# WORK PLAN
# SOIL REMEDIATION AND GROUND-WATER MONITORING

05/29/90

**HARCROS PIGMENTS PLANT**
Emeryville, California

May 29, 1990

*Prepared for:*

**Harcros Pigments Inc.**
Emeryville, California

*Prepared by:*

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*Doc#PF04739W1.6*

ROUX

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## APPENDICES

## 1.0 INTRODUCTION

This work plan describes the proposed procedures for soil remediation and ground-water monitoring at the Harcros (formerly Pfizer) Pigments Plant, 4650 Shellmound Street, Emeryville, California (site Figure 1). The major tasks to be performed are:

1) Excavation and remediation of soil within the area of an aboveground diesel fuel leak;

2) Ground-water monitoring within the area of the aboveground diesel fuel leak; and

3) Installation of a ground-water monitoring well within a former diesel fuel tank pit.

These tasks will be performed in accordance with correspondence from the Alameda County Department of Environmental Health (DEH) dated May 9, 1990.

### 1.1 Background

Diesel fuel was detected in two ground-water monitoring wells at the site during a routine semi-annual sampling of the wells on January 22, 1990. The monitoring wells are adjacent to aboveground and underground fuel lines and two recently installed underground storage tanks. Following the discovery of diesel fuel in the subsurface, a pressure test was performed on the secondary containment structure for the two recently installed tanks and lines by Diablo Tank & Equipment Company of Martinez, California on January 24, 1990. The leak detectors and annular spaces surrounding the tanks were also inspected. No leaks were detected during the pressure testing or inspection (McShane 1990).

Based on the absence of subsurface leaks as determined by the tank and line pressure testing, the source of diesel fuel in the subsurface was determined to be a leak from an aboveground valve that was replaced in December, 1989. An "Underground Storage Tank Unauthorized Release (Leak) Contamination Site Report" was submitted by Pfizer to the Alameda County Department of Environmental Health (DEH) on February 7, 1990 (Appendix A).

A site investigation was performed by Roux in March and April, 1990, to determine the extent of diesel fuel in the subsurface. This work plan is based on the findings of that investigation. Currently, diesel fuel is being recovered from two monitoring wells on site on a bi-weekly basis.

A ground-water monitoring well is to be installed within a former diesel fuel tank pit located about 35 feet south of Service Building No. 10 (Figure 2). Ten underground storage tanks were removed from the tank pit in December, 1989. Holes were observed in one tank removed from the northeastern corner of the tank pit. All soils removed from the tank pit were disposed of off-site and the pit was backfilled with clean fill. A ground-water monitoring well within the former diesel fuel tank pit was requested by DEH in correspondence dated March 20, 1990 and May 9, 1990.

## 1.2 Scope of Work

This work plan describes the excavation of diesel fuel contaminated soils and the remediation of those soils. The excavation and remediation of soils contaminated by diesel fuel is to be performed by an excavation contractor to be selected and Roux Associates West, Inc. (Roux) for Harcros Pigments Inc. (Harcros). Monitoring wells existing in the area to be excavated will be abandoned and removed. The soils to be removed will be excavated with a backhoe in the area of the former waste oil tank pit, extending to the pipes and framing, and west towards boring RB-28 (Figure 2). The soils with greater than 75 mg/kg total petroleum hydrocarbons as diesel (TPH-D) will be stockpiled for remediation. Soil treatment will include bioremediation. Ground water which may enter the excavation will be pumped into a holding tank and will be disposed of in a manner consistent with analyzed levels of contamination. Soils undergoing remediation will be periodically sampled and analyzed. A report summarizing the excavation results and remediation progress will be issued when work described in this plan has been completed.

Two additional ground-water monitoring wells will be constructed at the site. One ground-water monitoring well will be installed following excavation of diesel-contaminated soil within the former waste oil tank pit. A monitoring well will also be installed 10 feet downgradient from the former position of a diesel fuel tank that was apparently damaged or corroded when removed.

## 2.0 SITE DESCRIPTION

### 2.1 Site History

#### 2.1.1 Description of Plant

The Pfizer plant is located in a predominantly industrial part of Emeryville (Figure 1). The plant produces iron oxide pigments and has been in operation since 1925. Figure 2 is a plot plan of the Pfizer facility showing the location of plant buildings, soil borings, monitoring wells, and former and present tank locations in the vicinity of the diesel fuel spill.

#### 2.1.2 Underground Storage Tanks

Two underground storage tanks are currently in place and used at the site. A 10,000-gallon diesel tank and one 1,000-gallon gasoline tank were installed east of Service Bldg. No. 10 by Diablo Tank & Equipment in September, 1989. The tanks are double-walled fiberglass tanks with annular leak detection monitors and an alarm system. The tanks and lines were set and pressure tested by Diablo Tank & Equipment Company on September 20, 1989 (McShane 1990). No leaks were detected during any of the pressure tests.

A total of 12 underground storage tanks have been removed from the Pfizer plant since 1987. An underground storage tank used for storage of waste oil and solvents was removed

on December 1, 1987. The tank was a steel tank with a capacity of about 350 gallons. The tank was located within the waste oil tank pit immediately east of Service Bldg. No. 10 (Figure 2). Further description of the tank removal and soil investigation are presented in the Roux Associates report titled "Underground Storage Tank Site Investigation", dated August 12, 1988.

A total of nine 10,000-gallon diesel tanks and one 10,000-gallon Bunker C fuel oil tank were removed from the tank pit south of Service Bldg. No. 10 on December 12th and 13th, 1989. Holes were observed in one of the diesel tanks removed on December 13, 1989. A report describing the tank removal and sampling results was issued by Roux on March 8, 1990.

A 1,000-gallon gasoline tank was removed from a tank pit south of Maintenance Shop Bldg. No. 6 on December 12, 1989. No gasoline was detected in soil samples from the tank pit.

### 2.1.3 Previous Subsurface Investigations

Two previous subsurface investigations of soil and ground-water contamination have been performed at the site. Following removal of an underground waste oil tank from the Pfizer plant on December 1, 1987, solvents were detected in soil within the former waste oil tank pit. As a results, a site investigation which included a total of 11 soil borings and 6 monitoring wells was performed during 1988 (Roux 1988). Acetone, 2-butanone, and hexone (MIBK) along with trace concentrations of naphthalene and methylnapthalene were detected in ground water from monitoring well RW-4, which is within the former tank pit.

Other monitoring wells at the site, including wells downgradient from the tank pit, showed not detected results for all analyses. Quarterly and semi-annual monitoring of three wells at the site indicated that the concentrations of solvents in the former tank pit was decreasing probably due to biodegradation and that solvents had not migrated to downgradient monitoring wells (Roux 1988).

During the 1988 site investigation, oil and grease was detected in soils beneath some areas of the plant. Further investigation of the oil and grease distribution including an additional ten soil borings, was performed in 1989 (Roux 1989). Results of the 1988 and 1989 site investigation indicated that the oil and grease present in the soil is greater than 50 years old and resulted from contamination of tidal sediments and fill emplaced along the western portion of the Pfizer plant (Roux 1989). No oil and grease was detected in ground water.

## 2.2 Hydrodgeology and Geology

The Pfizer Emeryville plant is located along the eastern edge of San Francisco Bay at an elevation of about seven feet above mean sea level. The current bay shoreline is approximately 1,000 feet west of Pfizer's property. A 1936 aerial photograph of the plant shows a former shoreline located along the eastern edge of present day Shellmound Street.

The sediments immediately underlying the site are artificial fill, bay mud, and alluvial fan deposits. The artificial fill consists of gravel, sand, clay, and miscellaneous refuse. The

thickness of the fill under the site averages about five feet (Roux 1989). Based on the grain size of the fill, the permeability of the fill is higher than that of the underlying bay mud.

The bay mud consists of sandy clay to clay with shells and other organic matter and underlies the artificial fill at the site. The thickness of the bay mud beneath the site appears to be about 15 feet but may be greater in places. The permeability of the bay mud is low but may vary slightly with its composition. The bay mud has been cut in places by meandering tidal channels. The old channel cuts within the bay mud may contain coarser, more permeable material. Alluvial fan sediments of the Temescal Formation underlie the bay mud.

The regional direction of ground-water movement is westward towards San Francisco Bay. Coarser lenses within the bay mud beneath the site cause local variations in the direction of flow. Permeability differences within the bay mud also have a significant effect on the rate of ground water flow.

No active water supply wells are within one mile of the site. Industrial supply wells were used in the area several decades ago but are no longer in service (Roux 1988). Several ground-water monitoring wells are in close proximity to the site. The nearest monitoring wells are located a few feet west of the Pfizer property. An additional 15 monitoring wells are within the shopping center and vacant lot 100 to 500 feet west of the Pfizer plant (Alton Geoscience 1988).

## 2.3 Description of Contamination and Actions Taken to Date

During routine inspection and sampling of monitoring wells at the site on January 22, 1990, diesel fuel was discovered as floating free product in wells RW-11 and RW-4. Monitoring wells RW-4 and RW-11 are near the northeastern corner of Service Bldg. No. 10 (Figure 2). The monitoring wells are within a former waste oil tank pit and are adjacent to two recently installed underground storage tanks and lines.

Diesel fuel is currently bailed from monitoring wells RW-11 and RW-4 on a periodic basis. A total of about 15 gallons of diesel fuel has been removed from the wells. Purged diesel fuel is stored in a closed top 55-gallon drum on site. The recovery of diesel fuel in the monitoring well was measured using an oil/water interface probe to help determine the thickness of diesel fuel in the surrounding formation. The initial thickness of diesel fuel measured in well RW-11 on January 22, 1989 was 2.57 feet. Following the repeated bail down of product in well RW-11, the diesel fuel has re-entered the well to a thickness of less than one to six inches.

In March and April, 1990, a site investigation was performed by Roux to determine the extent of diesel fuel contamination. Seven soil borings were drilled and two monitoring wells were established in the area surrounding the two wells (RW-4 and RW-11) in which free product was evident. Sixteen soil samples and five water samples were analyzed for TPH-D and benzene, toluene, ethylbenzene, and xylenes (BTEX). The results of the sampling and analysis indicated that diesel fuel contamination was restricted to the soils in an area

and benzene, toluene, ethylbenzene, and xylenes (BTEX). The results of the sampling and analysis indicated that diesel fuel contamination was restricted to the soils in an area including the former waste oil tank pit and extending north to the pipes and framing and west to boring RB-28 (Figure 2). This investigation determined that ground water was impacted by the presence of diesel fuel in the subsurface only in the area surrounding wells RW-4 and RW-11. A report describing the results of this investigation was submitted to DEH on May 2, 1990.

## 3.0 PLAN FOR REMEDIATION OF CONTAMINATED SOILS BY EXCAVATION

### 3.1 Removal of Monitoring Wells

Before excavation of diesel contaminated soils is possible, it is necessary to remove monitoring wells RW-4 and RW-11. The traffic boxes and cement at the surface will be broken apart with a jackhammer and the two monitoring wells will be overdrilled using a truck mounted hollow stem auger drill rig. The wells will be overdrilled to the bottom of the borings and the PVC casing, gravel pack, and other materials used in well construction will be removed. The borings will be backfilled with bentonite hole plug to ensure that the borings do not act as conduits for fluid migration.

### 3.2 Excavation

The soils affected by diesel contamination, as delineated in Figure 2, will be excavated. The asphalt and concrete at the surface will be broken up with a backhoe. In areas of difficult access (surrounding pipes and framing), the use of a jack hammer to break up the asphalt and concrete may be necessary. The broken up asphalt will be disposed of off-site. The concrete will be used for backfill.

Following the removal of surface materials, the soils in the area outlined in Figure 2 will be excavated with a backhoe. Figure 2 shows the approximate limits of excavation; however, it may be necessary to adjust this area in the field as determined by the extent of diesel

contamination encountered in the subsurface during soil removal. The soils encountered will be monitored using a photoionization detection (PID) meter to separate soils which may be clean from soils that are contaminated. Contaminated soils will be stockpiled on site on plastic sheeting for remedial treatment. Uncontaminated soils will be stored in a separate location on site to be used as backfill once excavation has been completed. The excavation will extend to a depth of approximately four feet or to the depth where ground water is first encountered.

In the area surrounding the pipes and framing (Figure 2) or in other areas where access with a backhoe may be difficult, it may be necessary to excavate contaminated soils by hand. If contaminated soils are encountered around the pipes and framing structure, it may not be possible to remove all of these soils without undermining the structure. If it is necessary to excavate soils from the pipes and framing area, as much contaminated soil as possible will be removed from this area without endangering the integrity of the pipes and framing.

Ground water which may enter the excavation will be pumped into a holding tank located at the surface. The ground water in the tank will be sampled and analyzed for TPH-D by Modified USEPA Method 8015. Samples will be collected with a stainless steel bailer, sealed in a glass jar, and stored on ice until delivery to an analytical laboratory. A Chain-of-Custody will be maintained for all samples collected. The ground water will be disposed of in a manner consistent with the results of analysis.

Once verification sampling has determined that the excavation has successfully removed diesel contaminated soils, the pit will be backfilled with clean soil and fill and the surface will be repaired with asphalt and/or concrete.

### 3.3 Verification Soil Sampling

When excavation has been completed, soil samples will be collected from the walls of the excavation to ensure that as much of the contaminated soil as possible has been removed. Samples will be collected by scraping away three inches of surface soil from the walls of the pit and hammering a two-inch diameter brass liner into the soil using a 30 lb. slide hammer. Alternately, soil samples will be collected by retrieving a sample from a desired location with the backhoe and sampling directly from the backhoe bucket. The ends of the brass liners will be covered with aluminum foil, capped with plastic end caps, and wrapped with electrical tape. The liners will be sealed in a plastic ziplock bag and stored on ice until delivered to an analytical laboratory. Soils will be analyzed for TPH-D by Modified USEPA Method 8015. In addition, four samples from every 50 cubic yards of contaminated soil stockpiled on-site will be collected by the methods described above. The four samples will be composited in the laboratory for analysis for TPH-D.

3.4 Treatment of Soils

Those soils with greater than 75 mg/kg TPH-D will be remediated on site. Soils with 10 to 75 mg/kg TPH-D will be transported off-site for disposal in a Class 3 municipal landfill. Soils with less than 10 mg/kg TPH-D will be used as clean backfill.

The soils containing greater than 75 mg/kg TPH-D will be treated by bioremediation. Native organisms within the soil will be supplied with nutrients to stimulate biodegradation of petroleum hydrocarbons. Based on the area of soil excavation and soil quality data, the estimated volume of soil to be treated is 60 cubic yards. Approximately six soil samples will initially be collected and analyzed for culture plate counts to establish the baseline level of biologic activity.

Those soils to be remediated will initially be stockpiled on-site and then spread on black plastic sheeting to a thickness of 6 to 10 inches. Nutrients will be applied to the soils through periodic surface applications. The soils will also be periodically re-worked to ensure that nutrients are distributed relatively uniformly and that oxygen is provided to the lower soils.

Soil samples will also be collected for TPH-D analysis on a monthly basis to monitor the progress of bioremediation. Once TPH-D concentrations have decreased to 75 mg/kg or less, the soils will be transported to a Class 3 landfill for disposal.

## 3.5 Summary Report

Following the excavation, verification sampling, and soil analysis, a summary report will be prepared and submitted to DEH and the San Francisco Bay Regional Water Quality Control Board. The report will include all soil and ground-water data, a description of the methods of remediation and analysis, laboratory reports, chain-of-custody forms, and any other information deemed pertinent to this remediation. In addition, letter reports will be prepared and submitted following periodic sampling of soil undergoing treatment.

## 4.0 GROUND-WATER MONITORING WITHIN AREA OF SOIL EXCAVATION

Following soil excavation, verification sampling, and backfilling, a ground-water monitoring well will be installed within the former waste oil tank pit near the former locations of wells RW-4 and RW-11. The purpose of this monitoring well will be to evaluate ground-water quality within the area of diesel contamination following soil remediation.

The monitoring well will be drilled to a depth of 13.5 feet. A ten-foot long, threaded, four-inch diameter, PVC slotted (0.010-inch slot) section and an appropriate length of blank PVC riser pipe will be placed in the hole. The screened zone will be gravel-packed with Monterey No. 2 sand. A one-foot thick layer of bentonite pellets will be emplaced above the sand pack. A locking well cap will be placed on the PVC pipe and a metal traffic box will be cemented in place at the surface.

The well will be surveyed to an accuracy of 0.01 feet by a licensed surveyor. The well will be developed by removing five to ten casing volumes of water from the well to ensure that the well screen is open to the formation. Water withdrawn from the well will be stored in an aboveground tank or 55-gallon drums located on site. The purge water will be disposed of in a manner consistent with the water quality. If the water contains detectable petroleum hydrocarbons,the water will be manifested and hauled to an off-site disposal facility that is approved to accept the water. If the purge water contains less than 10 mg/L of TPH-D, the water will be used for irrigation purposes on site. Following development of the well, it will be allowed to recover over a period of at least 48 hours. Water levels will be measured

from the top of the PVC casing using an electronic water level meter and will be calibrated using a chalked steel tape.

Ground-water samples will be collected and analyzed quarterly for total petroleum hydrocarbons as diesel fuel using Modified USEPA Method 8015. In addition to the monitoring well to be installed as described above, existing wells RW-2, RW-3, RW-22, and RW-23 will also be sampled and analyzed quarterly for TPH-D. Prior to sampling, the wells will be purged by removing three to five casing volumes. The ground-water samples will be collected in a stainless steel bailer. The pH, temperature, and conductivity of the water sample will be measured in the field. The presence of a sheen or odor will be recorded. The sample will be placed in 1-liter amber glass bottles, labelled, sealed in a plastic ziplock bag, and stored in an ice chest until delivery to the analytical laboratory. Letter-reports containing the laboratory reports and chain-of-custody forms will be submitted following each sampling event.

## 5.0 GROUND-WATER MONITORING WITHIN FORMER DIESEL FUEL TANK PIT

One ground-water monitoring well will be placed within 10 feet of the former position of a diesel fuel tank that was removed in December 1989. When removed, holes were observed in the tank. The tank was removed from the northeastern corner of a former tank pit located about 35 feet south of Service Building Number 10 (Figure 2). This monitoring well will be installed in response to requests for ground-water monitoring provided in correspondence from DEH dated March 20, 1990 and May 9, 1990.

The monitoring well will be drilled to a depth of 13.5 feet. A ten-foot long, threaded, two-inch diameter, PVC slotted (0.010-inch slot) section and an appropriate length of black PVC riser pipe will be placed in the hole. The additional procedures for well construction, surveying, development, sampling and analysis will be the same as those described in the previous section for installation of a monitoring well within the area of soil excavation.

## 6.0 PROJECT SCHEDULE

The following project schedule is proposed for completing the tasks described in this work plan. This schedule is based upon approval of the work plan by DEH by June 8, 1990. The DEH will be notified 48 hours in advance of the initiation of field operations for each task.

| Schedule | Task |
|---|---|
| June 29, 1990 | Installation of one ground-water monitoring well in former diesel tank pit south of Service Building No. 10. |
| July 20, 1990 | Submittal of water quality data |
| August 31, 1990 | Completion of soil excavation within area of aboveground fuel leak. |
| September 28, 1990 | Submittal of summary report on soil excavation and installation of ground-water monitoring well within area of soil excavation. |
| October 26, 1990 | Submittal of water quality data. |
| February 1, 1991 | Submittal of final report on soil remediation and disposal. |

Respectfully Submitted,
ROUX ASSOCIATES WEST, INC.

Gregory Murphy
Staff Geologist

Jerry T. Wickham
California Registered Geologist No. 3766

## 7.0 *REFERENCES*


Alton Geoscience. 1988. Report on Additional Site Characterization Studies at P.I.E. Nationwide Property, 5500 Eastshore Freeway, Emeryville, California, April 28, 1988.

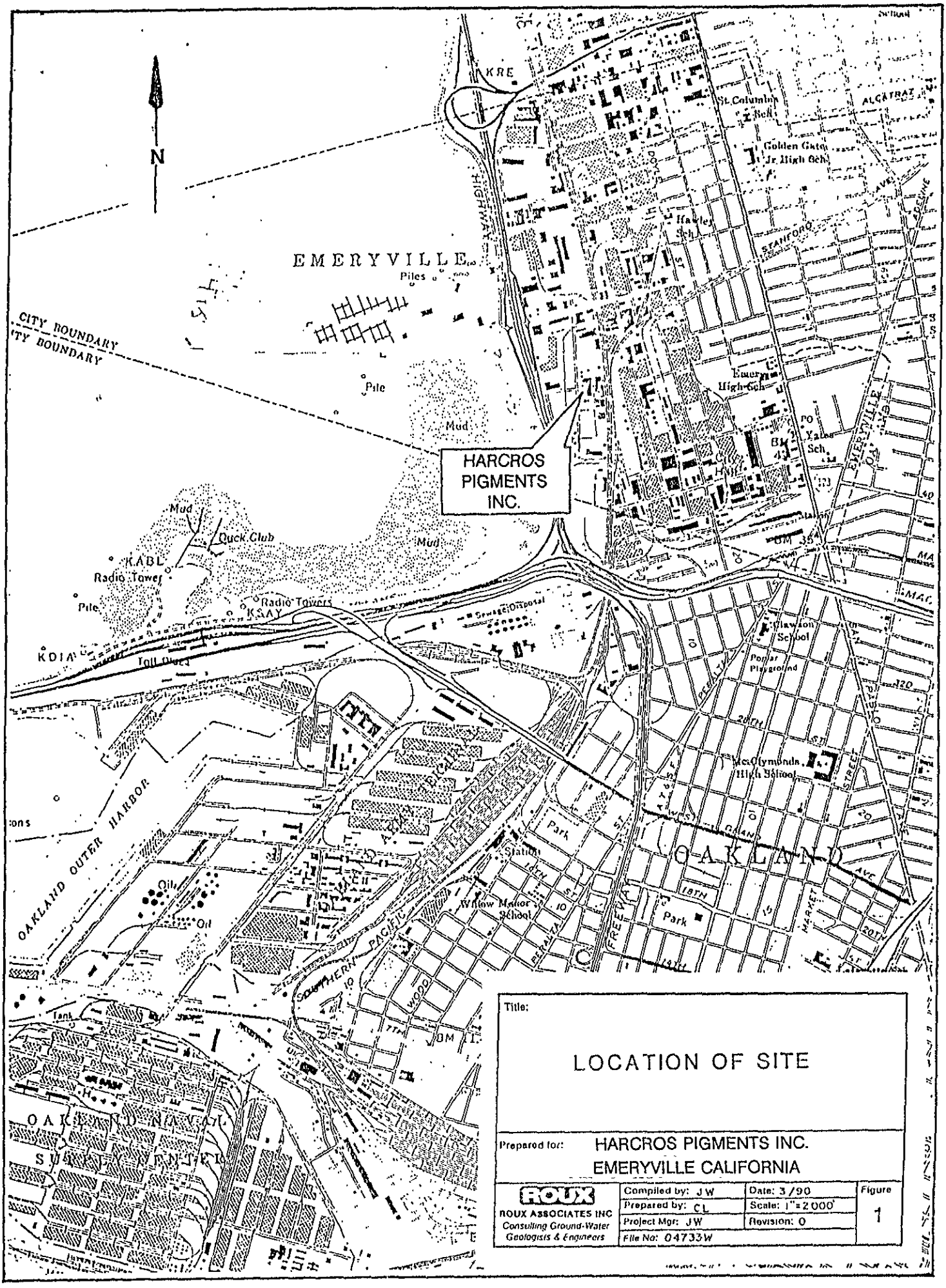
McShane, Patrick. 1990. Personal communication to Jerry Wickham, Roux Associates West, Inc., February 13, 1990.

Roux Associates West, Inc. 1988. Underground Storage Tank Site Investigation, Pfizer Pigments Plant, Emeryville, California, August 12, 1988.

Roux Associates West, Inc. 1989. Site Assessment, Petroleum Hydrocarbons in Soils, Pfizer Pigments Plant, Emeryville, California, July 11, 1989.

Roux Associates West, Inc. 1990. Work Plan, Site Investigation and Fuel Recovery, Pfizer Pigments Plant, Emeryville, California, March 8, 1990.

Roux Associates West, Inc. 1990. Diesel Fuel Site Investigation, Pfizer Pigments Plant, Emeryville, California, May 2, 1990.

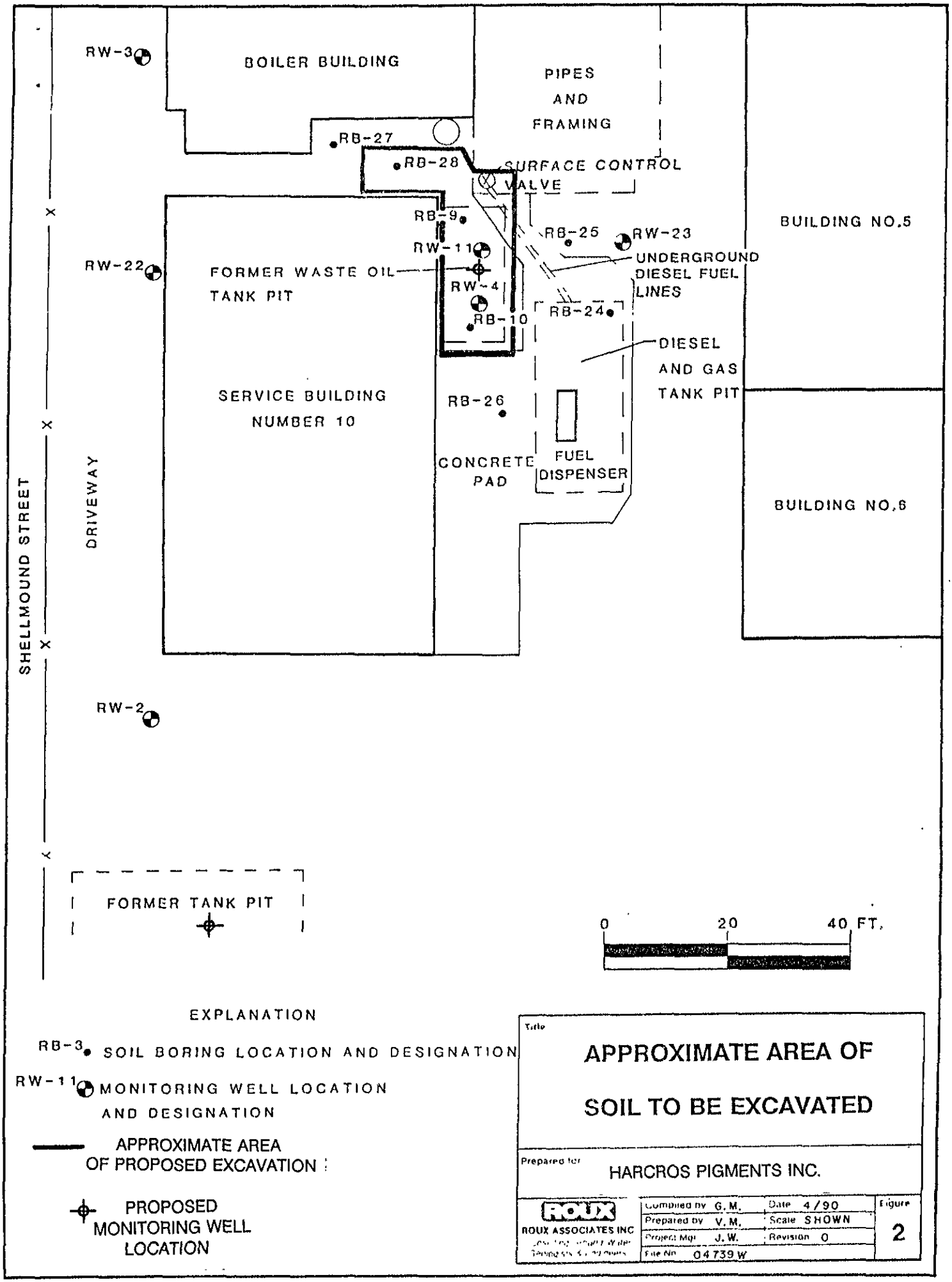



Title:

# LOCATION OF SITE

Prepared for: HARCROS PIGMENTS INC.
EMERYVILLE CALIFORNIA

| ROUX ASSOCIATES INC<br>Consulting Ground-Water Geologists & Engineers | Compiled by: J W | Date: 3/90 | Figure |
|---|---|---|---|
| | Prepared by: C L | Scale: 1"=2,000' | 1 |
| | Project Mgr: J W | Revision: 0 | |
| | File No: 04733W | | |




Title

# APPROXIMATE AREA OF SOIL TO BE EXCAVATED

Prepared for HARCROS PIGMENTS INC.

ROUX ASSOCIATES INC

| | | | |
|---|---|---|---|
| Compiled by G.M. | Date 4/90 | Figure |
| Prepared by V.M. | Scale SHOWN | 2 |
| Project Mgr. J.W. | Revision 0 | |
| File No. 04739.W | | |

# APPENDICES

# UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE (LEAK) CONTAMINATION SITE REPORT

*Doc #PF04739.1.6*

# UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE (LEAK) / CONTAMINATION SITE REPORT

EMERGENCY ☐ YES ☒ NO

HAS STATE OFFICE OF EMERGENCY SERVICES REPORT BEEN FILED? ☐ YES ☒ NO

FOR LOCAL AGENCY USE ONLY
I HEREBY CERTIFY THAT I AM A DESIGNATED GOVERNMENT EMPLOYEE AND THAT I HAVE REPORTED THIS INFORMATION TO LOCAL OFFICIALS PURSUANT TO SECTION 25180.7 OF THE HEALTH AND SAFTY CODE.
SIGNED: _____ DATE: _____

REPORT DATE: 02/06/90 CASE #:

**REPORTED BY**
NAME OF INDIVIDUAL FILING REPORT: J. N. Deblock
PHONE: (415) 653-6151
SIGNATURE:
REPRESENTING: ☒ OWNER/OPERATOR ☐ REGIONAL BOARD ☐ LOCAL AGENCY ☐ OTHER
COMPANY OR AGENCY NAME:
ADDRESS: 4608 Shellmound Street, Emeryville, CA 94608 (STREET, CITY, STATE, ZIP)

**RESPONSIBLE PARTY**
NAME: ☒ UNKNOWN
CONTACT PERSON:
PHONE: ( )
ADDRESS: (STREET, CITY, STATE, ZIP)

**SITE LOCATION**
FACILITY NAME (IF APPLICABLE): Pfizer Pigments Inc.
OPERATOR: Pfizer Pigments Inc.
PHONE: (415) 653-6151
ADDRESS: 4650 Shellmound Street, Emeryville, Alameda 94608 (STREET, CITY, COUNTY, ZIP)
CROSS STREET: Christie
TYPE OF AREA: ☐ COMMERCIAL ☒ INDUSTRIAL ☐ RURAL ☐ RESIDENTIAL ☐ OTHER
TYPE OF BUSINESS: ☐ RETAIL FUEL STATION ☐ FARM ☒ OTHER

**IMPLEMENTING AGENCIES**
LOCAL AGENCY / AGENCY NAME: Alameda County Health Services
CONTACT PERSON: Gil Wistar
PHONE: ( )
REGIONAL BOARD: Region 2 San Francisco
CONTACT PERSON: RW-QCB
PHONE: (415) 464-1255

**SUBSTANCES INVOLVED**
(1) NAME: Unknown diesel fuel
QUANTITY LOST (GALLONS): ☒ UNKNOWN
(2) ☐ UNKNOWN

**DISCOVERY/ABATEMENT**
DATE DISCOVERED: 01/22/90
HOW DISCOVERED: ☐ INVENTORY CONTROL ☒ SUBSURFACE MONITORING ☐ NUISANCE CONDITIONS ☐ TANK TEST ☐ TANK REMOVAL ☐ OTHER
DATE DISCHARGE BEGAN: ☒ UNKNOWN
HAS DISCHARGE BEEN STOPPED? ☐ YES ☐ NO IF YES, DATE:
METHOD USED TO STOP DISCHARGE (CHECK ALL THAT APPLY)
☐ REMOVE CONTENTS ☐ REPLACE TANK ☐ CLOSE TANK ☐ REPAIR TANK ☒ REPAIR PIPING ☐ CHANGE PROCEDURE ☐ OTHER: Valve

**SOURCE/CAUSE**
SOURCE OF DISCHARGE: ☐ TANK LEAK ☐ UNKNOWN ☒ PIPING LEAK ☐ OTHER: Valve Leak
TANKS ONLY/CAPACITY: N/A GAL. AGE: YRS ☐ UNKNOWN
MATERIAL: ☐ FIBERGLASS ☐ STEEL ☐ OTHER
CAUSE(S): ☐ OVERFILL N/A ☐ RUPTURE/FAILURE ☐ CORROSION ☐ UNKNOWN ☐ SPILL ☐ OTHER

**CASE TYPE**
CHECK ONE ONLY
☐ UNDETERMINED ☐ SOIL ONLY ☒ GROUNDWATER ☐ DRINKING WATER - (CHECK ONLY IF WATER WELLS HAVE ACTUALLY BEEN AFFECTED)

**CURRENT STATUS**
CHECK ONE ONLY
☒ SITE INVESTIGATION IN PROGRESS (DEFINING EXTENT OF PROBLEM) ☐ CLEANUP IN PROGRESS ☐ SIGNED OFF (CLEANUP COMPLETED OR UNNECESSARY)
☐ NO ACTION TAKEN ☐ POST CLEANUP MONITORING IN PROGRESS ☐ NO FUNDS AVAILABLE TO PROCEED ☐ EVALUATING CLEANUP ALTERNATIVES

**REMEDIAL ACTION**
CHECK APPROPRIATE ACTION(S) (SEE BACK FOR DETAILS)
☐ CAP SITE (CD) ☐ EXCAVATE & DISPOSE (ED) ☒ REMOVE FREE PRODUCT (FP) ☐ ENHANCED BIO DEGRADATION (IT)
☐ CONTAINMENT BARRIER (CB) ☐ EXCAVATE & TREAT (ET) ☐ PUMP & TREAT GROUNDWATER (GT) ☐ REPLACE SUPPLY (RS)
☐ TREATMENT AT HOOKUP (HU) ☐ NO ACTION REQUIRED (NA) ☒ OTHER (OT): Under study

**COMMENTS**
Some fuel was observed in monitoring well on 1/22/90. Source and quantity of fuel at that time was unknown. Additional work on 2/2 indicates subsurface release.

# SITE/AREA SAFETY PLAN

ROUX ASSOCIATES
SITE/AREA SAFETY PLAN

GENERAL INFORMATION

JOB: 04739W
DATE PREPARED: May 9, 1990 PREPARED BY: Gregory Murphy
SITE/AREA NAME: Harcros Pigments Plant
ADDRESS: 4650 Shellmound Street, Emeryville, CA

SITE CONTACT: Michael Herzog
PHONE: 653-6151 Ext. 246
PLANNED ACTIVITY AT SITE: Soil Excavation and Treatment
Monitoring Well Installation and Sampling

PRESENT SITE USES: Pigment Plant

PREVIOUS USES: Pigment Plant since 1930

SITE HISTORY: See Work Plan

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EXISTING INFORMATION FOR SITE: DETAILED

PREVIOUS SAMPLING/INVESTIGATION: Site Investigation and Tank Removals Completed

SITE TOPOGRAPHY: Flat

STATUS: LIMITED ACCESS
SURFACE: PAVED OR CONCRETE

UNUSUAL FEATURES (utilities, obstacles, etc):
Excavation will be in close proximity to building. Walkways and rear entrance to building will be closed off during excavation. Fuel lines are in subsurface within northeastern portion of proposed excavation. Overhead obstructions are also present adjacent to area of excavation.

## HAZARD ASSESSMENT

POTENTIAL CONTAMINANTS:

| CONTAMINANT | ANTICIPATED CONCENTRATION | COMMENTS |
|---|---|---|
| Diesel Fuel | 0 to 100,000 ppm in soil | Free product will be encountered during trench excavation. |
| | 0 to 100% in ground water or floating on ground water. | |
| Oil and Grease | 0 to 100 ppm | Oil and grease from possibly old, unknown source encountered in nearby areas. |
| Gasoline | Not expected. | |

POTENTIAL HIGH HAZARD MATERIALS:

| NAME | WARNING PROPERTIES |
|---|---|
| Acetone | Fragrant, mint-like odor. |
| Methyl ethyl ketone | Fragrant, mint-like, moderately sharp. |
| Methyl isobutyl ketone | Pleasant odor. |

EVALUATION OF EXPECTED HAZARD (operational considerations, routes of exposure, health effects, material stability): Normal physical hazards associated with drilling and excavation operations. Normal explosion and chemical hazards for gasoline and diesel fuel.

## SITE SAFETY SUPERVISOR

SITE SAFETY SUPERVISOR: Drilling contractor or excavation contractor supervisor.
COMPANY: PHONE:
ADDRESS:

## PERSONNEL PROTECTION

GENERAL LEVEL OF PROTECTION REQUIRED: A: B: C: D: XX
SPECIFIC EQUIPMENT:
HARD HAT: Required

EYE PROTECTION: Required
RESPIRATOR: Standby with organic vapor cartridges
CLOTHING: Coveralls
GLOVES: Required
BOOTS: Required

STANDBY EQUIPMENT: Level C. Standby

ADDITIONAL EQUIPMENT REQUIRED: Two fire extinguishers on job site. All personnel on site must have hard hats, safety glasses, and steel-toed boots at all times while outside of plant buildings. This includes anyone inspecting or supervising operations.

DETECTION EQUIPMENT (survey meters. dosimeters): Photoionization detector.

MONITORING PROCEDURES (use and employment of fixed, portable, real-time, continuous and/or periodic monitoring devices): Working environment and soil will be monitored periodically with a photoionization detector.

PERMANENT ON-SITE EQUIPMENT: Eye wash stations, fire extinguishers, first aid equipment.

PERIMETER CONTROL: Ropes and barricades in drilling and excavation area.

## EMERGENCY PROCEDURES

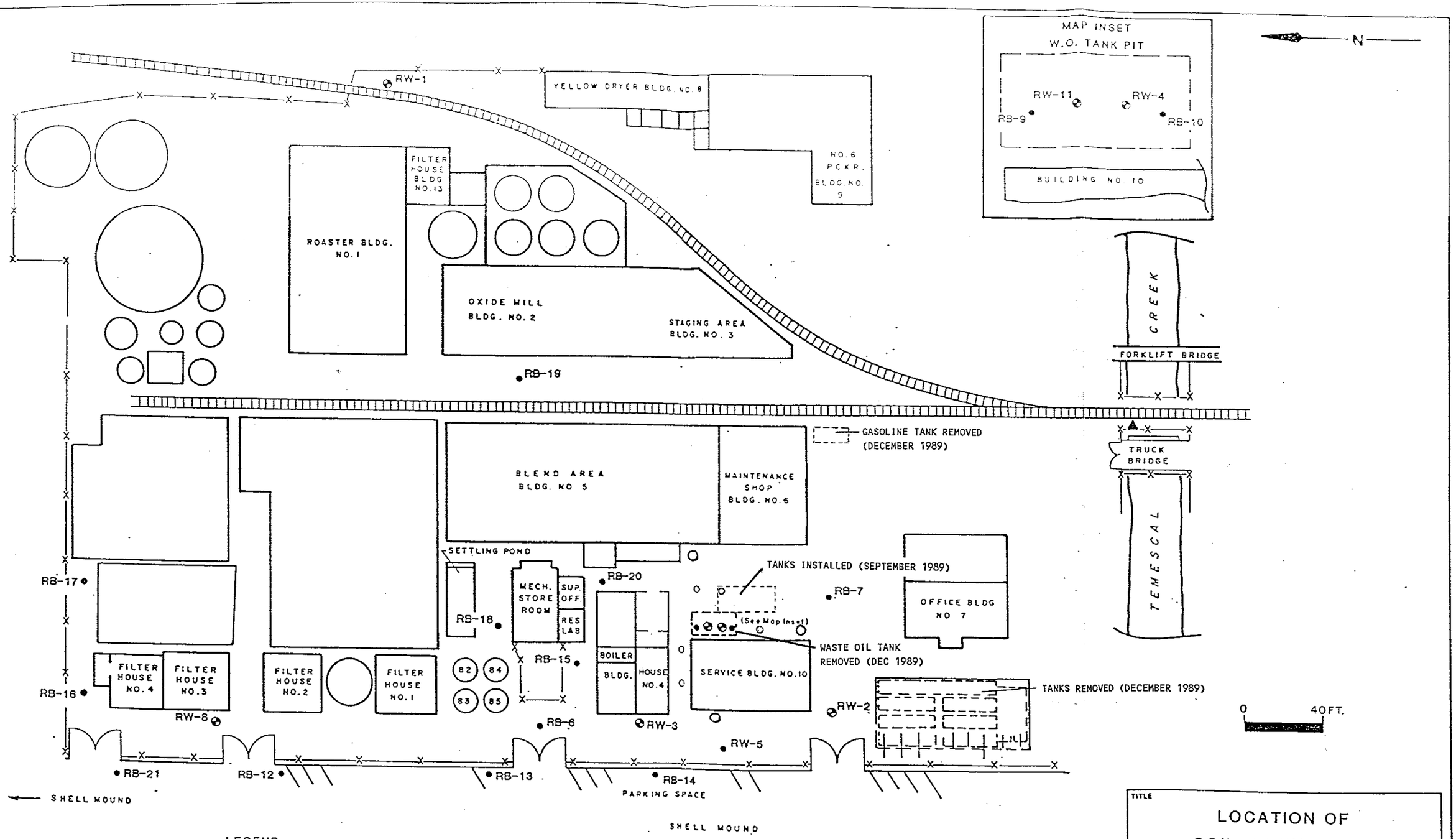
LOCATION OF NEAREST WORKING PHONE: Lobby of administration building and office building.

EMERGENCY PHONE NUMBERS:

| NAME/LOCATION | PHONE # | PREPLAN/STANDBY |
|---|---|---|
| AMBULANCE: 911 | | |
| FIRE: 911 | | |
| POLICE: 911 | | |
| HOSPITAL: 547-1700 | | |

REGULATORY AGENCIES: Alameda Co. Hazardous Materials Div. 271-4320

PLAN APPROVED BY: Jerry T Nicholson DATE: 5-10-90




TITLE

# LOCATION OF SOIL BORINGS AND MONITORING WELLS

PREPARED FOR PFIZER PIGMENTS INC.
EMERYVILLE, CALIFORNIA

ROUX Consulting Ground-Water Geologists
ROUX ASSOCIATES INC

SCALE SHOWN

DATE 2/90

FIGURE 2