
18:08:14 18 MS. YAMANE: Uh-huh.
18:08:14 19 MR. BISHOP: And the only possible problem is
18:08:16 20 that it could get down to Paleta Creek.
18:08:19 21 MS. YAMANE: If groundwater is impacted, yes.
18:08:23 22 MR. BISHOP: But the groundwater flows away
18:08:25 23 from the creek.
18:08:26 24 MS. YAMANE: It generally flows away from the
18:08:26 25 creek. Because it's tidally influenced near the

18:08:26 1 creek, there could be a component that part-time it
18:08:26 2 flows towards the creek.
18:08:28 3 If the groundwater is contaminated, then
18:08:28 4 we'll take a look and evaluate which direction the
18:08:29 5 groundwater is flowing in that area.
18:08:42 6 MR. BISHOP: Have we done any groundwater
18:08:43 7 samples in the northern area at all?
18:08:48 8 MS. YAMANE: Historically there were some.
18:08:49 9 Let's see, there's some samples that were collected
18:08:57 10 in the northern area, but not on the downgradient
18:08:59 11 edge of the northern area.
18:09:02 12 So these locations here, there were
18:09:06 13 samples collected at one time. We don't have any
18:09:08 14 samples --
18:09:11 15 MS. MORLEY: Of the groundwater?
18:09:12 16 MS. YAMANE: Of groundwater, yeah. It was a
18:09:15 17 long time ago.
18:09:17 18 MR. BISHOP: Were there any samples ever
18:09:17 19 collected further north?
18:09:20 20 MS. YAMANE: Groundwater samples? I'm not
18:09:23 21 aware of any.
18:09:23 22 MR. BISHOP: Not on the site but downstream.
18:09:28 23 MR. BAILEY: Go back to the base map, Karen.
18:09:49 24 Groundwater samples have been taken at
18:09:51 25 most of the sites that are identified there, to

18:09:53 1 answer your question.

18:09:56 2 MS. MORLEY: Also, can you point out Site 10,

18:09:58 3 the boundaries of Site 10. That's kind of what we

18:10:05 4 would consider downgradient.

18:10:07 5 And then there were also samples -- see

18:10:10 6 where in between Site 10 and Site 3 where it's kind

18:10:12 7 of gray where there's some buildings a little bit

18:10:19 8 more towards Site 3? There were also some UST sites

18:10:23 9 that have been sampled. Like, for example, 173.

18:10:26 10 And I think there was one of our SWMUs, SWMU 9 and

18:10:34 11 10, because those long buildings -- the little

18:10:37 12 northern area that's fenced in is actually the

18:10:39 13 parking lot for the transportation yard. You saw

18:10:39 14 all these Navy trucks in there? The new

18:10:43 15 transportations that went in went over the old ones,

18:10:46 16 and the old one was a SWMU, and some soil samples

18:10:47 17 and groundwater samples were done there.

18:10:51 18 MR. BISHOP: It looks like Site 4 is north --

18:10:54 19 the northern part of Site 4 is north of this Site 3;

18:11:02 20 right? So if there were samples taken north of

18:11:06 21 that, then that would be a potential source of

18:11:09 22 information on contamination if the water flow is

18:11:12 23 north, which I don't understand why it's north. It

18:11:15 24 would seem like it would be flowing towards the bay.

18:11:19 25 MS. MORLEY: That is a weird site.

18:11:21 1 Sometimes you get -- because this was
18:11:24 2 all backfill and stuff, there was old -- because it
18:11:27 3 kind of used to be mud flats, sometimes like the
18:11:30 4 stream used to meander, and they cut a channel, and
18:11:33 5 the water follows that channel sometimes.
18:11:35 6 I think isn't that also why you're
18:11:36 7 getting the results because we don't actually have
18:11:39 8 an idea why that water flows to the northern part?
18:11:43 9 MS. YAMANE: We have a pretty good idea. We
18:11:47 10 have a pretty good idea. In that area it looks like
18:11:49 11 there's definitely a northern contaminant to the
18:11:52 12 groundwater flow.
18:11:53 13 MR. BISHOP: Where does it end up going? It
18:11:56 14 should be going to the bay.
18:11:58 15 MS. YAMANE: Eventually.
18:12:00 16 MR. BISHOP: Or our northern creek it will
18:12:01 17 probably end up -- Chollas Creek?
18:12:10 18 MS. MORLEY: Well, it kind of mostly gets
18:12:13 19 smushed around them, and it will eventually go --
18:12:15 20 because the quay wall would keep it from directly
18:12:17 21 going either to the bay or to the creek so that if
18:12:23 22 eventually it did, it would have to make its way
18:12:23 23 underneath the quay wall.
18:12:24 24 And do you know what the gradient is as
18:12:24 25 far as how south it moves?

18:12:34 1 MS. YAMANE: We don't have very accurate
18:12:35 2 information on that, but I wouldn't imagine that it
18:12:38 3 would be a very steep gradient.
18:12:45 4 MR. BISHOP: Okay. Thank you.
18:12:50 5 MS. YAMANE: Thank you.
18:13:11 6 (Recess taken.)
18:29:06 7 MS. SHERMAN: I'm going to give you an update
18:29:07 8 on IR Site 10, which is the original Rice King
18:29:10 9 Restaurant site.
18:29:23 10 Site 10 is right here, the L-shaped
18:29:27 11 area, and you'll be glad to know that the
18:29:30 12 groundwater here actually does go to the southwest.
18:29:41 13 Here's a recent aerial photograph of the
18:29:45 14 site with a -- I'll put an outline on it so you can
18:29:49 15 kind of see where things are. This is McDonald's,
18:30:03 16 and right along here is the Navy Exchange.
18:30:07 17 Right now IR Site 10 is a paved parking
18:30:11 18 lot. There's only one building on it, a racquetball
18:30:15 19 facility right here. This area right here there
18:30:19 20 used to be Building 321 that I'll mention in a
18:30:23 21 minute.
18:30:31 22 I'll just mention which roads are there.
18:30:51 23 This is Ward Road, and this one's Woden, and north
18:31:02 24 is this way. This is Cummings and Vesta is over
18:31:10 25 here.

18:31:12 1 So now looking east from Ward Road, you
18:31:17 2 can see it's a nicely paved asphalt parking lot now.
18:31:24 3 That's the current use.
18:31:26 4 Here is another map showing the site.
18:31:34 5 This area was formerly unpaved, and it was used as a
18:31:39 6 storage area. There was a little rail line that
18:31:42 7 came across like this. This is where Building 321
18:31:48 8 was located, and it was a former metal finishing
18:31:53 9 facility. And there was a transformer pad right
18:32:00 10 here in the northeast corner.
18:32:03 11 Right now there's six groundwater
18:32:05 12 monitoring wells on site right along here, and
18:32:09 13 groundwater flow from here is this way towards the
18:32:15 14 west.
18:32:18 15 Right now the Navy has no other plans to
18:32:23 16 change the use of the site. It should remain
18:32:26 17 industrial use.
18:32:28 18 There have been several investigations.
18:32:33 19 Initially the site was located when they were doing
18:32:38 20 in 1989 a geotechnical investigation for the Rice
18:32:42 21 King Restaurant, and they put a couple of borings
18:32:48 22 in, and as they were drilling, they found a lot of
18:32:51 23 trash debris -- like there was metal and
18:32:58 24 construction debris. And also around the
18:33:00 25 groundwater table about 9 feet below the ground

18:33:03 1 surface they noted hydrocarbon staining and odor.

18:33:10 2 Later on they tried to put -- they were

18:33:13 3 going to put in a steam distribution pipeline and,

18:33:16 4 again, they put in eight borings and hit the same

18:33:20 5 kind of debris, and the same petroleum hydrocarbons

18:33:27 6 were noted in the soil samples.

18:33:29 7 Building 321 during the removal of a

18:33:33 8 sump, and they removed some floor drains and a

18:33:33 9 couple of machinery bays, they also took some soil

18:33:39 10 and sludge samples then, and again, they found

18:33:42 11 petroleum hydrocarbons in the soil. The sludge had

18:33:46 12 metals and that type of stuff in it.

18:33:50 13 The main investigations done there were

18:33:57 14 in 1997 PWC put some borings in as kind of a safety

18:34:03 15 feature. Before they demolished Building 321, they

18:34:09 16 put in 25 borings, took a lot of soil samples --

18:34:11 17 47 -- and put in five temporary wells just to take

18:34:15 18 groundwater samples from those.

18:34:20 19 Then in 1998 PWC prepared a work plan to

18:34:27 20 gather additional data so they could make decisions

18:34:30 21 on what to do about the site. In 1998 they did a

18:34:36 22 soil vapor survey all through the site.

18:34:40 23 In 1999 PWC went back out again and put

18:34:44 24 in 33 more borings. As you can see, 80 soil

18:34:48 25 samples. They installed those six monitoring wells

18:34:54 1 in the southwest portion of the site and sampled
18:34:57 2 those. And also in '99 and 2000 Bechtel went out
18:35:04 3 and took three additional rounds of groundwater
18:35:06 4 samples.
18:35:08 5 So a total of approximately 140 soil
18:35:14 6 samples have been taken at the site, and 35
18:35:16 7 groundwater samples, 83 soil gas samples, and what
18:35:21 8 they found is primarily semivolatiles, pretty much a
18:35:25 9 mix. Semivolatiles and volatile organic compounds,
18:35:26 10 metals, petroleum hydrocarbons in both soil and
18:35:34 11 groundwater samples. The concentrations in
18:35:38 12 groundwater are pretty minimal, and the contaminants
18:35:42 13 in soil are primarily in the top five feet. PCBs
18:35:49 14 were also reported in a few soil samples, kind of
18:35:52 15 limited. Particularly the highest concentrations
18:35:55 16 were found around that transformer pad in the
18:35:59 17 northeast corner of Building 321.
18:36:01 18 Possible source areas: For the trash
18:36:06 19 debris it could have been placed there before the
18:36:13 20 hydraulic fill was put over the site and then later
18:36:18 21 the site was constructed on top of that. A likely
18:36:22 22 source would be the metal finishing activities and
18:36:25 23 preservation activities they did inside Building 321
18:36:31 24 and also around it.
18:36:33 25 The PCBs probably from the transformer

18:36:40 1 pad in the northeast corner of Building 321, and
18:36:45 2 cosmoline application on metal equipment is a
18:36:52 3 possibility. They used that as a rust inhibitor, so
18:36:58 4 that might be a possible source of the petroleum
18:37:01 5 contamination.
18:37:02 6 We did a preliminary assessment in 2000
18:37:11 7 using soil data, and currently right now if nothing
18:37:16 8 was done to the site, the cancer risk numbers would
18:37:25 9 be 3.4 times 10 to the negative 6 for cancer risk,
18:37:27 10 and I guess that's .22 hazard index. This is in the
18:37:33 11 generally acceptable risk management range. And no
18:37:38 12 further action we would recommend for that site
18:37:41 13 right now, if you keep it industrial use, which is
18:37:44 14 what the Navy is planning on doing if it was kept as
18:37:45 15 a parking lot and no residential buildings were
18:37:50 16 built there.
18:37:52 17 For the residential scenario, the cancer
18:37:54 18 risk calculated would be 4.2 times 10 to the minus 5
18:37:57 19 with a 2.8 hazard index. Most of the cancer risk
18:38:04 20 was from benzo(a)anthracene, which is a semivolatile
18:38:08 21 organic compound. And you can see it was only found
18:38:14 22 in 4 of 47 soil samples, so these are pretty limited
18:38:17 23 areas. And 40 percent of the hazard index was from
18:38:24 24 Aroclor 1254. That's a PCB, and most of that was --
18:38:32 25 it says 2 of 47 soil samples, but the highest number

18:38:35 1 was right at the transformer pad.

18:38:40 2 If we close the site under a residential

18:38:46 3 scenario, it would likely or could require further

18:38:50 4 action, possibly removal action.

18:38:57 5 Right now what we're doing is we're

18:39:00 6 going to write a Removal Site Evaluation Report, and

18:39:05 7 that's going to summarize the previous investigation

18:39:09 8 results and provide you guys the 1998 and 1999 RSE

18:39:19 9 data. I don't think it's been all in one document

18:39:22 10 for you, and we're also going to take the soil

18:39:27 11 numbers and rerun the risk calculations for the

18:39:32 12 health risk assessment. And then based on those

18:39:40 13 numbers, we're going to recommend closure options.

18:39:41 14 Right now if the numbers come out like

18:39:46 15 they did in the preliminary assessment, then we're

18:39:50 16 going to recommend that the site be closed under the

18:39:53 17 industrial scenario and just kept as a parking lot

18:39:56 18 with no restrictions.

18:40:01 19 The recommendation would be no further

18:40:11 20 action under an industrial scenario. There's no

18:40:14 21 change in current industrial use anticipated. It's

18:40:18 22 currently paved with just one building and would be

18:40:23 23 the best use of Navy resources.

18:40:27 24 Right now we're preparing a preliminary

18:40:31 25 draft RSE report. There's a lot of data to put

18:40:35 1 together on figures and tables, and we're in the
18:40:40 2 process of doing the human health risk assessment
18:40:43 3 calculations. We're planning to get a pre-draft to
18:40:46 4 the Navy in May and a draft RSE to the agencies
18:40:56 5 probably in July. That's the schedule.
18:41:00 6 Any questions?
18:41:04 7 MR. BISHOP: Yes. On the second slide, the
18:41:13 8 first bullet said "hydrocarbon odor/staining near
18:41:18 9 groundwater table nine feet below groundwater."
18:41:22 10 On the fourth slide it said "minimal
18:41:24 11 impact to groundwater. Contaminants located in
18:41:28 12 upper five feet of soil." Five. Nine.
18:41:35 13 MS. SHERMAN: Well, primarily, yes. There
18:41:36 14 are like petroleum hydrocarbons along the soil --
18:41:39 15 along the groundwater table, but they're also higher
18:41:43 16 up, too.
18:41:44 17 I guess the primary -- by "primary," the
18:41:46 18 ones that are affecting the risk the most -- the
18:41:55 19 SVOCs, the semivolatile organics, the highest
18:41:59 20 numbers are in like the first couple of feet, really
18:42:03 21 1 and 3 feet, and the same with the PCBs. I think
18:42:09 22 it was like 1200 micrograms per kilogram. The value
18:42:11 23 near the transformer pad, that was like at a
18:42:16 24 one-foot depth. And then another one at 3 feet. So
18:42:19 25 really the ones that are the most important for

18:42:25 1 health concerns in the soil are located above 5
18:42:30 2 feet.
18:42:30 3 MR. BISHOP: Okay. But back to that second
18:42:30 4 slide, you say "hydrocarbon odor and staining in the
18:42:30 5 groundwater table."
18:42:38 6 MS. SHERMAN: Right.
18:42:39 7 MR. BISHOP: Which is old data. This is
18:42:40 8 1989, so it's some time ago.
18:42:48 9 MS. SHERMAN: Yeah. This was when they were
18:42:51 10 doing -- they didn't take any samples. They were
18:42:55 11 just doing the borings and they were getting where
18:43:00 12 it was saturated. That's usually where you tend to
18:43:08 13 see hydrocarbon contamination a lot of times.
18:43:10 14 MR. BISHOP: I'm having a difficult time
18:43:13 15 resolving the statement of "hydrocarbon odor and
18:43:16 16 staining," which would seem to indicate a fairly
18:43:18 17 significant amount of hydrocarbons sitting on the
18:43:21 18 water table, and then a later statement that says
18:43:23 19 "minimal impact."
18:43:26 20 So something has changed or we have new
18:43:29 21 data?
18:43:30 22 MS. SHERMAN: Actually, in this geotechnical
18:43:33 23 investigation, the way that they wrote it in the
18:43:37 24 report was they said "slight to moderate hydrocarbon
18:43:43 25 odor and staining." And it was kind of a nebulous

18:43:53 1 thing. But we have seen -- there definitely are --
18:43:54 2 there is petroleum contamination deeper. I guess
18:44:01 3 it's there is no risk involved with that -- any
18:44:04 4 health risk.
18:44:08 5 MR. BAILEY: In the 1989 report no chemical
18:44:10 6 analyses were run. That was based on observation
18:44:14 7 and probably PID instrument. When the soil samples
18:44:18 8 were taken, they were taken at various depths
18:44:20 9 including down to the water table, and we did not
18:44:24 10 confirm any significant hydrocarbon contaminants.
18:44:27 11 MR. BISHOP: We have later data in the next
18:44:31 12 slide based on that. Good.
18:44:34 13 Another question. Slide No. 6
18:44:39 14 "Preliminary (2000) Risk Assessment Industrial
18:44:44 15 Scenario." What I'm getting from this is that we
18:44:56 16 have 3.4 times 10 to the minus 5 cancer risk and
18:44:59 17 0.22 hazard index, and that's based on the samples
18:45:03 18 that we've taken, and that is below the residential
18:45:06 19 risk which is listed here at 4.2 times 10 to the
18:45:11 20 minus 5; correct?
18:45:11 21 MS. SHERMAN: No. Right. For the
18:45:14 22 residential cancer risk; right. It's less because
18:45:19 23 the industrial scenario they used to calculate 0 to
18:45:22 24 2 feet soil samples because that's more like what a
18:45:33 25 construction worker or industrial worker would be

18:45:36 1 out there on their job or working on utilities.

18:45:40 2 The residential scenario is much more

18:45:44 3 stringent. They used 0 to 10 feet on all the soil

18:45:47 4 samples through there, and they're also assuming

18:45:55 5 like kids might get out there and dig in the dirt.

18:46:00 6 MS. COLLINS: And eat dirt.

18:46:00 7 MS. SHERMAN: A lot more conservative.

18:46:02 8 MR. BISHOP: Well, what I'm getting from this

18:46:04 9 slide -- help me out as I'm going through here -- is

18:46:06 10 that the -- oh, wait a minute.

18:46:11 11 This industrial scenario, is this what

18:46:14 12 the requirement is for the industrial scenario and

18:46:16 13 then the requirement for the residential scenario?

18:46:20 14 MR. BAILEY: Yes.

18:46:22 15 MR. BISHOP: Oh. And then where are we?

18:46:25 16 MS. SHERMAN: This is where we are right

18:46:25 17 here.

18:46:26 18 MS. COLLINS: The national contingency plan

18:46:28 19 criteria specify that 1 times 10 to the minus 6 to 1

18:46:33 20 times 10 to the minus 4 or one in a million cancer

18:46:36 21 to 1 in 10,000 is the risk management range for

18:46:41 22 cancer. And for hazard index a number in excess of

18:46:45 23 1 is the point of departure for risk management

18:46:48 24 decisions. Under 1 is acceptable.

18:46:51 25 So based on the preliminary risk

18:46:54 1 results, I think that these are the numbers that
18:46:59 2 represent the Site 10 dataset preliminarily.
18:47:01 3 MR. BISHOP: And those appear to be
18:47:03 4 significantly lower than the residential risk
18:47:05 5 criteria.
18:47:07 6 MS. MORLEY: Yes. There's two different
18:47:07 7 calculations that are a whole set of calculations.
18:47:08 8 For example, for residential there's different
18:47:13 9 averages. For example, I think they're assuming 350
18:47:16 10 days on site because they're assuming you're living
18:47:19 11 there; whereas, for the industrial it's less days on
18:47:22 12 site because you're exposed to it during an
18:47:24 13 eight-hour day, not a 24-hour day.
18:47:26 14 So there's a whole different set of
18:47:28 15 calculations that are run for 30 years residential.
18:47:34 16 MR. BAILEY: A lot less. There's six years
18:47:36 17 instead of 24 years as an adult for residential.
18:47:41 18 MS. MORLEY: So it's a whole different set of
18:47:42 19 calculations because basically you're running -- if
18:47:46 20 you pass residential, then you have unrestricted
18:47:47 21 residential use; and then if you run industrial,
18:47:52 22 that's a whole other set of calculations and whether
18:47:54 23 you pass that or not, that helps you with your risk
18:47:58 24 management decisions.
18:47:59 25 MR. BISHOP: Where are we with this site?

18:48:01 1 Can we pass residential?

18:48:03 2 MS. MORLEY: No. It's not that we didn't

18:48:04 3 pass residential. Between 10 to the minus 5 and 10

18:48:04 4 to the minus 6 risk management range, typically

18:48:07 5 though every site that we've had 10 to the minus 5

18:48:13 6 and also the hazard index is over 1, you're not

18:48:16 7 likely going to get unrestricted residential closure

18:48:20 8 without doing something at the site.

18:48:23 9 So if you backstep to industrial, which

18:48:25 10 this base is, and you run those calculations, then

18:48:29 11 you fall within the generally acceptable risk

18:48:32 12 management range.

18:48:33 13 Does that make sense?

18:48:35 14 MR. BISHOP: Yes. All right. Thank you.

18:48:42 15 MS. SHERMAN: Any more questions? Thank you.

18:49:02 16 MR. STANG: Site 2 presentation.

18:49:11 17 Good evening. I'm Pete Stang. I'll be

18:49:13 18 speaking briefly tonight to Site 2, Naval Station

18:49:17 19 mole pier, the next step where we're going.

18:49:20 20 I'd like to briefly present an overview

18:49:24 21 introduction of the site, current conditions and

18:49:28 22 status, the objectives of the remedial

18:49:30 23 investigation, tasks that we're going to perform to

18:49:36 24 execute the remedial investigation, and our proposed

18:49:40 25 schedule.

18:49:40 1 The mole pier at Naval Station is
18:49:51 2 approximately 23 acres in size, triangular, just
18:49:55 3 south of Paleta Creek. From our earlier talks,
18:49:58 4 Site 3 is right here, Site 10 is right up in here.
18:50:08 5 It consists of previously three solid waste
18:50:12 6 management units, the former collection storage and
18:50:15 7 transfer unit. It's currently an active industrial
18:50:21 8 office and parking lot facility, and there have been
18:50:24 9 two significant soil removal actions performed.
18:50:28 10 Because of its size administratively,
18:50:34 11 the Naval Station team has broken Site 2 into a
18:50:38 12 number of sub-sites. I think from last year's site
18:50:44 13 tour that Iheresa and Naval Station hosted, the
18:50:48 14 Sub-Site 2A removal action is in this portion of the
18:50:52 15 site here -- if you recall, the large excavation.
18:50:56 16 The primary portion of that excavation has been
18:50:59 17 completed. The site's been backfilled. It's now in
18:51:03 18 productive use as a paved parking lot. There are
18:51:06 19 still a few hot spot removals to be executed in this
18:51:12 20 portion of Sub-Site 2A, as the Navy works with
18:51:17 21 agency partners to execute that final bit of work.
18:51:21 22 In addition, here in 2G, the wharf
18:51:24 23 builder's yard, several years ago in approximately
18:51:27 24 1996 a removal action was executed to remove
18:51:33 25 petroleum staining in the former wharf builder's

18:51:36 1 yard. There are the former paint shop, which was
18:51:41 2 one of the recreation facilities; Site 14, which was
18:51:46 3 the sand blast grit lay down area; and SWMU 11, the
18:51:54 4 diver's unit.
18:51:55 5 The diver's unit has been completely
18:51:56 6 excavated and SWMU 5, the paint shop, has been
18:52:01 7 completely excavated at this point through the
18:52:06 8 removal action at 2A, and a large portion of this
18:52:11 9 sand blast grit pile lay down area has also been
18:52:14 10 excavated. Again, 2G removal action was completed
18:52:18 11 in 1996.
18:52:21 12 Current status of the 2A removal action:
18:52:21 13 Most of 2A has been excavated between 10 and 15 feet
18:52:27 14 below grade. Main excavation has ben paved and is
18:52:30 15 now in productive use as a parking lot. A grass
18:52:35 16 storage water collection strip -- I think we talked
18:52:36 17 about that earlier this evening -- has been put in
18:52:40 18 place along the north and the east sides of the
18:52:46 19 removal action, and a portion of the south side of
18:52:48 20 the removal action triangle to collect storm water
18:52:55 21 from that current parking lot and to minimize storm
18:53:01 22 water impact. And the hot spot removal in the east
18:53:04 23 end of 2A is ongoing.
18:53:06 24 This is a view looking from south to
18:53:10 25 north across the 2A removal action area. All the

18:53:18 1 paved area here passed the grass strip was the
18:53:24 2 former removal action where -- Darren, correct me if
18:53:27 3 I'm wrong -- about 4 acres to date have been
18:53:30 4 excavated.
18:53:32 5 MR. BELTON: That's correct.
18:53:33 6 MR. STANG: This is one of the smaller areas
18:53:35 7 of grass median, and on the far side of the removal
18:53:40 8 action there is a significant grass perimeter some,
18:53:43 9 I believe, 40 feet in width.
18:53:50 10 MR. BISHOP: Question. On those grass buffer
18:53:54 11 strips, is there a curb that goes all the way around
18:53:58 12 it?
18:53:58 13 MR. STANG: Real soon. That's a good point.
18:54:01 14 Here's our removal action area,
18:54:04 15 including a portion that hasn't been paved. This
18:54:09 16 area that I'm outlining a big, lazy "L" here, at the
18:54:14 17 time this picture was taken wasn't the grass strip.
18:54:18 18 It is now fully grassed in. Through here between
18:54:22 19 the road and the parking area, across here, and in
18:54:27 20 here it's also been put down as grass.
18:54:30 21 Curbing is present right to about here
18:54:36 22 and within the next week to two weeks we will finish
18:54:39 23 the curbing along here. There is a mow strip along
18:54:49 24 here -- in other words, there is a small concrete
18:54:50 25 divider between the asphalt and the grass, but it's

18:54:54 1 not a raised lip, so it will allow the water to
18:54:58 2 sheet off of the asphalt into the grass area. And
18:55:03 3 then there will be a curb area. About 90 percent of
18:55:07 4 it is complete to date.
18:55:09 5 MR. BISHOP: On the outside.
18:55:11 6 MR. STANG: On the outside, yes. Thank you.
18:55:14 7 Some of the other areas that you can
18:55:15 8 see, this area right in here was where the wharf
18:55:18 9 builder's yard removal action took place in 1996.
18:55:24 10 This is, again, a good news story for Naval Station.
18:55:28 11 This is a recycling yard where Naval Station has a
18:55:31 12 significant program to recycle their concrete,
18:55:32 13 asphalt, metals, paper, cardboard, and the like.
18:55:40 14 Again, a different aerial photo pretty
18:55:43 15 much showing the same condition from the west toward
18:55:45 16 the east with Paleta Creek. And, again, as a point
18:55:48 17 of reference, you can see the southern end of Site 3
18:55:52 18 where the Site 3 removal action occurred in 1997.
18:55:58 19 The objectives of the RI, the next step.
18:56:02 20 We are finishing up the removal action that was
18:56:06 21 conducted as a result of the EE/CA, engineering
18:56:10 22 evaluation cost analysis, that I believe was
18:56:14 23 reviewed by the RAB and the public in 1999 as well
18:56:19 24 as the action memo that was issued by the Navy to
18:56:22 25 support that.

18:56:23 1 Coming out of the removal action, time
18:56:28 2 to go to the RI to basically look now not just at
18:56:32 3 Sub-Site 2A or Sub-Site 2G, but at the entire
18:56:33 4 Site 2.
18:56:37 5 So our approach is going to be to
18:56:39 6 complete the delineation of soil contamination in
18:56:43 7 areas not subjected to the previous removal action.
18:56:46 8 So we're going to be looking at pretty much the rest
18:56:49 9 of mole pier. As a point of reference, as the
18:56:56 10 removal action was completed in particular areas
18:56:58 11 along the side walls and the bottom of the
18:57:02 12 excavation, a significant number of confirmation
18:57:04 13 soil samples to demonstrate that the contamination
18:57:07 14 had been removed were collected. When the clean
18:57:12 15 fill was put back in, there really should be no
18:57:15 16 reason to go back and re-sample that.
18:57:18 17 So what we have are some now known clean
18:57:21 18 areas of soil. Now we have to go out in the areas
18:57:24 19 that haven't been excavated, and to a large extent
18:57:27 20 for those portions of mole pier have not had nearly
18:57:30 21 as much investigative analysis performed on them as
18:57:35 22 the areas that the Navy has done that more detailed
18:57:38 23 analysis and has chosen to do the cleanup in those
18:57:42 24 areas.
18:57:42 25 We're going to treat the groundwater

18:57:45 1 across all of Site 2, both below the areas not
18:57:50 2 excavated and the areas that have been cleaned up,
18:57:53 3 as a single groundwater unit and conduct the
18:57:56 4 investigation. There are currently seven wells on
18:57:56 5 site. We plan to add some more to complete our
18:58:01 6 groundwater assessment.
18:58:03 7 Conduct a current condition human health
18:58:04 8 risk assessment. In other words, using both the
18:58:09 9 soil samples to complete delineation of the site as
18:58:12 10 well as the existing data from the removal action
18:58:16 11 that is being completed, evaluate soil conditions as
18:58:21 12 well as groundwater conditions for human health.
18:58:26 13 Conduct with the Navy and EPA, consider
18:58:30 14 a Tier 1 terrestrial ecological risk assessment;
18:58:31 15 establish whether there are receptors present at the
18:58:38 16 site that could be exposed, plants and animals; and
18:58:41 17 to evaluate simultaneously if there are receptors,
18:58:49 18 are there chemicals of concern above the screening
18:58:50 19 criteria that any of those terrestrial ecological
18:58:53 20 receptors could be exposed to; and to determine if
18:58:59 21 groundwater is in hydraulic contact with surface
18:59:03 22 water with San Diego Bay. And if so, are there
18:59:07 23 contaminants present adjacent to the surface water
18:59:11 24 or do we have only localized groundwater
18:59:14 25 contamination; and if it isn't reaching and won't

18:59:19 1 reach San Diego Bay, there would not at this time be
18:59:24 2 a completed pathway, and we could attempt to make a
18:59:31 3 case that there is no completed pathway and
18:59:35 4 therefore no risk to marine waters.
18:59:39 5 So far our tasks and elements of work,
18:59:43 6 we've interviewed some long-term site personnel with
18:59:47 7 the Navy who have experience with that end of Naval
18:59:52 8 Station since the '70s and early '80s, and they've
18:59:52 9 given us some good information on some of the past
18:59:57 10 practices.
18:59:58 11 Develop a conceptual site model and the
19:00:01 12 data quality objectives. I think we've talked about
19:00:03 13 data quality objectives at a previous RAB meeting,
19:00:07 14 and that essentially helps guide our investigation.
19:00:11 15 What information do we need to get? Why do we need
19:00:14 16 to get it? How are we going to get enough of it?
19:00:17 17 How are we going to design a study that's going to
19:00:19 18 get us to our end point?
19:00:22 19 That conceptual site model and data
19:00:23 20 quality objectives will then be folded into a
19:00:24 21 remedial investigation work plan. We'll conduct the
19:00:28 22 field work where we'll install wells, and we'll
19:00:32 23 sample both those new wells and the existing wells
19:00:35 24 on site; take a statistically based grid sampling
19:00:41 25 approach which will be optimized -- which is one of

19:00:43 1 the steps of the DQO process -- to exclude the
19:00:46 2 removal action areas to basically maximize the
19:00:46 3 Navy's resources in targeting some areas that still
19:00:49 4 need to be investigated and avoiding the areas that
19:00:57 5 we know through recent cleanup are clean.
19:01:01 6 Conduct our tiered eco risk and prepare
19:01:03 7 the RI report.
19:01:09 8 Our schedule is to provide the
19:01:12 9 conceptual site model and DQOs, data quality
19:01:14 10 objectives, in June of this year; issue a draft work
19:01:18 11 plan to agencies and the public, including the RAB
19:01:21 12 in September; try to finalize that by December;
19:01:25 13 conduct field work at the end of this year and early
19:01:29 14 into next year; reduce that data, create our RI
19:01:35 15 report, and try to finish that up in 2003.
19:01:41 16 I'd be happy to entertain any questions
19:01:42 17 at this time.
19:01:45 18 MS. MORLEY: Could you explain some of the
19:01:46 19 things that you had to do between the completion of
19:01:48 20 field work and why it takes six months to write the
19:01:49 21 report for that?
19:01:53 22 MR. STANG: Sure, Theresa. That's a good
19:01:54 23 question.
19:01:56 24 When we go out and we collect our soil
19:01:57 25 samples and we collect our groundwater samples, and

19:02:01 1 we've collected all that data and we leave the field
19:02:03 2 in February, typically the laboratories have about
19:02:10 3 30 to 45 days to analyze the samples for them to
19:02:14 4 reduce the data and issue the giant pile of paper on
19:02:18 5 a lot of computer disks with a tremendous amount of
19:02:21 6 chemical and analytical data associated with it.
19:02:25 7 Because we're treating this under the
19:02:27 8 Navy's IRP program, that data then becomes
19:02:31 9 validated. We send that to an independent chemistry
19:02:34 10 and engineering group, and they take an independent
19:02:37 11 third-party look at it, and they validate the data.
19:02:41 12 They can go in and they can say we've looked at the
19:02:45 13 methods they used and they were correct. All the
19:02:48 14 samples were collected under proper chain of custody
19:02:52 15 procedure. We can document that nobody tampered
19:02:55 16 with those samples from the time they came out of
19:02:59 17 the ground until the laboratory received them and
19:03:01 18 analyzed them. The analyses were conducted within
19:03:06 19 the right time frame; that they didn't leave holding
19:03:08 20 times -- in other words, some analyses need to be
19:03:12 21 performed within seven days of the samples being
19:03:14 22 collected. The samples were received, if necessary,
19:03:19 23 on ice so the temperature was appropriate. They
19:03:20 24 weren't compromised during shipping."
19:03:24 25 At that point we're 50, 60 days after

19:03:29 1 our last field sample came out of the ground before
19:03:31 2 we have a complete dataset. We'll sit down, we'll
19:03:35 3 review that data, start looking at what it tells us,
19:03:40 4 what we need to do to take the particular data that
19:03:43 5 we've talked about earlier; separate the data from
19:03:46 6 zero to two feet to maybe look at the industrial
19:03:49 7 risk component; take the data from zero to ten feet
19:03:52 8 in the soil column to look at a residential risk
19:03:58 9 component.
19:03:58 10 Once we have the data broken out by
19:03:59 11 these different groupings, we'll assign our risk
19:04:04 12 assessors to evaluate what is the risk based on the
19:04:08 13 individual toxicity of every chemical that's found
19:04:16 14 out there at some level in a baseline risk
19:04:16 15 assessment.
19:04:17 16 Once we have that, we also then plot up
19:04:20 17 the data, put a good cohesive report that looks at
19:04:26 18 the human health risk, the ecological risk in the
19:04:27 19 tiered approach, plus the nature and extent of the
19:04:34 20 different broad spectrum of chemicals; provide that
19:04:37 21 to the Navy; do some internal storyboarding; make
19:04:42 22 sure that the Navy and all the technical people --
19:04:47 23 the managers, Theresa -- all the internal Navy
19:04:49 24 stakeholders are in agreement that this is the best
19:04:54 25 approach, that these are the recommendations that we

19:04:58 1 want to bring to the public; and at that point make
19:05:01 2 any edits or changes or clarify some of the issues,
19:05:04 3 and then present it to the public and the agencies.
19:05:09 4 I hope that answered your question,
19:05:10 5 Theresa.
19:05:16 6 Thank you very much, Peter.
19:05:19 7 MR. BELTON: One note on the schedule. I'm
19:05:20 8 considering pushing that out some because we want to
19:05:22 9 be out of the field before we start getting
19:05:24 10 documents on the RI report. That way we stay
19:05:28 11 focused on what we're doing.
19:05:37 12 MS. MORLEY: Do you guys have any overall
19:05:39 13 questions? I want to pass these out.
19:05:44 14 I don't know if I showed you these
19:05:44 15 before. They're the IR Site 6 Murphy Canyon housing
19:05:48 16 information packets for unexploded ordnance.
19:05:55 17 MR. BISHOP: We talked about it.
19:05:56 18 MS. MORLEY: Okay. So I did bring this up.
19:05:56 19 They have the "Larry the Lizard"
19:05:56 20 coloring books. You can play with that.
19:06:01 21 Although, to our dismay, we found out
19:06:05 22 that they're not being handed out as we thought they
19:06:07 23 were, so that's something that we're going to have
19:06:09 24 to work on as far as community relations is making
19:06:09 25 sure that these do get handed out to every new

19:06:14 1 resident that checks in. Apparently what they've
19:06:17 2 done is keep the coloring book out for children that
19:06:20 3 were getting fussy.
19:06:25 4 But it has like a refrigerator magnet
19:06:27 5 for residents to hang on their refrigerator to make
19:06:30 6 sure that the kids know what they're looking for in
19:06:33 7 the canyons and stuff.
19:06:35 8 That's something that's going to be
19:06:36 9 coming up as an issue is what kind of community
19:06:38 10 relations program are we going to do at Site 6. Are
19:06:43 11 we going to latch onto Tierrasanta or are we going
19:06:45 12 to have our own? So that might be something that
19:06:48 13 we'll be looking for your input in because we want
19:06:52 14 to make sure that the community is informed and this
19:06:54 15 program is being run properly, if we can't count on
19:06:57 16 the Navy housing people to do it. They're supposed
19:07:00 17 to be doing it.
19:07:00 18 There's also a contractor packet that is
19:07:04 19 supposed to go out to contractors, and we just found
19:07:04 20 out that a big job had been completed and the
19:07:07 21 contractors had not been told that they were working
19:07:13 22 in an area that potentially contained UXOs. So
19:07:14 23 that's something that we'll probably be discussing
19:07:14 24 at a later date, but I just wanted you guys to look
19:07:18 25 at the packet.

19:07:24 1 The Army Corps made these for us back
19:07:26 2 when they were running the program, and they made
19:07:29 3 thousands. They were stored at the housing office,
19:07:32 4 and every new resident that checked in was supposed
19:07:32 5 to be given this package so that they were told
19:07:37 6 because when the Army Corps had done their five-year
19:07:37 7 survey, which is part of the long-term maintenance
19:07:38 8 procedure because you never close a UXO site. You
19:07:44 9 can never say you've completely gotten all this
19:07:44 10 stuff, even though they have been swept and gotten
19:07:47 11 most of it.
19:07:50 12 The five-year survey -- a lot of the
19:07:53 13 Murphy Canyon residents, because there's such high
19:07:54 14 turnover because they're military families didn't
19:07:57 15 know; whereas, a lot of the Tierrasanta residents
19:07:57 16 knew because they've been there for a while.
19:08:01 17 So this is one of the solutions that
19:08:01 18 they came up with to try to educate people as they
19:08:05 19 came in.
19:08:06 20 MR. BISHOP: Besides that, this is not on the
19:08:06 21 check list.
19:08:10 22 MS. MORLEY: There's a check list?
19:08:12 23 MR. BISHOP: When you check into Navy
19:08:12 24 housing, there's a check list.
19:08:15 25 MS. MORLEY: Really.

19:08:15 1 MR. BISHOP: Oh, yeah. You've got a check
19:08:15 2 list for all the things that you have to sign to be
19:08:16 3 responsible for. You're signing for this particular
19:08:26 4 equipment and when you check out, they go down the
19:08:29 5 check list to make sure the washing maching is still
19:08:32 6 there, et cetera.
19:08:33 7 MS. MORLEY: Do they have to use the same
19:08:35 8 form for every housing or can that be modified for
19:08:37 9 specific units?
19:08:39 10 MR. BISHOP: I'm not sure. It seems to me
19:08:43 11 they are. But it's the Navy. There's always a
19:08:43 12 check list.
19:08:46 13 MS. HERNANDEZ: Is it like a disclosure
19:08:46 14 statement?
19:08:47 15 MR. BISHOP: This needs to go on the check
19:08:47 16 list. Have the new residents been given this? And
19:08:47 17 there should be a check box and they sign for
19:08:54 18 everything.
19:08:55 19 MS. MORLEY: We will look into that because I
19:08:55 20 was kind of concerned.
19:08:59 21 I also wanted to say -- when the captain
19:09:02 22 was thanking everybody, I also wanted to extend my
19:09:04 23 thanks, too. We all work together as a team between
19:09:10 24 the Navy, the regulators, the public and
19:09:10 25 contractors. We all do this. And I just wanted to

19:09:16 1 also express my thanks, as he did.

19:09:18 2 I think that we have really come

19:09:19 3 together as a team, all of us in the past few years

19:09:23 4 and have made a lot of progress on the IR sites here

19:09:26 5 at Naval Station, so I just wanted to say thank you.

19:09:29 6 MR. BELTON: Theresa, one more note. Do you

19:09:29 7 want to talk about the proposed plant plan? We're

19:09:34 8 going to bring that up at the next RAB.

19:09:36 9 MS. MORLEY: In the IR process there's a

19:09:41 10 thing called a Record of Decision, a ROD, and that

19:09:44 11 basically formally closes out your sites.

19:09:47 12 We have received letters of no further

19:09:49 13 action from the regulators on certain sites -- Site

19:09:55 14 9, 11, and Site 12. So what we're doing is a

19:10:05 15 proposed plan, which is a community relations plan

19:10:08 16 basically to bring the public in and say "This is

19:10:11 17 what we intend to say in our Record of Decision."

19:10:11 18 And we're going to try to take these -- it's almost

19:10:15 19 like delisting a site from the IR program.

19:10:20 20 So to try to make it visually

19:10:22 21 interesting, it kind of looks like on the fact sheet

19:10:25 22 where it's kind of colorful and it's that same kind

19:10:27 23 of paper and everything, so we'll be asking for your

19:10:30 24 input on that, too, before we send that out to the

19:10:34 25 public. Then we'll discuss that at the next RAB.

19:10:40 1 Here's our newest fact sheet. This is
19:10:42 2 No. 9 which is -- that numbering series, the ones
19:10:45 3 that are numbered and this other one that are the
19:10:49 4 site updates, as opposed to the removal action fact
19:10:51 5 sheets which are not in color and are one-page
19:10:54 6 doublesided. So you'll be getting these in the
19:10:54 7 mail, but if you want an advance copy because you
19:10:58 8 just cannot wait to read this, you can take them
19:11:02 9 with you.
19:11:08 10 Of course this is printed on post
19:11:09 11 consumer recycled paper. I think that's it.
19:11:20 12 What do you guys think about this new
19:11:23 13 meeting time and about food?
19:11:26 14 MR. MULLALY: I like it because it gives us
19:11:26 15 an opportunity for people to talk about issues.
19:11:34 16 MS. MORLEY: More like informal so you can
19:11:38 17 bond and everything.
19:11:43 18 I also have a menu if you guys want to
19:11:45 19 look at stuff that you like because some people
19:11:48 20 don't like quiche. You can help me pick out the
19:11:52 21 next menu because we can pick that out each time.
19:11:55 22 And if there's other things -- like I didn't know
19:11:55 23 how many people were coming, so I didn't know if you
19:11:58 24 like soda or water. I figured most people wouldn't
19:11:58 25 drink coffee at night. So do you guys want more

19:11:58 1 water?

19:12:18 2 MR. BAILEY: In order to maybe stimulate

19:12:18 3 maybe more RAB members attending, I would suggest

19:12:22 4 maybe we make a calling the week before or the

19:12:27 5 beginning of the week to the RAB members -- the

19:12:30 6 active RAB members and remind them, ask them if

19:12:33 7 there are issues that they want to add to the agenda

19:12:34 8 to try to stimulate more RAB member attendance.

19:12:38 9 If you make the effort to provide the

19:12:39 10 refreshments, we ought to try to get as many people

19:12:39 11 as possible to participate.

19:12:45 12 MS. MORLEY: I go by my criteria which is

19:12:47 13 "There's food. I'll come." That's a good

19:12:50 14 suggestion. Plus people forget.

19:12:55 15 Do you like the new meeting time where

19:12:56 16 it's a little bit earlier, then we can go home

19:12:56 17 earlier and you can come here straight from work and

19:13:02 18 kind of have dinner, sort of?

19:13:06 19 MR. BISHOP: It works.

19:13:07 20 MR. BELTON: Theresa, on that same note,

19:13:08 21 we're going to publish this in the local paper, too.

19:13:14 22 Jerry knows the particulars on the newspaper.

19:13:15 23 MR. BAILEY: "Star News."

19:13:17 24 MR. BELTON: When's that going to go out,

19:13:17 25 Jerry?

19:13:19 1 MR. BAILEY: It will be not this week's
19:13:18 2 printing, but the following week.
19:13:22 3 MS. MORLEY: And actually this RAB meeting
19:13:21 4 went out in the "Union Tribune." We normally don't
19:13:27 5 put a public notice in because it's quite expensive.
19:13:28 6 It's something like $1,400 for a notice; whereas,
19:13:34 7 the others are a couple hundred. They did let us
19:13:37 8 put it in the "Community Event" section for free,
19:13:40 9 but I guess people weren't interested.
19:13:44 10 MS. HERNANDEZ: "Star News."
19:13:46 11 MS. MORLEY: That's the Chula Vista local
19:13:47 12 paper.
19:13:57 13 I guess that is it then.
19:13:59 14 How interested are you guys in having
19:13:59 15 another site tour? Are you kind of burned out on
19:13:59 16 site tours looking at paved parking lots or do you
19:13:59 17 like those?
19:14:09 18 MR. BISHOP: Well, we get a site tour every
19:14:11 19 time we come here with the slides. It's a picture
19:14:13 20 of what's going on.
19:14:16 21 MS. MORLEY: I'd like it one time where we're
19:14:17 22 were doing field work so you could come out -- maybe
19:14:21 23 if we could work late one day or something so you
19:14:23 24 guys could actually come out and see sampling or
19:14:26 25 what it looks like when they drain fuel. It might

19:14:29 1 help you when we're talking about how the samples
19:14:29 2 are taken and how careful you have to be in the
19:14:34 3 chain of custody and putting it in the cooler and
19:14:37 4 all that stuff so you might have a better idea of
19:14:41 5 what we actually do in the field and what it looks
19:14:42 6 like when we actually put a boring in or monitoring
19:14:45 7 well or something like that.
19:14:47 8 So I'm trying to figure what kind of
19:14:48 9 field work is coming up in the future where we
19:14:52 10 could --
19:14:52 11 MR. BAILEY: Site 4.
19:14:55 12 MS. COLLINS: Site 4 will be in full swing in
19:14:58 13 July.
19:15:02 14 MR. BAILEY: And it's light longer, so that's
19:15:02 15 a good possibility.
19:15:06 16 MS. MORLEY: The next one will be in July.
19:15:09 17 Does anyone have a calendar?
19:15:16 18 MR. BELTON: While we look that up, the team
19:15:16 19 is trying to connect more with the sites, so we can
19:15:18 20 start in the future to see what the site is like.
19:15:31 21 MR. STANG: Is it the last Wednesday or the
19:15:31 22 fourth Wednesday?
19:15:33 23 MS. HERNANDEZ: Last.
19:15:35 24 MR. SIANG: July 31st.
19:15:38 25 MS. YAMANE: Are there any local fairs or

19:15:39 1 something that you could maybe have booths? North
19:15:42 2 Island does that in the Flower Show. They have a
19:15:44 3 booth and they try to connect with people and get
19:15:49 4 their phone numbers.
19:15:51 5 MS. MORLEY: We used to do that -- we went to
19:15:54 6 Earth Day every year but we got so badly abused that
19:15:57 7 we gave up. When they started throwing tomatoes, we
19:15:58 8 decided "All right. We're out of here."
19:16:05 9 But that's a good idea. I'm trying to
19:16:08 10 think -- where else have we gone?
19:16:09 11 MS. HERNANDEZ: At the Flower Show we got 13
19:16:11 12 people to sign up, but the thing is we're going to
19:16:14 13 call them up to remind them of the RAB meeting and
19:16:17 14 for FYI information.
19:16:20 15 MS. COLLINS: Because they signed up but they
19:16:21 16 didn't come to the one after that?
19:16:25 17 MS. HERNANDEZ: Well, last year they didn't
19:16:26 18 have a sign-in sheet and this year we did. They
19:16:27 19 said they were going to come, but there was no way
19:16:27 20 to communicate with them to let them know about the
19:16:32 21 meeting. So this time we did have them sign in and
19:16:32 22 they left their phone number so, hopefully, we can
19:16:32 23 call them.
19:16:42 24 MS. MORLEY: That would be good or maybe --
19:16:47 25 gosh, I don't know.

19:16:50 1 Also, there's a contractor working on
19:16:53 2 the high school curriculum -- remember, the middle
19:16:53 3 school one? and she is working on one of those
19:16:54 4 contractors to give the science part of it. So
19:17:02 5 we'll have one for high school that's probably going
19:17:03 6 to come out in a couple of months, too. Normally if
19:17:07 7 you can get to kids, they're excited about
19:17:08 8 environmental and they might tell their parents.
19:17:15 9 I think people just don't like coming to
19:17:17 10 meetings. Our mailing list is pretty big. They
19:17:19 11 like reading about it, but they don't like to come.
19:17:24 12 But we'll keep trying any ideas that you guys can
19:17:28 13 think of.
19:17:29 14 So July 31st we'll see you.
19:17:36 15 MR. BISHOP: I probably won't be here for
19:17:40 16 that one because I'm teaching for National, and I
19:17:41 17 think I'm teaching on that day.
19:17:52 18 MS. MORLEY: Everyone eat, drink, and be
19:17:54 19 merry. We're adjourned.
19:18:11 20
19:18:11 21 (Whereupon, at 7:20 p.m. the RAB meeting
22 was adjourned.)
23
24
25

1 SIATE OF CALIFORNIA)

2 : ss

3 COUNTY OF SAN DIEGO)

4

5 I, Nancy A. Lee, CSR No. 3870, do hereby

6 certify that I reported in shorthand the above

7 proceedings on Wednesday, April 24, 2002, at

8 "Anchors & Spurs," 2245 Division Street, in the City

9 of San Diego, County of San Diego, State of

10 California; and I do further certify that the above

11 and foregoing pages numbered 1 to 53, inclusive,

12 contain a true and correct transcript of all of said

13 proceedings.

14 Dated: _____, 2002.

15

16

17

18

19 _____

20 NANCY A. LEE

21

22

23

24

25

RESTORATION ADVISORY BOARD MEETING

WEDNESDAY, JANUARY 29, 2003

NATIONAL CITY, CALIFORNIA

REPORTED BY: Nancy A. Lee, CSR No. 3870

LEE & ASSOCIATES

1 A T T E N D A N C E

2 NAVY REGION SOUTHWEST: Ms. Theresa Morley

3

4 SOUTHWEST DIVISION NAVAL FACILIIIES ENGINEERING
5 COMMAND: Mr. Ed Dias
Mr. Mike Corry

6

7 DTSC: Mr. Douglas Bautista
Mr. Dave Murchison

8

9 BECHTEL NATIONAL: Mr. Tim Heironimus
Ms. Karen G. Collins
10 Mr. Pete Stang

11 PUBLIC WORKS OFFICER: Commander James Kemp

12

13 FOSTER/WHEELER ENVIRONMENTAL: Mr. Glenn Starr

14

15 PUBLIC ATTENDANCE: Ms. Anita Boyd
16 Ms. Nancy Lee

17 RAB MEMBERS: Mr. Peter Bishop
18 Mr. Jerry McNutt
Ms. Rita McIntyre

19

20

21

22

23

24

25

1 NATIONAL CITY, CA., WEDNESDAY, JANUARY 29, 2003

2 5:38 P.M.

3

17:38:41 4 MS. MORLEY: Welcome everybody.

17:38:45 5 I was told today that this is the

17:38:48 6 last -- this club is going to be remodeling, so

17:38:51 7 this will be the last meeting here for probably

17:38:53 8 this year. They're going to start March 1st

17:38:56 9 through December. Elizabeth, the club manager, is

17:38:58 10 going to find us some place else on Naval Station,

17:39:01 11 possibly the Mariner's Club, but that might mean

17:39:01 12 that we have to move to a Thursday.

17:39:06 13 Is that going to be a problem for

17:39:07 14 anybody? Okay. So we'll let you know. We'll

17:39:13 15 have maps and a big sign so you know not to come

17:39:16 16 here next time.

17:39:17 17 Introductions: I think you know

17:39:18 18 everybody except for Mike Corry. He used to be an

17:39:23 19 intern and now he's actually a real employee, so

17:39:26 20 we have to be a lot nicer to him. He's going to

17:39:33 21 be taking over the 28th Street gas station, Site

17:39:37 22 10?

17:39:37 23 MR. CORRY: Site 10.

17:39:39 24 MS. MORLEY: So he'll be helping out Darren

17:39:41 25 and Ed. Darren's sick tonight, so he's at home.

17:39:44 1 And I think you guys know Glenn Starr
17:39:45 2 from Foster/Wheeler. He was here about a year ago
17:39:51 3 talking about Site 2, and I think you remember
17:39:53 4 everybody else.
17:39:54 5 Does anyone have any comments on the
17:39:57 6 meeting minutes from the last RAB? Okay. We'll
17:40:00 7 consider those approved.
17:40:02 8 With that, Glenn, we'll start off with
17:40:03 9 you. Glenn is going to talk about the progress
17:40:06 10 made on Sub-Site 2A, which is a removal action at
17:40:09 11 the Mole pier.
17:40:17 12 MR. STARR: As Theresa mentioned, my name
17:40:18 13 is Glenn Starr. I'm the project manager for the
17:40:22 14 Mole pier project at Sub-Site 2A, and I've been
17:40:25 15 that project manager for about the last three
17:40:27 16 years.
17:40:28 17 I'll start out with a little bit of
17:40:49 18 history at Sub-Site 2A. Actually, RI Site 2 was
17:40:53 19 created in 1942 with hydraulic fill material.
17:40:56 20 From approximately 1945 to 1972 much of IR
17:41:00 21 Sub-Site 2A, a smaller portion of Site 2, was used
17:41:04 22 for disposal and open burning of demolition debris
17:41:05 23 and hazardous waste.
17:41:09 24 The petroleum based materials
17:41:10 25 including gasoline, motor oil, and diesel fuel

17:41:11 1 were transported to the site, and they were used
17:41:17 2 to assist in the open burning of debris and
17:41:18 3 combustible materials.
17:41:20 4 The waste included pilings, lumber,
17:41:25 5 concrete, asphalt, and other combustible and
17:41:27 6 non-combustible materials, and this all came from
17:41:31 7 the former Navy repair base and the Navy Public
17:41:34 8 Works Center and from state and maintenance
17:41:35 9 operations. The area was finally covered with
17:41:41 10 fill material after the waste at Mole pier was
17:41:43 11 completed in 1972.
17:41:45 12 We were tasked and put under contract
17:41:45 13 by the Navy to perform a remedial action at Site
17:41:45 14 2. The purpose of this non-time critical removal
17:41:45 15 action was two purposes --
16 (At this time the power was
17 temporarily shut off, and there was a brief recess
18 while the problem was corrected.)
17:47:26 19 As I was starting to say, the purpose
17:47:28 20 of the non-time critical removal action is
17:47:30 21 actually two goals in one. One was to reduce the
17:47:32 22 contaminated soil concentrations to levels that
17:47:35 23 were protective of the human health and provide
17:47:38 24 unrestricted future land use for the site; and the
17:47:40 25 second was to contain, reduce or eliminate

17:47:43 1 exposure pathways for the contaminated sediments
17:47:44 2 or I should say the contaminated soil.
17:47:49 3 There were five primary chemicals of
17:47:54 4 concern originally identified within the removal
17:47:54 5 action, the first being arsenic; the second was
17:47:57 6 hexavalent chromium; dioxins, lead, and various
17:47:59 7 polyaeromatic hydrocarbons or PAHs.
17:48:06 8 Sub-Site 2A is approximately six and a
17:48:09 9 half acres in size and extends from the western
17:48:11 10 border of the Mole pier to approximately 750 feet.
17:48:15 11 Most of the area today is paved with asphalt and
17:48:18 12 concrete, and contains some work areas for the
17:48:21 13 Public Works center and parking areas and
17:48:24 14 greenbelts.
17:48:26 15 This is a drawing of Sub-Site 2A and
17:48:31 16 was actually how Sub-Site 2A existed before our
17:48:34 17 removal action. Sub-Site 2A is bordered by this
17:48:35 18 fence right here, runs along Mole Road and then
17:48:41 19 back on 7th Street. It's six and a half acres in
17:48:43 20 size. And what you'll notice is the blue squares
17:48:43 21 are the number of buildings that were present on
17:48:48 22 the site before we started the removal action.
17:48:50 23 The building located in this area was
17:48:52 24 actually a Navy consolidated dive unit, which we
17:48:55 25 had to relocate to a different area of Naval

17:48:55 1 Station prior to the removal action. We built a
17:49:02 2 large temporary support complex for the Navy dive
17:49:06 3 unit.
17:49:06 4 Right here you'll see in a later photo
17:49:08 5 is the Navy Public Works paint shop. Our original
17:49:15 6 plan was to do this removal action throughout this
17:49:16 7 area and let the paint shop continue operating
17:49:17 8 while we're doing the dig.
17:49:20 9 This is a photo today of Sub-Site 2A.
17:49:24 10 It's actually a photo taken just about four weeks
17:49:27 11 ago. Here the red line is the boundary of
17:49:30 12 Sub-Site 2A. Today there's a parking lot. These
17:49:30 13 are the greenbelts we were talking about. The CBs
17:49:36 14 all actually building a volleyball court and some
17:49:37 15 other recreational facilities along this area.
17:49:42 16 The paint shop is now gone. I'll talk
17:49:44 17 some more about that, and all the buildings that
17:49:46 18 originally supported the dive unit are also gone.
17:49:49 19 The remediation was performed in
17:49:54 20 actually seven distinct phases, and we had to do
17:49:57 21 those phases for a couple of reasons. One, we had
17:49:57 22 to support the ongoing fleet operation that takes
17:50:01 23 place in the Mole pier area. Specifically,
17:50:03 24 originally our plan was to maintain the paint shop
17:50:06 25 operations, and also there was a continuing

17:50:09 1 increase in scope for the contaminated soil that
17:50:11 2 had to be removed as part of this removal action.
17:50:14 3 The original plan that we actually put
17:50:16 4 out for Sub-Site 2A only identified two work
17:50:18 5 phases, Phases 1 and 2. Phases 3, 4, 5, 6, and 7
17:50:22 6 were added for a variety of reasons. The basic
17:50:26 7 reason is right before we actually did the removal
17:50:28 8 action, we took a number of reconstruction samples
17:50:30 9 around the boundary of the site and found out that
17:50:30 10 the lateral extent of the contamination of the
17:50:31 11 soil was a lot more extensive than originally
17:50:36 12 thought, and I'll talk some more about Phases 6
17:50:40 13 and 7.
17:50:42 14 But Phase 6, some additional
17:50:43 15 investigation was done well outside the original
17:50:46 16 boundary of the removal action and found
17:50:48 17 additional contamination, and Phase 7 was actually
17:50:50 18 an area where a former hazardous waste yard was
17:50:55 19 located.
17:50:56 20 And here's a map. If you can slide
17:50:58 21 over to the first slide I had, this shows the
17:50:58 22 different phases. This is Phase 2A and 2B, 1A and
17:51:04 23 1B. And I should point out the reason there's an
17:51:07 24 A and a B was because the paint shop was located
17:51:09 25 approximately right here. They had the paint shop

17:51:13 1 basically as a drive-through facility, and so we
17:51:15 2 were going to do our excavation on one side of
17:51:17 3 that paint shop. Once that was complete and
17:51:17 4 backfilled and restored, then we would go ahead
17:51:20 5 and work on the other side, split the paint shop
17:51:20 6 and keep working.
17:51:27 7 I don't have the original boundaries
17:51:29 8 of Phase 2 and Phase 1, but these boundaries are
17:51:29 9 actually quite a bit wider than they originally
17:51:33 10 were intended based on preconstruction sampling
17:51:36 11 that was performed. Phase 3 was also added
17:51:38 12 because of the results of preconstruction sampling
17:51:39 13 along with Phase 4.
17:51:45 14 Phase 5 we did some additional
17:51:41 15 sampling next to an existing Public Works Center
17:51:45 16 building, Building 199, and found additional
17:51:49 17 contamination in this specific area, so the soil
17:51:52 18 was excavated and disposed of.
17:51:54 19 Phase 6, as I earlier mentioned, was a
17:51:57 20 site investigation for this area that was
17:51:58 21 predominantly downwind from the burn pit, and we
17:52:01 22 had to do some hot spot excavation to remove the
17:52:03 23 contaminants effective there.
17:52:06 24 And Phase 7, which is the former
17:52:07 25 hazardous waste yard, is the area that we are

17:52:10 1 presently just completely our excavation and
17:52:11 2 restoration efforts.
17:52:14 3 And I should point out that Phase 2
17:52:19 4 was actually where the real burn pit was located.
17:52:21 5 And I can't remember if I said this or not, but
17:52:23 6 I'll repeat it. Phase 1 was originally planned to
17:52:23 7 go only to five feet in depth, but based on
17:52:23 8 samples we took when we reached the five-foot
17:52:27 9 level, we took samples down to ten feet and found
17:52:30 10 out that contamination also existed at that depth,
17:52:32 11 and so this phase was also dug to ten feet or
17:52:32 12 groundwater, whichever was deeper.
17:52:42 13 Here's a photo from our Phase 1. Here
17:52:43 14 is the paint shop. We're just working on the
17:52:47 15 western boundary now. The original plan was that
17:52:50 16 we were going to leave the paint shop in place,
17:52:52 17 and we were actually going to put in 40 or 60 mil
17:52:53 18 plastic sheeting around all the soil to
17:52:57 19 encapsulate that contaminated soil so we didn't
17:52:59 20 have to worry about recontaminating the clean
17:53:02 21 backfill. The decision was later made by the Navy
17:53:02 22 that that's not what they wanted to do. This
17:53:05 23 building was actually demolished, and all the soil
17:53:05 24 underneath the building was excavated.
17:53:11 25 Here's another aerial photo showing

17:53:14 1 the Phase 1 activity. As you can see now, the
17:53:16 2 paint shop that was located here is already gone.
17:53:20 3 We then abandoned our phase approach where we had
17:53:21 4 the A's and B's, and we basically started working
17:53:21 5 throughout the site. We're currently taking both
17:53:26 6 Phase 2 and Phase 1 here On this side of this
17:53:32 7 line you'll see that we're actually backfilling
17:53:33 8 the area from our previous excavation.
17:53:37 9 The black areas -- the dark areas are
17:53:37 10 actually where we're stockpiling our contaminated
17:53:38 11 soil for profiling and eventual off-site transport
17:53:42 12 for disposal.
17:53:45 13 This is a photo of Phase 2 just
17:53:50 14 showing part of the dig. This area right here is
17:53:55 15 a high voltage duct bank, and we encountered a
17:53:57 16 number of these when we were digging up the site.
17:53:57 17 And we had to support these duct banks basically
17:54:00 18 by putting a light soil fill underneath the duct
17:54:05 19 bank so that we could actually dig below those and
17:54:05 20 then restore the site.
17:54:12 21 MR. WOEMPNER: I have a question. On your
17:54:09 22 backfill, what are you backfilling it with?
17:54:14 23 MR. STARR: Actually, the backfill was --
17:54:14 24 there was two kinds of backfill. The first three
17:54:18 25 feet of backfill was actually a crush rock, about

17:54:21 1 a four-inch crush. The thought was there that we
17:54:24 2 wanted to put about three feet of rock between the
17:54:26 3 groundwater table and the clean backfill so that
17:54:29 4 we didn't have to worry about anything in the
17:54:29 5 groundwater affecting the clean backfill we put
17:54:33 6 in. And the backfill was what we call FS15 which
17:54:34 7 is essentially a sandy low.
17:54:38 8 MR. WOEMPNER: Do you import that -- bring
17:54:38 9 it in?
17:54:41 10 MR. STARR: We bring it in from outside.
17:54:41 11 And we would also sample all the backfill before
17:54:44 12 we brought it on site to make sure that we weren't
17:54:44 13 bringing something dirty back on the site we just
17:54:46 14 cleaned up.
17:54:50 15 MR. WOEMPNER: Thank you.
17:54:52 16 MR. STARR: Here's another aerial photo. I
17:54:54 17 do want to point out one thing here is if you look
17:54:58 18 in this particular area, that green is actually
17:55:01 19 water, and you'll see some black along the edges
17:55:04 20 leaking in.
17:55:05 21 When we were digging up the actual
17:55:05 22 burn pit area in Phrase 2, we encountered
17:55:08 23 extensive diesel contamination right at the
17:55:10 24 groundwater level. We did additional testing and
17:55:12 25 found out that diesel can impact the soil. It was

17:55:13 1 actually extended down to 15 feet below ground
17:55:13 2 surface or five feet below the water table. So we
17:55:20 3 had to go back and dig out all this decontaminated
17:55:21 4 soil also down to 15 feet essentially in an area
17:55:26 5 about like this size, pretty much where the
17:55:31 6 footprint of the burn pit was.
17:55:37 7 Here you see we're still doing our
17:55:39 8 clean backfill here. This is the rock I was
17:55:41 9 talking about. You can see we put the rock in,
17:55:44 10 and they're still digging up parts of the phase
17:55:47 11 right here. And, again, there are the stockpiles
17:55:47 12 that we have on site for disposal.
17:55:52 13 This is just a quick shot of Phase 3.
17:55:53 14 It's pretty much a small sliver, so we could go
17:55:56 15 ahead and dig this out. And I forgot to talk
17:55:59 16 about the totals. We took about 10,000 tons of
17:56:01 17 soil out of Phase 3.
17:56:04 18 MR. WOEMPNER: Is that just contaminated
17:56:05 19 water?
17:56:07 20 MR. STARR: It's the green water you saw
17:56:07 21 from the photo. It's not contaminated, but since
17:56:07 22 we were digging this in the summertime, it was
17:56:10 23 stagnant. So we basically got an algae growth in
17:56:10 24 it, and that's why it's green.
17:56:17 25 MR. WOEMPNER: Okay.

17:56:18 1 MR. STARR: Here is another duct bank that
17:56:19 2 we exposed when we were doing the dig. This is
17:56:24 3 another high voltage power line that goes across
17:56:27 4 the site, and that was for Phase 4.
17:56:31 5 One interesting thing we did right
17:56:34 6 before we started the removal action based on
17:56:36 7 input from the regulatory agencies, we also had to
17:56:39 8 add a radiological survey to our dig to determine
17:56:43 9 if there was any low voltage radioactive point
17:56:44 10 sources on the site.
17:56:47 11 And to briefly go over what that
17:56:48 12 survey entailed, we basically had what we called a
17:56:49 13 RAD meter, and we would have to do three surveys
17:56:55 14 on the soil to find out if we had these small
17:56:55 15 point sources. The first we would actually
17:56:58 16 perform while the soil was in the ground or
17:57:00 17 in-situ. And then we would dig out the soil, and
17:57:00 18 we had to dig it out in two-foot lifts because the
17:57:06 19 meter could only detect a point source at two feet
17:57:09 20 in depth. Once we took it out, we took it to the
17:57:11 21 stockpile area, spread it out flat 18 inches
17:57:13 22 thick, and then we'd survey it a second time. And
17:57:16 23 then right before we would dispose of that soil,
17:57:16 24 we'd lay it back out again a third time in 18-inch
17:57:20 25 lifts and survey it a third time.

17:57:23 1 Through that three survey process --
17:57:25 2 I'd like to point out that everything was found in
17:57:25 3 the first two surveys. We found 31 low voltage
17:57:29 4 radioactive point sources.
17:57:31 5 The photo here of one of the point
17:57:33 6 sources happens to be the biggest one we ever
17:57:34 7 found. Most were about the size of a dime, and
17:57:39 8 probably 10 or 12 of those were the size of a pea.
17:57:43 9 So this is like finding 31 needles in a very large
17:57:46 10 haystack.
17:57:47 11 The point sources were isolated. We
17:57:49 12 sent them to a radiological lab to be evaluated
17:57:52 13 and find out what they were, and then they were
17:57:52 14 essentially either destroyed by the lab as part of
17:57:55 15 their analysis process or shipped off to the
17:58:00 16 appropriate disposal facility for disposition.
17:58:02 17 I also need to point out when we were
17:58:04 18 going through our survey, we found some soil that
17:58:07 19 exhibited properties that may have been low-level
17:58:11 20 radioactive waste. And just to explain, the Navy
17:58:13 21 has -- the Navy or DoD guidelines is whenever
17:58:17 22 you're detecting something that's considered one
17:58:20 23 and a half times background -- that is, the counts
17:58:22 24 coming off the soil was one and a half times the
17:58:24 25 background you've already established, that's the

17:58:26 1 action level for the Navy. The regulatory action
17:58:27 2 level is two times the background. The particular
17:58:31 3 soil we found was between one and a half and two,
17:58:33 4 so technically from a regulatory standpoint, it
17:58:35 5 was not low voltage radioactive waste, but the
17:58:35 6 Navy chose to deal with it that way and dispose of
17:58:40 7 it in Texas.
17:58:42 8 This is just a photo of Phase 5. This
17:58:48 9 was the former building 199 just before it was
17:58:51 10 demolished and we excavated below it.
17:58:54 11 Here's another picture from the aerial
17:58:57 12 view. It's kind of showing Phases 3, 4, and 5.
17:58:59 13 We've already now moved out and taken care of
17:59:02 14 Phase 3 and Phase 4. This is Phase 5. We haven't
17:59:06 15 quite gotten to the digging yet. As you can see,
17:59:07 16 we've now backfilled the area. I showed you
17:59:11 17 earlier it had the gravel. That's done.
17:59:13 18 We're still working on the excavation
17:59:15 19 on this side, and you can still see where our
17:59:17 20 stockpile area is.
17:59:19 21 And this is a question that came up
17:59:20 22 quite a while ago. This is actually clean fill,
17:59:23 23 and so one of the questions we kept getting asked
17:59:25 24 was how do you know that the dirty stuff you're
17:59:31 25 stockpiling as clean fill isn't contaminating the

17:59:31 1 site. And the way we constructed the stockpile
17:59:31 2 areas is we basically had 20 mil high-density
17:59:35 3 polyethylene sheeting we put on the ground. On
17:59:38 4 top of that we put 12 inches of the FS-15 backfill
17:59:41 5 that we were using, and then put another 20 mil
17:59:43 6 ATCE new liner on top of that and sandbagged the
17:59:46 7 berm.
17:59:49 8 When we're using the heavy equipment,
17:59:49 9 the potential always exists that you put a hole
17:59:49 10 through the top layer of the ATCE, but the 12-inch
17:59:49 11 cushion layer always protects the liner that's on
17:59:52 12 the bottom. In fact, every time we pull those up,
18:00:00 13 all the bottom liners are always intact. And
18:00:02 14 you'll also see this particular hall ramp right
18:00:04 15 here. We also built the same ramp in here, so
18:00:07 16 we're moving back from the contaminated areas to
18:00:09 17 the clean areas so we won't recontaminate the
18:00:11 18 site.
18:00:11 19 This is a photo of Phase 6. This was
18:00:16 20 based on additional sampling we had done. We took
18:00:19 21 about 10,000 tons out of this area, a number of
18:00:19 22 hot spots removed. What's interesting is this
18:00:19 23 existing building was basically a weld shop, and
18:00:27 24 the original plan was to actually deconstruct this
18:00:29 25 prefabricated building, dig out the contaminated

18:00:29 1 soil beneath the building, and then reconstruct it
18:00:29 2 back on site. We actually came up with a method
18:00:29 3 where we could actually get four deep caissons to
18:00:37 4 support the structure while we could dig around
18:00:42 5 it, so we never had to take the building down, and
18:00:42 6 it shortened the downtime for the weld shop and
18:00:42 7 also reduced the cost of the actual removal
18:00:42 8 action.
18:00:52 9 And here's a photo of Phase 6 from the
18:00:56 10 air. You can see one hot spot we're taking out
18:00:59 11 here. We have another hot spot, large area we're
18:01:03 12 taking out in this location. You can see that the
18:01:04 13 main Sub-site 2 area has already been restored,
18:01:05 14 and this is another hot spot -- that's on there
18:01:11 15 and this is a small one right here.
18:01:14 16 And Phase 7 has to do with what they
18:01:18 17 refer to as a collection, storage, transfer
18:01:19 18 facility in the old haz waste yard. We're just
18:01:24 19 wrapping that work up now. We took out about
18:01:25 20 another 12,000 tons of contaminated soil, and
18:01:29 21 basically dug a couple of footprints of the old
18:01:30 22 haz waste yard. And this is a photo of the work
18:01:34 23 we're doing in that location.
18:01:37 24 MR. WOEMPNER: That last one, is that the
18:01:37 25 Brinzer Street parking lot?

18:01:39 1 MR. STARR: Pardon me?

18:01:39 2 MR. WOEMPNER: Is that the Brinzer Street

18:01:39 3 parking lot?

18:01:40 4 MR. STARR: I'm not sure. This is actually

18:01:46 5 7th Street right here in this photo.

18:01:51 6 MR. WOEMPNER: Where you took off and

18:01:52 7 excavated?

18:02:00 8 MS. MORLEY: Brinzer Street is over here

18:02:00 9 and this is where the work was.

18:02:03 10 MR. WOEMPNER: Okay. It's not the same.

18:02:05 11 MS. COLLINS: Since most of the IR sites at

18:02:05 12 Naval Station are parking lots, it's confusing.

18:02:12 13 MR. STARR: And here's the most recent

18:02:16 14 aerial photo we have. It's actually not the most

18:02:20 15 recent. Again, you can see the area where we have

18:02:24 16 had the site restored. This area right here is

18:02:29 17 actually our stockpile area for the soil we've

18:02:29 18 been digging out of the CST, and that's the

18:02:32 19 stockpile profile, and we hauled that off to an

18:02:35 20 off-site disposal just like we did with the rest

18:02:35 21 of Sub-Site 2A.

18:02:40 22 As we performed all of our excavation

18:02:43 23 operations, we would collect confirmation soil

18:02:45 24 samples to evaluate the effectiveness of the

18:02:46 25 removal action. The samples were collected from

18:02:46 1 two areas: one on the sidewall. Every 75 lineal
18:02:55 2 feet we would take a sidewall sample to see if we
18:02:57 3 could confirm that we had the lateral extent of
18:02:57 4 the contamination taken care of. And then we also
18:02:57 5 took samples from the floor of the excavation
18:03:03 6 whether we were at groundwater or below
18:03:08 7 groundwater on a 75-by-75-foot grid, so at least
18:03:12 8 we could document anything that may have been left
18:03:15 9 behind.
18:03:15 10 But essentially once we dug to
18:03:15 11 groundwater, we didn't dig any deeper except for
18:03:20 12 the diesel contaminated soil.
18:03:22 13 These are results of the confirmation
18:03:22 14 samples for Phases 1 through 5. We had actually
18:03:30 15 36 confirmation samples with concentrations
18:03:32 16 greater than or equal to the target cleanup
18:03:32 17 levels. These were 11 sidewalls and 24 floors.
18:03:41 18 Primarily the contaminants that we had
18:03:42 19 problems with in the confirmation samples was
18:03:45 20 almost predominantly hexavalent chrome.
18:03:48 21 Hexavalent chrome in the cleanup goal was .2 parts
18:03:50 22 per million. In a lot of our hits we got
18:03:53 23 initially hexavalent chrome were at a .21 to like
18:03:58 24 .6 parts per million range, and we also detected a
18:04:03 25 few PAHs. I believe those were all from the

18:04:05 1 floors.

18:04:07 2 Phase 6 we had six confirmation

18:04:08 3 samples: four sidewalls, two floor samples that

18:04:11 4 exceeded our cleanup goals. Again, those were

18:04:11 5 primarily hex chrome with a few PAHs.

18:04:19 6 Based on the work that's complete, we

18:04:25 7 believe that the removal action reduced health and

18:04:27 8 contaminant concentrations to acceptable levels

18:04:29 9 with respect to the human health. We have

18:04:33 10 accomplished this through education and off-site

18:04:34 11 disposal, and the contaminated soil and

18:04:37 12 appropriate EPA certified in both facilities, and

18:04:41 13 the removal action has also substantially

18:04:41 14 eliminated any identified pathways for exposure.

18:04:47 15 Right now a closure report has been

18:04:51 16 drafted. It's undergoing Navy review. And at

18:04:54 17 this point I guess I'm passing the baton to

18:04:55 18 Bechtel, since my work is about complete after

18:04:59 19 three years at Mole pier, and we're going to be

18:05:01 20 talking about the RI.

18:05:03 21 Any questions? Thank you.

18:05:15 22 MS. MORLEY: Does anyone have questions for

18:05:17 23 Glenn? Okay.

18:05:31 24 MR. BISHOP: Pete Stang, Bechtel

18:05:31 25 Environmental, Inc., "Site 2, The Next Step."

18:05:35 1 MR. STANG: Glenn, you could have at least
18:05:35 2 passed off the ceremonial pointer here. I'm
18:05:58 3 disappointed.
18:05:58 4 As Foster/Wheeler and the Navy
18:05:58 5 complete the removal action at Sub-Site 2A, the
18:06:05 6 next step is to investigate the entire Site 2.
18:06:10 7 As Glenn focused on six and a half
18:06:14 8 acres, Sub-Site 2A, the next step is to evaluate
18:06:15 9 the entire Mole pier, about 23 acres.
18:06:19 10 A little bit of history about the
18:06:23 11 site. Mole pier was actually part of San Diego
18:06:28 12 Bay up until approximately 1941. This is Paleta
18:06:34 13 Creek, and we can actually see the dredge material
18:06:42 14 construction of the portion of Naval Station on
18:06:46 15 the west side south of Paleta Creek. This is
18:06:49 16 essentially 7th Street, and this represents the
18:06:55 17 triangular portion of Mole pier site.
18:07:00 18 I guess we can see a little bit -- you
18:07:01 19 can actually see the dredge line out here where
18:07:05 20 the dredge material was being brought up from the
18:07:07 21 dredge barge here in San Diego Bay and
18:07:09 22 hydraulically pumped onto Mole pier --
18:07:13 23 As Glenn also mentioned, between 1945
18:07:20 24 and the 1970s there were significant disposal
18:07:24 25 activities that occurred at numerous locations on

18:07:28 1 Mole pier. Sub-Site 2A, the main disposal pit,
18:07:31 2 where there was petroleum deposited into
18:07:38 3 construction and other types of debris and burned
18:07:41 4 periodically in Sub-Site 2A.
18:07:45 5 This portion of the site is 2G, the
18:07:46 6 wharf builders yard, which was apparently a heavy
18:07:54 7 petroleum creosote type facility where piers, pile
18:08:01 8 timber was treated with creosote for the purpose
18:08:05 9 of pier and quay wall construction. There's also
18:08:12 10 in this photo a fairly open area here to the east
18:08:17 11 side of the site, which we refer to as 2D, 2E in
18:08:23 12 this area, 2B down here where there was a
18:08:30 13 significant amount of time from the '50s to the
18:08:31 14 '80s of brow and platform painting, sanding,
18:08:38 15 blasting, general industrial activity of that
18:08:40 16 nature.
18:08:41 17 In a circa 1960 photo, again, a pretty
18:08:50 18 good view of the Mole pier disposal area 2A.
18:08:55 19 What's been referred to in the past as a disposal
18:08:56 20 trench running through the eastern third of Mole
18:09:05 21 pier and some discolored soils here that represent
18:09:10 22 again the brow and platform painting and scraping
18:09:16 23 area.
18:09:16 24 The one thing I would like to point
18:09:18 25 out, during all the iterations, 7th Street even in

18:09:26 1 the early 1940s was always present. Apparently,
18:09:29 2 based on the construction of the quay wall and
18:09:33 3 historic utilities, was not directly part of the
18:09:39 4 waste deposition area was an inherent structure
18:09:41 5 throughout the history of Mole pier.
18:09:45 6 This is, I believe, about a year old
18:09:49 7 photo of Mole pier, oblique angle. It shows the
18:09:52 8 current condition of Mole pier with Sub-Site 2A
18:09:55 9 that Glenn already explained in great detail for
18:10:01 10 us; the CST, the area where the Navy manages
18:10:07 11 sediment dewatering and characterization
18:10:12 12 activities to support the ongoing maintenance
18:10:15 13 dredging activities and construction dredging
18:10:17 14 activities within San Diego Bay; the Navy
18:10:23 15 recycling facility; the Navy hazmart where small
18:10:31 16 quantities of paints, lacquers, things of that
18:10:35 17 nature are basically maintained for distribution
18:10:38 18 to even smaller activities. It's to keep the
18:10:43 19 paint lockers and what have you with just the bare
18:10:45 20 minimum of what's necessary in the individual
18:10:49 21 activities.
18:10:50 22 And a diagram showing how the
18:10:57 23 different subsites are identified throughout.
18:11:00 24 These circular structures here were essentially
18:11:04 25 the old ball fields, the outfield census for the

18:11:08 1 Navy ball fields out there. Some of these
18:11:11 2 designations: 2A is generally equivalent to some
18:11:18 3 of the industrial practices that have gone on. In
18:11:22 4 the case of 2C there really wasn't a defined
18:11:26 5 industrial activity. The site boundary is simply
18:11:29 6 a fence line. These boundaries help the Navy to
18:11:33 7 administratively define some of these areas for
18:11:36 8 keeping track of past and present land use.
18:11:40 9 This is pretty much a description of
18:11:46 10 what we've talked about here. There are some
18:11:49 11 former RC/RA related facilities. The CST
18:11:54 12 collection, storage, and transport facility was
18:11:58 13 essentially the hazardous waste collection
18:12:02 14 facility. And prior to the RC/RA part B permit
18:12:09 15 that was put in place in 1993 for Naval Station,
18:12:12 16 SWMU 5 and SWMU 6 were both completely contained
18:12:18 17 within 2A. SWMU 5 has been completely excavated
18:12:22 18 to approximately 12 to 14 feet in that area of the
18:12:28 19 removal action, and over 50 percent of SWMU 6, the
18:12:33 20 old paint shop, sandblast grid piles has been
18:12:38 21 completely excavated or over 50 percent has been
18:12:42 22 excavated during the 2A removal action.
18:12:46 23 In 1996 the creosote pit that I showed
18:12:51 24 at 2G was primarily excavated with confirmation
18:12:56 25 samples collected and a report completed

18:13:02 1 describing the activities. The Sub-Site 2A
18:13:09 2 removal action that Glenn has spoken to us about
18:13:11 3 is also part of the current condition and status.
18:13:14 4 Current conditions and status of Mole
18:13:21 5 pier is primarily fleet support and industrial.
18:13:23 6 Parking, dredge material handling within Sub-Site
18:13:27 7 2G, the hazmart facility, Navy recycling facility
18:13:35 8 where not only the typical things you might think
18:13:36 9 of recycling -- aluminum, cardboard, newspaper --
18:13:40 10 but also construction debris where the Navy has a
18:13:45 11 good program where asphalt/concrete can be brought
18:13:49 12 there, crushed into aggregate, and reused either
18:13:54 13 within the facility or actually sold for other
18:13:57 14 beneficial use purposes.
18:14:00 15 Offices and temporary paint shop
18:14:02 16 facility that was moved when the original paint
18:14:07 17 shop was dismantled and removed approximately two
18:14:11 18 years ago.
18:14:13 19 Overall, again, the site looking at
18:14:22 20 what Glenn has talked about with a tremendous
18:14:26 21 amount of the sampling activity, the significant
18:14:29 22 amount of effort for the Navy and by the Navy to
18:14:36 23 perform the removal action here to bring it to
18:14:40 24 constructive reuse as a parking facility, install
18:14:44 25 the greenbelt buffer to minimize storm water

18:14:48 1 runoff from the parking area to San Diego Bay,
18:14:51 2 allow for infiltration to minimize non-point
18:14:56 3 source discharge to San Diego Bay.
18:15:00 4 And now it's time to characterize the
18:15:03 5 rest of the site from a soil and groundwater
18:15:05 6 standpoint.
18:15:07 7 There have been a lot of
18:15:10 8 investigations, and certainly some of these helped
18:15:15 9 us identify that Sub-Site 2A with the information
18:15:20 10 we had was the most significant area of
18:15:24 11 contamination that we knew of, and a tremendous
18:15:27 12 amount of effort has been put into that portion.
18:15:32 13 We have the closure report for the CST
18:15:33 14 facility within 2A, the limited soil removal at
18:15:36 15 the CST within Sub-Site 2A, the RFI Phase 1 under
18:15:43 16 RC/RA for SWMU 6, RFI Phase 2 sampling at SWMU 6,
18:15:48 17 the removal site evaluation for Sub-Site 2A. And
18:15:52 18 the removal action of 2A is all focused, so
18:15:55 19 two-thirds, roughly, of the investigations from
18:15:58 20 Mole pier have focused on the western end of 2A.
18:16:02 21 There have been some spotty sampling
18:16:05 22 activities for soil and groundwater at the rest of
18:16:08 23 the site, but those 15 acres really do need -- the
18:16:12 24 Navy has decided do need a comprehensive remedial
18:16:16 25 investigation performed to determine the nature

18:16:19 1 and extent of contamination and what level of
18:16:24 2 threat does that contamination represent
18:16:29 3 The next steps: We have a predraft
18:16:36 4 work plan which is currently completing Navy
18:16:39 5 review and revision process. We will incorporate
18:16:43 6 the Navy's final comments and develop a draft work
18:16:48 7 plan and get that draft work plan to the agencies,
18:16:50 8 to the RAB, and to the public here within the next
18:16:55 9 couple month period.
18:16:57 10 We'll have that out for a 60-day
18:16:59 11 comment period, take public comments, comments
18:17:03 12 from RAB members, and comments from our regulatory
18:17:08 13 partners, revise and finalize the work plan,
18:17:13 14 conduct the RI. The purpose of the remedial
18:17:15 15 investigation for the overall Site 2 will be to
18:17:19 16 complete the definition of nature and extent of
18:17:20 17 contamination in soil for the remainder of Site 2,
18:17:27 18 not including Sub-Site 2A for soil and to evaluate
18:17:31 19 the nature and extent of contamination in
18:17:32 20 groundwater for all of Site 2 including Sub-Site
18:17:36 21 2A. Take that data, conduct risk assessment for
18:17:44 22 both human health purposes and a screening level,
18:17:45 23 ecological risk assessment, and based on the data
18:17:51 24 and results of the risk assessments, prepare a
18:17:52 25 remedial investigation report.

18:17:58 1 For soil delineation we plan to
18:18:00 2 install borings across Site 2 to include all
18:18:08 3 subsites except 2A which has been, again,
18:18:11 4 primarily excavated with perimeter samples showing
18:18:17 5 that the primary goals of the removal action were
18:18:19 6 completed. Where they didn't in the main
18:18:22 7 excavation, they went out and targeted hot spots
18:18:24 8 in the remaining portion of Site 2, Sub-Site 2A to
18:18:29 9 complete the information, and having a fairly
18:18:35 10 dense amount of data within the remaining soil
18:18:43 11 from their characterization samples to give us a
18:18:45 12 good handle on what is left in place at 2A.
18:18:50 13 So for the remedial investigation, use
18:18:53 14 that data from 2A with the data that we plan to
18:18:57 15 collect at the rest of the sub-sites.
18:18:59 16 Collect samples at multiple depths,
18:19:02 17 zero to two feet, eight feet to ten feet, and
18:19:05 18 targeted deeper locations based on information we
18:19:09 19 have from the removal action at 2A and previous
18:19:14 20 investigations where detections were identified
18:19:18 21 greater than 10 feet, analyze those samples for
18:19:21 22 complete suite of analytes.
18:19:24 23 Again, our rationale is to define the
18:19:24 24 nature and extent with sufficient soil samples
18:19:31 25 across the entire site while allowing sufficient

18:19:31 1 flexibility to make sub-site by sub-site
18:19:36 2 individual decisions if necessary.
18:19:39 3 To delineate groundwater, we plan to
18:19:44 4 use the nine existing shallow wells on-site,
18:19:48 5 augment that with a number of additional shallow
18:19:52 6 monitoring wells to give us a good understanding
18:19:55 7 of nature and extent of shallow groundwater. Also
18:19:58 8 install deep wells to assess the potential for
18:20:04 9 groundwater contaminants to have basically gone to
18:20:08 10 depths greater than 30 to 35 feet to examine the
18:20:12 11 groundwater deeper but to see if there have been
18:20:16 12 any DNAPLs or any chlorinated solvents or other
18:20:19 13 groundwater contaminants that have a tendency to
18:20:22 14 sink in the water column; perform multiple rounds
18:20:24 15 of groundwater sampling; conduct a 25-hour "Tidal
18:20:28 16 Influence Study" to give us some understanding of
18:20:35 17 the dynamic between San Diego Bay and groundwater
18:20:39 18 at the site.
18:20:41 19 Those objectives, again, are to
18:20:42 20 delineate horizontal and vertical extent of
18:20:43 21 contamination in groundwater; assess potential
18:20:46 22 communication in the dynamics of hydraulics with
18:20:54 23 bay water during tidal change; assess groundwater
18:20:59 24 conditions along the quay wall along 7th Street,
18:21:03 25 which is the primary potential point of contact

18:21:09 1 between any contaminated groundwater at the site
18:21:12 2 and ecological receptors; and evaluate groundwater
18:21:15 3 condition stability.
18:21:19 4 Our site and our proposed network of
18:21:24 5 monitoring wells are still completing numbers and
18:21:28 6 locations with the Navy, but essentially
18:21:31 7 establishing multiple series of wells along 7th
18:21:41 8 Street, a series of wells along the perimeter of
18:21:46 9 the site, and a series of wells within the site
18:21:52 10 within each one of the sub-sites to give us a
18:21:56 11 "broad" understanding of the site as well as an
18:22:01 12 understanding of specific potential groundwater
18:22:06 13 conditions within each of the sub-sites.
18:22:11 14 I'd be happy to entertain any
18:22:13 15 questions at this time.
18:22:18 16 MR. BISHOP: What tides are you looking at?
18:22:22 17 The highest high tide?
18:22:24 18 MR. STANG: I think our intent would be to
18:22:26 19 look at the spring tides, to look at the high
18:22:29 20 highs and the low lows on either the full moon or
18:22:32 21 a new moon, and look at what the maximum tidal
18:22:36 22 influence would be on the wells that we would
18:22:43 23 install within 10s of feet of the quay wall
18:22:48 24 itself, and the intent would be to look at
18:22:50 25 multiple depths, not only shallow groundwater but

18:22:57 1 deeper groundwater as well where there may be
18:22:59 2 potential pathways either through the quay wall or
18:23:07 3 underneath the quay wall. That would give us a
18:23:09 4 handle, I think, on both vertical and horizontal
18:23:11 5 delineation. It will give us an understanding of
18:23:15 6 where the path of least resistance or the
18:23:19 7 preferred pathways, if any, may be located, and we
18:23:22 8 can use that data on the maximum tidal swing to
18:23:30 9 average over that 25-hour and give us for the
18:23:33 10 entire site a good understanding of the net mean
18:23:39 11 groundwater gradient which in theory and generally
18:23:45 12 in practice should be quite similar to if we went
18:23:48 13 out there on the neapest of neap tides when tidal
18:23:52 14 change was smallest.
18:24:01 15 MS. McINTYRE: I haven't been here for a
18:24:01 16 while, but I remember the Mole pier. And how big
18:24:03 17 is the entire site?
18:24:06 18 MR. STANG: Mole pier itself --
18:24:08 19 MS. McINTYRE: I'm not talking about Mole
18:24:08 20 pier. The whole --
18:24:10 21 MR. STANG: 23 acres. The triangular area,
18:24:10 22 the RI site is approximately 23 acres.
18:24:16 23 MS. McINTYRE: So the Site 2A is the only
18:24:19 24 site that's been really completely evaluated and
18:24:24 25 closed now?

18:24:25 1 MR. STANG: It hasn't been closed yet, but
18:24:27 2 it is certainly the portion of Site 2 that has had
18:24:31 3 the greatest sampling density for soil and
18:24:37 4 certainly the greatest effort to perform the
18:24:42 5 removal action to remove the contaminated soil, to
18:24:45 6 remove a couple feet of the upper portion of the
18:24:48 7 impacted groundwater.
18:24:50 8 As Glenn had mentioned earlier, the
18:24:53 9 excavation has gone down where they found the
18:24:57 10 diesel free product, some as deep as I believe
18:25:01 11 four to five feet into groundwater. So 2A has
18:25:10 12 been -- for all intents and purposes, I believe
18:25:13 13 about 80 percent of 2A down to about 11 or 12 feet
18:25:17 14 has been removed. It is gone. What's left
18:25:22 15 through characterization of sidewall samples, as
18:25:26 16 well as some grid sampling that was performed to
18:25:30 17 identify the hot spots that Glenn mentioned I
18:25:32 18 think in Phases 5, 6 and 7, give us a good handle
18:25:39 19 that those hot spot removal actions in the eastern
18:25:42 20 part of 2A accomplished the goal of getting rid of
18:25:46 21 those hot spots.
18:25:49 22 MS. MORLEY: Also at Sub-Site 2G there was
18:25:51 23 a removal action. You guys probably remember
18:25:53 24 Foster/Wheeler -- they were called Baxter then --
18:25:56 25 they did the thermal treatment where they had

18:25:59 1 treated the soil on site, and that was where Pete
18:26:02 2 was showing you the old ball fields, so that was
18:26:05 3 also described by Glenn.
18:26:09 4 MS McINTYRE: Was that site always
18:26:10 5 Sub-Site 2A through G?
18:26:18 6 MS. MORLEY: I think that's when they
18:26:18 7 established 2G was when Foster/Wheeler was going
18:26:18 8 in to do their work because it was just so large.
18:26:23 9 MS. McINTYRE: Right. Thank you.
18:26:27 10 MR. STANG: Thank you very much.
18:26:29 11 MR. BISHOP: Thanks, Pete.
18:26:31 12 MS. MORLEY: I guess I'm up next to give an
18:26:32 13 update on the proposed plan for Sites 5, 7, 11,
18:26:37 14 and 12.
18:26:39 15 As you remember last time when our
18:26:41 16 story unfolded, DTSC had written the Navy a letter
18:26:43 17 stating that they basically didn't agree with no
18:26:49 18 further action. They wanted us to do further
18:26:49 19 groundwater sampling.
18:26:53 20 Well, even though we stand by our
18:26:56 21 contention that the site doesn't need it, because
18:26:58 22 we're such nice people and get along so well with
18:27:02 23 DTSC, we're going to say okay. So we sent them a
18:27:03 24 letter -- two letters, actually, basically coming
18:27:06 25 up with our proposal for groundwater sampling at

18:27:10 1 the site, and now we're just waiting to hear back
18:27:13 2 what they think of our proposal. So the next time
18:27:15 3 we meet we should have more information; right,
18:27:18 4 Douglas?
18:27:19 5 MR BAUTISTA: Yes. Thank you.
18:27:22 6 MS. MORLEY: You're welcome. Especially
18:27:23 7 that part about us being nice; right, Douglas?
18:27:28 8 And that's the update on the proposed
18:27:32 9 plan.
18:27:36 10 Tim is not Carol Yamane.
18:27:40 11 MR. HEIRONIMUS: I am not Carol Yamane.
18:27:40 12 MS. MORLEY: This is Tim Heironimus, and he
18:27:40 13 is going to talk about IR Site 3.
18:27:44 14 MR. HEIRONIMUS: Thanks, Theresa.
18:27:46 15 MS. MORLEY: You're welcome, Tim.
18:27:47 16 MR. HEIRONIMUS: Those who may not know me,
18:27:50 17 I am Tim Heironimus. I'm the project manager with
18:27:52 18 Bechtel on Naval Station, and I'm filling in for
18:27:57 19 Carol who couldn't be here tonight.
18:27:59 20 Before I get started with the
18:28:02 21 discussion that I have here, I just wanted to
18:28:05 22 mention a couple of things. First of all, this is
18:28:08 23 the first of two presentations that you'll see on
18:28:10 24 Site 3 tonight. The second is going to be given
18:28:14 25 by Dave Murchison with DTSC, and they will be

18:28:19 1 providing DTSC's perspective on Site 3.

18:28:24 2 This project has been stalled out

18:28:29 3 until recently. What we want to do now is get it

18:28:33 4 back on track, get things moving, so that's really

18:28:39 5 the purpose of trying to get together again and

18:28:44 6 decide on what the next steps ought to be on

18:28:46 7 Site 3.

18:28:48 8 The second thing I wanted to mention

18:28:50 9 before I get started is just basically a summary

18:28:55 10 of where we are right now in a nutshell.

18:28:59 11 In 2000 the Navy submitted a prefinal

18:29:03 12 remedial investigation report for Site 3, and that

18:29:10 13 report was submitted to the regulators and to the

18:29:13 14 RAB. We did receive comments back from DTSC who

18:29:19 15 primarily had the most significant comments on the

18:29:23 16 document, and the Navy prepared responses to those

18:29:26 17 comments and provided those back to DTSC. And we

18:29:33 18 have sort of a back and forth discussion on paper

18:29:37 19 here with DTSC, but DTSC then provided back their

18:29:43 20 responses to their comments, if you will, and we

18:29:50 21 have had those for a while.

18:29:52 22 The Navy has recently submitted back

18:29:55 23 responses for more discussion on that, so there's

18:30:00 24 a paper trail here of comments and responses that

18:30:04 25 we have gone through.

18:30:05 1 Where it stands right now is we're at
18:30:07 2 the point where we want to sit down again with
18:30:10 3 DTSC and negotiate what we need to do to complete
18:30:16 4 this RI report and move Site 3 along.
18:30:21 5 One more note. The Site 3 remedial
18:30:26 6 investigation report when it was prepared
18:30:29 7 essentially focused more on soil, if you will. We
18:30:34 8 included a baseline human health risk assessment
18:30:37 9 for soil in that document, and we conducted the
18:30:42 10 risk assessment using a residential scenario and
18:30:46 11 industrial scenario, so both of those are in
18:30:48 12 there.
18:30:49 13 The risk basically came up for
18:30:51 14 residential use would have come up in the higher
18:30:55 15 end of what we call the risk management range.
18:30:58 16 Some of you probably already heard of that before,
18:31:01 17 but it's EPA's designation for what would be
18:31:07 18 considered acceptable risk, which are risks
18:31:10 19 greater than one in a million of contracting
18:31:14 20 cancer.
18:31:15 21 At the other end of that range are
18:31:17 22 risks that would be considered unacceptable, which
18:31:18 23 are risks that are 1 in 10,000, and that's usually
18:31:24 24 denoted in scientific notation by 10 to the minus
18:31:29 25 4, which is one in 10,000, and 10 to the minus 6

18:31:31 1 or 1 in a million

18:31:34 2 So the risks were toward the 10 to the

18:31:36 3 minus 4 range for residential; whereas, for an

18:31:41 4 industrial scenario, similar to why it's being

18:31:44 5 used right now, risks are at the other end of the

18:31:46 6 spectrum which are more 10 to the minus 5 or one

18:31:50 7 in a hundred thousand.

18:31:52 8 The report also acknowledged that

18:31:58 9 additional groundwater evaluation was needed at

18:32:01 10 the site, so that's certainly in that report and

18:32:05 11 set the stage for the next step.

18:32:08 12 So with that, I think I'll go ahead

18:32:15 13 and get started. Dave I think is going to hit

18:32:15 14 quite a bit of the site history and some of the

18:32:17 15 concerns that DTSC have, so I'll probably try and

18:32:23 16 make mine a little more brief 'cause I know that

18:32:26 17 some of that is going to be covered in our

18:32:30 18 discussion.

18:32:30 19 MR. MURCHISON: Don't worry, Tim. I'm

18:32:30 20 going to be brief, too.

18:32:32 21 MR. HEIRONIMUS: Sounds good.

18:32:35 22 You can see Site 3 is right in the

18:32:46 23 vicinity there at Paleta Creek. An enlargement of

18:32:53 24 Site 3, sort of a slightly rectangular site.

18:33:01 25 One thing I want to point out here is

18:33:03 1 a fence line that's existing right now. That
18:33:07 2 defines the northern part of the site from the
18:33:10 3 southern portion of the site, and that's fairly
18:33:15 4 significant in the way we evaluate the risk and
18:33:20 5 have down various investigations. And as I
18:33:20 6 mentioned, there's been some soil removal actions
18:33:25 7 down there that focused primarily in the southern
18:33:29 8 part.
18:33:30 9 Site 3 operated from 1943 to 1975, and
18:33:35 10 it was the Navy's recycling center and area for
18:33:41 11 handling hazardous waste materials. There were
18:33:47 12 two incinerators located here that were used for
18:33:50 13 burning of all the wastes that weren't recycled or
18:33:55 14 otherwise reused. There was also another
18:33:59 15 incinerator located in about that area. That was
18:34:02 16 reportedly used for burning classified
18:34:05 17 documents -- papers and such.
18:34:07 18 Also, a couple of things to note here:
18:34:11 19 There were three USTs on this northern part of the
18:34:14 20 property, and the site itself was used for waste
18:34:21 21 storage, and they would keep materials stored at
18:34:24 22 the surface in drums and so on.
18:34:28 23 Here's the current use of Site 3.
18:34:33 24 This is up on the northern part, and for those of
18:34:36 25 you fairly familiar with it, this is the PWC

18:34:39 1 security parking lot, and the maintenance building
18:34:43 2 is off the screen and would be off in this
18:34:43 3 direction. This is, I believe, a natural gas
18:34:48 4 fueling station.
18:34:50 5 This is the southern two-thirds, so
18:34:52 6 it's this area here, and it is used as a parking
18:34:59 7 lot for the fleet while they're at duty.
18:35:05 8 What I mainly want to focus in on here
18:35:11 9 from the Navy's perspective, we have done a lot of
18:35:14 10 work at this site. We have made progress on it,
18:35:17 11 despite the fact that it's taken us quite some
18:35:22 12 time to get where we are right now. And I'll just
18:35:27 13 not focus on the site investigation so much, but
18:35:34 14 maybe address a few of the removal actions.
18:35:35 15 Just to mention these, 1986 was the
18:35:41 16 first time the site was even evaluated. This was
18:35:44 17 an initial assessment study, a paper study
18:35:47 18 essentially, that identified the need for further
18:35:51 19 work.
18:35:52 20 In 1986 there was a soil and
18:35:54 21 groundwater assessment done by Latten &
18:35:57 22 Associates, I believe. And in 1988 there was a
18:36:06 23 verification step investigation, which was the
18:36:11 24 next step that you take in a CERCLA process to
18:36:16 25 investigate sites to get a better gauge on whether

18:36:19 1 it's of concern or not.

18:36:24 2 A 1992 site assessment and a

18:36:28 3 geotechnical study for citing -- one time the Navy

18:36:33 4 wanted to cite a cold storage facility on the

18:36:36 5 property but they didn't follow through with that.

18:36:40 6 And I don't believe this is correct,

18:36:42 7 but in 1992 there was additional site

18:36:48 8 investigation work, site inspection work done by

18:36:51 9 IT Corporation. This 1994 soil assessment is

18:36:56 10 basically an underground storage tank removal

18:36:58 11 investigation; and a removal site evaluation

18:37:05 12 performed by OHM which later became IT, and that

18:37:11 13 was in preparation for a soil removal action down

18:37:16 14 here on this southern two-thirds.

18:37:17 15 There you can see the tally of the

18:37:17 16 number of samples that were collected for these

18:37:24 17 investigations. Just 430 samples were collected

18:37:27 18 during the time critical removal action which was

18:37:31 19 this area here.

18:37:34 20 Just to explain this a little bit,

18:37:35 21 this shows the boundaries of soil removed -- they

18:37:42 22 are located in three areas here: this is Area 1,

18:37:44 23 Area 2, and Area 3. And after that removal action

18:37:50 24 was completed, the site was backfilled and

18:37:54 25 restored to its parking lot surface. There was

18:37:58 1 additional soil samples collected, approximately
18:38:02 2 80 borings and soil samples put into this area
18:38:08 3 here, and we had 27 soil samples also collected up
18:38:16 4 in this northern area under a work plan that was
18:38:22 5 prepared and approved by the regulatory agencies.
18:38:25 6 Now, the work that we've accomplished
18:38:28 7 for the soil removal, starting off there was a
18:38:34 8 soil removal action done for about eight inches of
18:38:39 9 soil over 150 by 150 foot square area, but there's
18:38:44 10 really no documentation for where that occurred.
18:38:50 11 We know it occurred at Site 3, but that's about
18:38:51 12 all we know. It probably occurred up in the
18:38:55 13 incinerator area, but I don't know.
18:38:58 14 Again, the underground storage tanks
18:39:03 15 were removed. This particular tank was found to
18:39:07 16 have leaked and contaminated soil with diesel, so
18:39:10 17 there was 180 cubic yards of diesel contaminated
18:39:15 18 soil removed from that area.
18:39:18 19 And before I move on to the main time
18:39:23 20 critical removal action, there was what we call a
18:39:25 21 post time critical removal action. That was a
18:39:31 22 small area located right here where some
18:39:35 23 contaminated soil was moved out of a 10 foot by 10
18:39:37 24 foot area.
18:39:39 25 This is the time critical removal

18:39:45 1 action. Again, you see the boundaries. The grids
18:39:48 2 depict the depth of soil excavation with the
18:39:54 3 colors -- our color key here -- but I believe the
18:39:59 4 deepest soils removed were down to about 10 to 12
18:40:05 5 feet, and most areas more like six to eight feet.
18:40:09 6 The deeper areas -- well, it varies, but there was
18:40:12 7 a strip along here and several others.
18:40:18 8 This was a time critical removal
18:40:18 9 action. It was not intended to be a final
18:40:23 10 remedial action, so it was done as a fast track
18:40:29 11 process. And in doing that, the lead and PCBs or
18:40:34 12 polychlorinated biphenyls were determined to be
18:40:39 13 the primary chemicals of concern for the removal
18:40:42 14 action, and there were target cleanup levels set
18:40:47 15 for those contaminants. Basically those were set
18:40:50 16 at what's known as the PRGs or the preliminary
18:40:52 17 remediation goals that EPA identifies for
18:40:58 18 chemicals on a health based risk basis.
18:41:02 19 Just one last thing: both of those
18:41:07 20 contaminants are not very mobile. Something to
18:41:12 21 note there.
18:41:16 22 Now, for groundwater, again, I go back
18:41:23 23 to what I said earlier. There is a need to do
18:41:26 24 some additional groundwater evaluation, but we do
18:41:31 25 have some groundwater information from the site,

18:41:34 1 either from former wells or existing wells that
18:41:39 2 were put in after the time critical removal
18:41:42 3 action. You can see the color key where these
18:41:42 4 former wells were located. A number of those had
18:41:49 5 to be removed during the removal action, and OHM
18:41:52 6 subsequently reinstalled these new wells right
18:41:59 7 here.
18:41:59 8 In addition to that, there were
18:41:59 9 hydropunch samples collected at these blue dots.
18:42:02 10 These are basically grab groundwater samples that
18:42:05 11 are collected while drilling.
18:42:11 12 And the overall groundwater gradient
18:42:15 13 is actually towards the north, which is a little
18:42:19 14 curious right now, and I think we need to know
18:42:21 15 more about what that entails and why that is.
18:42:28 16 Just to touch upon a couple of points
18:42:32 17 back to the prefinal remedial investigation in
18:42:38 18 that report, we did develop that confirmation
18:42:41 19 sampling strategy after the time critical removal
18:42:42 20 action. That was done jointly with an approved
18:42:48 21 work plan When we prepared the RI report again
18:42:53 22 and focused on the soil, primarily the results of
18:42:58 23 the post time critical removal action sampling,
18:43:00 24 and why that's significant is that during the time
18:43:03 25 critical removal action, the samples that were

18:43:05 1 collected again were collected for lead and PCBs,
18:43:10 2 so there was not data for an entire spectrum of
18:43:15 3 possible chemicals that were out at the site. So
18:43:17 4 there was a definite need to go back there to the
18:43:21 5 site and get additional data that filled in more
18:43:27 6 information on what the possible chemicals were of
18:43:30 7 concern remaining in the soil.
18:43:32 8 Again, we separated the site into two
18:43:36 9 areas, north and south. We carried that through
18:43:39 10 with the risk assessment, so the risk assessment
18:43:40 11 calculates risk for the north area and for the
18:43:44 12 south area.
18:43:47 13 Again, just to touch on that, we have
18:43:50 14 been going through a process here where we're
18:43:53 15 trying to work through what everyone's needs will
18:43:57 16 be on this project. Hopefully, what we want to do
18:44:01 17 here is team up with DTSC and sit down and develop
18:44:06 18 a joint strategy where we're all comfortable with
18:44:08 19 the data that we collect will be sufficient to
18:44:12 20 complete the RI, so that's really the goal of what
18:44:16 21 we want to do as the next step.
18:44:18 22 Now, we have this slide up here.
18:44:24 23 Obviously, the most important one I think is the
18:44:27 24 exact scope. The soil and groundwater will be
18:44:29 25 presented in the work plan. We probably have some

18:44:34 1 differences of opinion on these two, but it's
18:44:36 2 nothing we can't come to an agreement on.
18:44:40 3 And, hopefully, if we sit down and set
18:44:46 4 some timelines for ourselves, we do have this most
18:44:51 5 recent set of DTSC comments on the responses we
18:44:55 6 sent. However, I think what would be most
18:44:57 7 fruitful now is to actually have a face-to-face
18:45:04 8 meeting and iron these issues out.
18:45:04 9 And we're hoping we can do that in
18:45:08 10 February next month here and get geared up to
18:45:13 11 prepare what we're calling an extended remedial
18:45:15 12 investigation work plan. Again, the focus there
18:45:19 13 is let's fill in these additional data needs and
18:45:23 14 get the dataset that everyone feels comfortable
18:45:26 15 with.
18:45:27 16 We targeted that for July for the
18:45:31 17 draft to come out for the RAB and the agencies for
18:45:36 18 their review again. Hopefully, we'll be in the
18:45:40 19 field in the fall, and the extended remedial
18:45:44 20 investigation report would be in next year's time
18:45:49 21 frame there in the summer and fall.
18:45:52 22 That's all I have. If anyone has any
18:45:55 23 questions, I'll be happy to try and answer those.
18:46:01 24 MR. BISHOP: Thanks
18:46:04 25 MS. MORLEY: Dave, you're up.

18:46:07 1 MR. MURCHISON: All righty.

18:46:20 2 Just to introduce myself, I'm Dave

18:46:24 3 Murchison. I've been with DTSC a couple of years

18:46:30 4 now. I have been a professional geologist quite

18:46:34 5 some time doing oil patchwork, research work with

18:46:39 6 the ocean drilling program, working at the United

18:46:42 7 States Department of Energy, working for

18:46:46 8 environmental consulting companies like

18:46:47 9 Groundwater Technology and Ridell Environmental

18:46:51 10 Services. I've been in my own practice for, oh,

18:46:57 11 nine years or something like that before coming to

18:47:00 12 DTSC.

18:47:02 13 What my job is is to do the geological

18:47:10 14 evaluation of work that is designed to protect

18:47:15 15 human health and the environment. No part of my

18:47:20 16 job description says that I'm to be a road block,

18:47:23 17 and we do strive to avoid that perception.

18:47:33 18 Now, going through this little

18:47:39 19 presentation, when you see red type, you're seeing

18:47:46 20 something that worried me as I reviewed the

18:47:50 21 documents that go into this site.

18:47:55 22 So, anyway, the first question that

18:48:01 23 DTSC geologists have to ask about a site is what

18:48:07 24 was it that happened here. What materials were

18:48:11 25 used, how were they used, what was the intention

18:48:13 1 of the work, what were the rules in place while
18:48:19 2 the work was being done, and how would those
18:48:23 3 contaminants behave in this place. All right?
18:48:29 4 Now, the information we have is this:
18:48:35 5 Site 3 received a wide variety of materials from
18:48:40 6 several Naval stations and the fleet. It included
18:48:51 7 solvents, batteries containing battery acid, a
18:48:54 8 wide variety of metals, a wide variety of
18:48:59 9 petroleum base compounds -- PCBs, so on.
18:49:05 10 What rules were in place? Essentially
18:49:08 11 none. The environmental rules that were in place
18:49:13 12 when this place started up in 1943 were
18:49:16 13 essentially this: you may not put anything in San
18:49:16 14 Diego Bay that impedes navigation. So the rules
18:49:25 15 were not as tough then as they are now.
18:49:32 16 So here's what we know. There's stuff
18:49:42 17 from the petroleum family including lubricants,
18:49:47 18 fuels, a fairly wild range of things. There's
18:49:52 19 transformers that came in. Well, those
18:49:53 20 transformers contained transformer oil which
18:49:53 21 probably contained PCBs. Other equipment came in
18:50:03 22 containing -- we don't know what it was. There
18:50:05 23 could have been antifreeze -- exotic stuff. It's
18:50:12 24 hard to know.
18:50:16 25 Then metals -- there's a fairly wide

18:50:19 1 array of metals that we routinely test for, and
18:50:23 2 there's been a good deal of metal testing at the
18:50:25 3 site. The stuff that's worrisome tends to be
18:50:27 4 things like lead and copper and mercury.
18:50:34 5 Now, you can see there's some other
18:50:38 6 stuff -- medical waste. I'm a geologist. I don't
18:50:38 7 worry about medical waste. But here's the deal.
18:50:44 8 Stuff was poured on the ground, stuff was stored
18:50:51 9 in leaking drums. A previous person in my job did
18:50:57 10 some calculations that come out with numbers that
18:51:00 11 are scary about how much stuff might have been
18:51:02 12 discharged to the ground and to the bay at this
18:51:06 13 site.
18:51:09 14 If you look at how this stuff works
18:51:11 15 together -- if battery acid is spilled on the
18:51:14 16 ground, it contains dissolved lead if it's a lead
18:51:18 17 acid battery. It may contain other metals that
18:51:22 18 come from the battery, but there's also scrap
18:51:24 19 metal on and in the ground, and so essentially any
18:51:28 20 metal that is present at Site 3 can be dissolved
18:51:31 21 in battery acid and carried down toward
18:51:34 22 groundwater.
18:51:37 23 So the question is how deep is
18:51:39 24 groundwater? It's ten feet. It doesn't take a
18:51:44 25 lot of spillage to get toxic metals all the way

18:51:49 1 down to groundwater at 10 to 12 feet below grade.
18:51:54 2 Similarly, there are solvents here -- chlorinated
18:51:57 3 and unchlorinated solvents that can dissolve
18:52:01 4 things like PCBs, that can add mix with things
18:52:07 5 like members of the petroleum family and carry
18:52:10 6 those things down to groundwater.
18:52:22 7 So groundwater is about ten feet below
18:52:24 8 the surface. As Tim said, the gradient is to the
18:52:25 9 north and northeast. The soils, it's largely
18:52:34 10 hydraulic fill which can be anything from sand
18:52:39 11 that moves contaminants pretty easily to clay that
18:52:42 12 doesn't move them hardly at all. Shell fragments
18:52:46 13 are common. That says to me that the source is
18:52:49 14 marine. It's stuff from the bay that has
18:52:53 15 typically been found so far in terms of the soil
18:52:57 16 at the site.
18:52:59 17 Field geologists always look at the
18:53:01 18 notes from the field, and there were a good many
18:53:04 19 cases where the field geologists reported chemical
18:53:06 20 and sewage odors as the geologists worked. Well,
18:53:13 21 the geologists were smelling something, so that's
18:53:17 22 just an additional indication that I look at, that
18:53:22 23 I worry about a little bit.
18:53:24 24 Same timeline as Tim showed you
18:53:32 25 essentially with my little red marks. PCB testing

18:53:36 1 in a small area, the data's lost. Okay. Well,
18:53:43 2 I'm not too worried about that. I'm disappointed
18:53:46 3 in that. Then there was geotechnical work that
18:53:51 4 found PCB, cadmium, copper, lead, and arsenic.
18:53:53 5 Those are all bad things to find, and the soil
18:53:58 6 sampling was limited to five feet. Well,
18:54:03 7 groundwater's at ten, so I worry about that
18:54:08 8 difference between the five feet and the ten.
18:54:13 9 '86 additional assessment; '87
18:54:13 10 verification.
18:54:17 11 Site inspection resampled three wells
18:54:28 12 that had been put in before, found -- now this is
18:54:31 13 all jargon -- 1,1 DCA is 1,1 dichloroethane which
18:54:34 14 is a chlorinated solvent that is not terribly
18:54:40 15 soluble in water. Yet, when it hits water, it
18:54:41 16 sinks, and it can carry along other materials that
18:54:47 17 are dissolved in it.
18:54:49 18 1,1 DCE is 1,1 dichloroethene which is
18:54:51 19 a similar chlorinated solvent. Both of these can
18:54:59 20 be present because other solvents are breaking
18:55:02 21 down in the subsurface. I don't know what's going
18:55:10 22 on there exactly, but those things are present and
18:55:13 23 those worry me.
18:55:16 24 CS2, carbon disulfide, that is a
18:55:19 25 clear, heavy, sweet-smelling solvent that's used

18:55:24 1 in a lot of plastics work, rubber work, various
18:55:29 2 odds and ends. It's not used for cleaning parts
18:55:35 3 like these two are, so this is from some different
18:55:39 4 source. Now, carbon disulfide will dissolve just
18:55:44 5 about anything organic and carry it along with it.
18:55:47 6 It will dissolve metals like potassium -- the
18:55:52 7 lighter metals, and it's about one-half of one
18:55:59 8 percent soluble in water, which means it's much
18:56:03 9 more soluble than these things, but still not very
18:56:07 10 soluble. It's heavier than water, which means
18:56:10 11 it's going to sink. So if a lot of -- and we
18:56:13 12 don't know -- but if a lot of this was released at
18:56:14 13 the site, it could have carried a good deal of
18:56:20 14 material down with it into groundwater and then
18:56:25 15 gradually dissolved away and be gone and so on.
18:56:28 16 Now, I understand that I'm sort of
18:56:30 17 saying this is sounding a little like the argument
18:56:34 18 that I as raised by a tribe of invisible Indians
18:56:36 19 and my proof is that they've let no trace. I'm
18:56:43 20 just nervous about the fact that this stuff is
18:56:46 21 there. And if it's there, it can be a bad actor,
18:56:48 22 particularly with respect to moving other
18:56:51 23 contaminants around.
18:56:56 24 '93 soil assessment. That's the thing
18:56:56 25 up in the northern section where there has not

18:57:06 1 been too much work they removed some USTs. The
18:57:12 2 county supervised it during the closure of the
18:57:13 3 tanks, and they were mainly interested in the
18:57:20 4 diesel tank, to there wasn't a lot of testing for
18:57:24 5 other things that I'm worried about at the site,
18:57:26 6 the contaminants -- the toxic contaminants.
18:57:30 7 Removal site evaluation -- I should
18:57:38 8 have made this red -- again, this removal site
18:57:42 9 evaluation depth of investigation is five feet.
18:57:45 10 Groundwater is at ten. And they're testing for
18:57:54 11 things that they should be worried about but
18:57:57 12 they're not going to groundwater or past the
18:58:01 13 groundwater surface.
18:58:04 14 Then the removal action. 22,000 cubic
18:58:13 15 yards of soil -- you can read this. It was a fair
18:58:16 16 amount of stuff that was removed.
18:58:22 17 430 confirmation samples were taken
18:58:25 18 and analyzed for lead and PCB. Now, this is a
18:58:29 19 little bit tragic. 430 samples were analyzed.
18:58:31 20 Only 63 could be mapped. We only know now,
18:58:37 21 apparently, where 63 of those were. That means
18:58:40 22 367 of them are of no use to me in figuring out
18:58:52 23 what contamination there was at the site, where it
18:58:54 24 was, what its distribution was -- you know, was
18:58:58 25 the bad contamination all in one place, was it in

18:59:01 1 two places, was it in 12. Was it associated with
18:59:05 2 one building? One pit? What? The assertion that
18:59:13 3 there were 430 samples taken and analyzed seems to
18:59:16 4 be completely correct. I have no argument with
18:59:19 5 that. The samples that I can use are the 63 that
18:59:25 6 we know where they were taken.
18:59:35 7 Now, down here, removal not complete
18:59:35 8 under the pipelines. There's like a 16-inch water
18:59:36 9 main that goes across the site. It goes down
18:59:43 10 along here.
18:59:47 11 All those 60 some odd samples that are
18:59:51 12 available from the removal site evaluation --
18:59:55 13 excuse me -- from the removal action, all those
19:00:01 14 are along this particular trench. And when you
19:00:06 15 get down in this area, there were samples of soil
19:00:11 16 that were still in the ground that come back not
19:00:14 17 just toxic, but hazardous under California law.
19:00:20 18 That means they're pretty bad soil samples, and
19:00:23 19 they represent soil that's still in place.
19:00:26 20 Now, a lot of soil was removed here,
19:00:30 21 but there's a lot left that hasn't been either
19:00:34 22 removed or really investigated.
19:00:38 23 This color key goes with these things.
19:00:41 24 This blue on here like there and there and there
19:00:45 25 and there, that represents places where only two

19:00:47 1 to four feet of soil was removed, leaving six to
19:00:51 2 eight feet between there and groundwater and so
19:00:56 3 on. The yellow, which didn't come through very
19:00:57 4 well at all in this scan, but I assure you there
19:01:04 5 are some yellow squares on there, four to six
19:01:10 6 feet; red 8 to 10 feet; gray 10 to 12 feet.
19:01:23 7 So you do some calculations and you
19:01:25 8 figure out -- what my calculations are is that
19:01:31 9 about one-third of the soil at the site above
19:01:36 10 groundwater has been removed and replaced. Now,
19:01:39 11 that's progress. That's good. I don't object to
19:01:43 12 that. The problem is all of that expensive data
19:01:46 13 that I can't use is a real frustration.
19:01:50 14 Then remedial investigation followed
19:01:57 15 up on the removal, 55 borings -- the way I read
19:02:01 16 it, 55 boring locations, 80 soil samples. Maximum
19:02:01 17 depth of investigation eight and a half feet.
19:02:09 18 Again, we didn't get to the groundwater. We
19:02:11 19 didn't get to see any of the soil below the
19:02:14 20 groundwater entries. And there was some water
19:02:19 21 sampling, metals, gamma and beta. It did turn up
19:02:26 22 a little, I guess -- is this correct, Tim? There
19:02:27 23 was a little gamma beta that turned up in the
19:02:30 24 water samples?
19:02:33 25 MS. MORLEY: Yes.

19:02:37 1 MR. MURCHISON: And then also in '99 there
19:02:42 2 was a tidal influence study done, and essentially
19:02:43 3 what that did is it confirmed that some of the
19:02:48 4 groundwater at the site is in connection with
19:02:50 5 tidal water, which is either the bay or Paleta
19:02:55 6 Creek.
19:02:56 7 Here's what keeps me up at night. Not
19:03:01 8 so much that one. Tim pointed this out. The
19:03:08 9 removal action was really not intended as a way of
19:03:13 10 closing the site, and it's very inside baseball,
19:03:19 11 but it's something that DTSC worries about.
19:03:23 12 An action that is designed to close a
19:03:27 13 site can be very different from an action that's
19:03:29 14 just intended to get some nasty stuff out of the
19:03:32 15 ground quickly, and it's the second kind of
19:03:36 16 removal that we had.
19:03:38 17 The lab analysis that was done of soil
19:03:52 18 samples taken from the bottom of the excavation
19:03:55 19 was they were only analyzed for lead and PCB.
19:04:01 20 That is regrettable because we had a much longer
19:04:06 21 list of things that we knew we were worried about
19:04:08 22 at the site, but it was only lead and PCB that it
19:04:08 23 got analyzed for. So, again, we missed an
19:04:17 24 opportunity to make progress on the other
19:04:22 25 contaminants.

19:04:24 1 So after the removal action, we know
19:04:31 2 that there's contaminated soil in place below the
19:04:33 3 water main. We don't know how much it is. We do
19:04:36 4 know that some of it is bad soil. We can't figure
19:04:42 5 out -- I hope that this is four 9s so I won't tell
19:04:42 6 you again -- this is something I have talked about
19:04:51 7 before, but during the removal site evaluation
19:04:52 8 which is the study done just before the removal
19:04:56 9 action, a lot of the soil sampling was done by
19:04:59 10 methods that disturbed the soil and allowed it to
19:05:04 11 release volatiles, and so we can't rely all that
19:05:07 12 much on the volatile analytical that was done.
19:05:14 13 I don't mean to beat that to death,
19:05:27 14 but there were hazardous concentrations found out
19:05:29 15 there and we can't map them. The northern area
19:05:32 16 remained in use. That's the stuff north of the
19:05:36 17 fence that Tim talked about. It remained in use
19:05:39 18 much longer than the southern part, so there
19:05:42 19 hasn't been anywhere near as much investigation up
19:05:45 20 there.
19:05:46 21 We don't think it's adequately
19:05:46 22 investigated, and there's not enough information
19:05:55 23 on the deeper soil below the groundwater surface.
19:05:59 24 We had contaminants that are sinkers that go down
19:06:00 25 to groundwater and keep going. We had acids that

19:06:07 1 carry metals, and when those acids get to
19:06:11 2 groundwater, they can start to dilute and they
19:06:14 3 release toxic materials into the soil below the
19:06:19 4 groundwater interface. It's a very common thing.
19:06:24 5 And the other thing -- this is very
19:06:25 6 typical of environmental investigations at all
19:06:29 7 kinds of sites. When you have contamination in
19:06:32 8 soil and it's documented from the surface all the
19:06:35 9 way to the groundwater, it is very common for
19:06:40 10 agencies to want to confirm that that
19:06:43 11 contamination doesn't keep going in the soil below
19:06:45 12 groundwater.
19:06:49 13 In the earlier presentation we had
19:06:51 14 tonight about Site 2A you saw the pictures of an
19:06:56 15 excavation down to groundwater. They had a big
19:06:58 16 pond and there was this big plume of diesel fuel
19:07:04 17 coming up out of the water. That was
19:07:07 18 contamination below groundwater. You saw the
19:07:10 19 picture.
19:07:12 20 That's something that we're worried
19:07:14 21 about here at this site. It's an issue that has
19:07:21 22 come up between us and the Navy at Site 3 in years
19:07:27 23 before this. It's still an issue to us.
19:07:31 24 Paleta Creek. Site 4 is just east of
19:07:47 25 here across -- what's the boulevard called?

19:07:53 1 MS. MORLEY: Harbor.

19:07:53 2 MR. MURCHISON: Harbor Boulevard.

19:07:54 3 Groundwater -- the team is working on an

19:08:03 4 investigation over there that includes groundwater

19:08:05 5 work, and the gradient over there is towards the

19:08:08 6 boulevard. It's to the west. Here you cross the

19:08:15 7 railroad tracks, you cross the boulevard, and then

19:08:17 8 the gradient is almost the other way, which

19:08:21 9 suggests that there may be springs in the drainage

19:08:27 10 channels along the railroad tracks that are

19:08:29 11 allowing contaminated water to get out of both

19:08:32 12 sites into the drainage creek that goes straight

19:08:35 13 into Paleta Creek. That could be a serious

19:08:41 14 ecological risk, and it's something that we're

19:08:45 15 going to continue to be worried about.

19:08:48 16 And then there's this one. As I said

19:08:58 17 at the beginning, the stuff that we do in trying

19:09:03 18 to understand the site is to learn about what was

19:09:07 19 done there, what was used there, what processes

19:09:10 20 were there, and we really don't have a good handle

19:09:14 21 on that for this site. We have asked before for a

19:09:22 22 thorough search of the records of the Naval

19:09:23 23 Station concerning what buildings, what

19:09:23 24 facilities, what equipment was at this site, when

19:09:29 25 it was there, and to compare it with aerial and

19:09:34 1 site photo histories that might be able to be
19:09:36 2 assembled. That would allow everybody on the team
19:09:40 3 to understand "Okay. The bad actor was really the
19:09:45 4 crushing machine over the pit over there. That
19:09:49 5 was where most of the contamination got into the
19:09:49 6 ground." We don't even know where the crushing
19:09:55 7 machine over the pit was at this site other than
19:09:59 8 we have one reference saying there was such a
19:10:01 9 thing. That's just one example.
19:10:04 10 We don't know where old drums
19:10:09 11 containing stuff were stored between 1950 and 1955
19:10:15 12 or between 1955 and 1960, and we would really like
19:10:21 13 to know that so that we can help direct where to
19:10:25 14 look for things because we, too, do not wish to
19:10:29 15 drag this out, and we don't wish to say go out
19:10:31 16 there and drill a thousand more holes, okay, and
19:10:38 17 take 5,000 more soil samples. That's not what we
19:10:39 18 want.
19:10:41 19 We want the information to understand
19:10:44 20 the site, to confirm what we hope, that soil below
19:10:51 21 groundwater is clean enough to leave in place; do
19:10:58 22 the groundwater work that is being proposed, and
19:11:04 23 make some progress for real closure of this site.
19:11:12 24 This is bureaucratic, but there are
19:11:18 25 lost groundwater wells out there. Those are a bad

19:11:21 1 thing. They can be conduits for bad stuff to
19:11:25 2 continue to migrate.
19:11:28 3 And I have no particular evidence of
19:11:31 4 this, but as I said earlier, there were
19:11:36 5 essentially no rules about what to do with things
19:11:42 6 that were thrown away back in the '40s and '50s,
19:11:44 7 and I worry that Paleta Creek might have been a
19:11:50 8 useful place to pour things under the rules at
19:11:54 9 that time, so that's an issue that I'm concerned
19:11:58 10 with.
19:12:00 11 I tried to be quick. Are there any
19:12:02 12 questions?
19:12:04 13 MS. COLLINS: Just a point of historical
19:12:06 14 reference. The Site 3 interim removal action was
19:12:10 15 an interim removal action, but it was done
19:12:13 16 addressing what is now a hot button for EPA
19:12:17 17 environmental indicators, which there are two
19:12:20 18 categories: one is human health exposure and the
19:12:20 19 other is groundwater impact.
19:12:24 20 And the surface -- Site 3 was a
19:12:26 21 parking lot and there were cracks in it and little
19:12:29 22 bumps in it, and there was a concern by the Navy
19:12:30 23 that there might be a potential for a pathway
19:12:35 24 there, so the Navy was acting kind of preemptively
19:12:38 25 to avoid that pathway and protect the public.

19:12:43 1 MR. MURCHISON: Please understand I'm
19:12:44 2 not -- the last thing I'm trying to do is assess
19:12:49 3 blame. I'm trying to tell you what my remaining
19:12:50 4 concerns are.
19:13:10 5 MR. BISHOP: No questions here.
19:13:11 6 That was very thorough. Thank you.
19:13:13 7 MR. MURCHISON: Thanks for your attention.
19:13:13 8 MR. BISHOP: Karen, you're next.
19:13:37 9 MS. COLLINS: My presentation is mostly in
19:13:37 10 power point, but I have a couple of moving clip
19:13:41 11 files in here that would be hard to find. So can
19:13:45 12 everybody hear me okay?
19:13:47 13 MR. BISHOP: This is Karen Collins from
19:13:47 14 Bechtel, and she's going to talk about Site 4.
19:13:52 15 MS. COLLINS: Well, Site 4 -- I think a lot
19:13:57 16 of you were here in July for the RAB when we went
19:14:00 17 out and did a site visit. We were in the middle
19:14:02 18 of the groundwater investigation, Phase 2 of the
19:14:03 19 RI in July when we met the last time, and I think
19:14:09 20 a lot of you -- I know Craig was out there, and I
19:14:12 21 think Jerry was out at the field demos. We got to
19:14:16 22 see an MMW fence being prepped for sampling.
19:14:21 23 So I wanted to give the RAB an update
19:14:24 24 on the work that was done during the RI and some
19:14:26 25 of the findings. I'm not going to take up a lot

19:14:32 1 of time going over the stuff you've already heard,
19:14:32 2 but I want to go over the site background and
19:14:35 3 history just briefly, over the RI objectives, the
19:14:40 4 RI field work overview, and then some of the data
19:14:41 5 that we've got in hand now. We'll talk about the
19:14:41 6 next steps for Site 4, and then go over the report
19:14:49 7 schedule.
19:14:50 8 Site 4 is a 14-acre, pretty flat --
19:14:51 9 topographically flat site. It's bounded by Harbor
19:14:56 10 Drive on the west, Paleta Creek on the south, San
19:15:00 11 Diego Trolley line on the east, and the City of
19:15:03 12 San Diego Sewer and Pump Station to the north.
19:15:07 13 That may have been some of those odors
19:15:09 14 that were in the field.
19:15:13 15 MR. MURCHISON: That could be.
19:15:14 16 MS. COLLINS: We noticed those odors, too.
19:15:15 17 The site was paved in 1975. It's used
19:15:19 18 for recycling of Navy materials. It's also used
19:15:20 19 for storage and warehousing of DoD property.
19:15:24 20 The site was identified, as was Site
19:15:25 21 3, in the 1986 IAS. The reason it was listed was
19:15:30 22 because of waste oil that was reportedly deposited
19:15:34 23 on the site for dust suppression. That was a
19:15:35 24 common practice. I think everyone's heard about
19:15:38 25 that.

19:15:39 1 Briefly the site history: From 1943
19:15:43 2 to 1975 the Navy used Site 4 as a supply center
19:15:48 3 storage yard. If you look at the earlier photos,
19:15:49 4 there are trucks mostly and vehicles that are
19:15:53 5 parked over there. Not a lot of activity really
19:15:57 6 in those early years.
19:15:59 7 From 1975 to 1981 the site was used as
19:16:07 8 a defense property disposal office or DPDO storage
19:16:08 9 yard. From 1981 to present the site has been
19:16:10 10 partitioned into two. We call it the north half
19:16:11 11 and the south half. The north half is pretty
19:16:16 12 active. In fact, a lot of you have been out to
19:16:19 13 the site at the last RAB in July. They've got all
19:16:22 14 kinds of stuff up there. We'll talk a little bit
19:16:23 15 more about some of the things. And the southern
19:16:27 16 portion of the site is used by DLA, Defense
19:16:31 17 Logistics, for storing landing craft -- boats.
19:16:34 18 We had three central objectives for
19:16:37 19 the RI. The first was to characterize the nature
19:16:40 20 and extent of contamination both in soil and
19:16:42 21 groundwater, the second was to determine risk to
19:16:46 22 human health and the environment, and the third
19:16:49 23 was to compile a dataset suitable to support a
19:16:51 24 risk management decision for the site. Typically
19:16:54 25 that would be either progression to a feasibility

19:16:56 1 study or no further action.

19:17:03 2 The RI field work was broken up into

19:17:05 3 two phases. Phase 1 was soil sampling. We did a

19:17:09 4 total of 60 borings out there. Four of those were

19:17:13 5 deep borings drilled to 50 feet bgs. We collected

19:17:16 6 soil samples for chemical and geotechnical

19:17:18 7 analyses in those deep borings, but we also had a

19:17:22 8 continuous course where we were able to log

19:17:25 9 lithology very accurately all the way down to

19:17:28 10 50 feet.

19:17:30 11 49 borings were on a 100-foot grid.

19:17:33 12 Those were the random samples. The RI was

19:17:36 13 structured so that we could have a real good solid

19:17:38 14 dataset. We had random samples on a 100-foot

19:17:40 15 grid, and then 11 borings were located at

19:17:44 16 judgmental areas where we knew there was previous

19:17:44 17 contamination based on previous sampling that was

19:17:50 18 done at the site.

19:17:52 19 We took three samples per boring at

19:17:55 20 multiple locations. A couple of them we

19:17:57 21 encountered groundwater in a little more shallower

19:17:57 22 type recovery, so I think there were a couple of

19:18:01 23 them we only had two samples from.

19:18:04 24 Phase 2 was a groundwater

19:18:05 25 investigation, and Phases 1 and 2 were punctuated

19:18:08 1 by a meeting with DISC at the end of June where we
19:18:13 2 sat down and looked at all of the lithology that
19:18:16 3 we had on the site and made some decisions
19:18:17 4 together about ways to optimize the well design.
19:18:22 5 So DTSC actually and the Regional Board, I
19:18:25 6 believe, was in on that meeting as well.
19:18:27 7 One thing I also want to mention is
19:18:30 8 when we did the soil borings for both the soil and
19:18:34 9 the groundwater monitoring wells, we also screened
19:18:36 10 for RAD. That was one of the work plan call outs.
19:18:44 11 We did that. We didn't find anything. We
19:18:44 12 screened for alpha, beta, and gamma and came up
19:18:44 13 with nothing, which was expected. The site
19:18:48 14 history at Site 4 is obviously a lot different
19:18:49 15 than Site 3. It's not quite as complex, which is
19:18:51 16 fine by me.
19:18:56 17 Phase 2 we installed and developed and
19:18:58 18 sampled 11 new wells for the RI. We also sampled
19:19:03 19 three existing monitoring wells. One of the
19:19:07 20 previous wells had been destroyed. The wells out
19:19:13 21 at Site 4 had a pretty hard life. Those landing
19:19:14 22 craft trucks are real heavy and things happen.
19:19:19 23 Aquifer testing and water level study
19:19:23 24 was also done to assess hydraulic communication
19:19:25 25 between groundwater and Paleta Creek.

19:19:29 1 We did -- Pete mentioned doing a
19:19:33 2 25-hour study, and we actually did a 25-hour study
19:19:37 3 during a high high and low low tide to see an
19:19:42 4 extreme scenario. And then we waited for a
19:19:45 5 22-hour period bracketed a mean tidal scenario;
19:19:50 6 and we did a 72-hour water level study. We had
19:19:53 7 transfusers or dataloggers in 11 wells plus in
19:19:55 8 Paleta Creek at a surveyed point. We plotted all
19:20:01 9 of that water level data together. We were taking
19:20:04 10 readings every ten seconds. And plotted that, and
19:20:08 11 that graph will be in the RI that you'll see in a
19:20:11 12 couple months.
19:20:12 13 But basically, as Dave said, the water
19:20:15 14 level is moving. Water is still only moving west,
19:20:18 15 and Paleta Creek is actually 90 percent of the
19:20:25 16 time higher -- the water level is higher in the
19:20:27 17 creek than in the groundwater, so there's little
19:20:32 18 or no hydraulic communication between the two.
19:20:35 19 There's a little bit of localized communication
19:20:36 20 between the one well that's right adjacent to the
19:20:41 21 creek. That's also an extremely shallow zone.
19:20:45 22 This is an 1859 bathymetric map of San
19:20:51 23 Diego Bay that shows Naval Station in red and then
19:20:55 24 Site 4 here in yellow. And what's significant
19:20:58 25 about this is the carving of Paleta Creek channel.

19:21:01 1 This is all before the site was reclaimed, and
19:21:07 2 it's basically just a tidal marsh, a very low
19:21:11 3 tidal marsh.
19:21:13 4 Same bathymetric map. This one is
19:21:18 5 from 1930. Again, Naval station boundary in red
19:21:20 6 and Site 4 in yellow. Site 4 is still a
19:21:25 7 topographic low, and you can see that there's been
19:21:28 8 some reclamation of areas of Naval Station north
19:21:31 9 and west of the site.
19:21:34 10 The fill that was used to reclaim this
19:21:39 11 area and Site 4 ultimately and much of coastal
19:21:46 12 downtown San Diego was drawn from a variety of
19:21:46 13 sources. Much of it was hydraulic from the bay.
19:21:49 14 We actually saw shell fragments in a lot of the
19:21:51 15 fill that we saw at Site 4. There may have also
19:21:54 16 been some mechanical fill, but hydraulic fill is a
19:21:57 17 notorious source of PAHs, mostly from pier piling
19:22:02 18 releases.
19:22:03 19 Physical characteristics of the site:
19:22:08 20 the upper six to ten feet of Site 4 is composed of
19:22:11 21 the fill. The site was filled in stages between
19:22:14 22 the '40s and the '60s. And below the fill there's
19:22:18 23 a native clay layer that -- basically that's tidal
19:22:23 24 marsh mud. And that stuff is a very competent
19:22:29 25 clay. It would be great for lining a landfill.

19:22:31 1 We did geotech tests on a number of
19:22:33 2 those samples, and the permeability ranges from 10
19:22:36 3 to the minus 8 to 10 to the minus 9 centimeters
19:22:36 4 per second. Very competent clay.
19:22:42 5 Below that there was a fine-grained
19:22:43 6 unit that contains that clay layer from about 7 to
19:22:49 7 16 feet in the loss, and the surface of that clay
19:22:53 8 layer is well defined.
19:22:54 9 Below the clay, the third unit at the
19:22:56 10 site, is a courser grained water-bearing unit and
19:22:59 11 that's below the clay.
19:23:03 12 Below the course grain unit in the
19:23:05 13 deep borings, the 50 footers, we also encountered
19:23:08 14 a deeper fine-grained unit, and that was about
19:23:11 15 48 feet bgs.
19:23:15 16 The water-bearing unit below the clay
19:23:17 17 is under confined/semiconfined conditions.
19:23:20 18 There's a thin layer, maybe a foot or so of
19:23:23 19 perched water above the clay. That's not really
19:23:27 20 representative aquifer material. And with DTSC
19:23:30 21 and the Water Board, we elected not to screen in
19:23:31 22 that interval but to go below the clay for our
19:23:35 23 wells.
19:23:36 24 This is where I want to show -- this
19:23:49 25 is going to be a 3-D movie clip of the lithology

19:23:53 1 of Site 4. And if you like it, I'll play it twice
19:23:56 2 and kind of talk you through it the first time.
19:23:58 3 It goes a little bit fast. But this is a model of
19:24:03 4 what we saw. The north part and the south part.
19:24:07 5 This is the Paleta Creek channel. Now, here are
19:24:07 6 the three units: the shallow, here's the fill,
19:24:07 7 there's the clay, and below that the course grain
19:24:16 8 material.
19:24:20 9 You can see the fill six to ten feet
19:24:24 10 thick, the clay layer about 16 feet thick in the
19:24:29 11 thick parts.
19:24:30 12 Now what's going to happen is the
19:24:32 13 screen is going to transition in a minute and then
19:24:35 14 it's going to start pulling back and then moving
19:24:35 15 cross-sections from west to east. Here we go.
19:24:45 16 This is the bay mud. This is the fill. And the
19:24:50 17 monitoring wells are going by as we move east.
19:24:57 18 That's it. Does anyone want to see it again? Was
19:25:04 19 once enough? It will be a movie thing in the RI
19:25:08 20 too, so you can see it again.
19:25:10 21 Basically those are the three units at
19:25:15 22 the site, and it's pretty straightforward
19:25:22 23 geologically.
19:25:22 24 The groundwater flow is generally
19:25:22 25 toward Harbor Drive. The lowest groundwater

19:25:25 1 elevation is at MW-10. That's the well that we
19:25:28 2 were at at the RAB when you all were out there.
19:25:32 3 Something funny is going on at that well. That's
19:25:35 4 the lowest water level at the whole site, and the
19:25:40 5 well is in pretty close proximity to an electrical
19:25:43 6 conduit. It's a pretty good size subsurface
19:25:48 7 conduit, and we're suspecting that there may be
19:25:51 8 some interference with the water level as a result
19:25:52 9 of that. We're doing a little more investigating.
19:25:57 10 There's also a huge -- like a six or
19:25:59 11 eight foot sewer main that goes under Harbor
19:26:02 12 Drive that may be affecting water levels as you
19:26:04 13 approach the western boundary of the site.
19:26:07 14 MW-03A is the only well that had a
19:26:13 15 significant response from Paleta Creek. That's
19:26:15 16 the one that's right adjacent to the creek and
19:26:18 17 screened in the shallower push aquifer.
19:26:23 18 MW-06 and MW-07 also respond to Paleta
19:26:25 19 Creek a little more quickly than MW-03A, and that
19:26:25 20 indicates again the confined conditions.
19:26:32 21 I already said water is moving from
19:26:35 22 Paleta Creek 90 percent of the time.
19:26:39 23 This is a water level contour map or
19:26:42 24 potentiometric surface map. The dark blue lines
19:26:45 25 show lines of equal groundwater elevation, and the

19:26:48 1 numbers are mean low low water. So that's two
19:26:53 2 feet and one and a half feet and one foot and it
19:26:56 3 flows from high to low. These are the flow lines
19:27:01 4 and light blue that we derived from that.
19:27:07 5 The soil results: We have over 290
19:27:11 6 samples that were collected for VOCs and
19:27:12 7 pesticides. Those compounds were not reported in
19:27:17 8 any of the soil samples above residential PRGs.
19:27:24 9 I should mention, too, that in the
19:27:26 10 time since the work plan came out, the Navy's made
19:27:28 11 a management decision that the site will be used
19:27:32 12 for continued industrial use, so the residential
19:27:35 13 scenario is really not in the picture at this
19:27:39 14 point. We consulted with Brian Davis, the DTSC
19:27:39 15 toxicologist, and he concurred that there's no
19:27:45 16 reason spending the extra money to do a
19:27:48 17 residential risk assessment, so really the
19:27:50 18 residential is in there for comparison purposes,
19:27:51 19 but we didn't see VOCs or pesticides.
19:28:02 20 Two metals were reported above
19:28:02 21 industrial PRGs. Arsenic -- the ever present
19:28:02 22 arsenic Actually, the background at Naval
19:28:07 23 Station -- background numbers higher than the
19:28:09 24 industrial PRGS, so we know we just have a
19:28:13 25 regionally elevated concentration.

19:28:16 1 There were two lead samples that were
19:28:18 2 also over the industrial PRGs. They were both
19:28:19 3 located at trench 2 as was the PCBs. There were
19:28:25 4 two samples that were over the industrial PRGs.
19:28:25 5 Those were also in trench 2. Trench 2 is an area
19:28:30 6 that was -- even after the site was filled, it was
19:28:33 7 a little bit low in some of the photos from the
19:28:34 8 '50s, so there was probably another fill event
19:28:39 9 there.
19:28:42 10 Six PAHs were reported at
19:28:42 11 concentrations above PRGs. Nothing really
19:28:49 12 surprising.
19:28:50 13 There were three dioxins/furans
19:28:53 14 reported that were in two locations: one was at
19:28:56 15 MW-12 right next to Trench 2, and those were over
19:29:04 16 the adjusted industrial PRGs. There's so many
19:29:07 17 dioxins and furans. There's not a PRG for each of
19:29:11 18 those, so there's what's called a toxicity
19:29:13 19 equivalency factor that's assigned based on one of
19:29:16 20 the dioxin compounds. And so each one doesn't
19:29:19 21 have a compound, but if you assign the TEF, three
19:29:23 22 of those compounds did exceed the level.
19:29:29 23 We're calculating health risk for
19:29:33 24 industrial and construction worker scenarios
19:29:35 25 currently.

19:29:38 1 This is a map that shows the
19:29:40 2 distribution of the Benzo(a)pyrene in the soil.
19:29:45 3 Back to the reason the site was listed in the IAS,
19:29:47 4 it was listed because of waste oil applications.
19:29:50 5 So Benzo(a)pyrene should be a great tracer for
19:29:54 6 waste oil. And when you look at this, you think
19:30:00 7 "Yeah, maybe so. It's kind of all over the
19:30:04 8 place."
19:30:04 9 What's not reflected in this map is
19:30:06 10 the extreme variability that we're seeing in the
19:30:09 11 data, not just with depth because in a surface
19:30:13 12 application scenario you expect to see higher
19:30:17 13 concentrations at the surface tapering off with
19:30:21 14 depth. What we're seeing are concentrations that
19:30:28 15 are tremendously variable. And in the RI sampling
19:30:30 16 we did actually two analyses per sample, different
19:30:36 17 analytical methods. 8270 and 8310 methods were
19:30:42 18 both used on each of the soil samples. And, you
19:30:46 19 know, the expectation would be that when you take
19:30:49 20 a six-inch soil sample in a tube and collect two
19:30:52 21 30-milligram alloquats and run one for 8270, one
19:30:56 22 for 8310, you'd get about the same number, maybe a
19:31:00 23 little different. It's not at all what we saw.
19:31:07 24 The numbers were all over the map -- order of
19:31:08 25 magnitude, deviations, and not training the same

19:31:10 1 way. In other words, the 8270s weren't always
19:31:12 2 higher. The 8310s weren't consistently lower.
19:31:17 3 Sometimes they were higher; sometimes they were
19:31:18 4 lower. So what that told us was that across the
19:31:23 5 site and even within a single 6-inch interval
19:31:24 6 there was tremendous variability in the PAH
19:31:29 7 distribution.
19:31:33 8 And, you know, one of the kind of
19:31:36 9 obvious reasons for that would be that it was
19:31:38 10 present in the fill -- in the hydraulic fill or in
19:31:41 11 the mechanical fill that was distributed at the
19:31:44 12 site. It's not consistent with the point source
19:31:48 13 or a surface release except for a few localized
19:31:51 14 exceptions.
19:31:51 15 Trench 2 we talked about. SB-12.
19:31:55 16 Both of those are areas that are topographic areas
19:31:59 17 identified on aerial photos.
19:32:03 18 SB-16 in Trench 3 is immediately
19:32:07 19 adjacent to the railroad right-of-way on the
19:32:10 20 western side of the site. PAHs are -- they are
19:32:15 21 actually almost present anywhere you look. You
19:32:19 22 can go to Home Depot and construct a nice raised
19:32:22 23 bed garden out of railroad ties and you'll have
19:32:22 24 PAHs in your garden, and a lot of people do. They
19:32:27 25 are pretty much ubiquitous in the urban and rural

19:32:32 1 environments.

19:32:35 2 At Site 4 some of the non-point

19:32:36 3 sources that we've identified are aerial

19:32:40 4 depositions from the railroads and the roads that

19:32:42 5 are sandwiched right between both of those. The

19:32:45 6 site's been used for car and equipment parking for

19:32:48 7 60 years. And then the reason it was listed is

19:32:51 8 the waste oil application for dust suppression.

19:32:55 9 The nature and extent of PAHs and most

19:32:58 10 of the metals are defined by the distribution and

19:32:59 11 emplacement of the fill that was used at the site,

19:33:04 12 and it's likely the PAHs were already in the fill

19:33:08 13 when it was placed. Again, they might be a great

19:33:11 14 source for PAHs. No PAHs were identified in the

19:33:15 15 underlying native clay. That makes sense. PAHs

19:33:22 16 aren't very soluble or very mobile. And any

19:33:26 17 migration from the fill to the groundwater would

19:33:27 18 be impeded by that clay.

19:33:30 19 So the conclusions, based on the RI

19:33:33 20 data and the previous data, are for soil that the

19:33:38 21 nature and extent of contamination is defined by

19:33:42 22 the fill that was used to reclaim the site from

19:33:45 23 the tidal marsh.

19:33:47 24 PAHs and PCBs and a few isolated

19:33:50 25 metals -- the arsenic and the lead -- are

19:33:51 1 compounds of interest. None of them are looking
19:34:00 2 like real risk drivers or they're not elevating
19:34:02 3 the site risk to significant levels.
19:34:08 4 The current soil data is suitable to
19:34:10 5 perform a risk assessment, and we've actually done
19:34:12 6 a preliminary calculation to the site.
19:34:16 7 Additional soil sampling is not
19:34:16 8 required. There are site boundary constraints
19:34:19 9 that are pretty obvious: the railroad on the west;
19:34:22 10 there's a 50 foot right-of-way that is a buffer;
19:34:26 11 the city pump station to the north. We don't want
19:34:29 12 to drill there; and the trolley on the east and
19:34:31 13 the creek on the south. So the site is really
19:34:33 14 constrained by those boundaries, and there would
19:34:38 15 be little value in additional sampling anyway.
19:34:41 16 Groundwater data: There were three
19:34:45 17 existing wells at the site, two of those are
19:34:50 18 on-site; one is off-site. We drilled 11 new wells
19:34:53 19 and those are the deeper wells.
19:34:55 20 We identified chlorinated solvents
19:34:57 21 PCE, TCE, DCE, and vinyl chloride in some of the
19:35:02 22 groundwater samples. Some of this it wasn't a big
19:35:10 23 surprise. There have been TCE identified in MW-02
19:35:12 24 in the middle of the south part of the site
19:35:15 25 previously. What was a surprise was when we

19:35:19 1 positioned our off-site upgradient wells to have
19:35:23 2 the highest concentrations in Naval Station come
19:35:27 3 from that well.
19:35:29 4 The greater upgradient concentrations
19:35:33 5 obviously suggest an off-site source. There may
19:35:38 6 be a regional situation here. There's not a lot
19:35:41 7 of data so it's kind of early to guess about this,
19:35:43 8 but we know there are two studies that have
19:35:44 9 already been done. One is at Building 3300 which
19:35:49 10 is the Navy's medical building just a little bit
19:35:54 11 east and maybe a quarter of the way down from the
19:35:59 12 north part of Site 4. In 1996 there was a UST
19:36:03 13 study done for that building, and they found about
19:36:07 14 21 parts per billion of TCE in a grab sample. It
19:36:13 15 was a push sample, so we don't know with great
19:36:14 16 accuracy where it was from, but that was reported.
19:36:20 17 And in Building 3155, which is the
19:36:23 18 warehouse across the Creek, a 1992 sample there
19:36:27 19 reported PCE concentrations of 27 and 33 micograms
19:36:32 20 per liter, and the TCE at 3 and 4 micrograms per
19:36:33 21 liter. And then, in addition, we did a limited
19:36:42 22 file review and found that there's a lot of
19:36:45 23 potential sources upgradient.
19:36:48 24 So the conclusions from the
19:36:49 25 groundwater data are the VOCs, although they were

19:36:52 1 reported at Site 4, they're at higher
19:36:56 2 concentrations in off-site upgradient wells, and
19:37:00 3 they're not from a release at Site 4.
19:37:04 4 There's been no on-site VOC source
19:37:07 5 identified in all the samples we collected.
19:37:07 6 Nothing in the site history, too, that would
19:37:11 7 suggest the source. The highest VOC
19:37:14 8 concentrations are offsite. VOCs present in Site
19:37:21 9 4 are in the confined groundwater below that thick
19:37:24 10 clay layer that we just looked at. VOCs are not
19:37:28 11 reported in the wells that are screened above the
19:37:30 12 clay layer, and the compounds that are in the
19:37:36 13 groundwater are entirely unrelated to the
19:37:37 14 compounds that are in the soil.
19:37:40 15 Next Steps: We'll proceed with the
19:37:44 16 risk assessment, and the numbers look good. They
19:37:47 17 look a lot like what we calculated in 2000 in the
19:37:48 18 RSE. Risk on the low end, on the good end of the
19:37:55 19 NCP acceptable risk range for industrial worker.
19:38:02 20 Groundwater ingestion is not a
19:38:03 21 pathway. It's a nonbeneficial use aquifer. The
19:38:07 22 VOC vapor pathway is not applicable because of the
19:38:09 23 clay layer. We did incorporate the VOCs. They
19:38:15 24 were low low, like jay flag mostly value in the
19:38:18 25 soil. Those are in the Johnson & Ettinger model.

19:38:24 1 We're preparing our RI report now, and
19:38:25 2 it's scheduled to go to the Navy in March. The
19:38:29 3 Navy will review it. We'll revise it accordingly
19:38:31 4 and then issue it to the agencies and the RAB in
19:38:35 5 May.
19:38:37 6 The project is right on schedule.
19:38:37 7 It's right where we plan to be. We plan to
19:38:40 8 deliver it March 4th, I think. The original
19:38:47 9 schedule we're going to be about two weeks behind
19:38:48 10 that, so it's pretty good.
19:38:50 11 And I think the Navy's planning to
19:38:54 12 initiate a groundwater investigation independent
19:39:00 13 of Site 4. Site 4 is not a source that the Navy
19:39:03 14 would -- it's obviously interested in knowing
19:39:06 15 where that groundwater keeps coming from.
19:39:10 16 Any questions?
19:39:14 17 MR. BISHOP: Thank you.
19:39:19 18 MS. COLLINS: Here's the TCE plume. This
19:39:23 19 is the Navy Medical building. This is where TCE
19:39:29 20 was reported in '96, so we know it's up here. We
19:39:32 21 had a 100 parts per billion in MW-14 in our
19:39:32 22 off-site upgradient wells. Highest concentrations
19:39:38 23 and on-site concentrations taper off pretty
19:39:43 24 dramatically.
19:39:48 25 MR. HEIRONIMUS: You might want to point

19:39:49 1 out why the plume or whatever ends at the site
19:39:53 2 boundary.
19:39:54 3 MS. COLLINS: The plume was truncated at
19:39:55 4 the site boundary. The contours continue, but
19:39:59 5 this was done using a 3-D screening model, and it
19:40:05 6 was wrapping around MW-14, and it's really an open
19:40:10 7 ended contour. We know there's a source up here.
19:40:11 8 We don't know that there's a boundary on the other
19:40:12 9 side of MW-14 here. So the plumes are truncated
19:40:20 10 at the Site 4 boundary.
19:40:23 11 MR. MURCHISON: So you've trimmed them off.
19:40:26 12 MS. COLLINS: Yeah, we trimmed them. MW-05
19:40:26 13 was a no detect.
19:40:31 14 MR. HEIRONIMUS: The model required a
19:40:31 15 boundary to be complete.
19:40:40 16 MS. MORLEY: Does anybody have questions in
19:40:43 17 general on anything? Okay.
19:40:46 18 Darren was thinking about meeting
19:40:46 19 here, but since we're being kicked out, hopefully
19:40:46 20 our next meeting is going to be in July and maybe
19:40:53 21 we could do something in the field again and maybe
19:40:56 22 instead of even a demonstration, something like a
19:40:58 23 hands on. If you'd be interested in doing some
19:41:02 24 kind of sampling or something like that -- playing
19:41:06 25 in the field

19:41:12 1 CMDR KEMP: Is our next meeting in July or
19:41:14 2 April?
19:41:14 3 MS. MORLEY: April. I'm sorry. April. It
19:41:19 4 might be too cold and dark that early.
19:41:22 5 Does anyone have any --
19:41:43 6 MR. STANG: The 7th is when the time
19:41:27 7 changes.
19:41:56 8 MS. MORLEY: Does anyone have any suggested
19:41:59 9 agenda topics for the next RAB then? Okay.
19:42:14 10 CMDR KEMP: Can I just make a comment?
19:42:14 11 I mentioned a little bit earlier about
19:42:17 12 a meeting I went to yesterday, and I'll have to
19:42:22 13 read the name of it because it's kind of long, but
19:42:24 14 it's "California Office of Military Base Retention
19:42:29 15 and Reuse Workshop." And it's some study, I
19:42:35 16 guess, that the State of California has done. And
19:42:37 17 it looked at a lot of different studies.
19:42:37 18 It was kind of focused at impacts of
19:42:44 19 the Navy on the community and the community on the
19:42:49 20 Navy. And the invitees included representatives
19:42:56 21 from some elected officials, Navy representatives,
19:42:59 22 city planning, and there's a bunch of things they
19:43:02 23 were looking at that will be, I guess, brought
19:43:06 24 back to Sacramento to be discussed in some sort of
19:43:08 25 report, I suspect.

19:43:10 1 But one thing that came out of it, a
19:43:12 2 lot of folks who don't know the Navy, know that
19:43:19 3 we're here, are either suspicious -- or that's
19:43:23 4 probably a bad term -- but just don't know what's
19:43:27 5 going on. There's not a lot of -- the good news
19:43:29 6 stories don't get told, and there is a lack of --
19:43:33 7 some of the folks feel there's a lack of dialogue
19:43:34 8 in planning and things like this. Actually, the
19:43:41 9 RABs were kind of mentioned as a means of
19:43:45 10 dialogue.
19:43:46 11 What I took out of there was you can't
19:43:47 12 communicate enough. And a forum like this is a
19:43:53 13 very viable thing. There's certainly points of
19:43:55 14 disagreement. There's a couple of sites that were
19:43:57 15 mentioned today. But having that disagreement in
19:43:59 16 a forum like this where you can address the
19:44:00 17 issues, talk about the issues, move forward a lot
19:44:06 18 better than not having the disagreement in a forum
19:44:08 19 like this and find out about it after the fact
19:44:10 20 that we have the disagreement.
19:44:11 21 So it's just an observation. This is
19:44:14 22 my second one of these. I think there's a lot of
19:44:18 23 value added that I see from the Navy side, anyway,
19:44:20 24 and hopefully from the public side of doing this.
19:44:24 25 When you're searching for topics for

19:44:27 1 the next RAB, I don't know if there is something
19:44:33 2 that maybe -- we've had very confined discussions.
19:44:37 3 If there's something else out there that is of
19:44:41 4 interest, we might want to open it up.
19:44:48 5 MS. MORLEY: Does that bring up anything?
19:44:50 6 MR. BISHOP: I'm just looking at the chart
19:44:51 7 here. That one plume down to the south in RI 4
19:45:00 8 that we just looked at, just eyeballing the line,
19:45:05 9 it looks like you could just about draw a straight
19:45:10 10 line back over to the old hobby shop.
19:45:14 11 MS. MORLEY: That's one of the ones that
19:45:14 12 we're looking at because that's actually an issue
19:45:16 13 we want to resolve in risk management, but
19:45:18 14 actually if you look at the plumes and look at the
19:45:22 15 sites, it goes back here. So it looks like it's
19:45:25 16 kind of open. It looks like that it's possible
19:45:28 17 that that might be a contributor, but I think it's
19:45:30 18 probably coming from off base just because of the
19:45:32 19 concentrations there are so much higher than at
19:45:37 20 the Navy Medical, which was a UST. That was where
19:45:41 21 we got the sample from was that UST and we
19:45:44 22 actually sampled for that.
19:45:46 23 MR. BISHOP: Well, that spoiled my theory
19:45:47 24 of oil at the old hobby shop.
19:46:02 25 I don't have anything in particular to

19:46:02 1 talk about. Very thorough presentations.

19:46:27 2 MS. MORLEY: Would you guys be interested

19:46:27 3 in like maybe total maximum daily loads? Naval

19:46:32 4 Station has to come up with the MDLs for Chollas

19:46:36 5 and Paleta Creek, and we're discussing that with

19:46:39 6 the Water Board right now. Even though we

19:46:43 7 eventually have to go through San Diego/National

19:46:45 8 City because, obviously, the Paleta/Chollas Creek

19:46:50 9 runs along the urban water shed before it -- we're

19:46:52 10 the very end of the line, but would you be

19:46:55 11 interested in learning about something like that?

19:46:59 12 MR. BISHOP: That has been an issue a

19:46:59 13 couple of times before where the contamination

19:47:04 14 into the creek ends up at the Naval Station and

19:47:08 15 it's from an upstream source. It's not being

19:47:12 16 generated here, and yet we're the ones that have

19:47:15 17 to deal with it.

19:47:17 18 MS. MORLEY: Well, basically that's the

19:47:17 19 read we're getting from the Water Board is that

19:47:22 20 may be but prove it, so that's coming.

19:47:25 21 MR. McNUTT: Are you doing any long-range

19:47:27 22 studies?

19:47:29 23 MS. MORLEY: Well, the MDLs comes from

19:47:32 24 what's called a 303D report. The 303D

19:47:35 25 incorporates the water bodies. The state lists

19:47:40 1 them and sends it to EPA And with 303D sites you
19:47:44 2 have to determine for which chemicals it was
19:47:47 3 listed for, yet you're going to do what the MDLs,
19:47:51 4 maximum daily loads, that go into that water body
19:47:55 5 and what you're going to do to meet that standard
19:47:57 6 once you've established it. And, unfortunately,
19:48:00 7 for Chollas and Paleta Creek it was total
19:48:04 8 chemistry. So it's kind of a bay goal to me.
19:48:13 9 CMDR KEMP: Is there a way to get Phase 2
19:48:12 10 permitted?
19:48:12 11 MS. MORLEY: It's tied into it, but it's
19:48:15 12 kind of a separate program. It's not under the
19:48:16 13 MPDS permit. It's under a different regulation
19:48:19 14 program. But the Water Board has been working
19:48:24 15 with SPWARS, and remember SPAWARS were the people
19:48:27 16 that did the sediment study for us. And
19:48:29 17 eventually we're going to try to do the RI program
19:48:35 18 because there's also concern that the RI sites are
19:48:38 19 contaminated with sediments, which it's possible;
19:48:42 20 but how do you determine, looking at sediments
19:48:43 21 only, which pieces of contamination came from the
19:48:47 22 Navy and which came from other places. Unless you
19:48:52 23 look at groundwater or something like that, you
19:48:54 24 can't really make that determination.
19:48:56 25 And so I think the MDL thing might be

19:49:00 1 tied into the IR program, these particular RI
19:49:03 2 sites. I don't know that the Navy under the
19:49:05 3 current contract can afford the cost of
19:49:09 4 remediating. I don't know if you know this.
19:49:11 5 Southwest and National shipyard went through this
19:49:15 6 and they just did that remedial action where they
19:49:17 7 had to dredge out all the sediment, and that was
19:49:20 8 part -- that was their remedial action for that,
19:49:22 9 so we're probably headed down that same road.
10 MR. BISHOP: Where were the sediments from?
11 MS. MORLEY: Paleta and Chollas Creek. And
12 then, again, between Piers 2 and 8, that whole --
13 here's the creek and here's Naval Station. That's
14 the outside part, but the inside part is the
15 city's. We'll have to come back and involve the
16 city. It's not just the Navy, but right now the
17 Navy is the only one that's working with the Water
18 Board to try to establish that. I don't know if
19 you guys are interested in that or anything else
20 that comes up.
21 Okay. You're free to go. Thank you
22 for listening.
23
24 (Whereupon at 7:55 p.m. the meeting
25 was adjourned.)

1 STAIE OF CALIFORNIA)

2 : ss

3 COUNTY OF SAN DIEGO)

4

5 I, Nancy A. Lee, CSR No. 3870, do hereby

6 certify that I reported in shorthand the above

7 proceedings on Wednesday, January 29, 2003, at

8 Anchors & Spurs, 2245 Division Street, City of

9 National City, County of San Diego, State of

10 California; and I do further certify that the

11 above and foregoing pages numbered 1 to 87,

12 inclusive, contain a true and correct transcript

13 of all of said proceedings.

14 Dated: _____, 2003.

15

16

17

18

19 _____

20 NANCY A. LEE

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Naval Station San Diego Environmental Cleanup Program

Removal Action Fact Sheet

February 2002

Installation Restoration Program Sub-Site 2A Progress Report

This fact sheet is number 6 in a series of removal action fact sheets prepared to inform the public about the removal of contaminated materials at Naval Station San Diego. This action is undertaken as part of the Navy's Installation Restoration (IR) Program, designed to investigate and clean up hazardous waste sites in accordance with federal and state laws and regulations.

In August 1999, the public received information about the proposed removal of contaminated soil at IR Program Sub-Site 2A, the Mole Pier Disposal Area. Alternatives for site cleanup were evaluated and presented to the public for review and comment. A public meeting was held on August 25, 1999, to hear comments and concerns about the preferred alternative for cleaning up Sub-Site 2A as put forth in the Action Memorandum/Remedial Action Plan. The public agreed with the Navy's decision to excavate the contaminated soil and move it off-site because the action was protective of human health and the environment, cost effective, technically feasible, and allowed for unrestricted land use upon completion of cleanup.

The removal action began in January 2000 and is ongoing. This fact sheet discusses the progress of the Sub-Site 2A removal action and the additional amounts of contaminated soil that have been encountered within the Sub-Site 2A boundaries.

IR Sub-Site 2A: Mole Pier Disposal Area

IR Program Site 2, Mole Pier, is a 23-acre, triangular-shaped area that was created in 1942 from hydraulic fill material dredged from San Diego Bay. From approximately 1945 to 1972, the western portion of the site, called IR Sub-Site 2A, was used for waste disposal and open burning of debris and hazardous materials (for example, fuels, oils, solvents, and paint sludges). By 1972 the site was covered with soil and later was paved over

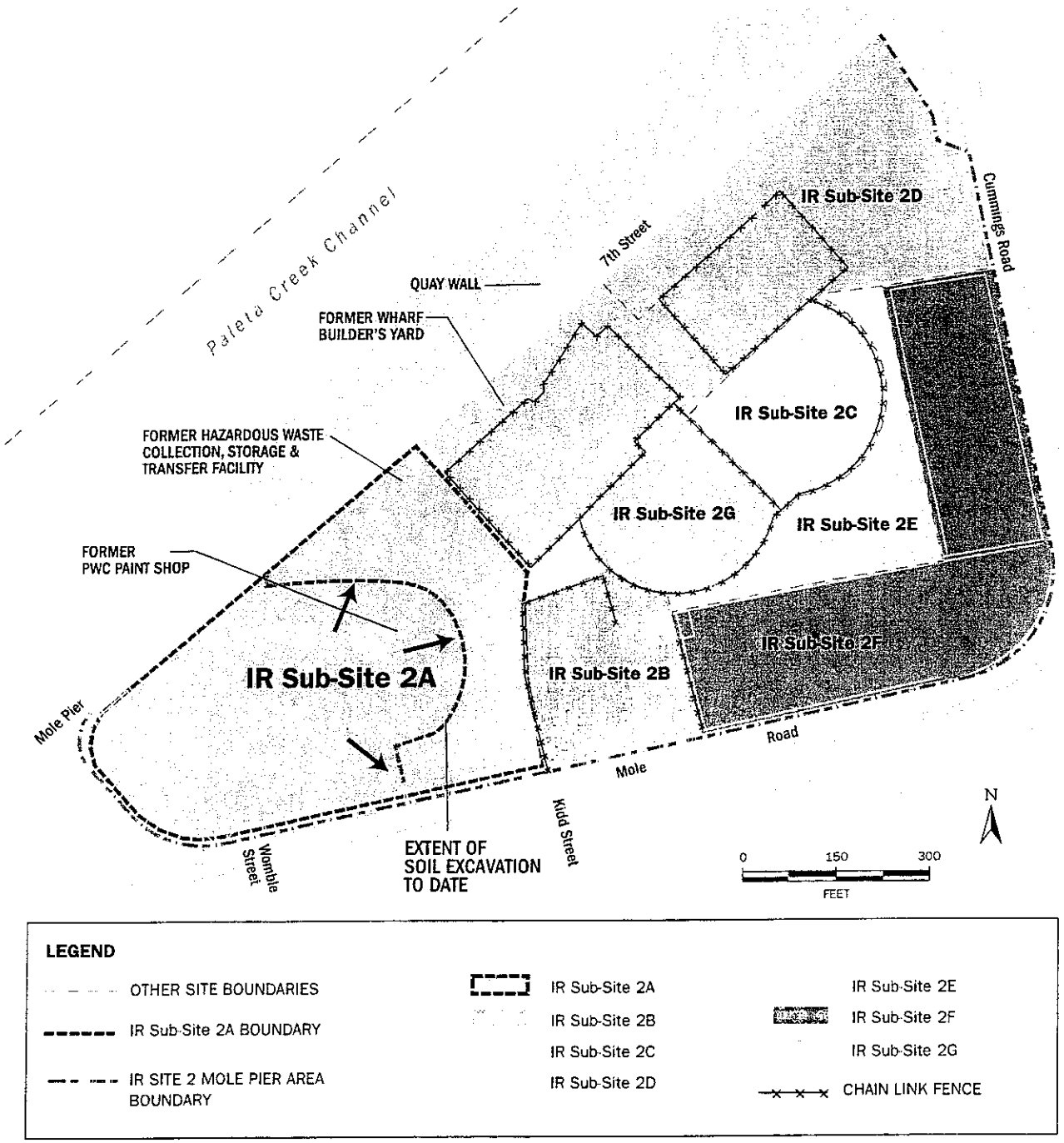
Sub-Site 2A has been the subject of several environmental investigations and studies. These studies were conducted with appropriate oversight by state and local regulatory agencies such as the California Department of Toxic Substances Control (DTSC) and California Regional Water Quality Control Board. The studies included sampling of soil and groundwater for various contaminants resulting from past activities at the site The results of the investigations indicated that

Did You Know...?

You can read more about the Navy's environmental program at Naval Station San Diego on the internet! The Navy's Southwest Division Environmental Web Page address is: http://www.efdsw.navfac.navy.mil/environmental/envhome.htm

Documents pertaining to the Naval Station San Diego Installation Restoration Program are available for public viewing at the Naval Station Information Repository, located at the National City Public Library, 200 E. 12th Street, National City. Library hours are:

Monday: Noon – 8 PM
Tuesday: Noon – 6 PM
Wednesday, Thursday, Friday: 10 AM – 6 PM

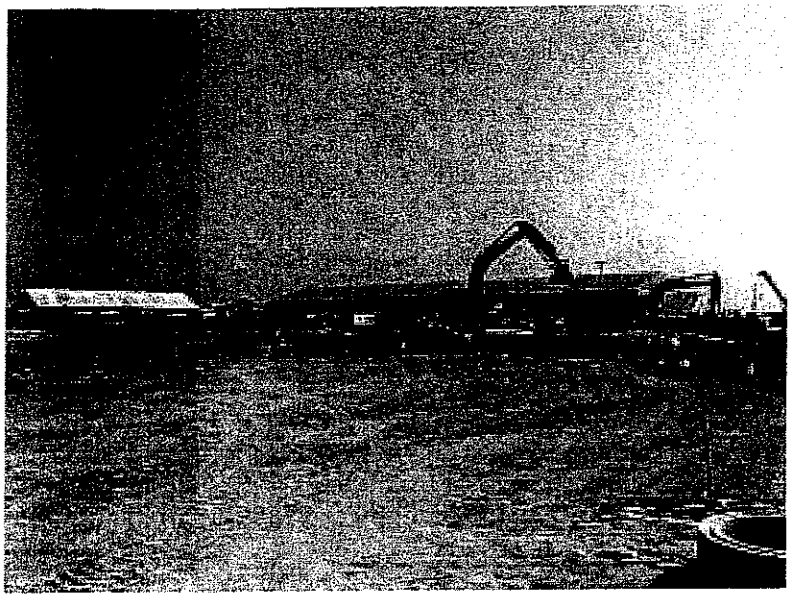


Sub-Site 2A and Areas of Past and Future Soil Removal

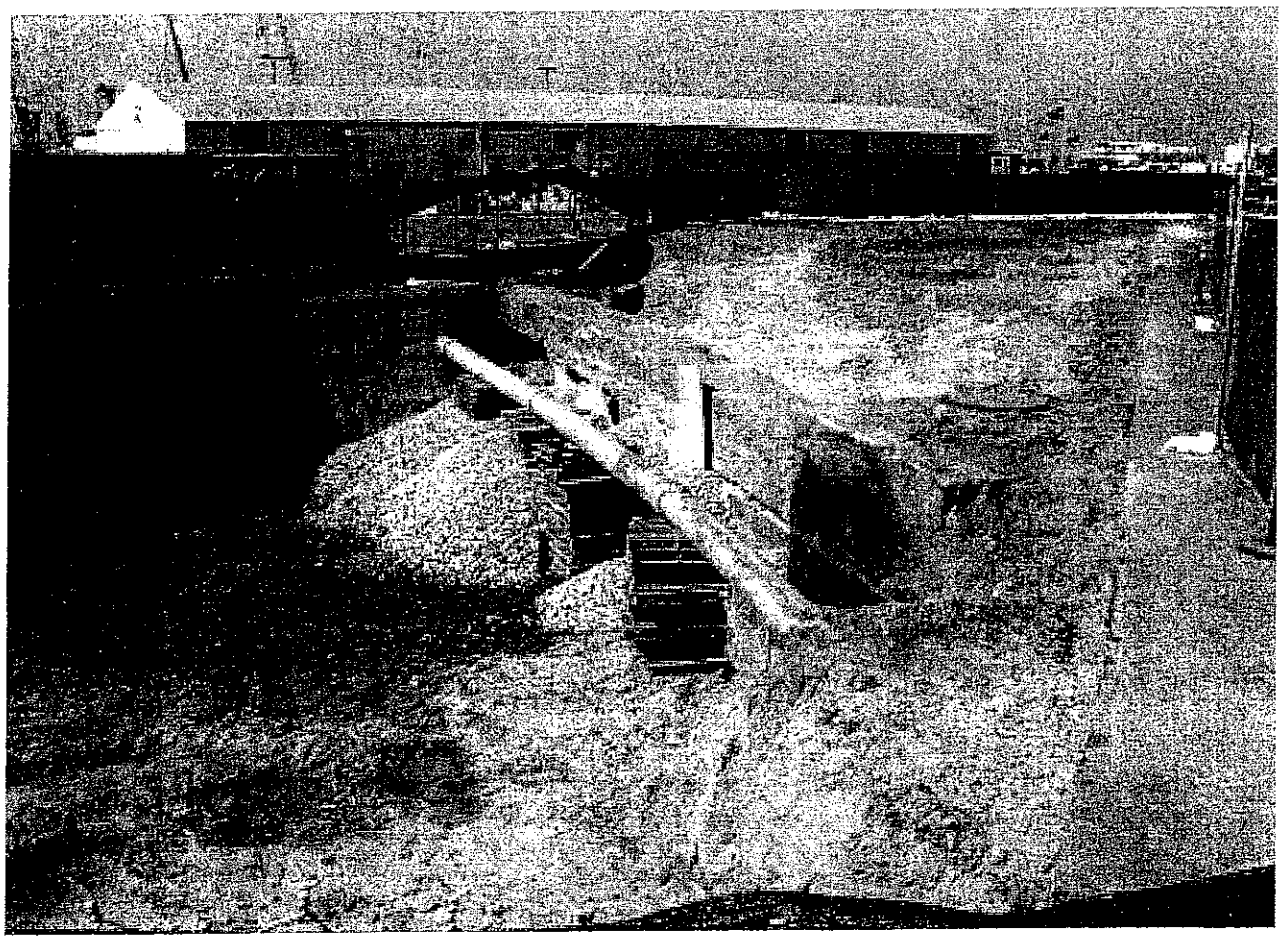
soil contamination needed to be addressed at IR Sub-Site 2A. Chemicals of concern at Sub-Site 2A include arsenic, lead, chromium, various polynuclear aromatic hydrocarbons (a group of chemicals that form during the incomplete burning of coal, oil and gas, garbage, or other organic substances), dioxins, and fuel oils (kerosene and diesel). Levels of these chemicals of concern are currently unacceptable for unrestricted use.

Removal Action 2000 to 2001

In 1999, the Navy proposed to excavate an estimated 28,100 cubic yards of soil over a period of about two months during a 12-month period (September 1999-September 2000). It should be noted that soil removal estimates are done primarily for cost and schedule purposes; however, field activities and confirmation sampling frequently exceed original soil volume re-

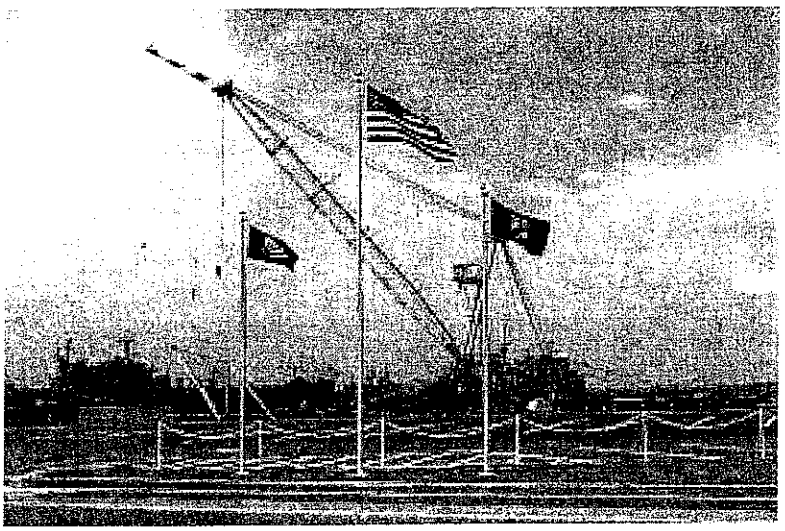


IR Sub-Site 2A
Building demolition during the removal action

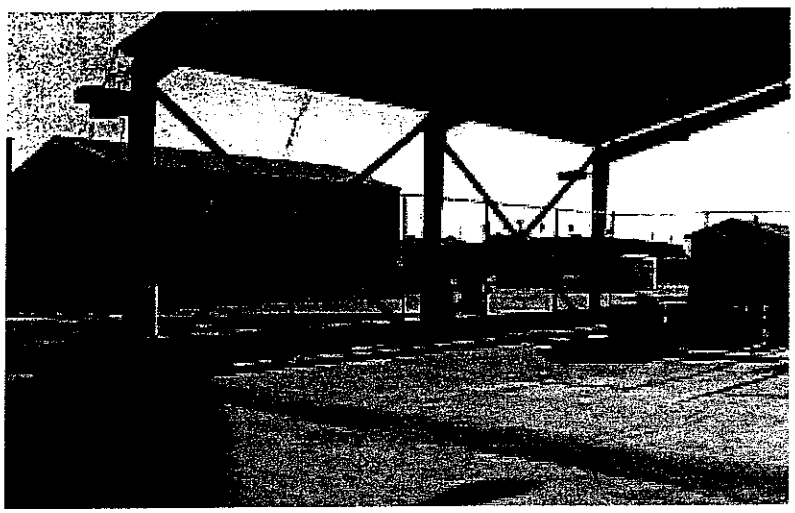


IR Sub-Site 2A
Pipeline Support during excavation

IR Sub-Site 2A
Early in the removal action



IR Sub-Site 2A
Today



Area of (future) expanded
Sub-Site 2A excavation

moval estimates to ensure cleanup is thorough and complete. Following public review and comment, the removal action began at Sub-Site 2A in January 2000. Health and safety precautions are being taken during the excavation. The site is fenced and warning signs are posted. Dust control measures are being taken. A licensed waste hauler is transporting the soil off the base to a certified disposal facility. The soil is not flammable and there is no risk of explosion.

Several documents were prepared, reviewed, and approved prior to the start of the removal action. These include a Site Safety and Health Plan to protect the health and safety of the community, the surrounding environment, and the workers on-site, and a Removal Action Implementation Plan to guide the fieldwork. Following soil removal, verification sampling of the remaining on-site soil was conducted, as described in the approved work plans, to assure that the contamination was reduced to acceptable regulatory standards. If the results were higher than allowable standards, further excavation was performed, as described in the approved work plans, until the sampling results reached acceptable levels. In the process of removing contaminated soil it became clear that a larger area needed to be excavated in order to remove the contamination.

To date, approximately 64,000 cubic yards of soil have been removed. Building 3224 was demolished and removed and the soil underneath excavated. As of September 2001, the removal action covered about 60 percent of Sub-Site 2A. The west-central portion of Sub-Site 2A has been backfilled with clean soil and the area paved over for parking. In accordance with Naval Station policy, a "greenbelt" buffer area was landscaped around the edge of the backfilled area to help prevent stormwater runoff into the adjacent San Diego Bay.

The northeast corner of Sub-Site 2A, the former collection, storage, and transfer (CST) facility, was sampled in January 2001 for possible contaminants. In addition to the chemicals of concern listed on page 1, PCBs (polychlorinated biphenyls) were detected in two isolated areas of the CST. Therefore, future excavation will occur in this area. An additional 5,000 cubic yards of soil may need to be removed from the former CST facility area. The figure on the left shows the area where the soil removal has occurred and the area proposed for further soil removal within Sub-Site 2A.

How Does This Affect You?

According to the California Environmental Quality Act (CEQA), actions such as the Naval Station soil removal must be evaluated for possible environmental impacts. In 1999, California DTSC prepared a CEQA Initial Study, which concluded that any potential impacts from dust, air emissions, erosion, truck traffic, and noise were already being mitigated (reduced) to less-than-significant levels by activities recommended in the Site Safety and Health Plan and the Removal Action Implementation Plan.

Based on the need for additional soil excavation and removal, DTSC and the Navy discussed the potential for increased impacts to the environment. Because the approved planning documents discussed the potential for additional soil removal, the possibility of additional truck trips and a longer removal action time frame were anticipated. Further review of the volume and extent of soil removal led to the conclusion that there is no fundamental change to the removal action and therefore no significant environmental impacts. The effect on the community as a result of the increased soil removal has been, and is expected to be, limited to additional truck trips to haul the soil off-site and bring in clean fill dirt. The truck trips are anticipated to continue throughout 2002.

For More Information...

If you have questions about the removal action, or about the Installation Restoration Program at Naval Station San Diego, please contact:

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INSIDE:

Update on the Removal Action Sub-Site 2A, Naval Station San Diego

Si Ud. prefiere este informe en español, por favor llame a Ms. Theresa Morley a (619) 524-6399.

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