

March 22, 1993

STID 3900

Don Hwang Hazardous Materials Specialist Alameda County Health Services Agency 80 Swan Way, Rm. 200 Oakland, CA 94621

Dear Mr. Hwang:

SUBJECT: SOIL EXCAVATION REPORT AND PROPOSED WORK PLAN, FORMER POWERINE OIL COMPANY SITE, 2800 SEVENTH ST., OAKLAND

Enclosed please find a report on soil excavation activities at the Powerine/Berth 30 site, along with a proposed work plan for groundwater monitoring at the site.

As we have discussed previously, the Port is proposing to install three monitoring wells to determine whether petroleum hydrocarbons from the Powerine site or from the three removed underground storage tanks in the old Kaiser Yard (2801 7th St.) have impacted groundwater.

Please review the enclosed report. The Port intends to implement the Work Plan when we have received County approval and when construction activities at the site have been completed.

If you have any questions, feel free to contact me at (510) 272-1220.

Sincerely

Dan Schoenholz

Associate Environmental Scientist

11/3-11/20192

ds

Enclosure

Rich Hiett, RWQCB

Frank Lobedan

(w/o enclosure):

cc(w/enclosure):

Neil Werner

100 Pine Street, 10th Floor San Francisco, CA 94111 (415) 434-9400 • FAX (415) 434-1365



18 March 1993 Project 2026.10

Mr. Dan Schoenholz Port of Oakland 530 Water Street Oakland, California 94607

Subject:

Soil Excavation Report and Proposed Work Plan

Former Powerine Oil Company Site

2800 Seventh Street Port of Oakland Oakland, California

Dear Mr. Schoenholz:

Enclosed is the subject report. If you have any questions about this report, please contact either of the undersigned. We appreciate the opportunity to work with you on this project and look forward to working with you in the future.

Sally F. Goodin

Sally E. Goodin, R.G.

Senior Geologist

Sincerely yours,

GEOMATRIX CONSULTANTS, INC.

Elizabeth & well Elizabeth K. Wells, P.E.

Project Engineer

EKW/SEG/lam 202610PS LTR

Enclosure



# SOIL EXCAVATION REPORT AND PROPOSED WORK PLAN

Former Powerine Oil Company Site 2800 Seventh Street
Port of Oakland
Oakland, California

Prepared for

Port of Oakland 530 Water Street Oakland, California 94607

March 1993 Project No. 2026.10

**Geomatrix Consultants** 



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### SOIL EXCAVATION REPORT AND PROPOSED WORK PLAN

Former Powerine Oil Company Site 2800 Seventh Street Port of Oakland, California

#### 1.0 INTRODUCTION

This report presents results of soil excavation and sampling that Geomatrix Consultants, Inc. (Geomatrix), conducted at the former Powerine Oil Company (Powerine) site at 2800 Seventh Street at the Port of Oakland (Port), California (Figure 1). The work was performed at the request of the Port and under direction of the Alameda County Department of Environmental Health. This report describes background information, excavation and soil sampling activities, pipe removal activities, analytical laboratory results, conclusions, and a proposed work plan for additional work at the site.

### 2.0 BACKGROUND

During construction activities associated with the realignment of Seventh Street in Oakland, the contractor (Obayashi) encountered abandoned pipes and noted petroleum hydrocarbon odors in soil beneath a concrete pad that was being removed. A review of historical information by the Port indicated that the pipes were fuel supply lines at the former Powerine site and that an underground fuel storage tank was formerly located adjacent to the concrete pad.

In September 1992, Geomatrix collected three soil samples from beneath the former concrete pad that were composited into one sample, and one discrete soil sample from outside the pad area for chemical analysis. The results indicated total petroleum hydrocarbons (TPH) as gasoline and benzene, toluene, ethylbenzene, and total xylenes (BTEX) were present in the soil samples at concentrations up to 110, 0.67, 3.9, 4.8, and



27.3 mg/kg, respectively. Details of the shallow sampling are presented in Geomatrix's 28 October 1992 letter to the Port (Appendix A).

Based on the analytical results of the shallow soil samples, the Port retained RESNA of Fremont, California, to excavate soil from the affected area. Approximately 100 cubic yards of soil was excavated from beneath the former slab area and stockpiled on site on 13 October 1992. Excavation activities and analytical results of soil samples from the excavation indicated that the petroleum hydrocarbons were not confined to immediately beneath the former concrete slab. Therefore, excavation was discontinued, and Geomatrix was retained to conduct a soil boring program to evaluate the lateral and vertical extent of petroleum hydrocarbons in soil near the excavation.

In October 1992, Geomatrix drilled 12 soil borings to a maximum depth of 11.5 feet below ground surface (bgs) in the vicinity of the excavation. Soil samples for chemical analysis were collected generally in the top 1 to 2.5 feet of the borehole, immediately above the soil-groundwater interface, and approximately 5 feet below the groundwater interface in each borehole. TPH as diesel was reported in two of the 30 soil samples at concentrations of 2 and 210 milligrams per kilogram (mg/kg). TPH as gasoline was reported in 11 of the 30 soil samples at concentrations ranging from 0.4 to 490 mg/kg. Clayton Environmental Consultants, Inc. (Clayton), of Pleasanton, California, a state-certified analytical laboratory, characterized the TPH as gasoline as weathered gasoline, or as a combination of weathered gasoline and heavier hydrocarbons. BTEX were detected at maximum concentrations of 0.5, 8.3, 2.7, and 41 mg/kg, respectively. Details of the soil boring program are discussed in Geomatrix's 28 October 1992 letter to the Port (Appendix A).

### 3.0 FIELD ACTIVITIES

This section summarizes excavation, soil sampling, and pipe removal activities conducted at the site between 3 and 20 November 1992.



### 3.1 SOIL EXCAVATION

Between 3 and 20 November 1992, RESNA and Trumpp Brothers, Inc. (Trumpp), of San Jose, California, excavated petroleum hydrocarbon-containing soil from the area shown on Figure 2. Geomatrix observed excavation activities and used a photoionization detector (PID) and thin layer chromatography to field-monitor petroleum hydrocarbons and BTEX in the soil. Geomatrix collected soil samples from the excavation to document chemical concentrations following soil removal. Chromalab, Inc. (Chromalab), of San Ramon, California, a state-certified analytical laboratory, analyzed the soil samples collected from the excavation sidewalls and bottom in their on-site mobile laboratory and at their off-site laboratory. Stockpile samples were analyzed by Clayton.

The maximum depth of the excavation was approximately 11 feet bgs. Soil was excavated until laboratory analytical results indicated that the concentrations of TPH as diesel and as gasoline were less than 100 mg/kg each or until further excavation was blocked by physical obstructions. Approximately 2300 cubic yards (ex-situ) of soil was excavated and stockpiled on plastic sheeting.

To confirm removal of the affected soil, Geomatrix collected soil samples from both the bottom and sidewalls of the excavation. Sampling locations are shown on Figure 3. Sampling was performed by removing the upper 3 to 6 inches of soil and driving a clean, thin-walled brass tube into either the excavation wall or the soil in the bucket of the excavator. The tubes were sealed at each end with aluminum foil, plastic end caps, and duct tape; each tube was labeled and placed in an ice-cooled chest. The samples were delivered to Chromalab under Geomatrix chain-of-custody procedures for analysis for TPH as diesel by U.S. Environmental Protection Agency (EPA) Method 8015; TPH as gasoline by modified EPA Method 8015; and BTEX by EPA Method 8020. Chain-of-custody records are included in Appendix B.



A total of 47 soil samples were collected from the excavation bottom and sidewalls. In accessible areas where analytical results indicated TPH as diesel or gasoline greater than 100 mg/kg, additional soil was excavated until analytical results were less than 100 mg/kg TPH as diesel and as gasoline. Analytical laboratory reports are included in Appendix B.

The analytical results for the final 41 sidewall and bottom samples are summarized in Table 1; soil samples contained less than 100 mg/kg TPH as diesel and TPH as gasoline at all except four locations. In the western area of the excavation (Figure 3), two sidewall samples (EX-3 and EX-5) contained TPH as diesel at concentrations of 6500 and 5000 mg/kg, respectively, and TPH as gasoline at concentrations of 2800 and 1600 mg/kg, respectively. One bottom sample (EX-24; Figure 3) contained TPH as diesel at a concentration of 120 mg/kg; TPH as gasoline was not detected in this sample. One sidewall sample from the southern area of the excavation (EX-26; Figure 3) contained TPH as diesel at a concentration of 250 mg/kg.

The excavation was backfilled under the direction of the Port of Oakland. Geomatrix did not observe backfilling.

### 3.2 STOCKPILED SOIL

Approximately 2300 cubic yards of excavated soil was stockpiled on plastic sheeting. Geomatrix collected four samples from each 100 cubic yards of soil; these were composited by the laboratory into a total of 23 soil samples. The upper 6 to 18 inches of material was removed from the sampling location, and a clean, thin-walled brass tube was driven into the newly exposed soil. The tube was removed; sealed at each end with aluminum foil, plastic caps, and duct tape; then labeled and placed in an ice-cooled chest for delivery to Clayton under Geomatrix chain-of-custody procedures. The samples were analyzed for compounds that RESNA uses as the basis for acceptance at the Port's bioremediation facility. These include TPH as diesel by EPA Method 8015; TPH as gasoline by modified EPA Method 8015; halogenated volatile organic compounds (VOCs) by EPA Method 8240; semivolatile



organic compounds by EPA Method 8270; and seventeen Title 22 metals by EPA Methods 6010 and 7471. One soil sample also was collected for an aquatic toxicity test to confirm that the soil is not a hazardous waste and for characterization for bioremediation; the test was conducted by GeoAnalytical Laboratories, Inc., of Modesto, California. The chain-of-custody records and analytical laboratory reports are included in Appendix B.

The analytical results are summarized in Tables 2 and 3. TPH as diesel and as gasoline were detected at concentrations up to 1400 and 5600 mg/kg, respectively. BTEX were detected at maximum concentrations of 4, 21, 60, and 280 mg/kg, respectively. Semivolatile compounds detected included naphthalene, 2-methyl naphthalene, phenanthrene, fluoranthene, and fluorene, at a maximum concentration of 18 mg/kg. Total metals detected were below the Total Threshold Limit Concentrations (TTLCs; California Code of Regulations, Title 22, Section 66261.24). The results of the aquatic toxicity indicated 100 percent survival of the fish. Based on these results and Title 22 (of the California Code of Regulations) criteria, the stockpiled soil did not constitute a hazardous waste.

After the analytical results were received, RESNA transported the stockpiled soil to the Port's bioremediation facility where it is currently awaiting treatment. Geomatrix did not observe loading or transporting.

### 3.3 PIPE REMOVAL

On 10 November 1992, Geomatrix observed Timec of Martinez, California, remove the five abandoned pipes from the excavation. Timec drained approximately 250 gallons of fluid from the pipes and placed the fluid in 55-gallon drums for temporary storage. After the fluid was removed, each pipe was cut at the edge of the excavation and sealed with a cement plug. Timec disposed of the pipes at Levin Metals Corporation in Richmond, California.



Geomatrix collected a sample of the fluid from the drums to characterize it for disposal. The sample was delivered under Geomatrix chain-of-custody procedure to Clayton to be analyzed for TPH as diesel by EPA Method 8015; TPH as gasoline by modified EPA Method 8015; and BTEX by EPA Method 8020. The results indicated that the fluid contained TPH as diesel at 13 milligrams per liter (mg/l); TPH as gasoline at 11 mg/l; and BTEX at 0.13, 0.95, 0.27, 1.77 mg/l, respectively. A copy of the chain-of-custody record and analytical laboratory report are included in Appendix C. The Port retained Decon Environmental Services of Hayward, California, to dispose of the fluid. They transported the fluid and drums to their facility in Hayward. The water was subsequently recycled by PRC in Patterson, California, and the drums were recycled by Myers in Richmond, California.

### 4.0 CONCLUSIONS

Analytical results indicate that soil in the western part of the excavation contains elevated concentrations of petroleum hydrocarbons. Soil containing total petroleum hydrocarbons at more than 1000 mg/kg at the west end of the excavation could not be removed because of physical obstructions. The analytical results for soil samples from northern, eastern, and southern areas of the excavation indicate that soil containing petroleum hydrocarbons at more than 100 mg/kg has been removed, except at two locations where soil containing TPH as diesel at 120 and 250 mg/kg was left in place.

### 5.0 PROPOSED WORK PLAN

Our proposed scope of work to evaluate the impact of the petroleum hydrocarbons in soil includes drilling soil borings, collecting soil samples for chemical analysis, installing three monitoring wells, and sampling groundwater. All field activities will be performed in accordance with Geomatrix protocols (Appendix D).



### 5.1 SOIL SAMPLING

Geomatrix will conduct a limited soil boring program at the site to collect soil samples for chemical analysis. Based on analytical results of the excavation soil samples, we propose to drill as many as six soil borings, two of which will be converted to monitoring wells; proposed boring locations are shown on Figure 4. Before work begins, Geomatrix will obtain a soil boring permit from the Alameda County Flood Control and Water Conservation District (ACFCWCD) and will arrange for a utility check to screen the proposed boring locations for underground utilities.

Soil borings will be drilled to a maximum depth of 15 feet using 8-inch-diameter hollow-stem augers. The borings will be continuously cored using a 5-foot dry core sampler, and lithologic logs will be developed for the boreholes. All drilling equipment will be steam-cleaned before each use. Soil samples for chemical analysis will be collected: one sample in the top 3 feet, corresponding to approximately 1 foot below grade before construction activities began; from immediately above the water table; and at 5 feet below the water table; additional samples may be collected based on field observations. Soil samples for chemical analysis will be collected directly from the sampler in clean, thin-walled brass tubes. The tubes will be sealed, cooled, and delivered to a state-certified analytical laboratory under Geomatrix chain-of-custody procedures. Soil samples will be analyzed for the compounds that were detected at elevated concentrations in the tank excavation: TPH as gasoline by modified EPA Method 8015; TPH as diesel by EPA Method 8015; and BTEX by EPA Method 8020.

Soil cuttings from the borings will be placed in 55-gallon drums for temporary storage at a designated on-site location pending appropriate final disposition. Soil borings will be backfilled with a cement/bentonite grout to within a few inches of ground surface. Asphalt patch will be applied at the surface to match current grade.



### 5.2 INSTALLATION OF MONITORING WELLS

Based on discussions with the Alameda County Health Care Services Agency, Department of Environmental Health (ACHCSA), the Port proposes to install a network of monitoring wells to evaluate the direction of groundwater flow and to monitor the potential migration of constituents from the excavation at the former Powerine site and the location of former underground storage tanks in the Kaiser Yard (Figure 5). Details regarding tank removal and sampling activities at the Kaiser Yard are included in Geomatrix's June 1992 report entitled "Removal of Underground Storage Tanks, Kaiser Yard, 2801 Seventh Street, Oakland, California." The monitoring wells will be installed under permit from the ACFCWCD.

For this work plan, we assumed that groundwater flows in a northerly direction toward San Francisco Bay. A total of three monitoring wells are proposed: one monitoring well will be installed in the assumed upgradient direction of the Powerine excavation; one well will be installed in the assumed downgradient direction of the Powerine excavation; and one well will be installed in the assumed downgradient direction of the former Kaiser Yard tank excavation. The monitoring wells will be installed within 10 feet of the perimeter of the affected area based on field observations made during drilling and sampling. The proposed well locations are shown on Figure 5. The final locations of the wells will be determined following completion of construction of the container terminal yard; monitoring wells likely will be placed in aisleways in the yard.

The monitoring wells will be screened across the water table to a maximum depth of 10 feet below the water table; the well screens will not extend across the Bay Mud. The wells will be constructed using 2-inch-diameter, flush-threaded, schedule-40 polyvinyl chloride (PVC) pipe, and will be screened using 0.01-inch slot size factory-slotted PVC pipe. The well annulus will be backfilled with a filter pack of quartz sand to one foot above the 10-foot-long slotted screen section. A bentonite seal will be placed above the filter pack, and the remaining annulus will be backfilled with a bentonite-cement seal to protect against



surface water runoff. A locking cap and traffic-rated cover will be placed over the monitoring well at the ground surface.

After allowing the well seal to set (approximately 24 hours), each monitoring well will be developed to remove fines from the casing, stabilize the filter pack, and establish hydraulic communication between the well and the surrounding water-yielding zone.

Soil cuttings from the well boreholes and purged groundwater from well development will be placed in 55-gallon drums for temporary storage at a designated on-site location pending appropriate final disposition.

Following well completion, the well casings will be surveyed to establish their elevations.

### 5.3 GROUNDWATER SAMPLING

One year of quarterly groundwater monitoring typically is required at sites where leakage is suspected to have occurred from an underground storage tank. Therefore, Geomatrix proposes to initiate a quarterly monitoring program at the subject site after the wells are installed.

A groundwater sample will be collected from each newly installed monitoring well for chemical analysis for TPH as diesel, TPH as gasoline, and BTEX. Groundwater samples will be analyzed using the methods listed in Section 5.1. In addition, the first sample collected from each well will be analyzed for total dissolved solids to assess the general quality of the groundwater. The groundwater samples will be delivered under Geomatrix chain-of-custody procedures to a state-certified analytical laboratory. During subsequent quarters of groundwater sampling, samples will be analyzed only for constituents reported in the first round of sampling.

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Groundwater generated during sampling will be stored temporarily on site in 55-gallon drums at a designated on-site location pending appropriate final disposition.

### 5.4 REPORTING

Geomatrix will describe the soil sampling and well installation activities in a report to the Port of Oakland. The report will include lithologic logs of the boreholes, well construction diagrams, water-level elevations, and a summary of the analytical results for soil samples and groundwater samples from the first quarterly sampling event. The extent of affected soil and recommendations for further action also will be discussed.

Groundwater sampling and results from subsequent quarterly sampling events will be described in quarterly reports. The fourth quarterly report will evaluate the need for further groundwater monitoring based on the analytical data from the first year of sampling.

### 5.5 SCHEDULE

Field activities proposed in this work plan can be initiated as soon as we receive approval from the ACHCSA and the Port, and after construction activities are completed at the site. We anticipate that field activities, including the soil boring program, installation of monitoring wells, well development, and first sampling event, can be completed within three weeks. We anticipate that the final report summarizing these activities and presenting analytical results will be submitted to the Port of Oakland and ACHCSA within six weeks of the groundwater sampling event.



Page

### TABLE 1

# Analytical Data for Excavation Soil Samples Former Powerine Site 2800 Seventh Street Oakland, California (concentrations in mg/kg)

Sample	TPH	TPH			Ethyl-	Total	
No.	Diesel	Gasoline	Benzene	Toluene	Benzene	Xylenes	
						•••••	
EX-01	(10.00)	(1.00)	.023	.014	(.005)	.011	
EX-02	(10.00)	2.30	1.000	(.010)	(.010)	(.010)	
X-03	6500.00	2800.00	4.000	49.000	35.000	240.000	
x-04	(10.00)	5.00	.390	.012	.018	.013	
X-05	5000.00	1600.00	.480	1,000	8.600	55.000	
X-06	99.00	48.00	(.015)	.061	.280	1,600	
X-07	20.00	3.20	.110	.270	.068	.410	
x-08	63.00	1.00	.390	.009	(.005)		
X-09*	10000.00	7600.00	24.000	320.000	140.000	.007 840.000 = splexca	UK
x-10	(10.00)	1.50	.910	.008	(.005)	.016	
x-11	(10.00)	6.60	2.900	.047	.082	.360	
x-12*	1514.00	360.00	4.900	8.800	8.500	44.000	
x-13	(10.00)	(1.00)	.012	(.005)	(.005)	(.005)	
X-14	(10.00)	(1.00)	-075	(,005)	(.005)	(.005)	
x-15	(10.00)	(1.00)	(-005)	(.005)	(.005)	(.005)	
x-16	(10.00)	(1.00)	(-005)	(.005)	(.005)	(.005)	
x-17	(10.00)	2.00	1.500	.008	.028	.046	
x-18	(10.00)	(1.00)	(.005)	(.005)	(.005)	(.005)	
x-19	(10.00)	(1.00)	.110	(.005)	(.005)	(.005)	
X-20	(10.00)	3.10	2.000	(.005)	.028	.068	
X-21	(10.00)	1.60	.860	.010	.050	.020	
X-22	(10.00)	(1.00)	(.005)	(.005)	(.005)	(.005)	
x-23	75.00	8.80	(.005)	(.005)	.024	.054	
X-24	120.00	(1.00)	.022	(,005)	(.005)	.008	
X-25	(10.00)	(1.00)	(.005)	(.005)	(.005)	(.005)	
X-26	250.00	96.00	4.100	(.005)	4.500	.420	
x-27	(1.00)	(1.00)	.018	(.005)	.015	.085	
X-28	(1.00)	(1.00)	.110	(.005)	(.005)	(.005)	
X-29	64.00	3.50	.200	.008	.036	(.005)	
X-30	(1.00)	(1.00)	(.005)	(.005)	(.005)	(.005)	
x-30 x-31	(1.00)	6.80	2.400	.038	.051	.170	
x-32	32.00	21.00	.033	.016	.220	. 190	
X-33*	54.00	1400.00	7.000	12.000	43.000	130.000	
x -34*	810.00	71000.00	270.000	1000.000	680.000	9600.000	
X-35*	150.00	4700.00	11.000	7,600	100.000	480.000	
x-36*	59.00	750.00	(,100)	.150	4.000	8.300	
x 30 x-37	15.00	96.00	(.200)	(.005)	.580	3.000	
x-38	(1.00)	(1.00)	(.005)	(.005)	(.005)	(5.000)	
X-39	(1.00)	(1.00)	(.005)	(.005)	(.005)	(.005)	
X-40	(1.00)	(1.00)	(.005)	(.005)	(.005)	(.005)	
X-41	(1.00)	(1.00)	(.005)	(.005)	.067	.022	
X-42	(1.00)	(1.00)	.016	(.005)	(.005)	(.005)	
x-43	(1.00)	(1.00)	(.005)	(.005)	(.005)	(.005)	
X-44	(1.00)	(1.00)	(.005)	(.005)	(.005)	(.005)	
X-45	(1.00)	(1.00)	.022	(.005)	(.005)	(.005)	
X-46	(1.00)	5.10	.820	(.005)	.058	.052	
X-47	(1.00)	(1.00)	(.005)	(.005)	(.005)	(.005)	

### TABLE 1



Analytical Data for Excavation Soil Samples
Former Powerine Site
2800 Seventh Street
Oakland, California
(concentrations in mg/kg)

Page 2

### Notes:

- 1. Samples analyzed by Chromalab, Inc., of San Ramon, California, by EPA Methods 8015 and 8020.
- 2. ( ) indicates compound not detected above the laboratory detection limit shown.
- 3. \* indicates sample excavated.



# Analytical Data for Stockpile Soil Samples Former Powerine Site 2800 Seventh Street Oakland, California (concentrations in mg/kg)

Sample No.	TPH Diesel	TPH Gasoline	Benzen <del>e</del>	Toluene	Ethyl- Benzene	Total Xylenes	Naph- thalene	2-methyl naph- thalene	Phenan- threne
•••••									
SP-01A-D	430.00	460.00	(.100)	1,700	2,900	20.000	8.00	14.00	1.00
SP-02A-D	280.00	1700_00	(.100)	11.000	12,000	124.000	15.00	14.00	(1.00)
SP-03A-D	220.00	950.00	(.100)	3.100	8.800	65.000	16.00	18.00	1.00
SP-04A-D	290.00	5600.00	(10.000)	(10.000)	60.000	280.000	11.00	12.00	5.00
SP-05A-D	92.00	1900.00	(1.000)	4.000	3.000	86.000	12.00	13.00	(2.00)
SP-06A-D	99.00	870.00	(1,000)	4.000	2.000	48.000	5.00	6.00	(2.00)
SP-07A-D	(50.00)	180.00	(.300)	1.000	.800	11.100	2.00	4.00	(2.00)
SP-08A-D	26.00	380.00	(1.000)	2.000	2.000	30,000	6.00	7.00	(2.00)
SP-09A-D	(20.00)	7.90	(.010)	(.010)	(.010)	.010	(2.00)	(2.00)	(2.00)
SP-10A-D	57.00	1200.00	(3.000)	(3.000)	9.000	72.000	4.00	5.00	(2.00)
SP-11A-D	330.00	2800.00	4.000	21.000	28.000	176.000	6.00	6.00	(2.00)
SP-12A-D	1400.00	3000.00	.700	1.200	4.000	30.000	7.00	9.00	(2.00)
SP-13A-D	440.00	190.00	(.500)	(.500)	2.400	2.600	1.50	2.20	.20
SP-14A-D	180.00	64.00	(.030)	(.030)	(.030)	.580	-40	1.40	.20
SP-15A-0	200.00	40.00	(.030)	(.030)	(.030)	.200	.30	.90	.20
SP-16A-D	600.00	330.00	(.500)	(.500)	1.200	19.500	10.00	12.00	(2.00)
SP-17A-D	250.00	220.00	(.500)	(.500)	(.500)	20.300	7.30	8.70	.40
SP-18A-D	150.00	230.00	(.500)	(.500)	(.500)	6.100	8.90	9.00	.30
SP-19A-D	(10.00)	42.00	(.030)	(.030)	(.030)	.840	(2.00)	(2.00)	(2.00)
SP-20A-D	(1.00)	23.00	(.030)	(.030)	(.030)	.050	(2.00)	(2.00)	(2.00)
SP-21A-D	(10.00)	23.00	(.030)	(.030)	(.030)	.270	(2.00)	(2.00)	(2.00)
SP-22A-D	(6.00)	27.00	(.030)	(.030)	.060	.200	.80	.70	(.20)
SP-23A-D	(10.00)	110.00	(.030)	(.030)	.120	1.750	1.50	1.20	(.20)

### Notes:

- 1. Samples analyzed by Clayton Environmental Consultants of Pleasanton, California, by EPA Methods 8015, 8240, and 8270.
- 2. ( ) indicates compound not detected above the laboratory detection limit shown.
- 3. Samples SP-4A-D also contained flouranthene and pyrene at concentrations of 4 mg/kg each. Samples SP-13A-D also contained flourene at a concentration of 0.2 mg/kg. Samples SP-17A-D also contained flouranthene and flourene at concentrations of 0.2 mg/kg each. Samples SP-18A-D also contained Freon 113 at a concentration of 16 mg/kg.

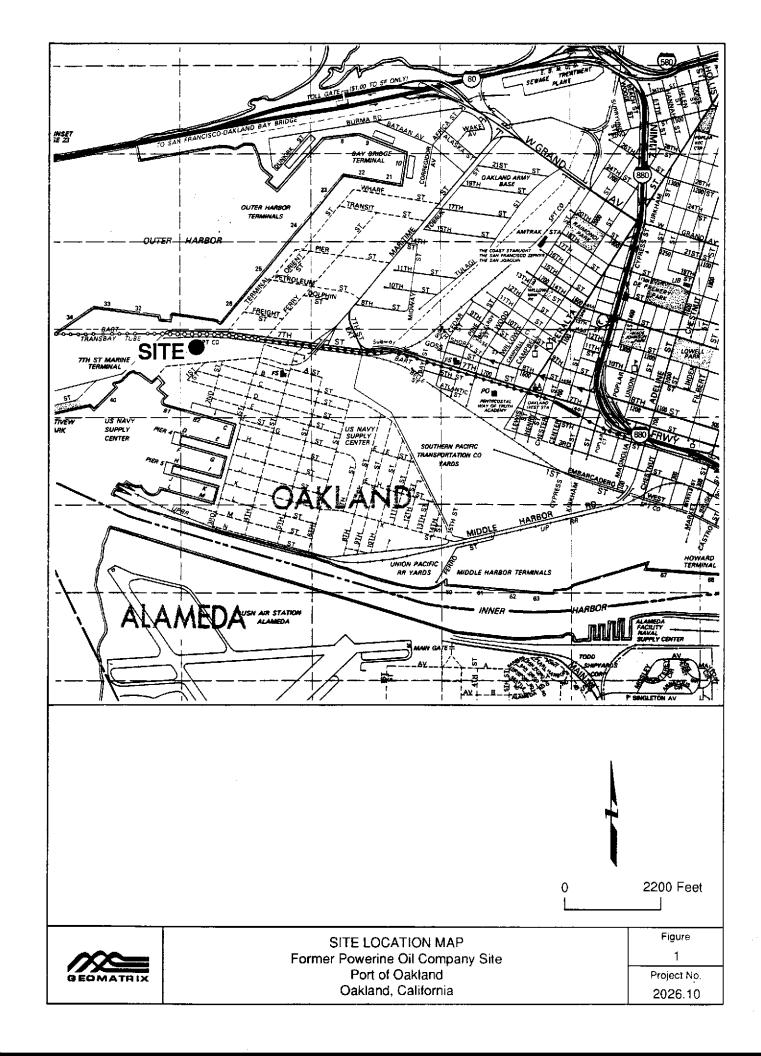
TABLE 3

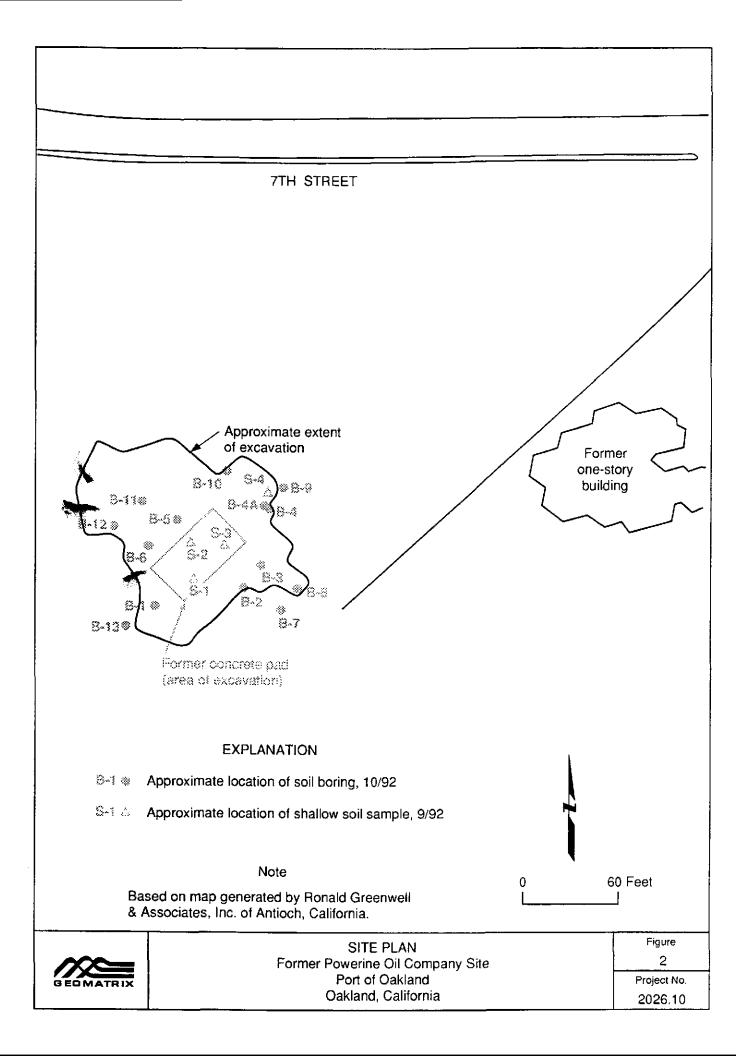
Metals Data for Stockpile Soil Samples
Former Powerine Site
2800 Seventh Street
Oakland, California
(concentrations in mg/kg)

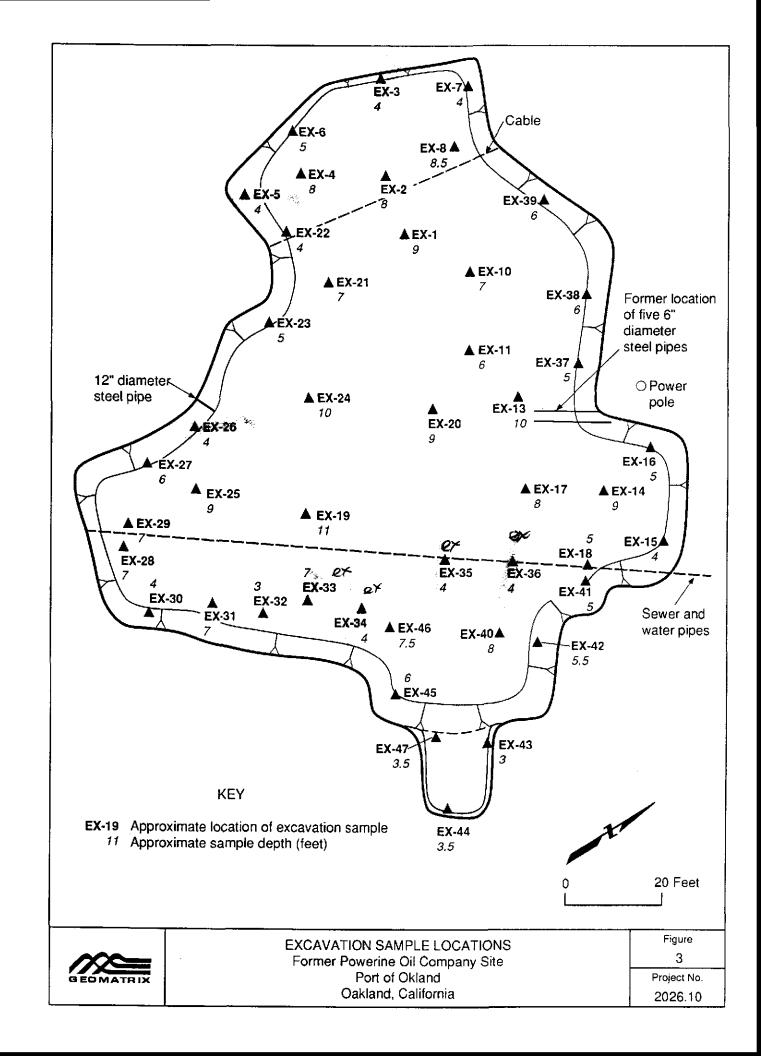
Sample No.	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zínc
												*******					
SP-01A-D	1.00	6.00	53.00	(.10)	.20	18.00	4.00	25.00	75.00	.10	(1.00)	22.00	2.00	(.50)	(1.00)	17.00	51.00
SP-02A-D	(1.00)	3.00	38.00	(.10)	.30	17.00	4.00	18.00	42.00	(.10)	(1.00)	18.00	2.00	(.50)	(1.00)	14.00	37.00
SP-03A-D	(1.00)	4.00	35.00	(.10)	.20	19.00	4.00	20.00	22.00	(.10)	(1.00)	19.00	1.00	(.50)	(1.00)	13.00	31.00
SP-04A-D	2.00	6.00	39.00	.10	.20	24.00	4.00	17.00	28.00	(-10)	(1.00)	20.00	(1.00)	(.50)	(7.00)	20.00	29.00
SP-05A-D	(1.00)	4.00	29.00	(.10)	.10	21.00	4.00	11.00	25.00	(.10)	(1.00)	18.00	(1.00)	(.50)	6.00	17.00	28.00
SP-06A-D	2.00	8.00	30.00	(.10)	(.10)	20.00	4.00	17.00	43.00	(.10)	(1.00)	20.00	(1.00)	(.50)	6.00	17.00	32.00
SP-07A-D	1.00	3.00	40.00	(.10)	.10	26.00	4.00	11.00	14.00	(.10)	(1.00)	23.00	(1.00)	(.50)	5.00	18.00	23.00
SP-08A-D	1.00	3.00	42.00	(.10)	(.10)	26.00	6.00	14.00	21.00	(.10)	(1.00)	24.00	(1.00)	(.50)	6.00	20.00	32.00
SP-09A-D	2.00	5.00	35.00	.10	.10	23.00	5.00	19.00	38.00	(.10)	(1.00)	21.00	(1.00)	(.50)	8.00	20.00	37.00
SP-10A-D	1.00	4.00	25.00	(.10)	(.10)	20.00	5.00	15.00	57.00	(.10)	(1.00)	20.00	(1.00)	(.50)	5.00	18.00	29.00
SP-11A-D	(1.00)	4.00	26.00	(.10)	(.10)	22.00	5.00	9.00	17.00	(.10)	(1.00)	20.00	(1.00)	(.50)	4.00	16.00	22.00
SP-12A-D	(1.00)	2.00	24.00	(.10)	(.10)	18.00	5.00	16.00	14.00	(.10)	(1.00)	20.00	1.00	(.50)	2.00	14.00	22.00
SP-13A-D	1.00	7.00	33.00	(.10)	.10	22.00	6.00	19.00	45.00	(.10)	(1.00)	22.00	(1.00)	(.50)	2.00	20.00	38.00
SP-14A-D	1.00	8.00	34.00	(-10)	(.10)	22.00	6.00	22.00	48.00	.10	(1.00)	22.00	(1.00)	(.50)	4.00	22.00	39.00
SP-15A-D	2.00	6.00	30.00	(.10)	(.10)	24.00	6.00	15.00	42.00	(.10)	(1.00)	23.00	(1.00)	(.50)	5.00	21.00	33.00
SP-16A-D	1.00	5.00	37.00	(.10)	(.10)	23.00	6.00	18.00	43.00	(.10)	(1.00)	21.00	1.00	(.50)	3.00	22.00	36.00
SP-17A-D	2.00	5.00	37.00	(.10)	(.10)	24.00	5.00	16.00	34.00	(.10)	(1.00)	22.00	(1.00)	(.50)	3.00	20.00	36.00
SP-18A-D	(1.00)	4.00	30.00	(.10)	(.10)	23.00	5.00	10.00	20.00	(.10)	(1.00)	21.00	1.00	(.50)	3.00	20.00	27.00
SP-19A-D	2.00	11.00	27.00	(.10)	(.10)	19.00	5.00	17.00	16.00	(.10)	(1.00)	18.00	(1.00)	(.50)	2.00	16.00	24.00
SP-20A-D	1.00	9.00	36.00	(.10)	(.10)	24.00	5.00	16.00	19.00	(.10)	(1.00)	23.00	(1.00)	(.50)	4.00	21.00	30.00
SP-21A-D	1.00	7.00	55.00	.10	.20	23.00	7.00	34.00	50.00	(.10)	(1.00)	25.00	(1.00)	(.50)	6.00	25.00	54.00
SP-22A-D	(1.00)	4.00	39.00	(.10)	(.10)	26.00	6.00	17.00	110.00	(.10)	(1.00)	25.00	(1.00)	(.50)	3.00	23.00	48.00
SP-23A-D	(1.00)	2.00	37.00	(.10)	(.10)	24.00	6.00	19.00	44.00	(.10)	(1.00)	24.00	(1.00)	(.50)	(1.00)	20.00	35.00

### Notes:

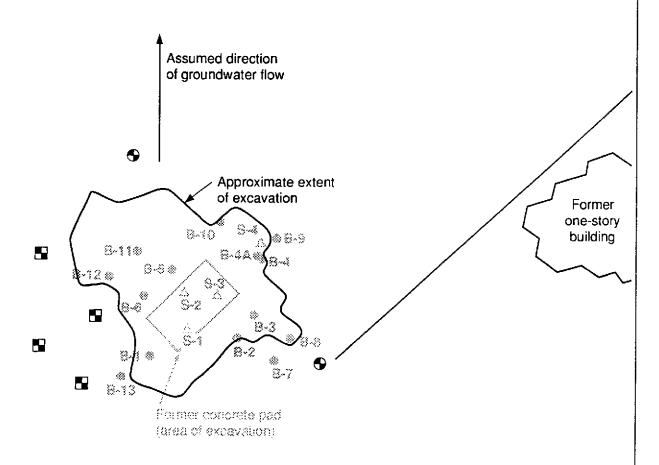
- 1. Samples analyzed by Clayton Environmental Consultants of Pleasanton, California, by EPA Methods 6010 and 7471.
- 2. ( ) indicates compound not detected above the laboratory detection limit shown.







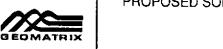
### 7TH STREET



### **EXPLANATION**

- Proposed monitoring well location
- Proposed soil boring location
- Approximate location of soil boring, 10/92
- Set Approximate location of shallow soil sample, 9/92

Note
Based on map generated by Ronald Greenwell
& Associates, Inc. of Antioch, California.

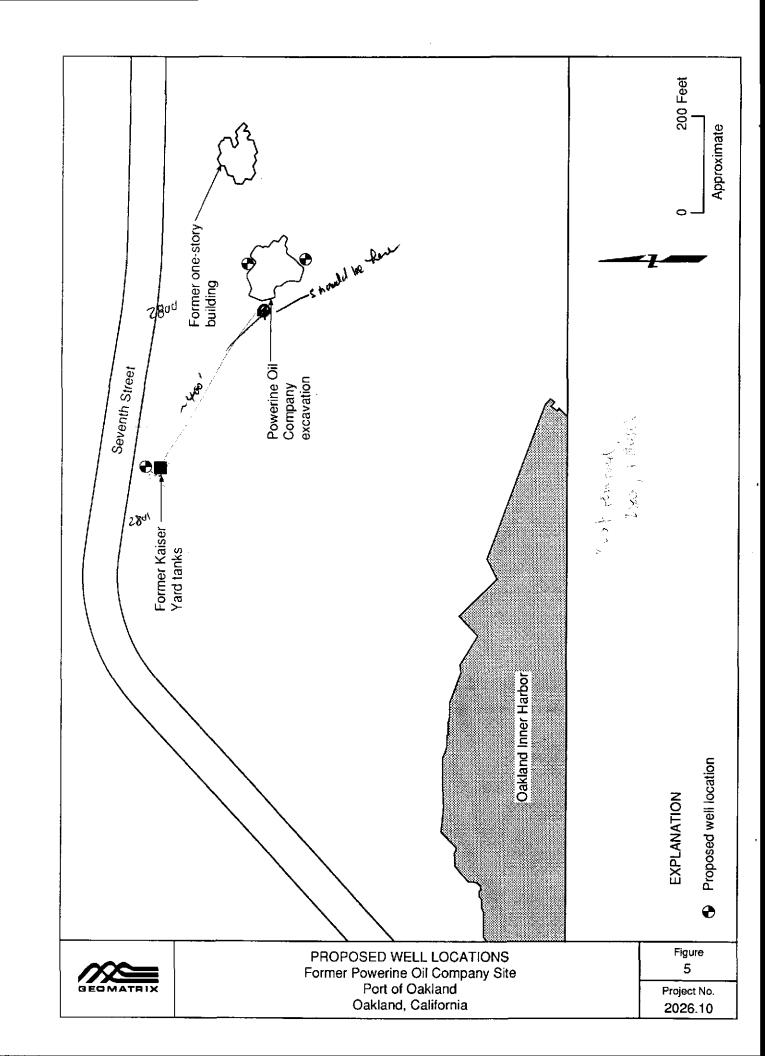


PROPOSED SOIL BORING AND MONITORING WELL LOCATIONS
Former Powerine Oil Company Site
Port of Oakland
Oakland, California

Figure
4
Project No.
2026.10

60 Feet

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# APPENDIX A

FORMER POWERINE SITE 28 OCTOBER 1992 GEOMATRIX CONSULTANTS, INC. 100 Fine Street, 10th Floor San Francisco, CA 94111 (415) 434-9400 • FAX (415) 434-1365



28 October 1992 Project 2026.10

Mr. Dan Schoenholz Port of Oakland 530 Water Street Oakland, California 94607

Subject:

Former Powerine Site

Port of Oakland Oakland, California

Dear Mr. Schoenholz:

At the request of the Port of Oakland (Port), Geomatrix Consultants, Inc. (Geomatrix), directed drilling and sampling of 12 soil borings at the former Powerine site in Oakland, California (Figure 1). The work was conducted on 21 and 22 October 1992. Soil samples from the borings were collected for chemical analysis. This work was performed under verbal approval to proceed and in accordance with Geomatrix's 26 October 1992 scope of services to the Port. Site background, drilling and soil sampling activities, and our recommendations are discussed below.

### **BACKGROUND**

During construction activities associated with the realignment of Seventh Street, the contractor at the site (Obayashi) noted petroleum hydrocarbon odors in soil beneath a concrete pad being removed (Figure 2). Abandoned pipelines encountered during slab removal are believed to have been supply lines for fuel at the former Powerine site. Construction activities were halted and the Port requested that Geomatrix collect soil samples from the area to assess the level of petroleum hydrocarbons in the soil. Geomatrix collected three shallow soil samples (S-1 through S-3) from beneath the former pad that were composited into one sample for analysis; and one discrete shallow soil sample (S-4) from outside the former pad area where Obayashi noted an odor. Soil sample locations are shown on Figure 2. Samples were collected on 25 September 1992 in accordance with Geomatrix protocols and were delivered to Clayton Environmental Consultants (Clayton) of Pleasanton, California, a state-certified analytical laboratory contracted by the Port, for chemical analysis. The composite soil sample contained 110 milligrams per kilogram (mg/kg) of total petroleum hydrocarbons (TPH) as gasoline and benzene, toluene, ethylbenzene, and total xylenes (BTEX) at concentrations of 0.67, 3.9, 4.5, and 27.3 mg/kg, respectively. The discrete soil sample (S-4) contained TPH as gasoline, toluene, ethylbenzene, and total xylenes at concentrations of 110, 2.2, 4.8, and

Geomatrix Consultants, Inc.

Engineers, Geologists, and Environmental Scientists



13.0 mg/kg, respectively. Benzene was not reported in the discrete soil sample above the laboratory detection limit of 0.1 mg/kg. A copy of the analytical laboratory report is included in Attachment A.

Based on the analytical results of the soil samples collected by Geomatrix, the Port notified the Alameda County Health Care Services Agency, Department of Environmental Health (ACDEH). The Port subsequently retained RESNA of Fremont, California to excavate soil from the affected area. Approximately 100 cubic yards of soil were excavated from beneath the former slab area and stockpiled on site on 13 October 1992. Excavation activities indicated that the petroleum hydrocarbons were not limited to immediately beneath the former concrete slab. Therefore, excavation activities were discontinued; RESNA collected three soil samples from the excavation to evaluate the concentration of petroleum hydrocarbons in the soil. TPH as gasoline and TPH as diesel were detected at maximum concentrations of 9500 and 9900 mg/kg, respectively. BTEX were reported at maximum concentrations of 39, 150, 150, and 1110 mg/kg, respectively.

### DRILLING AND SOIL SAMPLING

Based on the analytical results of the samples collected by RESNA and observations made during excavation activities, the Port requested that Geomatrix conduct a soil boring program to evaluate the lateral and vertical extent of petroleum hydrocarbons in the soil in the vicinity of the excavation. A description of field activities is presented below.

Before drilling, Geomatrix obtained a soil boring permit from the Alameda County Flood Control and Water Conservation District (ACFCWCD), Zone 7. A copy of the permit is included in Attachment B. Cruz Brothers of Milpitas, California, a private utility locator, cleared boring locations of underground utilities before field activities began.

West Hazmat Drilling Corporation of Hayward, California, was contracted to perform the drilling under the observation of a Geomatrix field engineer. Drilling was performed using a CME 75 drill rig outfitted with 6-inch outside diameter augers and a Soil Master 50 drill rig outfitted with 6-inch outside diameter augers. Down-hole equipment was steam cleaned or washed with a laboratory grade detergent (Alconox) before use.

Twelve soil borings were drilled to a maximum depth of 11.5 feet below ground surface to assess the vertical and lateral extent of petroleum hydrocarbons in the vicinity of the excavation. Continuous drive samples were collected from each boring using a 1.5-footlong, 2.5-inch outside diameter split spoon sampler. Soil samples for chemical analysis



were generally collected in the top 1-2.5 feet of the borehole, immediately above the soil-groundwater interface, and approximately 5 feet below the groundwater interface in each borehole. The samples were collected in clean, thin-walled brass tubes driven into the soil in the sampler at the desired depths. The brass tubes were sealed with aluminum foil, plastic end caps, and duct tape, and labeled and stored in an ice-cooled chest. The soil samples were delivered under Geomatrix chain-of-custody procedures to Clayton. Copies of the chain-of-custody records are included in Attachment C.

Lithologic logs were developed in the field for each of the borings. Soil classification was based on soil collected in the samplers, cuttings, and noticeable changes in ease of drilling. Copies of the lithologic logs are presented in Attachment D.

Following completion of drilling, the soil borings were backfilled to grade with either concrete or neat cement grout. Soil cuttings collected during drilling activities were placed in a stockpile in the vicinity of the excavation. Wash water used to clean the augers and sampling equipment was placed in 55-gallon capacity drums for temporary storage.

### ANALYTICAL METHODS

The soil samples from the borings were analyzed by Clayton for total petroleum hydrocarbons (TPH) as diesel by U.S. Environmental Protection Agency (EPA) Method 8015; TPH as gasoline by modified EPA Method 8015; and benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8020. Analytical results are summarized in Table 1 (attached). Copies of the analytical laboratory reports are included in Attachment C.

### RESULTS

The logs of borings drilled at the site indicate the area is underlain by sand, silty sand, and clayey sand; this material is interpreted to be dredged material placed as fill at the site. Groundwater was encountered at depths of 5 to 7 feet below ground surface during drilling.

TPH as diesel was reported in 2 of the 30 soil samples at concentrations of 2 and 210 milligrams per kilogram (mg/kg). The 210 mg/kg concentration of was detected in the soil sample from 10 feet below ground surface from boring B-3; this sample was collected



from approximately 5 feet below the groundwater interface. TPH as gasoline was reported in 11 of the 30 soil samples at concentrations ranging from 0.4 to 490 mg/kg. Clayton characterized the TPH as gasoline as weathered gasoline, or as a combination of weathered gasoline and heavier hydrocarbons. TPH as gasoline was detected at concentrations greater than 100 mg/kg in shallow samples from borings B-5 (3.5 feet below ground surface) and B-8 (1.0 feet below ground surface); and in the samples at the groundwater interface and 5 feet below the groundwater interface in boring B-12 (5.5 and 10.0 feet below ground surface, respectively). BTEX were detected at maximum concentrations of 0.5, 8.3, 2.7, and 41 mg/kg, respectively.

### CONCLUSIONS AND RECOMMENDATIONS

Petroleum hydrocarbons, characterized as diesel and gasoline, and BTEX were detected in soil samples collected during the soil boring program conducted in October 1992 in the vicinity of the excavation on site. The analytical results indicate petroleum hydrocarbons do not extend beyond the soil borings drilled to the north and south of the excavation. The extent of petroleum hydrocarbons to the east and west has not been completely defined, based on the results of the samples collected from borings B-8 and B-12. It appears that the affected soil is generally limited to above the groundwater table, with the exception of TPH as gasoline in boring B-12 and TPH as diesel in boring B-3, which extend to at least 5 feet beneath the groundwater.

Based on the soil analytical data, it appears that approximately 1200 to 1600 cubic yards of soil in the vicinity of the excavation contains petroleum hydrocarbons at concentrations greater than 100 mg/kg. We recommend that this soil be excavated; the actual volume of soil to be removed may be different based on conditions encountered during excavation activities.

The preliminary extent of the excavation is based on the analytical data of the soil samples collected from the soil borings; the proposed extent of excavation is shown on Figure 3. A mobile laboratory will be onsite to analyze samples from the excavation to confirm that soil in excess of 100 mg/kg TPH has been removed. Excavated soil should be stockpiled on site and sampled for characterization for treatment and/or disposal.



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

Sincerely,

GEOMATRIX CONSULTANTS, INC.

Elizabeth K. Wells 486

Elizabeth K. Wells, P.E.

Project Engineer

EKW/SEG/lem CONTR/2026-10.TXT

Attachments

Sally E. Goodin R. G.

Sally E. Goodin, R.G. Senior Geologist

TABLE 1

# SOIL ANALYTICAL RESULTS<sup>1</sup>

Old Powerine Site Port of Oakland Oakland, California

Concentrations in milligrams per kilogram (mg/kg)

Boring No.	Depth (ft)	TPH as diesel	TPH as gasoline	Benzene	Toluene	Ethyl- benzene	Total Xylenes²
B-1	1.0	<5	<0.3	< 0.005	< 0.005	< 0.005	< 0.01
	5.0	<20	13	0.086	0.094	0.014	0.076
	10.0	<1	< 0.3	< 0.005	< 0.005	< 0.005	< 0.01
B-2	2.5	<1	25	0.074	0.082	0.081	0.145
	5.0	<1	< 0.3	< 0.005	< 0.005	< 0.005	< 0.01
	10.0	<1	< 0.3	< 0.005	< 0.005	< 0.005	< 0.01
B-3	1.5	<100	82	< 0.005	0.036	0.17	0.034
	5.0	<1	< 0.3	< 0.005	< 0.005	< 0.005	< 0.01
	10.0	210	<3.0	< 0.005	< 0.005	< 0.005	< 0.01
B-4	1.5	<1	0.8	< 0.005	0.01	0.005	0.018
and	7.0	<1	3.5	0.016	0.02	< 0.005	0.019
B-4A	11.0	<1	< 0.3	< 0.005	< 0.005	< 0.005	< 0.01
B-5	3.5	<40	490	< 0.005	2.2	0.68	41
	7.0	<1	0.7	0.057	0.005	< 0.005	0.008
B-6	3.0	<1	< 0.3	< 0.005	< 0.005	< 0.005	< 0.01
	6.5	2	1.8	0.062	0.017	< 0.005	0.009
	11.5	<1	< 0.3	< 0.005	< 0.005	< 0.005	< 0.01

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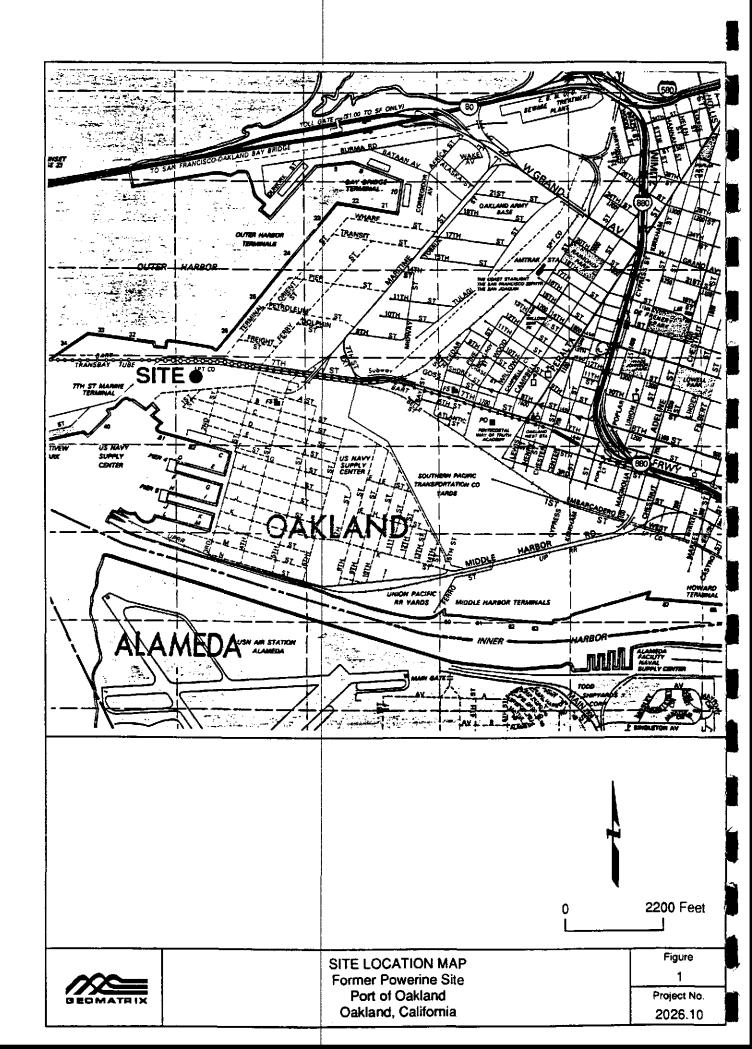
Page 1 of 2

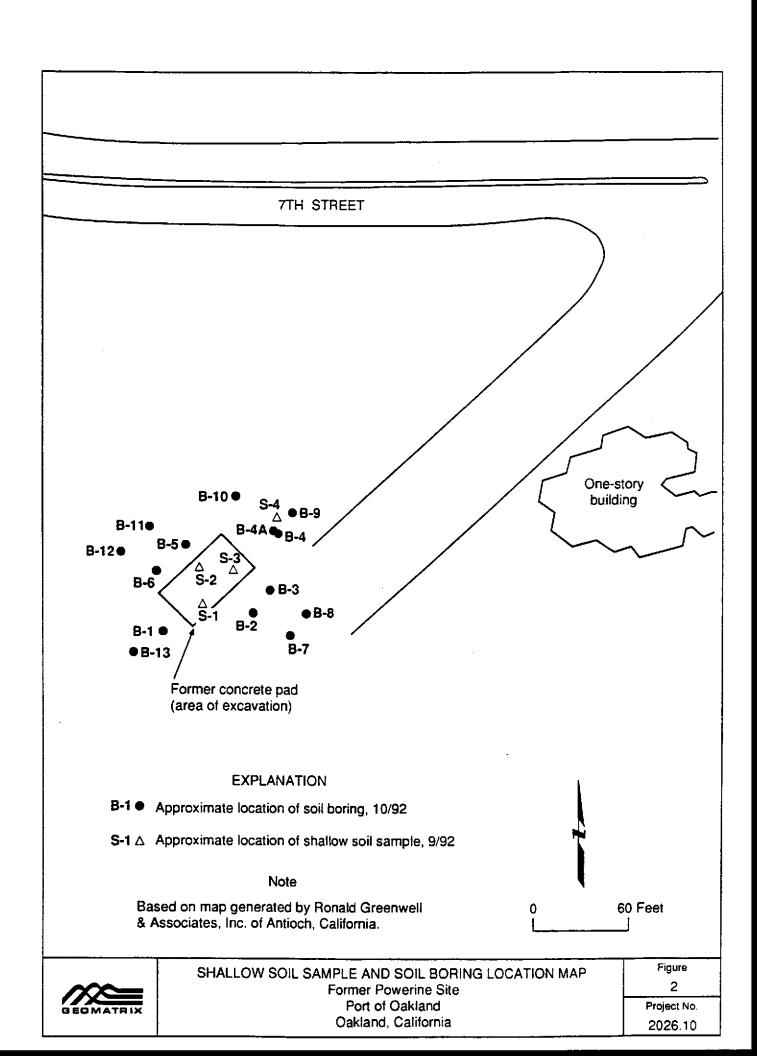
Concentrations in milligrams per kilogram (mg/kg)

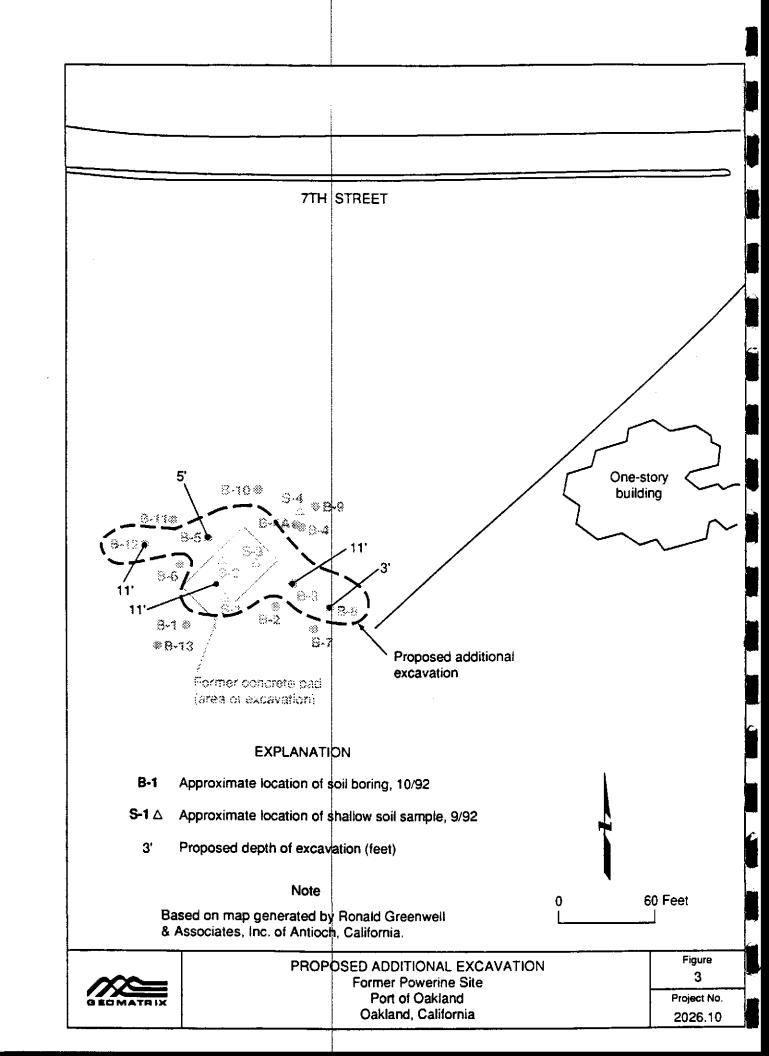
Boring No.	Depth (ft)	TPH as diesel	TPH as gasoline	Benzene	Toluene	Ethyl- benzene	Total Xylenes²
B-7	5.5	<1	< 0.3	< 0.005	< 0.005	< 0.005	<0.01
B-8	1.0	<200	200	<0.005	0.044	0.015	0.051
	5.5	<1	0.4	<0.005	<0.005	<0.005	0.005
	10.0	<1	0.4	<0.005	<0.005	<0.005	<0.01
B-9	6.5	<1	< 0.3	< 0.005	< 0.005	< 0.005	< 0.01
B-10	1.0	<1	<0.3	<0.005	<0.005	<0.005	<0.01
	5.5	<1	1	0.088	0.01	0.029	0.101
B-11	5.5	<1	0.6	0.075	< 0.005	< 0.005	< 0.01
B-12	1.0	<60	18	<0.1	0.1	<0.1	0.4
	5.5	<400	230	0.52	8.3	2.7	20.4
	10.0	<50	120	0.38	3.8	1.9	11.8
B-13	2.5	<20	1.7	0.010	0.020	<0.005	0.021
	7.0	<5	<0.3	<0.005	<0.005	<0.005	<0.01

Soil samples collected by Geomatrix Consultants, Inc. on 21 and 22 October 1992 and analyzed by Clayton Environmental Consultants of Pleasanton, California for total petroleum hydrocarbons (TPH) as diesel by EPA Method 8015, TPH as gasoline by EPA Method 8015, and benzene, ethylbenzene, and xylenes by EPA Method 8020.

Total xylenes reported as the sum of p,m-xylene and o-xylene; detection limits also reported as the sum of p,m-xylene and o-xylene detection limits.







### ATTACHMENT A

CHAIN-OF-CUSTODY RECORD AND ANALTYICAL LABORATORY REPORT FOR SHALLOW SOIL SAMPLES

#### Results of Analysis for Geometrix Consultants/ Port of Oakland

Client Reference: 2025.06 Clayton Project No. 92092.94

Sample Matrix/Media: SOIL

Preparation Method: EPA 3550 Analysis Method:

EPA 8015

Date Received: 09/25/92

Date Prepared: 09/28/92 Date Analyzed: 09/28/92

Lab Number	Sample Identification	Date Sampled	Diesel (mg/kg)	Dataction Limit (mg/kg)
34X 35X 36X	COMP. S-1,S-2,S-3 S-4 METHOD BLANK	09/25/92 09/25/92	430 ND ND	1 200a 1

Œ Not detected at or above limit of detection Not detected at or above limit of detection (

Information not available or not applicable

lesults are reported on a wet weight basis, as received Detection limit increased due to presence of gasoline

	Cha	in-of-Cust	ody	Re	COI	ď				No	<del></del>	14	40	)		_			Date	. 4	<b>1</b>	2.5	-9	.7.	<b>D</b>	90 L	ol	7
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# ATTACHMENT B SOIL BORING PERMIT



APPLICANTS SIGNATURE

### **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	FOR OFFICE USE
LOGATION OF PROJECT 2801 745 Street  OLKIAN CA.	PERMIT NUMBER 92520 LOCATION NUMBER
CLIENT  Name Port of Dakland  Address 530 Water St. Phone (51.) 484 272-118  City Dakland Zip 94604  APPLICANT  Name James H. Abits  Schmatinia Consultant I. Tone  Address 1.0. C. Consultant I. Tone  Address 1.0. C.	A. QENERAL  1. A permit application should be submitted so as to strive at the submitted so as as the
Address In Pion St. In Phone (115) 434-9400  City See Free 16 Zip 94111  TYPE OF PROJECT  Well Construction General General Water Supply Contamination Well Destruction  PROPOSED WATER SUPPLY WELL USE	Zone 7 office five days prior to proposed starting date.  2. Submit to Zone 7 within 60 days after completion of permitte work the original Department of Water Resources Water We Dritlere Report or equivalent for well Projects, or drilling logs and location skatch for geotechnical projects.  3. Permit is void if project not begun within 90 days of approve date.  8. WATER WELLS, INCLUDING PIEZOMETERS  1. Minimum surface seal thickness is two inches of cament gro
Domestic Industrial Other  Municipal Irrigation  DRILLING METHOD:  Mud Rotary Air Rotary Auger Cable Other	placed by trends.  2. Minimum seal depth is 50 feet for municipal and industrial was or 20 feet for demestic 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
DRILLER'S LICENSE NO. 554 179	areas of known or suspected contemination, transled cement grout shall be used in place of compacted outlings.
WELL PROJECTS  Drill Hole Diameter in. Maximum Casing Diameter in. Depth ft. Surface Seal Depth tt. Number	D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.  E. WELL DESTRUCTION. See estached.
GEOTECHNICAL PROJECTS  Number of Borings /p - / 5 Meximum  Hole Diameter 4-9 in. Depth /6 ft.	
ESTIMATED STARTING DATE  1. 1 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2	Marine
i hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.	Approved Tong Date 16 Oct

#### ATTACHMENT C

CHAIN-OF-CUSTODY RECORDS AND ANALYTICAL LABORATORY REPORTS FOR SOIL BORING SAMPLES 1252 Quarry Lane P.O. Box 9019 Pleasanton. CA 94566 (510) 426-2600 Fax (510) 426-0106 Clayton ENVIRONMENTAL CONSULTANTS

October 23, 1992

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

> Client Ref. 2026.10 Clayton Project No. 92102.15

Dear Ms. Wells:

Attached is our analytical laboratory report for the samples received on October 20, 1992. 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

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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.15

Analyte	C	re #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline				
Benzene	71-	43-2	ND	0.005
Toluene		-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	105	50 - 150

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#### Results of Analysis for Geomatrix Consultants/ Port of Cakland

Client Reference: 2026.10 Clayton Project No. 92102.15

Sample Identification: B-1-5.0 Date Sampled: 10/20/92 Lab Number: 9210215-05A Date Received: 10/20/92 Sample Matrix/Media: SOIL Date Prepared: 10/20/92 Preparation Method: EPA 5030 Date Analyzed: 10/21/92 Analytical Method: EPA 8015/8020

CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
		<del></del> -
71-43-2 108-88-3 100-41-4  95-47-6	0.086 0.094 0.014 0.056 0.020	0.005 0.005 0.005 0.005 0.005
	Recovery (%)	QC Limits (%) LCL UCL
	71-43-2 108-88-3 100-41-4	71-43-2 0.086 108-88-3 0.094 100-41-4 0.014 0.056 95-47-6 0.020 13 a

a Purgeable hydrocarbons quantitated as gasoline do not match typical gasoline pattern

Page 7 of 23

\_LCL

UCL

50 - 150

Recovery (%)

104

#### Results of Analysis for Geomatrix Consultants/ Fort of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.15

Sample Identification: Lab Number: Sample Matrix/Media: Preparation Method: Analytical Method:	B-1-10 9210215-06A SOIL EPA 5030 EPA 8015/8020		Date Sampled: Date Received: Date Prepared: Date Analyzed:	10/20/92 10/20/92 10/20/92 10/21/92
Analyte	C	s #	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
			oc	Limita (4)

98-08-8

Sample Identification: B-1-10

Surrogates

a,a,a-Trifluorotoluene

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

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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.15

Sample Identification: B-3-1.5 Date Sampled: 10/20/92 Lab Number: 9210215-01A Date Received: 10/20/92 Sample Matrix/Media: SOIL Date Prepared: 10/20/92 EPA 5030 Preparation Method: Date Analyzed: 10/21/92 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	0.036	0.005
Ethylbenzene	100-41-4	0.17	0.005
p,m-Xylenes		0.014	0.005
o-Xylene	95-47-6	0.020	0.005
Gasoline	**	82 a	0.3
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
a,a,a-Trifluorotoluene	98-08-8	135	50 - 150

a Purgeable hydrocarbons quantitated as gasoline do not match typical gasoline pattern

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### Results of Analysis for Geomatrix Consultants/ Port of Cakland

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Client Reference: 2026.10 Clayton Project No. 92102.15

Sample Identification: B-3-5.0 Date Sampled: 10/20/92 Lab Number: 9210215-03A Date Received: 10/20/92 Sample Matrix/Media: SOIL Date Prepared: 10/20/92 Preparation Method: EPA 5030 Date Analyzed: 10/21/92 Analytical Method: EPA 8015/8020

Analyte	CA:	5 #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline				
Benzena	71-4	43-2	ND	0.005
Toluene	108-		מא	0.005
Ethylbenzene	100-		ND	0.005
p,m-Xylenes			ND	0.005
o-Xylana	95-	47-6	ND	0.005
Gasoline			ND	0.3
Surrogates			Recovery (%)	QC Limits (%) LCL UCL
a,a,a-Trifluorotoluene	98-0	8~8	108	50 - 150

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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.15

Sample Identification: B-3-10 Date Sampled: 10/20/92 Lab Number: 9210215-02A 10/20/92 Date Received: Sample Matrix/Media: SOIL Date Prepared: 10/20/92 Preparation Method: EPA 5030 Date Analyzed: 10/21/92 Analytical Method: EPA 8015/8020

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzena	71-43-2	ND	0.005
Toluene	108-86-3	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	3 a
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
a,a,a-Trifluorotoluene	98-08-8	105	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 limit increased due to presence of heavier hydrocarbons

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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2025.10 Clayton Project No. 92102.15

Sample Identification: Lab Number: Sample Matrix/Media: Preparation Method: Analytical Method:	B-4-1.5 9210215-08A SOIL EPA 5030 EPA 8015/8020		Date Sampled Date Receive Date Prepare Date Analyse	d: 10/20/92 d: 10/20/92
Analyte	CA	#	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline	<del></del>	_		
Benzene	71-4	3-2	ND	0.005
Toluene	108-8	8-3	0.010	0.005
Ethylbenzene	100-4	1-4	0.005	0.005
p,m-Xylanes			0.008	0.005
o-Xylene	95-4	7-6	0.010	0.005
Gasoline			0.8*	0.3
Surrogates			Recovery (1)	QC Limits (%) LCL UCL
a,a,a-Trifluorotolue	ne 98-0	8-8	108	50 - 150

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 Purgeable hydrocarbons quantitated as gasoline do not match typical gasoline pattern

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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.15

Sample Identification: B-4A-7.0 Date Sampled: 10/20/92 Lab Number: 9210215-07A Date Received: 10/20/92 Sample Matrix/Media: SOIL Date Prepared: 10/20/92 Preparation Method: **EPA 5030** Date Analyzed: 10/21/92 Analytical Method: EPA 8015/8020

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			· · · · · · · · · · · · · · · · · · ·
Benzene Toluene Ethylbenzene p,m-Xylenes o-Xylene Gasoline	71-43-2 108-88-3 100-41-4  95-47-6	0.016 0.020 ND 0.014 0.005 3.5 a	0.005 0.005 0.005 0.005 0.005
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
a,a,a-Trifluorotoluene	98-08-8	105	50 - 150

a Purgeable hydrocarbons quantitated as gasoline do not match typical gasoline pattern

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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.15

Sample Identification: Lab Number: Sample Matrix/Media: Preparation Method: Analytical Method:	B-4-11.5 9210215-09A SOIL EPA 5030 EPA 8015/8020		Date Sampled Date Receive Date Prepare Date Analyze	d: 10/20/92 d: 10/20/92
inalyte	CA	S #	Concentration (mg/kg)	Limit of Detection (mg/kg)
3TEX/Gasoline	-			
Benzens Toluene Ethylbenzens p,m-Xylenes o-Xylene Gasoline	108- 100-		ND ND ND ND ND	0.005 0.005 0.005 0.005 0.005
Surrogates			Recovery (%)	QC Limits (%) LCL UCL
a,a,a-Trifluorotoluer	19 98-	8-8	105	50 - 150

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

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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.15

Sample Identification: B-6-3 Date Sampled: 10/20/92 Lab Number: 9210215-10A Date Received: 10/20/92 Sample Matrix/Media: SOIL Date Prepared: 10/20/92 Preparation Method: EPA 5030 Date Analyzed: 10/21/92 Analytical Method: EPA 8015/8020

Analyte	CAS #	Condentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline		·	
Benzene Toluene Ethylbenzene p,m-Xylenes o-Xylene Gasoline	71-43-2 108-88-3 100-41-4  95-47-6	ND ND ND ND ND	0.005 0.005 0.005 0.005 0.005
Surrogates		Recovery (1)	QC Limits (%) LCL UCL
a,a,a-Trifluorotoluene	98-08-8	104	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

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#### Results of Analysis for Geomatrix Consultants/ Port of Cakland

Client Reference: 2026.10 Clayton Project No. 92102.15

Sample Identification: Lab Number: Sample Matrix/Media: Preparation Method: inalytical Method:	B-6-6.5 9210215-11A SOIL EPA 5030 EPA 8015/8020		Date Sampled Date Received Date Prepared Date Analyzed	d: 10/20/92 d: 10/20/92
Analyte	CAS	#	Concentration (mg/kg)	Limit of Detection (mg/kg)
MTEX/Gasoline				
Benzene	71-4	3-2	0.062	0.005
Toluene	108-8		0.017	0.005
Ethylbenzene	100-4	1-4	ND	0.005
p,m-Xylenes			0.009	0.005
o-Xylans	95-4	7-6	ND	0.005
Gasolina			1.8	0.3
Surrogates			Recovery (%)	C Limits (%) LCL UCL
a,a,a-Trifluorotoluer	98-0	8-8	118	50 - 150

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Cakland

Client Reference: 2026.10 Clayton Project No. 92102.15

Sample Identification: B-6-11.5 Date Sampled: 10/20/92 Lab Number: 9210215-12A Date Received: 10/20/92 Sample Matrix/Media: SOIL Date Prepared: 10/20/92 Preparation Method: EPA 5030 Date Analyzed: 10/21/92 Analytical Method: EPA 8015/8020

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
3TEX/Gasoline			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	מא	0.005 0.005
Ethylbenzene	100-41-4	ND	0.005
p,m-Xylenes	***	מא	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline		ND	0.3
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
a,a,a-Trifluorotoluena	98-08-8	105	50 - 150

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

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### Results of Analysis for

Geometrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.15

Sample Identification: B-9-6.5 Date Sampled: 10/20/92 Lab Number: 9210215-15A Date Received: 10/20/92 Sample Matrix/Media: SOIL Date Prepared: 10/20/92 Preparation Method: EPA 5030 Date Analyzed: 10/21/92 Analytical Method: EPA 8015/802p

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene Toluene Ethylbenzene p.m-Xylenes o-Xylene Gasoline	71-43-2 108-88-3 100-41-4  95-47-6	ND ND ND ND	0.005 0.005 0.005 0.005 0.005
Surrogates a,a,a-Trifluorotoluene	98-08-8	Recovery (%)	QC Limits (%) LCL UCL 50 - 150

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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.15

Sample Identification: B-2-2.5 Date Sampled: 10/20/92 Lab Number: 9210215-16A Date Received: 10/20/92 Sample Matrix/Media: LIDS Date Prepared: 10/20/92 Preparation Method: EPA 5030 Date Analyzed: 10/21/92 Analytical Method: EPA 8015/8020

Analyte	CAS #	Concentration (mg/kg)	Limit of Dataction (mg/kg)
HTEX/Gasoline			
Benzene Toluene Ethylbenzene p.m-Xylenes o-Xylene Gasoline	71-43-2 108-88-3 100-41-4  95-47-6	0.074 0.082 0.081 0.067 0.078 25	0.005 0.005 0.005 0.005 0.005
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
a,a,a-Trifluorotoluene	98-08-8	117	50 - 150

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

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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.15

Sample Identification: B-2-5.0 Date Sampled: 10/20/92 Lab Number: 9210215-17A Date Received: 10/20/92 Sample Matrix/Media: SOIL Date Prepared: 10/20/92 Preparation Method: EPA 5030 Date Analyzed: 10/21/92 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-Kylenes		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	106	50 - 150

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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.15

Sample Identification: B-2-10.0 Date Sampled: 10/20/92 Lab Number: 9210215-18A Date Received: 10/20/92 Sample Matrix/Media: SOIL Date Prepared: 10/20/92 Preparation Method: **EPA 5030** Date Analyzed: 10/22/92 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	סע	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 Limita (%) LCL UCL
a,a,a-Trifluorotoluene	98-08-8	105	50 - 150

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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.15

Sample Identification: B-5-3.5 Date Sampled: 10/20/92 Lab Number: 9210215-19A Date Received: 10/20/92 Sample Matrix/Media: SOIL Date Prepared: 10/20/92 Preparation Method: EPA 5030 Date Analyzed: 10/21/92 Analytical Method: EPA 8015/8020

Analyte	C	LS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline				
Benzene	71.	43-2	ND	0.05
Toluene		88-3	2.2	0.05
Ethylbenzene		41-4	0.68	0.05
p,m-Xylenes			27	0.05
o-Xylene	95-	47-6	14	0.05
Gasoline			490a	3
Surrogates			Recovery (1)	QC Limits (%) LCL UCL
a,a,a-Trifluorotoluene	98-	08-8	94	50 - 150

a Sample appears to be weathered gasoline

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#### Results of Analysis for Geomatrix Consultants/ Fort of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.15

Sample Identification: B-5-7.0 Date Sampled: Lab Number: 10/20/92 9210215-20A Date Received: Sample Matrix/Media: 10/20/92 SOIL Date Prepared: Preparation Method: 10/20/92 EPA 5030 Date Analyzed: 10/22/92 Analytical Method: EPA 8015/8020

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene Toluene Ethylbenzene p,m-Xylenes o-Xylene Gasoline	71-43-2 108-88-3 100-41-4  95-47-6	0.057 0.005 ND 0.008 ND 0.7	0.005 0.005 0.005 0.005 0.005
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
a,a,a-Trifluorotoluene	98-08-8	109	50 - 150



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### Results of Analysis Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.15

		· · · - · -		
Sample Identification: Lab Number: Sample Matrix/Media: Preparation Method: Analytical Method:	B-10-1.0 9210215-21A SOIL EPA 5030 EPA 8015/8020	Mindales . "	Date Sampled: Date Received Date Prepared Date Analyzed	10/20/92 1: 10/20/92
Analyte	CAS	#	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline				
Benzene Toluene Ethylbenzene p,m-Xylenes o-Xylene Gasoline	71-4 108-8 100-4 95-4	8-3 1-4	ND ND ND ND ND	0.005 0.005 0.005 0.005 0.005
<u>Surrogates</u> a,a,a-Trifluorotoluen	98-0	8-8	Recovery (%)	Limits (%) LCL UCL 50 - 150

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

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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.15

Sample Identification: B-10-5.5 Date Sampled: Lab Number: 10/20/92 9210215-22A Date Received: Sample Matrix/Media: 10/20/92 SOIL Date Prepared: Preparation Method: 10/20/92 EPA 5030 Date Analyzed: Analytical Method: 10/21/92 EPA 8015/8020

Analyte	CAs #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene Toluene Ethylbenzene p,m-Xylenes o-Xylene Gasoline	71-43-2 108-88-3 100-41-4  95-47-6	0.088 0.010 0.029 0.071 0.030	0.005 0.005 0.005 0.005 0.005
Surrogates		Recovery (4)	QC Limits (%) LCL UCL
a,a,a-Trifluorotoluene	98-08-8	110	50 - 150



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.15

Sample Identification: METHOD BLANK Lab Number: 9210215~23A Sample Matrix/Media: SOIL

Preparation Method: EPA 5030 Analytical Method:

EPA 8015/8020

Date Sampled: Date Received:

Date Prepared: 10/20/92 Date Analyzed: 10/21/92

Analyte	CAS	#	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasolina				
Benzene Toluene Ethylbenzene p,m-Xylenes o-Xylene Gasoline	71-4 108-8 100-4 95-4	8-3 1-4	ND ND ND ND	0.005 0.005 0.005 0.005 0.005
Surrogates			Recovery (%)	QC Limits (%) LCL UCL
a,a,a-Trifluorotoluene	98-0	8-8	112	50 - 150

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#### Results of Analysis for Geomatrix Consultants/ Port of Cakland

Client Reference: 2026.10 Clayton Project No. 92102.15

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

Date Received: 10/20/92 Date Prepared: 10/20/92 Date Analyzed: 10/21/92

Lab Number	Sample Identification	Date Sampled	Diesel (mg/kg)	Detection Limit (mg/kg)
<b>31A</b>	B+3-1.5	10/20/02		
)2A	B-3-10	10/20/92	ND*	100a
)3 <b>A</b>	B-3-5.0	10/20/92	2105 *	1
14A	B-1-1.0	10/20/92	ND*	1
)5A	B-1-5.0	10/20/92	ND*	5a
)6A	B-1-10	10/20/92	ND *	20a
)7A	B-4A-7.0	10/20/92	ND*	
182	B-4-1.5	10/20/92	ND	ī
19A	B-4-11.5	10/20/92	ND	ī
.OA	B-6-3	10/20/92	ND	- 1
.13	B-6-6.5	10/20/92	ND★	<u> </u>
21	B-6-11.5	10/20/92	24	1
5A	B-9-6.5	10/20/92	ND	•
6A		10/20/92	ND	•
7 <b>A</b>	B-2-2.5	10/20/92	ND*	•
	B-2-5.0	10/20/92	ND*	4
8A	B-2-10.0	10/20/92	ND*	Ţ
9 <b>λ</b>	B-5-3.5	10/20/92	ND	1
0 <b>λ</b>	B-5-7.0	10/20/92		40c
13	B-10-1.0	10/20/92	ND.	1
2 <b>λ</b>	B-10-5.5	10/20/92	ND*	1
	METHOD BLANK		nd Nd	1

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

Heavier hydrocarbons present

esults are reported on a wet weight basis, as received Detection limit increased due to presence of heavier hydrocarbons The hydrocarbons detected in this sample appears to be intermediate between dissel and motor oil: quantitation was based on dissel standards Detection limit increased due to presence of gasoline

	Chain-of-Custody Record							$\Gamma$	Nº 3215 Date:							10/20/92 Page of 2									
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# ENVIRONMENTAL CONSULTANTS

## REQUEST FOR LABORATORY ANALYTICAL SERVICES

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



October 26, 1992

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

> Client Ref. 2026.10 Clayton Project No. 92102.34

Dear Ms. Wells:

Attached is our analytical laboratory report for the samples received on October 21, 1992. 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

lichael Lynch to

Western Operations

RHP/caa Attachments



Page 2 of 13

#### Results of Analysis for

Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.34

Sample Identification: B-11-5.5 Date Sampled: 10/21/92 Lab Number: 9210234-03A Date Received: 10/21/92 Sample Matrix/Media: Date Prepared: 10/22/92 SOIL Preparation Method: EPA 5030 10/22/92 Date Analyzed: Analytical Method: EPA 8015/8020

CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
71-43-2	0.075	0.005
108-88-3	ND	0.005
100-41-4	ND	0.005
	ND	0.005
95-47-6	ND	0.005
	0.6a	0.3
		QC Limits (%)
	Recovery (%)	LCL UCL
98-08-8	108	50 - 150
	71-43-2 108-88-3 100-41-4  95-47-6	71-43-2 0.075 108-88-3 ND 100-41-4 ND ND 95-47-6 ND 0.6a  Recovery (%)

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 be weathered gasoline



Page 3 of 13

50 - 150

#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.34

Sample Identification: B-13-2.5 Date Sampled: 10/21/92 Lab Number: 9210234-05A Date Received: 10/21/92 Sample Matrix/Media: SOIL Date Prepared: 10/22/92 Preparation Method: EPA 5030 Date Analyzed: 10/22/92 Analytical Method: EPA 8015/8020

Limit of Concentration Detection Analyte CAS # (mg/kg) (mg/kg) BTEX/Gasoline Benzene 71-43-2 0.010 0.005 Toluene 0.005 0.020 108-88-3 Ethylbenzene 0.005 100-41-4 ND p,m-Xylenes 0.012 0.005 o-Xylene 95-47-6 0.009 0.005 Gasoline 1.7a 0.3 QC Limits (%) Surrogates LCL Recovery (%) UCL

98-08-8

119

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 be weathered gasoline

a,a,a-Trifluorotoluene



Page 4 of 13

#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.34

10/21/92 Sample Identification: B-13-7 Date Sampled: Date Received: 10/21/92 Lab Number: 9210234-06A 10/22/92 Date Prepared: Sample Matrix/Media: SOIL 10/22/92 Date Analyzed: Preparation Method: EPA 5030 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	\$5 <b>-</b> 47-6	ND	0.005
Gasoline		ND	0.3
			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
a,a,a-Trifluorotoluene	98-08-8	107	50 - 150

Page 5 of 13

#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.34

Sample Identification: B-8-1 Date Sampled: 10/21/92 Lab Number: 9210234-07A Date Received: 10/21/92 Sample Matrix/Media: 10/22/92 SOIL Date Prepared: Preparation Method: EPA 5030 Date Analyzed: 10/23/92 EPA 8015/8020 Analytical Method:

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Toluene	108-88-3	0.044	0.005
Ethylbenzene	100-41-4	0.015	0.005
p,m-Xylenes		0.023	0.005
o-Xylene	95-47-6	0.028	0.005
Gasoline		200 a	0.3
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
a,a,a-Trifluorotoluene	98-08-8	107	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 be weathered gasoline

Page 6 of 13

### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.34

Sample Identification: B-8-5.5
Lab Number: 9210234-08A Date Sampled: 10/21/92
Sample Matrix/Media: SOIL Date Prepared: 10/22/92
Preparation Method: EPA 5030 Date Analyzed: 10/23/92

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		0.005	0.005
o-Xylene	95-47-6	ND	0.005
Gasoline		0.4a	0.3
			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
a,a,a-Trifluorotoluene	98-08-8	101	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

Page 7 of 13

#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.34

Sample Identification: B-8-10 Date Sampled: 10/21/92 Lab Number: 9210234-09A Date Received: 10/21/92 10/22/92 Sample Matrix/Media: SOIL Date Prepared: Preparation Method: Date Analyzed: 10/22/92 EPA 5030 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		0.4a	0.3
Summarahaa		D (8.)	QC Limits (%)
<u>Surrogates</u>		Recovery (%)	rcr ncr
a,a,a-Trifluorotoluene	98-08-8	104	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



Page 8 of 13

### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.34

10/21/92 Sample Identification: B-7-5.5 Date Sampled: 10/21/92 Lab Number: 9210234-11A Date Received: Sample Matrix/Media: Date Prepared: 10/22/92 SOIL 10/22/92 Preparation Method: EPA 5030 Date Analyzed: 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
			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
a,a,a-Trifluorotoluene	98-08-8	106	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



Page 9 of 13

### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.34

10/21/92 Sample Identification: B-12-1 Date Sampled: Lab Number: 9210234-13A Date Received: 10/21/92 10/22/92 Sample Matrix/Media: SOIL Date Prepared: Preparation Method: EPA 5030 Date Analyzed: 10/22/92 Analytical Method: EPA 8015/8020

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.1
Toluene	108-88-3	0.1	0.1
Ethylbenzene	100-41-4	ND	0.1
p,m-Xylenes		0.2	0.1
o-Xylene	95-47-6	0.2	0.1
Gasoline		18 a	6
<u>Surrogates</u>		Recovery (%)	QC Limits (%) LCL UCL
a,a,a-Trifluorotoluene	98-08-8	104	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



Page 10 of 13

# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.34

Sample Identification: B-12-5.5 Date Sampled: 10/21/92 Lab Number: 9210234-14A Date Received: 10/21/92 10/22/92 Sample Matrix/Media: Date Prepared: SOIL EPA 5030 Preparation Method: 10/22/92 Date Analyzed: Analytical Method: EPA 8015/8020

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	0.52	0.005
Toluene	108-88-3	8.3	0.005
Ethylbenzene	100-41-4	2.7	0.005
p,m-Xylenes		14	0.005
o-Xylene	95-47-6	6.4	0.005
Gasoline		230 <sup>a</sup>	0.3
			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
a,a,a-Trifluorotoluene	98-08-8	144	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



Page 11 of 13

### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.34

10/21/92 Sample Identification: B-12-10 Date Sampled: Date Received: 10/21/92 Lab Number: 9210234-15A Sample Matrix/Media: SOIL Date Prepared: 10/22/92 10/23/92 Date Analyzed: Preparation Method: EPA 5030 Analytical Method: EPA 8015/8020

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline		, p. 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10	
Benzene	71-43-2	0.38	0.005
Toluene	108-88-3	3.8	0.005
Ethylbenzene	100-41-4	1.9	0.005
p,m-Xylenes		8.3	0.005
o-Xylene	95-47-6	3.5	0.005
Gasoline		120a	0.3
			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
a,a,a-Trifluorotoluene	98-08-8	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



of 13 Page 12

### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.34

Sample Identification: METHOD BLANK

Date Sampled:

Lab Number:

9210234-16A

Date Received:

Sample Matrix/Media: Preparation Method:

SOIL EPA 5030

10/22/92 Date Prepared: Date Analyzed: 10/22/92

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
			QC Limits (%)
<u>Surrogates</u>		Recovery (%)	LCL UCL
a,a,a-Trifluorotoluene	98-08-8	105	50 - 150

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



Page 13 of 13

### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92102.34

Sample Matrix/Media: SOIL Preparation Method: EPA 3550 Analysis Method: EPA 8015 Date Received: 10/21/92 Date Prepared: 10/22/92 Date Analyzed: 10/22/92

Lab Number	Sample Identification	Date Sampled	Diesel (mg/kg)	Detection Limit (mg/kg)
03A	B-11-5.5	10/21/92	ND	1
05A	B-13-2.5	10/21/92	ND *	20b
06A	B-13-7	10/21/92	ND *	5b
07A	B-8-1	10/21/92	ND	200a
08A	B-8-5.5	10/21/92	ND	1
09A	B-8-10	10/21/92	ND	1
11A	B-7-5.5	10/21/92	ND	1
13A	B-12-1	10/21/92	ND	60b
14A	B-12-5.5	10/21/92	ND	400a
15A	B-12-10	10/21/92	ND *	50b
16A	METHOD BLANK	<b></b>	ND	1

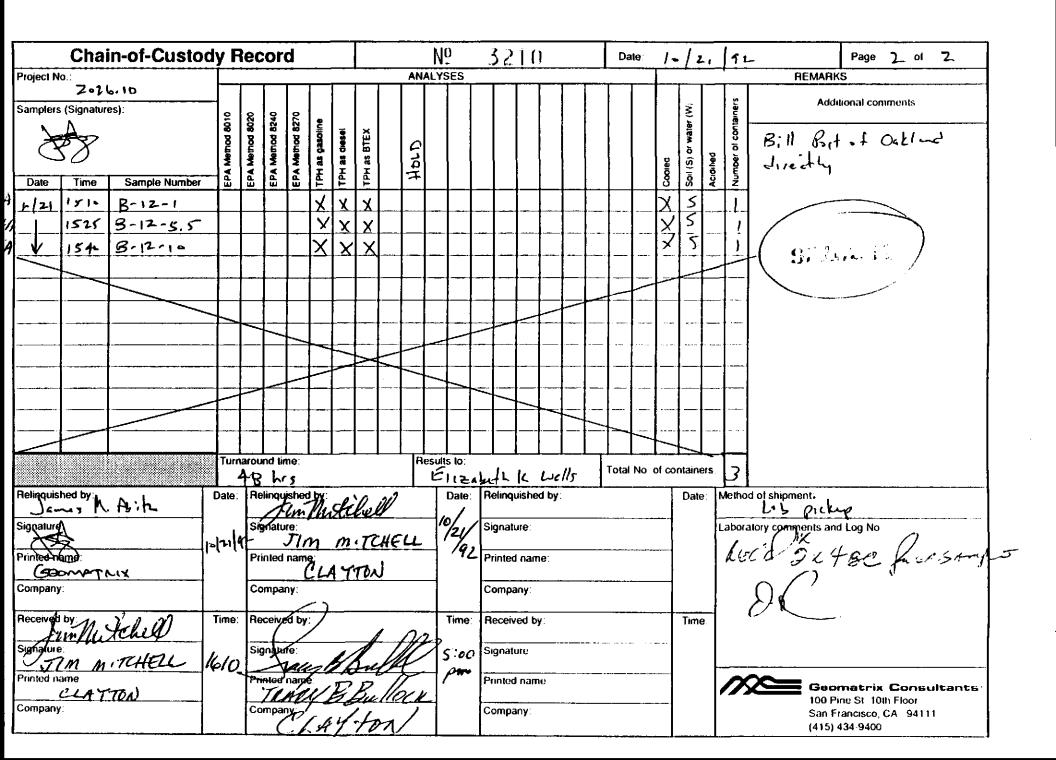
ND Not detected at or above limit of detection

- 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 lighter hydrocarbons
- b Detection limit increased due to presence of heavier hydrocarbons
- \* Sample was analyzed on 10/23/92

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ATTACHMENT D
LITHOLOGIC LOGS

PRO	FCT:	E C	DA4F	- D - D	OWEDINE SITE				
			rt of		OWERINE SITE and		Explanation		
BORII	NG LC	CA	TION:			ELEVATION AND DATUM:			
DRILL	ING C	ON	TRAC	TOR:		DATE STARTED:	DATE FINISHED:		
DRILL	ING A	ΛΕΥΊ	HOD:			TOTAL DEPTH:	MEASURING POINT:		
DRILL	ING E	QU	iPME!	NT:		DEPTH TO FIRST WATER	COMPL. 24 HRS.		
SAMP	LING	ME	THOD	):		LOGGED BY:			
HAMN	ÆR W	VEIG	SHT:		DROP:				
DEPTH (feet)		MPL ♀ I		PID (ppm)	DESCRIPTION				
S S	Sample No.	Samp	Blow	PID (	NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, or Surface Elevation:	emeritation, read. WHUI, geo. Inter.	REMARKS		
					OSHIBO EISTAILIST.				
-	1			1		-			
1-	1 1		:			-			
-	1				Sample collected for chemical analysis	-			
2-						-			
-						-			
3-						-			
		$\setminus$			Complete and the standard of t				
	]	$\setminus$			Sample collected for lithologic logging	-			
4-	1					-	1		
<b>-</b>	1					•			
5-	1	$\forall$				-	1		
-	-	X			No sample recovered	-	1		
6-		$\Box$				-	-		
-						-			
7-						ATD 모	Depth to first water		
′_						\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Deptit to thist water		
8-	1					•			
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14 -	<u> </u>	L	<u> </u>	<u> </u>			8-1-89/Modified		
					Geomatrix Consultants	Project No. 2026			

PROJ	ECT:			R Po	OWERINE SITE and	<del> </del>	Log of Bor	ing No. B-1
BORII	NG LC	CAT	TION:				ELEVATION AND DATUM:	
DRILL	ING C	ON.	TRAC	TOR:	West Hazmat Drilling Corporat	ion	DATE STARTED: 10/20/92	DATE FINISHED: 10/20/92
DRILL	ING N	/ETi	HOD:	Holk	ow stem auger	-	TOTAL DEPTH: 10.0'	MEASURING POINT: Ground surface
DRILL	ING E	QUI	IPME!	NT: C	ME 75 - 6" O.D. auger	-	DEPTH TO FIRST WATER 5.0'	COMPL. 24 HRS
SAMF	LING	ME	THOD	: 18"	'x 2 1/2" O. D. split spoon	-	LOGGED BY: J. M. Abitz	<u> </u>
HAM	VER V	VEIG	HT:	140 I	bs. DROP: 30"			
DEPTH (feet)		MPL 유		PIO (ppm)		ESCRIPTION	w/JCl nec oter	DEMARKS
三	Sample No.	Ѕатр	Blows/ Foot	GE	NAME (USCS Symbol): color, moist, % by wt.,	Elevation:	Brigilitin, reads, winds, geo. into	REMARKS
_					Asphalt and base rock		_	
1-	B-1							
2-	-	X	33		SAND (SP) Grayish brown (10YR 5/2) fines, trace gravel [FILL]	moist, 95% med	ium sand, 5%	
3-			34	49.9	CLAYEY SAND with GRA Very dark gray (2.5Y 3/0), 30% fine to coarse gravel,	moist, 50% fine to	o coarse sand,	
4 - 5 -	B-1 5	X	12	23.91			ATD 🛂 -	
6.			11	7.7			-	
8		$\bigvee$	19	1.5			-	Stone in shoe
9	B-1		7	8.3	SAND (SC) Dark olive gray (5Y 3/2), v fines, shell fragments (FIL		sand, 5%	
	"				Bottom of boring at 10.0 f	eet	-	
11							] -	
12							-	
13	-			!				
	-						-	
14				1	Geometriy Consultants		Project No. 2026	8-1-89-Modified

B

PROJ	ECT:			ER P	OWERINE SITE	L	og of Bo	oring N	lo. B-2
BORII	NGIO						ON AND DATUM		· · · · · ·
					West Hazmat Drilling Corporation	DATE ST			NISHED:
						10/20/92 TOTAL D		_	RING POINT:
					ow stem auger	10.0' DEPTH T	O FIRST	Ground	surface 24 HRS.
<del></del>					CME 75 - 6" O.D. auger	WATER	BY: 5.5'	5'2'	
⊢—					" x 2 1/2" O. D. split spoon	J. M. Ab			
HAM					lbs.   DROP: 30"				·
DEPTH (feet)		MPI 물		PID (ppm)	DESCRIPTIO  NAME (USCS Symbol): color, moist, % by wt., plast., density,		w/HCl, geo. inter.		REMARKS
	Sample No.	Sam	Blows/ Foot	G.	Surface Elevation:				
_	1				Asphalt and base rock			1	
1 1-	-							1	
-					SAND (SP)	FO/ madii madaa	E0/	_	
2-	1				Grayish brown (10YR 5/2), moist, 9 fines [FILL]	5% medium sand	, 5%		
	]							1	
3-	B-2 2.5			25.7					
		$  \setminus  $	17						
4-									
		$\Lambda$			Shell fragments				
5	B-2		19	62.4					
] 3	5						ATD ▽	7	
	1						~~~=	7	•
6-	1		12	0.9	Sand with silt, dark gray (2.5Y 4/0	0), wet, 70% medi	um		
7	]	$\square$		0.9	sand, 30% fines			]	
	}	abla		0.9				]	
	]		10	0.3					
8	1	$  \  $						7	
Ι.	1	$\Gamma$		0.9				1	
9.	1			0.5	/ CLAY (CL)		$\overline{}$	1	
	B-2		13		Dark gray (2.5 4/0), wet, 95 - 100% sand, low plasticity, very soft [FILL]		٦		
10	10				Bottom of boring at 10.0 feet			7	
	1		]		3			7	
11.	1						ļ	1	
'	1							1	
12	1							1	
.	1							1	
13	1							4	
	+							-	
14	<u> </u>	<u> </u>	<u> </u>	<u> </u>					B-1-89/Modified
					Geomatrix Consultants		Project No. 20	26.10	Figure #

			R Po	OWERINE SITE	Lo	og of Bor	ing No. B-3
BORING LO	CAT	TION:			ELEVATION	ON AND DATUM:	
DRILLING C	ON	TRAC	TOR:	West Hazmat Drilling Corporation	DATE ST/ 10/20/92		DATE FINISHED: 10/20/92
DRILLING N	ΛΕΤί	HOD:	Holk	ow stem auger	TOTAL DI 10.0'	EPTH:	MEASURING POINT: Ground surface
DRILLING E	QU	IPMEI	NT: C	CME 75 - 6" O.D. auger	DEPTH TO WATER	5.5'	COMPL. 24 HRS. 5'2"
SAMPLING	ME.	THOD	: 18'	" x 2 1/2" O. D. split spoon	LOGGED J. M. Ab		
HAMMER W				lbs. DROP: 30"			
	Sample	Blows/ (7) Foot	PID (ppm)	DESCF NAME (USCS Symbol): color, moist, % by wt., plast., c	IIPTION iensity, structure, comentation, react.	.w/HCI, geo, inter.	REMARKS
о <u>"</u>	S	ă	ы	Surface Eleva	ation:		
-				Asphalt and base rock			
1-	$\forall$			SAND (SP)			
2-	Ż	90	10.2	Grayish brown (2.5Y 5/2), mois fines [FILL]	t, 95% medium sand,	5%	
B-3	Д			Color change to olive			
3 - 1.5	$\setminus$	20	35.7	•		-	
	$\setminus$			Clay (CH), olive brown (2.5Y	4/4), moist, 100% fine	es,	
4-			2.1	high plasticity, firm Shell frgaments			
5 - B-3	7	12				_	
	1					ATD 목 -	
6-	$\setminus$	6	0.3				
7-				SILT with SAND (ML) Dark gray (2.5Y 4/0), wet, 85	% fines. 15% medium	sand.	
-	$\setminus$	4	0.3	low plasticity, firm, shell fragi		-	
8-	$  \ $					-	
9-							
		5		CLAY (CL) Dark gray (2.5 4/0), wet, \$5 - 1		$,  \bigvee \downarrow \downarrow$	
10 - 10				sand, low plasticity, very soft [I Bottom of boring at 10.0 feet	-ILL]		,
11 -						-	
''						[]	
12-						-	
						] -	,
13 -							•
$\lfloor \rfloor$							
14				Geomatrix Consultants		Project No. 2026.	B-1-89/Modified  10 Figure #

PROJECT: FORMI Port of				Log of Bo	oring	No. B-4
BORING LOCATION:			ELE'	VATION AND DATUM	A:	
DRILLING CONTRAC	TOR:	West Hazmat Drilling Corporation	DAT	E STARTED: 20/92	DATE 10/20	FINISHED:
DRILLING METHOD:	Holl	ow stem auger		AL DEPTH:	MEAS	SURING POINT: nd surface
DRILLING EQUIPME	NT: (	CME 75 - 6" O.D. auger	DEP	TH TO FIRST	сом	
SAMPLING METHOD	): 5-f	oot continuous core	LOG	GED BY:	<u></u>	<u>· · · · · · · · · · · · · · · · · · · </u>
HAMMER WEIGHT:	140	bs. DROP: 30"	0.10	. , , , , , , , , , , , , , , , , , , ,		
(feet) Sample No. Sample Sample Blows/ Foot	PID (ppm)	DESCRIPT NAME (USCS Symbol): color, moist, % by wt., plast, density		, react, w/HCl, geo, inter.		REMARKS
	₹	Surface Elevation	:	······································		
		Asphalt and base rock				
1 - B-4 - 1.5	5.2	SAND (SP) Brown (10YR 5/3), moist, 95% me coarse gravel [FILL] Color change to olive (5Y 4/3)	dium sand, 5%	fines, trace	 	
		Shell fragments			4	
3 -					+	
1					1	
4					1	
5-					]	
		SILTY SAND (SM) Dark olive gray (5Y 3/1), wet, 80%	fine to modius	m cand		
6-		20% fines, shells [FILL]	Title to medial	n sanu,	-	
_ <del> </del>				ATD ▽	1	
7-				AID <u>x</u>	]	
8-						
9-					_	
					1	
10 -						
11 - 1						
B-4 11.5	3.4		· · · · · · · · · · · · · · · · · ·		4	
12-		Bottom of boring at 11.5 feet			4	
					-	
13 -					4	
					4	
14	<u> </u>		<del> </del>			B-1-89/Modified
<u> </u>		Geomatrix Consultants		Project No. 20:	26.10	Figure #

PROJ				R P	OWERINE SITE and		1		ng No. B-4A
BORIN	IG LO	CAT	ION:		- T- T- N-A		ELEVATION AN	ID DATUM:	
DRILL	ING C	ON.	TRAC	TOR:	West Hazmat Drilling Corpor	ation	DATE STARTE 10/20/92	D:	DATE FINISHED: 10/20/92
DRILL	ING N	ETH	IOD:	Holi	ow stem auger		TOTAL DEPTH 7.5'		MEASURING POINT: Ground surface
DRILL	ING E	QUI	PMEI	NT: (	CME 75 - 6" O.D. auger		DEPTH TO WATER	FIRST 7.0'	COMPL. 24 HRS. 4'10"
SAMP	LING	MET	HOD	: 18	x 2 1/2" O.D. split spoon		LOGGED BY: J. M. Abitz		
HAMN	ER W	/EIG	HT:	140	lbs. DROP: 30"				
DEPTH (feet)	_	Sample	Blows/ C	РІО (ррт)	NAME (USCS Symbol): color, moist, % by	DESCRIPTION et., plast., density, structure, cen	nentation, read, w/HCl,	gea. Inter.	REMARKS
	Sa.	Sa	품뜨	đ.	Surf	ace Elevation:			· · · · · · · · · · · · · · · · · · ·
_					Asphalt and base rock				
1- - 2-					SAND (SP) Olive (5Y 4/3), moist, 95 [FILL]	% medium sand, 5	% fines, shells		
3-		 							
4-									
5-									
6-		\\							
7-	B-4A 7	1	9	4.0	Color change to dark	olive gray (5Y 3/2)	Α	TD 🛂 -	
8-					Bottom of boring at 7.5	feet		-	
9-								-	
10 -				İ					
44									
11 -									
12-	-								
.	1							-	
13 -	1							14	
.	1							] -	
14 -	1			<u> </u>					8-1-89/Modified
1					Geomatrix Consultan	ts	Proje	ect No. 2026.1	10 Figure #

PROJ		FOR Port			OWERINE SITE		Log of B	ori	ng No. B-5
BORII	NG LO	CATIC	ON:				ELEVATION AND DATU	M:	· · · · · · · · · · · · · · · · · · ·
DRILL	ING C	ONTE	RAC	TOR:	West Hazmat Drilling Corporat	ion	DATE STARTED: 10/20/92		DATE FINISHED: 10/20/92
<u> </u>					ow stem auger		TOTAL DEPTH: 7.0'		MEASURING POINT: Ground surface
					ME 75 - 6" O.D. auger		DEPTH TO FIRST	<del>,  </del>	COMPL. 24 HRS. 5'10"
<b>—</b>					x 2 1/2" O. D. split spoon		WATER 7.0 LOGGED BY: J. M. Abitz	اـــــــــــــــــــــــــــــــــــــ	310
<u> </u>	/ER W				. ,		J. W. ADIZ		
Εp		APLES	_	Ê		ESCRIPTION	<u></u>		
DEPTH (feet)	Sample No.	Sample Blows/	Fo	PID (ppm)	NAME (USCS Symbol): color, moist, % by wt.,		entation, react. w/HCl, geo. inter.	_	REMARKS
	S	S I W		_		Elevation:		+	
_	]				SAND with SILT and GRA		o to general		
		}	İ		Very dark brown (10YR 2/				
1-	1	abla			sand, 20% fine to coarse of	graver, 10% lines [	[FILL]	17	
-	1 k	<del>(-</del>		ĺ				1 -	
2-	] ]	VΙ.	_	1					
-	1 /	$\langle \backslash   \rangle$	70					11	
-	1 1	$\Box$						ļ٦	
3-	<b>-</b> [		ļ	ł				1 -	
_	B-5	1 5	50	918	SAND (SP)	1° 4 P	***		
١.		V	- 1		Olive (5Y 4/4), moist, 80%	medium sand, 15	% coarse		
4-	1 1				gravel, 5% fines [FILL]			7	
-	1	$\setminus \bot$							
5-	4	M	18	69.4	Color change to dark gra	ay (5Y 4/1)			
	]	V			<b>\psi</b>				
	7 N	$\overline{}$							
6-	1	$\setminus \mid \cdot \mid$							
] -	B-5	\  ₁	19	139.5					
7-	7		.				ATD 🗸		
'	] [				Bottom of boring at 7.0 fee	 et	<del>-</del>		
•	1 1				3				
8-	<b>↓</b>								
.	]								
9-	†								
.	-							-	
10	]								
10									
1	1 1							+	
11	-							4	
1 .	]								
12	┥				•				
.	-							-	
13	<b>」</b> │								
"									
'	┥ [							1	
14	1 1								B-1-89/Modified
					Geomatrix Consultants		Project No. 2	026.1	

PROJ	ECT:		RME rt of		OWERINE SITE and	<b>!</b>	Log	of Bor	ing No. B-6
BORIN	IG LC	DCA.	TION:			:	ELEVATION A	ND DATUM:	
DRILL	ING (	CON	TRAC	TOR:	West Hazmat Drilling Corporation	n	DATE STARTE 10/20/92	D:	DATE FINISHED: 10/20/92
DRILL	ING I	WET	HOD:	Holl	ow stem auger		TOTAL DEPTH	1:	MEASURING POINT: Ground surface
DRILL	ING E	EQU	IPME	NT: (	CME 75 - 6" O.D. auger		DEPTH TO WATER	FIRST 7.0'	COMPL. 24 HRS. 5'8"
SAMP	UNG	ME	THOD	: 18'	" x 2 1/2" O. D. split spoon		LOGGED BY: J. M. Abitz		
HAMN	AER V	WEIG	BHT:	140	lbs. DROP: 30"				
DEPTH (feet)	Sample No.	MP!	Blows/ Foot	PID (ppm)	DE NAME (USCS Symbol): color, moist, % by wt., p	SCRIPTION ast., density, structure, cem	entation, react, w/HCl	. geo, inter.	REMARKS
	S	Š	- E	<u>-</u>		Elevation:			
1-			27		SAND with SILT and GRAN Very dark brown (10YR 2/2 sand, 20% fine to coarse g	), moist, 70% fine		-	
-				_				-	
3-	B-6 3	7	74	0.9	SAND (SP)		· · · ·		
4-		$\square$			Light ofive brown (2.5Y 5/4 5% fines [FILL]	), moist, 95% me	dium sand,		
5-		$\left  \right $	27	10.8	Color change to olive (5)	( 4/4)			
6-	1	<u> </u>			Color change to dark gra	y (5Y 4/1), shell t	fragments		
"-	B-6 6.5		12	6.7	1			-	
7-		-					,	ATD 🖾	
8-			12	5.2				-	
9-		$\setminus$	12	1.5					
10 -				1.5	SILTY SAND (SM) Dark gray (5Y 4/1), 70% fit	ne sand, 30% fine	es [FILL]	-	
11 -	B-6 11.5		6	2.6					
12					Bottom of boring at 11.5 fe	et			
13	1							-	
14					Geomatrix Consultants		Proj	ject No. 2026	B-1-89/Mod/lied

BORING LOCATION: —  DRILLING CONTRACTOR: West Hazmat Drilling Corporation  DATE STARTED  10/21/92  DRILLING METHOD. Hollow stern auger  DRILLING EQUIPMENT: Soil Master 50 6"-O.D. auger  RAMPUNG METHOD: 18" x 2 1/2" O. D. split spoon  HAMMER WEIGHT: 140 lbs.  DROP: 30"  DESCRIPTION  MAME (JSCS Symbol: colu., molif. No by wt., clean, cereby, should's cerementation, eact, wind., psc. nitw.)  SAMPLES  SAMPLES  CLAYEY SAND with GRAVEL (SC)  Dark gray (SY 4/4), moist to wet, 95% medium sand, 25% fine gravel, 15% fines (FILL)  Rock in sampler shoe  Bottom of boring at 10.0 feet  Bottom of boring at 10.0 feet			POWERINE S	SITE	Log o	f Bor	ing No. B-7
DRILLING METHOD: Hollow stern auger  DRILLING METHOD: Hollow stern auger  DRILLING BOUPMENT: Soil Master 50 6'-O.D. auger  DRILLING BOU	BORING LOCATION	ON;	-			DATUM:	
DRILLING METHOD: Hollow stern auger  DRILLING EOUIPMENT: Soil Master 50 6"-O.D. auger  DRILLING EOUIPMENT: Soil Master 50 6"-O.D. auger  DESCRIPTION  MATER 15.5  DROP: 30"  DESCRIPTION  MAME VEIGHT: 140 lbs.  DROP: 30"  DESCRIPTION  MAME (USCS Symbolic color; main, 1% of the present the presen	DRILLING CONT	RACTO	R: West Hazm	nat Drilling Corporation			10/21/92
DRILLING ECUIPMENT: Soil Master 50 6"-O.D. auger  MATE	DRILLING METHO	OD: H	lollow stem aug	ger	TOTAL DEPTH:		
SAMPLING METHOD: 18" x 2 1/2" O. D. split spoon    Continue	DRILLING EQUIP	MENT	Soil Master 5	50 6"-O.D. auger	1		,
HAMMER WEIGHT: 140 lbs. DROP: 30"    SAMPLES	SAMPLING METH	IOD:	18" x 2 1/2" O.	D. split spoon	LOGGED BY:		
NAME (JJSCS Symbol): color, noise, % by wt., plant. density, which, wind,  HAMMER WEIGH	IT: <b>1</b> 4	10 lbs.	DROP: 30"				
CLAYEY SAND with GRAVEL (SC) Dark gray (5Y 4/1), moist, 60% fine to medium sand, 25% fine gravel, 15% fines [FILL]  Rock in sampler shoe  SAND (SP) Olive (5Y 4/4), moist to wet, 95% medium sand, 5% fines, shell fragments [FILL]  Color change to dark gray (5Y 4/1), no shell fragments  Color change to dark gray (5Y 4/1), no shell fragments  SILTY SAND (SM) Dark gray (5Y 4/1), wet, 80% fine sand, 20% fines [FILL]  Bottom of boring at 10.0 feet	<u> </u>						
CLAYEY SAND with GRAVEL (SC) Dark gray (5Y 4/1), moist, 60% fine to medium sand, 25% fine gravel, 15% fines [FILL]  8	Sample Sa	Fo C	NAME (USCS		mentation, react, w/HCl, ger	o, enter,	REMARKS
10 - B-7 10 Bottom of boring at 10.0 feet	1 B-7 1 2 - 1 2 - 1 1 2 - 1 1 2 - 1 1 1 1 1 1	50 1" 22 1	Dark g fine gr.  SAND Olive (fines, solutions)  SILTY	EY SAND with GRAVEL (SC) (ray (5Y 4/1), moist, 60% fine to med avel, 15% fines [FILL]  (SP) (5Y 4/4), moist to wet, 95% medium shell fragments [FILL]  or change to dark gray (5Y 4/1), no signs (SAND (SM))	sand, 5% AT hell fragments	D 💆 -	
	B-7 10 - 10	5	Bottor	m of boring at 10.0 feet			
14 <u>8-1-99/M</u>	14						B-1-89/Modifie

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	FORME Port of		VERINE SITE			ring No. B-8
BORING LO	CATION:	***			ELEVATION AND DATUM:	
DRILLING C	ONTRAC	TOR: W	/est Hazmat Drilling Corporation		DATE STARTED: 10/21/92	DATE FINISHED: 10/21/92
DRILLING M	ETHOD:	Hollow	stem auger		TOTAL DEPTH: 10.0'	MEASURING POINT: Ground surface
DRILLING E	QUIPME!	NT: Soi	I Master 50 6"-O.D. auger		DEPTH TO FIRST WATER 5.5	COMPL. 24 HRS. 4'9"
SAMPLING I	METHOD	: 18" x	2 1/2" O. D. split spoon		LOGGED BY: J. M. Abitz	
HAMMER W	EIGHT:	140 lbs	DROP: 30"			
	PLES 을 및 5	Р1D (ррт)	DESC NAME (USCS Symbol): color, moist, % by wt., plast	RIPTION density, structure, cemer	ntation, react, w/HCl, geo, inter,	REMARKS
	Sample Blows/ Foot		Surface Elev	vation:		
1 - B-7		193	CLAYEY SAND (SC) Dark gray (2.5Y 4/0), moist [FILL]	0% medium sai	nd, 20% fines -	
3-	14		SAND (SP) Dark gray (2.5Y 4/0), moist [FILL]	5% medium sai	nd, 5% fines -	
4-	11	8.5	CLAYEY SAND (SC) Olive (5Y 4/4), moist, 80% me fragments [FILL]	edium sand, 20°	% fines, shell	
5 - B-8 5.5 6 -	3	7.8	SAND (SP)  Dark gray (2.5Y 4/0), wet, 95  [FILL]	- 100% fine sar	nd, 0 - 5% fines	·
7 -	10	1.5	Shell fragments		-	
8-	2				-	
10 - B-8			Bottom of boring at 10.0 feet	<del></del>		
11 -					-	
12 -					-	
1					-	†
14 ——				·		B-1-89/Modified

PROJ	ECT:			ER P Oakl	OWERINE SITE and	L	og of B	orin	g No. B-9
BORII	VG LC	CA	TION:			ELEVATI	ON AND DATU	M:	
DRILL	ING (	CON	TRAC	TOR:	West Hazmat Drilling Corporation	DATE ST 10/20/92			ATE FINISHED: 0/20/92
DRILL	ING I	MET	HOD:	Holl	ow stem auger	TOTAL D 11.5'		ME	ASURING POINT: round surface
DRILL	ING E	ΩU	IPME	NT: (	OME 75 - 6" O.D. auger	DEPTH T	O FIRST 6.5	, c	OMPL. 24 HRS
SAMF	LING	ME	THOE	: 18	" x 2 1/2" O. D. split spoon	LOGGED J. M. Ab	BY:		
НАМА	MER V	VEIC	HT:	140	lbs. DROP: 30"				
DEPTH (feet)		MPL a		PID (ppm)	DESCRIPTION				
# &	Sample No.	Samp	Blows/ Foot	PID (	NAME (USCS Symbol): color, moist, % by wt., plast., density, stru Surface Elevation;	cture, cementation, react	. w/HCI, geo. inter.	-	REMARKS
1-					SAND (SP) Brown (10YR 5/3), moist, 95% medius shells [FILL]	m sand, 5% find	es,	_	
2 - 3 -	8-9 2.5		44	0.3					•
4 - 5 -			24	2.1	SAND (SP)  Dark olive gray (5Y 3/2), wet, 95% me fines, shells [FILL]  SILT with SAND (ML)		/	1 1 1	
6- 7-	B-9 6.5	\ \ \	18	0.3	Dark olive gray (5Y 3/2), wet, 85% fine low plasticity, soft, shells [FILL]				
8 - 9 - - 10 -			9		Sand (SP), dark olive gray (5Y 3/2), we sand, 5% fines, shells	et, 95% mediu	m		
11 -	B-9 11.5		12	0.3	- Sand (SP) seams			7	
12 - 13 - - 14 -					Bottom of boring at 11.5 feet			-	B-1-89/Modified
					Geomatrix Consultants		Project No. 20	26.10	Figure #

PROJ	ECT:			R Po Oaki	OWERINE SITE		Log of Bori	ng No. B-10
BORIN	IG LC	CA.	rion:		. <u> </u>		ELEVATION AND DATUM:	
DRILL	ING C	ON	TRAC	TOR:	West Hazmat Drilling Corporation	on	DATE STARTED: 10/20/92	DATE FINISHED: 10/20/92
DRILL	ING N	MET	HOD:	Holl	ow stem auger		TOTAL DEPTH: 10.0'	MEASURING POINT: Ground surface
DRILL	ING E	ΞQU	IPMEI	NT: S	Soil Master 50 6"-O.D. auger		DEPTH TO FIRST 5.5'	COMPL. 24 HRS. 5'7"
SAMP	LING	ME	THOD	: 18'	" x 2 1/2" O. D. split spoon		LOGGED BY: J. M. Abitz	
HAMN	IER V	VEIC	SHT:	140	lbs. DROP: 30"			
DEPTH (feet)	Sample S	MPL ed E	Blows/ Signal Foot	PiO (ppm)	DI NAME (USCS Symbol): color, moist, % by wt.,	ESCRIPTION plast., density, structure, com	entation, react, w/HCl, geo, inter.	REMARKS
<u> </u>	8 _	ß	<u> </u>	а.		Elevation:		
1 <b>-</b>	B-10 1		34		SAND with SILT and GRA Very dark gray (5Y 3/2), m 20% fine to coarse gravel,	oist, 70% fine to d	coarse sand,	
2-		$  \setminus $	34	0.9	SAND (SP)			
3-			!	11.4	Light olive brown (2.5Y 5/4 5% fines [FILL]	), moist, 95% me	dium sand,	
		$ \cdot $	50	' ' '	Color change to dark oliv	ve gray (5Y 3/2), s	shell fragments	
4-		$igwdap_{}$			*		-	
-							-	
5-	B-0 5.5		6	10.2			ATD ☑	
6-		$\setminus$						
7-		7	9		SILTY SAND (SM) Dark olive gray (5Y 3/2), w	et, 80% fine to m	edium sand,	
8-		$\left  \cdot \right $	7	14.5	20% fines [FILL]		=	
-	1	+						
9-	B-10		3		CLAY (CL) Dark olive gray (5Y 3/2), v sand, low plasticity, very s		es, 0 - 5% fine	
10 -	10	<b>_</b>			Bottom of boring at 10.0 fe			
11				<u> </u> 				
12							-	
".							] -	
13 -	-							
1	1						-	
14			1		Geomatrix Consultants		Project No. 2026	B-1-89/Modified  10 Figure #

PROJECT: FORM Port of	ER POWE Oakland	RINE SITE	Lo	og of Bo	ring No	o. B-11
BORING LOCATION	;		ELEVAT	ON AND DATUM		
DRILLING CONTRAC	CTOR: Wes	st Hazmat Drilling Corporation	DATE ST 10/21/9		DATE FIN 10/21/92	
DRILLING METHOD:	Hollow st	tem auger	TOTAL D			ING POINT:
DRILLING EQUIPME	NT: Soil M	laster 50 6"-O.D. auger	DEPTH T		COMPL. 5'5"	24 HRS.
SAMPLING METHOD	D: 18" x 2	1/2" O. D. split spoon	LOGGED J. M. Al	BY:		
HAMMER WEIGHT:	140 lbs.	DROP: 30"				- <u>-</u>
(feet) (feet) No. No. Sample Sample Sample Sample Foot	PID (ppm)	DESCRIP*  AME (USCS Symbol): color, moist, % by wt., plast., dens	=	t. W/HCI, peo, inter		REMARKS
(feet) Sample No. Sample Blows/ Foot	G - 1	Surface Elevatio			<u>'</u>	
2- 36		SILTY SAND with GRAVEL (SM) Light brownish gray (10YR 6/2), r sand, 20% fine gravel, 20% fines		oarse		
3 - 3 - 20		SAND (SP) Light olive brown (2.5Y 5/4), mois 5% fines [FILL] Color change to dark gray (2.5Y		nd,		
5 - 11 6 - 5.5 - 10	5.4	Clay (CL), dark gray (2.5Y 4/0), sand, low plasticity, soft		5% fine ATD ☑		
8 - 6 9 - 6	1.0	SILTY SAND (SM) Dark gray (2.5Y 4/0), wet, 75% fit fines [FILL]	ne to medium sand	, 25%		
11 -		Bottom of boring at 10.0 feet				
13 -					]	
14					1	
17		Geomatrix Consultants		Project No. 202	 6.10	B-1-89/Modified Figure #

PROJECT: FORMER POWERINE SITE Port of Oakland				ng No. B-12		
BORING LOCATION:		ELEVATION AN	ELEVATION AND DATUM:			
DRILLING CONTRACTOR: West Hazmat [	DATE STARTED 10/21/92	D:	DATE FINISHED: 10/21/92			
DRILLING METHOD: Hollow stem auger		MEASURING POINT: Ground surface				
DRILLING EQUIPMENT: Soil Master 50 6	"-O.D. auger	DEPTH TO WATER	FIRST 5.5'	COMPL. 24 HRS.		
SAMPLING METHOD: 18" x 2 1/2" O. D. s	split spoon	LOGGED BY: J. M. Abitz				
HAMMER WEIGHT: 140 lbs. DF	ROP: 30"					
SAMPLES Sample NAME (USCS Symple Loot to Copput Sample NAME (USCS Symple NAME (USCS	DESCRIPTION pol): color, moist, % by wt., plast., density, structur	e, cementation, react. w/HCl,	geo, inter.	REMARKS		
	Surface Elevation:					
Dark olive 25% fine to 25% fin	SAND with GRAVEL (SC) gray (5Y 3/2), moist, 60% fine occurse gravel, 15% fines [F (5Y 4/1), wet, 95% sand, 5% boring at 10.0 feet	A	TD 💆			
13-						
			-			
14				8-1-89/Modified		
Geomat	trix Consultants	Proje	ct No. 2026,1	O Figure #		

PROJECT: FORMER PO		Log of Bo	ring No. B-13
BORING LOCATION:		ELEVATION AND DATUM	<del></del>
DRILLING CONTRACTOR: \	West Hazmat Drilling Corporation	DATE STARTED: 10/21/92	DATE FINISHED: 10/21/92
DRILLING METHOD: Hollo		TOTAL DEPTH: 7.5'	MEASURING POINT: Ground surface
	oil Master 50 - 6"-O.D. auger	DEPTH TO FIRST	COMPL. 24 HRS.
	x 2 1/2" O. D. split spoon	WATER 7.0'	, Gry
HAMMER WEIGHT: 140 lb		J. M. Abitz	
I SAMPLES È	DESCRIPTION	V	
(feet) Sample No. No. Sample Sample Root Foot	NAME (USCS Symbol): color, moist. % by wt., plast., density, st		REMARKS
- 3 3 6 - 4	Surface Elevation:		
1 - 1 - 2 - 8-13	CLAYEY SAND with GRAVEL (SC) Very dark gray (2.5Y 3/0), moist, 60% coarse gravel, 15% fines [FILL]  SAND (SP) Dark gray (2.5Y 4/0), moist, 95% me [FILL]  CLAYEY SAND (SC)  dark gray (2.5Y 4/0), moist, 80% me [FILL]	dium sand, 5% fines	Very difficult drilling - cobbles, rocks, metal, and assorted junk fill
9- 11- 11- 11- 11- 11- 11- 11-	Refusal at 7.5 feet  Geomatrix Consultants	ATD ☑	Very hard drilling - bent sample rod while pounding spoon  6.10 Figure #



### APPENDIX B

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

Environmental Laboratory (1094)

5 DAYS TURNAROUND

November 5, 1992

ChromaLab File No.: 1192018

GEOMATRIX CONSULTANTS

Attn: Elizabeth Wells

RE: Thirteen soil samples for Gasoline and BTEX analysis

Project Name:

Project Number: 2026.10

Date Sampled: November 3-4, 1992 Date Submitted: November 4, 1992

Date Analyzed: November 4, 1992

#### RESULTS:

				Ethyl	Total		
Sample	Gasoline	Benzene	Toluene	Benzene	Xylenes		
<u>I.D.</u>	(mq/Kq)	(µq/Kq)	(µq/Kq)	(µq/Kq)_	(µq/Kq)		
					•		
EX-1	N.D.	23	14	N.D.	11		
EX-2	2.3	1000	N.D.*	N.D.*	N.D.*		
EX-3	2800	4000	49000	35000	240000		
EX-4	5.0	390	12	18	13		
<b>EX-</b> 5	1600	480	1000	8600	55000		
EX-6	48	N.D.**	61	280	1600		
EX-7	3.2	110	270	68	410		
EX-8	1.0	390	8.5	N.D.	7.1		
EX-9	7600	24000	320000	140000	840000		
EX-10	1.5	910	7.6	N.D.	16		
EX-11	6.6	2900	47	82	360		
EX-12	360	4900	8800	8500	44000		
EX-13	N.D.	12	N.D.	N.D.	N.D.		
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.		
SPIKE RECOVERY	115%	95%	107%	92%	94%		
DUP SPIKE RECOVERY		92%	104%	90%	92%		
DETECTION LIMIT	1.0	5.0	5.0	5.0	5.0		
METHOD OF ANALYSIS	5030/8015	8020	8020	8020	8020		

<sup>\*</sup> Detection Limit = 10  $\mu$ g/Kg due to dilution needed.

\*\*Detection Limit = 15  $\mu$ g/Kg due to dilution needed.

ChromaLab, Inc.

Billy Whach

Analytical Chemist

Eric Tam

Laboratory Director

CC

Environmental Laboratory (1094)

November 24, 1992

GEOMATRIX CONSULTANTS

RE: Twenty-five soil samples for Diesel analysis

Project Name: N/A

Date Sampled: Nov. 3-4, 1992

Date Analyzed: November 4-6, 1992

RESULTS:

**5 DAYS TURNAROUND** 

ChromaLab File No.: 1192018

Attn: Elizabeth Wells

Project Number: 2026.10

Date Submitted: Nov. 4, 1992

Sample I.D.	Diesel (mg/Kg)
EX-1	N.D.
EX-2	N.D.
EX-3	6500
EX-4	N.D.
EX-5	5000
EX-6	99
EX-7	20
EX-8	63
EX-9	10000
EX-10	N.D.
EX-11	N.D.
EX-12	1514
EX-13	N.D.
EX-14	N.D.
EX-15	N.D.
EX-16	N.D.
EX-17	N.D.
EX-18	N.D.
EX-19	N.D.
EX-20	N.D.
EX-21	N.D.
EX-22	N.D.
EX-23	75
EX-24	120
EX-25	N.D.
BLANK	N.D.
SPIKE RECOVERY	92%
DUP SPIKE RECOVERY	92%
DETECTION LIMIT	i
METHOD OF ANALYSIS	10
THE OF AL WINDING	3550/8015

ChromaLab, Inc.

Eric Costa

Analytical Chemist

Eric Tam

Laboratory Director

Environmental Laboratory (1094)

5 DAYS TURNAROUND

November 6, 1992

ChromaLab File No.: 1192030

GEOMATRIX CONSULTANTS

Attn: Elizabeth Wells

RE: Four soil samples for Gasoline and BTEX analyses

Project Name: N/A

Project Number: 2026.10 I

Date Sampled: November 4, 1992 Date Submitted: November 5, 1992

Date Analyzed: November 5, 1992

#### RESULTS:

Sample	Gasoline	Benzene	Toluene	Ethyl Benzene	Total Xylenes
1.D.	(mg/Kg)	(µg/Kg)	(µg/Kg)	(µg/Kg)	(µg/Kg)
EX-14	N.D.	75	N.D.	N.D.	N.D.
EX-15	N.D.	N.D.	N.D.	N.D.	N.D.
EX-16	N.D.	N.D.	N.D.	N.D.	N.D.
EX-17	2.0	1500	8.1	28	46
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	96%	96%	96%	95%	95%
DUP SPIKE RECOVERY		96%	96%	95%	90%
DETECTION LIMIT	1.0	5.0	5.0	5.0	5.0
METHOD OF ANALYSIS	5030/8015	8020	8020	8020	8020

ChromaLab, Inc.

Billy Thach

Analytical Chemist

Eric Tam

Laboratory Director

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Environmental Laboratory (1094)

**5 DAYS TURNAROUND** 

Total

November 6, 1992

ChromaLab File No.: 1192031

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GEOMATRIX CONSULTANTS

Attn: Elizabeth Wells

RE: Seven soil samples for Gaspline and BTEX analyses

Project Name: N/A

Project Number: 2026.10

Date Sampled: November 5, 1992 Date Submitted: November 5, 1992

Date Analyzed: November 5, 1992

#### **RESULTS:**

		ł		LUIYI	IOCAI				
Sample	Gasoline	Benzene	Toluene	Benzene	Xylenes				
<b>-</b>	(mq/Kq)	(µq/Kq)	(µq/Kq)	(µq/Kq)	(µq/Kq)				
I.D.	(mq/xq/	(149/149/	(12.517.2.51)						
EX-18	N.D.	N.D.	N.D.	N.D.	N.D.				
		110	N.D.	N.D.	N.D.				
EX-19	N.D.								
EX-20	3.1	2000	N.D.	28	6.8				
EX-21	1.6	860	10	50	20				
EX-22	N.D.	N.D.	N.D.	N.D.	N.D.				
EX-23	8.8	N.D.	N.D.	24	5.4				
EX-24	N.D.	22	N.D.	N.D.	8.0				
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.				
SPIKE RECOVERY	96%	96%	96%	95%	95%				
DUP SPIKE RECOVERY		96%	96%	95%	90%				
DETECTION LIMIT	1.0	5.0	5.0	5.0	5.0				
METHOD OF ANALYSIS	5030/8015	8020	8020	8020	8020				
		ı							

ChromaLab, Inc.

Billy Thach

Analytical Chemist

Eric Tam

Laboratory Director

do

Environmental Laboratory (1094)

**5 DAYS TURNAROUND** 

November 9, 1992

ChromaLab File No.: 1192046

GEOMATRIX CONSULTANTS

Attn: Elizabeth Wells

RE: One soil sample for Gasoline and BTEX analysis

Project Name: N/A

Project Number: 2026.101

Date Sampled: Nov. 6, 1992 Date Submitted: Nov. 6, 1992

Date Analyzed: November 6, 1992

#### RESULTS:

Sample I.D.	Gasoline (mg/Kg)	Benzene (μq/Kg)	Toluene (µg/Kg)	Ethyl Benzene (µq/Kq)	Total Xylenes (µq/Kq)
EX-25	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK SPIKE RECOVERY	N.D. 93%	N.D.	N.D.	N.D.	N.D.
DUP SPIKE RECOVERY	938	93% 88%	101% 93%	93% 83%	92% 85%
DETECTION LIMIT METHOD OF ANALYSIS	1.0 5030/8015	5.0 8020	5.0 8020	5.0 8020	5.0 8020

ChromaLab, Inc.

Billy Thach

Analytical Chemist

Eric Tam

Laboratory Director

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Environmental Laboratory (1094)

**5 DAYS TURNAROUND** 

November 11, 1992

ChromaLab File No.: 1192046

GEOMATRIX CONSULTANTS

Attn: Elizabeth Wells

RE: One soil sample for Gasoline, Diesel and BTEX analysis

Project Name: N/A

Project Number: 2026.10I
Date Sampled: Nov. 6, 1992
Date Extracted: Nov. 10, 1992

Date Submitted: Nov. 6, 1992 Date Analyzed: Nov. 10, 1992

#### RESULTS:

Sample I.D.	Gasoline (mg/Kg)	Diesel (mg/Kg)	Benzene (µg/Kg)	Toluene (µg/Kg)	Ethyl Benzene (µg/Kg)	Total Xylenes (µq/Kq)
EX-26	96	250	4100	N.D.	4500	420
BLANK SPIKE REC DUP SPIKE REDET LIMIT METHOD OF	N.D. 113% EC 1.0 5030/	N.D. 96% 104% 1.0 3550/	N.D. 88% 101% 5.0	N.D. 94% 107% 5.0	N.D. 93% 101% 5.0	N.D. 95% 100% 5.0
ANALYSIS	8015	8015 <sup>°</sup>	8020	8020	8020	8020

ChromaLab, Ing.

Billy Thách

Analytical Chemist

CC

Eric Tam

Laboratory Director

Environmental Laboratory (1094)

**5 DAYS TURNAROUND** 

November 9, 1992

ChromaLab File No.: 1192050

GEOMATRIX CONSULTANTS

Attn: Elizabeth Wells

RE: Thirteen soil samples for Gasoline, Diesel and BTEX analyses

Project Name: N/A

Project Number: 2026.10

Date Sampled: Nov. 6, 1992
Date Extracted: Nov. 8, 1992
Date Analyzed: Nov. 6-9, 1992

### RESULTS:

Sample	Gasoline	Diesel	<b>D</b>		Ethyl	Total
I.D.			Benzene	Toluene	Benzene	Xylenes
<u> </u>	(mg/Kg)	(mg/Kg)	(µg/Kg)	( <u>µg/Kg)</u>	(µg/Kg)	(µg/Kg)
EX-27	N.D.	N.D.	18	M D	15	
EX-28	N.D.	N.D.		N.D.	15_	8.5
EX-29	3.5		110	N.D.	N.D.	N.D.
EX-30		64	200	8.3	36	N.D.
	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
EX-31	6.8	N.D.	2400	38	51	170
EX-32	21	32	33	16	220	190
EX-33	1400	54	7800	12000	43000	130000
EX-34	71000	810	270000	1000000	680000	9600000
EX-35	4700	150	11000	7600	100000	480000
EX-36	750	59	N.D.*	150	4000	8300
EX-37	96	15	N.D.**	N.D.	580	3000
EX-38	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
EX-39	N.D.	N.D.	N.D.	N.D.	N.D.	
		11.2.	H.D.	N.D.	N.D.	N.D.
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE REC	114%	101%	94%	94%	93%	91%
	REC	105%	94%	95%		
DET LIMIT	1.0	1.0			92%	93%
METHOD OF	-		5.0	5.0	5.0	5.0
	5030/	3550/				
Analysis	8015	8015	8020	8020	8020	8020

<sup>\*</sup> Detection Limit = 100  $\mu$ g/Kg due to dilution needed.

ChromaLab, Inc.

Billy Thach

Analytical Chemist

Eric Tam

Laboratory Director

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<sup>\*\*</sup>Detection Limit = 200  $\mu$ g/Kg due to dilution needed.

8387 2 1741 Chain-of-Custody Record Page 1 αf Date: 4 NUVERLIBER ITHE **ANALYSES** REMARKS Project No.: 1741 2026.10 Additional comments Samplers (Signatures):
Ehzubefu K., Wells Soil (S) or water (W) EPA Method 8240 TPH as gasoline TPH as diesel Hold saupus after avalupis. TPHES BIEX Cooled Sample Number 113/12/11/00 EX-1 12:45 EX-2 1320 EX-3 14:15 EX-4 14:20 EX-5 5 14.25 EX-6 15:20 EX-8 16:05 EX-9 11/3/92 16 10 EX-10 1442 900 EX-11 Turnaround time: Results to: Elizabeth Wells Total No. of containers. Date: Relinquished by: Relinquished by:
Enzybeth Wells Date: Relinquished by: Method of shipment: Ou sate labsignature: Elizabeth wells Signature: Signature: Laboratory comments and Log No. Printed name: Printed name: Printed name: Geomatins Company:

(her place Company: Company: Time: Received by Received by: Time: Received by: Time: Signature: Signature: F-6: 13'(f) Printed name: Printed name: Printed name: Geomatrix Consultants 100 Pine St. 10th Floor Company: Company: San Francisco, CA. 94111 Cheoma Labo. (415) 434-9400

Chain-of-Custody Record					Nº 2872						Da	Date: 11/4/92						Page Z of Z												
Project No.:									ΑN	ALYS	ES										<i></i>			R	EMAR	KS				
2026.10 Samplers (Signatures): Euzubeh Wells	od 8010	od 8020	od 8240	od 8270	soline	lsel	EX													water (W)		Number of containers				ditional o	comm	ents		
Date Time Sample Number	EPA Method 8010	EPA Metho	EPA Meth	EPA Meth	TPH as gasoline	TPH as diesel													Cooled	Sail (S) or	Acidified	Number of		See	† F	o. l		•		
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CHROMALAB FILE # 1192031 ORDER # 8403

Chain-of-Custod	y Record	No	2873	Date:	15/92	Page ot
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Samplers (Signatures):  Elizabeth Wells  Date Time Sample Number	EPA Method 8010 EPA Method 8020 EPA Method 8240 EPA Method 8270 TPH as gasoline	IDH 30 BTEX		Cooled Soil (S) or water (W)	Acidified  Number of containers	Additional comments
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Samplers (Signatures):  Clubi Cul	EPA Method 8010	EPA Method 8020	EPA Method 8240	Aethod 8270	TPH as gasoline	TPH as diesel	трн as BTEX												,	g	s) or water (W)	eq	Number of containers			Ade	ditional	l comme	ents		
Date Time Sample Number	PAN	PAN	PAN	PA N	PHa	PHa	ГРНа						Ì					•		Cooled	(S) (S)	Acidified	dE I								
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## CHROMALAB, INC.

Environmental Laboratory (1094)

**5 DAYS TURNAROUND** 

November 23, 1992

ChromaLab File No.: 1192196

GEOMATRIX CONSULTANTS

Attn: Elizabeth Wells

RE: Eight soil samples for Gasoline, Diesel and BTEX analyses

Project Number: 2.26.10

Date Sampled: N/A Date Submitted: Nov. 20, 1992 Date Extracted: Nov. 20, 1992 Date Analyzed: Nov. 20, 1992

#### RESULTS:

					Ethyl	Total
Sample	Gasoline	Diesel	Benzene	Toluene	Benzene	Xylenes
I.D.	(mg/Kg)	(mq/Kq)	(µq/Kq)	(µq/Kq)	(µq/Kq)	( <u>ug/Ka)</u>
EX-40	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
EX-41	N.D.	N.D.*	N.D.	N.D.	6.7	22
EX-42	N.D.	N.D.	16	N.D.	N.D.	N.D.
EX-43	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
EX-44	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
EX-45	N.D.	N.D.	22	N.D.	N.D.	N.D.
EX-46	5.1	N.D.	820	N.D.	58	52
EX-47	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE REC	89%	102%	93%	92%	93%	93%
DUP SPIKE R	EC	113%	93%	92%	94%	93%
DET LIMIT	1.0	1.0	5.0	5.0	5.0	5.0
METHOD OF	5030/	3550/	<del>-</del>	_ · -		<del>-</del>
ANALYSIS	8015	8015	8020	8020	8020	8020

\*Unknown hydrocarbon found in kerosene range. Conc. = 3.0 ppm.

ChromaLab Ing.,

Billy Whach

Analytical Chemist

Eric Tam

Laboratory Director

CC

CHROMALAB FILE # 1192196 ORDER # 86/0

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Project No	ロ.: フィ	24.10	-	T	<del>, .</del>	1	Т	1	η	Γ—	ANA	LYS	ES		Т	т	-т		_	_		<del></del>	· —	<del>. '</del>	REMARKS
· A	(Signatur		EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	Hes BTEX					:							P	(S) or water (W)	1	Number of containers	Additional comments
Date	Time	Sample Number	EPA	EPA	EPA	EPA	Ŧ	Ŧ	Įŧ			j									Cooled	Soil (S)	Acidified	5	Diate Elli
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Company:	10 00 W	146	~	Co	mpa	ny:								Co	mpan	y:		····							100 Pine St. 10th Floor San Francisco, CA. 94111 (415) 434-9400

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



November 17, 1992

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

> Client Ref. 2026.10 Clayton Project No. 92111.20

Dear Ms. Wells:

Attached is our analytical laboratory report for the samples received on November 10, 1992. 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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 13A-13D Date Sampled: 11/09/92
Lab Number: 9211120-01E Date Received: 11/10/92
Sample Matrix/Media: SOIL Date Prepared: 11/11/92
Preparation Method: EPA 5030 Date Analyzed: 11/12/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	0.5
Bromomethane	74-83-9	ND	0.5
Vinyl chloride	75-01-4	ND	0.5
Chloroethane	75-00-3	ND	0.5
Methylene chloride	75-09-2	ND	0.5
Trichlorofluoromethane	75-69-4	ND	0.5
1,1-Dichloroethene	75-35-4	ND	0.5
1,1-Dichloroethane	75-35-3	ND	0.5
Trans-1,2-Dichloroethene	156-60-5	ND	0.5
Cis-1,2-Dichloroethene	156-59-2	ND	0.5
Chloroform	67-66-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
Carbon tetrachloride	56-23-5	ND	0.5
Bromodichloromethane	75-27-4	ND	0.5
1,2-Dichloropropane	78-87-5	ND	0.5
Cis-1,3-Dichloropropene	10061-01-5	ND	0.5
Trichloroethene	79-01-6	ND	0.5
Benzene	71-43-2	ND	0.5
Dibromochloromethane	124-48-1	ND	0.5

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 13A-13D Date Sampled: 11/09/92 Lab Number: 9211120-01E Date Received: 11/10/92 Sample Matrix/Media: SOIL Date Prepared: 11/11/92 EPA 5030 EPA 8240 Preparation Method: Date Analyzed: 11/12/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued	<u>d)</u>		
1,1,2-Trichloroethane	79-00-5	ND	0.5
Trans-1,3-Dichloropropene	10061-02-6	ND	0.5
2-Chloroethylvinylether	110-75-8	ND	0.5
Bromoform	75-25-2	ND	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
Toluene	108-88-3	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
Ethylbenzene	100-41-4	2.4	0.5
1,3-Dichlorobenzene	541-73-7	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Freon 113	76-13-1	ND	0.5
p,m-Xylenes		2,6	0.5
o-Xylene	95-47-6	ND	0.5
Acetone	67-64-1	ND	2
2-Butanone	78-93-3	ND	2
4-Methyl-2-pentanone	108-10-1	ND	2
2-Hexanone	591-78-6	ND	2
Vinyl acetate	108-05-4	ND	1

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



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11/09/92

Date Sampled:

#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Lab Number: Sample Matrix/Media: Preparation Method: Analytical Method:	9211120-01E SOIL EPA 5030 EPA 8240 (Low Level	Date Analy:	red: 11/11/92
Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (co	ontinued)		
Carbon disulfide Styrene	75-15-0 100-42-5	ND ND	0.5 0.5
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
1,2-Dichloroethane-d Toluene-d8 Bromofluorobenzene	17060-07-0 2037-26-5 460-00-4	99 96 120	70 - 121 81 - 117 74 - 121

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

Sample Identification: COMP. SP 1\$A-13D



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 14A-14D Date Sampled: 11/09/92 Lab Number: 9211120-02E Date Received: 11/10/92 Sample Matrix/Media: SOIL Date Prepared: 11/13/92 Preparation Method: EPA 5030 Analytical Method: EPA 8240 (Low Level) Date Analyzed: 11/13/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ИД	0.03
Bromomethane	74-83-9	ND	0.03
Vinyl chloride	75-01-4	ND	0.03
Chloroethane	75-00-3	ND	0.03
Methylene chloride	75-09-2	ND	0.03
Trichlorofluoromethane	75-69-4	ND	0.03
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.03
Trans-1,2-Dichloroethene	156-60-5	ND	0.03
Cis-1,2-Dichloroethene	156-59-2	ND	0.03
Chloroform	67-66-3	ИD	0.03
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55 <b>-</b> 6	ND	0.03
Carbon tetrachloride	56-23-5	ND	0.03
Bromodichloromethane	75-27-4	ND	0.03
1,2-Dichloropropane	7 <b>8-</b> 87-5	ND	0.03
Cis-1,3-Dichloropropene	10061-01-5	ND	0.03
Trichloroethene	79-01-6	ND	0.03
Benzene	71-43-2	ND	0.03
Dibromochloromethane	124-48-1	ND	0.03

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 14A-14D Date Sampled: 11/09/92
Lab Number: 9211120-02E Date Received: 11/10/92
Sample Matrix/Media: SOIL Date Prepared: 11/13/92
Preparation Method: EPA 5030 Date Analyzed: 11/13/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued	1)		
1,1,2-Trichloroethane	79-00-5	ND	0.03
Trans-1,3-Dichloropropene	10061-02-6	ND	0.03
2-Chloroethylvinylether	110-75-8	ND	0.03
Bromoform	75-25-2	ND	0.03
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.03
Tetrachloroethene	127-18-4	ND	0.03
Toluene	108-88-3	ND	0.03
Chlorobenzene	108-90-7	ND	0.03
Ethylbenzene	100-41-4	ND	0.03
1,3-Dichlorobenzene	541-73-7	ND	0.03
1,2-Dichlorobenzene	95-50-1	ND	0.03
1,4-Dichlorobenzene	106-46-7	ND	0.03
Freon 113	76-13-1	ND	0.03
p,m-Xylenes		0.12	0.03
o-Xylene	95-47-6	0.46	0.03
Acetone	67-64-1	ND	0.1
2-Butanone	78-93-3	ND	0.1
4-Methyl-2-pentanone	1 0 8 - 10 - 1	ND	0.1
2-Hexanone	591-78-6	ND	0.1
Vinyl acetate	1 0 8 - 0 5 - 4	ND	0.05

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification:	COMP. SP 14A-14D	Date Sampled:	11/09/92
Lab Number:	9211120-02E	Date Received:	11/10/92
Sample Matrix/Media:	SOIL	Date Prepared:	11/13/92
Preparation Method:	EPA 5030	Date Analyzed:	11/13/92
Analytical Method:	EPA 8240 (Low Level)	_	

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continu	ued)		
Carbon disulfide Styrene	75-15-0 100-42-5	ND ND	0.03 0.03
Surrogates		Recovery (%)	QC Limits (%)LCL UCL
1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene	17060-07-0 2037-26-5 460-00-4	89 90 106	70 - 121 $81 - 117$ $74 - 121$

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Clayton Project No. 92111.20

Sample Identification: COMP. SP 15A-15D Date Sampled: 11/09/92
Lab Number: 9211120-03E Date Received: 11/10/92
Sample Matrix/Media: SOIL Date Prepared: 11/14/92
Preparation Method: EPA 5030 Date Analyzed: 11/14/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	0.03
Bromomethane	74-83-9	ND	0.03
Vinyl chloride	75-01-4	ND	0.03
Chloroethane	75-00-3	ND	0.03
Methylene chloride	75-09-2	ND	0.03
Trichlorofluoromethane	75-69-4	ND	0.03
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.03
Trans-1,2-Dichloroethene	156-60-5	ND	0.03
Cis-1,2-Dichloroethene	156-59-2	ND	0.03
Chloroform	d7-66 <b>-</b> 3	ND	0.03
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.03
Carbon tetrachloride	56-23-5	ND	0.03
Bromodichloromethane	75-27-4	ND	0.03
1,2-Dichloropropane	78-87-5	ND	0.03
Cis-1,3-Dichloropropene	10041-01-5	ND	0.03
Trichloroethene	79-01-6	ND	0.03
Benzene	71-43-2	ND	0.03
Dibromochloromethane	124-48-1	ND	0.03

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 15A-15D Date Sampled: 11/09/92 Lab Number: 9211120-03E Date Received: 11/10/92 Sample Matrix/Media: SOIL Date Prepared: 11/14/92 EPA 5030 Preparation Method: Date Analyzed: 11/14/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued	<u>i)</u>	· · · · · · · · · · · · · · · · · · ·	
1,1,2-Trichloroethane	79-00-5	ND	0.03
Trans-1,3-Dichloropropene	10061-02-6	ND	0.03
2-Chloroethylvinylether	110-75-8	ND	0.03
Bromoform	75-25-2	ND	0.03
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.03
Tetrachloroethene	127-18-4	ND	0.03
Toluene	108-88-3	ND	0.03
Chlorobenzene	108-90-7	ND	0.03
Ethylbenzene	100-41-4	ND	0.03
1,3-Dichlorobenzene	541-73-7	ND	0.03
1,2-Dichlorobenzene	95-50-1	ND	0.03
1,4-Dichlorobenzene	106-46-7	ND	0.03
Freon 113	76-13-1	ND	0.03
p,m-Xylenes		ND	0.03
o-Xylene	95-47-6	0.20	0.03
Acetone	67-64-1	ND	0.1
2-Butanone	78-93-3	ND	0.1
4-Methyl-2-pentanone	108-10-1	ND	0.1
2-Hexanone	591-78-6	ND	0.1
Vinyl acetate	108-05-4	ND	0.05

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



Date Sampled:

Date Received: 11/10/92

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11/09/92

#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Matrix/Media: Preparation Method: Analytical Method:	SOIL EPA 5030 EPA 8240 (	Low Level)	Date Prepared: Date Analyzed:	11/14/92 11/14/92
Analyte		CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (c	ontinued)			
Carbon disulfide Styrene	1	75-15-0 .00-42-5	ND ND	0.03 0.03

Surrogates		Recovery (%)	QC Limits (%) LCL UCL
1,2-Dichloroethane-d4	17060-07-0	94	70 - 121 $81 - 117$ $74 - 121$
Toluene-d8	2037-26-5	95	
Bromofluorobenzene	460-00-4	110	

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

Sample Identification: COMP. SP 15A-15D

9211120-03E

Lab Number:



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 16A-16D Date Sampled: 11/09/92 Lab Number: 9211120-04E Date Received: 11/10/92 Sample Matrix/Media: SOIL Date Prepared: 11/11/92 Preparation Method: EPA 5030 Analytical Method: EPA 8240 (Low Level) Date Analyzed: 11/12/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	0.5
Bromomethane	74-83-9	ND	0.5
Vinyl chloride	75-01-4	ND	0.5
Chloroethane	75-00-3	ND	0.5
Methylene chloride	75-09-2	ND	0.5
Trichlorofluoromethane	75-69-4	ND	0.5
1,1-Dichloroethene	75-35-4	ND	0.5
1,1-Dichloroethane	75-35-3	ND	0.5
Trans-1,2-Dichloroethene	156-60-5	ND	0.5
Cis-1,2-Dichloroethene	156-59-2	ND	0.5
Chloroform	67-66-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
Carbon tetrachloride	56-23-5	ND	0.5
Bromodichloromethane	75-27-4	ND	0.5
1,2-Dichloropropane	78-87-5	ND	0.5
Cis-1,3-Dichloropropene	10061-01-5	ND	0.5
Trichloroethene	79-01-6	ND	0.5
Benzene	71-43-2	ND	0.5
Dibromochloromethane	124-48-1	ND	0.5

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 16A-16D

Lab Number: 9211120-04E Date Received: 11/10/92
Sample Matrix/Media: SOIL Date Prepared: 11/11/92
Preparation Method: EPA 5030 Date Analyzed: 11/12/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued	1)		
1,1,2-Trichloroethane	79-00-5	ND	0.5
Trans-1,3-Dichloropropene	10061-02-6	ND	0.5
2-Chloroethylvinylether	110-75-8	ND	0.5
Bromoform	75-25-2	ND	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
Toluene	108-88-3	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
Ethylbenzene	100-41-4	1.2	0.5
1,3-Dichlorobenzene	541-73-7	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,4-Dichlorobenzene	105-46-7	ND	0.5
Freon 113	76-13-1	ND	0.5
p,m-Xylenes		14	0.5
o-Xylene	95-47-6	5.5	0.5
Acetone	67-64-1	ND	2
2-Butanone	7B-93-3	ND	2
4-Methyl-2-pentanone	108-10-1	ND	
2-Hexanone	591-78-6	ND	2 2 1
Vinyl acetate	108-05-4	ND	1

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 16A-16D 11/09/92 Date Sampled: Lab Number: 9211120-04E Date Received: 11/10/92 Sample Matrix/Media: SOIL Date Prepared: 11/11/92 Preparation Method: EPA 5030 Date Analyzed: 11/12/92 Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continu	ıed)		
Carbon disulfide	75-15-0	ND	0.5
Styrene	100-42-5	ND	0.5
			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
1,2-Dichloroethane-d4	17060-07-0	98	70 - 121
Toluene-đ8	2037-26-5	95	81 - 117
Bromofluorobenzene	460-00-4	104	74 - 121

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 17A-17D Date Sampled: 11/09/92
Lab Number: 9211120-05E Date Received: 11/10/92
Sample Matrix/Media: SOIL Date Prepared: 11/11/92
Preparation Method: EPA 5030 Date Analyzed: 11/12/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	0.5
Bromomethane	74-83-9	ND	0.5
Vinyl chloride	75-01-4	ND	0.5
Chloroethane	75-00-3	ND	0.5
Methylene chloride	75-09-2	ND	0.5
Trichlorofluoromethane	75-69-4	ND	0.5
1,1-Dichloroethene	75-35-4	ND	0.5
1,1-Dichloroethane	75-35-3	ND	0.5
Trans-1,2-Dichloroethene	1\$6-60-5	ND	0.5
Cis-1,2-Dichloroethene	1\$6-59-2	ND	0.5
Chloroform	67-66-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
Carbon tetrachloride	\$6-23-5	ND	0.5
Bromodichloromethane	75-27-4	ND	0.5
1,2-Dichloropropane	78-87-5	ND	0.5
Cis-1,3-Dichloropropene	10061-01-5	ND	0.5
Trichloroethene	79-01-6	ND	0.5
Benzene	71-43-2	ND	0.5
Dibromochloromethane	124-48-1	ND	0.5

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 17A-17D Date Sampled: 11/09/92
Lab Number: 9211120-05E Date Received: 11/10/92
Sample Matrix/Media: SOIL Date Prepared: 11/11/92
Preparation Method: EPA 5030 Date Analyzed: 11/12/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued	<u>1)</u>		
1,1,2-Trichloroethane	79-00-5	ND	0.5
Trans-1,3-Dichloropropene	10061-02-6	ND	0.5
2-Chloroethylvinylether	110-75-8	ND	0.5
Bromoform	75-25-2	ND	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
Toluene	108-88-3	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
Ethylbenzene	100-41-4	ND	0.5
1,3-Dichlorobenzene	541-73-7	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Freon 113	76-13-1	ND	0.5
p,m-Xylenes		14	0.5
o-Xylene	95-47-6	6.3	0.5
Acetone	67-64-1	ND	2
2-Butanone	78-93-3	ND	2 2 2 2 1
4-Methyl-2-pentanone	108-10-1	ND	2
2-Hexanone	591-78-6	ND	2
Vinyl acetate	108-05-4	ND	1

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



Date Sampled:

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11/09/92

#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Analyte	CAS	Concentra # (mg/kg		Limit of Detection (mg/kg)
Sample Matrix/Media: Preparation Method: Analytical Method:	SOIL EPA 5030 EPA 8240 (Low L	Date	Prepared: Analyzed:	11/11/92 11/12/92
Lab Number:	9211120-05E		Received:	•

		(9/2-9/	(9/ 9/
Purgeable Organics (continu	ıed)		
Carbon disulfide	75-15-0	ND	0.5
Styrene	100-42-5	ND	0.5
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
1,2-Dichloroethane-d4	17060-07-0	96	70 - 121
Toluene-d8	2037-26-5	95	81 - 117
Bromofluorobenzene	460-00-4	106	74 - 121

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

Sample Identification: COMP. SP 17A-17D



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 18A-18D Date Sampled: 11/09/92
Lab Number: 9211120-06E Date Received: 11/10/92
Sample Matrix/Media: SOIL Date Prepared: 11/11/92
Preparation Method: EPA 5030 Date Analyzed: 11/12/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	0.5
Bromomethane	74-83-9	ND	0.5
Vinyl chloride	75-01-4	ND	0.5
Chloroethane	75-00-3	ND	0.5
Methylene chloride	75-09-2	ND	0.5
Trichlorofluoromethane	75-69-4	ND	0.5
1,1-Dichloroethene	75-35-4	ND	0.5
1,1-Dichloroethane	75-35-3	ND	0.5
Trans-1,2-Dichloroethene	156-60-5	ND	0.5
Cis-1,2-Dichloroethene	156-59-2	ND	0.5
Chloroform	67-66-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
Carbon tetrachloride	56-23-5	ND	0.5
Bromodichloromethane	75-27-4	ND	0.5
1,2-Dichloropropane	78 <b>-</b> 87-5	ND	0.5
Cis-1,3-Dichloropropene	10061-01-5	ND	0.5
Trichloroethene	79-01-6	ND	0.5
Benzene	71-43-2	ND	0.5
Dibromochloromethane	124-48-1	ND	0.5

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 18A-18D Date Sampled: 11/09/92
Lab Number: 9211120-06E Date Received: 11/10/92
Sample Matrix/Media: SOIL Date Prepared: 11/11/92
Preparation Method: EPA 5030 Date Analyzed: 11/12/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continue	<u>d)</u>		
1,1,2-Trichloroethane	79-00-5	ND	0.5
Trans-1,3-Dichloropropene	10061-02-6	ND	0.5
2-Chloroethylvinylether	110-75-8	ND	0.5
Bromoform	75-25-2	ND	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ИD	0.5
Tetrachloroethene	127-18-4	ИD	0.5
Toluene	108-88-3	ИD	0.5
Chlorobenzene	108-90-7	ND	0.5
Ethylbenzene	100-41-4	ND	0.5
1,3-Dichlorobenzene	541-73-7	ИD	0.5
1,2-Dichlorobenzene	95-50-1	ИD	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Freon 113	76-13-1	16	0.5
p,m-Xylenes		6.1	0.5
o-Xylene	95-47-6	ND	0.5
Acetone	67-64-1	ND	2
2-Butanone	78-93-3	ND	2
4-Methyl-2-pentanone	108-10-1	ND	2 2 2 1
2-Hexanone	591-78-6	ND	2
Vinyl acetate	108-05-4	ND	1

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



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### Results of Analysis Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification:	COMP. SP 18A-18D	Date Sampled:	11/09/92
Lab Number:	9211120-06E	Date Received:	11/10/92
Sample Matrix/Media:	SOIL	Date Prepared:	11/11/92
Preparation Method:	EPA 5030	Date Analyzed:	11/12/92
Analytical Method:	EPA 8240 (Low Level)	<del>-</del>	, ,

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (contin	ued)		
Carbon disulfide	75-15-0	ND	0.5
Styrene	100-42-5	ND	0.5
			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
1,2-Dichloroethane-d4	17060-07-0	97	70 - 121
Toluene-d8	2037-26-5	94	81 - 117
Bromofluorobenzene	460-00-4	104	74 - 121

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 19A-19D Date Sampled: 11/09/92
Lab Number: 9211120-07E Date Received: 11/10/92
Sample Matrix/Media: SOIL Date Prepared: 11/13/92
Preparation Method: EPA 5030 Date Analyzed: 11/13/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	0.03
Bromomethane	74-83-9	ND	0.03
Vinyl chloride	75-01-4	ND	0.03
Chloroethane	75-00-3	ND	0.03
Methylene chloride	75-09-2	ND	0.03
Trichlorofluoromethane	75-69-4	ИD	0.03
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.03
Trans-1,2-Dichloroethene	156-60-5	ND	0.03
Cis-1,2-Dichloroethene	156-59-2	ND	0.03
Chloroform	67-66-3	ND	0.03
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.03
Carbon tetrachloride	56-23-5	ND	0.03
Bromodichloromethane	75-27-4	ND	0.03
1,2-Dichloropropane	78-87-5	ИD	0.03
Cis-1,3-Dichloropropene	10061-01-5	ND	0.03
Trichloroethene	79-01-6	ND	0.03
Benzene	71-43-2	ИD	0.03
Dibromochloromethane	124-48-1	ND	0.03

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 19A-19D Date Sampled: 11/09/92
Lab Number: 9211120-07E Date Received: 11/10/92
Sample Matrix/Media: SOIL Date Prepared: 11/13/92
Preparation Method: EPA 5030 Date Analyzed: 11/13/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued	<u>i)</u>		· · · · · · · · · · · · · · · · · · ·
1,1,2-Trichloroethane	79-00-5	ND	0.03
Trans-1,3-Dichloropropene	10061-02-6	ND	0.03
2-Chloroethylvinylether	110-75-8	ND	0.03
Bromoform	75-25-2	ND	0.03
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.03
Tetrachloroethene	127-18-4	ND	0.03
Toluene	108-88-3	ND	0.03
Chlorobenzene	108-90-7	ND	0.03
Ethylbenzene	100-41-4	ND	0.03
1,3-Dichlorobenzene	541-73-7	ND	0.03
1,2-Dichlorobenzene	95-50-1	ND	0.03
1,4-Dichlorobenzene	106-46-7	ND	0.03
Freon 113	76-13-1	ND	0.03
p,m-Xylenes		0.21	0.03
o-Xylene	95-47-6	0.63	0.03
Acetone	67-64-1	ND	0.1
2-Butanone	78-93-3	ND	0.1
4-Methyl-2-pentanone	108-10-1	ND	0.1
2-Hexanone	591-78-6	ND	0.1
Vinyl acetate	108-05-4	ND	0.05

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 19A-19D Date Sampled: 11/09/92 Lab Number: 9211120-07E Date Received: 11/10/92 Sample Matrix/Media: SOIL Date Prepared: 11/13/92 Preparation Method: EPA 5030 Date Analyzed: 11/13/92 Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continu	ıed)		
Carbon disulfide Styrene	75-15-0 100-42-5	ND ND	0.03 0.03
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene	17060-07-0 2037-26-5 460-00-4	98 100 108	70 - 121 81 - 117 74 - 121

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 20A-20D Date Sampled: 11/09/92 Lab Number: 9211120-08E Date Received: 11/10/92 Sample Matrix/Media: SOIL Date Prepared: 11/13/92 Preparation Method: EPA 5030 Analytical Method: EPA 8240 (Low Level) Date Analyzed: 11/13/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	0.03
Bromomethane	74-83-9	ND	0.03
Vinyl chloride	75-01-4	ND	0.03
Chloroethane	75-00-3	ND	0.03
Methylene chloride	75-09-2	ND	0.03
Trichlorofluoromethane	75-69-4	ND	0.03
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.03
Trans-1,2-Dichloroethene	156-60-5	ND	0.03
Cis-1,2-Dichloroethene	156-59-2	ND	0.03
Chloroform	67-66-3	ND	0.03
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.03
Carbon tetrachloride	56-23-5	ND	0.03
Bromodichloromethane	75-27-4	ND	0.03
1,2-Dichloropropane	78-87-5	ND	0.03
Cis-1,3-Dichloropropene	10061-01-5	ND	0.03
Trichloroethene	79-01-6	ND	0.03
Benzene	71-43-2	ND	0.03
Dibromochloromethane	124-48-1	ND	0.03

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 20A-20D Date Sampled: 11/09/92
Lab Number: 9211120-08E Date Received: 11/10/92
Sample Matrix/Media: SOIL Date Prepared: 11/13/92
Preparation Method: EPA 5030 Date Analyzed: 11/13/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continue	<u>a)</u>		
1,1,2-Trichloroethane	79-00-5	ND	0.03
Trans-1,3-Dichloropropene	10061-02-6	ND	0.03
2-Chloroethylvinylether	110-75-8	ND	0.03
Bromoform	75-25-2	ND	0.03
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.03
Tetrachloroethene	127-18-4	ND	0.03
Toluene	108-88-3	ND	0.03
Chlorobenzene	108-90-7	ND	0.03
Ethylbenzene	100-41-4	ND	0.03
1,3-Dichlorobenzene	541-73-7	ND	0.03
1,2-Dichlorobenzene	95-50-1	ND	0.03
1,4-Dichlorobenzene	106-46-7	ND	0.03
Freon 113	76-13-1	ND	0.03
p,m-Xylenes		ND	0.03
o-Xylene	95-47-6	0.05	0.03
Acetone	67-64-1	ND	0.1
2-Butanone	78-93-3	ND	0.1
4-Methyl-2-pentanone	108-10-1	ND	0.1
2-Hexanone	591-78-6	ND	0.1
Vinyl acetate	108-05-4	ND	0.05

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification:	COMP. SP 20A-20D	Date Sampled:	11/09/92
Lab Number:	9211120-08E	Date Received:	11/10/92
Sample Matrix/Media:	SOIL	Date Prepared:	11/13/92
Preparation Method:	EPA 5030	Date Analyzed:	11/13/92
Analytical Method:	EPA 8240 (Low Level)	<del>-</del>	

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continu	ıed)		
Carbon disulfide	75-15-0	ND	0.03
Styrene	100-42-5	ND	0.03
			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
1,2-Dichloroethane-d4	17060-07-0	103	70 - 121
Toluene-d8	2037-26-5	107	81 - 117
Bromofluorobenzene	460-00-4	116	74 - 121

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification:COMP. SP 21A-21DDate Sampled:11/09/92Lab Number:9211120-09EDate Received:11/10/92Sample Matrix/Media:SOILDate Prepared:11/13/92Preparation Method:EPA 5030Date Analyzed:11/13/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	0.03
Bromomethane	74-83-9	ND	0.03
Vinyl chloride	75-01-4	ND	0.03
Chloroethane	75-00-3	ND	0.03
Methylene chloride	75-09-2	ND	0.03
Trichlorofluoromethane	75-69-4	ND	0.03
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.03
Trans-1,2-Dichloroethene	156-60-5	ND	0.03
Cis-1,2-Dichloroethene	156-59-2	ND	0.03
Chloroform	67-66-3	ND	0.03
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.03
Carbon tetrachloride	56-23-5	ND	0.03
Bromodichloromethane	75-27-4	ND	0.03
1,2-Dichloropropane	78-87-5	ND	0.03
Cis-1,3-Dichloropropene	10061-01-5	ND	0.03
Trichloroethene	79-01-6	ND	0.03
Benzene	71-43-2	ND	0.03
Dibromochloromethane	124-48-1	ND	0.03

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 21A-21D Date Sampled: 11/09/92 Lab Number: 9211120-09E Date Received: 11/10/92 Sample Matrix/Media: SOIL Date Prepared: 11/13/92 Preparation Method: EPA 5030 Analytical Method: EPA 8240 (Low Level) Date Analyzed: 11/13/92

Analytical Method:

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued	<u>1)</u>		
1,1,2-Trichloroethane	79-00-5	ND	0.03
Trans-1,3-Dichloropropene	10061-02-6	ИĎ	0.03
2-Chloroethylvinylether	110-75-8	ND	0.03
Bromoform	75-25-2	ND	0.03
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.03
Tetrachloroethene	127-18-4	ND	0.03
Toluene	108-88-3	ND	0.03
Chlorobenzene	108-90-7	ND	0.03
Ethylbenzene	100-41-4	ND	0.03
1,3-Dichlorobenzene	541-73-7	ND	0.03
1,2-Dichlorobenzene	95-50-1	ND	0.03
1,4-Dichlorobenzene	106-46-7	ND	0.03
Freon 113	76-13-1	ND	0.03
p,m-Xylenes	<del></del>	0.05	0.03
o-Xylene	95-47-6	0.22	0.03
Acetone	67-64-1	ND	0.1
2-Butanone	78-93-3	ND	0.1
4-Methyl-2-pentanone	108-10-1	ND	0.1
2-Hexanone	591-78-6	ND	0.1
Vinyl acetate	108-05-4	ND	0.05

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: Lab Number: Sample Matrix/Media: Preparation Method: Analytical Method:	COMP. SP 21A- 9211120-09E SOIL EPA 5030 EPA 8240 (Low	Date Date Date	Received: Prepared:	11/09/92 11/10/92 11/13/92 11/13/92
		Concentra	ıtion	Limit of Detection

Analyte	CAS #	(mg/kg)	(mg/kg)
Purgeable Organics (continue	:d)		
Carbon disulfide	75-15-0	ND	0.03
Styrene	100-42-5	ND	0.03
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
1,2-Dichloroethane-d4	17060-07-0	94	70 - 121
Toluene-d8	2037-26-5	89	81 - 117
Bromofluorobenzene	460-00-4	112	74 - 121

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: METHOD BLANK Date Sampled: Lab Number: 9211120-10A Date Received:

Sample Matrix/Media: SOIL Date Prepared: 11/14/92 Preparation Method: EPA 5030 Analytical Method: EPA 8240 (Low Level) Date Analyzed: 11/14/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	0.005
Bromomethane	74-83-9	ND	0.005
Vinyl chloride	75-01-4	ND	0.005
Chloroethane	75-00-3	ND	0.005
Methylene chloride	75-09-2	ND	0.005
Trichlorofluoromethane	75-69-4	ND	0.005
1,1-Dichloroethene	75-35-4	ND	0.005
1,1-Dichloroethane	75-35-3	ND	0.005
Trans-1,2-Dichloroethene	156-60-5	ND	0.005
Cis-1,2-Dichloroethene	156-59-2	ND	0.005
Chloroform	67-66-3	ND	0.005
1,2-Dichloroethane	107-06-2	ND	0.005
1,1,1-Trichloroethane	71-55-6	ND	0.005
Carbon tetrachloride	56-23-5	ND	0.005
Bromodichloromethane	75-27-4	ND	0.005
1,2-Dichloropropane	78-87-5	ND	0.005
Cis-1,3-Dichloropropene	10061-01-5	ND	0.005
Trichloroethene	79-01-6	ND	0.005
Benzene	71-43-2	ND	0.005
Dibromochloromethane	124-48-1	ND	0.005

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: METHOD BLANK

Date Sampled:

Lab Number:

9211120-10A

Date Received:

11/14/92

Sample Matrix/Media: Preparation Method:

SOIL

Date Prepared:

EPA 5030

Date Analyzed: 11/14/92

Analytical Method: EPA 8240 (Low Level)

Analyte		CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued	<u>.)</u>			······································
1,1,2-Trichloroethane	•	79-00-5	ND	0.005
Trans-1,3-Dichloropropene	1006	1-02-6	ND	0,005
2-Chloroethylvinylether	1 1	0-75-8	ND	0.005
Bromoform		5-25-2	ND	0.005
1,1,2,2-Tetrachloroethane	-	79-34-5	ND	0.005
Tetrachloroethene	12	7-18-4	ND	0.005
Toluene	10	8-88-3	ND	0.005
Chlorobenzene	10	8-90-7	ND	0.005
Ethylbenzene	10	0-41-4	ND	0.005
1,3-Dichlorobenzene	54	1-73-7	ND	0.005
1,2-Dichlorobenzene	ç	5-50-1	ND	0.005
1,4-Dichlorobenzene	10	6-46-7	ND	0.005
Freon 113	-	6-13-1	ND	0.005
p,m-Xylenes			ND	0.005
o-Xylene	9	5-47-6	ND	0.005
Acetone	6	7-64-1	ND	0.02
2-Butanone	-	78-93-3	ND	0.02
4-Methyl-2-pentanone	10	8-10-1	ND	0.02
2-Hexanone	59	1-78-6	ND	0.02
Vinyl acetate	10	8-05-4	ND	0.01

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: METHOD BLANK Date Sampled: Lab Number: 9211120-10A Date Received:

Sample Matrix/Media: Date Prepared: 11/14/92 SOIL Preparation Method: EPA 5030
Analytical Method: EPA 8240 (Low Level) Date Analyzed: 11/14/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continu	ed)		
Carbon disulfide	75-15-0	ND	0.005
Styrene	100-42-5	ND	0.005
			QC Limits (%)
Surrogates		Recovery (%)	
1,2-Dichloroethane-d4	17060-07-0	99	70 - 121
Toluene-d8	2037-26-5	104	81 - 117
Bromofluorobenzene	460-00-4	112	74 - 121

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 13A-13D Date Sampled: 11/09/92
Lab Number: 9211120-01E Date Received: 11/10/92
Sample Matrix/Media: SOIL Date Extracted: 11/11/92
Extraction Method: EPA 3550 Date Analyzed: 11/12/92
Analytical Method: EPA 8270

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 13A-13D Date Sampled: 11/09/92
Lab Number: 9211120-01E Date Received: 11/10/92
Sample Matrix/Media: SOIL Date Extracted: 11/11/92
Extraction Method: EPA 3550 Date Analyzed: 11/12/92

Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con-	tinued)		
N-nitrosodi-n-propylamine	621-64-7	ND	0.2
Hexachloroethane	67-72-1	ИD	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	1.5	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
2-chloronaphthalene	<del>9</del> 1-58-7	ND	0.2
2-methyl naphthalene	91-57-6	2.2	0.2
4-chloroaniline	106-47-8	ИD	1
2-nitroaniline	88-74-4	ND	1
3-nitroaniline	99-09-2	ND	1 1 1 2
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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 13A-13D 11/09/92 Date Sampled: Lab Number: 9211120-01E Date Received: 11/10/92 Sample Matrix/Media: SOIL Date Extracted: 11/11/92 Extraction Method: EPA 3550 Date Analyzed: 11/12/92 Analytical Method: EPA 8270

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

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 13A-13D 11/09/92 Date Sampled: Lab Number: Date Received: 9211120-01E 11/10/92 Sample Matrix/Media: SOIL Date Extracted: 11/11/92 Extraction Method: EPA 3550 11/12/92 Date Analyzed: Analytical Method: **EPA 8270** 

Limit of Concentration Detection Analyte CAS # (mg/kg) (mg/kg) Base/Neutral Extractables (continued) Benzo(b)fluoranthene ND 0.2 205-99-2 Benzo(k)fluoranthene 0.2 207-08-9 ND Benzo(a)pyrene ND 0.2 50-32-8 Indeno(1,2,3-cd)pyrene 0.2 193-39-5 ND Dibenzo(a,h)anthracene 0.2 53-70-3 ND Benzo(ghi)perylene 0.2 191-24-2 ND QC Limits (%) Surrogates Recovery (%) LCL UCL 2-Fluorophenol 25 - 121367-12-4 55 Phenol-d6 71 24 - 11313127-88-3 23 - 120Nitrobenzene-d5 65 4165-60-0 2-Fluorobiphenyl 321-60-8 77 30 - 1152,4,6-Tribromophenol 117 19 - 122118-79-6 18 - 137Terphenyl-d14 98904-43-9 56

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

11/09/92 Sample Identification: COMP. SP 14A-14D Date Sampled: Lab Number: 9211120-02B Date Received: 11/10/92 Sample Matrix/Media: Date Extracted: 11/11/92 SOIL EPA 3550 Extraction Method: Date Analyzed: 11/12/92 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	\$9-50-7	ND	0.2
2,4,5-trichlorophenol	95-95-4	ND	0.2
2,4,6-trichlorophenol	<b>\$8-06-2</b>	ND	0.2
2,4-dinitrophenol	<b>\$1-28-5</b>	ND	1
4-nitrophenol	100-02-7	ND	1
2-methyl-4,6-dinitrophenol	534-52-1	ND	· 1
Pentachlorophenol	87-86-5	ИD	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	1   8 - 60 - 1	ND	0.2
	1		

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 14A-14D Date Sampled: 11/09/92 Lab Number: 9211120-02E Date Received: 11/10/92 Sample Matrix/Media: SOIL Date Extracted: 11/11/92 Extraction Method: EPA 3550 Date Analyzed: 11/12/92 Analytical Method: **EPA 8270** 

Limit of Concentration Detection Analyte CAS # (mg/kg) (mg/kg) Base/Neutral Extractables (continued) N-nitrosodi-n-propylamine 0.2 621-64-7 ND Hexachloroethane 0.2 67-72-1 ND Nitrobenzene 0.2 98-95-3 ND Isophorone 0.2 78-59-1 ND Benzoic acid 0.8 65-85-0 ND Bis-(2-chloroethoxy)methane 111-91-1 0.2 ND 1,2,4-trichlorobenzene 0.2 120-82-1 ND Naphthalene 91-20-3 0.2 0.4 Hexachlorobutadiene 0.2 87-68-3 ND 2-chloronaphthalene 0.2 91-58-7 ND 2-methyl naphthalene 0.2 91-57-6 1.4 4-chloroaniline 106-47-8 1 ND 2-nitroaniline 88-74-4 1 ND 3-nitroaniline 99-09-2 1 ND 4-nitroaniline 1 100-01-6 ND Hexachlorocyclopentadiene 2 77-47-4 ND 0.2 Dimethyl phthalate 131-11-3 ND Acenaphthylene 0.2 208-96-8 ND Acenaphthene 83-32-9 0.2 ND Dibenzofuran 132-64-9 0.2 ND

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification:	COMP. SP 14	A-14D Date	Sampled:	11/09/92
Lab Number:	9211120-02E	Date	Received:	11/10/92
Sample Matrix/Media:	SOIL	Date	Extracted:	11/11/92
Extraction Method:	EPA 3550	Date	Analyzed:	11/12/92
Analytical Method:	EPA 8270			

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
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	700 5-72-3	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	0.2	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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

11/09/92 Sample Identification: COMP. SP 14A-14D Date Sampled: Lab Number: 9211120-02E Date Received: 11/10/92 Sample Matrix/Media: Date Extracted: 11/11/92 SOIL EPA 3550 Extraction Method: Date Analyzed: 11/12/92 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
			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
2-Fluorophenol	367-12-4	47	25 - 121
Phenol-d6	13127-88-3	59	24 - 113
Nitrobenzene-d5	4165-60-0	55	23 - 120
2-Fluorobiphenyl	321-60-8	59	30 - 115
2,4,6-Tribromophenol	118-79-6	117	19 - 122
Terphenyl-d14	98904-43-9	61	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



Date Sampled:

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11/09/92

## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 15A-15D

Sample Matrix/Media: S Extraction Method: E	211120-03E OIL PA 3550 PA 8270		Date Received: Date Extracted: Date Analyzed:	11/11/92
Analyte		CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Acid Extractables				
Phenol	10	8-95-2	ND	0.2
2-chlorophenol	9	5-57-8	ND	0.2
2-methyl phenol	9	5-48-7	ND	0.2
4-methyl phenol		6-44-5	ND	0.2
2-nitrophenol		8-75-5	ND	0.2
2,4-dimethylphenol		5-67-9	ND	0.2
2,4-dichlorophenol		0-83-2	ND	0.2
4-chloro-3-methylpheno		9-50-7	ND	0.2
2,4,5-trichlorophenol		5-95-4	ND	0.2
2,4,6-trichlorophenol		8-06-2	ND	0.2
2,4-dinitrophenol		1-28-5	ND	1
4-nitrophenol		0-02-7	ND	1
2-methyl-4,6-dinitroph		4-52-1	ND	1
Pentachlorophenol	8	7-86-5	ND	1
Base/Neutral Extractable	<u>:5</u>			
Bis(2-chloroethyl)ethe		1-44-4	ND	0.2
1,3-dichlorobenzene		1-73-7	ND	0.2
1,4-dichlorobenzene		6-46-7	ND	0.2
Benzyl alcohol		0-51-6	ND	0.4
1,2-dichlorobenzene		5-50-1	ND	0.2
Bis-(2-chloroisopropyl	)ether 10	8-60-1	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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 15A-15D Date Sampled: 11/09/92 Lab Number: 9211120-03E Date Received: 11/10/92 Sample Matrix/Media: SOIL Date Extracted: 11/11/92 Extraction Method: EPA 3550 Date Analyzed: 11/12/92 Analytical Method: **EPA 8270** 

Limit of Concentration Detection Analyte CAS # (mg/kg) (mg/kg) Base/Neutral Extractables (continued) N-nitrosodi-n-propylamine 621-64-7 ND 0.2 Hexachloroethane 67-72-1 ND 0.2 Nitrobenzene 0.2 98-95-3 ND Isophorone 78-59-1 ND 0.2 Benzoic acid 65-85-0 ND 0.8 Bis-(2-chloroethoxy)methane ND 0.2 111-91-1 1,2,4-trichlorobenzene 120-82-1 ND 0.2 Naphthalene 0.2 91-20-3 0.3 Hexachlorobutadiene 87-68-3 ND 0.2 2-chloronaphthalene 91 - 58 - 7ND 0.2 2-methyl naphthalene 91-57-6 0.9 0.2 4-chloroaniline 106-47-8 ND 1 2-nitroaniline 88-74-4 1 ND 3-nitroaniline 99-09-2 1 ND 100-01-6 4-nitroaniline ND 1 Hexachlorocyclopentadiene 2 77-47-4 ND 0.2 Dimethyl phthalate 131-11-3 ND Acenaphthylene ND 0.2 208-96-8 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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 15A-15D Date Sampled: 11/09/92 Lab Number: 9211120-03E Date Received: 11/10/92 Sample Matrix/Media: SOIL Date Extracted: 11/11/92 Extraction Method: EPA 3550 Date Analyzed: 11/12/92 Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
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	NĎ	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	0.2	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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 15A-15D Date Sampled: 11/09/92 Lab Number: Date Received: 9211120-03E 11/10/92 Sample Matrix/Media: SOIL Date Extracted: 11/11/92 Extraction Method: EPA 3550 Date Analyzed: 11/12/92 Analytical Method: EPA 8270

Limit of Concentration Detection Analyte CAS # (mg/kg) (mg/kg) Base/Neutral Extractables (continued) Benzo(b)fluoranthene 0.2 205-99-2 ND Benzo(k)fluoranthene 0.2 207-08-9 ND 0.2 Benzo(a)pyrene 50-32-8 ND Indeno(1,2,3-cd)pyrene 0.2 193-39-5 ND Dibenzo(a,h)anthracene 0.2 53-70-3 ND Benzo(ghi)perylene 191-24-2 ND 0.2 QC Limits (%) LCL UCL Surrogates Recovery (%) 25 - 1212-Fluorophenol 367-12-4 55 Phenol-d6 24 - 11313127-88-3 68 Nitrobenzene-d5 23 - 12068 4165-60-0 2-Fluorobiphenyl 30 - 115321-60-8 68 2,4,6-Tribromophenol 19 - 122 118-79-6 118 18 - 137Terphenyl-d14 98904-43-9 57

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification:	COMP. SP 16A-16D	Date	Sampled:	11/09/92
Lab Number:	9211120-04E	Date	Received:	11/10/92
Sample Matrix/Media:	SOIL	Date	Extracted:	11/11/92
Extraction Method:	EPA 3550	Date	Analyzed:	11/13/92
Analytical Method:	EPA 8270		_	

	108-95-2	ND	2
2-chlorophenol	95-57-8	ND	2
2-methyl phenol	95-48-7	ND	2
	106-44-5	ND	2
2-nitrophenol	88-75-5	ND	2 2 2
	105-67-9	ND	
	120-83-2	ND	2 .
4-chloro-3-methylphenol	59-50-7	ND	2 2
2,4,5-trichlorophenol	95-95-4	ND	2
2,4,6-trichlorophenol	88-06-2	ND	
2,4-dinitrophenol	\$1-28-5	ND	10
	100-02-7	ND	10
	534-52-1	ND	10
Pentachlorophenol Base/Neutral Extractables	87-86-5	ND	10
<u> </u>			
Bis(2-chloroethyl)ether	111-44-4	ND	2
1,3-dichlorobenzene	541-73-7	ND	2
1,4-dichlorobenzene	106-46-7	ND	2
Benzyl alcohol	100-51-6	ND	4
1,2-dichlorobenzene	95-50-1	ND	2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 16A-16D Date Sampled: 11/09/92 Lab Number: 9211120-04E Date Received: 11/10/92 Sample Matrix/Media: SOIL Date Extracted: 11/11/92 Extraction Method: EPA 3550 Date Analyzed: 11/13/92 Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
N-nitrosodi-n-propylamine	621-64-7	ND.	2
Hexachloroethane	67-72-1	ND	2
Nitrobenzene	98-95-3	ND	2
Isophorone	78-59-1	ND	2
Benzoic acid	65-85-0	ND	8
Bis-(2-chloroethoxy)methane	111-91-1	ND	2
1,2,4-trichlorobenzene	120-82-1	ND	2
Naphthalene	91-20-3	10	2
Hexachlorobutadiene	87-68-3	ND	2
2-chloronaphthalene	91-58-7	ND	2
2-methyl naphthalene	91-57-6	12	2
4-chloroaniline	106-47-8	ND	10
2-nitroaniline	88-74-4	ND	10
3-nitroaniline	99-09-2	ND	10
4-nitroaniline	100-01-6	ND	10
Hexachlorocyclopentadiene	77-47-4	ND	20
Dimethyl phthalate	131-11-3	ND	2
Acenaphthylene	208-96-8	ND	2
Acenaphthene	83-32-9	ND	2
Dibenzofuran	132-64-9	ND	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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 16A-16D Date Sampled: 11/09/92 Lab Number: 9211120-04E Date Received: 11/10/92 Sample Matrix/Media: SOIL Date Extracted: 11/11/92 Extraction Method: EPA 3550 Date Analyzed: 11/13/92 Analytical Method: EPA 8270

Limit of Detection Concentration Analyte CAS # (mg/kg) (mg/kg) Base/Neutral Extractables (continued) 2,4-dinitrotoluene 2 121-14-2 ND 2 2,6-dinitrotoluene 606-20-2 ND Diethyl phthalate 2 84-66-2 ND 2 4-chlorophenylphenylether 7005-72-3 ND 2 Fluorene 86-73-7 ND 2 N-nitrosodiphenylamine 86-30-6 ND 2 4-bromophenylphenylether 101-55-3 ND 2 Hexachlorobenzene 118-74-1 ND 2 Phenanthrene 85-01-8 ND 2 Anthracene 120-12-7 ND 2 Di-n-butylphthalate 84-74-2 ND 2 Fluoranthene 206-44-2 ND Benzidine 50 92-87-5 ND Pyrene 2 129-00-0 ND 2 Benzylbutylphthalate 85-68-7 ND 3,3'-dichlorobenzidine 91-94-1 ND 50 Benzo(a)anthracene 2 56-55-3 ND Bis-(2-ethylhexyl)phthalate 20 117-81-7 ND Chrysene 2 218-01-9 ND Di-n-octylphthalate 2 117-84-0 ND

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 16A-16D 11/09/92 Date Sampled: Lab Number: 9211120-04E Date Received: 11/10/92 Sample Matrix/Media: SOIL Date Extracted: 11/11/92 Extraction Method: EPA 3550 Date Analyzed: 11/13/92 Analytical Method: EPA 8270

Analyte	CAS	#	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables	(continued)			
Benzo(b) fluoranthene	205-9	9-2	ND	2
Benzo(k)fluoranthene	207-0	8-9	ND	2
Benzo(a)pyrene	50-3	2-8	ND	2
<pre>Indeno(1,2,3-cd)pyrene</pre>	193-3	9-5	ND	2
Dibenzo(a,h)anthracene	53-70	0-3	ND	2
Benzo(ghi)perylene	191-2	4-2	ND	2
				QC Limits (%)
Surrogates			Recovery (%)	LCL UCL
2-Fluorophenol	367-1	2-4	74	25 - 121
Phenol-d6	13127-8	8-3	94	24 - 113
Nitrobenzene-d5	4165-6	0-0	84	23 - 120
2-Fluorobiphenyl	321-6	8-0	114	30 - 115
2,4,6-Tribromophenol	118-7	9-6	119	19 - 122
Terphenyl-d14	98904-4	3-9	101	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



Date Sampled:

ND ND

ND

ND

ND

ND

ND

ND

Date Received:

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11/09/92

11/10/92

0.2

0.2

0.2

0.4

0.2

0.2

## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 17A-17D

2-methyl-4,6-dinitrophenol

Pentachlorophenol

Base/Neutral Extractables

1,3-dichlorobenzene

1,4-dichlorobenzene

1,2-dichlorobenzene

Benzyl alcohol

Bis(2-chloroethyl)ether

Bis-(2-chloroisopropyl)ether

9211120-05B

Lab Number:

Sample Matrix/Media: Extraction Method: Analytical Method:	SOIL EPA 3550 EPA 8270	•	Date Extracted: Date Analyzed:	
Analyte		CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Acid Extractables				
Phenol	10	8-95-2	ND	0.2
2-chlorophenol	ģ	5-57-8	ND	0.2
2-methyl phenol	ģ	5-48-7	ND	0.2
4-methyl phenol	10	16-44-5	ND	0.2
2-nitrophenol	8	88-75-5	ND	0.2
2,4-dimethylphenol	10	5-67-9	ND	0.2
2,4-dichlorophenol	12	0-83-2	ND	0.2
4-chloro-3-methylpher	nol	9-50-7	ND	0.2
2,4,5-trichlorophenol	1 9	5-95-4	ND	0.2
2,4,6-trichloropheno	1 8	8-06-2	ND	0.2
2,4-dinitrophenol	¢	1-28-5	ND	1
4-nitrophenol	1 d	0-02-7	ND	1

534-52-1

111-44-4

541-73-7

106-46-7

100-51-6

108-60-1

95-50-1

87-86-5

ND		or above limit of detection
		available or not applicable
Resul	lts are reported	on a wet weight basis, as received



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 17A-17D

Lab Number: 9211120-05E

Sample Matrix/Media:

SOIL

Extraction Method:

Analytical Method:

EPA 3550

EPA 8270

Date Sampled: 11/09/92

Date Received: 11/10/92 Date Extracted: 11/11/92

11/12/92 Date Analyzed:

nalyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
ase/Neutral Extractables (con	tinued)		
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 <b>-</b> 1	ИD	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	7.3	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
2-chloronaphthalene	91-58-7	ND	0.2
2-methyl naphthalene	91-57-6	8.7	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 1 1 2
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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 17A-17D Date Sampled: 11/09/92 Lab Number: 9211120-05E Date Received: 11/10/92 Sample Matrix/Media: SOIL Date Extracted: 11/11/92 Extraction Method: EPA 3550 Date Analyzed: 11/12/92 Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
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	0.2	0.2
${ t N-nitrosodiphenylamine}$	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	0.4	0.2
Anthracene	120-12-7	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
Fluoranthene	206-44-2	0.2	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



Date Sampled:

59

71

45

69

122

72

Date Received:

Date Extracted: 11/11/92

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11/09/92

11/10/92

25 - 121

24 - 113

23 - 120

30 - 115

19 - 122

18 - 137

#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

9211120-05E

SOIL

= = = =		ted: 11/11/92
EPA 8270	Date Analyz	ea: 11/12/92
CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
oles (continued)		
205-99-2	ND	0.2
207-08-9	ND	0.2
50-32-8	ND	0.2
ene 193-39-5	ND	0.2
ene 53-70-3	ND	0.2
191-24-2	ND	0.2
		QC Limits (%)
	CAS #  cles (continued)  205-99-2 207-08-9 50-32-8 209-209-50-32-8 209-50-32-8 209-50-32-8 209-50-32-8	EPA 3550 EPA 8270  Concentration (mg/kg)  Coles (continued)  205-99-2 Page 207-08-9 Page 207-08-9 Page 193-39-5 Page 193-39-5 Page 53-70-3 Page 53-70-3 Page 193-39-5 Page 53-70-3 Page 193-39-5 Page

367-12-4

321-60-8

118-79-6

13127-88-3

4165-60-0

98904-43-9

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

Sample Identification: COMP. SP 17A-17D

Lab Number:

Sample Matrix/Media:

2-Fluorophenol

Nitrobenzene-d5

Terphenyl-d14

2-Fluorobiphenyl

2,4,6-Tribromophenol

Phenol-d6



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

11/09/92 Sample Identification: COMP. SP 18A-18D Date Sampled: Date Received: 11/10/92 Lab Number: 9211120-06E Sample Matrix/Media: SOIL Date Extracted: 11/11/92 EPA 3550 Date Analyzed: 11/12/92 Extraction Method: Analytical Method: EPA 8270

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

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 18A-18D 11/09/92 Date Sampled: Lab Number: 9211120-06E Date Received: 11/10/92 Sample Matrix/Media: SOIL Date Extracted: 11/11/92 Extraction Method: EPA 3550 Date Analyzed: 11/12/92 Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
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	8.9	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
2-chloronaphthalene	91-58-7	ND	0.2
2-methyl naphthalene	91-57-6	9.0	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 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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

11/09/92 Date Sampled: Sample Identification: COMP. SP 1\$A-18D Date Received: 11/10/92 Lab Number: 9211120-06E Date Extracted: 11/11/92 Sample Matrix/Media: SOIL Date Analyzed: 11/12/92 Extraction Method: EPA 3550 Analytical Method: EPA 8270

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



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23 - 120

30 - 115

19 - 122

18 - 137

## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 18A-18D Date Sampled: 11/09/92 Lab Number: 9211120-06E Date Received: 11/10/92 Sample Matrix/Media: Date Extracted: 11/11/92 SOIL Extraction Method: EPA 3550 Date Analyzed: 11/12/92 Analytical Method: EPA 8270

Limit of Concentration Detection Analyte CAS # (mg/kg) (mg/kg) Base/Neutral Extractables (continued) Benzo(b) fluoranthene 205-99-2 ND 0.2 Benzo(k)fluoranthene 207-08-9 0.2 ND Benzo(a)pyrene 50-32-8 ND 0.2 Indeno(1,2,3-cd)pyrene 193-39-5 0.2 ND Dibenzo(a,h)anthracene 53-70-3 ND 0.2 Benzo(qhi)perylene 191-24-2 ND 0.2 QC Limits (%) Surrogates Recovery (%) LCL UCL 2-Fluorophenol 367-12-4 59 25 - 121Phenol-d6 13127-88-3 73 24 - 113

4165-60-0

321-60-8

118-79-6

98904-43-9

62

66

63

117

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

Nitrobenzene-d5

Terphenyl-d14

2-Fluorobiphenyl

2,4,6-Tribromophenol



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 19A-19D Date Sampled: 11/09/92
Lab Number: 9211120-07E Date Received: 11/10/92
Sample Matrix/Media: SOIL Date Extracted: 11/11/92
Extraction Method: EPA 3550 Date Analyzed: 11/12/92
Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Acid Extractables			
Phenol	108-95-2	ND	2
2-chlorophenol	95-57-8	ND	2
2-methyl phenol	95-48-7	ND	2 2 2 2
4-methyl phenol	106-44-5	ND	2
2-nitrophenol	88-75-5	ND	2
2,4-dimethylphenol	105-67-9	ND	2
2,4-dichlorophenol	120-83-2	ND	2 2 2 2 2
4-chloro-3-methylphenol	59-50-7	ND	2
2,4,5-trichlorophenol	95-95-4	ND	2
2,4,6-trichlorophenol	88-06-2	ND	2
2,4-dinitrophenol	51-28-5	ND	10
4-nitrophenol	100-02-7	ND	10
2-methyl-4,6-dinitrophenol	534-52 <b>-</b> 1	ND	10
Pentachlorophenol	87-86-5	ND	10
Base/Neutral Extractables			
Bis(2-chloroethyl)ether	111-44-4	ND	2
1,3-dichlorobenzene	541-73-7	ND	2
1,4-dichlorobenzene	106-46-7	ND	2
Benzyl alcohol	100-51-6	ND	4
1,2-dichlorobenzene	95-50-1	ND	2 2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 19A-19D 11/09/92 Date Sampled: Lab Number: 9211120-07E Date Received: 11/10/92 Sample Matrix/Media: SOIL Date Extracted: 11/11/92 Extraction Method: EPA 3550 Date Analyzed: 11/12/92 Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
N-nitrosodi-n-propylamine	621-64-7	ND	2
Hexachloroethane	67-72-1	ND	2
Nitrobenzene	98-95-3	ND	
Isophorone	78-59-1	ND	2 2
Benzoic acid	65-85-0	ND	8
Bis-(2-chloroethoxy)methane	111-91-1	ND	2
1,2,4-trichlorobenzene	120-82-1	ND	
Naphthalene	91-20-3	ND	2 2 2 2 2
Hexachlorobutadiene	87-68-3	ND	2
2-chloronaphthalene	91-58-7	ND	2
2-methyl naphthalene	91-57-6	ND	2
4-chloroaniline	106-47-8	ND	10
2-nitroaniline	88-74-4	ND	10
3-nitroaniline	99-09-2	ND	10
4-nitroaniline	100-01-6	ND	10
Hexachlorocyclopentadiene	77-47-4	ND	20
Dimethyl phthalate	131-11-3	ND	2
Acenaphthylene	208-96-8	ND	2 2
Acenaphthene	83-32-9	ND	2
Dibenzofuran	132-64-9	ND	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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification:COMP. SP 19A-19DDate Sampled:11/09/92Lab Number:9211120-07EDate Received:11/10/92Sample Matrix/Media:SOILDate Extracted:11/11/92Extraction Method:EPA 3550Date Analyzed:11/12/92

Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
2,4-dinitrotoluene	121-14-2	ND	2
2,6-dinitrotoluene	606-20-2	ND	2 2
Diethyl phthalate	84-66-2	ND	2
4-chlorophenylphenylether	7005-72-3	ND	2
Fluorene	86-73-7	ND	2 2
N-nitrosodiphenylamine	86-30-6	ND	
4-bromophenylphenylether	101-55-3	ND	2
Hexachlorobenzene	118-74-1	ND	2
Phenanthrene	85-01-8	ND	2
Anthracene	120-12-7	ND	2
Di-n-butylphthalate	84-74-2	ND	2
Fluoranthene	206-44-2	ND	2
Benzidine	92-87-5	ND	50
Pyrene	129-00-0	ND	2
Benzylbutylphthalate	85-68-7	ND	2
3,3'-dichlorobenzidine	91-94-1	ИD	50
Benzo(a)anthracene	56-55-3	ND	2
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	20
Chrysene	218-01-9	ND	2
Di-n-octylphthalate	117-84-0	ND	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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 19A-19D Date Sampled: 11/09/92
Lab Number: 9211120-07E Date Received: 11/10/92
Sample Matrix/Media: SOIL Date Extracted: 11/11/92
Extraction Method: EPA 3550 Date Analyzed: 11/12/92
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	2
Benzo(k)fluoranthene	207-08-9	ND	2
Benzo(a)pyrene	50-32-8	ND	2
<pre>Indeno(1,2,3-cd)pyrene</pre>	193-39-5	ND	2
Dibenzo(a,h)anthracene	53-70-3	ND	2
Benzo(ghi)perylene	191-24-2	ND	2
			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
2-Fluorophenol	367-12-4	77	25 - 121
Phenol-d6	13127-88-3	80	24 - 113
Nitrobenzene-d5	4165-60-0	76	23 - 120
2-Fluorobiphenyl	321-60-8	103	30 - 115
2,4,6-Tribromophenol	118-79-6	110	19 - 122
Terphenyl-d14	98904-43-9	91	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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 20A-20D Date Sampled: 11/09/92
Lab Number: 9211120-08E Date Received: 11/10/92
Sample Matrix/Media: SOIL Date Extracted: 11/11/92
Extraction Method: EPA 3550 Date Analyzed: 11/12/92

EPA 8270

Analytical Method:

Limit of Concentration Detection (mg/kg) CAS # (mg/kg) Analyte Acid Extractables 2 Phenol 108-95-2 ND 2 95-57-8 ND 2-chlorophenol 2 2-methyl phenol 95-48-7 ND 2 ND 4-methyl phenol 106-44-5 2 2-nitrophenol 88-75-5 ND 2 2,4-dimethylphenol 105-67-9 ND 2 ND 2,4-dichlorophenol 120-83-2 2 4-chloro-3-methylphenol ND 59-50-7 2 ND 2,4,5-trichlorophenol 95-95-4 2 ND 2,4,6-trichlorophenol 88-06-2 10 2,4-dinitrophenol 51-28-5 ND ND 10 4-nitrophenol 100-02-7 ND 10 2-methyl-4,6-dinitrophenol 534~52-1 10 ND 87-86-5 Pentachlorophenol Base/Neutral Extractables Bis(2-chloroethyl)ether 111-44-4 ND 2 ND 2 1,3-dichlorobenzene 541-73-7 2 1,4-dichlorobenzene ND 106-46-7 4 Benzyl alcohol 100-51-6 ND 2 1,2-dichlorobenzene 95-50-1 ND 2 Bis-(2-chloroisopropyl)ether 108-60-1 ND

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 20A-20D Date Sampled: 11/09/92 Lab Number: 9211120-08E Date Received: 11/10/92 Sample Matrix/Media: SOIL Date Extracted: 11/11/92 Extraction Method: EPA 3550 Date Analyzed: 11/12/92 Analytical Method: EPA 8270

Analyte	CAS #	}	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)			
N-nitrosodi-n-propylamine	621-64-	- 7	ND	2
Hexachloroethane	67-72-		ND	2
Nitrobenzene	98-95-		ND	2
Isophorone	78-59-	- 1	ND	2
Benzoic acid	65-85-	-0	ND	8
Bis~(2-chloroethoxy)methane	111-91-	- 1	ИĎ	2
1,2,4-trichlorobenzene	120-82-		ND	8 2 2 2 2 2
Naphthalene	91-20-	- 3	ND	2
Hexachlorobutadiene	87-68-		ND	2
2-chloronaphthalene	91-58-	· 7	ND	2
2-methyl naphthalene	91-57-	-6	ND	2
4-chloroaniline	106-47-	-8	ND	10
2-nitroaniline	88-74-	- 4	ND	10
3-nitroaniline	99-09-	-2	ND	10
4-nitroaniline	100-01-	-6	ND	10
Hexachlorocyclopentadiene	77-47-	-4	ND	20
Dimethyl phthalate	131-11-	- 3	ND	2
Acenaphthylene	208-96-	-8	ND	2
Acenaphthene	83-32-	- 9	ND	2
Dibenzofuran	132-64-	. 9	ND	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



Date Sampled:

ND

ND

ND

ND

ND

ND

ND

ND

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11/09/92

50

2

2

50

2

2

2

20

## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 20A-20D

Benzidine

Chrysene

Benzylbutylphthalate

Benzo(a)anthracene

Di-n-octylphthalate

3,3'-dichlorobenzidine

Bis-(2-ethylhexyl)phthalate

Pyrene

Lab Number: Sample Matrix/Media: Extraction Method: Analytical Method:	9211120-08E SOIL EPA 3550 EPA 8270		Date I	Received: Extracted: Analyzed:	11/11/92
Analyte		S #	Concentration (mg/kg)		Limit of Detection (mg/kg)
Base/Neutral Extractable	es (continued	<u>)</u>			
2,4-dinitrotoluene	121-	14-2	ND		2
2,6-dinitrotoluene	605-	20-2	ND		2
Diethyl phthalate	84-6	66-2	ND		2
4-chlorophenylphenyle	ther 7005-	72-3	ND		2
Fluorene	86-	73-7	ND		2
N-nitrosodiphenylamir	ie 85-3	30-6	ND		2
4-bromophenylphenylet	ther 101-	55-3	ND		2
Hexachlorobenzene	118-	74-1	ND		2
Phenanthrene	85-0	01-8	ND		2
Anthracene	120-	12-7	ИD		2
Di-n-butylphthalate	84-	74-2	ND		2
Fluoranthene	206-	44-2	ND		2

92-87-5

85-68-7

91-94-1

56-55-3

117-81-7

218-01-9

117-84-0

129-00-0

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 20A-20D Date Sampled: 11/09/92 Lab Number: 9211120-08E Date Received: 11/10/92 Sample Matrix/Media: Date Extracted: 11/11/92 SOIL Extraction Method: EPA 3550 Date Analyzed: 11/12/92 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	2
Benzo( $k$ )fluoranthene	207-08-9	ND	2
Benzo(a)pyrene	50-32-8	ND	2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	2 2
Dibenzo(a,h)anthracene	53-70-3	ND	
Benzo(ghi)perylene	191-24-2	ND	2
			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
2-Fluorophenol	367-12-4	82	25 - 121
Phenol-d6	13127-88-3	77	24 - 113
Nitrobenzene-d5	4165-60-0	81	23 - 120
2-Fluorobiphenyl	321-60-8	96	30 - 115
2,4,6-Tribromophenol	118-79-6	89	19 - 122
Terphenyl-d14	98904-43-9	90	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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 21A-21D Date Sampled: 11/09/92
Lab Number: 9211120-09E Date Received: 11/10/92
Sample Matrix/Media: SOIL Date Extracted: 11/11/92
Extraction Method: EPA 3550 Date Analyzed: 11/12/92

Analytical Method: EPA 8270

Analyte	¢as #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Acid Extractables			
Phenol	108-95-2	ND	2
2-chlorophenol	95-57-8	ND	2
2-methyl phenol	95-48-7	ND	2
4-methyl phenol	106-44-5	ND	2
2-nitrophenol	88-75-5	ND	2 2 2 2 2 2 2 2 2
2,4-dimethylphenol	105-67-9	ND	2
2,4-dichlorophenol	120-83-2	ND	2
4-chloro-3-methylphenol	59-50-7	ND	2
2,4,5-trichlorophenol	95-95-4	ND	2
2,4,6-trichlorophenol	88-06-2	ND	2
2,4-dinitrophenol	51-28-5	ND	10
4-nitrophenol	100-02-7	ND	10
2-methyl-4,6-dinitrophenol	534-52-1	ND	10
Pentachlorophenol	87-86-5	ND	10
Base/Neutral Extractables			
Bis(2-chloroethyl)ether	111-44-4	ND	2
1,3-dichlorobenzene	541-73-7	ND	2 2
1,4-dichlorobenzene	105-46-7	ND	2
Benzyl alcohol	10þ-51-6	ND	4
1,2-dichlorobenzene	95-50-1	ND	2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 21A-21D Date Sampled: 11/09/92 Lab Number: 9211120-09E Date Received: 11/10/92 Sample Matrix/Media: Date Extracted: 11/11/92 SOIL Extraction Method: **EPA** 3550 Date Analyzed: 11/12/92 Analytical Method: EPA 8270

Limit of Concentration Detection Analyte CAS # (mg/kg) (mg/kg) Base/Neutral Extractables (continued) N-nitrosodi-n-propylamine 2 621-64-7 ND Hexachloroethane 2 67-72-1 ND Nitrobenzene 2 98-95-3 ND Isophorone ND 2 78-59-1 Benzoic acid 8 65-85-0 ND Bis-(2-chloroethoxy)methane 2 ND 111-91-1 2 1,2,4-trichlorobenzene 120-82-1 ND Naphthalene 2 91-20-3 ND 2 Hexachlorobutadiene 87-68-3 ND 2-chloronaphthalene 91-58-7 ND 2 2-methyl naphthalene 2 91-57-6 ND 4-chloroaniline ND 10 106-47-8 2-nitroaniline 88-74-4 ND 10 3-nitroaniline 99-09-2 ND 10 4-nitroaniline 100-01-6 ND 10 Hexachlorocyclopentadiene 20 77-47-4 ND Dimethyl phthalate 131-11-3 2 ND Acenaphthylene 2 208-96-8 ND Acenaphthene 2 83-32-9 ND Dibenzofuran 132~64-9 ND 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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 21A-21D Date Sampled: 11/09/92 Lab Number: 9211120-09E Date Received: 11/10/92 Sample Matrix/Media: SOIL Date Extracted: 11/11/92 EPA 3550 Extraction Method: Date Analyzed: 11/12/92 Analytical Method: **EPA 8270** 

Limit of Concentration Detection Analyte CAS # (mg/kg) (mg/kg) Base/Neutral Extractables (continued) 2 2,4-dinitrotoluene 121-14-2 ND 2,6-dinitrotoluene 2 606-20-2 ND 2 Diethyl phthalate ND 84-66-2 2 4-chlorophenylphenylether 7005-72-3 ND 2 Fluorene 86-73-7 ND 2 N-nitrosodiphenylamine ND 86-30-6 2 4-bromophenylphenylether 101-55-3 ND Hexachlorobenzene 2 ND 118-74-1 2 Phenanthrene 85-01-8 ND Anthracene 2 120-12-7 ND 2 Di-n-butylphthalate 84-74-2 ND Fluoranthene 206-44-2 ND 2 Benzidine 50 92-87-5 ND Pyrene 2 129-00-0 ND 2 Benzylbutylphthalate 85-68-7 ND 3,3'-dichlorobenzidine ND 50 91-94-1 Benzo(a)anthracene 2 56-55-3 ND Bis-(2-ethylhexyl)phthalate ND 20 117-81-7 Chrysene 2 218-01-9 ND Di-n-octylphthalate 2 117-84-0 ND

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

Note: Detection limits increased due to matrix interference



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 21A-21D Date Sampled: 11/09/92
Lab Number: 9211120-09E Date Received: 11/10/92
Sample Matrix/Media: SOIL Date Extracted: 11/11/92
Extraction Method: EPA 3550 Date Analyzed: 11/12/92
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	2
Benzo(k)fluoranthene	207-08-9	ИD	2
Benzo(a)pyrene	50-32-8	ND	2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	2 2 2
Dibenzo(a,h)anthracene	53 <b>-</b> 70-3	ND	2
Benzo(ghi)perylene	191-24-2	ND	2
			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
2-Fluorophenol	367-12-4	83	25 - 121
Phenol-d6	13127-88-3	78	24 - 113
Nitrobenzene-d5	4165-60-0	80	23 - 120
2-Fluorobiphenyl	321-60-8	104	30 - 115
2,4,6-Tribromophenol	118-79-6	95	19 - 122
Terphenyl-d14	98904-43-9	92	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

Note: Detection limits increased due to matrix interference



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: METHOD BLANK Date Sampled: -Lab Number: 9211120-10A Date Received: --

Sample Matrix/Media: SOIL Date Extracted: 11/11/92 Extraction Method: EPA 3550 Date Analyzed: 11/12/92

Extraction Method: EPA 3550 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 1 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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: METHOD BLANK

Date Sampled:

Lab Number:

9211120-10A

Date Received:

Sample Matrix/Media:

SOIL

Date Extracted: 11/11/92

Extraction Method: Analytical Method: EPA 3550 EPA 8270 Date Analyzed: 11/12/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
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	1 1 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

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: METHOD BLANK Date Sampled: -Lab Number: 9211120-10A Date Received: -Sample Matrix/Media: SOIL Date Extracted: 11/11/92
Extraction Method: EPA 3550 Date Analyzed: 11/12/92

Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
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	ŅD	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	ИD	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



Date Analyzed:

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11/12/92

# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: METHOD BLANK Date Sampled:

Lab Number: 9211120-10A Date Received: -Sample Matrix/Media: SOIL Date Extracted: 11/11/92

Extraction Method: EPA 3550 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
			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
2-Fluorophenol	367-12-4	52	25 - 121
Phenol-d6	13127-88-3	60	24 - 113
Nitrobenzene-d5	4165-60-0	54	23 - 120
2-Fluorobiphenyl	321-60-8	54	30 - 115
2,4,6-Tribromophenol	118-79-6	53	19 - 122
Terphenyl-d14	98904-43-9	65	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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 13A-13D

Lab Number:

9211120-01

Sample Matrix/Media:

SOIL

Date Sampled:

11/09/92

Date Received: 11/10/92

		Detection	1.	Date	Date	Prep	Analysi
Analyte	Concentration	Limit	Units	Prepared	Analyzed	Method	Method
Antimony	1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Arsenic	7	I	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Barium	33	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Beryllium	<0.1	0.1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Cadmium	0.1	0.1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Chromium	22	1	mg/kg	11/13/92	11/16/92	EPA 3050	ÉPA 6010
Cobalt	6	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Copper	19	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Diesel	440	1	шg/kg	11/12/92	11/13/92	EPA 3550	EPA 8015
Gasoline	190 a	0.3	mg/kg	11/11/92	11/13/92	EPA 5030	EPA 801
Lead	45	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Mercury	<0.1	0.1	mg/kg	11/12/92	11/12/92	EPA 7471	EPA 7471
Molybdenum	<1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Nickel	22	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Selenium	<1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Silver	<0.5	0.5	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Thallium	2	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Vanadium	20	1	ng/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Zinc	38	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010

ND Not detected at or above limit of detection

Not detected at or above limit of detection

Information not available or not applicable

a Sample appears to be weathered gasoline



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 14A-14D

Lab Number: 9211120-02

Sample Matrix/Media: SOIL

Analyte	Concentration	Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Analysis Method
	Concentración	LIMIT	Units	rrepared	AllaTyzed	Method	Mechod
Antimony	1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Arsenic	8	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Barium	34	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Beryllium	<0.1	0.1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Cadmium	<0.1	0.1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Chromium	22	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Cobalt	6	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Copper	22	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Diesel	180	1	mg/kg	11/12/92	11/13/92	EPA 3550	EPA 8015
Gasoline	64 a	0.3	mg/kg	11/11/92	11/12/92	EPA 5030	EPA 8015
Lead	48	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Mercury	0.1	0.1	mg/kg	11/12/92	11/12/92	EPA 7471	EPA 7471
Molybdenum	<1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Nickel	22	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Selenium	<1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Silver	<0.5	0.5	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Thallium	4	1	nng/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Vanadium	22	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Zinc	39	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010

ND Not detected at or above limit of detection

Not detected at or above limit of detection

Information not available or not applicable

a Sample appears to be weathered gasoline



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 15A-15D

Lab Number: 9211120-03

Sample Matrix/Media: SOIL

		Detection		Date	Date	Prep	Analysis	
Analyte	Concentration	Limit	Units	Prepared	Analyzed	Method	Method	
Antimony	2	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Arsenic	6	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Barium	30	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Beryllium	<0.1	0.1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Cadmium	<0.1	0.1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Chromium	24	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Cobalt	6	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Copper	15	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Diesel	200	1	mg/kg	11/12/92	11/13/92	EPA 3550	EPA 8015	
Gasoline	40 a	0.3	mg/kg	11/11/92	11/12/92	EPA 5030	EPA 8015	
Lead	42	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Mercury	<0.1	0.1	mg/kg	11/12/92	11/12/92	EPA 7471	EPA 7471	
Molybdenum	<1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Nickel	23	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Selenium	<1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Silver	<0.5	0.5	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Thallium	5	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Vanadium	21	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Zinc	33	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	

ND Not detected at or above limit of detection

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

a Sample appears to be weathered gasoline



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 16A-16D

Lab Number:

9211120-04

Sample Matrix/Media:

SOIL

Analyte	Concentration	Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Analysis Method
Antimony	1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Arsenic	5	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Barium	37	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Beryllium	<0.1	0.1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Cadmium	<0.1	0.1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Chromium	23	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Cobalt	6	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Copper	18	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Diesel	600	1	mg/kg	11/12/92	11/13/92	EPA 3550	EPA 8015
Gasoline	330 a	0.3	mg/kg	11/11/92	11/12/92	EPA 5030	EPA 8015
Lead	43	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Mercury	<0.1	o. 1	mg/kg	11/12/92	11/12/92	EPA 7471	EPA 7471
Molybdenum	<1	J. 7	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Nickel	21	Ţ	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Selenium	1	į	mg/kg mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Silver	<0.5	0.5				EPA 3050	EPA 6010
Thallium		٠.٦	mg/kg	11/13/92	11/16/92		
	3	ţ	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Vanadium	22	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Zinc	36	4	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010

ND Not detected at or above limit of detection

Not detected at or above limit of detection

Information not available or not applicable

a Sample appears to be weathered gasoline



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 17A-17D

Lab Number:

9211120-05

Sample Matrix/Media:

SOIL

		Detection		Date	Date	Prep	Analysis
Analyte	Concentration	Limit	Units	Prepared Analyzed	Method	Method	
Antimony	2	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Arsenic	5	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Barium	37	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Beryllium	<0.1	0.1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Cadmium	<0.1	0.1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Chromium	24	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Cobalt	5	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Copper	16	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Diesel	250	1	mg/kg	11/12/92	11/13/92	EPA 3550	EPA 8015
Gasoline	220 a	0.3	mg/kg	11/11/92	11/12/92	EPA 5030	EPA 8015
Lead	34	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Mercury	<0.1	0.1	mg/kg	11/12/92	11/12/92	EPA 7471	EPA 7471
Molybdenum	<1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Nickel	22	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Selenium	<1	1	ng/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Silver	<0.5	0.5	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Thallium	3	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Vanadium	20	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Zinc	36	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010

ND Not detected at or above limit of detection

Not detected at or above limit of detection

Information not available or not applicable

a Sample appears to be weathered gasoline



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 18A-18D

Lab Number: 9211120-06

Sample Matrix/Media: SOIL

Date Sampled: 11/09/92
Date Received: 11/10/92

Analyte	Concentration	Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Analysis Method
Antimony	<1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Arsenic	4	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Barium	30	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Beryllium	<0.1	0.1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Cadmium	<0.1	0.1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Chromium	23	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Cobalt	5	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Copper	10	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Diesel	150	1	mg/kg	11/12/92	11/13/92	EPA 3550	EPA 8015
Gasoline	230a	0.3	mg/kg	11/11/92	11/12/92	EPA 5030	EPA 8015
Lead	20	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Mercury	<0.1	0.1	mg/kg	11/12/92	11/12/92	EPA 7471	EPA 7471
Molybdenum	<1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Nickel	21	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Selenium	1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Silver	<0.5	0.5	mg/kg	11/13/92	11/16/92	EPA 3050 °	EPA 6010
Thallium	3	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Vanadium	20	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Zinc	27	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010

ND Not detected at or above limit of detection

Not detected at or above limit of detection

Information not available or not applicable

a Sample appears to be weathered gasoline



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 19A-19D

Lab Number:

9211120-07

Sample Matrix/Media: SOIL

		Detection			Date	Prep	Analysis
Analyte	Concentration	Limit	Units	Prepared	Analyzed	Method	Method
Antimony	2	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Arsenic	11	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Barium	27	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Beryllium	<0.1	0.1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Cadmium	<0.1	0.1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Chromium	19	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Cobalt	5	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Copper	17	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Diesel	ND	10b	mg/kg	11/12/92	11/13/92	EPA 3550	EPA 8015
Gasoline	42a	0.3	mg/kg	11/11/92	11/12/92	EPA 5030	EPA 8015
Lead	16	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Mercury	<0.1	0.1	mg/kg	11/12/92	11/12/92	EPA 7471	EPA 7471
Molybdenum	<1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Nickel	18	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Selenium	<1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Silver	<0.5	0.5	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Thallium	2	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Vanadium	16	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Zinc	24	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010

ND Not detected at or above limit of detection

Not detected at or above limit of detection

<sup>--</sup> Information not available or not applicable

a Sample appears to be weathered gasoline

b Detection limit increased due to presence of heavier hydrocarbons



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 20A-20D

Lab Number:

9211120-08

Sample Matrix/Media:

SOIL

11/09/92 Date Sampled: Date Received: 11/10/92

Analyte	Concentration	Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Analysis Method
Antimony	1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Arsenic	9	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Barium	36	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Beryllium	<0.1	0.1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Cadmium	<0.1	0.1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Chromium	24	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Cobalt	5	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Copper	16	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Diesel	ND	1	mg/kg	11/12/92	11/13/92	EPA 3550	EPA 8015
Gasoline	23 a	0.3	mg/kg	11/11/92	11/13/92	EPA 5030	EPA 8015
Lead	19	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Mercury	<0.1	0.1	mg/kg	11/12/92	11/12/92	EPA 7471	EPA 7471
Molybdenum	<1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Nickel	23	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Selenium	<1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Silver	<0.5	0.5	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Thallium	4	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Vanadium	21	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Zinc	30	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010

ND Not detected at or above limit of detection

<sup>&</sup>lt; Not detected at or above limit of detection

Information not available or not applicable

a Sample appears to be weathered gasoline



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: COMP. SP 21A-21D

Lab Number: 9211120-09

Sample Matrix/Media: SOIL

		Detection			Date	Prep	Analysis	
Analyte	Concentration	Limit	Units	Units Prepared	Analyzed	Method	Method	
Antimony	1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Arsenic	7	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Barium	55	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Beryllium	0.1	0.1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Cadmium	0.2	0.1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Chromium	23	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Cobalt	7	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Copper	34	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Diesel	ND	10b	mg/kg	11/12/92	11/13/92	EPA 3550	EPA 8015	
Gasoline	23 a	0.3	mg/kg	11/11/92	11/13/92	EPA 5030	EPA 8015	
Lead	50	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Mercury	<0.1	0.1	mg/kg	11/12/92	11/12/92	EPA 7471	EPA 7471	
Molybdenum	<1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Nickel	25	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Selenium	<1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Silver	<0.5	0.5	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Thallium	6	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Vanadium	25	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	
Zinc	54	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010	

ND Not detected at or above limit of detection

Not detected at or above limit of detection

Information not available or not applicable

a Sample appears to be weathered gasoline

b Detection limit increased due to presence of heavier hydrocarbons



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92111.20

Sample Identification: METHOD BLANK Lab Number:

9211120-10

Sample Matrix/Media:

SOIL

Date Sampled:

Date Received: --

Analyte	Concentration	Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Analysis Method
Antimony	<1		mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Arsenic	<1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Barium	<1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Beryllium	<1	į	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Cadmium	<0.1	0.1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Chromium	<	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Cobalt	<0.1	0.1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Copper	<1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Diesel	ND	1	mg/kg	11/12/92	11/13/92	EPA 3550	EPA 8015
Gasoline	ND	0.3	mg/kg	11/11/92	11/12/92	EPA 5030	EPA 8015
Lead	<1	‡	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Mercury	<0.1	0.1	mg/kg	11/12/92	11/12/92	EPA 7471	EPA 7471
Molybdenum	<1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Nickel	<1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Selenium	<1		mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Silver	<0.5	0.5	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Thallium	<1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Vanadium	<1	1	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010
Zinc	<1	i	mg/kg	11/13/92	11/16/92	EPA 3050	EPA 6010

ND Not detected at or above limit of detection

<sup>&</sup>lt; Not detected at or above limit of detection

Information not available or not applicable

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



November 9, 1992

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

> Client Ref. 2026.10 Clayton Project No. 92110.41

Dear Ms. Wells:

Attached is our analytical laboratory report for the samples received on November 4, 1992. Results were sent by facsimile on November 5 & 6, 1992. 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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: SP-1A to 1D

Lab Number: 9211041-01E Date Received: 11/04/92
Sample Matrix/Media: SOIL Date Prepared: 11/04/92
Preparation Method: EPA 5030 Date Analyzed: 11/04/92

Analytical Method: EPA 8240 (Low Level)

Analyte		CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics				
Chloromethane	7	14-87-3	ND	0.1
Bromomethane	7	4-83-9	ND	0.1
Vinyl chloride	7	5-01-4	ND	0.1
Chloroethane	7	5-00-3	ND	0.1
Methylene chloride	7	75-09-2	ND	0.1
Trichlorofluoromethane	-	75-69-4	ND	0.1
1,1-Dichloroethene	7	5-35-4	ND	0.1
1,1-Dichloroethane	7	5-35-3	ND	0.1
Trans-1,2-Dichloroethene	15	6-60-5	ND	0.1
Cis-1,2-Dichloroethene	15	6-59-2	ND	0.1
Chloroform	6	7-66-3	ND	0.1
1,2-Dichloroethane	10	7-06-2	ND	0.1
1,1,1-Trichloroethane		11-55-6	ND	0.1
Carbon tetrachloride	9	6-23-5	ND	0.1
Bromodichloromethane	7	75-27-4	ND	0.1
1,2-Dichloropropane	-	8-87-5	ND	0.1
Cis-1,3-Dichloropropene	1006	1-01-5	ND	0.1
Trichloroethene		79-01-6	ND	0.1
Benzene	-	1-43-2	ND	0.1
Dibromochloromethane	12	4-48-1	ND	0.1

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



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# Results of Analysis for Geomatrix Consultants/ Port of Cakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: SP-1A to 1D Date Sampled: 11/04/92
Lab Number: 9211041-01E Date Received: 11/04/92
Sample Matrix/Media: SOIL Date Prepared: 11/04/92
Preparation Method: EPA 5030 Date Analyzed: 11/04/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued	1)		
1,1,2-Trichloroethane	79-00-5	ND	0.1
Trans-1,3-Dichloropropene	10061-02-6	ND	0.1
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.1
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.1
Tetrachloroethene	127-18-4	ND	0.1
Toluene	108-88-3	1.7	0.1
Chlorobenzene	108-90-7	ND	0.1
Ethylbenzene	100-41-4	2.9	0.1
1,3-Dichlorobenzene	541-73-7	ND	0.1
1,2-Dichlorobenzene	95-50-1	ND	0.1
1,4-Dichlorobenzene	106-46-7	ND	0.1
Freon 113	76-13-1	ND	0.1
p,m-Xylenes		12	0.1
o-Xylene	95-47-6	8.0	0.1
Acetone	67-64-1	ND	0.5
2-Butanone	78-93-3	ND	0.5
4-Methyl-2-pentanone	108-10-1	ND	0.5
2-Hexanone	591-78-6	ND	0.5
Vinyl acetate	108-05-4	ND	0.3

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



Date Sampled:

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11/04/92

# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Lab Number: Sample Matrix/Media: Preparation Method: Analytical Method:	9211041-01E SOIL EPA 5030 EPA 8240 (I		Date Receive Date Prepare Date Analyze	d: 11/04/92
Analyte		CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (co	ntinued)			
Carbon disulfide Styrene		5-15-0 0-42-5	ND ND	0.1 0.1
Surrogates			Recovery (%)	QC Limits (%) LCL UCL
1,2-Dichloroethane-d Toluene-d8 Bromofluorobenzene	203	0-07-0 7-26-5 0-00-4	110 101 106	70 - 121 81 - 117 74 - 121

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

Sample Identification: SP-1A to 1D



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: SP-2A to 2D Date Sampled: 11/04/92 Lab Number: 9211041-02E Date Received: 11/04/92 Sample Matrix/Media: SOIL Date Prepared: 11/04/92 Preparation Method: EPA 5030 Date Analyzed: 11/05/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	0.1
Bromomethane	74-83-9	ND	0.1
Vinyl chloride	75-01-4	ND	0.1
Chloroethane	75-00-3	ND	0.1
Methylene chloride	75-09-2	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.1
1,1-Dichloroethene	75-35-4	ND	0.1
1,1-Dichloroethane	75-35-3	ND	0.1
Trans-1,2-Dichloroethene	156-60-5	ND	0.1
Cis-1,2-Dichloroethene	156-59-2	ИD	0.1
Chloroform	67-66 <b>-</b> 3	ND	0.1
1,2-Dichloroethane	107-06-2	ND	0.1
1,1,1-Trichloroethane	71-55-6	ИD	0.1
Carbon tetrachloride	56-23-5	ND	0.1
Bromodichloromethane	75-2 <b>7-</b> 4	ND	0.1
1,2-Dichloropropane	7 <b>8-87</b> -5	ND	0.1
Cis-1,3-Dichloropropene	10061-01-5	ND	0.1
Trichloroethene	79-01-6	ND	0.1
Benzene	71-43-2	ND	0.1
Dibromochloromethane	124-48-1	ND	0.1

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: SP-2A to 2D Date Sampled: 11/04/92
Lab Number: 9211041-02E Date Received: 11/04/92
Sample Matrix/Media: SOIL Date Prepared: 11/04/92
Preparation Method: EPA 5030 Date Analyzed: 11/05/92

Analytical Method: EPA 8240 (Low Level)

Analyte		CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued	i)			
1,1,2-Trichloroethane Trans-1,3-Dichloropropene 2-Chloroethylvinylether Bromoform 1,1,2,2-Tetrachloroethane Tetrachloroethene Toluene Chlorobenzene Ethylbenzene 1,3-Dichlorobenzene 1,2-Dichlorobenzene 1,4-Dichlorobenzene Freon 113 p,m-Xylenes o-Xylene Acetone 2-Butanone	1006 11 12 10 10 10 10	79-00-5 51-02-6 10-75-8 75-25-2 79-34-5 27-18-4 08-88-3 08-90-7 00-41-4 41-73-7 95-50-1 06-46-7 76-13-1 95-47-6 57-64-1 78-93-3	ND ND ND ND ND 11 ND 12 ND ND ND ND ND ND ND ND ND ND ND ND ND	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1
4-Methyl-2-pentanone 2-Hexanone Vinyl acetate	5 \$	08-10-1 91-78-6 08-05-4	ND ND ND	0.5 0.5 0.3

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification:	SP-2A to 2D	Date	Sampled:	11/04/92
Lab Number:	9211041-02E	Date	Received:	11/04/92
Sample Matrix/Media:	SOIL	Date	Prepared:	11/04/92
Preparation Method:	EPA 5030	Date	Analyzed:	11/05/92
Annightani Mathad.	DD3 0040 (face face 1)		<del>-</del>	

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continu	ıed)		
Carbon disulfide Styrene	75-15-0 100-42-5	ND ND	0.1
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene	17060-07-0 2037-26-5 460-00-4	112 102 112	70 - 121 81 - 117 74 - 121

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: SP-3A to 3D Date Sampled: 11/04/92
Lab Number: 9211041-03E Date Received: 11/04/92
Sample Matrix/Media: SOIL Date Prepared: 11/04/92
Preparation Method: EPA 5030 Date Analyzed: 11/05/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS	; #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics				
Chloromethane	74-8	37-3	ND	0.1
Bromomethane	74-8	3-9	ND	0.1
Vinyl chloride	<b>75−</b> 0	1-4	ND	0.1
Chloroethane	75-0	0-3	ND	0.1
Methylene chloride	75-0	9-2	ND	0.1
Trichlorofluoromethane	75-6	9-4	ND	0.1
1,1-Dichloroethene	75-3	35-4	ND	0.1
1,1-Dichloroethane	75-3	35-3	ND	0.1
Trans-1,2-Dichloroethene	156-6	0-5	ND	0.1
Cis-1,2-Dichloroethene	156-5	9-2	ND	0.1
Chloroform	67-6	6-3	ND	0.1
1,2-Dichloroethane	107-0	6-2	ND	0.1
1,1,1-Trichloroethane	71-5	55-6	ND	0.1
Carbon tetrachloride	56-2	23-5	ND	0.1
Bromodichloromethane	75-2	27-4	ND	0.1
1,2-Dichloropropane	78-8	37-5	ND	0.1
Cis-1,3-Dichloropropene	10061-0	1-5	ND	0.1
Trichloroethene	79-0	1-6	ND	0.1
Benzene	71-4	13-2	ND	0.1
Dibromochloromethane	124-4	18-1	ND	0.1

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: SP-3A to 3D

Lab Number: 9211041-03E Date Received: 11/04/92
Sample Matrix/Media: SOIL Date Prepared: 11/04/92
Preparation Method: EPA 5030 Date Analyzed: 11/05/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued	<u>1)</u>		
1,1,2-Trichloroethane	79-00-5	ND	0.1
Trans-1,3-Dichloropropene	10061-02-6	ND	0.1
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.1
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.1
Tetrachloroethene	127-18-4	ND	0.1
Toluene	108-88-3	3.1	0.1
Chlorobenzene	108-90-7	ND	0.1
Ethylbenzene	100-41-4	8.8	0.1
1,3-Dichlorobenzene	541-73-7	ND	0.1
1,2-Dichlorobenzene	95-50-1	ND	0.1
1,4-Dichlorobenzene	106-46-7	ND	0.1
Freon 113	76-13-1	ND	0.1
p,m-Xylenes		48	0.1
o-Xylene	95-47-6	17	0.1
Acetone	67-64 <b>-</b> 1	ND	0.5
2-Butanone	78-93-3	ND	0.5
4-Methyl-2-pentanone	108-10-1	ND	0.5
2-Hexanone	591-78-6	ND	0.5
Vinyl acetate	108-05-4	ND	0.3

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: Lab Number: Sample Matrix/Media: Preparation Method: Analytical Method:	SP-3A to 3I 9211041-03E SOIL EPA 5030 EPA 8240 (I		Date Sample Date Receiv Date Prepar Date Analy:	ved: 11/04/92 ced: 11/04/92
Analyte		CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (co	ntinued)			
Carbon disulfide Styrene		5-15-0 0-42-5	ND ND	0.1 0.1
Surrogates			Recovery (%)	QC Limits (%) LCL UCL
1,2-Dichloroethane-d Toluene-d8 Bromofluorobenzene	203	0-07-0 7-26-5 0-00-4	114 102 104	70 - 121 81 - 117 74 - 121

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: METHOD BLANK Date Sampled: -Lab Number: 9211041-04A Date Received: --

Sample Matrix/Media: SOIL Date Prepared: 11/04/92 Preparation Method: EPA 5030 Date Analyzed: 11/04/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	0.1
Bromomethane	74-83-9	ND	0.1
Vinyl chloride	75-01-4	ND	0.1
Chloroethane	75-00-3	ND	0.1
Methylene chloride	75-09-2	ND	0.1
Trichlorofluoromethane	75-69-4	ND	0.1
1,1-Dichloroethene	75-35-4	ND	0.1
1,1-Dichloroethane	75-35-3	ND	0.1
Trans-1,2-Dichloroethene	156-60-5	ND	0.1
Cis-1,2-Dichloroethene	156-59-2	ND	0.1
Chloroform	67-66-3	ND	0.1
1,2-Dichloroethane	107-06-2	ND	0.1
1,1,1-Trichloroethane	71-55-6	ND	0.1
Carbon tetrachloride	56-23-5	ND	0.1
Bromodichloromethane	75-27-4	ND	0.1
1,2-Dichloropropane	78-87-5	ND	0.1
Cis-1,3-Dichloropropene	10061-01-5	ND	0.1
Trichloroethene	79-01-6	ND	0.1
Benzene	71-43-2	ND	0.1
Dibromochloromethane	124-48-1	ND	0.1

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: METHOD BLANK Date Sampled: --

Lab Number: 9211041-04A Date Received: --

Sample Matrix/Media: SOIL Date Prepared: 11/04/92 Preparation Method: EPA 5030 Date Analyzed: 11/04/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continue	<u>d)</u>		
1,1,2-Trichloroethane	79-00-5	ND	0.1
Trans-1,3-Dichloropropene	10061-02-6	ND	0.1
2-Chloroethylvinylether	110-75-8	ND	0.1
Bromoform	75-25-2	ND	0.1
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.1
Tetrachloroethene	127-18-4	ND	0.1
Toluene	108-88-3	ND	0.1
Chlorobenzene	108-90-7	ND	0.1
Ethylbenzene	100-41-4	ND	0.1
1,3-Dichlorobenzene	541-73-7	ND	0.1
1,2-Dichlorobenzene	95-50-1	ND	0.1
1,4-Dichlorobenzene	106-46-7	ND	0.1
Freon 113	76-13-1	ND	0.1
p,m-Xylenes		ND	0.1
o-Xylene	95-47-6	ND	0.1
Acetone	67-64-1	ND	0.5
2-Butanone	78-93-3	ND	0.5
4-Methyl-2-pentanone	108-10-1	ND	0.5
2-Hexanone	591-78-6	ND	0.5
Vinyl acetate	108-05-4	ND	0.3

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: METHOD BLANK

Date Sampled:

Lab Number:

9211041-04A

Date Received:

Sample Matrix/Media:

SOIL

11/04/92 Date Prepared:

Preparation Method: EPA 5030

Date Analyzed: 11/04/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continu	ıed)		· · · ·
Carbon disulfide Styrene	75-15-0 100-42-5	ND ND	0.1 0.1
Surrogates		Recovery (%)	QC Limits (%)LCL UCL
1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene	17060-07-0 2037-26-5 460-00-4	106 98 86	70 - 121 81 - 117 74 - 121

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: SP-1A to 1D Date Sampled: 11/04/92 Lab Number: Date Received: 11/04/92 9211041-01E Sample Matrix/Media: Date Extracted: 11/04/92 SOIL Extraction Method: EPA 3550 11/05/92 Date Analyzed: Analytical Method: **EPA 8270** 

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

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: SP-1A to 1D Date Sampled: 11/04/92 Lab Number: Date Received: 9211041-01E 11/04/92 Sample Matrix/Media: SOIL Date Extracted: 11/04/92 Extraction Method: EPA 3550 Date Analyzed: 11/05/92 Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
N-nitrosodi-n-propylamine	621-64-7	ND	1
Hexachloroethane	67-72-1	ND	1
Nitrobenzene	98-95-3	ND	1
Isophorone	78-59-1	ND	1
Benzoic acid	65-85-0	ND	4
Bis-(2-chloroethoxy)methane	111-91-1	ND	1
1,2,4-trichlorobenzene	120-82-1	ND	1
Naphthalene	91-20-3	8	1
Hexachlorobutadiene	87-68-3	ND	1
2-chloronaphthalene	91-58-7	ND	1
2-methyl naphthalene	91-57-6	14	1
4-chloroaniline	106-47-8	ND	5
2-nitroaniline	88-74-4	ИD	5
3-nitroaniline	99-09-2	ND	5
4-nitroaniline	100-01-6	ND	5
Hexachlorocyclopentadiene	77-47-4	ND	10
Dimethyl phthalate	131-11-3	ND	1
Acenaphthylene	208-96-8	ND	1
Acenaphthene	83-32-9	ND	1
Dibenzofuran	132-64-9	ND	1

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: SP-1A to 1D

Lab Number: 9211041-01E
Sample Matrix/Media: SOIL
Extraction Method: EPA 3550

Date Sampled: 11/04/92
Date Received: 11/04/92
Date Extracted: 11/04/92

Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
2,4-dinitrotoluene	121-14-2	ND	1
2,6-dinitrotoluene	606-20-2	ND .	1
Diethyl phthalate	84-66-2	ND	1
4-chlorophenylphenylether	7005-72-3	ND	1
Fluorene	86-73-7	ND	1
N-nitrosodiphenylamine	86-30-6	ND	1
4-bromophenylphenylether	101-55-3	ND	1
Hexachlorobenzene	118-74-1	ND	1
Phenanthrene	85-01-8	1	1
Anthracene	120-12-7	ND	1
Di-n-butylphthalate	84-74-2	ND	1
Fluoranthene	206-44-2	ND	1
Benzidine	92-87-5	ND	30
Pyrene	129-00-0	ND	1
Benzylbutylphthalate	85-68-7	ND	1
3,3'-dichlorobenzidine	91-94-1	ND	30
Benzo(a)anthracene	56-55-3	ND	1
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	10
Chrysene	218-01-9	ND	1
Di-n-octylphthalate	117-84-0	ND	1

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification:	SP-1A to 1D	Date	Sampled:	11/04/92
Lab Number:	9211041-01E	Date	Received:	11/04/92
Sample Matrix/Media:	SOIL	Date	Extracted:	11/04/92
Extraction Method:	EPA 3550	Date .	Analyzed:	11/05/92
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	1
Benzo(k)fluoranthene	207-08-9	ND	1
Benzo(a)pyrene	50-32-8	ND	1
<pre>Indeno(1,2,3-cd)pyrene</pre>	193-39-5	ND	1
Dibenzo(a,h)anthracene	53-70-3	ND	1
Benzo(ghi)perylene	191-24-2	ND	1
			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
2-Fluorophenol	367-12-4	97	25 - 121
Phenol-d6	13127-88-3	96	24 - 113
Nitrobenzene-đ5	4165-60-0	97	23 - 120
2-Fluorobiphenyl	321-60-8	124*	30 - 115
2,4,6-Tribromophenol	118-79-6	125*	19 - 122
Terphenyl-d14		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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: SP-2A to 2D Date Sampled: 11/04/92 Lab Number: 9211041-02E Date Received: 11/04/92 Sample Matrix/Media: SOIL Date Extracted: 11/04/92 Extraction Method: EPA 3550 Date Analyzed: 11/05/92 Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (co	ntinued)		
2,4-dinitrotoluene	121-14-2	ND	1
2,6-dinitrotoluene	606-20-2	ND	1
Diethyl phthalate	84-66-2	ND	1
4-chlorophenylphenylether	7005-72-3	ND	1
Fluorene	86-73-7	ND	1
N-nitrosodiphenylamine	86-30-6	ND	1
4-bromophenylphenylether	101-55-3	ND	1
Hexachlorobenzene	118-74-1	ND	1
Phenanthrene	85-01-8	ND	1
Anthracene	120-12-7	ND	1
Di-n-butylphthalate	84-74-2	ND	1
Fluoranthene	206-44-2	ND	1
Benzidine	92-87-5	ND	30
Pyrene	129-00-0	ND	1
Benzylbutylphthalate	85-68-7	ND	1
3,3'-dichlorobenzidine	91-94-1	ND	30
Benzo(a)anthracene	56-55-3	ND	1
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	10
Chrysene	218-01-9	ND	1
Di-n-octylphthalate	117-84-0	ND	1

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: Lab Number:	SP-2A to 2D 9211041-02E	Date Sampled: Date Received:	, .
Sample Matrix/Media:	SOIL	Date Extracted:	
Extraction Method: Analytical Method:	EPA 3550 EPA 8270	Date Analyzed:	11/05/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (	continued)		
Benzo(b)fluoranthene	205-99-2	ND	1
Benzo(k)fluoranthene	207-08-9	ND	1
Benzo(a)pyrene	50-32-8	ND	1
Indeno(1,2,3-cd)pyrene	193-39-5	ND	1
Dibenzo(a,h)anthracene	53-70-3	ND	1
Benzo(ghi)perylene	191-24-2	ND	1
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
2-Fluorophenol	367-12-4	94	25 - 121
Phenol-d6	13127-88-3	88	24 - 113
Nitrobenzene-d5	4165-60-0	80	23 - 120
2-Fluorobiphenyl	321-60-8	117*	30 - 115
2,4,6-Tribromophenol	118-79-6	109	19 - 122
Terphenyl-d14		92	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



Date Sampled:

Date Received:

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11/04/92

11/04/92

1

1

1

2

1

1

#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

9211041-03E

Sample Identification: SP-3A to 3D

Base/Neutral Extractables

1,3-dichlorobenzene

1,4-dichlorobenzene

1,2-dichlorobenzene

Benzyl alcohol

Bis(2-chloroethyl)ether

Bis-(2-chloroisopropyl)ether

Lab Number:

Sample Matrix/Media: Extraction Method: Analytical Method:	SOIL EPA 3550 EPA 8270			Extracted: Analyzed:	
Analyte		CAS #	Concentra (mg/kg		Limit of Detection (mg/kg)
Acid Extractables					
Phenol	10	8-95-2	ND		1
2-chlorophenol		5-57-8	ND		1
2-methyl phenol	g	5-48-7	ND		1
4-methyl phenol	10	6-44-5	ND		1
2-nitrophenol	8	8-75-5	ND		1
2,4-dimethylphenol	10	5-67-9	ND		1
2,4-dichlorophenol	12	0-83-2	ND		1
4-chloro-3-methylphe	enol 5	9-50-7	ND		1
2,4,5-trichloropheno	ol 9	5-95-4	ND		1
2,4,6-trichlorophene	ol 8	8-06-2	ND		1
2,4-dinitrophenol	5	1-28-5	ND		5
-, · · · - · · · · · · · · · · · · · · ·					5
4-nitrophenol	10	0-02-7	ND		3
		0-02-7 4-52-1	ND ND		ĭ

111-44-4

541-73-7

106-46-7

100-51-6

108-60-1

95-50-1

ND

ND

ND

ND

ND

ND

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: SP-3A to 3D Date Sampled: 11/04/92 Lab Number: 9211041-03E Date Received: 11/04/92 Sample Matrix/Media: SOIL Date Extracted: 11/04/92 Extraction Method: EPA 3550 Date Analyzed: 11/05/92 Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
N-nitrosodi-n-propylamine	621-64-7	ND	1
Hexachloroethane	67-72-1	ND	1
Nitrobenzene	98-95-3	ND	1
Isophorone	78-59-1	ND	1
Benzoic acid	65-85-0	ND	4
Bis-(2-chloroethoxy)methane	111-91-1	ND	1
1,2,4-trichlorobenzene	120-82-1	ND	1
Naphthalene	91-20-3	16	1
Hexachlorobutadiene	87-68-3	ND	1
2-chloronaphthalene	91-58-7	ND	1
2-methyl naphthalene	91-57-6	18	1
4-chloroaniline	106-47-8	ND	5
2-nitroaniline	88-74-4	ND	5
3-nitroaniline	99-09-2	ND	5
4-nitroaniline	100-01-6	ND	5
Hexachlorocyclopentadiene	77-47-4	ND	10
Dimethyl phthalate	131-11-3	ND	1
Acenaphthylene	208-96-8	ND	1
Acenaphthene	83-32-9	ND	1
Dibenzofuran	132-64-9	ND	1

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

Note: Detection limits increased due to matrix interference \* Surrogate out of control limits due to matrix interference



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: SP-3A to 3D Date Sampled: 11/04/92 11/04/92 Lab Number: 9211041-03E Date Received: Sample Matrix/Media: SOIL Date Extracted: 11/04/92 Extraction Method: EPA 3550 Date Analyzed: 11/05/92 Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
2,4-dinitrotoluene	121-14-2	ND	1
2,6-dinitrotoluene	606-20-2	ND	1
Diethyl phthalate	84-66-2	ND	1
4-chlorophenylphenylether	7005-72-3	ND	1
Fluorene	86-73-7	ND	1
N-nitrosodiphenylamine	86-30-6	ND	1
4-bromophenylphenylether	101-55-3	ND	1
Hexachlorobenzene	118-74-1	ND	1
Phenanthrene	85-01-8	1	1
Anthracene	120-12-7	ND	1
Di-n-butylphthalate	84-74-2	ND	1
Fluoranthene	206-44-2	ND	1
Benzidine	92-87-5	ND	30
Pyrene	129-00-0	ND	1
Benzylbutylphthalate	85-68-7	ND	1
3,3'-dichlorobenzidine	91-94-1	ND	30
Benzo(a)anthracene	56-55-3	ND	1
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	10
Chrysene	218-01-9	ND	1
Di-n-octylphthalate	117-84-0	ND	1

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

Note: Detection limits increased due to matrix interference \* Surrogate out of control limits due to matrix interference



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: SP-3A to 3D Date Sampled: 11/04/92 Lab Number: 9211041-03E Date Received: 11/04/92 Sample Matrix/Media: SOIL Date Extracted: 11/04/92 Extraction Method: EPA 3550 Date Analyzed: 11/05/92 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	1
Benzo(k)fluoranthene	207-08-9	ND	1
Benzo(a)pyrene	50-32-8	ND	1
Indeno(1,2,3-cd)pyrene	193-39-5	ND	1
Dibenzo(a,h)anthracene	53-70-3	ND	1
Benzo(ghi)perylene	191-24-2	ND	1
Surrogates		Recovery (%)	QC Limits (%)LCL UCL
2-Fluorophenol	367-12-4	110	25 - 121
Phenol-d6	13127-88-3	101	24 - 113
Nitrobenzene-d5	4165-60-0	98	23 - 120
2-Fluorobiphenyl	321-60-8	149*	30 - 115
2,4,6-Tribromophenol	118-79-6		
Terphenyl-d14	110-/9-6	140* 109	19 - 122 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

Note: Detection limits increased due to matrix interference \* Surrogate out of control limits due to matrix interference



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11/05/92

## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: METHOD BLANK Date Sampled: Lab Number: Date Received: 9211041-04A

Sample Matrix/Media: SOIL Date Extracted: 11/04/92 Extraction Method: EPA 3550 Date Analyzed:

Analytical Method: EPA 8270

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: METHOD BLANK Date Sampled:
Lab Number: 9211041-04A Date Received:

Sample Matrix/Media: SOIL Date Extracted: 11/04/92 Extraction Method: EPA 3550 Date Analyzed: 11/05/92

Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
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	ИD	0.8
Bis-(2-chloroethoxy)methane	111-91-1	ИD	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	
3-nitroaniline	99-09-2	ND	1 1 1 2
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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: METHOD BLANK

Lab Number: 9211041-04A

Sample Matrix/Media: SOIL

Extraction Method: EPA 3550

Date Sampled: -
Date Received: -
Date Extracted: 11/04/92

Date Analyzed: 11/05/92

Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
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	8\$-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	8\$-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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: METHOD BLANK Date Sampled:

Lab Number: 9211041-04A Date Received: -Sample Matrix/Media: SOIL Date Extracted: 11

Sample Matrix/Media: SOIL Date Extracted: 11/04/92 Extraction Method: EPA 3550 Date Analyzed: 11/05/92 Analytical Method: EPA 8270

Analytical Method: EPA 8270
Liv

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
			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
2-Fluorophenol	367-12-4	55	25 - 121
Phenol-d6	13127-88-3	76	24 - 113
Nitrobenzene-d5	4165-60-0	75	23 - 120
2-Fluorobiphenyl	321-60-8	75	30 - 115
2,4,6-Tribromophenol	118-79-6	78	19 - 122
Terphenyl-d14		63	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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: SP-1A to 1D Lab Number: 9211041-01

Sample Matrix/Media: SOIL Date Sampled:

11/04/92

Date Received: 11/04/92

Analyte	Concentration	Detection Limit	u Units	Date Prepared	Date Analyzed	Prep Method	Analysis Method	
						<u></u>		
Antimony	1	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010	
Arsenic	6	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010	
Barium	53	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010	
Beryllium	<0.1	0.1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010	
Cadmium	0.2	0.1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010	
Chromium	18	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010	
Cobalt	4	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010	
Copper	25	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010	
Diesel	430	1	mg/kg	11/05/92	11/05/92	EPA 3550	EPA 8015	
Gasoline	460	5	mg/kg	11/04/92	11/05/92	EPA 5030	EPA 8240	
Lead	75	ı	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010	
Mercury	0.1	0.1	mg/kg	11/04/92	11/04/92	EPA 7471	EPA 7471	
Molybdenum	<1	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010	
Nickel	22	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010	
Selenium	2	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010	
Silver	<0.5	0.5	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010	
Thallium	<1	ì	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010	
Vanadium	17	i	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010	
Zinc	51	Ī	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010	

ND Not detected at or above limit of detection

Results are reported on a wet basis, as received

Not detected at or above limit of detection <

Information not available or not applicable



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: SP-2A to 2D

Lab Number:

9211041-02

Sample Matrix/Media: SOIL

Date Sampled: 11/04/92

Date Received: 11/04/92

		Detection		Date	Date	Prep	Analysis
Analyte	Concentration	Limit	Units	Prepared	Analyzed	Method	Method
Antimony	<1	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010
Arsenic	3	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010
Barium	38	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010
Beryllium	<0.1	0.1	mg/kg mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010
Cadmium	0.3	0.1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010
Chromium	17	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010
Cobalt	4	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010
Copper	18	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010
Diesel	280 a	1	mg/kg	11/05/92	11/05/92	EPA 3550	EPA 8015
Gasoline	1,700	5	щg/kg	11/04/92	11/05/92	EPA 5030	EPA 8240
Lead	42	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010
Mercury	<0.1	0.1	mg/kg	11/04/92	11/04/92	EPA 7471	EPA 7471
Molybdenum	<1	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010
Nickel	18	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010
Selenium	2	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010
Silver	<0.5	0.5	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010
Thallium	<1	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010
Vanadium	14	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010
Zinc	37	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010

ND Not detected at or above limit of detection

Results are reported on a wet basis, as received

Not detected at or above limit of detection

<sup>--</sup> Information not available or not applicable

a Extractable hydrocarbons quantitated as diesel maybe due to lighter petroleum product



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EPA 6010

**EPA 6010** 

#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: SP-3A to 3D

Lab Number: 9211041-03

Sample Matrix/Media: SOIL

Vanadium

Zinc

Date Sampled: 11/04/92
Date Received: 11/04/92

Detection Date Date Prep Analysis Analyte Concentration Limit Units Prepared Analyzed Method Method Antimony <1 11/04/92 11/05/92 EPA 3050 **EPA 6010** mg/kg Arsenic 4 1 11/04/92 11/05/92 EPA 3050 EPA 6010 mg/kg Barium 35 1 mg/kg 11/04/92 11/05/92 EPA 3050 **EPA 6010** Beryllium < 0.1 0.1 11/04/92 11/05/92 EPA 3050 **EPA 6010** mg/kg Cadmium **EPA 6010** 0.2 0.1mg/kg 11/04/92 11/05/92 **EPA 3050** Chromium 19 1 11/04/92 11/05/92 **EPA 3050 EPA 6010** mg/kg Cobalt 4 EPA 3050 **EPA 6010** mg/kg 11/04/92 11/05/92 Copper 20 1 11/05/92 EPA 3050 EPA 6010 mg/kg 11/04/92 Diese1 220a mg/kg 11/05/92 11/05/92 EPA 3550 EPA 8015 Gasoline 950 5 mg/kg 11/04/92 11/05/92 EPA 5030 **EPA 8240** Lead 22 1 EPA 3050 **EPA 6010** mg/kg 11/04/92 11/05/92 Mercury <0.1 EPA 7471 0.1 11/04/92 11/04/92 EPA 7471 mg/kg Molybdenum <1 1 EPA 3050 **EPA 6010** mg/kg 11/04/92 11/05/92 Nickel 19 EPA 6010 1 mg/kg 11/04/92 11/05/92 **EPA 3050** Selenium **EPA 6010** 1 1 mg/kg 11/04/92 11/05/92 **EPA 3050** Silver <0.5 0.5 mg/kg 11/04/92 11/05/92 EPA 3050 EPA 6010 Thallium <1 EPA 3050 **EPA 6010** 1 mg/kg 11/04/92 11/05/92

ND Not detected at or above limit of detection

13

31

Results are reported on a wer basis, as received

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1

mg/kg

mg/kg

11/04/92

11/04/92

11/05/92

11/05/92

EPA 3050

EPA 3050

Not detected at or above limit of detection

<sup>--</sup> Information not available or not applicable

a Extractable hydrocarbons quantitated as diesel maybe due to a lighter petroleum product



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.41

Sample Identification: METHOD BLANK

Lab Number:

9211041-04

Sample Matrix/Media:

SOIL

Date Sampled: -Date Received: --

		Detection	1	Date	Date	Prep	Analysis		
Analyte	Concentration	Limit	Units	Prepared	Analyzed	Method	Method		
Antimony	<1	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010		
Arsenic	<1	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010		
Barium	<1	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010		
Beryllium	<0.1	0.1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010		
Cadmium	<0.1	0.1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010		
Chromium	<1	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010		
Cobalt	<1	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010		
Copper	<1	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010		
Diesel	ND	1	mg/kg	11/05/92	11/05/92	EPA 3550	EPA 8015		
Gasoline	ND	5	mg/kg	11/04/92	11/05/92	EPA 5030	EPA 8240		
Lead	<1	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010		
Mercury	<0.1	0.1	mg/kg	11/04/92	11/04/92	EPA 7471	EPA 7471		
Molybdenum	<1	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010		
Nickel	<1	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010		
Selenium	<1	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010		
Silver	<0.5	0.5	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010		
Thallium	<1	1	ng/kg	11/04/92	11/05/92	EPA 3050	EPA 6010		
Vanadium	<1	1	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010		
Zinc	<1	ī	mg/kg	11/04/92	11/05/92	EPA 3050	EPA 6010		

ND Not detected at or above limit of detection

Results are reported on a wet basis, as received

Not detected at or above limit of detection

<sup>--</sup> Information not available or not applicable

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Company	•			Co	ompa	<u>~ \</u> пу:			<u> </u>		<u> </u>			С	ompa	any:			 						100 Pine St. 10th Floor San Francisco, CA. 94111 (415) 434-9400

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



November 12, 1992

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

> Client Ref. 2026.10 Clayton Project No. 92110.75

Dear Ms. Wells:

Attached is our analytical laboratory report for the samples received on November 6, 1992. All results except metals were faxed to Dan Schoenholz and you on November 9, 1992. 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

cc: Mr. Dan Schoenholz (Port of Oakland)



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.75

Sample Identification: COMP.SP12 A,B,C,D

Lab Number: 9211075-01E Date Received: 11/06/92
Sample Matrix/Media: SOIL Date Prepared: 11/06/92
Preparation Method: EPA 5030 Date Analyzed: 11/06/92

Analytical Method: EPA 8240 (Ldw Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	0.6
Bromomethane	74-83-9	ND	0.6
Vinyl chloride	75-01-4	ND	0.6
Chloroethane	75-00-3	ND	0.6
Methylene chloride	75-09-2	ND	0.6
Trichlorofluoromethane	75-69-4	ND	0.6
1,1-Dichloroethene	75-35-4	ND	0.6
1,1-Dichloroethane	75-35-3	ND	0.6
Trans-1,2-Dichloroethene	156-60-5	ND	0.6
Cis-1,2-Dichloroethene	156-59-2	ND	0.6
Chloroform	67-66-3	ND	0.6
1,2-Dichloroethane	107-06-2	ND	0.6
1,1,1-Trichloroethane	71-55-6	ND	0.6
Carbon tetrachloride	56-23-5	ND	0.6
Bromodichloromethane	75-27-4	ND	0.6
1,2-Dichloropropane	78-87-5	ND	0.6
Cis-1,3-Dichloropropene	10061-01-5	ND	0.6
Trichloroethene	79-01-6	ND	0.6
Benzene	71-43-2	0.7	0.6
Dibromochloromethane	124-48-1	ND	0.6

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



Page 3 of 16

## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.75

Sample Identification: COMP.SP12 A,B,C,D Date Sampled: 11/06/92 Lab Number: 9211075-01E Date Received: 11/06/92 Sample Matrix/Media: Date Prepared: SOIL 11/06/92 Preparation Method: EPA 5030 Analytical Method: EPA 8240 (Low Level) Date Analyzed: 11/06/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continue	<u>1)</u>		,
1,1,2-Trichloroethane	79-00-5	ND	0.6
Trans-1,3-Dichloropropene	10061-02-6	ND	0.6
2-Chloroethylvinylether	110-75-8	ND	0.6
Bromoform	75-25-2	ND	0.6
1,1,2,2-Tetrachloroethane	79-34-5	ИD	0.6
Tetrachloroethene	127-18-4	ND	0.6
Toluene	108-88-3	1.2	0.6
Chlorobenzene	108-90-7	ND	0.6
Ethylbenzene	100-41-4	4.0	0.6
1,3-Dichlorobenzene	541-73-7	ND	0.6
1,2-Dichlorobenzene	95-50-1	ND	0.6
1,4-Dichlorobenzene	106-46-7	ND	0.6
Freon 113	76-13-1	ND	0.6
p,m-Xylenes		23	0.6
o-Xylene	95-47-6	7.0	0.6
Acetone	67-64-1	ND	3
2-Butanone	78-93-3	ND	3 3
4-Methyl-2-pentanone	108-10-1	ND	3 3
2-Hexanone	591-78-6	ND	3
Vinyl acetate	108-05-4	ND	1

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



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Date Sampled:

102

11/06/92

74 - 121

#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.75

Lab Number: Sample Matrix/Media: Preparation Method: Analytical Method:	9211075-01H SOIL EPA 5030 EPA 8240 (I	<b>⊒</b>	Date Receiv Date Prepar Date Analyz	ed: 11/06/92
Analyte		CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (c	ontinued)			
Carbon disulfide	•	75-15-0	ND	0.6
Styrene	10	0-42-5	ND	0.6
Surrogates			Recovery (%)	QC Limits (%) LCL UCL
1,2-Dichloroethane-	d4 1706	50-07-0	106	70 - 121
Toluene-d8	203	37-26-5	100	81 - 117

460-00-4

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

Sample Identification: COMP.SP12 A,B,C,D

Bromofluorobenzene



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.75

Sample Identification: METHOD BLANK

Date Sampled:

Lab Number:

9211075-02A SOIL

Date Received: Date Prepared:

11/06/92

Sample Matrix/Media: Preparation Method: EPA 5030

Date Analyzed:

11/06/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics	<del> </del>		
Chloromethane	74-87-3	ND	0.005
Bromomethane	74-83-9	ND	0.005
Vinyl chloride	75-01-4	ND	0.005
Chloroethane	75-00-3	ND	0.005
Methylene chloride	75-09-2	ND	0.005
Trichlorofluoromethane	75-69-4	ND	0.005
1,1-Dichloroethene	75-35-4	ND	0.005
1,1-Dichloroethane	75-35-3	ND	0.005
Trans-1,2-Dichloroethene	156-60-5	ND	0.005
Cis-1,2-Dichloroethene	156-59-2	ND	0.005
Chloroform	67-66-3	ND	0.005
1,2-Dichloroethane	107-06-2	ND	0.005
1,1,1-Trichloroethane	71-55-6	ND	0.005
Carbon tetrachloride	56-23-5	ND	0.005
Bromodichloromethane	75-27-4	ND	0.005
1,2-Dichloropropane	78-87-5	ND	0.005
Cis-1,3-Dichloropropene	10061-01-5	ND	0.005
Trichloroethene	79-01-6	ND	0.005
Benzene	71-43-2	ND	0.005
Dibromochloromethane	124-48-1	ND	0.005

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.75

Sample Identification: METHOD BLANK

Date Sampled:

Lab Number:

9211075-02A

Date Received: Date Prepared:

11/06/92

Sample Matrix/Media: Preparation Method:

SOIL EPA 5030

Date Analyzed:

11/06/92

Analytical Method:

EPA 8240 (Low Level)

Analyte		CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued	<u>1)</u>			
1,1,2-Trichloroethane	7	9-00-5	ND	0.005
Trans-1,3-Dichloropropene	1006	1-02-6	ND	0.005
2-Chloroethylvinylether	1 1	0-75-8	ND	0.005
Bromoform	7	5-25-2	ND	0.005
1,1,2,2-Tetrachloroethane	7	9-34-5	ND	0.005
Tetrachloroethene	12	7-18-4	ND	0.005
Toluene	1 d	8-88-3	ND	0.005
Chlorobenzene	10	8-90-7	ND	0.005
Ethylbenzene	10	0-41-4	ND	0.005
1,3-Dichlorobenzene	54	1-73-7	ND	0.005
1,2-Dichlorobenzene	ģ	5-50-1	ND	0.005
1,4-Dichlorobenzene	10	6-46-7	ND	0.005
Freon 113	7	6-13-1	ND	0.005
p,m-Xylenes			ND	0.005
o-Xylene	g	5-47-6	ND	0.005
Acetone	6	7-64-1	ND	0.02
2-Butanone	7	8-93-3	ND	0.02
4-Methyl-2-pentanone	1 d	8-10-1	ND	0.02
2-Hexanone	5 9	1-78-6	ND	0.02
Vinyl acetate	10	8-05-4	ND	0.01

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.75

Sample Identification: METHOD BLANK Lab Number:

9211075-02A

Sample Matrix/Media:

Preparation Method: Analytical Method: Analytical Method:

SOIL EPA 5030

EPA 8240 (Low Level)

Date Sampled:

Date Received: Date Prepared: 11/06/92

Date Analyzed: 11/06/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (contin	ued)		
Carbon disulfide	75-15-0	ND	0.005
Styrene	100-42-5	ND	0.005
_			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
1,2-Dichloroethane-d4	17060-07-0	104	70 - 121
Toluene-d8	2037-26-5	100	81 - 117
Bromofluorobenzene	460-00-4	90	74 - 121

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.75

11/06/92 Date Sampled: Sample Identification: COMP.SP12 A,B,C,D 11/06/92 Date Received: Lab Number: 9211075-01E Date Extracted: 11/06/92 Sample Matrix/Media: SOIL 11/09/92 Extraction Method: EPA 3550 Date Analyzed: Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Acid Extractables			
Phenol	108-95-2	ND	2
2-chlorophenol	95-57-8	ND	2
2-methyl phenol	95-48-7	ND	2
4-methyl phenol	106-44-5	ND	2
2-nitrophenol	88-75-5	ND	2
2,4-dimethylphenol	105-67-9	ND	2
2,4-dichlorophenol	120-83-2	ND	2
4-chloro-3-methylphenol	59-50-7	ND	2
2,4,5-trichlorophenol	95-95-4	ND	2 2 2
2,4,6-trichlorophenol	88-06-2	ND	
2,4-dinitrophenol	51-28-5	ND	10
4-nitrophenol	100-02-7	ND	10
2-methyl-4,6-dinitrophenol	534-52-1	ND	2
Pentachlorophenol	87-86-5	ND	2
Base/Neutral Extractables			
Bis(2-chloroethyl)ether	111-44-4	ND	2
1,3-dichlorobenzene	541-73-7	ND	2
1,4-dichlorobenzene	106-46-7	ND	2
Benzyl alcohol	100-51-6	ND	4
1,2-dichlorobenzene	95-50-1	ND	2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.75

Sample Identification: COMP.SP12 A,B,C,D

Lab Number: 9211075-01E Date Received: 11/06/92
Sample Matrix/Media: SOIL Date Extracted: 11/06/92
Extraction Method: EPA 3550 Date Analyzed: 11/09/92

Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
N-nitrosodi-n-propylamine	621-64-7	ND	2
Hexachloroethane	67-72-1	ND	2
Nitrobenzene	98-95-3	ND	2
Isophorone	78-59-1	ND	2 2
Benzoic acid	65-85-0	ND	8 2
Bis-(2-chloroethoxy)methane	111-91-1	ND	2
1,2,4-trichlorobenzene	120-82-1	ND	2
Naphthalene	91-20-3	7	2 2 2
Hexachlorobutadiene	87-68-3	ND	2
2-chloronaphthalene	91-58-7	ND	2
2-methyl naphthalene	91-57-6	9	2 2
4-chloroaniline	106-47-8	ND	10
2-nitroaniline	88-74-4	ND	10
3-nitroaniline	99-09-2	ND	10
4-nitroaniline	100-01-6	ND	10
Hexachlorocyclopentadiene	77-47-4	ND	20
Dimethyl phthalate	131-11-3	ND	2
Acenaphthylene	208-96-8	ND	2
Acenaphthene	83-32-9	ND	2 2
Dibenzofuran	132-64-9	ИД	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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.75

Sample Identification: COMP.SP12 A,B,C,D 11/06/92 Date Sampled: Lab Number: 9211075-01E Date Received: 11/06/92 Sample Matrix/Media: SOIL Date Extracted: 11/06/92 Extraction Method: EPA 3550 Date Analyzed: 11/09/92 Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	ntinued)		
2,4-dinitrotoluene	121-14-2	ND	2
2,6-dinitrotoluene	606-20-2	ND	2
Diethyl phthalate	84-66-2	ND	2 2 2 2 2
4-chlorophenylphenylether	7005-72-3	ND	2
Fluorene	86-73-7	ND	2
N-nitrosodiphenylamine	86-30-6	ND	2
4-bromophenylphenylether	101-55-3	ND	2
Hexachlorobenzene	118-74-1	ND	2 2 2 2 2
Phenanthrene	85-01-8	ND	2
Anthracene	120-12-7	ND	2
Di-n-butylphthalate	84-74-2	ND	2
Fluoranthene	206-44-2	ND	2
Benzidine	92-87-5	ND	50
Pyrene	129-00-0	ND	2
Benzylbutylphthalate	85-68-7	ND	2
3,3'-dichlorobenzidine	91-94-1	ND	50
Benzo(a)anthracene	56-55-3	ND	2
Bis-(2-ethylhexyl)phthalate		ND	20
Chrysene	218-01-9	ND	2
Di-n-octylphthalate	117-84-0	ND	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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.75

Sample Identification: COMP.SP12 A,B,C,D Date Sampled: 11/06/92 Lab Number: 9211075-01E Date Received: 11/06/92 Sample Matrix/Media: Date Extracted: 11/06/92 SOIL Extraction Method: EPA 3550 Date Analyzed: 11/09/92 Analytical Method: EPA 8270

Analyte	CAS	#	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables	(continued)			
Benzo(b)fluoranthene	205-9	9-2	ND	2
Benzo(k)fluoranthene	207-0	8-9	ND	2
Benzo(a)pyrene	50-3	2-8	ND	2
<pre>Indeno(1,2,3-cd)pyrene</pre>	193-3	9-5	ND	2 2 2 2 2
Dibenzo(a,h)anthracene	53-7	0-3	ND	2
Benzo(ghi)perylene	191-2	4-2	ND	2
				QC Limits (%)
Surrogates			Recovery (%)	rcr ncr
2-Fluorophenol	367-1	2-4	79	25 - 121
Phenol-d6	13127-8	8-3	76	24 - 113
Nitrobenzene-d5	4165-6	0-0	86	23 - 120
2-Fluorobiphenyl	321-6	8-0	114	30 - 115
2,4,6-Tribromophenol	118-7	9~6	50	19 - 122
Terphenyl-d14			81	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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.75

Sample Identification: METHOD BLANK Date Sampled: Lab Number: Date Received: 9211075-02A

Sample Matrix/Media: SOIL Date Extracted: 11/06/92 Date Analyzed: 11/06/92

Extraction Method: EPA 3550 Analytical Method: EPA 8270

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.75

Sample Identification: METHOD BLANK Date Sampled: -Lab Number: 9211075-02A Date Received: --

Sample Matrix/Media: SOIL Date Extracted: 11/06/92 Extraction Method: EPA 3550 Date Analyzed: 11/06/92

Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
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 1 2
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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.75

Sample Identification: METHOD BLANK Lab Number: 9211075-02A

Sample Matrix/Media:

Extraction Method: Analytical Method:

SOIL EPA 3550

EPA 8270

Date Sampled: Date Received:

Date Extracted: 11/06/92 Date Analyzed: 11/06/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
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 <b>-7</b>	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

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.75

Sample Identification: METHOD BLANK Lab Number:

9211075-02A

Date Sampled: Date Received:

64

Sample Matrix/Media:

SOIL

Date Extracted: 11/06/92

Extraction Method: EPA 3550 Analytical Method:

Terphenyl-d14

EPA 8270

Date Analyzed: 11/06/92

18 - 137

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 <b>-</b> 3	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2
			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
2-Fluorophenol	367-12-4	56	25 - 121
Phenol-d6	13127-88-3	62	24 - 113
Nitrobenzene-d5	4165-60-0	69	23 - 120
2-Fluorobiphenyl	321-60-8	71	30 - 115
2,4,6-Tribromophenol	118-79-6	84	19 - 122

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.75

Sample Identification: COMP. SP12 A, B, C, D

Lab Number:

9211075-01

Sample Matrix/Media:

SOIL

Date Sampled: 11/06/92
Date Received: 11/06/92

Analyte	Concentration	Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Analysis Method
Antimony	<1	1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 6010
Arsenic	2	i	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 6010
Barium	24	i	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 6010
Beryllium	<0.1	0.1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 6010
Cadmium	<0.1	0.1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 6010
Chromium	18	1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 6010
Cobalt	5	1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 6010
Copper	16	1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 6010
Diesel	1,400	1	mg/kg	11/06/92	11/06/92	EPA 3550	EPA 8015
Gasoline	3,000	0.3	mg/kg	11/06/92	11/09/92	EPA 5030	EPA 8015
Lead	14	į	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 6010
Mercury	<0.1	0.1	mg/kg	11/09/92	11/09/92	EPA 7471	EPA 7471
Molybdenum	<1	1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 6010
Nickel	20	į	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 6010
Selenium	1	1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 6010
Silver	<0.5	0.5	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 6010
Thallium	2	ļ	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 6010
Vanadium	14	į	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 6010
Zinc	22	į	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 6010

ND Not detected at or above limit of detection

Results are reported on a wet basis, as received

Not detected at or above limit of detection

Information not available or not applicable



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.75

Sample Identification: METHOD BLANK

Lab Number:

Sample Matrix/Media:

9211075-02

SOIL

Date Sampled:

Date Received: -

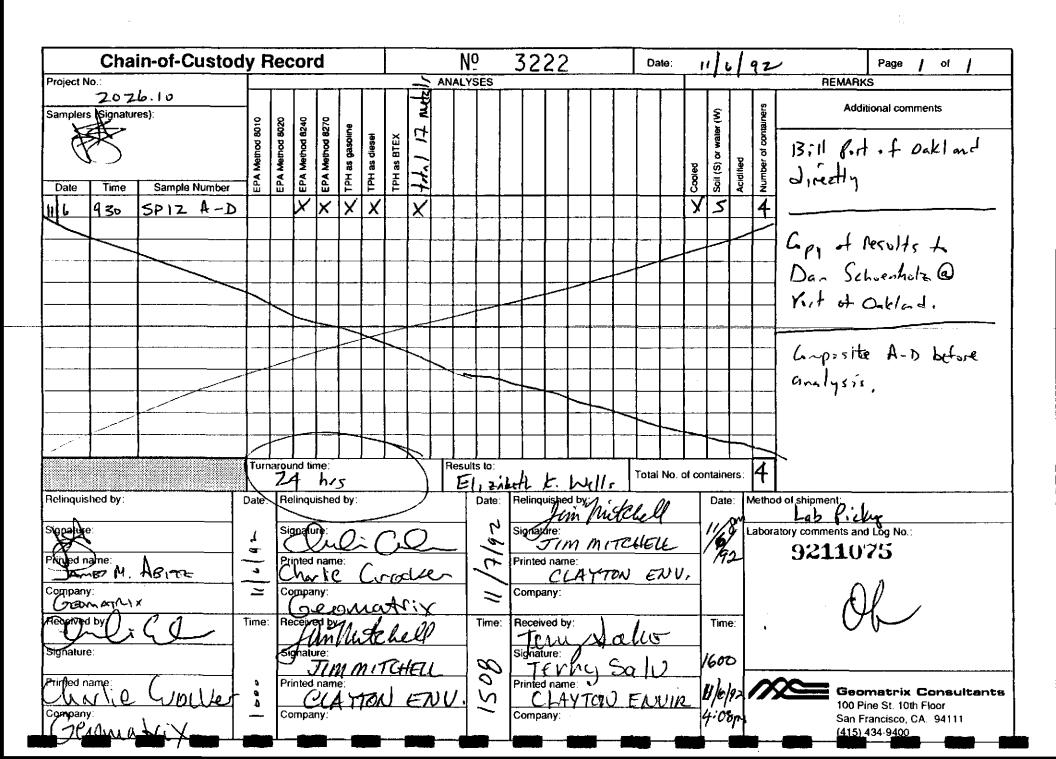
		Detection			Date	Prep	Analysis	
Analyte	Concentration	Limit	Units	Prepared	Analyzed	Method	Method	
Antimony	<1	1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 601	
Arsenic	<1	1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 601	
Barium	<1	1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 601	
Beryllium	<0.1	0.1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 601	
Cadmium	<0.1	0.1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 601	
Chromium	<1	1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 601	
Cobalt	<1	1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 601	
Copper	<1	1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 601	
Diesel	ND	1	mg/kg	11/06/92	11/06/92	EPA 3550	EPA 801	
Gasoline	ND	0.3	mg∕kg	11/06/92	11/09/92	EPA 5030	EPA 801	
Lead	<1	1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 601	
Mercury	<0.1	0.1	mg/kg	11/09/92	11/09/92	EPA 7471	EPA 747	
Molybdenum	<1	1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 601	
Nickel	<1	1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 601	
Selenium	<1	1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 601	
Silver	<0.5	0.5	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 601	
Thallium	<1	1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 601	
Vanadium	<1	1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 601	
Zinc	<1	1	mg/kg	11/09/92	11/10/92	EPA 3050	EPA 601	

ND Not detected at or above limit of detection

Results are reported on a wet basis, as received

Not detected at or above limit of detection

<sup>--</sup> Information not available or not applicable



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

November 24, 1992

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

> Client Ref. 2026.10 Clayton Project No. 92110.56

Dear Ms. Wells:

Attached is our analytical laboratory report for the samples received on November 5, 1992. Results were sent to you by facsimile on November 9 and 16, 1992. Results for Aquatic Toxicity analyzed by GeoAnalytical Laboratories are also enclosed. 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

cc: Dan Schoenholz Port of Oakland



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-4A to SP-4D

SP-4D Date Sampled: 11,

Lab Number:

9211056-01E

Date Sampled: 11/05/92 Date Received: 11/05/92

Sample Matrix/Media:

SOIL

Date Prepared: 11/06/92

Preparation Method:

EPA 5030

Date Analyzed: 11/06/92

Analytical Method:

EPA 8240 (Low Level)

Analyte		CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics	· · · · · · · · · · · · · · · · · · ·			
Chloromethane		74-87-3	ND	10
Bromomethane		74-83-9	ND	10
Vinyl chloride		75-01-4	ND	10
Chloroethane		75-00-3	ND	10
Methylene chloride		75-09-2	ND	10
Trichlorofluoromethane		75-69-4	ND	10
1,1-Dichloroethene		75-35-4	ND	10
1,1-Dichloroethane		75-35-3	ND	10
Trans-1,2-Dichloroethene	1	56-60-5	ИD	10
Cis-1,2-Dichloroethene	1	56-59-2	ND	10
Chloroform		67-66-3	ND	10
1,2-Dichloroethane	1	07-06-2	ND	10
1,1,1-Trichloroethane		71-55-6	ND	10
Carbon tetrachloride		56-23-5	ND	10
Bromodichloromethane		75-27-4	ND	10
1,2-Dichloropropane		78-87-5	ND	10
Cis-1,3-Dichloropropene	100	61-01-5	ND	10
Trichloroethene		79-01-6	ND	10
Benzene		71-43-2	ND	10
Dibromochloromethane	1	24-48-1	ND	10

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-4A to SP-4D Date Sampled: 11/05/92 Lab Number: 9211056-01E Date Received: 11/05/92 Sample Matrix/Media: SOIL Date Prepared: 11/06/92 Preparation Method: EPA 5030 Date Analyzed: 11/06/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued	<u>l)</u>	·	
1,1,2-Trichloroethane	79-00-5	ND	10
Trans-1,3-Dichloropropene	10061-02-6	ND	10
2-Chloroethylvinylether	110-75-8	ND	10
Bromoform	75-25-2	ND	10
1,1,2,2-Tetrachloroethane	79-34-5	ND	10
Tetrachloroethene	127-18-4	ND	10
Toluene	108-88-3	ND	10
Chlorobenzene	108-90-7	ND	10
Ethylbenzene	100-41-4	60	10
1,3-Dichlorobenzene	541-73-7	ND	10
1,2-Dichlorobenzene	95-50-1	ИD	10
1,4-Dichlorobenzene	106-46-7	ND	10
Freon 113	76-13-1	ND	10
p,m~Xylenes	<del></del>	260	10
o-Xylene	95-47-6	20	10
Acetone	67-64-1	ND	50
2-Butanone	78-93-3	ND	50
4-Methyl-2-pentanone	108-10-1	ND	50
2-Hexanone	591-78-6	ND	50
Vinyl acetate	108-05-4	ND	30

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



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11/05/92

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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-4A to SP-4D Date Sampled:

Lab Number: Sample Matrix/Media: Preparation Method: Analytical Method:	9211056-011 SOIL EPA 5030 EPA 8240 (1		Date Receive Date Prepare Date Analyze	d: 11/06/92
Analyte		CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (co	ontinued)			
Carbon disulfide Styrene		75-15-0 00-42-5	ND ND	10 10
Surrogates			Recovery (%)	QC Limits (%) LCL UCL
1,2-Dichloroethane-c		0-07-0 7-26-5	103 104	70 - 121 81 - 117

460-00-4

99

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

Bromofluorobenzene



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-5A to SP-5D Date Sampled: 11/05/92 Lab Number: 9211056-02E Date Received: 11/05/92 Sample Matrix/Media: SOIL Date Prepared: 11/06/92 Preparation Method: EPA 5030 Date Analyzed: 11/06/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	1
Bromomethane	74-83-9	ND	1
Vinyl chloride	75-01-4	ND	1
Chloroethane	75-00-3	ND	1
Methylene chloride	75-09-2	ND	1
Trichlorofluoromethane	75-69-4	ND	1
1,1-Dichloroethene	75-35-4	ND	1
1,1-Dichloroethane	75-35 <b>-</b> 3	ND	1
Trans-1,2-Dichloroethene	156-60-5	ND	1
Cis-1,2-Dichloroethene	156-59-2	ND	1
Chloroform	67-66-3	ND	1
1,2-Dichloroethane	107-06-2	ND	1
1,1,1-Trichloroethane	71-55-6	ND	1
Carbon tetrachloride	56-23-5	ND	1
Bromodichloromethane	75-27-4	ND	1
1,2-Dichloropropane	78 <b>-</b> 87-5	ND	1
Cis-1,3-Dichloropropene	10061-01-5	ND	1
Trichloroethene	79-01-6	ND	1
Benzene	71-43-2	ND	1
Dibromochloromethane	124-48-1	ND	1

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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-5A to SP-5D Date Sampled: 11/05/92
Lab Number: 9211056-02E Date Received: 11/05/92
Sample Matrix/Media: SOIL Date Prepared: 11/06/92
Preparation Method: EPA 5030 Date Analyzed: 11/06/92

Analytical Method: EPA 8240 (Low Level)

Analyte		CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued	1)			
1,1,2-Trichloroethane Trans-1,3-Dichloropropene 2-Chloroethylvinylether Bromoform	1006 11 7	9-00-5 1-02-6 0-75-8 5-25-2	ND ND ND ND	1 1 1 1
1,1,2,2-Tetrachloroethane Tetrachloroethene Toluene Chlorobenzene	12 10 10	9-34-5 7-18-4 8-88-3 8-90-7	ND ND 4 ND	1 1 1 1
Ethylbenzene 1,3-Dichlorobenzene 1,2-Dichlorobenzene 1,4-Dichlorobenzene	5 4 9	0-41-4 1-73-7 5-50-1 6-46-7	3 ND ND ND	1 1 1
Freon 113 p,m-Xylenes o-Xylene	7 9	6-13-1  5-47-6	ND 61 25	1 1 1
Acetone 2-Butanone 4-Methyl-2-pentanone 2-Hexanone	7 10 59	7-64-1 (8-93-3 (8-10-1 (1-78-6	ND ND ND ND	5 5 5
Vinyl acetate	10	8-05-4	ND	3

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-5A to SP-5D

Lab Number: 9211056-02E Date Received: 11/05/92
Sample Matrix/Media: SOIL Date Prepared: 11/06/92
Preparation Method: EPA 5030 Date Analyzed: 11/06/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continu	ied)		
Carbon disulfide Styrene	75-15-0 100-42-5	ND ND	1 1
Surrogates		Recovery (%)	QC Limits (%)LCL UCL
1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene	17060-07-0 2037-26-5 460-00-4	102 100 97	70 - 121 81 - 117 74 - 121

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-6A to SP-6D Date Sampled: 11/05/92
Lab Number: 9211056-03E Date Received: 11/05/92
Sample Matrix/Media: SOIL Date Prepared: 11/06/92
Preparation Method: EPA 5030 Date Analyzed: 11/06/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	1
Bromomethane	74-83-9	ND	1
Vinyl chloride	75-01-4	ND	1
Chloroethane	75-00-3	ND	1
Methylene chloride	75-09-2	ND	1
Trichlorofluoromethane	75-69-4	ND	1
1,1-Dichloroethene	75-35-4	ND	1
1,1-Dichloroethane	75-35-3	ND	1
Trans-1,2-Dichloroethene	156-60-5	ND	1
Cis-1,2-Dichloroethene	156-59-2	ND	1
Chloroform	67-66-3	ND	1
1,2-Dichloroethane	107-06-2	ND	1
1,1,1-Trichloroethane	71-55-6	ND	1
Carbon tetrachloride	56-23-5	ND	1
Bromodichloromethane	75-27-4	ND	1
1,2-Dichloropropane	78 <b>-</b> 87-5	ND	1
Cis-1,3-Dichloropropene	10051-01-5	ND	1
Trichloroethene	79-01-6	ND	1
Benzene	71-43-2	ND	1
Dibromochloromethane	124-48-1	ND	1

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-6A to SP-6D Date Sampled: 11/05/92 Lab Number: 9211056-03E Date Received: 11/05/92 Sample Matrix/Media: SOIL Date Prepared: 11/06/92 Preparation Method: Analytical Method: EPA 5030 Date Analyzed: 11/06/92

EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued	<u>i)</u>		
1,1,2-Trichloroethane	79-00-5	ND	1
Trans-1,3-Dichloropropene	10061-02-6	ND	1
2-Chloroethylvinylether	110-75-8	ND	1
Bromoform	75-25-2	ND	1
1,1,2,2-Tetrachloroethane	79-34-5	ND	1
Tetrachloroethene	127-18-4	ND	1
Toluene	108-88-3	4	1
Chlorobenzene	108-90-7	ND	1
Ethylbenzene	100-41-4	2	1
1,3-Dichlorobenzene	541-73-7	ND	1
1,2-Dichlorobenzene	95-50 <del>-</del> 1	ND	1
1,4-Dichlorobenzene	106-46-7	ND	1
Freon 113	76-13-1	ИD	1
p,m-Xylenes		32	1
o-Xylene	95-47-6	16	1
Acetone	67-64-1	ND	5
2-Butanone	78-93-3	ND	5
4-Methyl-2-pentanone	108-10-1	ND	5
2-Hexanone	591-78-6	ND	5
Vinyl acetate	108-05-4	ND	5 3

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification:	COMP. SP-6A to SP-6D	Date Sampled:	11/05/92
Lab Number:	9211056-03E	Date Received:	11/05/92
Sample Matrix/Media:	SOIL	Date Prepared:	11/06/92
Preparation Method:	EPA 5030	Date Analyzed:	11/06/92
Analytical Method:	EPA 8240 (Low Level)		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continue	<u>d)</u>		
Carbon disulfide Styrene	75-15-0 100-42-5	ND ND	1 1
Surrogates		Recovery (%)	QC Limits (%)LCLUCL
1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene	17060-07-0 2037-26-5 460-00-4	102 102 96	70 - 121 81 - 117 74 - 121

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-7A to SP-7D Date Sampled: 11/05/92 Lab Number: 9211056-04E Date Received: 11/05/92 Sample Matrix/Media: Sample Matrix,...

Preparation Method: EPA 5030

EPA 8240 (Low Level) SOIL Date Prepared: 11/06/92 Date Analyzed: 11/06/92

Analytical Method:

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	0.3
Bromomethane	74-83-9	ND	0.3
Vinyl chloride	75-01-4	ND	0.3
Chloroethane	75-00-3	ND	0.3
Methylene chloride	75-09-2	ND	0.3
Trichlorofluoromethane	75-69-4	ND	0.3
1,1-Dichloroethene	75-35-4	ND	0.3
1,1-Dichloroethane	75-35-3	ND	0.3
Trans-1,2-Dichloroethene	156-60-5	ND	0.3
Cis-1,2-Dichloroethene	156-59-2	ND	0.3
Chloroform	67-66-3	ND	0.3
1,2-Dichloroethane	107-06-2	ND	0.3
1,1,1-Trichloroethane	71-55-6	ИD	0.3
Carbon tetrachloride	56-23-5	ND	0.3
Bromodichloromethane	75-27-4	ND	0.3
1,2-Dichloropropane	78-87-5	ND	0.3
Cis-1,3-Dichloropropene	10061-01-5	ND	0.3
Trichloroethene	79-01-6	ND	0.3
Benzene	71-43-2	ND	0.3
Dibromochloromethane	124-48-1	ND	0.3

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-7A to SP-7D

Lab Number: 9211056-04E Date Received: 11/05/92
Sample Matrix/Media: SOIL Date Prepared: 11/06/92
Preparation Method: EPA 5030 Date Analyzed: 11/06/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued	<u>i)</u>		
1,1,2-Trichloroethane	79-00-5	ND	0.3
Trans-1,3-Dichloropropene	10ф61-02-6	ND	0.3
2-Chloroethylvinylether	110-75-8	ND	0.3
Bromoform	75-25-2	ND	0.3
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.3
Tetrachloroethene	127-18-4	ND	0.3
Toluene	108-88-3	1.0	0.3
Chlorobenzene	108-90-7	ИD	0.3
Ethylbenzene	100-41-4	0.8	0.3
1,3-Dichlorobenzene	\$41-73-7	ND	0.3
1,2-Dichlorobenzene	95-50-1	ND	0.3
1,4-Dichlorobenzene	106-46-7	ND	0.3
Freon 113	76-13-1	ND	0.3
p,m-Xylenes		7.1	0.3
o-Xylene	95-47-6	4.0	0.3
Acetone	67-64-1	ND	1
2-Butanone	78-93-3	. ND	1
4-Methyl-2-pentanone	108-10-1	ND	1
2-Hexanone	591-78-6	ND	1
Vinyl acetate	108-05-4	ND	0.5

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-7A to SP-7D Date Sampled: 11/05/92 Lab Number: 9211056-04E Date Received: 11/05/92 Sample Matrix/Media: SOIL Date Prepared: 11/06/92 Preparation Method: EPA 5030 Date Analyzed: 11/06/92 Analytical Method: EPA 8240 (Low Level)

Limit of Concentration Detection CAS # Analyte (mg/kg) (mg/kg) Purgeable Organics (continued) Carbon disulfide 0.3 75-15-0 ND Styrene 100-42-5 ND 0.3 QC Limits (%) Surrogates Recovery (%) LCL UCL 70 - 121 1,2-Dichloroethane-d4 17060-07-0 103 Toluene-d8 81 - 117 2037-26-5 101 74 - 121 Bromofluorobenzene 460-00-4 94

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-9A to SP-9D

Lab Number:

Sample Matrix/Media:

Preparation Method:

Analytical Method:

9211056-06E

SOIL EPA 5030

EPA 8240 (Low Level)

Date Sampled: 11/05/92

Date Received: 11/05/92 Date Prepared: 11/06/92

Date Analyzed: 11/10/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continue	d)		
1,1,2-Trichloroethane	79-00-5	ND	0.005
Trans-1,3-Dichloropropene	10061-02-6	ND	0.005
2-Chloroethylvinylether	110-75-8	ND	0.005
Bromoform	75-25-2	ND	0.005
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.005
Tetrachloroethene	127-18-4	ND	0.005
Toluene	108-88-3	ND	0.005
Chlorobenzene	1 <b>08-90-7</b>	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
1,3-Dichlorobenzene	541-73-7	ND	0.005
1,2-Dichlorobenzene	95-50-1	ND	0.005
1,4-Dichlorobenzene	106-46-7	ND	0.005
Freon 113	76-13-1	ND	0.005
p,m-Xylenes		ND	0.005
o-Xylene	95-47-6	0.008	0.005
Acetone	67-64-1	ND	0.02
2-Butanone	78-93-3	ND	0.02
4-Methyl-2-pentanone	1 0 8 - 10 - 1	ND	0.02
2-Hexanone	591-78-6	ND	0.02
Vinyl acetate	108-05-4	ND	0.01

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification:	COMP. SP-9A to SP-9D	Date Sampled:	11/05/92
Lab Number:	9211056-06E	Date Received:	11/05/92
Sample Matrix/Media:	SOIL	Date Prepared:	11/06/92
Preparation Method:	EPA 5030	Date Analyzed:	11/10/92
Analytical Method:	EPA 8240 (Low Level)	_	

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continu	ued)		
Carbon disulfide Styrene	75-15-0 100-42-5	ND ND	0.005 0.005
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene	17060-07-0 2037-26-5 460-00-4	112 85 109	70 - 121 81 - 117 74 - 121

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-10A to SP-10D

OD Date Sampled:

11/05/92

Lab Number:

9211056-07E

Date Received: 11/05/92

Sample Matrix/Media:

SOIL

Date Prepared:

11/05/92

Preparation Method:

EPA 5030

Date Analyzed:

11/09/92

Analytical Method:

EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	3
Bromomethane	74-83-9	ND	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
Vinyl chloride	75-01-4	ND	3
Chloroethane	75-00-3	ND	3
Methylene chloride	75-09-2	ND	3
Trichlorofluoromethane	75-69-4	ND	3
1,1-Dichloroethene	75-35-4	ND	3
1,1-Dichloroethane	75-35-3	ND	3
Trans-1,2-Dichloroethene	156-60-5	ND	3
Cis-1,2-Dichloroethene	156-59-2	ND	3
Chloroform	67-66-3	ND	3
1,2-Dichloroethane	107-06-2	ND	3
1,1,1-Trichloroethane	71-55-6	ND	3
Carbon tetrachloride	56-23-5	ND	3
Bromodichloromethane	75-27-4	ND	3
1,2-Dichloropropane	78-87-5	ND	3
Cis-1,3-Dichloropropene	10d61-01-5	ND	3
Trichloroethene	79-01-6	ND	3 3 3 3
Benzene	71-43-2	ND	3
Dibromochloromethane	124-48-1	ND	3

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



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# Results of Analysis Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-10A to SP-10D Date Sampled: 11/05/92 Lab Number: 9211056-07E Date Received: 11/05/92 Sample Matrix/Media: SOIL Date Prepared: 11/06/92 Preparation Method: Analytical Method: EPA 5030 Date Analyzed: 11/09/92

EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued	<u></u>		
1,1,2-Trichloroethane	79-00-5	ND	3
Trans-1,3-Dichloropropene	10061-02-6	ND	3
2-Chloroethylvinylether	110-75-8	ND	3
Bromoform	75-25-2	ND	3
1,1,2,2-Tetrachloroethane	79-34-5	ND	3
Tetrachloroethene	127-18-4	ND	3
Toluene	108-88-3	ND	3
Chlorobenzene	108-90-7	ND	3
Ethylbenzene	100-41-4	9	3
1,3-Dichlorobenzene	541-73-7	ND	3
1,2-Dichlorobenzene	95-50-1	ND	3
1,4-Dichlorobenzene	106-46-7	ND	3
Freon 113	76-13-1	ND	3
p,m-Xylenes		56	3
o-Xylene	95-47-6	16	3
Acetone	67-64-1	ND	10
2-Butanone	78-93-3	ND	10
4-Methyl-2-pentanone	108-10-1	ND	10
2-Hexanone	591-78-6	ND	10
Vinyl acetate	108-05-4	ND	5

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: Lab Number: Sample Matrix/Media: Preparation Method: Analytical Method:	COMP. SP-10 9211056-071 SOIL EPA 5030 EPA 8240 (1	5	D Date Sampled: Date Received Date Prepared Date Analyzed	l: 11/05/92 l: 11/06/92
Analyte		CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (co	ntinued)			
Carbon disulfide Styrene		75-15-0 00-42-5	ND ND	3 3
Surrogates			Recovery (%)	C Limits (%) LCL UCL
1,2-Dichloroethane-d Toluene-d8 Bromofluorobenzene	20	50-07-0 37-26 <b>-</b> 5 50-00-4	105 102 99	70 - 121 81 - 117 74 - 121

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-11A to SP-11D Date Sampled: 11/05/92 Lab Number: 9211056-08E Date Received: 11/05/92 Sample Matrix/Media: SOIL Date Prepared: 11/06/92 Preparation Method: EPA 5030 Date Analyzed: 11/09/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	3
Bromomethane	74-83-9	ND	3
Vinyl chloride	75-01-4	ND	3
Chloroethane	75-00-3	ND	3 3 3 3 3
Methylene chloride	75-09-2	ND	3
Trichlorofluoromethane	75-69-4	ND	3
1,1-Dichloroethene	75-35-4	ND	3
1,1-Dichloroethane	75+35-3	ND	3
Trans-1,2-Dichloroethene	156-60-5	ND	3
Cis-1,2-Dichloroethene	156-59-2	ND	3
Chloroform	67-66-3	ND	3
1,2-Dichloroethane	107-06-2	ND	3
1,1,1-Trichloroethane	71-55-6	ND	3
Carbon tetrachloride	56-23-5	ИD	3 3 3
Bromodichloromethane	75-27-4	ND	3
1,2-Dichloropropane	78-87-5	ND	3
Cis-1,3-Dichloropropene	10061-01-5	ND	3
Trichloroethene	79-01-6	ND	3 3 3 3 3
Benzene	71-43-2	4	3
Dibromochloromethane	124-48-1	ND	3

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-11A to SP-11D Date Sampled: 11/05/92
Lab Number: 9211056-08E Date Received: 11/05/92
Sample Matrix/Media: SOIL Date Prepared: 11/06/92
Preparation Method: EPA 5030 Date Analyzed: 11/09/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued	<u>1)</u>		
1,1,2-Trichloroethane	79-00-5	ND	3
Trans-1,3-Dichloropropene	10061-02-6	ND	3
2-Chloroethylvinylether	110-75-8	ND	3
Bromoform	75-25-2	ND	3
1,1,2,2-Tetrachloroethane	79-34-5	ND	3
Tetrachloroethene	127-18-4	ND	3
Toluene	108-88-3	21	3
Chlorobenzene	108-90-7	ND	3
Ethylbenzene	100-41-4	28	3
1,3-Dichlorobenzene	541-73-7	ND	3
1,2-Dichlorobenzene	95-50-1	ND	3
1,4-Dichlorobenzene	106-46-7	ND	3
Freon 113	76-13-1	ND	3 3 3 3 3 3 3 3 3 3
p,m-Xylenes		130	3
o-Xylene	95-47-6	46	3
Acetone	67-64-1	ND	10
2-Butanone	78-93-3	ND	10
4-Methyl-2-pentanone	108-10-1	ND	10
2-Hexanone	591-78-6	ND	10
Vinyl acetate	108-05-4	ND	5

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-11A to SP-11D 11/05/92 Date Sampled: Lab Number: 9211056-08E Date Received: 11/05/92 Sample Matrix/Media: SOIL Date Prepared: 11/06/92 Preparation Method: Date Analyzed: EPA 5030 11/09/92 Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continu	ıed)		
Carbon disulfide Styrene	75-15-0 100-42-5	ND ND	3 3
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene	17060-07-0 2037-26-5 460-00-4	106 100 102	70 - 121 81 - 117 74 - 121

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: METHOD BLANK

Date Sampled:

Lab Number:

9211056-09A

Date Received:

Sample Matrix/Media:

SOIL

Date Prepared: 11/06/92

Preparation Method:

EPA 5030

Date Analyzed: 11/06/92

Analytical Method: EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	0.005
Bromomethane	74-83-9	ND	0.005
Vinyl chloride	75-01-4	ND	0.005
Chloroethane	75-00-3	ND	0.005
Methylene chloride	75-09-2	ND	0.005
Trichlorofluoromethane	75-69-4	ND	0.005
1,1-Dichloroethene	75-35-4	ND	0.005
1,1-Dichloroethane	75-35 <del>-</del> 3	ND	0.005
Trans-1,2-Dichloroethene	156-60-5	ND	0.005
Cis-1,2-Dichloroethene	156-59-2	ND	0.005
Chloroform	67-66-3	ND	0.005
1,2-Dichloroethane	107-06-2	ND	0.005
1,1,1-Trichloroethane	71-55-6	ND	0.005
Carbon tetrachloride	56-23-5	ND	0.005
Bromodichloromethane	75-27-4	ND	0.005
1,2-Dichloropropane	78-87-5	ND	0.005
Cis-1,3-Dichloropropene	10061-01-5	ND	0.005
Trichloroethene	79-01-6	ND	0.005
Benzene	71-43-2	ND	0.005
Dibromochloromethane	124-48-1	ND	0.005

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: METHOD BLANK

9211056-09A

Date Sampled:

Lab Number:

p,m-Xylenes

2-Butanone

2-Hexanone

Vinyl acetate

4-Methyl-2-pentanone

o-Xylene

Acetone

Sample Matrix/Media: SOIL Date Received:

ND

ND

ND

ND

ND

ND

ND

Preparation Method: EPA 5030 Analytical Method: EPA 8240 (Low Level)

Date Prepared: 11/06/92

Date Analyzed: 11/06/92

0.005

0.005

0.02

0.02

0.02

0.02

0.01

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued	1)		
1,1,2-Trichloroethane	79-00-5	ND	0.005
Trans-1,3-Dichloropropene	10061-02-6	ND	0.005
2-Chloroethylvinylether	110-75-8	ND	0.005
Bromoform	75-25-2	ND	0.005
1,1,2,2-Tetrachloroethane	79-34 <b>-</b> 5	ND	0.005
Tetrachloroethene	127-18-4	ND	0.005
Toluene	108-88-3	ND	0.005
Chlorobenzene	108-90-7	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
1,3-Dichlorobenzene	541-73-7	ND	0.005
1,2-Dichlorobenzene	95-50-1	ND	0.005
1,4-Dichlorobenzene	106-46-7	ND	0.005
Freon 113	76-13-1	ND	0.005

95-47-6

67-64-1

78-93-3

108-10-1

591-78-6

108-05-4

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: METHOD BLANK

Date Sampled:

Lab Number:

9211056-09A

SOIL

Date Received:

Sample Matrix/Media:

EPA 5030

Date Prepared: Date Analyzed:

11/06/92 11/06/92

Preparation Method: Analytical Method:

EPA 8240 (Low Level)

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continu	ed)		
Carbon disulfide Styrene	75-15-0 100-42-5	ND ND	0.005 0.005
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene	17060-07-0 2037-26-5 460-00-4	94 102 91	70 - 121 81 - 117 74 - 121

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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-4A to SP-4D

Lab Number: 9211056-01E Date Received: 11/05/92

Sample Matrix/Media: SOIL Date Extracted: 11/06/92

Extraction Method: EPA 3550 Date Analyzed: 11/06/92

Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Acid Extractables			
Phenol	108-95-2	ND	2
2-chlorophenol	95-57-8	ND	2
2-methyl phenol	95-48-7	ND	2
4-methyl phenol	106-44-5	ND	2 2 2 2 2 2 2 2
2-nitrophenol	88-75-5	ND	2
2,4-dimethylphenol	105-67-9	ND	2
2,4-dichlorophenol	120-83-2	ND	2
4-chloro-3-methylphenol	59-50-7	ND	2
2,4,5-trichlorophenol	95-95-4	ND	2
2,4,6-trichlorophenol	88-06-2	ИD	2
2,4-dinitrophenol	51-28-5	ND	10
4-nitrophenol	100-02-7	ND	10
2-methyl-4,6-dinitrophenol	534-52-1	ND	2
Pentachlorophenol	87-86-5	ND	2
Base/Neutral Extractables			
Bis(2-chloroethyl)ether	111-44-4	ND	2
1,3-dichlorobenzene	541-73-7	ND	2
1,4-dichlorobenzene	106-46-7	ND	2
Benzyl alcohol	100-51-6	ND	4
1,2-dichlorobenzene	95-50-1	ND	2 2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-4A to SP-4D Date Sampled: 11/05/92
Lab Number: 9211056-01E Date Received: 11/05/92
Sample Matrix/Media: SOIL Date Extracted: 11/06/92
Extraction Method: EPA 3550 Date Analyzed: 11/06/92

Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
N-nitrosodi-n-propylamine	621-64-7	ND	2
Hexachloroethane	67-72-1	ND	2
Nitrobenzene	98-95-3	ND	2
Isophorone	78-59-1	ND	2
Benzoic acid	65-85-0	ND	8
Bis-(2-chloroethoxy)methane	111-91-1	ND	2
1,2,4-trichlorobenzene	120-82-1	ND	2
Naphthalene	91-20-3	11	2 2 2
Hexachlorobutadiene	87-68-3	ND	2
2-chloronaphthalene	91 <b>-</b> 58-7	ND	
2-methyl naphthalene	<b>91-57-6</b>	12	2
4-chloroaniline	106-47-8	ND	10
2-nitroaniline	88-74-4	ND	10
3-nitroaniline	99-09-2	ND	10
4-nitroaniline	100-01-6	ND	10
Hexachlorocyclopentadiene	77-47-4	ND	20
Dimethyl phthalate	131-11-3	ND	2
Acenaphthylene	208-96-8	ND	2
Acenaphthene	\$3-32-9	ND	2 2
Dibenzofuran	1 \$2 - 64 <del>-</del> 9	ND	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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-4A to SP-4D Date Sampled: 11/05/92 Lab Number: 9211056-01E Date Received: 11/05/92 Sample Matrix/Media: SOIL Date Extracted: 11/06/92 Extraction Method: EPA 3550 Date Analyzed: 11/06/92 Analytical Method: EPA 8270

Analyte	CAS	#	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)			
2,4-dinitrotoluene	121-14	1-2	ND	2
2,6-dinitrotoluene	606-20	)-2	ND	2
Diethyl phthalate	84-66	5-2	ND	2 2
4-chlorophenylphenylether	7005-72	2-3	ND	2
Fluorene	86-73	3 – 7	ND	2 2 2
N-nitrosodiphenylamine	86-30	0-6	ND	2
4-bromophenylphenylether	101-55	5-3	ND	2
Hexachlorobenzene	118-74	1 – 1	ND	2 2 2
Phenanthrene	85-01	1-8	5	2
Anthracene	120-12	2-7	ND	2
Di-n-butylphthalate	84-74	1-2	ND	2 2 2
Fluoranthene	206-44	1-2	4	2
Benzidine	92-83	7-5	ND	50
Pyrene	129-00	0-0	4	2
Benzylbutylphthalate	85-68	3-7	ND	2
3,3'-dichlorobenzidine	91-94	1 – 1	ND	50
Benzo(a)anthracene	56-55	5-3	ND	2
Bis-(2-ethylhexyl)phthalate	117-83	1-7	ND	20
Chrysene	218-03	L-9	ND	2
Di-n-octylphthalate	117-84	1-0	ND	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

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11/06/92

# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-4A to SP-4D Date Sampled: 11/05/92
Lab Number: 9211056-01E Date Received: 11/05/92
Sample Matrix/Media: SOIL Date Extracted: 11/06/92

Sample Matrix/Media: SOIL Date Extracted: Extraction Method: EPA 3550 Date Analyzed:

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	2
Benzo(k)fluoranthene	207-08-9	ND	2
Benzo(a)pyrene	50-32-8	ND	2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	2
Dibenzo(a,h)anthracene	53-70-3	ND	2
Benzo(ghi)perylene	191-24-2	ND	2
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
2-Fluorophenol	367-12-4	66	25 - 121
Phenol-d6	13127-88-3	73	24 - 113
Nitrobenzene-d5	4165-60-0	63	23 - 120
2-Fluorobiphenyl	321-60-8	87	30 - 115
2,4,6-Tribromophenol	118-79-6	71	19 - 122
Terphenyl-d14	98904-43-9	90	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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-5A to SP-5D 11/05/92 Date Sampled: Lab Number: 9211056-02E Date Received: 11/05/92 Sample Matrix/Media: SOIL Date Extracted: 11/06/92 Extraction Method: EPA 3550 Date Analyzed: 11/06/92 Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Acid Extractables			
Phenol	108-95-2	ND	2
2-chlorophenol	95-57-8	ND	2
2-methyl phenol	95-48-7	ND	2 2 2
4-methyl phenol	106-44-5	ND	
2-nitrophenol	88-75-5	ND	2
2,4-dimethylphenol	105-67-9	ND	2
2,4-dichlorophenol	120-83-2	ND	2 2 2
4-chloro-3-methylphenol	59-50-7	ND	2
2,4,5-trichlorophenol	9 <b>5-95-4</b>	ND	2
2,4,6-trichlorophenol	88-06-2	ND	2
2,4-dinitrophenol	51-28-5	ND	10
4-nitrophenol	100-02-7	ИD	10
2-methyl-4,6-dinitrophenol	534-52-1	ND	2
Pentachlorophenol	87-86-5	ND	2
Base/Neutral Extractables			
Bis(2-chloroethyl)ether	111-44-4	ND	2
1,3-dichlorobenzene	541-73-7	ND	2 2
1,4-dichlorobenzene	106-46-7	ND	2
Benzyl alcohol	100-51-6	ND	
1,2-dichlorobenzene	95-50-1	ND	4 2 2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Date Sampled: 11/05/92 Sample Identification: COMP. SP-5A to SP-5D Lab Number: 9211056-02E Date Received: 11/05/92 Sample Matrix/Media: Date Extracted: 11/06/92 SOIL EPA 3550 Date Analyzed: 11/06/92 Extraction Method: Analytical Method: EPA 8270

Limit of Detection Concentration

Analyte	CAS #	(mg/kg)	(mg/kg)
Base/Neutral Extractables (con	tinued)		
N-nitrosodi-n-propylamine	621-64-7	ND	2
Hexachloroethane	67-72-1	ND	2
Nitrobenzene	98-95-3	ND	2
Isophorone	78-59-1	ND	2
Benzoic acid	65-85-0	ND	8
Bis-(2-chloroethoxy)methane	111-91-1	ND	2
1,2,4-trichlorobenzene	120-82-1	ND	2 2
Naphthalene	91-20-3	12	
Hexachlorobutadiene	87-68-3	ND	2 2
2-chloronaphthalene	91-58-7	ND	2
2-methyl naphthalene	91-57-6	13	2
4-chloroaniline	106-47-8	ND	10
2-nitroaniline	88-74-4	ND	10
3-nitroaniline	99-09-2	ND	10
4-nitroaniline	100-01-6	ND	10
Hexachlorocyclopentadiene	77-47-4	ND	20
Dimethyl phthalate	131-11-3	ND	2
Acenaphthylene	208-96-8	ND	2
Acenaphthene	83-32-9	ND	2
Dibenzofuran	132-64-9	ND	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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-5A to SP-5D 11/05/92 Date Sampled: Lab Number: Date Received: 11/05/92 9211056-02E Sample Matrix/Media: SOIL Date Extracted: 11/06/92 Extraction Method: EPA 3550 Date Analyzed: 11/06/92 Analytical Method: EPA 8270

Timit of

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
2,4-dinitrotoluene	121-14-2	ND	2
2,6-dinitrotoluene	606-20-2	ND	2
Diethyl phthalate	84-66-2	ND	2
4-chlorophenylphenylether	7005-72-3	ND	2 2 2 2
Fluorene	86-73-7	ND	2
N-nitrosodiphenylamine	86-30-6	ND	2
4-bromophenylphenylether	101-55-3	ND	2 2 2 2 2 2
Hexachlorobenzene	118-74-1	ND	2
Phenanthrene	85-01-8	ND	2
Anthracene	120-12-7	ND	2
Di-n-butylphthalate	84-74-2	ND	2
Fluoranthene	206-44-2	ND	2
Benzidine	92-87-5	ND	50
Pyrene	129-00-0	ND	2
Benzylbutylphthalate	85-68-7	ND	2
3,3'-dichlorobenzidine	91-94-1	ND	50
Benzo(a)anthracene	56-55-3	ND	2
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	20
Chrysene	218-01-9	ND	2
Di-n-octylphthalate	117-84-0	ND	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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Réference: 2026.10 Clayton Project No. 92110.56

Sample Identification: Lab Number: Sample Matrix/Media: Extraction Method: Analytical Method:	COMP. SP-52 9211056-021 SOIL EPA 3550 EPA 8270		SP-5D	Date Date	Sampled: Received: Extracted: Analyzed:	11/0 11/0	5/92 5/92 6/92 6/92
Analyte		CAS	#	Concentra (mg/kg		Dete	it of ction /kg)
Base/Neutral Extractable	les (continu	ied)					
Benzo(b)fluoranthene	20	) 5-99	-2	ND		2	
Benzo(k) fluoranthene		7-08		ND		2	
Benzo(a)pyrene		50-32		ND		2 2 2 2 2	
Indeno(1,2,3-cd)pyre		3-39		ND		2	
Dibenzo(a,h)anthracer		53-70		ND		2	
Benzo(ghi)perylene	i	91-24		ND		2	
					QC	Limit	s (%)
Surrogates				Recovery	(%) <u>L</u>	CL	UCL
2-Fluorophenol	3 (	57-12	<b>-</b> 4	64		25 -	121
Phenol-d6	131:	27-88	-3	73		24 -	
Nitrobenzene-d5	41	55-60	-0	62		23 -	
2-Fluorobiphenyl	3:	21-60	-8	87		30 -	
2,4,6-Tribromophenol	1	18-79	-6	69		19 -	
Terphenyl-d14	989	04-43	-9	83		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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-6A to SP-6D Date Sampled: 11/05/92 Lab Number: 9211056-03E Date Received: 11/05/92 Sample Matrix/Media: SOIL Date Extracted: 11/06/92 Extraction Method: EPA 3550 Date Analyzed: 11/06/92 Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Acid Extractables			
Phenol	108-95-2	ND	2
2-chlorophenol	95-57-8	ND	2 2 2 2
2-methyl phenol	95-48-7	ND	2
4-methyl phenol	106-44-5	ND	2
2-nitrophenol	88-75-5	ND	2
2,4-dimethylphenol	105-67-9	ND	2
2,4-dichlorophenol	120-83-2	ND	2 2 2 2
4-chloro-3-methylphenol	59-50-7	ND	2
2,4,5-trichlorophenol	95-95-4	ND	2
2,4,6-trichlorophenol	88-06-2	ND	2
2,4-dinitrophenol	51-28 <b>-</b> 5	ND	10
4-nitrophenol	100-02-7	ND	10
2-methyl-4,6-dinitrophenol	534-52-1	ND	2 2
Pentachlorophenol	87-86-5	ND	2
Base/Neutral Extractables			
Bis(2-chloroethyl)ether	111-44-4	ND	2
1,3-dichlorobenzene	541-73-7	ND	2
1,4-dichlorobenzene	106-46-7	ND	2
Benzyl alcohol	100-51-6	ND	4
1,2-dichlorobenzene	95-50-1	ND	2 2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification:COMP. SP-6A to SP-6DDate Sampled:11/05/92Lab Number:9211056-03EDate Received:11/05/92Sample Matrix/Media:SOILDate Extracted:11/06/92Extraction Method:EPA 3550Date Analyzed:11/06/92

Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
N-nitrosodi-n-propylamine	621-64-7	ND	2
Hexachloroethane	67-72-1	ND	2
Nitrobenzene	98-95-3	ND	2
Isophorone	78-59-1	ND	2
Benzoic acid	65-85-0	ND	8
Bis-(2-chloroethoxy)methane	111-91-1	ND	2
1,2,4-trichlorobenzene	120-82-1	ND	2
Naphthalene	91-20-3	5	2
Hexachlorobutadiene	87-68-3	ND	2
2-chloronaphthalene	91-58-7	ND	2
2-methyl naphthalene	91-57-6	6	2
4-chloroaniline	106-47-8	ND	10
2-nitroaniline	88-74-4	ND	10
3-nitroaniline	99-09-2	ND	10
4-nitroaniline	100-01-6	ND	10
Hexachlorocyclopentadiene	77-47-4	ND	20
Dimethyl phthalate	131-11-3	ND	2
Acenaphthylene	208-96-8	ND	2
Acenaphthene	83-32-9	ND	2
Dibenzofuran	132-64-9	ND	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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-6A to SP-6D Date Sampled: 11/05/92 Lab Number: 9211056-03E Date Received: 11/05/92 Sample Matrix/Media: SOIL Date Extracted: 11/06/92 Extraction Method: EPA 3550 Date Analyzed: 11/06/92

Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
2,4-dinitrotoluene	121-14-2	ND	2
2,6-dinitrotoluene	606-20-2	ND	
Diethyl phthalate	84-66-2	ND	2
4-chlorophenylphenylether	7005-72-3	ND	2 2 2 2 2 2 2 2
Fluorene	86-73-7	ND	2
N-nitrosodiphenylamine	86-30-6	ND	2
4-bromophenylphenylether	101-55-3	ND	2
Hexachlorobenzene	118-74-1	ND	2
Phenanthrene	85-01-8	ND	2
Anthracene	120-12-7	ND	2
Di-n-butylphthalate	84-74-2	ND	2 2
Fluoranthene	206-44-2	ND	2
Benzidine	92-87-5	ND	50
Pyrene	129-00-0	ND	2
Benzylbutylphthalate	85-68-7	ИD	2
3,3'-dichlorobenzidine	91-94-1	ND	50
Benzo(a)anthracene	56-55-3	ND	2
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	20
Chrysene	218-01-9	ND	2 2
Di-n-octylphthalate	117-84-0	ND	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



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-6A to SP-6D Date Sampled: 11/05/92 Date Received: 11/05/92 Lab Number: 9211056-03E Sample Matrix/Media: Date Extracted: 11/06/92 SOIL EPA 3550 Extraction Method: Date Analyzed: 11/06/92 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	2
Benzo(k)fluoranthene	207-08-9	ND	2
Benzo(a)pyrene	50-32-8	ND	2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	2
Dibenzo(a,h)anthracene	53-70-3	ND	2
Benzo(ghi)perylene	191-24-2	ND	2
			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
2-Fluorophenol	367-12-4	58	25 - 121
Phenol-d6	13127-88-3	61	24 - 113
Nitrobenzene-d5	4165-60-0	53	23 - 120
2-Fluorobiphenyl	321-60-8	74	30 - 115
2,4,6-Tribromophenol	118-79-6	57	19 - 122
Terphenyl-d14	98904-43-9	67	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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-7A to SP-7D Date Sampled: 11/05/92 Lab Number: 9211056-04E Date Received: 11/05/92 Sample Matrix/Media: SOIL Date Extracted: 11/06/92 Extraction Method: **EPA 3550** Date Analyzed: 11/06/92 Analytical Method: EPA 8270

Limit of Concentration Detection Analyte CAS # (mg/kg) (mg/kg) Acid Extractables Phenol 108-95-2 ND 2 2-chlorophenol 2 95-57-8 ND 2-methyl phenol 2 95-48-7 ND 4-methyl phenol 2 106-44-5 ND 2 2-nitrophenol 88-75-5 ND 2,4-dimethylphenol 105-67-9 ND 2 2 2,4-dichlorophenol 120-83-2 ND 4-chloro-3-methylphenol 2 59-50-7 ND 2,4,5-trichlorophenol 2 95-95-4 ND 2,4,6-trichlorophenol 2 88-06-2 ND 2,4-dinitrophenol 51-28-5 ND 10 4-nitrophenol 100-02-7 ND 10 2-methyl-4,6-dinitrophenol 534-52-1 ND 2 Pentachlorophenol 2 87-86-5 ND Base/Neutral Extractables Bis(2-chloroethyl)ether 111-44-4 ND 2 1,3-dichlorobenzene 541-73-7 2 ND 1,4-dichlorobenzene 2 106-46-7 ND Benzyl alcohol 4 100-51-6 ND 1,2-dichlorobenzene 2 95-50-1 ND

108-60-1

ND

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

Bis-(2-chloroisopropyl)ether



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-7A to SP-7D Date Sampled: 11/05/92 Lab Number: 9211056-04E Date Received: 11/05/92 Sample Matrix/Media: SOIL Date Extracted: 11/06/92 Extraction Method: EPA 3550 Date Analyzed: 11/06/92

Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
N-nitrosodi-n-propylamine	621-64-7	ND	2
Hexachloroethane	67-72-1	ND	2
Nitrobenzene	98-95-3	ND	2 2 2
Isophorone	78-59-1	ND	
Benzoic acid	65-85-0	ND	8
Bis-(2-chloroethoxy)methane	1 1 1 - 9 1 - 1	ND	2
1,2,4-trichlorobenzene	120-82-1	ND	2
Naphthalene	91-20-3	2	2
Hexachlorobutadiene	87-68-3	ND	2
2-chloronaphthalene	91-58-7	ND	2
2-methyl naphthalene	91-57-6	4	2
4-chloroaniline	106-47-8	ND	10
2-nitroaniline	88-74-4	ND	10
3-nitroaniline	99-09-2	ND	10
4-nitroaniline	100-01-6	ND	10
Hexachlorocyclopentadiene	77-47-4	ND	20
Dimethyl phthalate	1 31-11-3	ND	2
Acenaphthylene	208-96-8	ND	2
Acenaphthene	83-32-9	ND	2
Dibenzofuran	132-64-9	ND	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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-7A to SP-7D Date Sampled: 11/05/92 Lab Number: 9211056-04E Date Received: 11/05/92 Sample Matrix/Media: SOIL Date Extracted: 11/06/92 Extraction Method: EPA 3550 Date Analyzed: 11/06/92

Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
2,4-dinitrotoluene	121-14-2	ND	2
2,6-dinitrotoluene	606-20-2	ND	2
Diethyl phthalate	84-66-2	ND	2
4-chlorophenylphenylether	7005-72-3	ND	2 2
Fluorene	86-73-7	ND	2
N-nitrosodiphenylamine	86-30-6	ND	2
4-bromophenylphenylether	101-55-3	ND	2
Hexachlorobenzene	118-74-1	ND	2
Phenanthrene	85-01-8	ND	2 2
Anthracene	120-12-7	ND	2
Di-n-butylphthalate	84-74-2	ND	2 2
Fluoranthene	206-44-2	ND	2
Benzidine	92-87-5	ND	50
Pyrene	129-00-0	ND	2
Benzylbutylphthalate	85-68-7	ND	2
3,3'-dichlorobenzidine	91-94-1	ND	50
Benzo(a)anthracene	56-55-3	ND	2
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	20
Chrysene	218-01-9	ND	2
Di-n-octylphthalate	117-84-0	ND	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



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-7A to SP-7D Date Sampled: 11/05/92 11/05/92 Lab Number: 9211056-04E Date Received: Sample Matrix/Media: Date Extracted: 11/06/92 SOIL Extraction Method: EPA 3550 Date Analyzed: 11/06/92 Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (c	continued)		
Benzo(b)fluoranthene	205-99-2	ND	2
Benzo(k)fluoranthene	207-08-9	ND	2
Benzo(a)pyrene	50-32-8	ND	2
Indeno(1,2,3-cd)pyrene	193-39-5	NĎ	2
Dibenzo(a,h)anthracene	53-70-3	ND	2
Benzo(ghi)perylene	191-24-2	ND	2
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
<u></u>			
2-Fluorophenol	367-12-4	77	25 - 121
Phenol-d6	13127-88-3	78	24 - 113
Nitrobenzene-d5	4165-60-0	75	23 - 120
2-Fluorobiphenyl	321-60-8	87	30 - 115
2,4,6-Tribromophenol	118-79-6	62	19 - 122
Terphenyl-d14	98904-43-9	87	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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-8A to SP-8D Date Sampled: 11/05/92 Lab Number: 9211056-05E Date Received: 11/05/92 Sample Matrix/Media: SOIL Date Extracted: 11/06/92 Extraction Method: EPA 3550 Date Analyzed: 11/06/92

Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Acid Extractables			
Phenol	108-95-2	ND	2
2-chlorophenol	95-57-8	ND	2
2-methyl phenol	95-48-7	ND	2
4-methyl phenol	106-44-5	ND	2 2 2
2-nitrophenol	88-75-5	ND	
2,4-dimethylphenol	105-67-9	ND	2 2 2 2 2
2,4-dichlorophenol	120-83-2	ND	2
4-chloro-3-methylphenol	59 <b>-</b> 50-7	ND	2
2,4,5-trichlorophenol	95-95-4	ND	2
2,4,6-trichlorophenol	88-06-2	ND	2
2,4-dinitrophenol	51-28-5	ND	10
4-nitrophenol	100-02-7	ND	10
2-methyl-4,6-dinitrophenol	534-52-1	ND	2
Pentachlorophenol	87-86-5	ND	2
Base/Neutral Extractables			
Bis(2-chloroethyl)ether	111-44-4	ND	2
1,3-dichlorobenzene	541-73-7	ND	2 2
1,4-dichlorobenzene	106-46-7	ND	2
Benzyl alcohol	100-51-6	ND	4
1,2-dichlorobenzene	95-50-1	ND	2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-8A to SP-8D Date Sampled: 11/05/92
Lab Number: 9211056-05E Date Received: 11/05/92
Sample Matrix/Media: SOIL Date Extracted: 11/06/92
Extraction Method: EPA 3550 Date Analyzed: 11/06/92

Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (cont	tinued)		
N-nitrosodi-n-propylamine	621-64-7	ND	2
Hexachloroethane	67-72-1	ND	2
Nitrobenzene	98-95-3	ND	2
Isophorone	78-59-1	ND	2
Benzoic acid	65-85-0	ND	8
Bis-(2-chloroethoxy)methane	1 1 1 - 9 1 - 1	ND	2
1,2,4-trichlorobenzene	120-82-1	ND	2
Naphthalene	91-20-3	6	2
Hexachlorobutadiene	87-68-3	ND	2
2-chloronaphthalene	91-58-7	ND	2
2-methyl naphthalene	91-57-6	7	2
4-chloroaniline	106-47-8	ND	10
2-nitroaniline	88-74-4	ND	10
3-nitroaniline	99-09-2	ND	10
4-nitroaniline	100-01-6	ND	10
Hexachlorocyclopentadiene	77-47-4	ND	20
Dimethyl phthalate	131-11-3	ND	2
Acenaphthylene	208-96-8	ND	2
Acenaphthene	83-32-9	ND	2
Dibenzofuran	132-64-9	ND	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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-8A to SP-8D 11/05/92 Date Sampled: Lab Number: 9211056-05E Date Received: 11/05/92 Sample Matrix/Media: Date Extracted: 11/06/92 SOIL Extraction Method: EPA 3550 Analytical Method: EPA 8270 Date Analyzed: 11/06/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
2,4-dinitrotoluene	121-14-2	ND	2
2,6-dinitrotoluene	606-20-2	ИD	2
Diethyl phthalate	84-66-2	ND	2
4-chlorophenylphenylether	7005-72-3	ND	2 2 2 2 2 2 2
Fluorene	86-73-7	ND	2
N-nitrosodiphenylamine	86-30-6	ND	2
4-bromophenylphenylether	101-55-3	ND	2
Hexachlorobenzene	118-74-1	ND	2
Phenanthrene	85-01-8	ND	2
Anthracene	120-12-7	ND	2
Di-n-butylphthalate	84-74-2	ND	2
Fluoranthene	206-44-2	ND	2
Benzidine	92-87-5	ND	50
Pyrene	129-00-0	ND	2
Benzylbutylphthalate	85-68-7	ND	2
3,3'-dichlorobenzidine	91-94-1	ND	50
Benzo(a)anthracene	56-55-3	ND	2
Bis-(2-ethylhexyl)phthalate		ND	20
Chrysene	218-01-9	ND	2
Di-n-octylphthalate	117-84-0	ND	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

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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-8A to SP-8D Date Sampled: 11/05/92
Lab Number: 9211056-05E Date Received: 11/05/92
Sample Matrix/Media: SOIL Date Extracted: 11/06/92
Extraction Method: EPA 3550 Date Analyzed: 11/06/92

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	2
Benzo(k)fluoranthene	207-08-9	ND	2
Benzo(a)pyrene	50-32-8	ND	2
<pre>Indeno(1,2,3-cd)pyrene</pre>	193-39-5	ND	2
Dibenzo(a,h)anthracene	53-70-3	ND	2
Benzo(ghi)perylene	191-24-2	ND	2
_			QC Limits (%)
<u>Surrogates</u>		Recovery (%)	LCL UCL
2-Fluorophenol	367-12-4	66	25 - 121
Phenol-d6	13127-88-3	78	24 - 113
Nitrobenzene-d5	4165-60-0	72	23 - 120
2-Fluorobiphenyl	321-60-8	94	30 - 115
2,4,6-Tribromophenol	1 18-79-6	75	19 - 122
Terphenyl-d14	98904-43-9	133	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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-9A to SP-9D Date Sampled: 11/05/92 Lab Number: 9211056-06E Date Received: 11/05/92 Sample Matrix/Media: SOIL Date Extracted: 11/06/92 Extraction Method: EPA 3550 Date Analyzed: 11/06/92 Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Acid Extractables			
Phenol	108-95-2	ND	2
2-chlorophenol	95-57-8	ND	
2-methyl phenol	95-48-7	ND	2
4-methyl phenol	106-44-5	ND	2 2 2 2 2
2-nitrophenol	88-75-5	ND	2
2,4-dimethylphenol	105-67-9	ND	2
2,4-dichlorophenol	120-83-2	ND	2
4-chloro-3-methylphenol	59-50-7	ND	2
2,4,5-trichlorophenol	95-95-4	ND	2 2 2 2
2,4,6-trichlorophenol	88-06-2	ND	2
2,4-dinitrophenol	51-28-5	ND	10
4-nitrophenol	100-02-7	ND	10
2-methyl-4,6-dinitrophenol	534-52-1	ND	2
Pentachlorophenol	87-86-5	ND	2
Base/Neutral Extractables			
Bis(2-chloroethyl)ether	111-44-4	ND	2
1,3-dichlorobenzene	541-73-7	ND	2
1,4-dichlorobenzene	106-46-7	ND	2
Benzyl alcohol	100-51-6	ND	4 2
1,2-dichlorobenzene	95-50-1	ND	2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	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



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-9A to SP-9D Date Sampled: 11/05/92
Lab Number: 9211056-06E Date Received: 11/05/92
Sample Matrix/Media: SOIL Date Extracted: 11/06/92
Extraction Method: EPA 3550 Date Analyzed: 11/06/92

Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
N-nitrosodi-n-propylamine	621-64-7	ND	2
Hexachloroethane	67-72-1	ND	2
Nitrobenzene	98 <b>-</b> 95-3	ND	2
Isophorone	78-59-1	ND	2 2 8
Benzoic acid	65-85-0	ND	8
Bis-(2-chloroethoxy)methane	111-91-1	ND	2
1,2,4-trichlorobenzene	120-82-1	ND	2
Naphthalene	91-20-3	ND	2
Hexachlorobutadiene	87-68-3	ND	2
2-chloronaphthalene	91-58-7	ND	2
2-methyl naphthalene	91-57-6	ND	2
4-chloroaniline	106-47-8	ND	10
2-nitroaniline	88-74-4	ND	10
3-nitroaniline	99-09-2	ND	10
4-nitroaniline	100-01-6	ND	10
Hexachlorocyclopentadiene	77-47-4	ND	20
Dimethyl phthalate	131-11-3	ND	2
Acenaphthylene	208-96-8	ND	2
Acenaphthene	83-32-9	ND	2
Dibenzofuran	132-64-9	ND	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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-9A to SP-9D Date Sampled: 11/05/92
Lab Number: 9211056-06E Date Received: 11/05/92
Sample Matrix/Media: SOIL Date Extracted: 11/06/92
Extraction Method: EPA 3550 Date Analyzed: 11/06/92

Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (cor	ntinued)		
2,4-dinitrotoluene	121-14-2	ND	2
2,6-dinitrotoluene	606-20-2	ND	2
Diethyl phthalate	84-66-2	ND	2
4-chlorophenylphenylether	7005-72-3	ND	2 2 2 2
Fluorene	86-73 <b>-</b> 7	ND	2
N-nitrosodiphenylamine	86-30-6	ND	2
4-bromophenylphenylether	101-55-3	ND	2 2 2 2
Hexachlorobenzene	118-74-1	ND	2
Phenanthrene	85-01-8	ND	2
Anthracene	120-12-7	ИД	2
Di-n-butylphthalate	84-74-2	ND	2 2
Fluoranthene	206-44-2	ND	2
Benzidine	92-87-5	ND	50
Pyrene	129-00-0	ND	2
Benzylbutylphthalate	8 <b>5-</b> 68-7	ND	2
3,3'-dichlorobenzidine	91-94-1	ND	50
Benzo(a)anthracene	<b>56-</b> 55-3	ND	2
Bis-(2-ethylhexyl)phthalate	117-81-7	ИД	20
Chrysene	218-01-9	ND	2
Di-n-octylphthalate	117-84-0	ND	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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: Lab Number: Sample Matrix/Media: Extraction Method: Analytical Method:	COMP. SP-92 9211056-063 SOIL EPA 3550 EPA 8270	)	Date Re	ceived: 11/05/92 tracted: 11/06/92
Analyte		CAS #	Concentrati (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractab	les (contin	ued)		
Benzo(b)fluoranthene	21	05-99-2	ND	2
Benzo(k)fluoranthene	2	07-08-9	ND	2
Benzo(a)pyrene		50-32-8	ND	2
Indeno(1,2,3-cd)pyre	ne 19	93-39-5	ND	2
Dibenzo(a,h)anthrace	ne !	53-70-3	ND	2
Benzo(ghi)perylene	1	91-24-2	ND	2
				QC Limits (%)
Surrogates			Recovery (%	) LCL UCL
2-Fluorophenol	3:	67-12-4	49	25 - 121
Phenol-d6	131:	27-88-3	50	24 - 113
Nitrobenzene-d5	41	55-60-0	45	23 - 120
2-Fluorobiphenyl	3:	21-60-8	60	30 - 115
2,4,6-Tribromophenol	1	18-79-6	37	19 - 122
Terphenyl-d14	989	04-43-9	79	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



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-10A to SP-10D Date Sampled: 11/05/92 Lab Number: 9211056-07E Date Received: 11/05/92 Sample Matrix/Media: SOIL Date Extracted: 11/06/92 Extraction Method: EPA 3550 Date Analyzed: 11/06/92 Analytical Method: **EPA** 8270

Limit of Concentration Detection Analyte CAS # (mg/kg) (mg/kg) Acid Extractables Phenol 2 108-95-2 ND 2-chlorophenol 95-57-8 ND 2 2-methyl phenol 95-48-7 ND 2 4-methyl phenol 2 106-44-5 ND 2 2-nitrophenol 88-75-5 ND 2,4-dimethylphenol 2 105-67-9 ND 2 2,4-dichlorophenol 120-83-2 ND 4-chloro-3-methylphenol 59-50-7 2 ND 2,4,5-trichlorophenol 2 95-95-4 ND 2,4,6-trichlorophenol 2 88-06-2 ND 2,4-dinitrophenol 51-28-5 10 ND 4-nitrophenol 100-02-7 ND 1.0 2-methyl-4,6-dinitrophenol 534-52-1 ND 2 2 Pentachlorophenol 87-86-5 ND Base/Neutral Extractables Bis(2-chloroethyl)ether 2 111-44-4 ND 1,3-dichlorobenzene 2 541-73-7 ND 1,4-dichlorobenzene 106-46-7 2 ND Benzyl alcohol 4 100-51-6 ND 1,2-dichlorobenzene 2 95-50-1 ND Bis-(2-chloroisopropyl)ether 108-60-1 ND 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



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-10A to SP-10D Date Sampled: 11/05/92 Lab Number: 9211056-07E Date Received: 11/05/92 Sample Matrix/Media: SOIL Date Extracted: 11/06/92 Extraction Method: EPA 3550 Date Analyzed: 11/06/92

Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (cont	tinued)		
N-nitrosodi-n-propylamine	621-64-7	ND	2
Hexachloroethane	67-72-1	ND	2
Nitrobenzene	98-95-3	ND	2
Isophorone	78-59-1	ND	2
Benzoic acid	65-85-0	ND	8
Bis-(2-chloroethoxy)methane	1 1 1 - 9 1 - 1	ND	2
1,2,4-trichlorobenzene	120-82-1	ND	2
Naphthalene	91-20-3	4	2
Hexachlorobutadiene	87-68 <b>-</b> 3	ND	2
2-chloronaphthalene	91-58-7	ND	2
2-methyl naphthalene	91-57-6	5	2
4-chloroaniline	106-47-8	ND	10
2-nitroaniline	88-74-4	ND	10
3-nitroaniline	99-09-2	ND	10
4-nitroaniline	100-01-6	ND	10
Hexachlorocyclopentadiene	77-47-4	ND	20
Dimethyl phthalate	131-11-3	ND	2
Acenaphthylene	208-96-8	ND	2
Acenaphthene	83-32-9	ND	2
Dibenzofuran	132-64-9	ND	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



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-10A to SP-10D Date Sampled: 11/05/92 Lab Number: 9211056-07E Date Received: 11/05/92 Sample Matrix/Media: SOIL Date Extracted: 11/06/92 Extraction Method: EPA 3550 Date Analyzed: 11/06/92

Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
2,4-dinitrotoluene	121-14-2	ND	2
2,6-dinitrotoluene	606-20-2	ND	2
Diethyl phthalate	84-66-2	ND	2
4-chlorophenylphenylether	7005-72-3	ND	2
Fluorene	86-73-7	ND	2
N-nitrosodiphenylamine	86-30-6	ND	2 2 2 2 2 2
4-bromophenylphenylether	101-55-3	ND	2
Hexachlorobenzene	118-74-1	ND	2
Phenanthrene	85-01-8	ND	2
Anthracene	120-12-7	ND	
Di-n-butylphthalate	84-74-2	ND	2
Fluoranthene	206-44-2	ND	2
Benzidine	92-87-5	ND	50
Pyrene	129-00-0	ND	2
Benzylbutylphthalate	85-68-7	ND	2
3,3'-dichlorobenzidine	91-94-1	ND	50
Benzo(a)anthracene	56 <b>-</b> 55-3	ND	2
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	20
Chrysene	218-01-9	ND	2
Di-n-octylphthalate	117-84-0	ND	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



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: Lab Number: Sample Matrix/Media: Extraction Method: Analytical Method:	COMP. SP-1 9211056-07 SOIL EPA 3550 EPA 8270		SP-101	Date Date	Sampled: Received: Extracted: Analyzed:	11/06/92
Analyte		CAS	#	Concentra (mg/kg		Limit of Detection (mg/kg)
Base/Neutral Extractab	les (contin	ued)				
Benzo(b)fluoranthene	2	05-99-	-2	ND		2
Benzo(k)fluoranthene	_	07-08-		ND		
Benzo(a)pyrene		50-32-		ND		2 2 2 2 2
Indeno(1,2,3-cd)pyre		93-39-		ND		2
Dibenzo(a,h)anthrace		53-70-	- 3	ND		2
Benzo(ghi)perylene		91-24-	-2	ND		2
		in and market visit and and and and and and and and and and			QC	Limits (%)
Surrogates				Recovery	(%) L	CL UCL
2-Fluorophenol	3	67-12-	-4	64		25 - 121
Phenol-d6	131	27-88-	-3	75		24 - 113
Nitrobenzene-d5	41	65-60-	-0	67		23 - 120
2-Fluorobiphenyl	3	21-60-	-8	93		30 - 115
2,4,6-Tribromophenol	1	18-79-	-6	66		19 - 122
Terphenyl-d14	989	04-43-	- 9	130		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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-11A to SP-11D Date Sampled: 11/05/92 Lab Number: 9211056-08E Date Received: 11/05/92 Sample Matrix/Media: SOIL Date Extracted: 11/06/92 Extraction Method: EPA 3550 Date Analyzed: 11/06/92 Analytical Method: EPA 8270

Limit of Concentration Detection Analyte CAS # (mg/kg) (mg/kg) Acid Extractables Phenol 108-95-2 ND 2-chlorophenol 95-57-8 2 ND 2-methyl phenol 2 95-48-7 ND 4-methyl phenol 106-44-5 ND 2 2-nitrophenol 2 88-75-5 ND 2 2,4-dimethylphenol 105-67-9 ND 2 2,4-dichlorophenol 120-83-2 ND 4-chloro-3-methylphenol 2 59-50-7 ND 2,4,5-trichlorophenol 95-95-4 ND 2 2,4,6-trichlorophenol 2 88-06-2 ND 2,4-dinitrophenol 10 51-28-5 ND 4-nitrophenol 10 100-02-7 ND 2-methyl-4,6-dinitrophenol 534-52-1 ND 2 Pentachlorophenol 87-86-5 ND 2 Base/Neutral Extractables Bis(2-chloroethyl)ether 2 111-44-4 ND 1,3-dichlorobenzene 541-73-7 ND 2 1,4-dichlorobenzene 2 106-46-7 ND Benzyl alcohol 100-51-6 4 ND 1,2-dichlorobenzene 2 95-50-1 ND Bis-(2-chloroisopropyl)ether 108-60-1 2 ND

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



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-11A to SP-11D Date Sampled: 11/05/92 Lab Number: 9211056-08E Date Received: 11/05/92 Sample Matrix/Media: SOIL Date Extracted: 11/06/92 Extraction Method: EPA 3550 Date Analyzed: 11/06/92

Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
N-nítrosodí-n-propylamine	621-64-7	ND	2
Hexachloroethane	67-72-1	ND	2
Nitrobenzene	98-95-3	ND	2
Isophorone	78-59-1	ND	2
Benzoic acid	65-85-0	ND	8
Bis-(2-chloroethoxy)methane	1 1 1 - 9 1 - 1	ND	2
1,2,4-trichlorobenzene	120-82-1	ND	2
<b>Na</b> phthalene	91-20-3	6	2
Hexachlorobutadiene	87-68-3	ND	2
2-chloronaphthalene	91-58-7	ND	2
2-methyl naphthalene	91-57-6	6	2
4-chloroaniline	106-47-8	ND	10
2-nitroaniline	88-74-4	ND	10
3-nitroaniline	99-09-2	ND	10
4-nitroaniline	1 00-01-6	ND	10
Hexachlorocyclopentadiene	77-47-4	ND	20
Dimethyl phthalate	131-11-3	ND	2
Acenaphthylene	208-96-8	ND	2
Acenaphthene	83-32-9	ND	2
Dibenzofuran	1 32 - 64 - 9	ND	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



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11/06/92

Date Analyzed:

# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-11A to SP-11D Date Sampled: 11/05/92 Lab Number: 9211056-08E Date Received: 11/05/92 Sample Matrix/Media: SOIL Date Extracted: 11/06/92

Extraction Method: EPA 3550 Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
2,4-dinitrotoluene	121-14-2	ND	2
2,6-dinitrotoluene	606-20-2	ND	2
Diethyl phthalate	84-66-2	ND	2
4-chlorophenylphenylether	7005-72-3	ND	2
Fluorene	86-73-7	ND	2
N-nitrosodiphenylamine	86-30-6	ND	2
4-bromophenylphenylether	101-55-3	ND	2
Hexachlorobenzene	118-74-1	ND	
Phenanthrene	85-01-8	ND	2
Anthracene	120-12-7	ND	2
Di-n-butylphthalate	84-74-2	ND	2 2 2 2
Fluoranthene	206-44-2	ND	2
Benzidine	92-87-5	ND	50
Pyrene	129-00-0	ND	2
Benzylbutylphthalate	85-68-7	ND	2
3,3'-dichlorobenzidine	91-94-1	ND	50
Benzo(a)anthracene	56 <b>-</b> 55-3	ND	2
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	20
Chrysene	218-01-9	ND	2
Di-n-octylphthalate	117-84-0	ND	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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-11A to SP-11D Date Sampled: 11/05/92
Lab Number: 9211056-08E Date Received: 11/05/92
Sample Matrix/Media: SOIL Date Extracted: 11/06/92
Extraction Method: EPA 3550 Date Analyzed: 11/06/92

Extraction Method: EPA 3550
Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (c	continued)		
Benzo(b)fluoranthene	205-99-2	ND	2
Benzo(k)fluoranthene	207-08-9	ND	2
Benzo(a)pyrene	50-32-8	ND	2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	2
Dibenzo(a,h)anthracene	53-70-3	ND	2
Benzo(ghi)perylene	191-24-2	ND	2
Surrogates		Recovery (%)	QC Limits (%) LCL UCL
<u> </u>		Recovery (a)	
2-Fluorophenol	367-12-4	52	25 - 121
Phenol-d6	13127-88-3	60	24 - 113
Nitrobenzene-d5	4165-60-0	55	23 - 120
2-Fluorobiphenyl	321-60-8	76	30 - 115
2,4,6-Tribromophenol	118-79-6	50	19 - 122
Terphenyl-d14	98904-43-9	94	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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: METHOD BLANK Date Sampled: Lab Number: 9211056-09A Date Received:

Sample Matrix/Media: SOIL Date Extracted: 11/06/92 Extraction Method: Analytical Method: EPA 3550 Date Analyzed: 11/06/92

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	<b>59-</b> 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	0.2
Pentachlorophenol	87-86-5	ND	0.2
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

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: METHOD BLANK

Date Sampled:

Lab Number:

9211056-09A

Date Received:

SOIL

Date Extracted: 11/06/92

Sample Matrix/Media: Extraction Method:

EPA 3550

Date Analyzed: 11/06/92

Analytical Method:

EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
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



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## Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: METHOD BLANK

Date Sampled:

Lab Number:

9211056-09A

Date Received:

Sample Matrix/Media:

SOIL

Date Extracted: 11/06/92 Date Analyzed: 11/06/92

Extraction Method: EPA 3550 Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
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



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: METHOD BLANK

Date Sampled:

Lab Number:

9211056-09A

Date Received:

Sample Matrix/Media:

SOIL

Date Extracted: 11/06/92

Extraction Method:

EPA 3550

Date Analyzed: 11/06/92

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
			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
2-Fluorophenol	367-12-4	56	25 - 121
Phenol-d6	13127-88-3	62	24 - 113
Nitrobenzene-d5	4165-60-0	69	23 - 120
2-Fluorobiphenyl	321-60-8	71	30 - 115
2,4,6-Tribromophenol	118-79-6	84	19 - 122
Terphenyl-d14	98904-43-9	64	18 - 137

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



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-4A to SP-4D

Lab Number:

9211056-01

Sample Matrix/Media: SOIL Date Sampled:

11/05/92

Date Received: 11/05/92

		Detection			Date	Prep	Analysis
Analyte	Concentration	Limit	Units	Prepared	Analyzed	Method	Method
Antimony	2	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Arsenic	6	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Barium	39	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Beryllium	0.1	0.1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Cadmium	0.2	0,1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Chromium	24	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Cobalt	4	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Copper	17	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Diesel	290	1	mg/kg	11/06/92	11/06/92	EPA 3550	EPA 8015
Gasoline	5,600 a	0.3	mg/kg	11/06/92	11/06/92	EPA 5030	EPA 8015
Lead	28	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Mercury	<0.1	0.1	mg/kg	11/06/92	11/06/92	EPA 7741	EPA 7471
Molybdenum	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Nickel	20	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Selenium	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Silver	<0.5	0.5	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Thallium	7	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Vanadium	20	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Zinc	29	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010

ND Not detected at or above limit of detection

Results are reported on a wet basis, as received a Sample appears to be weathered gasoline

Not detected at or above limit of detection

Information not available or not applicable



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-5A to SP-5D

Lab Number:

9211056-02

Sample Matrix/Media:

SOIL

Date	Sampled:	11/05/92
Date	Received:	11/05/92

		Detection	1	Date	Date	Prep	Analysis
Analyte	Concentration	Limit	Units	Prepared	Analyzed	Method	Method
Antimony	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Arsenic	4	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Barium	29	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Beryllium	<0.1	0.1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Cadmium	0.1	0.1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Chromium	21	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Cobalt	4	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Copper	11	. 1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Diesel	92	1	mg/kg	11/06/92	11/06/92	EPA 3550	EPA 8015
Gasoline	1,900 a	0.3	mg/kg	11/06/92	11/06/92	EPA 5030	EPA 8015
Lead	25	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Mercury	<0.1	$\phi.1$	mg/kg	11/06/92	11/06/92	EPA 7741	EPA 7471
Molybdenum	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Nickel	18	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Selenium	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Silver	<0.5	0.5	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Thallium	6	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Vanadium	17	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Zinc	28	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010

ND Not detected at or above limit of detection

Results are reported on a wet basis, as received a Sample appears to be weathered gasoline

<sup>&</sup>lt; Not detected at or above limit of detection

<sup>--</sup> Information not available or not applicable



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-6A to SP-6D

Lab Number: 9211056-03

Sample Matrix/Media: SOIL

Date Sampled: 11/05/92

Date Received: 11/05/92

	·	Detection			Date	Prep	Analysis
Analyte	Concentration	Limit	Units	Prepared	Analyzed	Method	Method
Antimony	2	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Arsenic	8	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Barium	30	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Beryllium	<0.1	0.1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Cadmium	<0.1	0.1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Chromium	20	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Cobalt	4	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Copper	17	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Diesel	99	1	mg/kg	11/06/92	11/06/92	EPA 3550	EPA 8015
Gasoline	870	0.3	mg/kg	11/06/92	11/06/92	EPA 5030	EPA 8015
Lead	43	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Mercury	<0.1	0.1	mg/kg	11/06/92	11/06/92	EPA 7741	EPA 7471
Molybdenum	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Nickel	20	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Selenium	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Silver	<0.5	0.5	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Thallium	6	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Vanadium	17	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Zinc	32	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010

ND Not detected at or above limit of detection

a Sample appears to be weathered gasoline

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

Results are reported on a wet basis, as received



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#### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-7A to SP-7D

Lab Number:

9211056-04

Sample Matrix/Media:

SOIL

Date Sampled: 11/05/92

Date Received: 11/05/92

		Detection		Date	Date	Prep	Analysis
Analyte	Concentration	Limit	Units	Prepared	Analyzed	Method	Method
Antimony	1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Arsenic	3	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Barium	40	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Beryllium	<0.1	0 1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Cadmium	0.1	0 1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Chromium	26	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Cobalt	4	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Copper	11	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Diesel	ND	5фъ	mg/kg	11/06/92	11/06/92	EPA 3550	EPA 8015
Gasoline	180 a	0 3	mg/kg	11/06/92	11/06/92	EPA 5030	EPA 8015
Lead	14	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Mercury	<0.1	0 1	mg/kg	11/06/92	11/06/92	EPA 7741	EPA 7471
Molybdenum	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Nickel	23	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Selenium	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Silver	<0.5	0.5	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Thallium	5	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Vanadium	18	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Zinc	23	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010

ND Not detected at or above limit of detection

Results are reported on a wet basis, as received

a Sample appears to be weathered gasoline

Not detected at or above limit of detection

<sup>-</sup> Information not available or not applicable

b Detection limit increased due to presence of gasoline

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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-8A to SP-8D

Lab Number:

9211056-05

9211030-

Sample Matrix/Media: SOIL

Date Sampled: 11/05/92

Date Received: 11/05/92

		Detection		Date	Date	Prep	Analysis	
Analyte	Concentration	Limit	Unics	Prepared Analyzed	Analyzed	Method	Method	
Antimony	1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010	
Arsenic	3	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010	
Barium	42	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010	
Beryllium	<0.1	0.1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010	
Cadmium	<0.1	0.1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010	
Chromium	26	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010	
Cobalt	6	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010	
Copper	14	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010	
Diesel	26	1	mg/kg	11/06/92	11/06/92	EPA 3550	EPA 8015	
Gasoline	380	0.3	mg/kg	11/06/92	11/06/92	EPA 5030	EPA 8015	
Lead	21	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010	
Mercury	<0.1	0.1	mg/kg	11/06/92	11/06/92	EPA 7741	EPA 7471	
Molybdenum	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010	
Nickel	24	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010	
Selenium	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010	
Silver	<0.5	0.5	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010	
Thallium	6	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010	
Vanadium	20	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010	
Zinc	32	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010	

ND Not detected at or above limit of detection

Results are reported on a wet basis, as received a Sample appears to be weathered gasoline

Not detected at or above limit of detection

<sup>--</sup> Information not available or not applicable



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-9A to SP-9D

Lab Number:

9211056-06

Sample Matrix/Media:

SOIL

Date Sampled: 11/05/92 Date Received: 11/05/92

Analyte	Concentration	Detection Limit	ı Units	Date Prepared	Date Analyzed	Prep Method	Analysis Method
Antimony	2	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Arsenic	5	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Barium	35	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Beryllium	0.1	0.1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Cadmium	0.1	0.1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Chromium	23	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Cobalt	5	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Copper	19	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Diesel	ND	2фь	mg/kg	11/06/92	11/06/92	EPA 3550	EPA 8015
Gasoline	7.9 <sup>a</sup>	0.∤3	mg/kg	11/06/92	11/09/92	EPA 5030	EPA 8015
Lead	38	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Mercury	<0.1	0   1	mg/kg	11/06/92	11/06/92	EPA 7741	EPA 7471
Molybdenum	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Nickel	21	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Selenium	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Silver	<0.5	0 ∤5	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Thallium	8	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
/anadium	20	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Zinc	37	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010

ND Not detected at or above limit of detection

Results are reported on a wet basis, as received

Not detected at or above limit of detection

Information not available or not applicable

a Sample appears to be weathered gasoline

b Detection limit increased due to presence of gasoline



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-10A to SP-10D

Lab Number: 9211056-07

Sample Matrix/Media: SOIL

Date Sampled: 11/05/92
Date Received: 11/05/92

		Detection			Date	Prep	Analysis
Analyte	Concentration	Limit	Units	Prepared Ana	Analyzed	Method	Method
Antimony	1	1	mg/kg	11/06/92	11/09/92	EPA 3050	EPA 6010
Arsenic	4	1	mg/kg	11/06/92	11/09/92	EPA 3050	EPA 6010
Barium	25	1	mg/kg	11/06/92	11/09/92	EPA 3050	EPA 6010
Beryllium	<0.1	0.1	mg/kg	11/06/92	11/09/92	EPA 3050	EPA 6010
Cadmium	<0.1	0.1	mg/kg	11/06/92	11/09/92	EPA 3050	EPA 6010
Chromium	20	1	mg/kg	11/06/92	11/09/92	EPA 3050	EPA 6010
Cobalt	5	1	mg/kg	11/06/92	11/09/92	EPA 3050	EPA 6010
Copper	15	1	mg/kg	11/06/92	11/09/92	EPA 3050	EPA 6010
Diesel	57	1	mg/kg	11/06/92	11/06/92	EPA 3550	EPA 8015
Gasoline	1,200 a	0.3	mg/kg	11/06/92	11/09/92	EPA 5030	EPA 8015
Lead	20	1	mg/kg	11/06/92	11/09/92	EPA 3050	EPA 6010
Mercury	<0.1	0.1	mg/kg	11/06/92	11/06/92	EPA 7741	EPA 7471
Molybdenum	<1	1	mg/kg	11/06/92	11/09/92	EPA 3050	EPA 6010
Nickel	20	1	mg/kg	11/06/92	11/09/92	EPA 3050	EPA 6010
Selenium	<1	1	mg/kg	11/06/92	11/09/92	EPA 3050	EPA 6010
Silver	<0.5	0.5	mg/kg	11/06/92	11/09/92	EPA 3050	EPA 6010
Thallium	5	1	mg/kg	11/06/92	11/09/92	EPA 3050	EPA 6010
Vanadium	18	1	mg/kg	11/06/92	11/09/92	EPA 3050	EPA 6010
Zinc	29	1	mg/kg	11/06/92	11/09/92	EPA 3050	EPA 6010

ND Not detected at or above limit of detection

Results are reported on a wet basis, as received

a Sample appears to be weathered gasoline

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: COMP. SP-11A to SP-11D

Lab Number: 9211

9211056-08

Sample Matrix/Media: SOIL

Date Sampled: 11/05/92
Date Received: 11/05/92

		Detection		Date	Date	Prep	Analysis
Analyte	Concentration	Limit	Units	Prepared	Analyzed	Method	Method
Antimony	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Arsenic	4	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Barium	26	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Beryllium	<0.1	0.1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Cadmium	<0.1	0.1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Chromium	22	· 1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Cobalt	5	į 1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Copper	9	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Diesel	330	1	mg/kg	11/06/92	11/06/92	EPA 3550	EPA 8015
Gasoline	2,800 a	0.3	mg/kg	11/06/92	11/09/92	EPA 5030	EPA 8015
Ignitability	NI		Degrees	F	11/06/92		SW 7.1.2
Lead	17	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Mercury	<0.1	0.1	mg/kg	11/06/92	11/06/92	EPA 7741	EPA 7471
Molybdenum	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Nickel	20	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
рН	7.8		s.u.		11/05/92		EPA 9045
Reactive Cyanide	<0.3	q.3	mg/kg		11/06/92	<del></del>	EPA 9010
Reactive Sulfide	<10	10	mg/kg		11/09/92	<del></del>	SW 7.3.4
Selenium	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Silver	<0.5	d. 5	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Thallium	4	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Vanadium	16	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Zinc	22	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010

ND Not detected at or above limit of detection

Results are reported on a wet basis, as received a Sample appears to be weathered gasoline NI = Not Ignitable

Not detected at or above limit of detection

Information not available or not applicable



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92110.56

Sample Identification: METHOD BLANK

Lab Number: Sample Matrix/Media: 9211056-09

SOIL

Date Sampled: --

Date Received: --

-	Detection			Date	Date	Prep	Analysis
Analyte	Concentration	Limit	Units	Prepared	Analyzed	Method	Method
Antimony	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Arsenic	<0.5	0.5	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Barium	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Beryllium	<0.1	0.1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Cadmium	<0.1	0.1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Chromium	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Cobalt	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Copper	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Diesel	ND	1	mg/kg	11/06/92	11/06/92	EPA 3550	EPA 8015
Gasoline	ND	0.3	mg/kg	11/06/92	11/06/92	EPA 5030	EPA 8015
Lead	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Mercury	<0.1	0.1	mg/kg	11/06/92	11/06/92	EPA 7741	EPA 7471
Molybdenum	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Nickel	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Reactive Cyanide	<0.3	0.3	mg/kg		11/06/92		EPA 9010
Reactive Sulfide	<10	10	mg/kg		11/09/92		SW 7.3.4.2
Selenium	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Silver	<0.5	0.5	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Thallium	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Vanadium	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010
Zinc	<1	1	mg/kg	11/06/92	11/06/92	EPA 3050	EPA 6010

ND Not detected at or above limit of detection

Results are reported on a wet basis, as received

Not detected at or above limit of detection

<sup>--</sup> Information not available or not applicable

# GeoAnalytical Laboratories, Inc

1031 Kansas Ave . Modesto, California 95351 Phone (209) 572-0900 Fax # (209) 572-0916

# **REPORT**

Report# D315-06

Date: 11/16/92

Clayton Environmental Consultants P.O. Box 9019 Pleasanton, CA 94566 Date Received: 11/10/92 Date Started: 11/10/92 Date Completed: 11/14/92

Project Name: 9211056

Sample ID: 9211056-088

Lab ID: D22956

P.O.#

Aquatic Toxicity

Species: Pimephales Promelas

Common Name: Fathead Minnow

Supplier: Thomas Fish Farm Dead in Acclimation Tank: <1%

Average Length: 27 mm Average Weight: 0.22 g Test Type: 96-Hour Screening Bioassay Dilution Water: Holding Tank Water

Number per Tank: 20 Tank Volume: 10 L

Initial Control Hardness: 48 mg/L

Final Control Hardness: 56 mg/L

### Results/ Notes:

1. There were no mortalities observed in this test. LC50 > 500 mg/L.

Report : D315-06

Sample ID: 9211056-088

Lab ID: D22956

# BioAssay Report

	<u>Control</u>	250 mg/L	<u>500 mg/L</u>	750 mg/L
Initial 11/10/	'92			
	7.13	7.03	7.11	7.08
D.O.		7.58	8.37	8.01
Temp.		21	21	21
24 Hrs. 11/11/	92			
		7.07	7.13	7.18
D.O.		6.88	7.40	7.64
Temp.		21	21	21
Mortalities:	0	0	0	0
48 Hrs. 11/12/	92			
	7.05	7.01	7.03	7.25
D.O.		7.17	7.77	7.58
Temp.		20	20	20
Mortalities:		0	0	0
72 Hrs. 11/13/	92		·	
		7.08	7.19	7.31
D.O.		7.39	7.41	7.60
Temp.		20	20	20
Mortalities:	0	0	0	0
96 Hrs. 11/14/	92			
	7.19	7.17	7.00	7.22
D.O.	7.82	7.56	7.56	7.49
Temp.		20	20	20
Mortalities:	0	0	0	0
Tatal		<del></del>	·	
Total Mortalities:	0	0	0	0
Morrannes:	U	U	0	0

<sup>\*</sup> Note: all temperature readings are recorded in degrees Celsius.

Julia Sedlock

Bacteriological Dept. Head

Donna Allsup

Laboratory Director

Certification # E757

21

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



December 2, 1992

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

> Client Ref. 2026.10 Clayton Project No. 92112.55

Dear Ms. Wells:

Attached is our analytical laboratory report for the samples received on November 20, 1992. 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

cc: Dan Schoenholz (Port of Oakland)



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Sample Identification: COMP. SP-22A,B,C,D

9211255-01E

Date Sampled: 11/20/92

Lab Number: Sample Matrix/Media:

Date Received: 11/20/92 Date Prepared: 11/23/92

Preparation Method:

SOIL EPA 5030

Date Analyzed: 11/23/92

Analytical Method:

EPA 8240

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	0.03
Bromomethane	74-83-9	ND	0.03
Vinyl chloride	75-01-4	ND	0.03
Chloroethane	75-00-3	ND	0.03
Methylene chloride	75-09-2	ND	0.03
Trichlorofluoromethane	75-69-4	ND	0.03
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.03
Trans-1,2-Dichloroethene	<b>156-60-5</b>	ND	0.03
Cis-1,2-Dichloroethene	156-59-2	ND	0.03
Chloroform	67-66-3	ND	0.03
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.03
Carbon tetrachloride	56-23-5	ND	0.03
Bromodichloromethane	75-27-4	ND	0.03
1,2-Dichloropropane	78-87-5	ND	0.03
Cis-1,3-Dichloropropene	10061-01-5	ND	0.03
Trichloroethene	79-01-6	ND	0.03
Benzene	71-43-2	ND	0.03
Dibromochloromethane	124-48-1	ND .	0.03

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Sample Identification: COMP. SP-22A,B,C,D Date Sampled: 11/20/92 Lab Number: 9211255-01E Date Received: 11/20/92 Sample Matrix/Media: SOIL Date Prepared: 11/23/92 Preparation Method: EPA 5030 11/23/92 Date Analyzed:

Analytical Method: EPA 8240

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued	1)	······································	
1,1,2-Trichloroethane	79-00-5	ND	0.03
Trans-1,3-Dichloropropene	10061-02-6	ND	0.03
2-Chloroethylvinylether	110-75-8	ND	0.03
Bromoform	75-25-2	ND	0.03
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.03
Tetrachloroethene	127-18-4	ND	0.03
Toluene	108-88-3	ND	0.03
Chlorobenzene	108-90-7	ND	0.03
Ethylbenzene	100-41-4	0.06	0.03
1,3-Dichlorobenzene	541-73-7	ND	0.03
1,2-Dichlorobenzene	95-50-1	ND	0.03
1,4-Dichlorobenzene	106-46-7	ND	0.03
Freon 113	76-13-1	ND	0.03
p,m-Xylenes		0.20	0.03
o-Xylene	95-47-6	ND	0.03
Acetone	67-64-1	ND	0.1
2-Butanone	78-93-3	ND	0.1
4-Methyl-2-pentanone	108-10-1	ND	0.1
2-Hexanone	591-78-6	ND	0.1
Vinyl acetate	108-05-4	ND	0.05

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Lab Number: Sample Matrix/Media: Preparation Method:	COMP. SP-22A,B,C,E 9211255-01E SOIL EPA 5030 EPA 8240	Date Sample Date Receive Date Prepare Date Analyze	ed: 11/20/92 ed: 11/23/92
Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (con	tinued)		
Carbon disulfide Styrene	75-15-0 100-42-5	ND ND	0.03 0.03
Surrogates		Recovery (%)	QC Limits (%)LCL UCL
1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene	17060-07-0 2037-26-5 460-00-4	106 98 101	70 - 121 81 - 117 74 - 121

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Sample Identification: COMP. SP-23A,B,C,D

Lab Number: 9211255-02E Date Received: 11/20/92
Sample Matrix/Media: SOIL Date Prepared: 11/23/92
Preparation Method: EPA 5030 Date Analyzed: 11/23/92

Analytical Method: EPA 8240

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Chloromethane	74-87-3	ND	0.03
Bromomethane	74-83-9	ND	0.03
Vinyl chloride	75-01-4	ND	0.03
Chloroethane	75-00-3	ND	0.03
Methylene chloride	75-09-2	ND	0.03
Trichlorofluoromethane	75-69-4	ND	0.03
1,1-Dichloroethene	75-35-4	ND	0.03
1,1-Dichloroethane	75-35-3	ND	0.03
Trans-1,2-Dichloroethene	156-60-5	ND	0.03
Cis-1,2-Dichloroethene	156-59-2	ND	0.03
Chloroform	67-66-3	ND	0.03
1,2-Dichloroethane	107-06-2	ND	0.03
1,1,1-Trichloroethane	71-55-6	ND	0.03
Carbon tetrachloride	56-23-5	ND	0.03
Bromodichloromethane	75-27-4	ND	0.03
1,2-Dichloropropane	78-87-5	ND	0.03
Cis-1,3-Dichloropropene	10061-01-5	ND	0.03
Trichloroethene	79-01-6	ND	0.03
Benzene	71-43-2	ND	0.03
Dibromochloromethane	124-48-1	ND	0.03

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Sample Identification: COMP. SP-23A,B,C,D

Lab Number: 9211255-02E Date Received: 11/20/92
Sample Matrix/Media: SOIL Date Prepared: 11/23/92
Preparation Method: EPA 5030 Date Analyzed: 11/23/92

Analytical Method: EPA 8240

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued	<u>a)</u>		
1,1,2-Trichloroethane	79-00-5	ND	0.03
Trans-1,3-Dichloropropene	10061-02-6	ND	0.03
2-Chloroethylvinylether	110-75-8	ND	0.03
Bromoform	75-25-2	ND	0.03
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.03
Tetrachloroethene	127-18-4	ND	0.03
Toluene	108-88-3	ND	0.03
Chlorobenzene	108-90-7	ND	0.03
Ethylbenzene	100-41-4	0.12	0.03
1,3-Dichlorobenzene	541-73-7	ND	0.03
1,2-Dichlorobenzene	95-50-1	ND	0.03
1,4-Dichlorobenzene	106-46-7	ND	0.03
Freon 113	76-13-1	ND	0.03
p,m-Xylenes		1.3	0.03
o-Xylene	95-47-6	0.45	0.03
Acetone	67-64-1	ND	0.1
2-Butanone	78-93-3	ND	0.1
4-Methy1-2-pentanone	108-10-1	ND	0.1
2-Hexanone	591-78-6	ND	0.1
Vinyl acetate	108-05-4	ND	0.05

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Sample Identification:	COMP. SP-23A,B,C,D	Date Sampled:	11/20/92
Lab Number:	9211255-02E	Date Received:	11/20/92
Sample Matrix/Media:	SOIL	Date Prepared:	11/23/92
Preparation Method:	EPA 5030	Date Analyzed:	11/23/92
Analytical Method:	EPA 8240	_	

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continu	ied)		
Carbon disulfide	75-15-0	ND	0.03
Styrene	100-42-5	ND	0.03
			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
1,2-Dichloroethane-d4	17060-07-0	100	70 - 121
Toluene-d8	2037-26-5	91	81 - 117
Bromofluorobenzene	460-00-4	108	74 - 121

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

Note: Detection limits increased due to matrix interferences



Date Sampled:

ND

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0.005

# Results of Analysis Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Sample Identification: METHOD BLANK

Dibromochloromethane

Lab Number: Sample Matrix/Media: Preparation Method: Analytical Method:	9211255-03 SOIL EPA 5030 EPA 8240	A 	Date Received: Date Prepared: Date Analyzed:	
Analyte		CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics				
Chloromethane		74-87-3	ND	0.005
Bromomethane		74-83-9	ND	0.005
Vinyl chloride		75-01-4	ND	0.005
Chloroethane		75-00-3	ND	0.005
Methylene chloride		75-09-2	ND	0.005
Trichlorofluoromethar	ne e	75-69-4	ND	0.005
1,1-Dichloroethene		75-35-4	ND	0.005
1,1-Dichloroethane		75-35-3	ND	0.005
Trans-1,2-Dichloroeth		156-60-5	ND	0.005
Cis-1,2-Dichloroether	ne 1	156-59-2	ND	0.005
Chloroform		67-66-3	ND	0.005
1,2-Dichloroethane		107-06-2	ND	0.005
1,1,1-Trichloroethane	<del>)</del>	71-55-6	ND	0.005
Carbon tetrachloride		56-23-5	ND	0.005
Bromodichloromethane		75-27-4	ND	0.005
1,2-Dichloropropane		78-87-5	ND	0.005
Cis-1,3-Dichloroprope	ene 100	61-01-5	ND	0.005
Trichloroethene		79-01-6	ND	0.005
Benzene		71-43-2	ND	0.005

124-48-1

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



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Sample Identification: METHOD BLANK Date Sampled: -Lab Number: 9211255-03A Date Received: --

Sample Matrix/Media: SOIL Date Prepared: 11/23/92
Preparation Method: EPA 5030 Date Analyzed: 11/23/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued	1)		
1,1,2-Trichloroethane	79-00-5	ND	0.005
Trans-1,3-Dichloropropene	10061-02-6	ND	0.005
2-Chloroethylvinylether	110-75-8	ND	0.005
Bromoform	75-25-2	ND	0.005
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.005
Tetrachloroethene	127-18-4	ND	0.005
Toluene	108-88-3	ND	0.005
Chlorobenzene	108-90-7	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
1,3-Dichlorobenzene	541-73-7	ИД	0.005
1,2-Dichlorobenzene	95-50 <b>-</b> 1	ND	0.005
1,4-Dichlorobenzene	106-46-7	ND	0.005
Freon 113	76-13-1	ND	0.005
p,m-Xylenes		ND	0.005
o-Xylene	95-47-6	ND	0.005
Acetone	67-64-1	ND	0.02
2-Butanone	78-93-3	ND	0.02
4-Methyl-2-pentanone	108-10-1	ND	0.02
2-Hexanone	591-78-6	ND	0.02
Vinyl acetate	108-05-4	ND	0.01

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



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# Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Sample Identification: METHOD BLANK

Date Sampled:

Lab Number:

9211255-03A

Date Received:

Sample Matrix/Media:

SOIL

Date Prepared: 11/23/92

Preparation Method: Analytical Method:

EPA 5030 EPA 8240 Date Analyzed: 11/23/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continue	ed)		
Carbon disulfide	75-15-0	ND	0.005
Styrene	100-42-5	ND	0.005
			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
1,2-Dichloroethane-d4	17060-07-0	108	70 - 121
Toluene-d8	2 <b>037-26-</b> 5	96	81 - 117
Bromofluorobenzene	460-00-4	100	74 - 121

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



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Sample Identification: COMP. SP-22A,B,C,D Date Sampled: 11/20/92 Lab Number: 9211255-01E Date Received: 11/20/92 Sample Matrix/Media: Date Extracted: 11/23/92 SOIL **EPA** 3550 Extraction Method: Date Analyzed: 11/28/92 Analytical Method: EPA 8270

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



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Sample Identification: COMP. SP-22A,B,C,D Date Sampled: 11/20/92 Lab Number: 9211255-01E Date Received: 11/20/92 Sample Matrix/Media: Date Extracted: 11/23/92 SOIL Extraction Method: EPA 3550 Date Analyzed: 11/28/92 Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (cont	inued)		
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	<b>65-85-0</b>	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	0.8	0.2
Hexachlorobutadiene	<b>87-</b> 68-3	ND	0.2
2-chloronaphthalene	91-58-7	ND	0.2
2-methyl naphthalene	91-57-6	0.7	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



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Sample Identification: COMP. SP-22A,B,C,D

Lab Number: 9211255-01E Date Received: 11/20/92
Sample Matrix/Media: SOIL Date Extracted: 11/23/92
Extraction Method: EPA 3550 Date Analyzed: 11/28/92

Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
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



Date Sampled:

89

93

86

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11/20/92

30 - 115

19 - 122

18 - 137

### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Lab Number: Sample Matrix/Media: Extraction Method: Analytical Method:	9211255-01E SOIL EPA 3550 EPA 8270	Date Received Date Extracte Date Analyzed	d: 11/23/92
Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractab	les (continued)		
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	Į.	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Indeno(1,2,3-cd)pyre	ne 193-39-5	ND	0.2
Dibenzo(a,h)anthrace	ne 53-70-3	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2
		Ç	C Limits (%)
Surrogates		Recovery (%)	LCL UCL
2-Fluorophenol	367-12-4	67	25 - 121
Phenol-d6	13127-88-3	79	24 - 113
Nitrobenzene-đ5	4165-60-0	94	23 - 120

321-60-8

118-79-6

98904-43-9

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

Sample Identification: COMP. SP-22A,B,C,D

2-Fluorobiphenyl

Terphenyl-d14

2,4,6-Tribromophenol



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Sample Identification:	COMP. SP-23A.B.C.D	Date Sampled:	11/20/92
<del>-</del>	9211255-02E	Date Received:	
Sample Matrix/Media:	SOIL	Date Extracted:	,
Extraction Method:	EPA 3550	Date Analyzed:	11/28/92
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 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	ИД	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



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Sample Identification: COMP. SP-23A,B,C,D Date Sampled: 11/20/92 Lab Number: 9211255-02E Date Received: 11/20/92 Sample Matrix/Media: SOIL Date Extracted: 11/23/92 Extraction Method: EPA 3550 Date Analyzed: 11/28/92 Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con-	tinued)		
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	1.5	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
2-chloronaphthalene	91-58-7	ND	0.2
2-methyl naphthalene	91-57-6	1.2	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



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Sample Identification: COMP. SP-23A,B,C,D

Lab Number: 9211255-02E Date Received: 11/20/92
Sample Matrix/Media: SOIL Date Extracted: 11/23/92
Extraction Method: EPA 3550 Date Analyzed: 11/28/92
Analytical Method: EPA 8270

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (cor	tinued)		
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		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



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Sample Identification: Lab Number: Sample Matrix/Media: Extraction Method: Analytical Method:	COMP. SP-2 9211255-02 SOIL EPA 3550 EPA 8270		,C,D	Date Date	Sampled: Received: Extracted: Analyzed:	11/23/92
Analyte		CAS	#	Concentra (mg/ka		Limit of Detection (mg/kg)
Base/Neutral Extractab	les (contin	ued)				
Benzo(b)fluoranthene	2	05-99	9-2	ND		0.2
Benzo(k)fluoranthene		07-0		ND		0.2
Benzo(a)pyrene		50-3		ND		0.2
Indeno(1,2,3-cd)pyre		93-39		ND		0.2
Dibenzo(a,h)anthrace		53-70	0-3	ND		0.2
Benzo(ghi)perylene		91-2	4-2	ND		0.2
					QC	Limits (%)
Surrogates				Recovery	(%) <u>I</u>	CL UCL
2-Fluorophenol	3	67-1	2-4	40		25 - 121
Phenol-d6	131	27-8	8-3	45		24 - 113
Nitrobenzene-d5	41	65-6	0-0	44		23 - 120
2-Fluorobiphenyl	3	21-6	8-0	53		30 - 115
2,4,6-Tribromophenol	1	18-7	9-6	50		19 - 122
Terphenyl-d14	989	04 - 4	3-9	44		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



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Sample Identification: METHOD BLANK Date Sampled: -Lab Number: 9211255-03A Date Received: --

Sample Matrix/Media: SOIL Date Extracted: 11/23/92 Extraction Method: EPA 3550 Date Analyzed: 11/25/92

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	ИD	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 1 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



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Sample Identification: METHOD BLANK Date Sampled: Lab Number: 9211255-03A Date Received: -

Sample Matrix/Media: SOIL Date Extracted: 11/23/92 Extraction Method: EPA 3550 Date Analyzed: 11/25/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (cont	inued)		
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 1 2
4-nitroaniline	100-01-6	ND	1
Hexachlorocyclopentadiene	77-47-4	ND	
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

<sup>--</sup> Information not available or not applicable Results are reported on a wet weight basis, as received



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Sample Identification: METHOD BLANK Date Sampled: -Lab Number: 9211255-03A Date Received: --

Sample Matrix/Media: SOIL Date Extracted: 11/23/92 Extraction Method: EPA 3550 Date Analyzed: 11/25/92

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (con	tinued)		
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		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



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Sample Identification: METHOD BLANK Date Sampled: Date Received: Lab Number: 9211255-03A Date Extracted: 11/23/92 Sample Matrix/Media: SOIL Date Analyzed: 11/25/92

Extraction Method: EPA 3550

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	ДИ	0.2
			QC Limits (%)
Surrogates		Recovery (%)	LCL UCL
2-Fluorophenol	367-12-4	67	25 - 121
Phenol-d6	13127-88-3	77	24 - 113
Nitrobenzene-d5	4165-60-0	80	23 - 120
2-Fluorobiphenyl	321-60-8	96	30 - 115
2,4,6-Tribromophenol	118-79-6	69	19 - 122
Terphenyl-d14	98904-43-9	75	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



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Sample Identification: COMP. SP-22A, B, C, D

Lab Number: 9211255-01

Sample Matrix/Media: SOIL

Date Sampled: 11/20/92 Date Received: 11/20/92

		Detection	1	Date	Date	Prep	Analysis
Analyte	Concentration	Limit	Units	Prepared	Analyzed	Method	Method
Antimony	<1	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Arsenic	4	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Barium	39	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Beryllium	<0.1	0.1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Cadmium	<0.1	0.1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Chromium	26	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Cobalt	6	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Copper	17	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Diesel	ND	6а	mg/kg	11/23/92	11/24/92	EPA 3550	EPA 8015
Gasoline	27	0.3	mg/kg	11/23/92	11/23/92	EPA 5030	EPA 8015
Lead	110	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Mercury	<0.1	0.1	mg/kg	11/24/92	11/24/92	EPA 7471	EPA 7471
Molybdenum	<1	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Nickel	25	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Selenium	<1	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Silver	<0.5	0.5	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Thallium	3	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Vanadium	23	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Zinc	48	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010

ND Not detected at or above limit of detection

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

Not detected at or above limit of detection

<sup>-</sup> Information not available or not applicable



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### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Sample Identification: COMP. SP-23A, B, C, D

Lab Number:

9211255-02

Sample Matrix/Media:

SOIL

11/20/92 Date Sampled:

Date Received: 11/20/92

		Detection		Date	Date	Prep	Analysis
Analyte	Concentration	Limit	Units	Prepared	Analyzed	Method	Method
Antimony	<1	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Arsenic	2	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Barium	37	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Beryllium	<0.1	0.1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Cadmium	<0.1	0.1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Chromium	24	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Cobalt	6	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Copper	19	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Diesel	ND**	10a	mg/kg	11/23/92	11/24/92	EPA 3550	EPA 8015
Gasoline	110	0.3	mg/kg	11/23/92	11/23/92	EPA 5030	EPA 8015
Lead	44	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Mercury	<0.1	0.1	mg/kg	11/24/92	11/24/92	EPA 7471	EPA 7471
Molybdenum	<1	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Nickel	24	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Selenium	<1	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Silver	<0.5	0.5	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Thallium	<1	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Vanadium	20	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Zinc	35	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010

ND Not detected at or above limit of detection

Results are reported on a wet weight basis, as received a Detection limit increased due to presence of gasoline \*\* Heavier hydrocarbons present

Not detected at or above limit of detection

Information not available or not applicable



Page 25 of 25

### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.55

Sample Identification: METHOD BLANK

Lab Number: 9211255-03

Sample Matrix/Media: SOIL

Date Sampled: --

Date Received: --

		Detection	!	Date	Date	Prep	Analysis
Analyte	Concentration	Limit	Units	Prepared	Analyzed	Method	Method
Antimony	<1	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Arsenic	<1	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Barium	<1	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Beryllium	<0.1	0.1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Cadmium	<0.1	0.1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Chromium	<1	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Cobalt	<1	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Copper	<1	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Diesel	ND	1	mg/kg	11/23/92	11/24/92	EPA 3550	EPA 8015
Gasoline	ND	0.3	mg/kg	11/23/92	11/23/92	EPA 5030	EPA 8015
Lead	<1	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Mercury	<0.1	0.1	mg/kg	11/24/92	11/24/92	EPA 7471	EPA 7471
Molybdenum	<1	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Nickel	<1	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Selenium	<1	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Silver	<0.5	0.5	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Thallium	<1	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Vanadium	<1	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010
Zinc	<1	1	mg/kg	11/23/92	11/25/92	EPA 3050	EPA 6010

ND Not detected at or above limit of detection

Results are reported on a wet weight basis, as received

Not detected at or above limit of detection

<sup>-</sup> Information not available or not applicable

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702610	4					ĺ	-	딋										ĺ		ا ے		ſŝ	i	Addi	tional cor	nments	
Samplers (Signatures):  Date Time Sample Number	EPA Memod 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	124 17 mit											Cooled	Soil (S) or water (W)	Acidified	Number of containers	B. 11	414	•	Dak	
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# APPENDIX C

CHAIN-OF-CUSTODY RECORDS AND ANALYTICAL LABORATORY REPORTS PIPE FLUID SAMPLE

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



December 1, 1992

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

> Client Ref. 2026.10 Clayton Project No. 92112.57

Dear Ms. Wells:

Attached is our analytical laboratory report for the samples received on November 20, 1992. 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



Page 2 of 4

### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.57

Sample Identification: H2O

Lab Number:

9211257-01A

Date Sampled:

11/19/92 11/20/92

Sample Matrix/Media:

WATER

Date Received: Date Prepared:

11/24/92

Preparation Method:

EPA 5030

Date Analyzed:

11/24/92

Analytical Method:

EPA 8015/8020

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	130	0.4
Toluene	108-88-3	950	0.3
Ethylbenzene	100-41-4	270	0.3
p,m-Xylenes		1,200	0.4
o-Xylene	95-47-6	570	0.4
Gasoline		11,000	50
SURROGATE		RECOVERY (%)	LIMITS (%)
a,a,a-Trifluorotoluene	98-08-8	105	50 - 150
	1		

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

Page 3 of 4

### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.57

Sample Identification: METHOD BLANK

Date Sampled:

Lab Number:

9211257-02A

Date Received: --

Sample Matrix/Media: Preparation Method:

WATER EPA 5030 Date Prepared: 11/24/92 Date Analyzed: 11/24/92

Analytical Method:

EPA 8015/8020

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.4
Toluene	<b>108-88</b> -3	ND	0.3
Ethylbenzene	100-41-4	ND	0.3
p,m-Xylenes		ND	0.4
o-Xylene	95-47-6	ND	0.4
Gasoline		ND	50
SURROGATE		RECOVERY (%)	LIMITS (%)
a,a,a-Trifluorotoluene	98-08-8	107	50 - 150

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



Page 4 of 4

### Results of Analysis for Geomatrix Consultants/ Port of Oakland

Client Reference: 2026.10 Clayton Project No. 92112.57

Sample Matrix/Media: WATER

Preparation Method: EPA 3510

Analysis Method:

EPA 8015

Date Received:

11/20/92

11/23/92 Date Prepared:

Date Analyzed:

11/24/92

Lab Number	Sample Identification	Date Sampled	Diesel (ug/L)	Detection Limit (ug/L)
01E	H2O	11/19/92	13,000 a**	50
02A	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

<sup>&</sup>lt;sup>a</sup> Unidentified hydrocarbons present in diesel range; quantitation based on diesel

<sup>\*\*</sup> Heavier hydrocarbons present

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	Project No.: 2026.10										ANA	LYSE	S											REMA			rks				
	Samplers (Signatures):  Date Time Sample Number		EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	трн as BTEX														Acidified	Number of containers	Bi			nal com		c.Klu	_1
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APPENDIX D

**PROTOCOLS** 

#### PROTOCOL

### DRILLING AND DESTRUCTION OF SOIL BORINGS

### 1.0 INTRODUCTION

This protocol describes the procedures to be followed during the drilling and logging of soil borings. The information gathered from the exploratory borings will provide information about geologic conditions, soil engineering properties and/or soil quality. If the soil boring is utilized for well installation, the well will be installed in accordance with the protocol INSTALLATION OF WELLS.

The procedures presented herein are intended to be of a general use. As the work progresses and, if warranted, appropriate revisions will be made by the project manager. Detailed procedures in this protocol may be superceded by applicable regulatory requirements.

### 2.0 DRILLING

If required, permits for the drilling of soil borings will be acquired from the appropriate agency before drilling is initiated and an underground utility check will be conducted. The soil borings will be drilled using a rotary, hollow stem auger, or other appropriate method. In mud rotary borings, appropriate drilling fluid additives, such as bentonite, will be used to maintain an open hole and to carry cuttings to the surface. However, no organic drilling fluid additives will be used. The drilling mud will be circulated into a settling tank or basin located near the boring. Viscosity of the drilling fluid will be assessed periodically by the driller and will be controlled throughout the drilling operation to achieve the required results (hole stability, sample return, and minimum mud cake along boring wall). Only potable water will be used as makeup water for drilling fluid. Exploratory borings drilled

using the hollow stem auger generally do not require the use of drilling fluid. If required, potable water from a municipal supply will be used to maintain boring stability.

The specific depth of each soil boring will be determined by the Geomatrix project manager before drilling. The Geomatrix field geologist/engineer will specify to the drill rig operator the depth of soil sample collection, method of sample retrieval, and other matters pertaining to the satisfactory completion of the borings. Drill cuttings, unused soil samples, and drilling fluids generated during drilling of soil borings will be stored for future disposal by the client in accordance with legal requirements.

The drill rods, augers, hoses, drive samplers, bits, and other components which fluids and cuttings contact will be thoroughly steam cleaned on-site before drilling each boring, including at the beginning of each project and at the completion of field activities. Only potable water from a municipal supply will be used for decontamination of drilling equipment. All decontamination rinsate will be collected and stored for future disposal by the client in accordance with legal requirements.

#### 3.0 SAMPLING AND LOGGING

### 3.1 OBTAINING SAMPLES

Borings will be continuously cored, or sampled at depth intervals specified by the project manager based on the intended use of the boring. Samples and/or cuttings will be obtained for logging purposes at least every five feet for all borings. Drive samples will be used to log hollow stem borings, if continuous core is not collected. The samples and/or drill cuttings will be collected and described. A lithologic log of these samples will be made. Grain-size (sieve) analyses may be performed on selected samples in potential well completion zones and in other zones. These analyses will be summarized on standard grain-size analysis sheets. Other physical testing may also be performed on soil samples to

evaluate additional physical properties. Samples for chemical analysis will be collected in accordance with the protocol SOIL SAMPLING FOR CHEMICAL ANALYSIS.

### 3.1.1 Coring and/or Discrete Sampling

Continuous cores from mud rotary borings will be collected, with a split-barrel sampler using a wire-line method of sampler operation. Continuous cores from the auger borings will be collected with a split-barrel sampler. The core diameter will be a minimum of 1.5 inches. In general, the split-barrel sampler will be opened for observation and logging of the retrieved core.

For discrete sampling of mud rotary or auger borings, sampling will be accomplished by driving or pushing a split-barrel sampler. The field geologist/engineer will record information pertaining to the sampling, such as rate of penetration, hydraulic ram pressure or drive-hammer blow count, coring smoothness and sample recovery on the BORING LOG.

At selected depth intervals, the split-barrel sampler may be fitted with brass or stainless steel liners for collection of soil samples for possible subsequent chemical or physical testing. Samples may be retained for future review and/or preserved for chemical or physical testing, as specified by the project manager. The samples will be stored and labeled to show project number, boring number, and cored interval denoted either by depth or sequential numbering system. Procedures for the preservation and transport of soil samples retained for chemical analysis are presented in the protocol SOIL SAMPLING FOR CHEMICAL ANALYSIS.

# 3.1.2 Collecting Drill Cuttings

The field geologist/engineer will observe drill cuttings from the drilling return for every 5-foot increment of the rotary borings that are not continuously cored. Sampling and logging will be done by adherence to the following procedures:

- A. The height of the drilling table above ground surface, lengths of the drill bit, sub and drill collars, and length of drill rods should be taken into account in calculating the depth of penetration.
- B. In mud rotary drilling, a small diameter, fine mesh, hand screen will be used to obtain a sample of the cuttings from the borings by holding the screen directly in the flow of the drill fluid return line. In air rotary drilling, cuttings will be collected after discharge from the cyclone.
- C. In rotary drilling, a composite sample may be obtained from the return line by leaving the screen in place during the time it takes the driller to advance the boring to any preselected depth.
- D. In rotary drilling, the travel time for cuttings to reach the surface may be estimated each time the driller adds a new length of drill rod by timing the first arrival of cuttings after circulation is resumed. This travel time will be used along with the depth of penetration to estimate the start and finish of each 5-foot sampling interval.

### 3.2 LOGGING OF EXPLORATORY BORINGS

The observations of the field geologist engineer will be recorded on a BORING LOG OR WELL LOG at the time of drilling. The drill rig operator and the field geologist/engineer will discuss significant changes in material penetrated by the drill, changes in drilling conditions, hydraulic pressure, drilling action, and drilling fluid circulation rate. The field geologist/engineer will be present during drilling of soil borings and will observe and record such changes by time and depth.

Drill cuttings and core samples will be observed in the field. A lithologic description will be recorded on the log using the Unified Soil Classification System (USCS) as described in ASTM D 2488-90. This description will include the USCS soil type, grain sizes and estimated percentages of each, moisture content, color according to the Munsell color charts (Kollmorgen Instruments Corp.), plasticity for fine-grained materials, consistency or

density, and any other pertinent information, such as degree of induration, calcareous content, presence of fossils and other distinctive materials.

The original field logs will be sent or delivered to the Geomatrix office for review by the Registered Geologist or Engineer and the project manager and for storage in the project files.

### 4.0 GEOPHYSICAL LOGS

Following completion of drilling, downhole geophysical logs may be performed immediately after the drilling fluid has been circulated to remove all of the cuttings. Geophysical methods and equipment will be selected to provide stratigraphic or hydrogeologic data appropriate for the project. Geophysical logging will be done as quickly and efficiently as possible, while the boring side wall is still in stable condition, to minimize the possibility of interference with the down-hole probes. Instruments on the logging unit will be adjusted to give the maximum definition of strata boundaries. All down-hole geophysical equipment will be cleaned before and after entering each borehole.

#### 5.0 FIELD SCREENING

Soil samples at the boring locations may be screened using a portable meter such as a photoionization detector (PID), a flame ionization detector (FID), or a lower explosion limit (LEL) meter, or other organic vapor meter. The meter may be used to assess the presence of VOCs or other gases in soil samples. Additional field screening techniques for chemical characterization of soils may include x-ray fluorescence (XRF) and thin layer chromatography (TLC). Procedures for field screening are described in the protocol SOIL SAMPLING FOR CHEMICAL ANALYSIS.

# 5.2 CHAIN-OF-CUSTODY PROCEDURES

After samples have been collected and labeled, they will be maintained under chain-of-custody procedures. These procedures document the transfer of custody of samples from the field to the laboratory.

A CHAIN-OF-CUSTODY RECORD will be filled out for each sample sent to the laboratory for analysis. Information contained on the triplicate carbonless form will include:

- Name of sampler.
- Date and time sampled.
- Sample I.D.
- Number of sample bottles.
- Sample Matrix (soil, water, or other).
- Analyses required.
- Remarks, including any preservatives, special conditions, or specific quality control measures.
- Turnaround time and person to receive lab report.
- Project number.
- Signatures of all people assuming custody.
- Signatures of field sampler at top of chain-of-custody.
- Condition of samples when received by lab.

Blank spaces on the chain-of-custody record will be crossed out between last sample number listed and signatures at the bottom of the sheet.

The field sampler will sign the chain-of-custody record and will record the time and the date at the time of transfer to the laboratory or an intermediate person. A set of signatures is required for each relinquished/received transfer, including transfer within Geomatrix. The original imprint of the chain-of-custody record will accompany the sample containers. A duplicate copy will be placed in the Geomatrix project file.

# 6.0 EQUIPMENT CLEANING

The sampler, brass or stainless steel liners, spatula, and any tools used in the assembly and disassembly of the sampler will be thoroughly cleaned before and after each use. All soil will be removed from the tools and parts and the tools will be steam-cleaned or washed in laboratory-grade detergent water with a brush followed by rinsing in potable water. Decontamination rinsate will be contained and stored for future disposal by the client in accordance with legal requirements.

#### PROTOCOL

#### INSTALLATION AND DESTRUCTION OF WELLS

#### 1.0 INTRODUCTION

This protocol describes procedures to be followed during the installation or destruction of monitoring, groundwater extraction, and vapor extraction wells. The procedures presented herein are intended to be of general use. As the work progresses, and if warranted, appropriate revisions will be made and approved by the project manager. Detailed procedures in this protocol may be superceded by applicable regulatory requirements.

#### 2.0 WELL INSTALLATION

If required, permits for the installation of wells will be acquired from the appropriate regulatory agency before drilling is initiated. After well installation, well completion report(s) will be completed and filed with the California State Department of Water Resources or the appropriate agency.

Each groundwater monitoring well will be designed to enable measurement of the potentiometric surface and to permit water sampling of a specific water-bearing zone. Each vapor monitoring well will be designed to enable measurement of pressure conditions and permit sampling of a specific zone. The field geologist/engineer, in consultation with the project Geologist or Engineer who will be registered with the State of California if required, will specify the screened interval using the lithologic log and geophysical log (if performed) and will select the well materials and techniques for well completion to be compatible with the formations and the intended use of the well. Drilling and logging of the borings for the wells will be in conformance with the protocol DRILLING OF SOIL BORINGS. Construction of all wells will be in conformance with the following provisions. A TYPICAL MONITORING WELL CONSTRUCTION DIAGRAM is attached.

### 2.1 WELL SCREEN AND CASING

The well casing will generally consist of threaded stainless steel or polyvinyl chloride (PVC) schedule 40 (minimum) casing. The inside diameter of the casing will be large enough to permit easy passage of an appropriate water level probe and equipment for purging wells and water sample collection.

The well screen will generally consist of machine-slotted or wire-wrapped PVC or stainless steel screen. The slot sizes will be compatible in size with the selected filter material. The screened sections will provide flow between the target zone and the well, allowing efficiency in well development and collection of representative samples.

# 2.2 FILTER MATERIAL

Filter material will be well graded, clean sand with less than 2 percent by weight passing a No. 200 sieve and less than 5 percent by weight of calcareous material. The filter material will be either a standard sand gradation designed for a range of anticipated soil types or a sand gradation specifically designed to fit the soils collected from anticipated well completion zones.

### 2.3 SETTING SCREENS AND RISER CASING

Upon completion of drilling and/or geophysical logging, the boring will be sounded to verify the total depth, and the well casing will be assembled and lowered into the boring. Well casing materials will be measured to the nearest 0.01 foot and steam cleaned before being lowered into the borehole. The casing and screen will be suspended a few inches above the bottom of the boring. The well assembly will be designed so that the well screen is opposite the target zone. The bottom of the screen will typically be flush with the bottom of the well and will be fitted with a secure bottom cap. The PVC casing and well screen joints will be flush coupled. No PVC cement or other solvents will be used to

fasten the joints of casing or well screen. When installing wells in an open borehole, stainless steel centralizers will be used immediately above and below the well screen and approximately every thirty (30) to fifty (50) feet along the length of the casing. Centralizers need not be placed on well assemblies installed within augers or drill casings because the auger or drill casing will adequately center the well casing and screen in the borehole.

For borings drilled by the mud rotary method, potable water may be added to the drill mud fluid and circulated in the borehole after completion of the boring. Circulation will continue until the suspended sediment in the return fluid has been thinned. If borehole conditions are relatively stable, the mud will be thinned before the casing assembly is lowered to the specified depth. This is preferred because it minimizes clogging of the well screen with thick mud. Conversely, if borehole conditions are relatively unstable, the mud will be thinned after the casing is placed at the specified depth but prior to installation of annular fill materials. After installation of the well assembly, a slurry of filter sand and potable water will then be tremied into the annular space. For borings drilled using the hollow stem auger method, the filter sand will be placed after the well assembly has been lowered to the specific depth through the augers. The augers will be incrementally raised as the filter sand is placed by free fall through the augers. The depth to the top of the filter pack will be measured after each increment to detect possible bridging. If bridging occurs, it will be broken by washing the filter materials into proper place with potable water, or by repeatedly raising and lowering the augers slightly. The filter sand will be placed in a calculated quantity sufficient to fill the annular space to a level of about 1 to 2 feet above the top of the well screen for monitoring wells. For extraction wells the level of filter sand above the well screen will be based on site-specific conditions. The depth to the top of the filter pack will be verified by measuring, using a tremie pipe or a weighted tape. Groundwater extraction wells or monitoring wells may be surged before placement of the transition seal to promote filter pack settlement, as specified by the project manager.

Once the depth to the top of the filter pack has been verified, bentonite or fine sand may be placed in the annular space as a transition seal between the filter sand and the grout. If bentonite is to be placed below standing water, a high solids bentonite grout will be pumped through a tremie pipe, or pellets may be poured through the annulus. If bentonite is to be placed above standing water, a high solids bentonite grout should be used or pellets may be placed in three-inch lifts. Each lift should be hydrated using approximately one gallon of potable water per 3-inch lift of pellets. A sufficient quantity of bentonite will be poured to fill the annular space to a level of about 2 feet above the top of the filter pack. The completed bentonite transition seal will be allowed to hydrate for at least 30 minutes prior to placing the grout. If a layer of fine sand is placed as the transition seal, the fine sand will be mixed with potable water and placed as a slurry through the tremie pipe or poured dry through the annulus. The depth to the top of the transition seal will be verified by measuring, using the tremie pipe or a weighted tape.

A neat cement grout, cement/sand grout, or cement/bentonite grout seal will be placed from the top of the transition seal to the ground surface. The grout seal will be placed by pumping through a tremie pipe lowered to within five feet of the top of the transition seal in mud rotary borings. The grout seal will be placed in hollow stem auger borings by free fall through the augers as they are incrementally raised or by pumping through flexible hose lowered to near the bottom of the zone to be grouted. The grout must be tremied if there is any standing water in the augers above the transition seal. Grout/additive/water mixtures will be determined on a site-specific basis. Typical specifications of grout mixtures include: a) neat cement/bentonite grout, a mixture of one sack (94 pounds) portland cement, approximately 2 to 5 percent by weight (of cement) powdered bentonite, and approximately 6 to 8 gallons of water; b) neat cement grout consisting of one sack of portland cement and approximately 5 to 6 gallons of water; and c) cement/sand grout consisting of no more than two parts sand to 1 part cement and approximately 7 gallons of water. Only potable water will be used to prepare the grout. After grouting, no work will be done on the monitoring well until the grout has set a minimum of 24 hours.

# 2.4 DEVELOPMENT OF GROUNDWATER MONITORING OR EXTRACTION WELLS

When the well installation is complete, the well will be developed by surging, bailing, and/or pumping or other appropriate method as specified by the project manager. The objectives of well development are to remove sediment that may have accumulated during well installation, to consolidate the filter pack around the well screen, and to enhance the hydraulic connection between the target zone and the well. A minimum of 24 hours must pass between completion of grouting and development, to allow sufficient curing of the grout. In most instances, a bailer will be used to remove sediment and turbid water from the bottom of the well. A surge block then used within the entire screened interval to flush the filter pack of fine sediment. Surging will be conducted slowly to minimize disruption to the filter pack and screen. The well will be bailed again to remove sediment drawn in by the surging process until suspended sediment is minimized. Following the bailing and surging the well will be further developed using air-lift or pumping methods. A bailer may be used for low-yield wells. The well will be developed at a higher pumping rate than the anticipated rate of future purging, if possible. During development, the turbidity of the water will be monitored and the pH, specific conductance, and temperature of the return water will be measured. Drawdown and recovery will be measured during and at the end of the development process, respectively, using an electric sounder. Well development will proceed until the return water is of sufficient clarity, in the judgment of the Geomatrix field personnel. If the screened interval is too long to be developed adequately in one stage, additional stages will be employed, in which the end of the pump intake will be raised or lowered to various depths, as required.

#### 2.5 SURFACE COMPLETION

Upon completion of the well, a suitable slip-on cap, threaded end cap, or waterproof cap will be fitted on the top of the riser casing to prevent the entry of surface runoff or foreign matter. A steel protective well cover (e.g., stovepipe) will be completed either above the ground surface, or a vault with a traffic rated cover will be completed at the ground

surface. All wells will be locked for security, and will be designed to limit surface water infiltration.

#### 2.6 DOCUMENTATION

A well construction diagram for each well will be completed in the field on the MONITORING WELL LOG by the field geologist/engineer and submitted to the project geologist or engineer upon completion of each well. Well installation and construction data will be summarized on the FIELD WELL CONSTRUCTION SUMMARY. Well development notes and field measurements of water quality parameters will be summarized on a MONITORING WELL SAMPLING RECORD. A DAILY FIELD RECORD and the well development record will also be submitted to the project geologist or engineer upon completion of each monitoring well.

## 3.0 CLEANING OF DRILLING EQUIPMENT

Cleaning of the drill rig and associated drilling equipment will follow the procedures discussed in Section 2 of the protocol DRILLING AND DESTRUCTION OF SOIL BORINGS.

All well casing materials will be cleaned thoroughly before they are installed. Well development equipment will be cleaned thoroughly before use. The following cleaning procedure has been found to be effective and will be used or adapted as appropriate for general conditions of materials or equipment to be cleaned.

- 1. Swab surfaces, inside and out, with a laboratory grade detergent-potable water solution or steam clean with a detergent-potable water solution.
- 2. Steam rinse with potable water or rinse in deionized or organic-free water.
- 3. Cover with clean plastic to protect materials and equipment from contact with chemical products, dust, or other contaminants.

Alternatively, well casing materials that have been steam-cleaned and sealed in individual airtight plastic bags by the factory can be used.

Decontamination rinsate will be collected and stored for future disposal by the client in accordance with legal requirements.

## 4.0 WELL DESTRUCTION

Destruction of wells will be completed in accordance with applicable state and local requirements. If required, permits for destruction will be obtained from the appropriate regulatory agency. As part of destruction design and implementation, care will be taken to seal groundwater pathways between multiple aquifers, and limit surface water infiltration through the destroyed borehole.

If possible, the well casing will be removed from the borehole. For shallow wells, and if the well has been completed in the uppermost aquifer, the casing may be pulled from the borehole before auger entry. Alternatively, and if the well has been completed below the uppermost aquifer, the annular fill may be drilled out with hollow-stem augers and the casing removed from the borehole through the augers. If the well casing is PVC or other similar material and cannot be removed as described above, it may be removed by drilling out the casing and annular fill using a tricone or drag bit and a rotary drilling method. The borehole will be redrilled to the same or slightly larger diameter than the original borehole. The redrilled borehole will be plumb and adequately centered, and all the well casing will be removed. The borehole will be filled with a neat cement, cement/sand or cement/bentonite grout. A high-solids bentonite grout may be used in the saturated zone. The grout will be placed in one continuous pour before its initial set from the bottom of the boring to the ground surface. The grout will be emplaced by pumping through a tremie pipe or flexible hose which is initially lowered to the bottom of the borehole, and raised incrementally as emplacement proceeds. The augers should be raised incrementally as emplacement proceeds, but not to exceed increments of 20 feet or greater than allowed by

borehole stability. Boreholes that are terminated above the water table and are not greater than 20 feet deep may be grouted by a continuous pour originating at the ground surface.

If the well casing cannot be removed, grout may be tremied into the casing as described above. If the filter pack interconnects multiple distinct water-yielding zones, the casing must be cut opposite the aquifer to be sealed as well as through the intervening aquitard before grout is emplaced. This will allow the grout to seal the filter pack area, thereby prohibiting vertical movement of groundwater between the zones. Grout should be placed opposite the aquifer and for a vertical distance of at least ten feet above (and below the aquifer, if applicable). If the aquifer is confined and the head pressure is great, the grout may need to be emplaced under pressure.

The volume of sealing material used will be calculated and compared to the casing or borehole volume to ensure bridging has not taken place during well destruction. If the well is in an urban area and if the casing remains in the borehole, a hole will be excavated around the well to a depth of five feet, and the casing will be removed to the bottom of the excavation. The sealing material will be allowed to spill over into the excavation to form a cap. The remainder of the excavation will be backfilled with either native material, grout, or concrete.

#### PROTOCOL

#### WATER LEVEL, WELL DEPTH, AND FREE PRODUCT MEASUREMENTS

## 1.0 INTRODUCTION

This protocol describes procedures to be followed during water level, well depth, and free product measurements. The procedures presented herein are intended to be of a general nature and, as the investigation progresses and when warranted, appropriate revisions may be made by the project manager.

#### 2.0 WATER LEVEL AND WELL DEPTH MEASUREMENTS

Water level measurements at a site will be taken as quickly as possible, to best represent the potentiometric surface across the site at a single time. If pressure is suspected or has developed inside the well casing, the well will be allowed to stand without a cap for a few minutes before taking the water-level measurement. Water-level measurements will be recorded to the nearest hundredth foot, and well depth measurements will be noted to the nearest half foot. Equipment placed in the wells for water level and well depth measurements will be cleaned prior to reuse, as discussed in Section 5. Care will be taken to not drop any foreign objects into the wells and to not allow the tape or sounding device to touch the ground around the well during monitoring.

## 2.1 WATER LEVEL MEASUREMENTS

Water level measurements will be performed by one of the following methods:

#### A. Wetted-tape Method

A steel surveyor's tape will be prepared by coating several feet of the lower end of the tape with chalk or water-finding paste. A lead weight is attached to the lower end of the steel tape to keep it taut. The tape is lowered into the well until a foot or two of the chalked portion is submerged.

WATER LEVEL, WELL DEPTH, AND FREE PRODUCT MEASUREMENTS

Tape without weight can be used if the well opening or pump casing clearance is too small and restricts the passage of weight. The proper length to lower the tape may have to be determined experimentally. Measurement will be done as follows:

- 1. Lower and hold the tape at an even foot mark at the Measuring Point (MP) and note this tape reading.
- 2. Remove the steel tape from the well. Add or subtract the wetted length from the even foot mark noted in Step 1 as appropriate for your tape, and record this as water level below MP on the WATER LEVEL MONITORING RECORD.

## B. Electric Sounder Method

An electric sounder consists of a contact electrode that is suspended by an insulated electric cable from a reel that has an ammeter, a buzzer, a light, or other closed circuit indicator attached. The indicator shows a closed circuit and flow of current when the electrode touches the water surface. Electric sounders will be calibrated by measuring each interval and remarking them where necessary.

The procedure for measuring water levels with an electric sounder is as follows:

- 1. Switch on.
- 2. Lower the electric sounder cable into the well until the ammeter or buzzer indicates a closed circuit. Raise and lower the electric cable slightly until the shortest length of cable that gives the maximum response on the indicator is found.
- 3. With the cable in this fixed position, note the length of cable at the MP.
- 4. Since the electric cable is graduated in intervals, use a pocket steel tape measure (graduated in hundredths of a foot) to interpolate between consecutive marks. Care must be taken that the tape measurements are subtracted from graduated mark footage value when the water level hold point (determined in Step 3) is below the graduated mark and added when above the mark. Record the resulting value as water level below MP on the WATER LEVEL MONITORING RECORD.

## 2.2 WELL DEPTH MEASUREMENT

Depth of a well will be measured by sounding with a weighted steel surveying tape or an electric sounding line, weighted when possible. Procedures to be followed are described below.

- A. Measure the distance between the zero mark on the end of the measuring line and the bottom of the weight.
- B. Lower the weighted measuring line into the well until the line becomes slack or there is noticeable decrease in weight, which indicates the bottom of the well. Raise the line slowly until it becomes taut (this may have to be done several times to determine that taut point) and, with the line in this fixed position, note the reading at the MP. Add the distance described in Step A to this reading, and record the resulting value as well depth. This procedure will be performed before and after initial well development or as necessary to determine well casing depth.
- C. Record the well depth value on a MONITORING WELL SAMPLING RECORD.

## 4.0 FLOATING FREE PRODUCT MEASUREMENT

Floating free product level/thickness measurements will be measured using a Flexidip interface probe (or other similar interface probe) or using an electric sounder and a bailer. The electric sounder and bailer method is limited to measuring product thickness less than the length of the bailer. Alternatively, if the free product is to be measured is hydrocarbon product, the thickness is greater than the length of the bailer, and a Flexidip is not available, a steel surveyor's tape and gasoline or oil finding paste in combination with water finding paste may be used. All floating free product level measurements shall be recorded to the nearest hundredth foot. All equipment placed in the wells for free product level measurement will be cleaned prior to reuse, as discussed in Section 5.0. Care will be taken to not drop any foreign objects into the wells and to not allow the measuring device to touch the ground around the well during monitoring.

## 4.1 FLEXIDIP INTERFACE PROBE METHOD

The Flexidip free product-water interface probe consists of a contract electrode that is suspended by a graduated tape from a reel that has a light and two-toned audible signals. Audible and visual signals occur when the electrode touches the free product surface and then the water surface.

The procedure for measuring free product levels using the Flexidip is as follows:

- 1. Turn the probe on. A short chirp every 5 seconds signals that the probe is on.
- 2. Lower the steel probe cover into the well until the cover sits on well casing near the measuring point. Make sure the WIPER switch is off.
- 3. Unlock the reel using the lock screw and lower tape and probe down into well using reel.
- 4. When the probe reaches the free product level, the audible signal will be a continuous tone, and the yellow OIL light will be illuminated.
- 5. Lock reel using lock screw, lift up, and read the level from the tape-viewing window on the side of the steel probe cover.
- 6. Unlock the reel and slowly lower probe to find the interface level.
- 7. When the probe reaches the interface, the audible signal changes from a continuous tone to an interrupted tone, and the red INTERFACE light flashes.
- 8. Lock reel and read level.
- 9. Turn on WIPER switch and reel up. Always thoroughly clean off any free product before reeling the tape and probe in.
- 10. Turn probe off and store in case after cleaning.
- 11. Replace battery when a continuous chirping sound is heard after turning on power with the probe in air. Always replace battery in a gas-free atmosphere.

## 4.2 ELECTRIC SOUNDER AND BAILER METHOD

The procedure for measuring free product using an electric sounder and an acrylic bailer are as follows:

- A. Measure the water level with the electric sounder as described in Section 2.1
- B. Suspend a clean acrylic bailer on a line and slowly lower the bailer into the well until it partially intersects the groundwater surface
- C. Slowly pull the bailer to the surface
- D. Let the bailer stand for several minutes
- E. Measure the thickness of the product in the bailer to the nearest 0.01 foot and record the value on the sampling record. If the product is less than 0.01 foot thick the amount should be recorded as less than 0.01 foot. If only a shean is observed, or no free product is seen, these observations should be recorded.

## 4.3 STEEL TAPE AND PASTE METHOD

- A. Measure the water level with an electric sounder as described in Section 2.1.
- B. Spread a thin layer of gasoline or oil finding paste on one side of a steel surveyor's tape beginning at the zero foot mark and extending up the tape about one-foot more than the anticipated thickness of the free product.
- C. Spread a thin film of water finding paste on the opposite side of the tape beginning at the zero foot mark and extending up the tape about one-foot.
- D. Slowly lower the tape into the well until the zero foot mark is located about six inches below the water level (the tape reading at the measuring point should be six inches greater than the actual depth to water). Take care not touch the sides of the well with the tape.
- E. Slowly remove the tape from the well. The pastes will have changed color upon contact with the water or the free product. The product thickness is the difference between the tape reading at the point where water finding paste indicates the water level to be and the point where the gasoline or oil finding paste indicates the top of the free product to be.

## 5.0 EQUIPMENT CLEANING

Steel tapes, electric well sounders, and acrylic bailers will be cleaned after measurements in each well. Cleaning procedures will be as follows:

- A. Wipe free product off with disposable towels. Rinse probe or portion of instrument that was immersed in well water with a solution of laboratory-grade detergent and potable water.
- B. Rinse with potable water.
- C. Dry with a clean paper towel.
- D. The Flexidip may also be cleaned with acetone at this stage.

Solutions resulting from cleaning procedures will be collected and stored for future disposal by the client in accordance with legal requirements.

#### PROTOCOL

## SAMPLING OF GROUNDWATER MONITORING WELLS AND WATER SUPPLY WELLS

#### 1.0 INTRODUCTION

This protocol describes procedures to be followed during collection of field water quality measurements and groundwater samples for laboratory chemical analysis from monitoring wells and water supply wells. The procedures presented herein are intended to be of general use. As the work progresses, and if warranted, appropriate revisions will be made by the Geomatrix project manager.

#### 2.0 SAMPLING

#### 2.1 SAMPLE COLLECTION

A. Monitoring Wells - For wells completed without dedicated sampling pumps, at least four well casing volumes or one saturated borehole volume, whichever is greater, will be removed to purge the well prior to collection of groundwater samples. The saturated borehole volume is the volume of water in the well casing plus the volume of water in the filterpack. Periodic observations of turbidity and measurements of temperature, pH, and specific conductance will be made with field equipment during purging to evaluate whether the water samples are representative of the target zone. Samples will be collected only when: 1) a minimum of four sets of parameter readings have been taken, and 2) the temperature, pH, and specific conductance reach relatively constant values, and the turbidity has stabilized.

Wells that recharge very slowly may be purged dry once, allowed to recharge, and then sampled as soon as sufficient water is available. In this case, at least two parameter readings of field water quality should be taken; one initially and one after recharge.

A submersible pump, diaphragm pump, positive displacement pump which may contain a bladder, or a bailer will be used for evacuating (purging) the monitoring well casing. Generally, purging will begin with the pump inlet at the midscreen interval and the pump will be raised through the water column as

purging progresses, ending just below the water table in order to remove stagnant water from the well casing. The majority of the purge volume will be taken from the mid-screen interval. Purging will progress at a rate intended to minimize differential drawdown between the interior of the wellscreen and the filter sand, to limit cascading water along the inside of the well casing.

Clean latex or solvex gloves will be worn by the sampler before beginning sampling. A Teflon bailer or a stainless steel positive displacement Teflon bladder pump with Teflon tubing will be used to collect the water samples for laboratory chemical analysis. The sample will be taken from the midscreen interval and the depth will be recorded.

Each sampling episode will begin with the well having the least suspected concentrations of target compounds. Successive wells will be sampled in sequence of increasing suspected concentration.

- B. Water Supply Wells Water supply wells, designated by the project manager, will be sampled by purging the wells for a period of time adequate to purge the pump riser pipe. If the well is currently pumping, the sample can be taken without purging the well. Water samples will then be collected from the discharge point nearest the well head. Samples will be collected directly in laboratory-prepared bottles.
- C. Extraction Wells Extraction wells will be sampled while extraction is occurring, from an in-line sampling port after purging the sampling line. Samples will be collected directly in laboratory-prepared bottles.

A MONITORING WELL SAMPLING RECORD will be used to record the following information:

- Sample I.D.
- Duplicate I.D., if applicable
- Date and time sampled.
- Name of sample collector.
- Well designation (State well numbering system for water supply wells, and unique sequential number for other wells).
- Owner's name, or other common designation for water supply wells.
- Well diameter
- Depth to water on day sampled
- Casing volume on day sampled
- Method of purging (bailing, pumping, etc.).
- Amount of water purged.
- Extraordinary circumstances (if any).

- Results of instrument calibration/standardization and field measurements (temperature, pH, specific electrical conductance) and observed relative turbidity.
- Depth from which sample was obtained.
- Number and type of sample container(s).
- Purging pump intake depth.
- Times and volumes corresponding to water quality measurement.
- Purge rate.

## 2.2 SAMPLE CONTAINERS AND PRESERVATION

Appropriate sample containers and preservatives for the analyses to be performed will be obtained from the subcontracted analytical laboratory. Frequently requested analyses and sample handling requirements are listed in Table 1.

## 2.3 SAMPLE LABELING

Sample containers will be labeled with self-adhesive tags having the following information written in waterproof ink:

- A. Geomatrix
- B. Project number.
- C. Sample number.
- D. Date and time sample was collected.
- E. Initials of sample collector.

## 2.4 QUALITY CONTROL SAMPLES

In order to evaluate the precision and accuracy of analytical data, quality control samples such as duplicates and blanks will be periodically employed. These samples will be collected, or prepared and analyzed by the laboratory, as specified in the project Quality Assurance Project Plan or by the project manager.

## 2.5 HANDLING, STORAGE, AND TRANSPORTATION

Efforts will be made to handle, store, and transport supplies and samples safely. Exposure to dust, direct sunlight, high temperature, adverse weather conditions, and possible

contamination will be avoided. Samples will be placed in a clean chest, which contains ice or blue ice if cooling is required, immediately following collection and will be transported to the subcontracted laboratory as soon as possible.

#### 3.0 FIELD MEASUREMENTS

Field measurements of temperature, pH, and specific conductance will be performed on groundwater samples. Data obtained from field water quality measurements will be recorded on the MONITORING WELL SAMPLING RECORD. Field measurements will be made on aliquots of groundwater that will not be submitted for laboratory analysis.

#### 3.1 TEMPERATURE MEASUREMENT

Temperature measurements will be made with a mercury filled thermometer or an electronic thermistor, and all measurements will be recorded in degrees Celsius.

#### 3.2 PH MEASUREMENT

The pH measurement will be made as soon as possible after collection of the sample, generally within a few minutes.

The pH meter will be calibrated at the beginning and once during each sampling day and whenever appropriate in accordance with the equipment manufacturer's specifications as outlined in the instruction manual for the specific pH meter used. Two buffers (either pH-4 and pH-7, or pH-7 and pH-10, whichever most closely bracket the anticipated range of groundwater conditions) will be used for instrument calibration.

#### 3.3 SPECIFIC CONDUCTANCE MEASUREMENT

Specific conductance will be measured by immersing the conductivity probe directly in the water source or into a sample. The probes used should automatically compensate for the temperature of the sample. Measurements will be reported in units of micromhos per centimeter at 25 degrees Celsius.

The specific conductance meter will be calibrated at the beginning and once during each sampling day in accordance with the equipment manufacturer's specifications as outlined in the instruction manual for the specific conductivity meter used. The conductivity meter will be calibrated with a standardized potassium chloride (KCl) solution.

#### 4.0 DOCUMENTATION

#### 4.1 FIELD DATA SHEETS

A MONITORING WELL SAMPLING RECORD will be used to record the information collected during water quality sampling. Following completion of sampling and review by the project manager or task leader, the original data sheets will be placed in the project file.

#### 4.2 CHAIN-OF-CUSTODY PROCEDURES

After samples have been collected and labeled, they will be maintained under chain-of-custody procedures. These procedures document the transfer of custody of samples from the field to a designated laboratory.

A CHAIN-OF-CUSTODY RECORD will be filled out for each shipment of samples to be sent to the laboratory for analysis. Each sample will be entered on the Chain-of-Custody form after it is collected and labeled. Information contained on the triplicate carbonless form will include the following:

- Name of sampler.
- Date and time sampled.
- Sample I.D.
- Number of sample bottles.
- Sample Matrix (soil, water, or other).
- Analyses required.
- Remarks, including any preservatives, special conditions, or specific quality control measures.
- Turnaround time and person to receive lab report.
- Project number.
- Signatures of all people assuming custody.

- Signatures of field sampler at top of chain-of-custody.
- Condition of samples when received by lab.

Blank spaces on the CHAIN-OF-CUSTODY RECORD will be crossed out between last sample number listed and signatures at the bottom of the sheet.

The field sampler will sign the and record the time and the date at the time of transfer to the laboratory or to an intermediate person. A set of signatures is required for each relinquished/reserved transfer including transfer within Geomatrix. The original imprint of the chain-of-custody record will accompany the sample containers. Following review by the project manager or task leader, a duplicate copy will be placed in the project file.

## 5.0 EQUIPMENT CLEANING

Bailers, sampling pumps, purge pumps, and any other purging or sampling apparatus will be cleaned before and after sampling of each well. Factory new and sealed disposable bailers may be used for sampling, but may not be reused. Thermometers, pH electrodes, and conductivity probes that will be used repeatedly will be cleaned before and after sampling each well and at any time during sampling if the object comes in contact with foreign matter.

Purged waters and solutions resulting from cleaning of purging or sampling equipment will be collected stored for future disposal by the client in accordance with legal requirements. Disposal of purged water will be arranged following receipt of laboratory analyses for groundwater samples.

Cleaning of reusable equipment which is not dedicated to a particular well will consist of the following:

Bailers - the inside and outside of bailers will be cleaned in a solution of
 laboratory grade detergent and potable water, followed by a thorough rinse with

deionized (DI) water. They may also be steam cleaned, followed by a DI rinse. If metals samples are to be collected, the bailer should be rinsed with a pH2 nitric acid solution before the final DI rinse.

- Purge Pumps All downhole, reusable portions of purge pumps will be steam cleaned on the outside. If the pump does not have a backflow check valve, the inside of the pump and tubing should also be steam cleaned. For purge pump with a backflow check valve, the interior of the pump and tubing may be cleaned by pumping a laboratory-grade detergent and potable water solution through the system followed by a potable water rinse, or by steam-cleaning.
- Water Quality Meters All meters will be cleaned by rinsing the probe portions in DI water and allowing to air-dry.
- Bailer Tripod The tripod cable will be steam cleaned or rinsed with DI water.

Sample bottles and bottle caps will be cleaned by the subcontracted laboratory using standard EPA-approved protocols. Sample bottles and bottle caps will be protected from contact with solvents, dust, or other contamination between time of receipt by Geomatrix Consultants and time of actual usage at the sampling site. Sample bottles will not be reused.

TABLE 1
WATER AND SOIL ANALYTICAL METHODS AND SAMPLE HANDLING

Parameter	<u>Method</u>	Containers <sup>1</sup>	Preservation <sup>1</sup>	Maximum <u>Holding Time<sup>1</sup></u>
Total Petroleum Hydrocarbons:	GCFID (3550) <sup>2</sup>	2 - 1 liter amber glass	cool on ice	14 days
as gasoline	GCFID (5030) <sup>2</sup>	2 - 40 ml VOA glass	HCL to pH2: cool on ice	14 days 14 days
Benzene, Toluene, Xylene,				
and Ethylbenzene	EPA 8020 (soil)			
	EPA 602 (water)	2 - 40 ml VOA glass	HCL to pH2: cool on ice	14 days
Oil and Grease	5520 D & E (soil)			
	5520 A & E (water)	2 - 1 liter amber glass	$H_2SO_4$ to pH < 2: cool on ice	28 days
Volatile Organics	EPA 8010	2 - 40 ml VOA glass	cool on ice <sup>3</sup>	14 days
	EPA 8240 <sup>4</sup>	2 - 40 ml VOA glass	HCL to pH 2: cool on ice	14 days
Semi-volatile Organics	EPA 8270	2 - 1 liter amber glass	cool on ice	7 days for extraction 40 days for analysis
Metals (dissolved)	EPA 7000 series for specific metal	1 - 500 ml plastic	Field filtration (0.45 micron filter): field acidify to pH 2 with HNO <sub>3</sub> except:  Cr <sup>+6</sup> - Cool on ice	6 months, except: Hg - 28 day Cr <sup>+6</sup> - 24 hrs

#### Notes:

#### References:

U.S. EPA, 1986, Test Methods for Evaluating Solid Waste - Physical/Chemical Methods - SW-846, Third Edition, July, and final amendments. State Water Resources Control Board, 1989, Leaking Underground Fuel Tank (LUFT) Field Manual, Tables 3-3 and 3-4, October. Regional Water Quality Control Boards, North Coast, San Francisco Bay, and Central Valley Regions, 1990, Regional Board Staff Recommendations for Initial Evaluation and Investigation of Underground Tanks, 10 August.

All soil should be collected in full, clean brass liners, capped with foil and plastic caps, and sealed with tape. If soil samples are to be analyzed for metals they may be placed in clean glass jars. Soil should be cooled as indicated under "preservation" and maximum holding times apply to both soil and water.

<sup>&</sup>lt;sup>2</sup> DHS recommended procedure as presented in LUFT manual using gas chromatography with a flame ionization detector.

<sup>&</sup>lt;sup>3</sup> If EPA methods 8010 and 8020 are to be run in sequence, HCL may be added. Check with the project manager before adding acid.

<sup>&</sup>lt;sup>4</sup> Chloroethylvinylether may be detected at concentrations below 50 parts per billion due to degradation of HCL.

PROJECT:			Log of B	oring No.
BORING LOCATION:		<del>:</del>	ELEVATION AND DATUM:	······································
DRILLING CONTRACTOR:		·	DATE STARTED:	DATE FINISHED:
DRILLING METHOD:		:	TOTAL DEPTH:	MEASURING POINT:
DRILLING EQUIPMENT:		<del>, , , , , , , , , , , , , , , , , , , </del>	DEPTH TO FIRST	COMPL. 24 HRS.
SAMPLING METHOD:		<del> </del>	WATER LOGGED BY:	<u> </u>
HAMMER WEIGHT:	DROP:	<del>, , , , , , , , , , , , , , , , , , , </del>	RESPONSIBLE PROFESSION	DNAL: REG. NO.
SAMPLES		DESCRIPTION		i
Sample (feet) Sample Sample Sample Cont CovM Reading	NAME (USCS Symbol): color, moist, % b	y wt., plast., density, structure, cer	mentation, react, w/HCl, geo, inter.	REMARKS
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PROJECT:		Log of Bor	ing No.
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Cleet) Sample No. Sample No. Sample No. Sample Ov.M Reading	NAME (USCS Symbol): color, moist, % by wt., plast., d	ensity, structure, comentation, react, w/HCl, geo, inter.	REMARKS
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	Chain-of-Custody Record								No o								Date:							Doc-					
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## DAILY FIELD RECORD - CONTINUED

		Page of
Project Num	ber:	Date:
Time	Location of	Work / Work Performed / Field Equipment Used / Etc.
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0	FIELD WELL CONSTRUCTI	ON SUMMA	RY	Page 1 of
	Well: Project:			
	Location:			
	Personnel:		-	· · · · · · · · · · · · · · · · · · ·
	Boring and Well Casing	Depth Measur	ements:	<del>-</del>
	Total Depth BGS of Pilot Boring :		)iameter:	
	Total Depth BGS of Reamed Boring:			
	Total Depth BGS of Well Casing:			
	Total Depth of Well Below Top of Casing:			
	Depth of Perforated Interval Below Top of Casing:_			
	Well Design:	Con	struction Time	Log:
	Geologic LogGeophysical Log	_		
	C=Casing S=Screen F=Filter	Task	Start	Finish
	B=Bentonite Plug G=Grout M=Fill	Drilling:	Date Time	Date Time
	Feet BGS Code Feet BGS Code			
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	Grout:			
	Fill Material:		<u> </u>	<del></del>
	Surface Finish:	<del></del>		
	Centralizers:	-		
	Other: Drilling Sum	man/:		
	Drilling Agency:		ler:	
	Drilling Method:			
	Orilling Equipment:			
	Drilling Fluid:			
H@	Orilling Bits:			
	GEOMATRIX CONSULTA		Figure	<del></del> .

## FIELD WELL CONSTRUCTION SUMMARY NOTES

Well:	Pr	roject:
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## WATER LEVEL MONITORING RECORD



Project			Project No.	
Date	Recorded By		Instrument Used	
Note: For your conveni	ence, the following abbreviation	ons may be used.		
P = pumping ST = steel tape	I = inaccessible ES = electric sounder	D = dedicated pump MP = measuring point	WL = water level	

Well No.	Time	MP Elevation (feet)	Water Level Below MP (feet)	Water Level Elevation (feet)	Previous Water Level Below MP	Remarks
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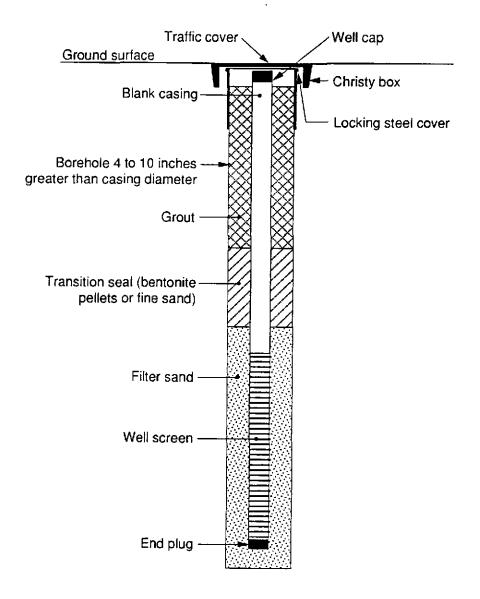


# Geomatrix Consultants

100 Pine Street, 10th Floor San Francisco, California 94111 (415) 434-9400

## MONITORING WELL SAMPLING RECORD AND WELL DEVELOPMENT DATA

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	<u> </u>									-	Water:					
	ID.:								Depti	n to Wate	r after Purging:					
Sample	Depth:	<del></del>						_ ·	Total	Depth o	Well:					
Project N	No:			<u> </u>	·			_	Well	Diamete	:					
Project I	Name:	<u>.                                    </u>			;				1 Cas	sing Volu	me =					
Date:					-		4 Casing Volumes =									
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TIME	INTAKE DEPTH	RATE (gpm)	CUI VOI (ga	L.		MP. °C)		pH inits)	CONE	OUCTIVITY hhos/cm)	REMARKS (color, turbidity & sedime					
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Buffer So		pH 4.		pH 7.0	<del>-</del>	pH 10	).0									
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Instrumer	nt Reading	,								1						
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KCL Solu	tion (µmho			1409		1285	7			·						
Temp. °C					T											
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.PROJ	ECT:						_		Log of	Well N	lo.
BORIN	iG L	OCA	TION:					ELEVATION	ON AND DATUM:	·	
DRILL	ING (	COV	ITRAC	TOR	<del> </del>	· · · · · · · · · · · · · · · · · · ·		DATE ST	ARTED:	DATE FII	NISHED:
DRILL	ING I	MET	HOD:		<del>,</del>	* ** **********************************		TOTAL D	EPTH:	SCREEN	INTERVAL
DRILL	ING I	EQU	IIPME	NT:				DEPTH TO	O WATER ATD:	CASING:	
SAMP	LING	ME	THOD	);				LOGGED	BY:	<del></del>	
HAMN	ER V	VEI	3HT:			DROP:		RESPON	SIBLE PROFESSI	ONAL:	REG. NO.
DEPTH (feet)	Sample S No.	MPI et	Blows/ m Foot	OVM Reading	NAME (L	DESCRI JSCS Symbol): color, moist, cementation, react.	% by wt., plast., density, structure			LL CONSTR	RUCTION LING REMARKS
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DEPTH (feet)	Sample S No.	Sample	Blows/ S Foot	OVM Reading	DESCRIPTION  NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cernentation, react, w/HCl, geo, inter.		WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
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