GEOMATRIX

SOIL AND GROUNDWATER INVESTIGATION

American President Lines Terminal
1395 Middle Harbor Road
Port of Oakland
Oakland, California

3771
2485

Prepared for

Port of Oakland
530 Water Street
Oakland, California

April 1993
Project No. 2026

Geomatrix Consultants

PORT OF OAKLAND

May 10, 1993

Ms. Jennifer Eberle
Hazardous Materials Division
Department of Environmental Health
Alameda County Health Services Agency
80 Swan Way, Room 200
Oakland, CA 94621

SUBJECT: American President Lines (APL), Berth 60-63, Port of Oakland, Oakland, California

Dear Ms. Eberle:

Enclosed, you will find a copy of the Soil and Groundwater Investigation, American President Lines Terminal, 1395 Middle Harbor Road, Port of Oakland, Oakland, California. The report was completed by Geomatrix Consultants for the Port of Oakland. Four Underground Storage Tanks (USTs), two diesel, one gasoline and one waste oil, were removed from this site between 6 January and 4 March 1992. The sampling and analysis for this report was conducted in accordance with the workplan prepared by Geomatrix dated October 1992.

Please call me at (510)-272-1184 if you have any comments or questions.

Sincerely,

Jon Amdur
Environmental Scientist

cc: Mr. Rich Hiett, SFRWQCB, 2101 Webster Street, 5th Floor, Oakland, CA 94612

enclosure\

530 Water Street ■ Jack London's Waterfront ■ P.O. Box 2064 ■ Oakland, California 94604-2064
Telephone (510) 272-1100 ■ Fax (510) 272-1172 ■ Cable address, PORTOFOAK, Oakland

4721 Tidewater Avenue, Suite C
Oakland, CA 94614
(510) 535-2445 • FAX (510) 535-2408

GEOMATRIX

29 April 1993
Project 2026

Mr. Jon Amdur
Port of Oakland
530 Water Street
Oakland, California 94607

Subject: Soil and Groundwater Investigation
American President Lines Terminal
1395 Middle Harbor Road
Port of Oakland
Oakland, California

Dear Mr. Amdur:

Enclosed is the Soil and Groundwater Investigation report for the subject site. The report presents the results of sampling and analyses conducted at the subject site in accordance with our October 1992 Work Plan.

We appreciate the opportunity to continue to provide our consulting services to the Port of Oakland. If you have any questions about this report or require further information, please contact either of the undersigned.

Sincerely,

GEOMATRIX CONSULTANTS, INC.

Elizabeth K. Wells

Elizabeth K. Wells, P.E.
Project Engineer

Sally E. Goodin

Sally E. Goodin, R.G.
Senior Geologist

EKW/SEG/lam
2026\2026SAGI.LTR

Enclosure

GEOMATRIX

SOIL AND GROUNDWATER INVESTIGATION

American President Lines Terminal
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GEOMATRIX

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GEOMATRIX

SOIL AND GROUNDWATER INVESTIGATION
American President Lines Terminal
1395 Middle Harbor Road
Port of Oakland
Oakland, California

1.0 INTRODUCTION

This report presents the results of field activities conducted to assess the lateral extent of soil affected by petroleum hydrocarbons and volatile organic compounds and to assess groundwater quality in the vicinity of the former underground storage tanks at the American President Lines (APL) Terminal, 1395 Middle Harbor Road, at the Port of Oakland (Port), Oakland, California (Figure 1). The work was conducted in response to the 13 November 1992 Alameda County Health Care Services Agency letter to the Port. The work was performed on behalf of the Port by Geomatrix Consultants, Inc. (Geomatrix), in accordance with our 30 December 1992 scope of services. This report presents site background information, a summary of field activities, analytical results, and our conclusions and recommendations.

2.0 BACKGROUND

Four underground storage tanks were removed from the site between 6 January and 4 March 1992. It is unknown when the tanks were installed. Until removal in 1992, two tanks were used to store diesel (one 10,000-gallon capacity fiberglass and one 5,000-gallon capacity steel), one tank was used to store gasoline (1,000-gallon capacity fiberglass), and one tank was used to store waste oil (550-gallon capacity steel) . Observations of the tanks upon removal indicated that the diesel tanks contained no holes, the gasoline tank was punctured during removal, and the waste oil tank contained several small holes. In addition, free-phase petroleum product was observed floating on the groundwater in the tank excavation.

Approximately 300 cubic yards of soil containing petroleum hydrocarbons and halogenated volatile organic compounds (VOCs) were excavated. The soil was then aerated on site to remove halogenated VOCs and subsequently transported off site to the Port's bioremediation facility for treatment. Soil samples collected from the excavation indicated that soil in the northern, western, and southern portions of the tank excavation contained petroleum hydrocarbons and halogenated VOCs. Some of the affected soil was left in place due to physical obstructions preventing further excavation. A grab groundwater sample collected from the tank excavation contained elevated concentrations of VOCs. Details of the tank removal, excavation, and sampling activities are presented in Geomatrix's "Underground Storage Tank Removal Report", dated June 1992.

3.0 FIELD ACTIVITIES

Field activities conducted as part of this investigation included drilling and sampling soil borings, installing and developing monitoring wells, measuring water levels, and sampling groundwater. These activities are described below.

Geomatrix obtained a drilling and well installation permit from the Alameda County Flood Control and Water Conservation District before drilling began. A copy of the permit is included in Appendix A. Boring and monitoring well locations were cleared for underground utilities before drilling by Cruz Brothers of Milpitas, California. Drilling, well installation, and well development were performed between 18 January and 4 February 1993 by Gregg Drilling and Testing, Inc. (Gregg), of Pacheco, California, under the observation of a Geomatrix field engineer. Drilling, sampling, and well construction and development activities were conducted in accordance with Geomatrix protocols.

All down-hole equipment (augers, samplers, rods, etc.) was either steam-cleaned or washed with Alconox detergent and rinsed with municipal water before being advanced into

boreholes or wells. Soil cuttings and development and purge water from the boreholes and wells were placed in 55-gallon drums and stored temporarily on site.

3.1 SOIL BORINGS

To further assess the extent of petroleum hydrocarbons and VOCs in the vicinity of the former tank excavation, eleven exploratory soil borings were drilled to an approximate depth of ten feet below ground surface. Boring locations are shown on Figure 2. Drilling was conducted using a Mobil B53 drill rig with 6.5 and 8-inch outside diameter (O.D.) hollow-stem augers. The borings were continuously cored using a 5-foot continuous core barrel or sampled using an 18-inch split-spoon drive sampler, depending on field conditions. Soil samples were collected by the field engineer for visual soil classification and for chemical analysis. Lithologic logs were made in the field. The lithologic logs are presented in Appendix B.

Soil samples for chemical analysis generally were collected from immediately above the water table, and at a depth of 5 feet below the water table when soil recovery permitted. Samples were collected in clean, brass liners, which were sealed with Teflon sheeting, plastic end caps, wrapped with duct tape, and then stored in an ice-cooled chest. The samples were delivered to Clayton Environmental Consultants (Clayton), of Pleasanton, California, a state-certified analytical laboratory, under Geomatrix chain-of-custody procedures. Chain-of-custody records are included in Appendix C. No soil samples from boring B-9 were collected, due to elevated field readings using a photoionization detector (PID) during drilling. why? Reverse logic.

Completed boreholes that were not converted to monitoring wells were grouted to ground surface using a high-solids bentonite grout. Boring locations were surveyed for horizontal control by the Port's survey department.

3.2 MONITORING WELL INSTALLATION AND DEVELOPMENT

Three of the eleven soil borings, one in the assumed upgradient direction and two in the assumed downgradient direction from the tank excavation, were converted to monitoring wells. Well locations are shown on Figure 2. The monitoring wells were drilled to a maximum depth of 11.5 feet, and screened between the depths of 3 and 10 feet. The wells were constructed using 2-inch-diameter, flush-threaded, schedule-40 polyvinyl chloride (PVC) casing and with a 0.01-inch slot size factory slotted PVC screen. The annulus was backfilled with Lonestar #0/30 quartz sand filter pack from the base of the boring to one-half foot above the slotted screen section. Two to four inches of 3/8-inch bentonite pellets were placed as a seal above the filter pack, and the remaining annulus was backfilled with a neat cement grout to provide protection from surface water runoff. A locking cap and traffic-rated Christy Box were placed over the monitoring well at the ground surface. Following well completion, the well casings were surveyed by the Port to establish their locations and top-of-casing elevations. Well construction details are presented in Appendix B.

After allowing the well seals to set for 72 hours, Gregg developed the wells using surging and bailing methods under the observation of a Geomatrix field engineer. During development, a surge block was used to pull in sediment that may have accumulated in the filter pack during well installation, to consolidate the filter pack around the well screen, and to enhance the hydraulic connection between the water-bearing zone and the well. A stainless steel bailer was then used to remove the sediment that had accumulated in the bottom of the well and to remove water standing inside the well. This procedure was repeated until the produced groundwater was visually clear and the temperature, pH, and conductivity measurements had stabilized.

3.3 WATER-LEVEL MEASUREMENTS

On 8 March 1993, water levels were measured in the three monitoring wells to determine the direction of the horizontal hydraulic gradient beneath the site. Water levels were

measured at both low and high tides to evaluate tidal effects, if any. Water-levels were measured to the nearest 0.01 foot using a steel tape.

3.4 GROUNDWATER SAMPLING

On 5 February 1993, a groundwater sample was collected from each of the newly installed monitoring wells for chemical analysis. To obtain samples representative of groundwater beneath the site, the wells were purged until temperature, pH, and conductivity had stabilized. A minimum of four casing volumes were purged. The samples were collected using a clean disposable plastic bailer lowered to the approximate mid-point of the screened interval. The sample was decanted from the bailer directly into the appropriate container. After samples were collected and labeled, they were stored in an ice-cooled chest. Groundwater samples were delivered under Geomatrix chain-of-custody procedures to Clayton. Chain-of-custody records are included in Appendix D.

4.0 RESULTS

The results of the investigation are presented in this section. The stratigraphy in the vicinity of the tank excavation area is discussed in Section 4.1; the occurrence and movement of groundwater are discussed in Section 4.2; the analytical results of the soil sampling are presented in Section 4.3; the analytical results of the groundwater sampling are presented in Section 4.4.

4.1 STRATIGRAPHY

The lithologic data collected from the soil borings advanced in the tank excavation area generally indicate that the site is underlain by 3 to 6 feet of fill consisting of silty sand and gravel, which is underlain by approximately 1 to 10 feet of sand. The sand is underlain by either an organic soil or a lean clay (Bay Mud) to the maximum depth of the borings (15.5 feet). Groundwater was encountered during drilling at depths of 3.5 to 6.5 feet below ground surface.

4.2 OCCURRENCE AND MOVEMENT OF GROUNDWATER

At low tide on 8 March 1993, water levels in monitoring wells MW-1, MW-2, and MW-3 were measured at elevations of 7.07, 6.58, and 6.76 feet Mean Low Low Water Port datum (MLLW; Jim Baker, Port of Oakland, personal communication, March 1993), respectively (Figure 3). This indicates that the horizontal hydraulic gradient is oriented toward the southwest. Water-levels elevations in monitoring wells MW-1, MW-2, and MW-3 at high tide were 7.08, 6.69, and 6.98 feet MLLW, respectively. These high tide elevations indicate a horizontal hydraulic gradient oriented toward the west-southwest.

4.3 SOIL ANALYTICAL RESULTS

Soil samples were analyzed for the compounds that were detected at elevated concentrations in the tank excavation. These include total petroleum hydrocarbons as gasoline (TPHg) by modified U.S. Environmental Protection Agency (EPA) Method 8015; total petroleum hydrocarbons as diesel (TPHd) by EPA Method 8015; total oil and grease (TOG) by Standard Method 5520E and F; benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8020; and halogenated VOCs by EPA method 8010. In addition, samples from boring B-3, the boring closest to the former waste oil tank location, also was analyzed by EPA Method 8270. Analytical results of the soil samples are summarized in Table 1.

Although it's UG.

TOG was reported in 5 of the 16 samples analyzed at concentrations of 60 to 710 milligrams per kilogram (mg/kg). A concentration of 710 mg/kg was detected in the soil sample from B-4 collected at a depth of 4 feet; the concentration decreased to 110 mg/kg in the sample collected from a depth of 10 feet. TPHg was reported in 8 of 16 samples analyzed at concentrations of 0.3 to 480 mg/kg. TPHg was detected at a concentration greater than 100 mg/kg only in the sample from B-4 collected at a depth of 4 feet. Clayton characterized samples from a depth of 4 feet from borings B-1, B-2, B-3, B-4, and B-6 as weathered gasoline. TPHd was reported in 5 of 16 samples analyzed at concentrations up to 120 mg/kg. TPHd was detected at a concentration greater than 100 mg/kg only in the sample from B-4 collected at a depth of 4 feet. BTEX were detected at a maximum

concentration of 0.14, 2.9, 4.8, and 22 mg/kg, respectively. Halogenated VOCs by EPA Method 8010 were not detected in any of the samples. The two samples collected from boring B-3, closest to the former waste oil tank, contained no detectable semi-volatile organic compounds when analyzed by EPA Method 8270.

In summary, elevated concentration of TPH as diesel and TPH as gasoline were observed only in the soil samples from a depth of 4 feet in boring B-4. TOG was detected at concentrations greater than 100 mg/kg in samples B-2 (at a depth of 4 feet), B-4 (at a depths of 4 and 10.5 feet), and B-10 (at a depth of 5.5 feet).

4.4 GROUNDWATER ANALYTICAL RESULTS

Groundwater samples were analyzed for TPHg by modified U.S. EPA Method 8015; TPHd by EPA Method 8015; TOG by Standard Method 5520C and F; halogenated VOCs by EPA Method 8010; and BTEX by EPA Method 8020. In addition, each sample was analyzed for total dissolved solids to assess the general groundwater quality. Copies of the analytical laboratory reports are included in Appendix B. Analytical results of groundwater samples are summarized in Table 2.

TPHg, TPHd, and TOG were detected in the sample from monitoring well MW-1, the upgradient well, at concentrations of 1,800, 4,700, and 5,000 micrograms per liter (µg/l), respectively. BTEX were detected in the sample from MW-1 at concentrations of 9.2, 1.6, 8.9, and 2.7 µg/l, respectively. The only VOC detected in the sample from MW-1, 1,1-dichloroethane (DCA), was reported at a concentration of 0.8 µg/l. The groundwater sample from monitoring well MW-2, downgradient of the tank excavation, contained TPHd and TOG at concentrations of 840 and 2,000 µg/l, respectively. TPHg, BTEX, and VOCs were not detected in the sample from MW-2. The groundwater sample from monitoring well MW-3, also downgradient of the former tank excavation, contained TPHd and TOG at concentrations of 3,400 and 2,000 µg/l, respectively. BTEX were detected in the sample from MW-3 at concentrations of 2.1, 0.9, 1.7, and 3.1 µg/l respectively. Cis-1,2-

dichloroethylene (DCE), the only VOC detected in the sample from MW-3, was reported at a concentration of 0.4 µg/l. TPHg was not detected in the sample from MW-3. Total dissolved solids were reported at concentrations of 3,000, 23,000, and 1,600 milligrams per liter (mg/l) in MW-1, MW-2, and MW-3, respectively.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Soil analytical results indicate that soil containing petroleum hydrocarbon concentrations greater that 100 mg/kg extends to the west of the former excavation and is not fully defined in the westerly direction. Affected soil may extend under the APL Terminal building. Affected soil is generally located downgradient of the former APL tank excavations, west of boring B-6. Soil affected by BTEX is generally located above the water table downgradient of the former APL tank excavations, and to the west of boring B-6.

On 8 March 1993, the horizontal hydraulic gradient was oriented to the southwest. Groundwater analytical results indicate upgradient monitoring well MW-1 contains elevated concentrations of TPHg, TPHd, TOG, and benzene. Affected groundwater at the MW-1 location is considered unlikely to be associated with the former underground storage tanks at APL. Groundwater from the downgradient monitoring wells MW-2 and MW-3 also contain elevated concentrations of TPHd, TOG, and benzene; however, the concentrations in MW-2 and MW-3 are less than those in MW-1. Affected groundwater at MW-2 and MW-3 locations may be associated with the former APL underground storage tanks.

We recommend continued quarterly groundwater monitoring in the three on site wells. Following the fourth quarterly sampling event, the water-level elevation data and the groundwater analytical data will be evaluated and recommendations for future action, if necessary, will be made.

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TABLE 1

SUMMARY OF COMPOUNDS DETECTED IN SOIL SAMPLES
American President Lines Terminal
1395 Middle Harbor Road
Port of Oakland
Oakland, California

Concentrations in parts per million (mg/kg)

Boring No.	Sample Depth (feet)	TPH as Gasoline	TPH as Diesel	Total Oil and Grease	Benzene	Toluene	Ethylbenzene	Total Xylenes	EPA Method 8010	EPA Method 8270
B-1	4	1.6(a)	ND	ND	ND	ND	0.011	0.013	ND	--
B-2	4	8(a)	7	[illegible]	ND	0.08	0.06	0.16	ND	--
B-2	9	ND	ND	ND	ND	ND	ND	ND	ND	--
B-3	4	1.4(a)	ND	ND	ND	0.007	ND	0.006	ND	ND
B-3	10.5	ND	ND	60	0.007	ND	ND	ND	ND	ND
B-4	4	[illegible]	120	710	[illegible]	2.9	4.8	22	ND	--
B-4	10.5	0.5	12	110	ND	ND	ND	ND	ND	--
B-5	6.5	ND	ND	ND	ND	ND	ND	ND	ND	--
B-5	11.5	ND	ND	ND	ND	ND	ND	ND	ND	--
B-6	4	11(a)	10	ND	ND	0.011	0.035	0.11	ND	--
B-7	3.5	0.3	ND	ND	ND	0.007	ND	0.02	ND	--

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TABLE 1

SUMMARY OF COMPOUNDS DETECTED IN SOIL SAMPLES

Boring No.	Sample Depth (feet)	TPH as Gasoline	TPH as Diesel	Total Oil and Grease	Benzene	Toluene	Ethylbenzene	Total Xylenes	EPA Method 8010	EPA Method 8270
B-7	12	ND	ND	ND	ND	ND	ND	ND	ND	--
B-8	6	ND	25	ND	ND	ND	ND	ND	ND	--
B-8A	11	ND	ND	ND	ND	ND	ND	ND	ND	--
B-9										
B-10	5.5	ND	ND	140	ND	ND	ND	ND	ND	--
B-11	6	3.9	ND	ND	ND	0.034	0.015	0.022	ND	--

Notes:

1. Samples collected by Geomatrix Consultants, Inc. and analyzed by Clayton Environmental Consultants of Pleasanton, California, for TPH as gasoline by modified EPA Method 8015; TPH as diesel by EPA Method 8015; total oil and grease by Standard Method 5520 E and F; and benzene, toluene, ethylbenzene, and total xylenes by EPA Method 8020. No soil samples from boring B-9 were collected for chemical analysis.

2. TPH = total petroleum hydrocarbons
   ND = not detected at or above detection limit
   -- = not analyzed
   (a) = Clayton Environmental Consultants noted that the petroleum hydrocarbon detected appears to be weathered gasoline

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TABLE 2

SUMMARY OF COMPOUNDS DETECTED IN GROUNDWATER SAMPLES

American President Lines Terminal
1395 Middle Harbor Road
Port of Oakland
Oakland, California

Concentrations in parts per billion (µg/l)

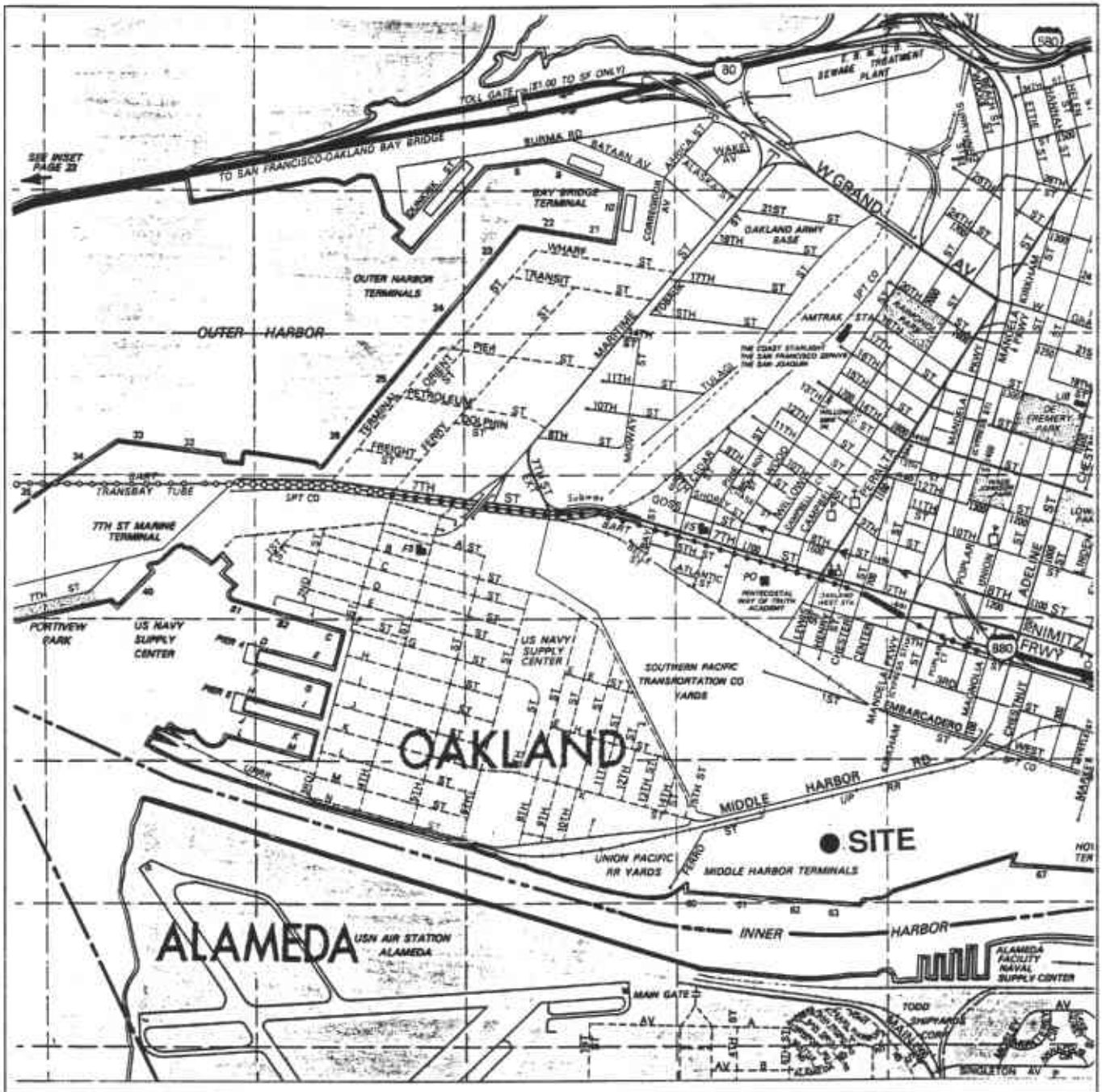
Well No.	TPH as Gasoline	TPH as Diesel	Total Oil and Grease	Benzene	Toluene	Ethylbenzene	Total Xylenes	EPA Method 8010
MW-1	1,800	4,700	5,000	9.2	1.6	8.9	2.7	1,1-DCA 0.8
MW-2	ND	840	2,000	ND	ND	ND	ND	ND
MW-3	ND	3,400	2,000	2.1	0.9	1.7	3.1	Cis-1,2-DCE 0.4

Notes:

1. Samples collected by Geomatrix Consultants, Inc. and analyzed by Clayton Environmental Consultants of Pleasanton, California, for TPH as gasoline by modified EPA Method 8015; TPH as diesel by EPA Method 8015; total oil and grease by Standard Method 5520 C and F; benzene, toluene, ethylbenzene, and total xylenes by EPA Method 8020; and halogenated volatile organic compounds by EPA Method 8010. Samples also analyzed for total dissolved solids (TDS) by EPA Method 160.1; samples from monitoring wells MW-1, MW-2, and MW-3 contained 3,000, 23,000, and 1,600 milligrams per liter (ppm) TDS, respectively.

2. TPH = total petroleum hydrocarbons
   ND = not detected at or above detection limit

3. Total Dissolved Solids reported in parts per million (mg/l).



Reference: Thomas Brothers Maps
Alameda County
1990

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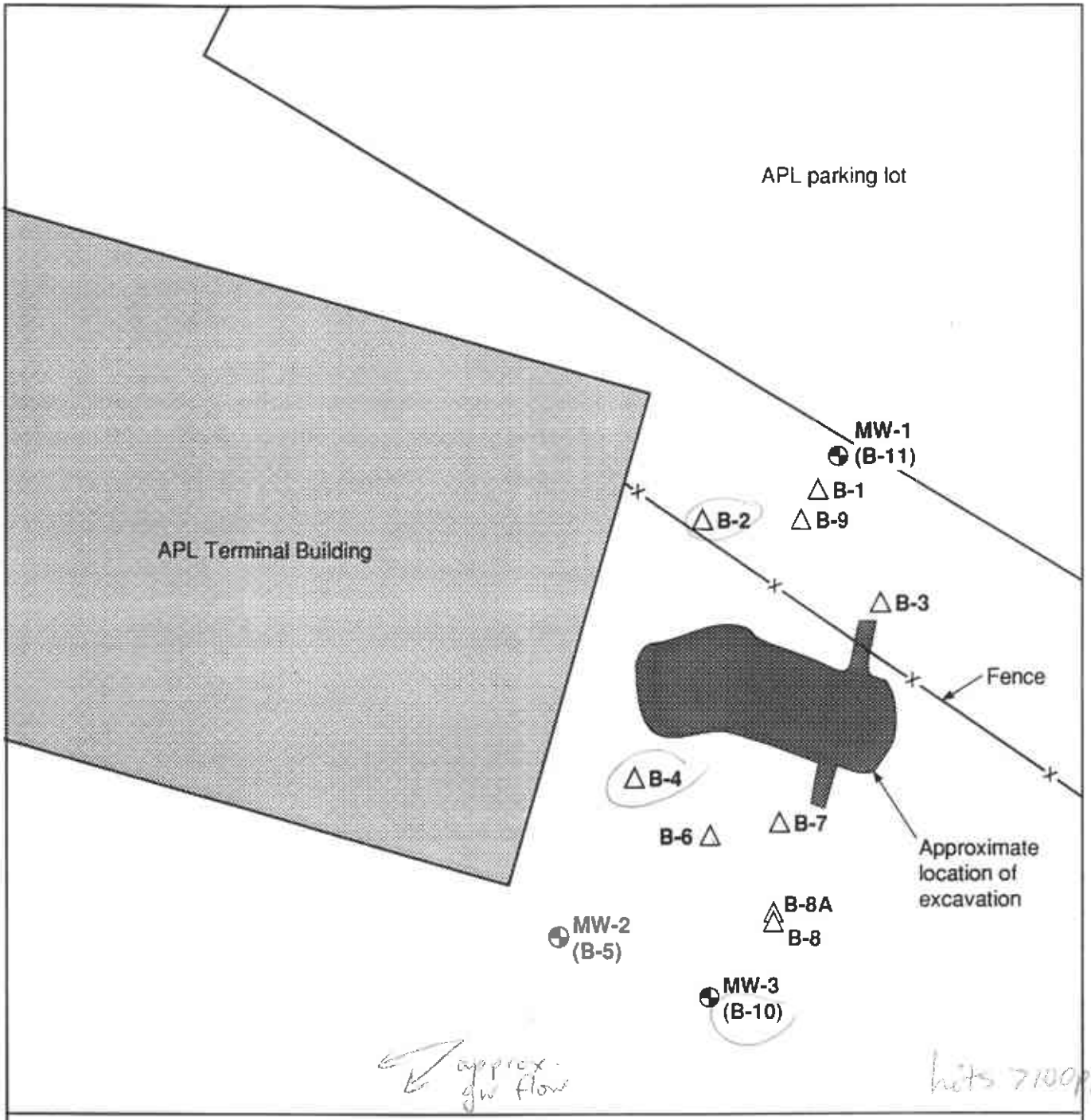
SITE LOCATION MAP
American President Lines Terminal
1395 Middle Harbor Road
Oakland, California

Figure
1

Project No.
2026



EXPLANATION

MW-2 ⊕ Monitoring well

B-1 △ Soil boring

Based on figure provided by the Port of Oakland

N

0 50 Feet

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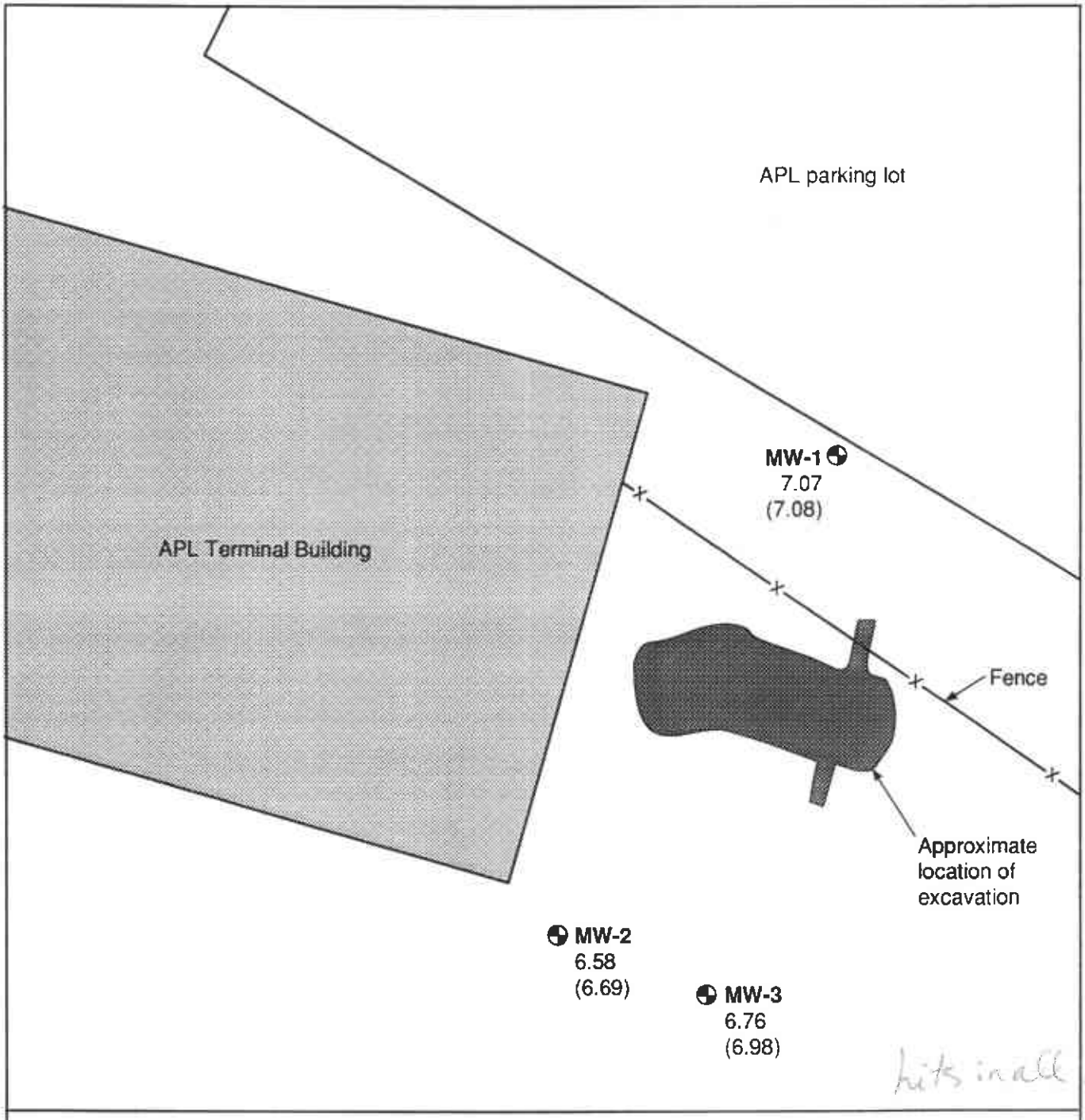
LOCATION OF SOIL BORINGS AND MONITORING WELLS
American President Lines Terminal
1395 Middle Harbor Road
Oakland, California

Figure 2

Project No. 2026



EXPLANATION

MW-2 Monitoring well

6.58 Water-level elevation, in feet, at low tide; 8 March 1993

(6.69) Water-level elevation, in feet, at high tide; 8 March 1993

N

0 50 Feet

Based on figure provided by the Port of Oakland.

Elevations referenced to Mean Low Low Water Port Datum.

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WATER-LEVEL ELEVATIONS – 8 MARCH 1993
American President Lines Terminal
1395 Middle Harbor Road
Oakland, California

Figure 3

Project No. 2026

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APPENDIX A

DRILLING PERMIT

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600
FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT APL Terminal
1395 Middle Harbor Road
Oakland, CA

CLIENT
Name Port of Oakland
Address 530 Water Street Phone (510) 272-1184
City Oakland Zip 94607

APPLICANT
Name James Abita
Geomatrix Consultants, Inc.
Address 100 Pine St. 10th Fl. Phone (415) 434-9400
City San Francisco Zip 94111

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection		General	
Water Supply		Contamination	✓
Monitoring	✓	Well Destruction	

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger ✓
Cable ___ Other ___

DRILLER'S LICENSE NO. 485165

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum
Casing Diameter 2 in. Depth 20 ft.
Surface Seal Depth 0.5 ft. Number 3

GEOTECHNICAL PROJECTS
Number of Borings 11 Maximum
Hole Diameter 8 in. Depth 20 ft.

ESTIMATED STARTING DATE 18 January 1993
ESTIMATED COMPLETION DATE 21 January 1993

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE _____ Date 1/4/93

FOR OFFICE USE

PERMIT NUMBER 93001
LOCATION NUMBER ___

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

(B.) WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

(C.) GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 4 Jan 93
Wyman Hong

31992

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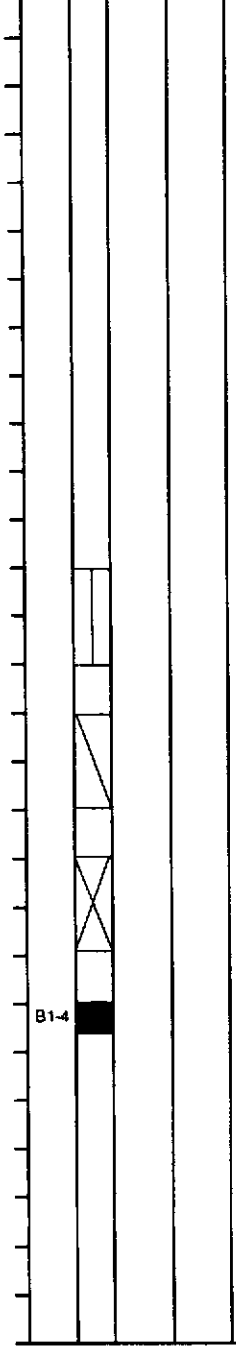
APPENDIX B

LITHOLOGIC LOGS AND WELL CONSTRUCTION DETAILS

PROJECT: APL TERMINAL 1395 Middle Harbor Road Port of Oakland	**Boring Log Explanation Sheet**
BORING LOCATION:	ELEVATION AND DATUM:
DRILLING CONTRACTOR:	DATE STARTED: / DATE FINISHED:
DRILLING METHOD:	TOTAL DEPTH: / MEASURING POINT:
DRILLING EQUIPMENT:	DEPTH TO WATER / FIRST / COMPL. / 24 HRS.
SAMPLING METHOD:	LOGGED BY:
HAMMER WEIGHT: / DROP:	RESPONSIBLE PROFESSIONAL: / REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS

1. Soil descriptions are in accordance with the USCS as set forth by ASTM D2488-90 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)."
2. Soil color described according to Munsell Color Chart.
3. Dashed lines separating soil strata represent inferred boundaries between sampled intervals that may be abrupt or gradual transitions. Solid lines represent approximate boundaries observed within sampled intervals.
4. OVM = organic vapor meter, readings in parts per million.
5. Odor, if noted, is subjective and not necessarily indicative of specific compounds or concentrations.



Interval of recovered soil core collected with split-barrel continuous sampler

Interval of recovered soil core collected with split-spoon drive sampler

Interval of no recovery

Sample collected for chemical analysis and sample identification

First water level ▽

Final water level ▼

B-1-Expl (11/92)

Geomatrix Consultants	Project No. 2026	Figure ---

PROJECT: APL TERMINAL
1395 Middle Harbor Road
Port of Oakland

Log of Boring No. B-1

BORING LOCATION: 45 feet north of former excavation	ELEVATION AND DATUM: 10.24 MLLW		
DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.	DATE STARTED: 1/19/93	DATE FINISHED: 1/19/93	
DRILLING METHOD: Hollow stem auger (8 1/4" diameter)	TOTAL DEPTH: 10.5'	MEASURING POINT: Ground surface	
DRILLING EQUIPMENT: Mobile B-53	DEPTH TO WATER: FIRST 4.0	COMPL. ---	24 HRS. ---
SAMPLING METHOD: 5' CME continuous core	LOGGED BY: J. M. Abitz		
HAMMER WEIGHT: 140 lbs / DROP: 40 inches	RESPONSIBLE PROFESSIONAL: Sally E. Goodin		REG. NO. RG 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	PID (ppm)	DESCRIPTION (NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.)	REMARKS
					Surface Elevation:	
0					Asphalt	
1					SAND with SILT and GRAVEL (SW - SM) Light olive brown (2.5Y5/6), moist, 60% fine to coarse sand, 30% fine gravel, 10% low plasticity fines [FILL]	
2						
3						
4	B-1-4				ATD ▽ Color change to greenish gray (5GY 5/1)	
5						
6					SAND (SP) Dark gray (7.5YR 4/0), wet, 95% fine sand, 5% low plasticity fines	Dark brown liquid observed
7					SILT (ML) Greenish gray (5GY 5/1), 100% fines, low plasticity, very stiff [BAY MUD]	
8						
9						
10						
11					Bottom of boring at 10.5 feet	
12						
13						
14						

B-1 (11/92)

PROJECT: APL TERMINAL
1395 Middle Harbor Road
Port of Oakland

Log of Boring No. B-2

BORING LOCATION: 30 feet north of former excavation

ELEVATION AND DATUM: 10.03 MLLW

DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.

DATE STARTED: 1/18/93 | DATE FINISHED: 1/18/93

DRILLING METHOD: Hollow stem auger (6 1/4" diameter)

TOTAL DEPTH: 15.5' | MEASURING POINT: Ground surface

DRILLING EQUIPMENT: Mobile B-53

DEPTH TO WATER	FIRST	COMPL.	24 HRS.
	4.0	---	---

SAMPLING METHOD: 5' CME continuous core

LOGGED BY: J. M. Abitz

HAMMER WEIGHT: 140 lbs | DROP: 40 inches

RESPONSIBLE PROFESSIONAL: Sally E. Goodin | REG. NO. RG 3743

DEPTH (feet)	SAMPLES Sample No.	SAMPLES Sample	SAMPLES Blows/Foot	PID (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS
0					Asphalt	
1					SAND with SILT and GRAVEL (SW - SM) Dark reddish brown (5YR 3/3), moist, 60% fine sand, 30% fine gravel, 10% low plasticity fines [FILL]	
2						
3						
4	B-2-4			41	SAND with SILT and GRAVEL (SW - SM) Dark greenish gray (5GY 4/1), moist, 70% fine sand, 20% fine gravel, 10% low plasticity fines [FILL] ATD ▽	
5						
6						
7					SILT (ML) Olive (5Y 4/4), wet, 100% fines, low plasticity, very soft [BAY MUD]	
8					Color change to black (5Y 2.5/1), with dark red (2.5YR 3/6) lenses, roots and wood pieces	
9	B-2-9			1.8	LEAN CLAY (CL) Dark greenish gray (5G 4/1), wet, 100% fines, low plasticity, firm [BAY MUD]	
10						
11						
12						
13						
14						

B-1 (11/92)

PROJECT: APL TERMINAL
1395 Middle Harbor Road
Port of Oakland

Log of Boring No. B-2 cont'd

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	PID (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
15					LEAN CLAY (CL) (continued) SAND with SILT (SW - SM) Black (10 YR 2/1), wet, 90% fine sand, 10% low plasticity fines	
16					Bottom of boring at 15.5 feet	
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

PROJECT: APL TERMINAL 1395 Middle Harbor Road Port of Oakland	**Log of Boring No. B-3**
BORING LOCATION: Near former north-extending trench	ELEVATION AND DATUM: 10.51 MLLW
DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.	DATE STARTED: 1/18/93 / DATE FINISHED: 1/18/93
DRILLING METHOD: Hollow stem auger (6 1/4" diameter)	TOTAL DEPTH: 15.5' / MEASURING POINT: Ground surface
DRILLING EQUIPMENT: Mobile B-53	DEPTH TO WATER: FIRST 4.5 / COMPL. --- / 24 HRS. ---
SAMPLING METHOD: 5' CME continuous core	LOGGED BY: J. M. Abitz
HAMMER WEIGHT: --- / DROP: ---	RESPONSIBLE PROFESSIONAL: Sally E. Goodin / REG. NO. RG 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	PID (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS
0					Asphalt	
1					SAND with SILT and GRAVEL (SW - SM) Brown (10YR 4/3), moist, 60% fine sand, 30% fine gravel, 10% low plasticity fines [FILL]	
2						
3						
4	B-3-4				Lean CLAY with SAND (CL) Dark gray (5Y 4/1), moist, 70% fines, 30% fine sand, high plasticity, firm ATD ▽	
				8.3		
5					SAND (SP) Dark greenish gray (5GY 4/1), wet, 95% fine sand, 5% low plasticity fines	
6						
7						
8						
9						
10	B-3-10.5			26.9		
11					Lean CLAY (CL) Dark greenish gray (5GY 4/1), wet, 100% fines, high plasticity, roots, firm [BAY MUD]	
12						
13					Change to no roots	
14						

B-1 (11/92)

Geomatrix Consultants	Project No. 2026J	Figure ---

PROJECT: APL TERMINAL
1395 Middle Harbor Road
Port of Oakland

Log of Boring No. B-3 cont'd

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	PID (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
					LEAN CLAY (CL) (continued)	
15					CLAYEY SAND (SC) Dark gray (N 4/), wet, 70% firm sand, 30% high plasticity fines	
					Bottom of boring at 15.5 feet	
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

PROJECT: APL TERMINAL
1395 Middle Harbor Road
Port of Oakland

Log of Boring No. B-4

BORING LOCATION: 10 feet southwest of former excavation

ELEVATION AND DATUM: 9.99 MLLW

DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.

DATE STARTED: 1/18/93 | DATE FINISHED: 1/18/93

DRILLING METHOD: Hollow stem auger (6 1/4" diameter)

TOTAL DEPTH: 15.5' | MEASURING POINT: Ground surface

DRILLING EQUIPMENT: Mobile B-53

DEPTH TO WATER: FIRST 4.0 | COMPL. --- | 24 HRS. ---

SAMPLING METHOD: 5' CME continuous core

LOGGED BY: J. M. Abitz

HAMMER WEIGHT: 140 lbs | DROP: 40 inches

RESPONSIBLE PROFESSIONAL: Sally E. Goodin | REG. NO. RG 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	PID (ppm)	DESCRIPTION (NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.)	REMARKS
					Surface Elevation:	
0					Asphalt	
1					SAND with SILT and GRAVEL (SW - SM) Dark greenish gray (5GY 4/1), moist, 60% fine to coarse sand, 30% fine to medium coarse gravel, 10% low plasticity fines [FILL]	
2						
3						
4	B-4-4			420	ATD ▽	
5				159	SAND (SP) Black (5Y 2.5/1), wet, 95% fine sand, 5% low plasticity fines	
6				340	SAND with SILT and GRAVEL (SP - SM) Dark gray (5Y 4/1), wet, 70% fine to medium sand, 20% fine gravel, 10% low plasticity fines	Sheen
7						
8						
9						
10	B-4-10.5					
11					LEAN CLAY (CL) Dark gray (5Y 4/1), wet, 100% fines, high plasticity, firm, some roots [BAY MUD]	
12						
13				42		
14						

B-1 (11/92)

Geomatrix Consultants | Project No. 2026J | Figure ---

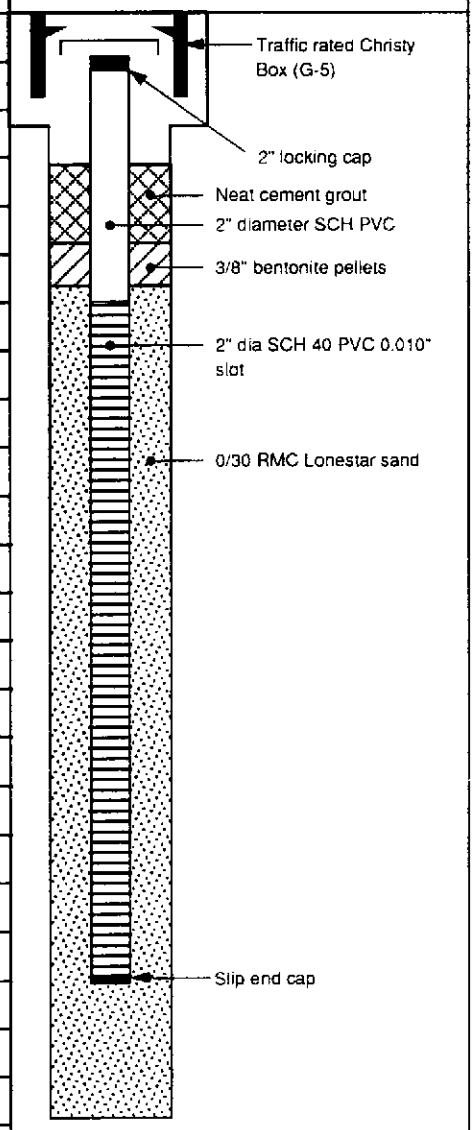
PROJECT: APL TERMINAL
1395 Middle Harbor Road
Port of Oakland

Log of Boring No. B-4 cont'd

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	PID (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
15					LEAN CLAY (CL) (continued)	
16					CLAYEY SAND (SM) Very dark gray (7.5YR N/3), wet, 70% firm sand, 30% low plasticity fines, roots Bottom of boring at 15.5 feet	
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

PROJECT: APL TERMINAL 1395 Middle Harbor Road - Port of Oakland	**Log of Well No. MW-2 (B-5)**
BORING LOCATION: 50 feet southwest of former excavation	ELEVATION AND DATUM: 10.03 MLLW
DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.	DATE STARTED: 1/20/93 / DATE FINISHED: 1/20/93
DRILLING METHOD: Hollow stem auger (8 1/4" and 10 1/4" OD)	TOTAL DEPTH: 10' / SCREEN INTERVAL: 3 - 10'
DRILLING EQUIPMENT: Mobile B-53	DEPTH TO WATER ATD: 5.5' / CASING: 2" dia SCH 40 PVC
SAMPLING METHOD: 5' CME continuous core and 18" x 2" split spoon	LOGGED BY: J. M. Abitz
HAMMER WEIGHT: 140 lbs / DROP: 40 inches	RESPONSIBLE PROFESSIONAL: Sally E. Goodin / REG. NO. RG 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
					Surface Elevation:	
0					Asphalt	
1					SAND with SILT and GRAVEL (SW - SM) Light olive brown (2.5Y 5/6), moist, 60% fine sand, 30% fine gravel, 10% low plasticity fines [FILL]	
2						
3						
4						
5					SAND with SILT and CLAY (SW - SC) Dark greenish gray (5GY 4/1), moist, 60% fine sand, 20% low plastic fines, 20% high plastic fines	
6	B-5-6.5					
7					SAND (SP Dark greenish gray (5GY 4/1), wet, 100% firm sand	
8					Lean CLAY (CL) Dark greenish gray (5GY 4/1), wet, 70% fines, 30% organics, high plasticity, firm [BAY MUD]	
9						
10					Organic SOIL (OL/OH) Dark greenish gray (5GY 4/1), wet, 50% high plastic fines, 50% organics, very soft [BAY MUD]	
11	B-5-11.5					
12					Bottom of boring at 11.5 feet	
13						
14						



W-1 (11/92)

Geomatrix Consultants	Project No. 2067	Figure ---

PROJECT: APL TERMINAL
1395 Middle Harbor Road
Port of Oakland

Log of Boring No. B-6

BORING LOCATION: 20 feet south of former excavation

ELEVATION AND DATUM: 9.85 MLLW

DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.

DATE STARTED: 1/18/93 | DATE FINISHED: 1/18/93

DRILLING METHOD: Hollow stem auger (6 1/4" diameter)

TOTAL DEPTH: 15.5' | MEASURING POINT: Ground surface

DRILLING EQUIPMENT: Mobile B-53

DEPTH TO WATER	FIRST	COMPL.	24 HRS.
	4.0	---	---

SAMPLING METHOD: 5' CME continuous core

LOGGED BY: J. M. Abitz

HAMMER WEIGHT: 140 lbs | DROP: 40 inches

RESPONSIBLE PROFESSIONAL: Sally E. Goodin | REG. NO. RG 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	PID (ppm)	DESCRIPTION (NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.)	REMARKS
					Surface Elevation:	
0					Asphalt	
1					SAND with SILT and GRAVEL (SW - SM) Olive (5Y 4/4), moist, 65% fine sand, 25% fine gravel, 10% low plasticity fines [FILL]	
2						
3				27.9		
4	B-6-4				ATD ▽	
				240	SAND with SILT and GRAVEL (SW - SM) Dark gray (5Y 4/1), wet, 50% fine to coarse sand, 40% fine to coarse gravel, 10% low plasticity fines	
5				371		
				173	Color change to black (5Y 2.5/1)	
6					SAND (SP) Black (5Y 2.5/1), wet, 95% fine sand, 5% low plasticity fines	
7						
8						
9						
10						
11						
12						
13						
14						

Geomatrix Consultants | Project No. 2026J | Figure ---

PROJECT: APL TERMINAL
1395 Middle Harbor Road
Port of Oakland

Log of Boring No. B-6 cont'd

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	PID (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
15		X			SAND (SP) (continued)	
16					Bottom of boring at 15.5 feet	
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

B-2 (11/92)

PROJECT: APL TERMINAL
1395 Middle Harbor Road
Port of Oakland

Log of Boring No. B-7

BORING LOCATION: Near former south-extending trench

ELEVATION AND DATUM: 9.97 MLLW

DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.

DATE STARTED: 1/18/93 | DATE FINISHED: 1/18/93

DRILLING METHOD: Hollow stem auger (6 1/4" diameter)

TOTAL DEPTH: 15.5' | MEASURING POINT: Ground surface

DRILLING EQUIPMENT: Mobile B-53

DEPTH TO WATER	FIRST	COMPL.	24 HRS.
	3.5'	---	---

SAMPLING METHOD: 5' CME continuous core

LOGGED BY: J. M. Abitz

HAMMER WEIGHT: --- | DROP: ---

RESPONSIBLE PROFESSIONAL: Sally E. Goodin | REG. NO. RG 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	PID (ppm)	DESCRIPTION (NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.)	REMARKS
					Surface Elevation:	
0					Asphalt	
1					SAND with SILT and GRAVEL (SW - SM) Yellowish brown (10YR 5/8), moist, 65% fine to coarse sand, 25% fine gravel, 10% low plasticity fines [FILL]	
2					CLAYEY SAND (SC) Black (10YR 2/1), moist, 70% fine sand, 30% low plasticity fines, wood chunks [FILL]	
3	B-7-3.5			8.3	CLAYEY SAND (SC) ATD ▽ Dark greenish gray (5GY 4/1), wet, 70% fine sand, 30% medium plasticity fines, decreasing clay with depth	
4						
5						
6						
7						
8						
9						
10						
11						
12	B-7-12			1.7	Lean CLAY (CL) Dark gray (5Y 4/1), wet, 100% fines, high plasticity, firm [BAY MUD]	
13						
14						

B-1 (11/92)

PROJECT: APL TERMINAL
1395 Middle Harbor Road
Port of Oakland

Log of Boring No. B-7 cont'd

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	PID (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
15					Lean CLAY (CL) (continued)	
16					CLAYEY SAND (SM) Very dark gray (7.5YR N/3), wet, 70% fine sand, 30% low plasticity fines	
17					Bottom of boring at 15.5 feet	
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

PROJECT: APL TERMINAL
1395 Middle Harbor Road
Port of Oakland

Log of Boring No. B-8

BORING LOCATION: 30 feet south of former excavation

ELEVATION AND DATUM: 9.86 MLLW

DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.

DATE STARTED: 1/19/93 | DATE FINISHED: 1/19/93

DRILLING METHOD: Hollow stem auger (8 1/4" diameter)

TOTAL DEPTH: 12' | MEASURING POINT: Ground surface

DRILLING EQUIPMENT: Mobile B-53

DEPTH TO WATER | FIRST 6' | COMPL. --- | 24 HRS. ---

SAMPLING METHOD: 5' CME continuous core

LOGGED BY: J. M. Abitz

HAMMER WEIGHT: --- | DROP: ---

RESPONSIBLE PROFESSIONAL: Sally E. Goodin | REG. NO. RG 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	PID (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS
0					Asphalt	
1					SAND with SILT and GRAVEL (SW - SM) Olive (5Y 4/4), moist, 60% fine sand, 30% fine gravel, 10% low plasticity fines [FILL]	
2						
3						
4					Lean CLAY (CL) Dark greenish gray (5GY 4/1), moist, 100% fines, trace fine sand seams, high plasticity, firm, shell fragments [BAY MUD]	
5						
6	B-8-6				ATD ▽	
7					SAND (SP) Dark greenish gray (5GY 4/1), wet, 85% fine sand, 10% fine gravel, 5% high plasticty fines	No recovery from 7 to 12 feet. See boring B-8A for lithology.
8						
9						
10						
11						
12					Bottom of boring at 12 feet	
13						
14						

B-1 (11/92)

PROJECT: APL TERMINAL
1395 Middle Harbor Road
Port of Oakland

Log of Boring No. B-8A

BORING LOCATION: 30 feet south of former excavation

ELEVATION AND DATUM: 9.84 MLLW

DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.

DATE STARTED: 1/19/93 | DATE FINISHED: 1/19/93

DRILLING METHOD: Hollow stem auger (8 1/4" diameter)

TOTAL DEPTH: 11.5' | MEASURING POINT: Ground surface

DRILLING EQUIPMENT: Mobile B-53

DEPTH TO WATER	FIRST	COMPL.	24 HRS.
	---	---	---

SAMPLING METHOD: 18"x2" split spoon

LOGGED BY: J. M. Abitz

HAMMER WEIGHT: 140 lbs | DROP: 40 inches

RESPONSIBLE PROFESSIONAL: Sally E. Goodin | REG. NO. RG 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	PID (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS
0					Asphalt	Lithology from boring B-8 for 0' to 7'
1					SAND with SILT and GRAVEL (SW - SM) Olive (5Y 4/4), moist, 60% fine sand, 30% fine gravel, 10% low plasticity fines [FILL]	
2						
3						
4					Lean CLAY (CL) Dark greenish gray (5GY 4/1), moist, 100% fines, fine sand seams, shell fragments, high plasticity, firm	
5						
6					SAND (SP) Dark greenish gray (5GY 4/1), wet, 85% fine sand, 10% fine gravel, 5% high plasticity fines	
7					Organic SOIL (OL/OH) Dark greenish gray (5GY 4/1), wet, 50% high plasticity fines, 50% organics, very soft [BAY MUD]	
8						
9						
10						
11	B-8A -11				Lean CLAY (CL) Dark greenish gray (5GY 4/1), wet, 100% fines, fine sand seams, high plasticity, firm [BAY MUD]	
12					Bottom of boring at 11.5 feet	
13						
14						

B-1 (11/92)

Geomatrix Consultants | Project No. 2026J | Figure ---

PROJECT: APL TERMINAL
1395 Middle Harbor Road
Port of Oakland

Log of Boring No. B-9

BORING LOCATION: 35 feet north of former excavation

ELEVATION AND DATUM: 10.24 MLLW

DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.

DATE STARTED: 1/21/93

DATE FINISHED: 1/21/93

DRILLING METHOD: Hollow stem auger (8 1/4" diameter)

TOTAL DEPTH: 7'

MEASURING POINT: Ground surface

DRILLING EQUIPMENT: Mobile B-53

DEPTH TO WATER	FIRST	COMPL.	24 HRS.
	4.5'	---	---

SAMPLING METHOD: 5' CME continuous core

LOGGED BY: J. M. Abitz

HAMMER WEIGHT: ---

DROP: ---

RESPONSIBLE PROFESSIONAL: Sally E. Goodin

REG. NO. RG 3743

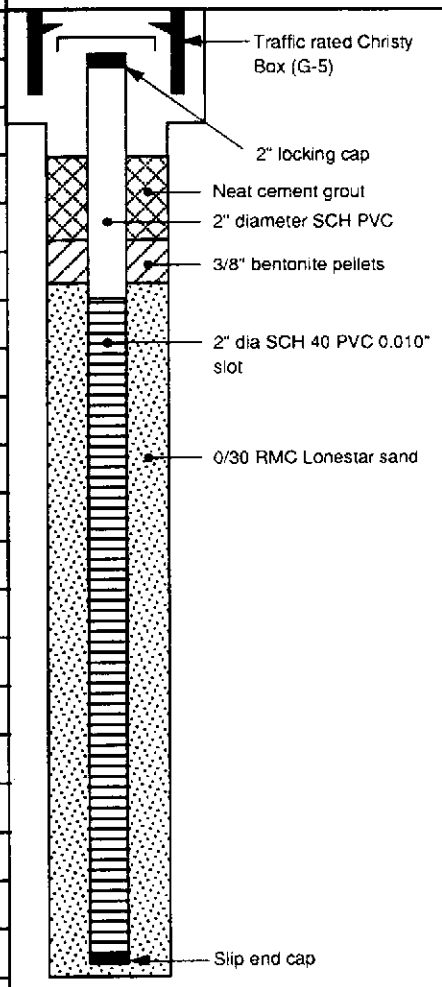
DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	PID (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:	REMARKS
0					Asphalt	
1					SAND with SILT and GRAVEL (SW - SM) Olive (5Y 5/3), moist, 60% fine sand, 30% fine gravel, 10% low plasticity fines [FILL]	
2						
3				304		
4				295	ATD ▽	
5						
6						
7					Bottom of boring at 7 feet	
8						
9						
10						
11						
12						
13						
14						

B-1 (11/92)

PROJECT: APL TERMINAL 1395 Middle Harbor Road - Port of Oakland	**Log of Well No. MW-3 (B-10)**
BORING LOCATION: 60 feet south of former excavation	ELEVATION AND DATUM: 9.84 MLLW
DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.	DATE STARTED: 1/20/93 / DATE FINISHED: 1/20/93
DRILLING METHOD: Hollow stem auger (8 1/4" and 10 1/4" OD)	TOTAL DEPTH: 10' / SCREEN INTERVAL: 3 - 10'
DRILLING EQUIPMENT: Mobile B-53	DEPTH TO WATER ATD: 6.5' / CASING: 2" dia SCH 40 PVC
SAMPLING METHOD: 5' CME continuous core and 18" x 2" split spoon	LOGGED BY: J. M. Abitz
HAMMER WEIGHT: 140 lbs / DROP: 40 inches	RESPONSIBLE PROFESSIONAL: Sally E. Goodin / REG. NO. RG 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter. Surface Elevation:
0					Asphalt
1					SAND with SILT and GRAVEL (SW - SM) Reddish brown (5Y 5/3), moist, 60% fine sand, 30% fine gravel, 10% low plastic fines, increasing plasticity with depth [FILL]
2					
3					
4					
5	B-10 -5.5				ATD ▽
6					SAND (SP) Dark greenish gray (5GY 4/1), wet, 95% fine to medium sand, 5% low plasticity fines
7					Gravel
8					Lean CLAY (CL) Dark greenish gray (5GY 4/1), wet, 80% fines, 20% organics, trace gravel, high plasticity, decreasing organics with depth, firm [BAY MUD]
9					
10					Bottom of boring at 10 feet
11					
12					
13					
14					

WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS



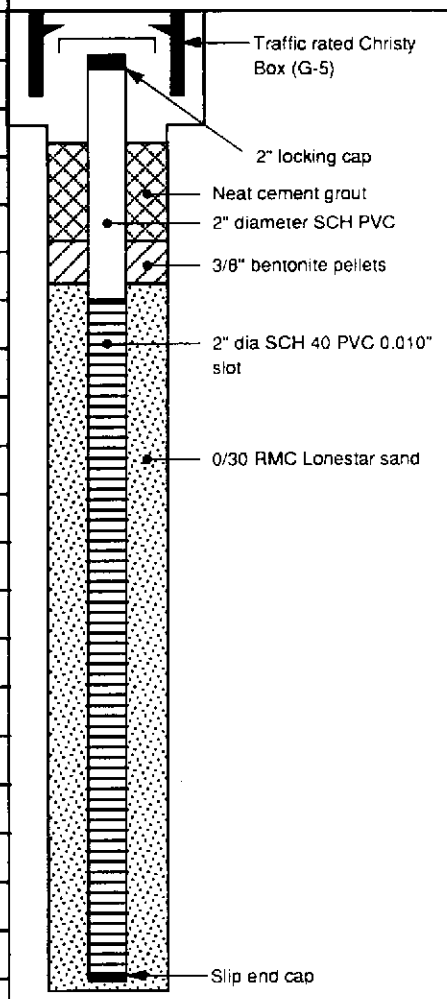
W-1 (11/92)

Geomatrix Consultants	Project No. 2067	Figure ---

PROJECT: APL TERMINAL 1395 Middle Harbor Road - Port of Oakland	**Log of Well No. MW-1 (B-11)**
BORING LOCATION: 50 feet north of former excavation	ELEVATION AND DATUM: 10.37 MLLW
DRILLING CONTRACTOR: Gregg Drilling and Testing, Inc.	DATE STARTED: 1/21/93 / DATE FINISHED: 1/21/93
DRILLING METHOD: Hollow stem auger (8 1/4" and 10 1/4" OD)	TOTAL DEPTH: 10' / SCREEN INTERVAL: 3 - 10'
DRILLING EQUIPMENT: Mobile B-53	DEPTH TO WATER ATD: 6' / CASING: 2" dia SCH 40 PVC
SAMPLING METHOD: 5' CME continuous core and 18" x 2" split spoon	LOGGED BY: J. M. Abitz
HAMMER WEIGHT: 140 lbs / DROP: 40 inches	RESPONSIBLE PROFESSIONAL: Sally E. Goodin / REG. NO. RG 3743

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter.
					Surface Elevation:
0					Asphalt
1					SAND with SILT and GRAVEL (SW - SM) Light olive brown (2.5Y 5/4), moist, 60% fine to coarse sand, 30% fine gravel, 10% low plasticity fines [FILL]
2					
3					
4					
5					
6	B-11-6				ATD ▽
7					SAND (SP) Dark greenish gray (5GY 4/1), wet, 95% fine to medium sand, 5% low plasticity fines
8					Organic SOIL (OL/OH) Dark greenish gray (5GY 4/1), wet, 50% high plasticity fines, 50% organics, very soft [BAY MUD]
9					
10					Lean CLAY (CL) Dark greenish gray (5GY 4/1), wet, 100% fines, high plasticity [BAY MUD]
11					Bottom of boring at 10 feet
12					
13					
14					

WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS



W-1 (11/92)

Geomatrix Consultants	Project No. 2067	Figure ---

GEOMATRIX

APPENDIX C

ANALYTICAL LABORATORY REPORTS AND CHAIN-OF-CUSTODY RECORDS
SOIL SAMPLES

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

February 2, 1993

Ms. Elizabeth Wells
GEOMATRIX CONSULTANTS
100 Pine Street, 10th Floor
San Francisco, CA 94111

Client Ref. 2026
Clayton Project No. 93012.00

Dear Ms. Wells:

Attached is our analytical laboratory report for the samples received on January 22, 1993. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of 30 days after the date of this report, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Ronald H. Peters, CIH
Director, Laboratory Services
Western Operations

RHP/tb
Attachments

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93012.00

Sample Identification:	B-11-6	Date Sampled:	01/21/93
Lab Number:	9301200-01A	Date Received:	01/22/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/26/93
Preparation Method:	EPA 5030	Date Analyzed:	01/26/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	0.034	0.005
Ethylbenzene	100-41-4	0.015	0.005
p,m-Xylenes	--	0.013	0.005
o-Xylene	95-47-6	0.009	0.005
Gasoline	--	3.9	0.3

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	60	50 -	150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93012.00

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9301200-02A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	01/26/93
Preparation Method:	EPA 5030	Date Analyzed:	01/26/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	--	ND	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline	--	ND	0.3

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	67	50 -	150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93012.00

Sample Identification:	B-11-6	Date Sampled:	01/21/93
Lab Number:	9301200-01A	Date Received:	01/22/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/27/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
Dibromochloromethane	124-48-1	ND	0.06
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trans-1,3-Dichloropropene	10061-02-6	ND	0.06

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93012.00

Sample Identification:	B-11-6	Date Sampled:	01/21/93
Lab Number:	9301200-01A	Date Received:	01/22/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/27/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

Surrogates		Recovery (%)	QC Limits (%) LCL UCL
Bromochloromethane	74-97-5	92	50 - 150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93012.00

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9301200-02A	Date Received:	--
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Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
Dibromochloromethane	124-48-1	ND	0.06
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trans-1,3-Dichloropropene	10061-02-6	ND	0.06

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93012.00

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9301200-02A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	01/27/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

Surrogates		Recovery (%)	QC Limits (%) LCL - UCL
Bromochloromethane	74-97-5	115	50 - 150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93012.00

Sample Identification: B-11-6
Lab Number: 9301200-01
Sample Matrix/Media: SOIL

Date Sampled: 01/21/93
Date Received: 01/22/93

Analyte	Concentration	Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Analysis Method
Diesel	ND	1	mg/kg	01/26/93	02/01/93	EPA 3550	EPA 8015
Hydrocarbons	ND	50	mg/kg	01/25/93	01/28/93	SM 5520E	SM 5520F
Total Oil & Grease	60	50	mg/kg	01/25/93	01/28/93	SM 5520E	SM 5520E

ND Not detected at or above limit of detection
< Not detected at or above limit of detection
-- Information not available or not applicable

Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93012.00

Sample Identification: METHOD BLANK
Lab Number: 9301200-02
Sample Matrix/Media: SOIL

Date Sampled: --
Date Received: --

Analyte	Concentration	Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Analysis Method
Diesel	ND	1	mg/kg	01/26/93	02/01/93	EPA 3550	EPA 8015
Hydrocarbons	ND	50	mg/kg	01/25/93	01/28/93	SM 5520E	SM 5520F
Total Oil & Grease	ND	50	mg/kg	01/25/93	01/28/93	SM 5520E	SM 5520E

ND Not detected at or above limit of detection
< Not detected at or above limit of detection
-- Information not available or not applicable

Results are reported on a wet weight basis, as received

Quality Assurance Results Summary
for
Clayton Project No. 93012.00

Clayton Lab Number:	9301202-01A	Analytical Method:	EPA8015_8020
Ext./Prep. Method:	EPA 5030	Instrument ID:	05587
Date:	01/26/93	Date:	01/26/93
Analyst:	PF	Time:	19:21
Std. Source:	V921223-01W	Analyst:	PF
Sample Matrix/Media:	SOIL	Units:	MG/KG

Analyte		Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
BENZENE	(PID)	ND	0.0100	0.00800	80	0.00800	80	80	53	140	0.0	28
GASOLINE	(FID)	ND	0.500	0.387	77	0.374	75	76	41	164	3.4	37
TOLUENE	(PID)	ND	0.0400	0.0290	73	0.0310	78	75	60	139	6.7	22

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection
LCL = Lower Control Limit
UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 93012.00

Clayton Lab Number:	9301174-14A	Analytical Method:	EPA8010 8020
Ext./Prep. Method:	EPA5030	Instrument ID:	02911
Date:	01/27/93	Date:	01/27/93
Analyst:	CB	Time:	22:36
Std. Source:	V930118-01W	Analyst:	CB
Sample Matrix/Media:	SOIL	Units:	MG/KG

Analyte		Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
1,1-DICHLOROETHENE	(HALL)	ND	2.00	1.44	72	1.64	82	77	41	149	13	30
CHLOROBENZENE	(HALL)	ND	2.00	1.60	80	1.77	89	84	66	151	10	30
TRICHLOROETHENE	(HALL)	ND	2.00	1.71	86	1.78	89	87	38	161	4.0	30

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection
LCL = Lower Control Limit
UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 93012.00

Clayton Lab Number:	9301202-MB	Analytical Method:	EPA8015
Ext./Prep. Method:	EPA3550	Instrument ID:	02883
Date:	01/26/93	Date:	02/01/93
Analyst:	GD	Time:	14:04
Std. Source:	G930111-01W	Analyst:	AM
Sample Matrix/Media:	SOIL	Units:	MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
DIESEL	ND	11.0	9.78	89	10.2	93	91	51	147	4.5	30

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 93012.00

Clayton Lab Number:	9301200-01A	Analytical Method:	SM5520EF
Ext./Prep. Method:	SM5520EF	Instrument ID:	02883
Date:	01/25/93	Date:	01/28/93
Analyst:	HYT	Time:	16:34
Std. Source:	E920917-01W	Analyst:	CS
Sample Matrix/Media:	SOIL	Units:	MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
DIESEL	ND	11.0	6.04	55	5.30	48	52	51	147	13	30

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection
LCL = Lower Control Limit
UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 93012.00

Clayton Lab Number:	9301200-01A	Analytical Method:	SM5520E
Ext./Prep. Method:	SM5520E	Instrument ID:	AE200
Date:	01/25/93	Date:	01/28/93
Analyst:	HYT	Time:	15:00
Std. Source:	E920917-01W	Analyst:	CS
Sample Matrix/Media:	SOIL	Units:	MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
OIL AND GREASE	60.0	1,040	1,090	99	1,030	93	96	75	125	5.2	25

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 93012.00

Clayton Lab Number:	9301200-01A	Analytical Method:	SM5520EF
Ext./Prep. Method:	SM5520EF	Instrument ID:	AE200
Date:	01/25/93	Date:	01/28/93
Analyst:	HYT	Time:	15:30
Std. Source:	E920917-01W	Analyst:	CS
Sample Matrix/Media:	SOIL	Units:	MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
TOTAL PETROLEUM HYDROCARBONS	40.0	1,040	885	81	850	78	80	73	103	4.0	25

LCS = Laboratory Control Sample
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LCL = Lower Control Limit

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SOR = Spike out of range due to high sample concentration.

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

February 2, 1993

Ms. Elizabeth Wells
GEOMATRIX CONSULTANTS
100 Pine Street, 10th Floor
San Francisco, CA 94111

Client Ref. 2026
Clayton Project No. 93012.00

Dear Ms. Wells:

Attached is our analytical laboratory report for the samples received on January 22, 1993. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of 30 days after the date of this report, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Ronald H. Peters, CIH
Director, Laboratory Services
Western Operations

RHP/tb
Attachments

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93012.00

Sample Identification:	B-11-6	Date Sampled:	01/21/93
Lab Number:	9301200-01A	Date Received:	01/22/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/26/93
Preparation Method:	EPA 5030	Date Analyzed:	01/26/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	0.034	0.005
Ethylbenzene	100-41-4	0.015	0.005
p,m-Xylenes	--	0.013	0.005
o-Xylene	95-47-6	0.009	0.005
Gasoline	--	3.9	0.3

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	60	50 -	150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93012.00

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9301200-02A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	01/26/93
Preparation Method:	EPA 5030	Date Analyzed:	01/26/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	--	ND	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline	--	ND	0.3

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	67	50 -	150

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-- Information not available or not applicable
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Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93012.00

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Sample Matrix/Media:	SOIL	Date Prepared:	01/27/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
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Trans-1,3-Dichloropropene	10061-02-6	ND	0.06

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Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

Surrogates		Recovery (%)	QC Limits (%) LCL - UCL
Bromochloromethane	74-97-5	92	50 - 150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93012.00

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9301200-02A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	01/27/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
Dibromochloromethane	124-48-1	ND	0.06
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trans-1,3-Dichloropropene	10061-02-6	ND	0.06

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93012.00

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9301200-02A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	01/27/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

Surrogates		Recovery (%)	QC Limits (%) LCL UCL
Bromochloromethane	74-97-5	115	50 - 150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93012.00

Sample Identification: B-11-6
Lab Number: 9301200-01
Sample Matrix/Media: SOIL

Date Sampled: 01/21/93
Date Received: 01/22/93

Analyte	Concentration	Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Analysis Method
Diesel	ND	1	mg/kg	01/26/93	02/01/93	EPA 3550	EPA 8015
Hydrocarbons	ND	50	mg/kg	01/25/93	01/28/93	SM 5520E	SM 5520F

ND Not detected at or above limit of detection
< Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93012.00

Sample Identification: METHOD BLANK
Lab Number: 9301200-02
Sample Matrix/Media: SOIL

Date Sampled: --
Date Received: --

Analyte	Concentration	Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Analysis Method
Diesel	ND	1	mg/kg	01/26/93	02/01/93	EPA 3550	EPA 8015
Hydrocarbons	ND	50	mg/kg	01/25/93	01/28/93	SM 5520E	SM 5520F

ND Not detected at or above limit of detection
< Not detected at or above limit of detection
-- Information not available or not applicable

Results are reported on a wet weight basis, as received

Quality Assurance Results Summary
for
Clayton Project No. 93012.00

Clayton Lab Number: 9301202-01A
Ext./Prep. Method: EPA 5030
Date: 01/26/93
Analyst: PF
Std. Source: V921223-01W
Sample Matrix/Media: SOIL

Analytical Method: EPA8015 8020
Instrument ID: 05587
Date: 01/26/93
Time: 19:21
Analyst: PF
Units: MG/KG

Analyte		Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
BENZENE	(PID)	ND	0.0100	0.00800	80	0.00800	80	80	53	140	0.0	28
GASOLINE	(FID)	ND	0.500	0.387	77	0.374	75	76	41	164	3.4	37
TOLUENE	(PID)	ND	0.0400	0.0290	73	0.0310	78	75	60	139	6.7	22

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 93012.00

Clayton Lab Number:	9301174-14A	Analytical Method:	EPA8010_8020
Ext./Prep. Method:	EPA5030	Instrument ID:	02911
Date:	01/27/93	Date:	01/27/93
Analyst:	CB	Time:	22:36
Std. Source:	V930118-01W	Analyst:	CB
Sample Matrix/Media:	SOIL	Units:	MG/KG

Analyte		Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
1,1-DICHLOROETHENE	(HALL)	ND	2.00	1.44	72	1.64	82	77	41	149	13	30
CHLOROBENZENE	(HALL)	ND	2.00	1.60	80	1.77	89	84	66	151	10	30
TRICHLOROETHENE	(HALL)	ND	2.00	1.71	86	1.78	89	87	38	161	4.0	30

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 93012.00

Clayton Lab Number:	9301202-MB	Analytical Method:	EPA8015
Ext./Prep. Method:	EPA3550	Instrument ID:	02883
Date:	01/26/93	Date:	02/01/93
Analyst:	GD	Time:	14:04
Std. Source:	G930111-01W	Analyst:	AM
Sample Matrix/Media:	SOIL	Units:	MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
DIESEL	ND	11.0	9.78	89	10.2	93	91	51	147	4.5	30

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 93012.00

Clayton Lab Number:	9301200-01A	Analytical Method:	SM5520EF
Ext./Prep. Method:	SM5520EF	Instrument ID:	02883
Date:	01/25/93	Date:	01/28/93
Analyst:	HYT	Time:	16:34
Std. Source:	E920917-01W	Analyst:	CS
Sample Matrix/Media:	SOIL	Units:	MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
DIESEL	ND	11.0	6.04	55	5.30	48	52	51	147	13	30

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 93012.00

Clayton Lab Number: 9301200-01A
Ext./Prep. Method: SM5520E
Date: 01/25/93
Analyst: HYT
Std. Source: E920917-01W
Sample Matrix/Media: SOIL

Analytical Method: SM5520E
Instrument ID: AE200
Date: 01/28/93
Time: 15:00
Analyst: CS
Units: MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
OIL AND GREASE	60.0	1,040	1,090	99	1,030	93	96	75	125	5.2	25

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 93012.00

Clayton Lab Number:	9301200-01A	Analytical Method:	SM5520EF
Ext./Prep. Method:	SM5520EF	Instrument ID:	AE200
Date:	01/25/93	Date:	01/28/93
Analyst:	HYT	Time:	15:30
Std. Source:	E920917-01W	Analyst:	CS
Sample Matrix/Media:	SOIL	Units:	MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
TOTAL PETROLEUM HYDROCARBONS	40.0	1,040	885	81	850	78	80	73	103	4.0	25

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Chain-of-Custody Record

No. 5356 | Date: 1/22/93 | Page 1 of 1

Project No.: 2026

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	Total oil & grease	Cooled	Soil (S) or water (W)	Acidified	Number of containers
1/21	1300	B-11-6	X				X	X	X	X	X	S		1

ANALYSES

REMARKS

Additional comments:

Bill Port of Oakland Directly

1. Standard Method 5520 E & F.

Turnaround time: 2 weeks

Results to: E. K. Wells

Total No. of containers: 1

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature:	1/22/93	Signature: Jim Mitchell	1/22/93	Signature:	
Printed name: JAMES ABA		Printed name: JIM MITCHELL		Printed name:	
Company: GEOMATRIX		Company: CEC		Company:	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature: Jim Mitchell	1435	Signature: Craig B. Bullock	1525	Signature	
Printed name: JIM MITCHELL		Printed name: TRACY B. BULLOCK		Printed name	
Company: CEC		Company: CANTON		Company:	

Method of shipment: Lab Picking

Laboratory comments and Log No.:

2x4 EC

ok

9301200

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434 9400

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

January 29, 1993

Ms. Elizabeth Wells
GEOMATRIX CONSULTANTS
100 Pine Street, 10th Floor
San Francisco, CA 94111

Client Ref. 2026
Clayton Project No. 93011.74

Dear Ms. Wells:

Attached is our analytical laboratory report and quality assurance data package for the samples received on January 20, 1993. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of 30 days after the date of this report, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Ronald H. Peters, CIH
Director, Laboratory Services
Western Operations

RHP/caa
Attachments

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-7-3.5	Date Sampled:	01/18/93
Lab Number:	9301174-01A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/25/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	0.007	0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	--	0.014	0.005
o-Xylene	95-47-6	0.006	0.005
Gasoline	--	0.3	0.3

Surrogates		Recovery (%)	QC Limits (%) LCL - UCL
a,a,a-Trifluorotoluene	98-08-8	78	50 - 150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-7-12	Date Sampled:	01/18/93
Lab Number:	9301174-02A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/25/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	--	ND	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline	--	ND	1a

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	77	50 -	150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

a Detection limits increased due to presence of heavier hydrocarbons

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-6-4	Date Sampled:	01/18/93
Lab Number:	9301174-03A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/25/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	0.011	0.005
Ethylbenzene	100-41-4	0.035	0.005
p,m-Xylenes	--	0.060	0.005
o-Xylene	95-47-6	0.050	0.005
Gasoline	--	11a	0.3

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	80	50 -	150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

a Sample appears to weathered gasoline

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-4-4	Date Sampled:	01/18/93
Lab Number:	9301174-04A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/25/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	0.14	0.005
Toluene	108-88-3	2.9	0.005
Ethylbenzene	100-41-4	4.8	0.005
p,m-Xylenes	--	15	0.005
o-Xylene	95-47-6	7.0	0.005
Gasoline	--	480 [a]	0.3

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	79	50 -	150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

a Sample appears to weathered gasoline

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-4-10.5	Date Sampled:	01/18/93
Lab Number:	9301174-05A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/25/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	--	ND	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline	--	0.5	0.3

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	68	50 -	150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-2-4	Date Sampled:	01/18/93
Lab Number:	9301174-06A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/25/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.03
Toluene	108-88-3	0.08	0.03
Ethylbenzene	100-41-4	0.06	0.03
p,m-Xylenes	--	0.11	0.03
o-Xylene	95-47-6	0.05	0.03
Gasoline	--	8[a]	2

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	78	50 -	150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

a Sample appears to weathered gasoline
Note: Detection limits increased due to dilution necessary for quantitation

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-2-9	Date Sampled:	01/18/93
Lab Number:	9301174-07A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/25/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	--	ND	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline	--	ND	0.3

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	64	50 -	150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-3-4	Date Sampled:	01/18/93
Lab Number:	9301174-08A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/22/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	0.007	0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	--	0.006	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline	--	1.4	0.3

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	87	50 -	150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-3-10.5	Date Sampled:	01/18/93
Lab Number:	9301174-09A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/25/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	0.007	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	--	ND	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline	--	ND	0.3

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	72	50 -	150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-1-4	Date Sampled:	01/19/93
Lab Number:	9301174-10A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/25/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	0.011	0.005
p,m-Xylenes	--	0.008	0.005
o-Xylene	95-47-6	0.005	0.005
Gasoline	--	1.6	0.3

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	71	50 -	150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-8-6	Date Sampled:	01/19/93
Lab Number:	9301174-11A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/22/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	--	ND	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline	--	ND	0.3

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	76	50 -	150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-8A-11	Date Sampled:	01/19/93
Lab Number:	9301174-12A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/25/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	--	ND	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline	--	ND	0.3

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	73	50 -	150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-5-6.5	Date Sampled:	01/19/93
Lab Number:	9301174-13A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/26/93
Preparation Method:	EPA 5030	Date Analyzed:	01/26/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	--	ND	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline	--	ND	0.3

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	64	50 -	150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-5-11.5	Date Sampled:	01/19/93
Lab Number:	9301174-14A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/26/93
Preparation Method:	EPA 5030	Date Analyzed:	01/26/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	--	ND	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline	--	ND	0.3

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	62	50 -	150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-10-5.5	Date Sampled:	01/20/93
Lab Number:	9301174-15A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/26/93
Preparation Method:	EPA 5030	Date Analyzed:	01/26/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	--	ND	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline	--	ND	0.3

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	60	50 -	150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9301174-16A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/22/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	--	ND	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline	--	ND	0.3

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
a,a,a-Trifluorotoluene	98-08-8	85	50 -	150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-7-3.5	Date Sampled:	01/18/93
Lab Number:	9301174-01A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
Dibromochloromethane	124-48-1	ND	0.06
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trans-1,3-Dichloropropene	10061-02-6	ND	0.06

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-7-3.5	Date Sampled:	01/18/93
Lab Number:	9301174-01A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

Surrogates		Recovery (%)	QC Limits (%) LCL - UCL
Bromochloromethane	74-97-5	97	50 - 150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-7-12	Date Sampled:	01/18/93
Lab Number:	9301174-02A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
Dibromochloromethane	124-48-1	ND	0.06
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trans-1,3-Dichloropropene	10061-02-6	ND	0.06

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-7-12	Date Sampled:	01/18/93
Lab Number:	9301174-02A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

Surrogates		Recovery (%)	QC Limits (%) LCL - UCL
Bromochloromethane	74-97-5	97	50 - 150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-6-4	Date Sampled:	01/18/93
Lab Number:	9301174-03A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
Dibromochloromethane	124-48-1	ND	0.06
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trans-1,3-Dichloropropene	10061-02-6	ND	0.06

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-6-4	Date Sampled:	01/18/93
Lab Number:	9301174-03A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

Surrogates		Recovery (%)	QC Limits (%) LCL - UCL
Bromochloromethane	74-97-5	97	50 - 150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-4-4	Date Sampled:	01/18/93
Lab Number:	9301174-04A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
Dibromochloromethane	124-48-1	ND	0.06
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trans-1,3-Dichloropropene	10061-02-6	ND	0.06

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-4-4	Date Sampled:	01/18/93
Lab Number:	9301174-04A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

Surrogates		Recovery (%)	QC Limits (%) LCL - UCL
Bromochloromethane	74-97-5	98	50 - 150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-4-10.5	Date Sampled:	01/18/93
Lab Number:	9301174-05A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/26/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
Dibromochloromethane	124-48-1	ND	0.06
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trans-1,3-Dichloropropene	10061-02-6	ND	0.06

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-4-10.5	Date Sampled:	01/18/93
Lab Number:	9301174-05A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/26/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

Surrogates		Recovery (%)	QC Limits (%) LCL UCL
Bromochloromethane	74-97-5	121	50 - 150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-2-4	Date Sampled:	01/18/93
Lab Number:	9301174-06A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/26/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
Dibromochloromethane	124-48-1	ND	0.06
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trans-1,3-Dichloropropene	10061-02-6	ND	0.06

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-2-4	Date Sampled:	01/18/93
Lab Number:	9301174-06A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/26/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
Bromochloromethane	74-97-5	109	50 -	150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification: B-2-9
Lab Number: 9301174-07A
Sample Matrix/Media: SOIL
Preparation Method: EPA 5030
Analytical Method: EPA 8010

Date Sampled: 01/18/93
Date Received: 01/20/93
Date Prepared: 01/22/93
Date Analyzed: 01/26/93

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
Dibromochloromethane	124-48-1	ND	0.06
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trans-1,3-Dichloropropene	10061-02-6	ND	0.06

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-2-9	Date Sampled:	01/18/93
Lab Number:	9301174-07A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/26/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

Surrogates		Recovery (%)	QC Limits (%) LCL - UCL
Bromochloromethane	74-97-5	97	50 - 150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-3-4	Date Sampled:	01/18/93
Lab Number:	9301174-08A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/26/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
Dibromochloromethane	124-48-1	ND	0.06
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trans-1,3-Dichloropropene	10061-02-6	ND	0.06

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-3-4	Date Sampled:	01/18/93
Lab Number:	9301174-08A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/26/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

Surrogates		Recovery (%)	QC Limits (%) LCL - UCL
Bromochloromethane	74-97-5	111	50 - 150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-3-10.5	Date Sampled:	01/18/93
Lab Number:	9301174-09A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/26/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
Dibromochloromethane	124-48-1	ND	0.06
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trans-1,3-Dichloropropene	10061-02-6	ND	0.06

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-3-10.5	Date Sampled:	01/18/93
Lab Number:	9301174-09A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/26/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

Surrogates		Recovery (%)	QC Limits (%) LCL - UCL
Bromochloromethane	74-97-5	113	50 - 150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-1-4	Date Sampled:	01/19/93
Lab Number:	9301174-10A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/26/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
Dibromochloromethane	124-48-1	ND	0.06
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trans-1,3-Dichloropropene	10061-02-6	ND	0.06

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-1-4	Date Sampled:	01/19/93
Lab Number:	9301174-10A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/26/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

Surrogates		Recovery (%)	QC Limits (%) LCL - UCL
Bromochloromethane	74-97-5	99	50 - 150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-8-6	Date Sampled:	01/19/93
Lab Number:	9301174-11A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/26/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
Dibromochloromethane	124-48-1	ND	0.06
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trans-1,3-Dichloropropene	10061-02-6	ND	0.06

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-8-6	Date Sampled:	01/19/93
Lab Number:	9301174-11A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/26/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

Surrogates		Recovery (%)	QC Limits (%) LCL UCL
Bromochloromethane	74-97-5	109	50 - 150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-8A-11	Date Sampled:	01/19/93
Lab Number:	9301174-12A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
Dibromochloromethane	124-48-1	ND	0.06
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trans-1,3-Dichloropropene	10061-02-6	ND	0.06

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-8A-11	Date Sampled:	01/19/93
Lab Number:	9301174-12A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

Surrogates		Recovery (%)	QC Limits (%) LCL UCL
Bromochloromethane	74-97-5	95	50 - 150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-5-6.5	Date Sampled:	01/19/93
Lab Number:	9301174-13A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
Dibromochloromethane	124-48-1	ND	0.06
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trans-1,3-Dichloropropene	10061-02-6	ND	0.06

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-5-6.5	Date Sampled:	01/19/93
Lab Number:	9301174-13A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

Surrogates		Recovery (%)	QC Limits (%) LCL UCL
Bromochloromethane	74-97-5	114	50 - 150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-5-11.5	Date Sampled:	01/19/93
Lab Number:	9301174-14A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
Dibromochloromethane	124-48-1	ND	0.06
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trans-1,3-Dichloropropene	10061-02-6	ND	0.06

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-5-11.5	Date Sampled:	01/19/93
Lab Number:	9301174-14A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

Surrogates		Recovery (%)	QC Limits (%) LCL UCL
Bromochloromethane	74-97-5	110	50 - 150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-10-5.5	Date Sampled:	01/20/93
Lab Number:	9301174-15A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
Dibromochloromethane	124-48-1	ND	0.06
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trans-1,3-Dichloropropene	10061-02-6	ND	0.06

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-10-5.5	Date Sampled:	01/20/93
Lab Number:	9301174-15A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

Surrogates		Recovery (%)	QC Limits (%) LCL - UCL
Bromochloromethane	74-97-5	113	50 - 150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9301174-16A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.06
Bromomethane	74-83-9	ND	0.07
Vinyl chloride	75-01-4	ND	0.05
Chloroethane	75-00-3	ND	0.05
Methylene chloride	75-09-2	ND	0.2
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.04
Trans-1,2-Dichloroethene	156-60-5	ND	0.04
Cis-1,2-Dichloroethene	156-59-2	ND	0.04
Chloroform	67-66-3	ND	0.05
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.05
Carbon tetrachloride	56-23-5	ND	0.06
Bromodichloromethane	75-27-4	ND	0.07
1,2-Dichloropropane	78-87-5	ND	0.05
Cis-1,3-Dichloropropene	10061-01-5	ND	0.05
Trichloroethene	79-01-6	ND	0.03
Dibromochloromethane	124-48-1	ND	0.06
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trans-1,3-Dichloropropene	10061-02-6	ND	0.06

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9301174-16A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	01/22/93
Preparation Method:	EPA 5030	Date Analyzed:	01/27/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.07
Tetrachloroethene	127-18-4	ND	0.05
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Chlorobenzene	108-90-7	ND	0.07
1,3-Dichlorobenzene	541-73-7	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.04
Freon 113	76-13-1	ND	0.06

Surrogates		Recovery (%)	QC Limits (%) LCL - UCL
Bromochloromethane	74-97-5	116	50 - 150

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-3-4	Date Sampled:	01/18/93
Lab Number:	9301174-08A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Extracted:	01/23/93
Extraction Method:	EPA 3550	Date Analyzed:	01/25/93
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Acid Extractables			
Phenol	108-95-2	ND	0.2
2-chlorophenol	95-57-8	ND	0.2
2-methyl phenol	95-48-7	ND	0.2
4-methyl phenol	106-44-5	ND	0.2
2-nitrophenol	88-75-5	ND	0.2
2,4-dimethylphenol	105-67-9	ND	0.2
2,4-dichlorophenol	120-83-2	ND	0.2
4-chloro-3-methylphenol	59-50-7	ND	0.2
2,4,5-trichlorophenol	95-95-4	ND	0.2
2,4,6-trichlorophenol	88-06-2	ND	0.2
2,4-dinitrophenol	51-28-5	ND	1
4-nitrophenol	100-02-7	ND	1
2-methyl-4,6-dinitrophenol	534-52-1	ND	1
Pentachlorophenol	87-86-5	ND	1
Base/Neutral Extractables			
Bis(2-chloroethyl)ether	111-44-4	ND	0.2
1,3-dichlorobenzene	541-73-7	ND	0.2
1,4-dichlorobenzene	106-46-7	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
1,2-dichlorobenzene	95-50-1	ND	0.2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	0.2

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-3-4	Date Sampled:	01/18/93
Lab Number:	9301174-08A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Extracted:	01/23/93
Extraction Method:	EPA 3550	Date Analyzed:	01/25/93
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (continued)			
N-nitrosodi-n-propylamine	621-64-7	ND	0.2
Hexachloroethane	67-72-1	ND	0.2
Nitrobenzene	98-95-3	ND	0.2
Isophorone	78-59-1	ND	0.2
Benzoic acid	65-85-0	ND	0.8
Bis-(2-chloroethoxy)methane	111-91-1	ND	0.2
1,2,4-trichlorobenzene	120-82-1	ND	0.2
Naphthalene	91-20-3	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
2-chloronaphthalene	91-58-7	ND	0.2
2-methyl naphthalene	91-57-6	ND	0.2
4-chloroaniline	106-47-8	ND	1
2-nitroaniline	88-74-4	ND	1
3-nitroaniline	99-09-2	ND	1
4-nitroaniline	100-01-6	ND	1
Hexachlorocyclopentadiene	77-47-4	ND	2
Dimethyl phthalate	131-11-3	ND	0.2
Acenaphthylene	208-96-8	ND	0.2
Acenaphthene	83-32-9	ND	0.2
Dibenzofuran	132-64-9	ND	0.2

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-3-4	Date Sampled:	01/18/93
Lab Number:	9301174-08A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Extracted:	01/23/93
Extraction Method:	EPA 3550	Date Analyzed:	01/25/93
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (continued)			
2,4-dinitrotoluene	121-14-2	ND	0.2
2,6-dinitrotoluene	606-20-2	ND	0.2
Diethyl phthalate	84-66-2	ND	0.2
4-chlorophenylphenylether	7005-72-3	ND	0.2
Fluorene	86-73-7	ND	0.2
N-nitrosodiphenylamine	86-30-6	ND	0.2
4-bromophenylphenylether	101-55-3	ND	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Phenanthrene	85-01-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
Fluoranthene	206-44-2	ND	0.2
Benzidine	92-87-5	ND	5
Pyrene	129-00-0	ND	0.2
Benzylbutylphthalate	85-68-7	ND	0.2
3,3'-dichlorobenzidine	91-94-1	ND	5
Benzo(a)anthracene	56-55-3	ND	0.2
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	2
Chrysene	218-01-9	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-3-4	Date Sampled:	01/18/93
Lab Number:	9301174-08A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Extracted:	01/23/93
Extraction Method:	EPA 3550	Date Analyzed:	01/25/93
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (continued)			
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
2-Fluorophenol	367-12-4	57	25	121
Phenol-d6	13127-88-3	47	24	113
Nitrobenzene-d5	4165-60-0	61	23	120
2-Fluorobiphenyl	321-60-8	68	30	115
2,4,6-Tribromophenol	118-79-6	40	19	122
Terphenyl-d14	98904-43-9	88	18	137

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-3-10.5	Date Sampled:	01/18/93
Lab Number:	9301174-09A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Extracted:	01/23/93
Extraction Method:	EPA 3550	Date Analyzed:	01/25/93
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Acid Extractables			
Phenol	108-95-2	ND	0.2
2-chlorophenol	95-57-8	ND	0.2
2-methyl phenol	95-48-7	ND	0.2
4-methyl phenol	106-44-5	ND	0.2
2-nitrophenol	88-75-5	ND	0.2
2,4-dimethylphenol	105-67-9	ND	0.2
2,4-dichlorophenol	120-83-2	ND	0.2
4-chloro-3-methylphenol	59-50-7	ND	0.2
2,4,5-trichlorophenol	95-95-4	ND	0.2
2,4,6-trichlorophenol	88-06-2	ND	0.2
2,4-dinitrophenol	51-28-5	ND	1
4-nitrophenol	100-02-7	ND	1
2-methyl-4,6-dinitrophenol	534-52-1	ND	1
Pentachlorophenol	87-86-5	ND	1
Base/Neutral Extractables			
Bis(2-chloroethyl)ether	111-44-4	ND	0.2
1,3-dichlorobenzene	541-73-7	ND	0.2
1,4-dichlorobenzene	106-46-7	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
1,2-dichlorobenzene	95-50-1	ND	0.2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	0.2

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-3-10.5	Date Sampled:	01/18/93
Lab Number:	9301174-09A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Extracted:	01/23/93
Extraction Method:	EPA 3550	Date Analyzed:	01/25/93
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (continued)			
N-nitrosodi-n-propylamine	621-64-7	ND	0.2
Hexachloroethane	67-72-1	ND	0.2
Nitrobenzene	98-95-3	ND	0.2
Isophorone	78-59-1	ND	0.2
Benzoic acid	65-85-0	ND	0.8
Bis-(2-chloroethoxy)methane	111-91-1	ND	0.2
1,2,4-trichlorobenzene	120-82-1	ND	0.2
Naphthalene	91-20-3	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
2-chloronaphthalene	91-58-7	ND	0.2
2-methyl naphthalene	91-57-6	ND	0.2
4-chloroaniline	106-47-8	ND	1
2-nitroaniline	88-74-4	ND	1
3-nitroaniline	99-09-2	ND	1
4-nitroaniline	100-01-6	ND	1
Hexachlorocyclopentadiene	77-47-4	ND	2
Dimethyl phthalate	131-11-3	ND	0.2
Acenaphthylene	208-96-8	ND	0.2
Acenaphthene	83-32-9	ND	0.2
Dibenzofuran	132-64-9	ND	0.2

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-3-10.5	Date Sampled:	01/18/93
Lab Number:	9301174-09A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Extracted:	01/23/93
Extraction Method:	EPA 3550	Date Analyzed:	01/25/93
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (continued)			
2,4-dinitrotoluene	121-14-2	ND	0.2
2,6-dinitrotoluene	606-20-2	ND	0.2
Diethyl phthalate	84-66-2	ND	0.2
4-chlorophenylphenylether	7005-72-3	ND	0.2
Fluorene	86-73-7	ND	0.2
N-nitrosodiphenylamine	86-30-6	ND	0.2
4-bromophenylphenylether	101-55-3	ND	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Phenanthrene	85-01-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
Fluoranthene	206-44-2	ND	0.2
Benzidine	92-87-5	ND	5
Pyrene	129-00-0	ND	0.2
Benzylbutylphthalate	85-68-7	ND	0.2
3,3'-dichlorobenzidine	91-94-1	ND	5
Benzo(a)anthracene	56-55-3	ND	0.2
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	2
Chrysene	218-01-9	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	B-3-10.5	Date Sampled:	01/18/93
Lab Number:	9301174-09A	Date Received:	01/20/93
Sample Matrix/Media:	SOIL	Date Extracted:	01/23/93
Extraction Method:	EPA 3550	Date Analyzed:	01/25/93
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (continued)			
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
2-Fluorophenol	367-12-4	74	25	121
Phenol-d6	13127-88-3	70	24	113
Nitrobenzene-d5	4165-60-0	81	23	120
2-Fluorobiphenyl	321-60-8	83	30	115
2,4,6-Tribromophenol	118-79-6	76	19	122
Terphenyl-d14	98904-43-9	111	18	137

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification: METHOD BLANK
Lab Number: 9301174-16A
Sample Matrix/Media: SOIL
Extraction Method: EPA 3550
Analytical Method: EPA 8270

Date Sampled: --
Date Received: --
Date Extracted: 01/23/93
Date Analyzed: 01/25/93

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Acid Extractables			
Phenol	108-95-2	ND	0.2
2-chlorophenol	95-57-8	ND	0.2
2-methyl phenol	95-48-7	ND	0.2
4-methyl phenol	106-44-5	ND	0.2
2-nitrophenol	88-75-5	ND	0.2
2,4-dimethylphenol	105-67-9	ND	0.2
2,4-dichlorophenol	120-83-2	ND	0.2
4-chloro-3-methylphenol	59-50-7	ND	0.2
2,4,5-trichlorophenol	95-95-4	ND	0.2
2,4,6-trichlorophenol	88-06-2	ND	0.2
2,4-dinitrophenol	51-28-5	ND	1
4-nitrophenol	100-02-7	ND	1
2-methyl-4,6-dinitrophenol	534-52-1	ND	1
Pentachlorophenol	87-86-5	ND	1
Base/Neutral Extractables			
Bis(2-chloroethyl)ether	111-44-4	ND	0.2
1,3-dichlorobenzene	541-73-7	ND	0.2
1,4-dichlorobenzene	106-46-7	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
1,2-dichlorobenzene	95-50-1	ND	0.2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	0.2

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification: METHOD BLANK
Lab Number: 9301174-16A
Sample Matrix/Media: SOIL
Extraction Method: EPA 3550
Analytical Method: EPA 8270

Date Sampled: --
Date Received: --
Date Extracted: 01/23/93
Date Analyzed: 01/25/93

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (continued)			
N-nitrosodi-n-propylamine	621-64-7	ND	0.2
Hexachloroethane	67-72-1	ND	0.2
Nitrobenzene	98-95-3	ND	0.2
Isophorone	78-59-1	ND	0.2
Benzoic acid	65-85-0	ND	0.8
Bis-(2-chloroethoxy)methane	111-91-1	ND	0.2
1,2,4-trichlorobenzene	120-82-1	ND	0.2
Naphthalene	91-20-3	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
2-chloronaphthalene	91-58-7	ND	0.2
2-methyl naphthalene	91-57-6	ND	0.2
4-chloroaniline	106-47-8	ND	1
2-nitroaniline	88-74-4	ND	1
3-nitroaniline	99-09-2	ND	1
4-nitroaniline	100-01-6	ND	1
Hexachlorocyclopentadiene	77-47-4	ND	2
Dimethyl phthalate	131-11-3	ND	0.2
Acenaphthylene	208-96-8	ND	0.2
Acenaphthene	83-32-9	ND	0.2
Dibenzofuran	132-64-9	ND	0.2

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification: METHOD BLANK
Lab Number: 9301174-16A
Sample Matrix/Media: SOIL
Extraction Method: EPA 3550
Analytical Method: EPA 8270

Date Sampled: --
Date Received: --
Date Extracted: 01/23/93
Date Analyzed: 01/25/93

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (continued)			
2,4-dinitrotoluene	121-14-2	ND	0.2
2,6-dinitrotoluene	606-20-2	ND	0.2
Diethyl phthalate	84-66-2	ND	0.2
4-chlorophenylphenylether	7005-72-3	ND	0.2
Fluorene	86-73-7	ND	0.2
N-nitrosodiphenylamine	86-30-6	ND	0.2
4-bromophenylphenylether	101-55-3	ND	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Phenanthrene	85-01-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
Fluoranthene	206-44-2	ND	0.2
Benzidine	92-87-5	ND	5
Pyrene	129-00-0	ND	0.2
Benzylbutylphthalate	85-68-7	ND	0.2
3,3'-dichlorobenzidine	91-94-1	ND	5
Benzo(a)anthracene	56-55-3	ND	0.2
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	2
Chrysene	218-01-9	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9301174-16A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Extracted:	01/23/93
Extraction Method:	EPA 3550	Date Analyzed:	01/25/93
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (continued)			
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
2-Fluorophenol	367-12-4	83	25	121
Phenol-d6	13127-88-3	83	24	113
Nitrobenzene-d5	4165-60-0	92	23	120
2-Fluorobiphenyl	321-60-8	95	30	115
2,4,6-Tribromophenol	118-79-6	84	19	122
Terphenyl-d14	98904-43-9	113	18	137

ND Not detected at or above limit of detection
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Matrix/Media: SOIL
Preparation Method: SM 5520E
Analysis Method: SM 5520F

Date Received: 01/20/93
Date Prepared: 01/21/93
Date Analyzed: 01/26/93

Lab Number	Sample Identification	Date Sampled	Hydrocarbons (mg/kg)	Detection Limit (mg/kg)
01A	B-7-3.5	01/18/93	ND	50
02A	B-7-12	01/18/93	ND	50
03A	B-6-4	01/18/93	ND	50
04A	B-4-4	01/18/93	1,400	50
05A	B-4-10.5	01/18/93	130	50
06A	B-2-4	01/18/93	710	50
07A	B-2-9	01/18/93	ND	50
08A	B-3-4	01/18/93	ND	50
09A	B-3-10.5	01/18/93	60	50
10A	B-1-4	01/19/93	ND	50
11A	B-8-6	01/19/93	ND	50
12A	B-8A-11	01/19/93	ND	50
13A	B-5-6.5	01/19/93	ND	50
14A	B-5-11.5	01/19/93	ND	50
15A	B-10-5.5	01/20/93	310	50
16A	METHOD BLANK	--	ND	50

ND Not detected at or above limit of detection
< Not detected at or above limit of detection
-- Information not available or not applicable

Results are reported on a wet weight basis, as received

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Matrix/Media: SOIL
Preparation Method: EPA 3550
Analysis Method: EPA 8015

Date Received: 01/20/93
Date Prepared: 01/25/93
Date Analyzed: 01/27/93

Lab Number	Sample Identification	Date Sampled	Diesel (mg/kg)	Detection Limit (mg/kg)
01A	B-7-3.5	01/18/93	ND	1
02A	B-7-12	01/18/93	ND	1
03A	B-6-4	01/18/93	10	1
04A	B-4-4	01/18/93	120	1
05A	B-4-10.5	01/18/93	12	1
06A	B-2-4	01/18/93	7	1
07A	B-2-9	01/18/93	ND	1
08A	B-3-4	01/18/93	ND	1
09A	B-3-10.5	01/18/93	ND	1
10A	B-1-4	01/19/93	ND	1
11A	B-8-6	01/19/93	25	1
12A	B-8A-11	01/19/93	ND	10[a]
13A	B-5-6.5	01/19/93	ND	10[a]
14A	B-5-11.5	01/19/93	ND	10[a]
15A	B-10-5.5	01/20/93	ND	10[a]
16A	METHOD BLANK	--	ND	1

ND Not detected at or above limit of detection
< Not detected at or above limit of detection
-- Information not available or not applicable

Results are reported on a wet weight basis, as received
a Detection limit increased due to presence of heavier hydrocarbons

Chain-of-Custody Record

No 3548 | Date: 1/18/93 | Page 1 of 2

Project No.: 2026

Samplers (Signatures):

ANALYSES

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	Oil & Grease	Cooled	Soil (S) or water (W)	Acidified	Number of containers
1/18	1100	B-7-3.5	X				X	X	X	X	X	S		1
	1125	B-2-12	X				X	X	X	X	X	S		1
	1205	B-6-4	X				X	X	X	X	X	S		1
	1213	B-2-4	X				X	X	X	X	X	S		1
	1240	B-4-10.5	X				X	X	X	X	X	S		1
	1330	B-2-4	X				X	X	X	X	X	S		1
	1340	B-2-9	X				X	X	X	X	X	S		1
	1415	B-3-4	X			X	X	X	X	X	X	S		1
	1515	B-3-10.5	X			X	X	X	X	X	X	S		1
1/19	1210	B-1-4	X				X	X	X	X	X	S		1
	1400	B-8-6	X				X	X	X	X	X	S		1
	1515	B-8A-11	X				X	X	X	X	X	S		1

REMARKS

Additional comments

Bill Port of Oakland Directly

1. Standard Method 5520 E and F.

Turnaround time: 2 weeks

Results to: Elizabeth K. Wells

Total No. of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature:	1/20/93	Signature: Jim Mitchell	1/20/93	Signature:	
Printed name: James Abiye		Printed name: JIM MITCHELL		Printed name:	
Company: GEOMATRIX		Company: CEC		Company:	
Received by:	Time:	Received by: Tammi R. Alton	Time: 6:10 pm	Received by:	Time:
Signature: Jim Mitchell		Signature: TAMMI R. ALTON		Signature:	
Printed name: JIM MITCHELL		Printed name:		Printed name:	
Company: CEC		Company: CEC		Company:	

Method of shipment: Lab Pickup

Laboratory comments and Log No.

930171

OK

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434-9400

Chain-of-Custody Record

No 3549 | Date: 1/19/93 | Page 2 of 2

Project No.: 2026

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	Total oil & grease	Cooled	Soil (S) or water (W)	Acidified	Number of containers
1/19	1615	B-5-6.5	X				X	X	X	X	X	S		1
↓	1645	B-5-11.5	X				X	X	X	X	X	S		1
1/20	1245	B-10-5.5	X				X	X	X	X	X	S		1

ANALYSES

REMARKS

Additional comments

Bill Port of Oakland Directly

1. Standard Method 5520 E and F.

Turnaround time: 2 weeks

Results to: Elizabeth K. Wells

Total No. of containers: 3

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature:		Signature: Jim Mitchell	1/20/93	Signature:	
Printed name: JAMES ABITO	1/20/93	Printed name: JIM MITCHELL		Printed name:	
Company: GEOMATRIX		Company: CEC		Company:	
Received by	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature: Jim Mitchell	1600	Signature: Yamini R. Alton	6:10 pm	Signature:	
Printed name: JIM MITCHELL		Printed name: YAMINI R. ALTON		Printed name:	
Company: CEC		Company: CEC		Company:	

Method of shipment: Lab Pickup

Laboratory comments and Log No.:

9301171

OK

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

February 12, 1993

Ms. Elizabeth Wells
GEOMATRIX CONSULTANTS
100 Pine Street, 10th Floor
San Francisco, CA 94111

REVISED REPORT
Client Ref. 2026
Clayton Project No. 93011.74

Dear Ms. Wells:

Attached is our revised analytical laboratory report for the samples received on January 20, 1993 and originally reported to you on January 29, 1993. On February 5, 1993 you requested additional silica gel cleanup on samples B-4-4, B-4-10.5, B-2-4 and B-10-5.5. Those results are presented in this report.

Please note that any unused portion of the samples will be disposed of 30 days after the date of this report, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Ronald H. Peters, CIH
Director, Laboratory Services
Western Operations

RHP/tb
Attachments

cc: Patricia Murphy

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026
Clayton Project No. 93011.74

Sample Matrix/Media: SOIL
Preparation Method: SM 5520E
Analysis Method: SM 5520F

Date Received: 01/20/93
Date Prepared: 01/21/93
Date Analyzed: 02/11/93

Lab Number	Sample Identification	Date Sampled	Hydrocarbons (mg/kg)	Detection Limit (mg/kg)
04B	B-4-4	01/18/93	710	50
05B	B-4-10.5	01/18/93	110	50
06B	B-2-4	01/18/93	310	50
15B	B-10-5.5	01/20/93	140	50
16B	METHOD BLANK	--	ND	50

ND Not detected at or above limit of detection
< Not detected at or above limit of detection
-- Information not available or not applicable

Results are reported on a wet weight basis, as received

GEOMATRIX

APPENDIX D

ANALYTICAL LABORATORY REPORTS AND CHAIN-OF-CUSTODY RECORDS GROUNDWATER SAMPLES

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

February 17, 1993

Ms. Elizabeth Wells
GEOMATRIX CONSULTANTS
100 Pine Street, 10th Floor
San Francisco, CA 94111

Client Ref. 2026.06
Clayton Project No. 93020.91

Dear Ms. Wells:

Attached is our analytical laboratory report for the samples received on February 5, 1993. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of 30 days after the date of this report, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Ronald H. Peters, CIH
Director, Laboratory Services
Western Operations

RHP/caa
Attachments

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.06
Clayton Project No. 93020.91

Sample Identification:	MW-1	Date Sampled:	02/05/93
Lab Number:	9302091-01A	Date Received:	02/05/93
Sample Matrix/Media:	WATER	Date Prepared:	02/16/93
Preparation Method:	EPA 5030	Date Analyzed:	02/16/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.6
Bromomethane	74-83-9	ND	0.7
Vinyl chloride	75-01-4	ND	0.5
Chloroethane	75-00-3	ND	0.5
Methylene chloride	75-09-2	ND	2
1,1-Dichloroethene	75-35-4	ND	0.2
1,1-Dichloroethane	75-35-3	0.8	0.4
Trans-1,2-Dichloroethene	156-60-5	ND	0.4
Cis-1,2-Dichloroethene	156-59-2	ND	0.4
Chloroform	67-66-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.3
1,1,1-Trichloroethane	71-55-6	ND	0.5
Carbon tetrachloride	56-23-5	ND	0.6
Bromodichloromethane	75-27-4	ND	0.7
1,2-Dichloropropane	78-87-5	ND	0.5
Cis-1,3-Dichloropropene	10061-01-5	ND	0.5
Trichloroethene	79-01-6	ND	0.3
Dibromochloromethane	124-48-1	ND	0.6
1,1,2-Trichloroethane	79-00-5	ND	0.6
Trans-1,3-Dichloropropene	10061-02-6	ND	0.6

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.06
Clayton Project No. 93020.91

Sample Identification:	MW-1	Date Sampled:	02/05/93
Lab Number:	9302091-01A	Date Received:	02/05/93
Sample Matrix/Media:	WATER	Date Prepared:	02/16/93
Preparation Method:	EPA 5030	Date Analyzed:	02/16/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	1
Bromoform	75-25-2	ND	0.7
Tetrachloroethene	127-18-4	ND	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.7
1,3-Dichlorobenzene	541-73-7	ND	2
1,2-Dichlorobenzene	95-50-1	ND	4
1,4-Dichlorobenzene	106-46-7	ND	4
Dichlorodifluoromethane	75-71-8	ND	1
Trichlorofluoromethane	75-69-4	ND	0.4
Freon 113	76-13-1	ND	0.6

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.06
Clayton Project No. 93020.91

Sample Identification:	MW-1	Date Sampled:	02/05/93
Lab Number:	9302091-01A	Date Received:	02/05/93
Sample Matrix/Media:	WATER	Date Prepared:	02/16/93
Preparation Method:	EPA 5030	Date Analyzed:	02/16/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Aromatics			
Benzene	71-43-2	9.2	0.4
Chlorobenzene	108-90-7	ND	0.3
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-7	ND	0.3
1,4-Dichlorobenzene	106-46-7	ND	0.5
Ethylbenzene	100-41-4	8.9	0.3
Toluene	108-88-3	1.6	0.3
p,m-Xylenes	------	1.3	0.4
o-Xylene	95-47-6	1.4	0.4

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
Bromochloromethane	74-97-5	100	50 -	150

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.06
Clayton Project No. 93020.91

Sample Identification:	MW-2	Date Sampled:	02/05/93
Lab Number:	9302091-02A	Date Received:	02/05/93
Sample Matrix/Media:	WATER	Date Prepared:	02/11/93
Preparation Method:	EPA 5030	Date Analyzed:	02/11/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.6
Bromomethane	74-83-9	ND	0.7
Vinyl chloride	75-01-4	ND	0.5
Chloroethane	75-00-3	ND	0.5
Methylene chloride	75-09-2	ND	2
1,1-Dichloroethene	75-35-4	ND	0.2
1,1-Dichloroethane	75-35-3	ND	0.4
Trans-1,2-Dichloroethene	156-60-5	ND	0.4
Cis-1,2-Dichloroethene	156-59-2	ND	0.4
Chloroform	67-66-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.3
1,1,1-Trichloroethane	71-55-6	ND	0.5
Carbon tetrachloride	56-23-5	ND	0.6
Bromodichloromethane	75-27-4	ND	0.7
1,2-Dichloropropane	78-87-5	ND	0.5
Cis-1,3-Dichloropropene	10061-01-5	ND	0.5
Trichloroethene	79-01-6	ND	0.3
Dibromochloromethane	124-48-1	ND	0.6
1,1,2-Trichloroethane	79-00-5	ND	0.6
Trans-1,3-Dichloropropene	10061-02-6	ND	0.6

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.06
Clayton Project No. 93020.91

Sample Identification:	MW-2	Date Sampled:	02/05/93
Lab Number:	9302091-02A	Date Received:	02/05/93
Sample Matrix/Media:	WATER	Date Prepared:	02/11/93
Preparation Method:	EPA 5030	Date Analyzed:	02/11/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	1
Bromoform	75-25-2	ND	0.7
Tetrachloroethene	127-18-4	ND	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.7
1,3-Dichlorobenzene	541-73-7	ND	2
1,2-Dichlorobenzene	95-50-1	ND	4
1,4-Dichlorobenzene	106-46-7	ND	4
Dichlorodifluoromethane	75-71-8	ND	1
Trichlorofluoromethane	75-69-4	ND	0.4
Freon 113	76-13-1	ND	0.6

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.06
Clayton Project No. 93020.91

Sample Identification:	MW-2	Date Sampled:	02/05/93
Lab Number:	9302091-02A	Date Received:	02/05/93
Sample Matrix/Media:	WATER	Date Prepared:	02/11/93
Preparation Method:	EPA 5030	Date Analyzed:	02/11/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Aromatics			
Benzene	71-43-2	ND	0.4
Chlorobenzene	108-90-7	ND	0.3
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-7	ND	0.3
1,4-Dichlorobenzene	106-46-7	ND	0.5
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
p,m-Xylenes	------	ND	0.4
o-Xylene	95-47-6	ND	0.4

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
Bromochloromethane	74-97-5	100	50 -	150
1,4-Difluorobenzene	540-36-3	99	50 -	150

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.06
Clayton Project No. 93020.91

Sample Identification:	MW-3	Date Sampled:	02/05/93
Lab Number:	9302091-03A	Date Received:	02/05/93
Sample Matrix/Media:	WATER	Date Prepared:	02/11/93
Preparation Method:	EPA 5030	Date Analyzed:	02/11/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.6
Bromomethane	74-83-9	ND	0.7
Vinyl chloride	75-01-4	ND	0.5
Chloroethane	75-00-3	ND	0.5
Methylene chloride	75-09-2	ND	2
1,1-Dichloroethene	75-35-4	ND	0.2
1,1-Dichloroethane	75-35-3	ND	0.4
Trans-1,2-Dichloroethene	156-60-5	ND	0.4
Cis-1,2-Dichloroethene	156-59-2	0.4	0.4
Chloroform	67-66-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.3
1,1,1-Trichloroethane	71-55-6	ND	0.5
Carbon tetrachloride	56-23-5	ND	0.6
Bromodichloromethane	75-27-4	ND	0.7
1,2-Dichloropropane	78-87-5	ND	0.5
Cis-1,3-Dichloropropene	10061-01-5	ND	0.5
Trichloroethene	79-01-6	ND	0.3
Dibromochloromethane	124-48-1	ND	0.6
1,1,2-Trichloroethane	79-00-5	ND	0.6
Trans-1,3-Dichloropropene	10061-02-6	ND	0.6

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.06
Clayton Project No. 93020.91

Sample Identification:	MW-3	Date Sampled:	02/05/93
Lab Number:	9302091-03A	Date Received:	02/05/93
Sample Matrix/Media:	WATER	Date Prepared:	02/11/93
Preparation Method:	EPA 5030	Date Analyzed:	02/11/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	1
Bromoform	75-25-2	ND	0.7
Tetrachloroethene	127-18-4	ND	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.7
1,3-Dichlorobenzene	541-73-7	ND	2
1,2-Dichlorobenzene	95-50-1	ND	4
1,4-Dichlorobenzene	106-46-7	ND	4
Dichlorodifluoromethane	75-71-8	ND	1
Trichlorofluoromethane	75-69-4	ND	0.4
Freon 113	76-13-1	ND	0.6

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.06
Clayton Project No. 93020.91

Sample Identification:	MW-3	Date Sampled:	02/05/93
Lab Number:	9302091-03A	Date Received:	02/05/93
Sample Matrix/Media:	WATER	Date Prepared:	02/11/93
Preparation Method:	EPA 5030	Date Analyzed:	02/11/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Aromatics			
Benzene	71-43-2	2.1	0.4
Chlorobenzene	108-90-7	ND	0.3
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-7	ND	0.3
1,4-Dichlorobenzene	106-46-7	ND	0.5
Ethylbenzene	100-41-4	1.7	0.3
Toluene	108-88-3	0.9	0.3
p,m-Xylenes	------	1.2	0.4
o-Xylene	95-47-6	1.9	0.4

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
Bromochloromethane	74-97-5	90	50	150
1,4-Difluorobenzene	540-36-3	79	50	150

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.06
Clayton Project No. 93020.91

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9302091-04A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	02/11/93
Preparation Method:	EPA 5030	Date Analyzed:	02/11/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Halocarbons			
Chloromethane	74-87-3	ND	0.6
Bromomethane	74-83-9	ND	0.7
Vinyl chloride	75-01-4	ND	0.5
Chloroethane	75-00-3	ND	0.5
Methylene chloride	75-09-2	ND	2
1,1-Dichloroethene	75-35-4	ND	0.2
1,1-Dichloroethane	75-35-3	ND	0.4
Trans-1,2-Dichloroethene	156-60-5	ND	0.4
Cis-1,2-Dichloroethene	156-59-2	ND	0.4
Chloroform	67-66-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.3
1,1,1-Trichloroethane	71-55-6	ND	0.5
Carbon tetrachloride	56-23-5	ND	0.6
Bromodichloromethane	75-27-4	ND	0.7
1,2-Dichloropropane	78-87-5	ND	0.5
Cis-1,3-Dichloropropene	10061-01-5	ND	0.5
Trichloroethene	79-01-6	ND	0.3
Dibromochloromethane	124-48-1	ND	0.6
1,1,2-Trichloroethane	79-00-5	ND	0.6
Trans-1,3-Dichloropropene	10061-02-6	ND	0.6

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.06
Clayton Project No. 93020.91

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9302091-04A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	02/11/93
Preparation Method:	EPA 5030	Date Analyzed:	02/11/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Halocarbons (continued)			
2-Chloroethylvinylether	110-75-8	ND	1
Bromoform	75-25-2	ND	0.7
Tetrachloroethene	127-18-4	ND	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.7
1,3-Dichlorobenzene	541-73-7	ND	2
1,2-Dichlorobenzene	95-50-1	ND	4
1,4-Dichlorobenzene	106-46-7	ND	4
Dichlorodifluoromethane	75-71-8	ND	1
Trichlorofluoromethane	75-69-4	ND	0.4
Freon 113	76-13-1	ND	0.6

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.06
Clayton Project No. 93020.91

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9302091-04A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	02/11/93
Preparation Method:	EPA 5030	Date Analyzed:	02/11/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Purgeable Aromatics			
Benzene	71-43-2	ND	0.4
Chlorobenzene	108-90-7	ND	0.3
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-7	ND	0.3
1,4-Dichlorobenzene	106-46-7	ND	0.5
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
p,m-Xylenes	------	ND	0.4
o-Xylene	95-47-6	ND	0.4

Surrogates		Recovery (%)	QC Limits (%) LCL	UCL
Bromochloromethane	74-97-5	100	50 -	150
1,4-Difluorobenzene	540-36-3	90	50 -	150

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.06
Clayton Project No. 93020.91

Sample Matrix/Media: WATER
Analysis Method: SM 5520F

Date Received: 02/05/93
Date Analyzed: 02/16/93

Lab Number	Sample Identification	Date Sampled	Hydrocarbons (mg/L)	Detection Limit (mg/L)
01H	MW-1	02/05/93	5	1
02H	MW-2	02/05/93	2	1
03H	MW-3	02/05/93	2	1
04A	METHOD BLANK	--	ND	1

ND Not detected at or above limit of detection
< Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.06
Clayton Project No. 93020.91

Sample Matrix/Media: WATER
Analysis Method: EPA 160.1

Date Received: 02/05/93
Date Analyzed: 02/15/93

Lab Number	Sample Identification	Date Sampled	Total Dissolved Solids (mg/L)	Detection Limit (mg/L)
01G	MW-1	02/05/93	3,000	10
02G	MW-2	02/05/93	23,000	10
03G	MW-3	02/05/93	1,600	10
04A	METHOD BLANK	--	<10	10

ND Not detected at or above limit of detection
< Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.06
Clayton Project No. 93020.91

Sample Matrix/Media: WATER
Preparation Method: EPA 3510
Analysis Method: EPA 8015

Date Received: 02/05/93
Date Prepared: 02/10/93
Date Analyzed: 02/16/93

Lab Number	Sample Identification	Date Sampled	Diesel (ug/L)	Detection Limit (ug/L)
01E	MW-1	02/05/93	4,700[a]	50
02E	MW-2	02/05/93	840[a]	50
03F	MW-3	02/05/93	3,400[a]	50
04A	METHOD BLANK	--	ND	50a

ND Not detected at or above limit of detection
< Not detected at or above limit of detection
-- Information not available or not applicable

a The hydrocarbons detected in these samples appear to be intermediate between diesel and motor oil: quantitation was based on diesel standards

Results of Analysis
for
Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.06
Clayton Project No. 93020.91

Sample Matrix/Media: WATER
Preparation Method: EPA 5030
Analysis Method: EPA 8015

Date Received: 02/05/93
Date Prepared: 02/11/93
Date Analyzed: 02/11/93

Lab Number	Sample Identification	Date Sampled	Gasoline (ug/L)	Detection Limit (ug/L)
01C	MW-1	02/05/93	1,800	50
02C	MW-2	02/05/93	ND	50
03C	MW-3	02/05/93	ND	50
04A	METHOD BLANK	--	ND	50

ND Not detected at or above limit of detection
< Not detected at or above limit of detection
-- Information not available or not applicable

Chain-of-Custody Record

No 3370 | Date: 2/5/93 | Page 1 of 1

Project No.: 2026

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	Total dissolved Solids	Total oil & grease	Cooled	Soil (S) or water (W)	Acidified	Number of containers
2/5	1100	MW-1	X	X			X	X		X	X	X	W	X	9
2/5	1200	MW-2	X	X			X	X		X	X	X	W	X	9
2/5	1315	MW-3	X	X			X	X		X	X	X	W	X	9

ANALYSES

REMARKS

Additional comments

Bill Port of Oakland directly.

1. Standard Method 5520 C and F. Report only post gel results.

Turnaround time: 2 WEEKS

Results to: E. K. Wells

Total No. of containers: 27

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature:	2/6/93	Signature:		Signature:	
Printed name: JAMES ABID		Printed name:		Printed name:	
Company: GEOMATRIX		Company:		Company:	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature:	2/5/93	Signature:		Signature:	
Printed name: TRACY B BULLOCK	1515	Printed name:		Printed name:	
Company: CLAYTON		Company:		Company:	

Method of shipment: Deliver

Laboratory comments and Log No.: 9302091

DL

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA. 94111
(415) 434-9400

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

QUALITY ASSURANCE DATA PACKAGE

CLAYTON PROJECT NO. 93020.91

Quality Assurance Results Summary
for
Clayton Project No. 93020.91

Clayton Lab Number: 9302091-03A
Ext./Prep. Method:
Date: / /
Analyst:
Std. Source: V930118-02W
Sample Matrix/Media: WATER

Analytical Method: EPA601_2/801020
Instrument ID: 02911
Date: 02/11/93
Time: 14:00
Analyst: CB
Units: UG/L

Analyte		Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
1,1-DICHLOROETHENE	(HALL)	ND	20.0	20.5	103	21.5	108	105	65	131	4.8	20
CHLOROBENZENE	(HALL)	ND	20.0	23.8	119	22.6	113	116	79	132	5.2	20
TRICHLOROETHENE	(HALL)	ND	20.0	23.5	118	21.8	109	113	69	133	7.5	20

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection
LCL = Lower Control Limit
UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 93020.91

Clayton Lab Number: 9302093-02B
Ext./Prep. Method:
Date: / /
Analyst:
Std. Source: V930118-02W
Sample Matrix/Media: WATER

Analytical Method: EPA601_2/801020
Instrument ID: 02904
Date: 02/11/93
Time: 14:57
Analyst: CB
Units: UG/L

Analyte		Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
1,1-DICHLOROETHENE	(HALL)	ND	20.0	18.8	94	18.8	94	94	65	131	0.0	20
CHLOROBENZENE	(HALL)	ND	20.0	22.2	111	22.8	114	113	79	132	2.7	20
TRICHLOROETHENE	(HALL)	ND	20.0	25.2	126	25.3	127	126	69	133	0.4	20

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection
LCL = Lower Control Limit
UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 93020.91

Clayton Lab Number: 9302091-03D
Ext./Prep. Method:
Date: / /
Analyst:
Std. Source: V920208-03W
Sample Matrix/Media: WATER

Analytical Method: EPA8015 8020
Instrument ID: 05587
Date: 02/11/93
Time: 21:46
Analyst: GD
Units: UG/L

Analyte		Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
BENZENE	(PID)	ND	5.00	4.96	99	4.85	97	98	81	118	2.2	20
GASOLINE	(FID)	ND	200	165	83	172	86	84	80	150	4.2	25
TOLUENE	(PID)	ND	15.0	13.2	88	12.7	85	86	84	118	3.9	20

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection
LCL = Lower Control Limit
UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 93020.91

Clayton Lab Number: 9302120-06B
Ext./Prep. Method:
Date: / /
Analyst:
Std. Source: V930118-02W
Sample Matrix/Media: WATER

Analytical Method: EPA601_2/801020
Instrument ID: 02904
Date: 02/16/93
Time: 18:24
Analyst: CB
Units: UG/L

Analyte		Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
1,1-DICHLOROETHENE	(HALL)	ND	20.0	17.9	90	19.2	96	93	65	131	7.0	20
BENZENE	(PID)	ND	20.0	20.7	104	21.4	107	105	76	134	3.3	20
CHLOROBENZENE	(PID)	ND	20.0	20.4	102	20.8	104	103	75	127	1.9	20
CHLOROBENZENE	(HALL)	ND	20.0	22.8	114	23.5	118	116	79	132	3.0	20
TOLUENE	(PID)	ND	20.0	20.8	104	21.4	107	106	71	125	2.8	20
TRICHLOROETHENE	(HALL)	ND	20.0	24.8	124	26.3	132	128	69	133	5.9	20

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection
LCL = Lower Control Limit
UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 93020.91

Clayton Lab Number:	9302091-MB	Analytical Method:	EPA8015
Ext./Prep. Method:	EPA3510	Instrument ID:	02883
Date:	02/10/93	Date:	02/16/93
Analyst:	WS	Time:	18:51
Std. Source:	G930125-01W	Analyst:	AM
Sample Matrix/Media:	WATER	Units:	UG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
DIESEL	ND	1,000	760	76	820	82	79	40	140	7.6	40

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 93020.91

Clayton Lab Number:	9302091-MB	Analytical Method:	SM5520CF
Ext./Prep. Method:	SM5520C	Instrument ID:	07434
Date:	02/12/93	Date:	02/16/93
Analyst:	HYT	Time:	01:01
Std. Source:	E930209-02W	Analyst:	AM
Sample Matrix/Media:	WATER	Units:	MG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
TOTAL PETROLEUM HYDROCARBONS	ND	7.50	6.20	83	6.00	80	81	75	125	3.3	25

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Port of Oakland/Geomatrix

Client Reference: 2026
Clayton Project No. 93002.91

Lab Number:	9302095-03A	Date Analyzed:	02/15/93
Analytical Method:	EPA 160.1	Sample Matrix/Media:	Water
		Units:	mg/L

Analyte	Sample Result	Duplicate Sample	RPD (%)
Total Dissolved Solids	10	10	0