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Mr. Dale H. Klettke, CHMM
Port of Oakland
Environmental Health & Safety Compliance
530 Water Street, 2nd Floor
Oakland, California 94607

Quarterly Groundwater Monitoring Report
October 1 through December 31, 2000
United Airlines Hangar Area – Economy Parking Lot Site
Oakland International Airport
Oakland, California

Dear Mr. Klettke:

Harding ESE, Inc. (Harding) formerly Harding Lawson Associates (HLA), presents this groundwater monitoring report summarizing groundwater conditions observed during the fourth quarter of 2000 in eight monitoring wells at the United Airlines Hangar Area - Economy Parking Lot Site, Oakland International Airport, Oakland, California (Plate 1). This report presents results of the ninth quarterly groundwater monitoring event that Harding has performed for the Port of Oakland in accordance with HLA's *Work Plan for Installation of Oxygen Releasing Compound (ORC)*, dated December 18, 1999. The sampling for this monitoring event occurred just after the end of the fourth quarter during the beginning of January 2001. No further sampling is planned at this site.

BACKGROUND

In March 1992, the Port of Oakland removed two underground storage tanks (USTs) from the Economy Parking Lot Site, MF-25 and MF-26. The Port's contractor removed approximately 700 cubic yards of impacted soil and collected confirmation soil samples following soil removal. The former UST excavation (approximately 80-feet by 80-feet) was reportedly backfilled with permeable material. The area is now paved and used for parking (Plate 2). The Port's contractor installed Monitoring Well MW-1 in 1992 where elevated concentrations of total petroleum hydrocarbons as diesel (TPHd) and total petroleum hydrocarbons as motor oil (TPHmo) were reported. Two additional monitoring wells, MW-2 and MW-3, were installed in 1995. Free product was observed in MW-2 and MW-3 in 1996 and 1997. The Port's

UM
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contractor then installed MW-4 through MW-8 in 1998 and observed a sheen on groundwater collected from MW-2 and MW-4.

HLA installed the first batch treatment of ORC on December 23, 1998 along the upgradient edge of the former UST excavation at 11 locations. After checking that no free product was present in the monitoring wells, HLA's subcontractor used a direct-push rig to inject at total of 780 pounds of time-release ORC mixed with 60 gallons of water through 2-inch diameter rods to a depth of 4 to 8 feet below ground surface.

HLA installed a second batch treatment of ORC on January 7, 2000 in three areas: 250 pounds of ORC in the vicinity of MW-3; 250 pounds of ORC adjacent to MW-4 and 500 pounds of ORC focused in the vicinity of MW-2. We mobilized a direct-push rig to inject ORC under pressure at the former UST excavation at 9 drill locations. At all locations, a 2-inch diameter rod was pushed to a depth of 4 feet below ground surface. A total of approximately 1,000 pounds of time-release ORC was mixed into 300 gallons of water providing a 30 percent blend with a consistency similar to white wash.

GROUNDWATER SAMPLING AND ANALYSIS

During the fourth quarter, Harding measured dissolved oxygen (DO) concentrations in the eight monitoring wells on a monthly basis between October 1 and December 31, 2000. On January 11, 2001, Harding measured groundwater elevations and collected groundwater samples for chemical analyses. Prior to purging or sampling the monitoring wells, Harding measured DO concentrations, reduction oxidation potential (redox), water levels, and checked for free product with an interface probe. Harding monitored the pH, conductivity, and temperature of the groundwater during purging. We sampled the monitoring wells after purging at least three well volumes of groundwater and after parameters had stabilized to within 10 percent. The groundwater sampling forms with the field data are included in Appendix A. Harding collected water samples using a disposable Teflon bailer and decontaminated all sampling equipment by washing with a non-phosphate cleaning solution and rinsing with distilled water. Harding contained purged water in a 55-gallon drum for subsequent disposal by the Port of Oakland.

Harding placed the water samples in ice-chilled coolers and submitted them to Sequoia Analytical of Walnut Creek, California under chain-of-custody protocol. The samples were analyzed for the following analytes:

- Total petroleum hydrocarbons as gasoline (TPHg) by EPA Test Method 8015 (modified)
- Benzene, toluene, ethylbenzene, total xylenes (BTEX) and methyl t-butyl ether (MTBE) by EPA Test Method 8020
- TPHd, total petroleum hydrocarbons as jet fuel A (TPHjA), TPHmo by EPA Method 8015 with a silica gel cleanup procedure

- Ferrous iron, ferric iron, nitrate, sulfate, and orthophosphate
- Total organic carbon (TOC) by EPA Method 415.2
- Volatile organics by EPA Method 8010.

MONITORING RESULTS

No free product was observed in any of the eight monitoring wells. Groundwater elevations are presented in Table 1 and the elevations are shown on Plate 3. The apparent groundwater gradient is towards the south. The groundwater level could not be measured in one monitoring well, MW-5, because the well cap and well box for this well have been damaged and at the time of the sampling event, rain water had filled both the well and the casing. Harding attempted to bail out the well, but the rain water entered into the well box as quickly as the well was evacuated. A meaningful water level could not be obtained. Chemical concentration results are shown in Tables 2, 3, and 4. DO concentrations are summarized in Table 5. The laboratory report and chain-of-custody forms are presented in Appendix B.

Petroleum hydrocarbons continue to be the found on site during this quarterly monitoring sampling. The analytical results for the petroleum hydrocarbons can be found in Table 2. TPHg was reported in four of the monitoring wells, MW-1, MW-2, MW-3, and MW-4 at concentrations ranging from 2,700 micrograms per liter (µg/L) in MW-2 to 63 µg/L in MW-1. TPHd was reported in six of the wells, MW-1, MW-2, MW-3, MW-4, MW-5 and MW-8 at concentrations ranging from 80 µg/L in MW-5 to 21,000 µg/L in MW-2. TPHjA was reported in MW-1, MW-2, MW-3, and MW-4 at concentrations ranging from 170 µg/L in MW-1 to a concentration of 18,000 µg/L in MW-2. TPHmo was reported in MW-1, MW-2, MW-3, and MW-4 at concentrations ranging from 290 µg/L in MW-1 to 6,700 µg/L in MW-2. With the exception of MW-2, the quarterly results indicate a continuing trend of decreasing petroleum hydrocarbons at the site since monitoring began in 1995.

Volatile organic compounds (VOCs) are also present in all wells except wells MW-5 and MW-6 (Table 3). The highest VOC concentrations were present at the upgradient well MW-8 and adjacent to the former UST excavation at MW-2. Several samples collected from the wells contained concentrations of 1,1-dichloroethane, cis-1,2-dichloroethene, and 1,1-dichloroethene above the Maximum Contaminant Levels (MCLs).

The remaining chemical results for this quarterly report are found in Table 4. The concentration of sulfate decreased in all wells except MW-4 and MW-6 with decreases ranging from 98 percent in MW-5 to 14 percent in MW-3 from the August 31st results. For the same period, the concentrations of TOC increased in three of the eight wells and decreased in the five others. The increases ranged from 1 percent in MW-2 to 24 percent in MW-3. The decreases in TOC concentrations ranged from a 6 percent decrease at MW-8

to a decrease of 89 percent at MW-5. The ferrous iron concentrations increased in three wells with increases ranging from 130 percent in MW-3 to over 1,000 percent in MW-1. The total iron concentrations increased in all wells except MW-6, which decreased over 75%. Orthophosphate was only detected above the reporting limit in MW-3, MW-4, MW-6 and MW-7. Nitrate was not detected in the remediation well or either of the two wells immediately downgradient of this area. The remaining wells contained nitrate at concentrations ranging from 0.74 mg/L to 7.7 mg/L.

QUALITY ASSURANCE AND QUALITY CONTROL

Harding collected quality assurance/quality control (QA/QC) samples to evaluate sample collection methods, sample handling procedures, and laboratory analysis. The field QA/QC samples consisted of a duplicate sample at MW-8.

The duplicate sample was submitted to the laboratory for same analyses as the original sample. Harding evaluated the analytical laboratory precision by calculating the relative percent difference (RPD) between original and duplicate samples collected at MW-8. The equation used to calculate the RPD is:

$$RPD = \frac{(X_1 - X_2)}{\bar{X}} \times 100$$

Where:

X_1 = concentration for sample 1 (original)

X_2 = concentration for sample 2 (duplicate)

$\bar{X}$ = mean of samples 1 and 2.

The relative percent difference between the analytical results from MW-8 and the duplicate sample ranged from zero to 58 percent relative percent difference for total iron, which falls into an acceptable range for this project.

CLOSURE

This report concludes Harding's additional quarter of groundwater monitoring under the assigned task number. If you have any questions or need additional information, please contact either of the undersigned at (510) 451-1001.

Very truly yours,

HARDING ESE, INC.

Valerie J. Harris
Project Engineer

Stephen J. Osborne
Geotechnical Engineer

REGISTERED PROFESSIONAL ENGINEER
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STATE OF CALIFORNIA

SJO/VJH:dmw/P: wpdata/43145/037930R

Attachments:
Table 1 - Groundwater Elevations
Table 2 - Groundwater Analytical Results – Petroleum Hydrocarbons
Table 3 - Groundwater Analytical Results – VOCs
Table 4 - Groundwater Analytical Results – Inorganics
Table 5 - Dissolved Oxygen Concentrations
Plate 1 - Vicinity Map
Plate 2 - Site Map
Plate 3 - Groundwater Elevation Map
Appendix A - Groundwater Sampling Forms
Appendix B - Laboratory Reports

TABLES

Table 1. Groundwater Elevations
Quarterly Groundwater Monitoring Report
United Airlines Hangar Area - Economy Parking Lot Site
Oakland International Airport

Well Name	Top of Casing Elevation (feet)	Date	Depth to Water (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Note
MW-1	6.91	15-May-92	3.10	3.81	--	1
		7-Aug-92	3.20	3.71	--	1
		24-Nov-92	4.04	2.87	--	1
		12-Feb-93	--	--	--	1
		11-Mar-93	2.09	4.82	--	1
		17-May-93	3.14	3.77	--	1
		3-Aug-93	3.15	3.76	--	1
		25-Nov-93	3.59	3.32	--	1
		24-Mar-94	3.21	3.70	--	1
		9-May-94	2.99	3.92	--	1
		29-Aug-94	3.34	3.57	--	1
		27-Sep-94	3.51	3.40	--	1
		25-Apr-95	2.38	4.53	--	1
		11-Aug-95	3.08	3.83	--	1
		3-Nov-95	3.52	3.39	--	1
		19-Jun-96	2.93	3.98	--	1
		24-Oct-96	3.52	3.39	--	1
		22-Jan-97	2.61	4.30	--	1
		25-Apr-97	2.77	4.14	--	1
		6-Aug-97	3.27	3.64	--	1
		23-Dec-97	3.14	3.77	--	1
		26-Mar-98	2.09	4.82	--	1
		13-May-98	--	--	--	2
		16-Dec-98	2.95	3.96	--	
		26-Feb-99	5.83	1.08	--	
		20-May-99	2.62	4.29	--	
		17-Aug-99	3.30	3.61	--	
		11-Nov-99	4.44	2.47	--	
		23-Mar-00	2.57	4.34	--	
		25-Apr-00	2.67	4.24	--	
		24-May-00	2.83	4.08	--	
		10-Jul-00	3.00	3.91	--	
		31-Aug-00	3.25	3.66	--	
		11-Jan-01	3.44	3.47	--	
MW-2	6.63	25-Apr-95	2.20	4.43	--	1
		11-Aug-95	3.11	3.52	--	1
		3-Nov-95	3.28	3.35	--	1
		19-Jun-96	2.53	4.14	0.05	1,3
		24-Oct-96	3.44	3.31	0.16	1,3
		22-Jan-97	2.45	4.20	0.02	1,3
		25-Apr-97	2.60	4.05	0.03	1,3
		30-Jul-97	--	--	0.14	1,4
		6-Aug-97	2.96	3.67	--	1
		23-Dec-97	2.85	3.97	0.25	1,3
		26-Mar-98	1.72	4.92	0.005	1,3
	6.58	13-May-98	1.80	4.78	--	2,5
		16-Dec-98	2.60	3.98	--	
		26-Feb-99	2.06	4.52	--	
		20-May-99	2.40	4.18	--	
		17-Aug-99	2.92	3.66	--	
		11-Nov-99	3.05	3.53	--	

Table 1. Groundwater Elevations
Quarterly Groundwater Monitoring Report
United Airlines Hangar Area - Economy Parking Lot Site
Oakland International Airport

Well Name	Top of Casing Elevation (feet)	Date	Depth to Water (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Note
MW-2		23-Mar-00	2.27	4.31	--	
		25-Apr-00	2.34	4.24	--	
		24-May-00	2.22	4.36	--	
		10-Jul-00	2.70	3.88	--	
		31-Aug-00	2.98	3.60	--	
		11-Jan-01	2.73	3.85	--	
MW-3	7.36	25-Apr-95	2.20	5.16	--	1
		11-Aug-95	3.11	4.25	--	1
		3-Nov-95	3.28	4.08	--	1
		19-Jun-96	2.53	4.14	0.05	1,3
		24-Oct-96	3.44	3.31	0.16	1,3
		22-Jan-97	2.45	4.20	0.02	1,3
		25-Apr-97	3.13	4.24	0.01	1,3
		30-Jul-97	NM	NM	0.03	1,4
		6-Aug-97	3.76	3.60	--	1
		23-Dec-97	3.48	3.88	--	1
		26-Mar-98	2.36	5.00	0.005	1,3
		13-May-98	--	--	--	2
		16-Dec-98	3.40	3.96	--	
		26-Feb-99	2.49	4.87	--	
		20-May-99	2.96	4.40	--	
		17-Aug-99	3.64	3.72	--	
		11-Nov-99	3.88	3.48	--	
		23-Mar-00	2.55	4.81	--	
		25-Apr-00	2.90	4.46	--	
		24-May-00	2.68	4.68	--	
		10-Jul-00	3.37	3.99	--	
		31-Aug-00	3.79	3.57	--	
		11-Jan-01	2.96	4.40	--	
MW-4	6.92	13-May-98	2.01	4.91	--	2
		16-Dec-98	2.84	4.08	--	
		26-Feb-99	1.94	4.98	--	
		20-May-99	2.47	4.45	--	
		17-Aug-99	3.10	3.82	--	
		11-Nov-99	3.38	3.54	--	
		23-Mar-00	2.06	4.86	--	
		25-Apr-00	2.44	4.48	--	
		24-May-00	2.26	4.66	--	
		10-Jul-00	2.88	4.04	--	
		31-Aug-00	3.17	3.75	--	
		11-Jan-01	3.10	3.82	--	
MW-5	5.79	13-May-98	1.05	4.74	--	2
		16-Dec-98	1.95	3.84	--	
		26-Feb-99	1.50	4.29	--	
		20-May-99	2.05	3.74	--	
		17-Aug-99	2.30	3.49	--	
		11-Nov-99	2.34	3.45	--	
		23-Mar-00	1.60	4.19	--	6
		25-Apr-00	1.87	3.92	--	6
		24-May-00	1.75	4.04	--	6

Table 1. Groundwater Elevations
Quarterly Groundwater Monitoring Report
United Airlines Hangar Area - Economy Parking Lot Site
Oakland International Airport

Well Name	Top of Casing Elevation (feet)	Date	Depth to Water (feet)	Groundwater Elevation (feet)	Product Thickness (feet)	Note
		10-Jul-00	2.22	3.57	–	6
MW-5		31-Aug-00	2.52	3.27	–	6
		11-Jan-01	NM	–	–	6,7
MW-6	6.39	13-May-98	1.91	4.48	–	2
		16-Dec-98	2.64	3.75	–	
		26-Feb-99	1.89	4.50	–	
		20-May-99	2.65	3.74	–	
		17-Aug-99	3.03	3.36	–	
		11-Nov-99	3.07	3.32	–	
		23-Mar-00	2.34	4.05	–	
		25-Apr-00	2.50	3.89	–	
		24-May-00	2.44	3.95	–	
		10-Jul-00	2.88	3.51	–	
		31-Aug-00	3.12	3.27	–	
		11-Jan-01	2.76	3.63	–	
MW-7	5.86	13-May-98	1.51	4.35	–	2
		16-Dec-98	2.13	3.73	–	
		26-Feb-99	1.58	4.28	–	
		20-May-99	2.23	3.63	–	
		17-Aug-99	2.57	3.29	–	
		11-Nov-99	2.57	3.29	–	
		23-Mar-00	1.90	3.96	–	
		25-Apr-00	2.16	3.70	–	
		24-May-00	2.06	3.80	–	
		10-Jul-00	2.44	3.42	–	
		31-Aug-00	2.63	3.23	–	
		11-Jan-01	2.33	3.53	–	
MW-8	7.56	13-May-98	2.46	5.10	–	2
		16-Dec-98	3.51	4.05	–	
		26-Feb-99	2.59	4.97	–	
		20-May-99	3.06	4.50	–	
		17-Aug-99	3.75	3.81	–	
		11-Nov-99	4.04	3.52	–	
		23-Mar-00	2.63	4.93	–	
		25-Apr-00	3.02	4.54	–	
		24-May-00	2.78	4.78	–	
		10-Jul-00	3.48	4.08	–	
		31-Aug-00	3.85	3.71	–	
		11-Jan-01	3.42	4.14	–	

Notes

1 - Data from Table 1-Results of Groundwater Sampling and Analysis, Port of Oakland, Oakland International Airport, United Airlines Hanger Area-Economy Parking Lot Site, by ITSI

2 - Data from Table 1of Results of Additional Site Investigation, Port of Oakland, Oakland International Airport, United Airlines Hanger Area-Economy Parking Lot Site, dated Oct. 21, 1988 by ITSI

3 - Groundwater elevation calculated assuming a specific gravity of 0.75 for product.

4 - Free product removed from well during redevelopment (July 30, 1997).

5 - Well MW-2 was reconstructed in May 1998.

6 - Well MW-5 was damaged during construction activities in February 2000, top of casing elevation may have been affected.

7 - The well cap was broken upon arrival. It appears that the well box that was damaged in February 2000 is settling and becoming more damaged as the buses drive over it. The rain water was flowing into the well box and into the well.

Table 2. Groundwater Analytical Results - Petroleum Hydrocarbons
Quarterly Groundwater Monitoring Report
United Airlines Hanger Economy Parking
Oakland International Airport

Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TPHg (µg/L)	TPH Diesel (C1-C-22) (µg/L)	TPH Jet Fuel A (C9-C16) (µg/L)	TPH Motor Oil (>C16) (µg/L)	Unidentified Extractable Hydrocarbons (µg/L)	Note
MW-1	05/15/92	<0.4	<0.3	<0.3	<0.4	--	<50	--	--	--	--	1
	08/07/92	<0.4	<0.3	<0.3	<0.4	--	<50	--	800	--	--	1
	11/24/92	<0.4	<0.3	<0.3	<0.4	--	<50	--	<50	--	--	1
	02/12/93	<0.4	<0.3	<0.3	<0.4	--	<50	--	--	--	--	1
	05/17/93	<0.4	<0.3	<0.3	<0.4	--	<50	--	--	--	--	1
	08/03/93	<0.5	<0.5	<0.5	<0.5	--	<50	5,200	--	--	--	1
	11/25/93	<0.5	<0.5	<0.5	0.6	--	70	--	--	--	--	1
	05/09/94	<0.5	<0.5	<0.5	<0.5	--	<50	--	--	--	--	1
	08/29/94	<0.5	<0.5	2.7	<0.5	--	<50	--	--	--	--	1
	04/25/95	<5	<5	<5	<5	--	<50	1,400	<50	610	--	1
	08/11/95	<0.4	<0.3	<0.3	<0.4	--	<50	1,900	<50	1,200	--	1
	11/03/95	0.4	0.4	<0.3	<0.4	--	<50	4,200	<50	1,800	--	1
	06/19/96	0.99	<0.5	1.1	<1.0	--	<50	11,000	<500	820	--	1
	10/24/96	1.9	<0.5	<0.5	1.3	--	57	<250	<500	<250	--	1
	01/22/97	<0.5	<0.5	<0.5	<1.0	--	<50	220	<500	<250	--	1
	04/25/97	1.2	<0.5	1.0	1.2	--	110	<50	<500	<250	--	1
	08/06/97	2.1	<0.5	<0.5	<1.0	--	100	340	<500	<250	--	1
	12/23/97	0.7	<0.5	<0.5	<1.0	--	<50	<50	<50	<300	--	1
	03/26/98	<0.5	<0.5	<0.5	<1.0	--	<50	<48	<48	<290	--	2
	12/16/98	1.8	<0.5	<0.5	<0.5	<2.5	120	640	<50	<250	340	--
	02/26/99	0.96	<0.5	<0.5	<0.5	2.6	69	670	<50	350	<50	4
	05/20/99	1.7	<0.5	<0.5	<0.5	<2.5	85	380	<50	<250	<50	--
	08/17/99	2.6	0.52	<0.5	<0.5	<2.5	54	530	<50	<500	--	--
	11/11/99	2.5	<0.5	<0.5	<0.5	<2.5	96	1,100	<50	<250	--	--
	03/23/00	1.7	<0.5	<0.5	<0.5	3.2	--	1,100	<50	1,100	--	8
	04/25/00	--	--	--	--	--	60	--	--	--	--	8
	05/24/00	2.5	<0.5	<0.5	<0.5	<2.5	76	670	410	<250	--	--
	08/31/00	3.3	<0.5	<0.5	0.89	<2.5	84	600	320	430	--	--
	01/11/01	3.0	<0.5	<0.5	<0.5	<2.5	63	440	170	290	--	11, 12
MW-2	04/25/95	340	570	110	580	--	5,200	<10,000	13,000	19,000	--	1
	08/11/95	320	680	110	510	--	5,500	<8,000	7,900	20,000	--	1
	11/03/95	200	400	27	360	--	3,800	<11,000	11,000	4,200	--	1
	06/19/96	--[3]	--[3]	--[3]	--[3]	--	--[3]	--[3]	--[3]	--[3]	--	1
	10/24/96	--[3]	--[3]	--[3]	--[3]	--	--[3]	--[3]	--[3]	--[3]	--	1
	01/22/97	--[3]	--[3]	--[3]	--[3]	--	--[3]	--[3]	--[3]	--[3]	--	1
	04/25/97	--[3]	--[3]	--[3]	--[3]	--	--[3]	--[3]	--[3]	--[3]	--	1
	08/06/97	170	270	92	410	--	9,900	12,000	<1,000	2,300	--	1

Table 2. Groundwater Analytical Results - Petroleum Hydrocarbons
Quarterly Groundwater Monitoring Report
United Airlines Hanger Economy Parking
Oakland International Airport

Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl - benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TPHg (µg/L)	TPH Diesel (C1-C-22) (µg/L)	TPH Jet Fuel A (C9-C16) (µg/L)	TPH Motor Oil (>C16) (µg/L)	Unidentified Extractable Hydrocarbons (µg/L)	Note
	12/23/97	--[3]	--[3]	--[3]	--[3]	--	--[3]	--[3]	--[3]	--[3]	--	1
	03/26/98	--[3]	--[3]	--[3]	--[3]	--	--[3]	--[3]	--[3]	--[3]	--	1
	05/13/98	150	270	94	440	--	4,000	2,600	3,400	<290	--	2,3,4
	12/16/98	130	180	71	330	<50	4,600	<1,000	31,000	8,200	<1,000	--
	02/26/99	86	210	64	350	<100	4,700	<1,000	18,000	7,800	<1,000	--
MW-2	05/20/99	120	280	76	360	<2.5	4,700	<50	15,000	5,800	<50	--
	08/17/99	55	44	57	200	<2.5	17,000	<1000	22,000	<10000	--	--
	11/11/99	60	37	78	190	<2.5	3,800	<500	10,000	<2500	--	--
	03/23/00	92	180	97	310	<25	--	<500	36,000	26,000	--	8
	04/25/00	--	--	--	--	--	7,600	--	--	--	--	8
	05/24/00	100	180	96	310	<50	3,200	8,000	8,100	4,200	--	--
	08/31/00	50	18	77	160	<50	3,200	4,900	4,000	1,800	--	--
	01/11/01	45	34	72	130	<130	2,700	21,000	18,000	6,700	--	12, 13
MW-3	04/25/95	150	600	100	580	--	7,200	<40000	38,000	31,000	--	1
	08/11/95	--	--	--	--	--	--	--	--	--	--	1,5
	11/03/95	--	--	--	--	--	--	--	--	--	--	1,5
	06/19/96	--	--	--	--	--	--	--	--	--	--	1,5
	10/24/96	--	--	--	--	--	--	--	--	--	--	1,5
	01/22/97	--	--	--	--	--	--	--	--	--	--	1,5
	04/25/97	--	--	--	--	--	--	--	--	--	--	1,5
	08/06/97	4	16	14	90	--	4,200	1,400	<500	<250	--	1,5
	12/23/97	13	16	9	116	--	2,200	79,000	110,000	8,200	--	1,5
	03/26/98	--	--	--	--	--	--	--	--	--	--	2,5
	12/16/98	<10	12	<10	43	<50	2,300	--	--	--	--	7
	02/26/99	16	16	10	40	<100	5,700	--	--	--	--	7
	05/20/99	20	25	7.8	37	<2.5	2,700	--	--	--	--	7
	08/17/99	14	<0.5	<0.5	15	<2.5	2,100	--	--	--	--	7
	11/11/99	7.8	<0.5	<0.5	17	<2.5	3,300	--	--	--	--	7
	03/23/00	13	20	16	48	<50	--	--	--	--	--	8
	04/25/00	--	--	--	--	--	8,000	6,200	7,100	4,600	--	8
	05/24/00	4.6	6.4	6.3	23	<13	6,300	6,200	7,100	4,600	--	--
	08/31/00	<25	<25	<25	<25	<130	2,800	6,600	6,300	2,100	--	--
	01/11/01	2.3	1.1	1.7	5.7	<5	2,400	7,200	4,000	2,300	--	11, 14
MW-4	05/13/98	9.8	23	13	79	--	1,400	2,000	2,300	<310	--	2,3,4
	12/16/98	<10	<10	<10	58	<50	1,900	<1,000	40,000	8,800	<1,000	--
(Dup)	12/16/98	<10	<10	<10	51	<50	1,700	<1,000	41,000	9,400	<1,000	--
	02/26/99	13	<10	<10	22	<50	1,200	<500	5,500	<2,500	<500	--

Table 2. Groundwater Analytical Results - Petroleum Hydrocarbons
Quarterly Groundwater Monitoring Report
United Airlines Hanger Economy Parking
Oakland International Airport

Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl - benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TPHg (µg/L)	TPH Diesel (C1-C-22) (µg/L)	TPH Jet Fuel A (C9-C16) (µg/L)	TPH Motor Oil (>C16) (µg/L)	Unidentified Extractable Hydrocarbons (µg/L)	Note
(Dup)	02/26/99	16	<2.5	6.2	20	<10	1,200	<500	5,200	<2,500	<500	--
	05/20/99	16	0.83	3.0	10	5.5	670	<50	1,900	560	<50	--
(Dup)	05/20/99	15	0.78	3.0	11	5.4	1,100	<50	1,200	290	<50	--
MW-4	08/17/99	22	<0.5	<0.5	<0.5	<2.5	1,000	<50	2,000	<500	<50	--
(Dup)	08/17/99	24	3.10	3.2	16	<2.5	690	<50	1,700	<500	--	--
	11/01/99	11	<0.5	<0.5	12	<2.5	1,600	<50	2,400	<50	--	--
(Dup)	11/01/99	11	1.40	2.7	16	<2.5	1,300	<50	1,800	<50	--	--
	03/23/00	10	0.95	2.0	12	<2.5	--	2,800	<50	2,200	--	8
(Dup)	03/23/00	10	0.81	2.0	12	<2.5	--	2,800	<50	2,100	--	8
	04/25/00	--	--	--	--	--	1,200	--	--	--	--	8
MW-4 (Dup)	04/25/00	--	--	--	--	--	630	--	--	--	--	8
	05/24/00	14	<1.0	2.3	13	<5.0	690	2,500	2,100	1,800	--	--
(Dup)	05/24/00	13	<1.0	2.8	15	<5.0	560	3,100	2,600	2,200	--	--
	08/31/00	22	<1.3	3.1	13	<6.3	700	2,300	1,800	1,000	--	--
(Dup)	08/31/00	21	<1.3	2.8	13	11	550	2,500	2,000	1,000	--	10
	01/11/01	15	<2.5	3.3	4.5	<13	860	3,300	2,700	1,400	--	11, 12
MW-5	05/13/98	<0.5	<0.5	<0.5	<1.0	--	<50	<50	<50	<300	--	2
	12/16/98	<0.5	<0.5	<0.5	<0.5	<2.5	<50	<50	<50	<250	260	--
	02/26/99	<0.5	<0.5	<0.5	<0.5	<2.5	<50	69	<50	<250	<50	--
	05/20/99	<0.5	<0.5	<0.5	<0.5	<2.5	<50	<50	<50	<250	<50	--
	08/17/99	<0.5	<0.5	<0.5	<0.5	<2.5	<50	79	<50	<500	--	--
	11/11/99	<0.5	<0.5	<0.5	<0.5	<2.5	<50	93	<50	<250	--	--
	03/23/00	<0.5	<0.5	<0.5	<0.5	<2.5	--	140	<50	530	--	8
	04/25/00	--	--	--	--	--	<50	--	--	--	--	8
	05/24/00	<0.5	<0.5	<0.5	<0.5	<2.5	<50	73	<50	400	--	--
	08/31/00	<0.5	<0.5	<0.5	<0.5	<2.5	<50	<50	<50	<250	--	--
	01/11/01	<0.5	<0.5	<0.5	<0.5	<2.5	<50	80	<50	300	--	
MW-6	05/13/98	<0.5	<0.5	<0.5	<1.0	--	<50	<48	<48	<290	--	2
	12/16/98	<0.5	<0.5	<0.5	<0.5	<2.5	<50	<50	<50	<250	<50	--
	02/26/99	<0.5	<0.5	<0.5	<0.5	<2.5	<50	83	<50	<250	<50	--
	05/20/99	<0.5	<0.5	<0.5	<0.5	<2.5	<50	<50	<50	<250	<50	--
	08/17/99	<0.5	<0.5	<0.5	<0.5	<2.5	<50	72	<50	<500	--	--
	11/11/99	<0.5	<0.5	<0.5	<0.5	<2.5	<50	93	<50	<250	--	--
	03/23/00	<0.5	<0.5	<0.5	<0.5	<2.5	--	120	<50	280	--	8
	04/25/00	--	--	--	--	--	<50	--	--	--	--	8
	05/24/00	<0.5	<0.5	<0.5	<0.5	<2.5	<50	<50	<50	<250	--	--
	08/31/00	<0.5	<0.5	<0.5	<0.5	<2.5	<50	<50	<50	<250	--	--

Table 2. Groundwater Analytical Results - Petroleum Hydrocarbons
Quarterly Groundwater Monitoring Report
United Airlines Hanger Economy Parking
Oakland International Airport

Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl - benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TPHg (µg/L)	TPH Diesel (C1-C-22) (µg/L)	TPH Jet Fuel A (C9-C16) (µg/L)	TPH Motor Oil (>C16) (µg/L)	Unidentified Extractable Hydrocarbons (µg/L)	Note
	01/11/01	<0.5	<0.5	<0.5	<0.5	<2.5	<50	<50	<50	<250	--	--
MW-7	05/13/98	<0.5	0.6	<0.5	<1.0	--	<50	<51	<51	<310	--	2
	12/16/98	<0.5	<0.5	<0.5	<0.5	<2.5	<50	<50	<50	<250	<50	--
	02/26/99	<0.5	<0.5	<0.5	<0.5	<2.5	<50	<50	<50	<250	<50	--
	05/20/99	<0.5	<0.5	<0.5	<0.5	<2.5	<50	<50	<50	<250	<50	--
	08/17/99	<0.5	<0.5	<0.5	<0.5	<2.5	<50	52	<50	<500	--	--
	11/11/99	<0.5	<0.5	<0.5	<0.5	<2.5	<50	<50	<50	<250	--	--
	03/23/00	<0.5	<0.5	<0.5	<0.5	<2.5	--	<50	<50	<250	--	8
	04/25/00	--	--	--	--	--	<50	--	--	--	--	8
	05/24/00	<0.5	<0.5	<0.5	<0.5	<2.5	<50	<50	<50	<250	--	--
	08/31/00	<0.5	<0.5	<0.5	<0.5	<2.5	<50	<50	<50	<250	--	--
	01/11/01	<0.5	<0.5	<0.5	<0.5	<2.5	<50	<50	<50	<250	--	--
MW-8	05/13/98	2	<0.5	<0.5	<1.0	--	<50	<47	<47	<280	--	2
	12/16/98	4.1	<0.5	<0.5	<0.5	2.9	53	<50	200	<250	<50	6
	02/26/99	3.5	<0.5	<0.5	<0.5	2.7	<50	<50	<50	<250	<50	6
MW-8	05/20/99	2.8	<0.5	<0.5	<0.5	<2.5	<50	150	<50	<250	<50	--
	08/17/99	3.5	<0.5	<0.5	<0.5	2.9	51	190	<50	<250	--	--
	11/11/99	3.0	<0.5	<0.5	<0.5	3.2	<50	310	<50	<250	--	--
	03/23/00	2.1	<0.5	<0.5	<0.5	<2.5	--	450	<50	530	--	8
	04/25/00	--	--	--	--	--	77	--	--	--	--	8
	05/24/00	2.0	1.3	<0.5	<0.5	<2.5	53	130	<50	<250	--	--
	08/31/00	1.9	<0.5	<0.5	<0.5	2.9	<50	120	71	<250	--	9
	01/11/01	1.4	<0.5	<0.5	<0.5	<2.5	<50	82	<50	<250	--	--
(Dup.)	01/11/01	1.4	<0.5	<0.5	<0.5	<2.5	<50	90	<50	<250	--	--
MCLs		1.0	150	700	1,750	--	--	--	--	--	--	--

Note:

1 - Data from Table 2-Summary of Laboratory Results Tanks MF25 and MF26 (United Airlines Hanger Area - Economy Parking Lot Site) Metropolitan Oakland International Airport (MOIA), 1100 Airport Drive, Oakland California by ITSI.

2 - Data from Table 3 of Results of Additional Site Investigation, Port of Oakland, Oakland International Airport, United Airlines Hanger Area-Economy Parking Lot Site, dated October 21, 1998 by ITSI dated October 21, 1998 by ITSI

3 - Hydrocarbons for TPHd do not match profile for laboratory standards

4 - Hydrocarbons for TPHd are lighter than indicated standard

5 - Not analyzed due to the presence of free product

6 - MTBE detected by GC methods at slightly over reporting limit has not been confirmed by MS.

7 - MW-3 has slow recovery so not enough water could be collected for all analysis.

8 - Due to an oversight TPH gas was not analyzed for in the March sampling event, the wells were resampled in April.

Table 2. Groundwater Analytical Results - Petroleum Hydrocarbons
Quarterly Groundwater Monitoring Report
United Airlines Hanger Economy Parking
Oakland International Airport

Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl - benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	TPHg (µg/L)	TPH Diesel (C1-C-22) (µg/L)	TPH Jet Fuel A (C9-C16) (µg/L)	TPH Motor Oil (>C16) (µg/L)	Unidentified Extractable Hydrocarbons (µg/L)	Note

9 - The surrogate recovery for this sample can not be accurately quantified due to interference from coeluting organic compounds.
10 - The laboratory indicated that continuing calibration indicated that the quantitative result for MTBE includes a greater than 15% degree of uncertainty.
11- TPH jet A chromatogram pattern is unidentified hydrocarbons C9-C24.
12 - The motor oil chromatogram pattern is unidentified hydrocarbons greater than C16.
13 - The diesel chromatogram pattern is unidentified hydrocarbons C9-C24.
14 - TPH gas, BTEX and MTBE analyzed one day past holding time.
MCLs - Maximum Contaminant Levels
▒▒▒▒▒▒ - Shaded areas indicate detected concentration exceeds MCL.

Table 3. Groundwater Analytical Results - VOCs
Quarterly Groundwater Monitoring Report
United Airlines Hanger Economy Parking Lot
Oakland International Airport

Monitoring Well ID	Date	Acetone (µg/L)	2-Butanone (µg/L)	Chloroform (µg/L)	1,1-DCA (µg/L)	(cis/trans) 1,2-DCE (µg/L)	4-Methyl-2-Pentanone (µg/L)	1,1,1-TCA (µg/L)	TCE (µg/L)	PCE (µg/L)	Chloro-ethane (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Notes
MW-1	11/24/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	1
	02/12/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	1
	05/17/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	1
	08/03/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	1
	11/25/93	ND	ND	ND	ND	6.0	ND	ND	ND	ND	--	--	--	--	1
	05/09/94	ND	ND	ND	ND	ND	ND	ND	ND	5.5	--	--	--	--	1
	09/27/94	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	1
	01/25/95	<20	<20	<5	<5	<5	<20	--	--	<5	--	--	--	--	1
	08/11/95	--	--	<0.5	4.3	13	--	2.0	1.8	0.6	--	--	--	--	1
	11/03/95	--	--	<0.5	1.3	3.7	--	0.6	0.5	<0.5	--	--	--	--	1
	06/19/96	--	--	<0.5	5.4	<0.5	--	<0.5	1.2	<0.5	--	--	--	--	1
	10/24/96	--	--	<0.5	12	<1.0	--	<0.5	1.4	<0.5	--	--	--	--	1
	01/22/97	--	--	<0.5	3.9	8.4	--	<0.5	1.7	<0.5	--	--	--	--	1
	04/25/97	--	--	<0.5	6.2	10	--	<0.5	1.2	0.62	--	--	--	--	1
	08/06/97	--	--	<0.5	14	19	--	<0.5	2.5	0.54	--	--	--	--	1
	12/23/97	--	--	<1.0	6.6	9.3	--	<1.0	<1.0	<1.0	--	--	--	--	1
	03/26/98	--	--	<1.0	5.3	8.1	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	3
	12/16/98	--	--	<0.5	20	18	--	<0.5	<0.5	<0.5	<1.0	<0.5	1.5	<1.0	--
	02/26/99	--	--	<0.5	15	9.8	--	2.9	<0.5	<0.5	<1.0	<0.5	0.79	<1.0	--
	05/20/99	--	--	<0.5	22	17	--	<0.5	<0.5	<0.5	<1.0	<0.5	1.5	1.2	--
	08/17/99	--	--	<0.5	23	15	--	<0.5	<0.5	<0.5	<1.0	<0.5	2.1	<1.0	--
	11/11/99	--	--	<0.5	21	19	--	<0.5	<0.5	<0.5	<1.0	<0.5	1.5	<1.0	--
	03/23/00	--	--	<1.0	24	11	--	<1.0	<1.0	<1.0	<1.0	<2.0	1.3	<1.0	--
	05/24/00	--	--	<1.0	24	11	--	<1.0	<1.0	<1.0	<1.0	<2.0	1.3	<1.0	6
	07/10/00	--	--	<1.0	30	16	--	<1.0	<1.0	<1.0	<1.0	<2.0	2.2	<1.0	6
	08/31/00	--	--	<1.0	30	18	--	<1.0	<1.0	<1.0	<1.0	<2.0	3.1	<1.0	--
	01/11/01	--	--	<1.0	32	11	--	<1.0	<1.0	<1.0	<1.0	<1.6	2.4	<1.0	--
MW-2	04/25/95	<200	200	<50	50	<50	<200	--	--	<50	--	--	--	--	1
	08/11/95	--	--	5.0	79	26	--	20	4.0	9.0	--	--	--	--	1
	11/03/95	--	--	<0.5	73	24	--	4.8	6.7	6.8	--	--	--	--	1
	06/19/96	--	--	--	--	--	--	--	--	--	--	--	--	--	1,2
	10/24/96	--	--	--	--	--	--	--	--	--	--	--	--	--	1,2
	01/22/97	--	--	--	--	--	--	--	--	--	--	--	--	--	1,2
	04/25/97	--	--	--	--	--	--	--	--	--	--	--	--	--	1,2
	08/06/97	--	--	<5	69	160	--	<5	<12	<5	--	--	--	--	1
	12/23/97	--	--	--	--	--	--	--	--	--	--	--	--	--	1,2
	03/26/98	--	--	--	--	--	--	--	--	--	--	--	--	--	1,2
	05/13/98	--	--	--	51	140	--	--	ND	<1.0	3.4	<1.0	<1.0	<2.0	3
	12/16/98	--	--	<5.0	58	220	--	<2.5	<2.5	<2.5	<1.0	<2.5	<2.5	<5.0	--
	02/26/99	--	--	<1.3	19	57	--	2.9	<1.3	<1.3	<2.5	<1.3	<1.3	<2.5	--

Table 3. Groundwater Analytical Results - VOCs
Quarterly Groundwater Monitoring Report
United Airlines Hanger Economy Parking Lot
Oakland International Airport

Monitoring Well ID	Date	Acetone (µg/L)	2-Butanone (µg/L)	Chloroform (µg/L)	1,1-DCA (µg/L)	(cis/trans) 1,2-DCE (µg/L)	4-Methyl-2-Pentanone (µg/L)	1,1,1-TCA (µg/L)	TCE (µg/L)	PCE (µg/L)	Chloro-ethane (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Notes
MW-2	05/20/99	--	--	<0.5	63	191.5	--	5.8	1.1	1.5	4.4	<0.5	0.82	<1.0	--
	08/17/99	--	--	<2.5	70	140	--	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	--
	11/11/99	--	--	<2.5	48	180	--	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	--
	03/23/00	--	--	<5.0	55	160	--	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	--
	05/24/00	--	--	<5.0	55	160	--	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	6
	07/10/00	--	--	<5.0	95	240	--	<5.0	<5.0	<5.0	5.5	<10	<5.0	<5.0	6
	08/31/00	--	--	<1.0	70	150	--	<1.0	<1.0	<1.0	5.0	<2.0	<1.0	<1.0	--
	01/11/01	--	--	<1.0	43	60	--	<1.0	<2.0	<0.6	3.4	<1.6	<1.0	<1.0	--
MW-3	04/25/95	300	300	--	30	<30	200	--	--	<30	--	--	--	--	1
	08/11/95	--	--	--	--	--	--	--	--	--	--	--	--	--	1,2
	11/03/95	--	--	--	--	--	--	--	--	--	--	--	--	--	1,2
	06/19/96	--	--	--	--	--	--	--	--	--	--	--	--	--	1,2
	10/24/96	--	--	--	--	--	--	--	--	--	--	--	--	--	1,2
	01/22/97	--	--	--	--	--	--	--	--	--	--	--	--	--	1,2
	04/25/97	--	--	--	--	--	--	--	--	--	--	--	--	--	1,2
	08/06/97	--	--	2.1	3.8	<0.5	--	<0.5	<1.2	0.62	--	--	--	--	1
	12/23/97	--	--	<1.0	4.2	<1.0	--	<1.0	<1.0	<1.0	--	--	--	--	1
	03/26/98	--	--	--	--	--	--	--	--	--	--	--	--	--	3,2
	12/16/98	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4
	02/26/99	--	--	<0.5	4.4	<0.5	--	1.6	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	--
	05/20/99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4
	08/17/99	NA	NA	<0.5	3.6	<0.5	NA	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	--
	11/11/99	--	--	<0.5	3.2	<0.5	--	2.4	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	--
	03/23/00	--	--	<1.0	4.8	<1.0	--	<1.0	<1.0	<1.0	1.8	<2.0	<1.0	<1.0	--
	05/24/00	--	--	<1.0	4.8	<1.0	--	<1.0	<1.0	<1.0	1.8	<2.0	<1.0	<1.0	6
	07/10/00	--	--	<1.0	9.8	<1.0	--	<1.0	<1.0	<1.0	1.1	<2.0	<1.0	<1.0	6
	08/31/00	--	--	<1.0	9	<1.0	--	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	--
	01/11/01	--	--	<1.0	<1.6	<1.0	--	<1.0	<2.0	<0.6	<1.2	<1.6	3.1	<1.0	--
MW-4	05/13/98	--	--	--	31	9.9	--	--	--	2.8	2.8	<1.0	<1.0	<2.0	3
	12/16/98	--	--	<0.5	53	17	--	<5.0	<0.5	0.94	6.8	<0.5	1.6	<1.0	--
(Dup)	12/16/98	--	--	<0.5	52	14	--	<5.0	<0.5	0.88	4.4	<0.5	1.2	<1.0	--
	02/26/99	--	--	<0.5	39	28	--	1.4	<0.5	0.97	6.5	<0.5	<0.5	<1.0	--
(Dup)	02/26/99	--	--	<0.5	43	36	--	1.7	<0.5	1.3	8.3	<0.5	2.8	<1.0	--
	05/20/99	--	--	<0.5	45	42.1	--	<0.5	0.54	1.7	8.9	<0.5	2.8	<1.0	--
(Dup)	05/20/99	--	--	<0.5	48	39.4	--	3.9	0.59	1.9	8.6	<0.5	2.5	<1.0	--
	08/17/99	--	--	<0.5	37	22	--	<0.5	0.7	1.8	4.3	<0.5	2	<1.0	--
(Dup)	08/17/99	--	--	<0.5	45	0.77	--	<0.5	5.5	2	13	<0.5	2.8	<1.0	--
	11/11/99	--	--	<0.5	34	22	--	<0.5	<0.5	0.76	6.9	<0.5	1.1	<1.0	--
(Dup)	11/11/99	--	--	<0.5	36	23	--	<0.5	<0.5	0.85	7.9	<0.5	1.1	<1.0	--
	03/23/00	--	--	<1.0	24	13	--	<1.0	<1.0	<1.0	4.1	<2.0	<1.0	<1.0	--

Table 3. Groundwater Analytical Results - VOCs
Quarterly Groundwater Monitoring Report
United Airlines Hanger Economy Parking Lot
Oakland International Airport

Monitoring Well ID		Date	Acetone (µg/L)	2-Butanone (µg/L)	Chloroform (µg/L)	1,1-DCA (µg/L)	(cis/trans) 1,2-DCE (µg/L)	4-Methyl-2-Pentanone (µg/L)	1,1,1-TCA (µg/L)	TCE (µg/L)	PCE (µg/L)	Chloro-ethane (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Notes
MW-4	(Dup)	03/23/00	--	--	<1.0	26	14	--	<1.0	<1.0	1.1	5.5	<2.0	1.1	<1.0	--
		05/24/00	--	--	<1.0	24	13	--	<1.0	<1.0	<1.0	4.1	<2.0	<1.0	<1.0	--
	(Dup)	05/24/00	--	--	<1.0	26	14	--	<1.0	<1.0	1.1	5.5	<2.0	1.1	<1.0	--
		07/10/00	--	--	<2.5	48	25	--	<2.5	<2.5	<2.5	10	<5.0	<2.5	<2.5	6
	(Dup)	07/10/00	--	--	<2.5	35	16	--	<2.5	<2.5	<2.5	7.3	<5.0	<2.5	<2.5	6
		08/31/00	--	--	<1.0	50	32	--	<1.0	<1.0	<1.0	12	<2.0	1.9	<1.0	--
	(Dup)	08/31/00	--	--	<1.0	43	27	--	<1.0	<1.0	<1.0	9.9	<2.0	1.6	<1.0	--
		01/11/01	--	--	<1.0	42	25	--	<1.0	<2.0	<0.5	13	<1.6	2.8	<1.0	--
MW-5		05/13/98	--	--	--	<1.0	<1.0	--	--	--	<1.0	<2.0	<1.0	<1.0	<2.0	3
		12/16/98	--	--	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	--
		02/26/99	--	--	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	--
		05/20/99	--	--	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	--
		08/17/99	--	--	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	--
		11/11/99	--	--	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	--
		03/23/00	--	--	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	--
		05/24/00	--	--	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	6
		07/10/00	--	--	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	6
		08/31/00	--	--	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	--
		01/11/01	--	--	<1.0	<1.0	<1.0	--	<1.0	<2.0	<0.5	<1.0	<1.6	<1.0	<1.0	--
MW-6		05/13/98	--	--	--	<1.0	<1.0	--	--	--	<1.0	<2.0	<1.0	<1.0	<2.0	3
		12/16/98	--	--	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	--
		02/26/99	--	--	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	--
		05/20/99	--	--	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	--
		08/17/99	--	--	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	--
		11/11/99	--	--	<0.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	--
		03/23/00	--	--	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	--
		05/24/00	--	--	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	6
		07/10/00	--	--	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	6
		08/31/00	--	--	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	--
		01/11/01	--	--	<1.0	<1.0	<1.0	--	<1.0	<2.0	<0.6	<1.0	<1.6	<1.0	<1.0	--
MW-7		05/13/98	--	--	--	8	<1.0	--	--	--	<1.0	<2.0	<1.0	3.4	<2.0	3
		12/16/98	--	--	<0.5	12	<0.5	--	<0.5	<0.5	<0.5	<1.0	<0.5	5.0	<1.0	--
		02/26/99	--	--	<0.5	15	<0.5	--	<0.5	<0.5	<0.5	<1.0	<0.5	6.8	<1.0	--
		05/20/99	--	--	<0.5	19	0.74	--	<0.5	<0.5	<0.5	<1.0	<0.5	7.3	<1.0	--
		08/17/99	--	--	<0.5	22	0.59	--	<0.5	<0.5	0.52	<1.0	<0.5	9.6	<1.0	--
		11/11/99	--	--	<0.5	17	<0.5	--	<0.5	<0.5	<0.5	<1.0	<0.5	6.6	<1.0	--
		03/23/00	--	--	<0.5	16	<1.0	--	<1.0	<1.0	<1.0	<1.0	<2.0	5.6	<1.0	--
		05/24/00	--	--	<0.5	16	<1.0	--	<1.0	<1.0	<1.0	<1.0	<2.0	5.6	<1.0	6
		07/10/00	--	--	<1.0	26	1.1	--	<1.0	<1.0	1.8	<1.0	<2.0	9.8	<1.0	6
		08/31/00	--	--	<1.0	22	1.2	--	<1.0	<1.0	1.1	<1.0	<2.0	9.5	<1.0	--

Table 3. Groundwater Analytical Results - VOCs
Quarterly Groundwater Monitoring Report
United Airlines Hanger Economy Parking Lot
Oakland International Airport

Monitoring Well ID	Date	Acetone (µg/L)	2-Butanone (µg/L)	Chloroform (µg/L)	1,1-DCA (µg/L)	(cis/trans) 1,2-DCE (µg/L)	4-Methyl-2-Pentanone (µg/L)	1,1,1-TCA (µg/L)	TCE (µg/L)	PCE (µg/L)	Chloro-ethane (µg/L)	1,2-DCA (µg/L)	1,1-DCE (µg/L)	Vinyl Chloride (µg/L)	Notes
MW-7	01/11/01	--	--	<1.0	18	<1.0	--	<1.0	<2.0	1.5	<1.0	<1.6	7.7	<1.0	--
MW-8	05/13/98	--	--	--	180	1.9	--	--	--	<1.0	<2.0	2.7	180	6.0	3
	12/16/98	--	--	<0.5	440	1.2	--	<0.5	<0.5	<0.5	<1.0	10	520	6.6	--
	02/26/99	--	--	<2.5	390	<2.5	--	<2.5	<2.5	<2.5	<5.0	6.9	490	10	--
	05/20/99	--	--	<0.5	410	1.2	--	<0.5	<0.5	<0.5	<1.0	8.3	480	3.9	--
	08/17/99	--	--	<2.5	500	<2.5	--	<2.5	<2.5	<2.5	<5	11	700	<5.0	--
	11/11/99	--	--	<5.0	300	<5.0	--	<5.0	<5.0	<5.0	<10	7.5	340	<10	--
	03/23/00	--	--	<10	240	<10	--	<10	<10	<10	<10	<20	230	<10	5
	05/24/00	--	--	<10	240	<10	--	<10	<10	<10	<10	<20	230	<10	6
	07/10/00	--	--	<10	380	<10	--	<10	<10	<10	<10	<20	420	<10	6
	08/31/00	--	--	<10	310	<10	--	<10	<10	<10	<10	<20	380	<10	--
	01/11/01	--	--	<10	260	<10	--	<10	<20	<6.0	<10	<16	300	<10	--
(Dup)	01/11/01	--	--	<10	250	<10	--	<10	<20	<6.0	<10	<16	290	<10	--
MCLs (California/Fed)		--	--	--	5/-	6/70	--	--	5/5	5/5	--	0.5/5	6/7	0.5/2	

1 - Data from Table 3-Summary of Laboratory Results for Volatile Organic Compounds Tanks MF25 and MF26 (United Airlines Hanger Area - Economy Parking Lot Site) Metropolitan Oakland International Airport (MOIA), 1100 Airport Drive, Oakland California by ITSI.

2 - Not sampled due to the presence of free product in monitoring well.

3 - Data from Table 4 of Results of Additional Site Investigation, Port of Oakland, Oakland International Airport, United Airlines Hanger Area - Economy Parking Lot Site, dated October 21, 1998 by ITSI

4 - MW-3 has slow recovery so not enough water could be collected for all analysis.

5 - A suspected lab contaminant, methylene chloride was detected at a concentration of 15 µg/L

6 - Due to an oversight, VOCs were not sampled during the May sampling event but were sampled on July 10, 2000.

MCLs - Maximum Contaminant Levels

- Shaded areas indicate detected concentration exceeds MCL.

Table 4. Groundwater Analytical Results - Inorganics
Quarterly Groundwater Monitoring Report
United Airlines Hanger Economy Parking
Oakland International Airport

Monitoring Well ID	Date	Ferrous Iron Fe^{+2} (mg/L)	Ferric Iron Fe^{+3} (mg/L)	Total Iron (mg/L)	Nitrate NO_3 (mg/L)	Sulfate (mg/L)	Ortho-phosphate PO_4 (mg/L)	TDS (mg/L)	TOC (mg/L)	Redox (millivolts)	Notes
MW-1	05/15/92	--	--	--	--	--	--	5,900	<5	--	1
	08/07/92	--	--	--	--	--	--	--	<5	--	1
	11/24/92	--	--	--	--	--	--	--	<5	--	1
	02/12/93	--	--	--	--	--	--	--	<5	--	1
	05/17/93	--	--	--	--	--	--	4,100	<5	--	1
	08/03/93	--	--	--	--	--	--	7,700	<5	--	1
	11/25/93	--	--	--	--	--	--	3,790	<5	--	1
	05/09/94	--	--	--	--	--	--	9,600	<0.93	--	1
	08/29/94	--	--	--	--	--	--	3,900	<1.0	--	1
	04/25/95	--	--	--	--	--	--	4,000	--	--	1
	08/11/95	--	--	--	--	--	--	8,500	--	--	1
	11/03/95	--	--	--	--	--	--	6,600	--	--	1
	06/19/96	--	--	--	--	--	--	3,040	--	--	1
	10/24/96	--	--	--	--	--	--	3,090	--	--	1
	01/22/97	--	--	--	--	--	--	4,240	--	--	1
	04/25/97	--	--	--	--	--	--	2,770	--	--	1
	08/06/97	--	--	--	--	--	--	2,430	--	--	1
	12/23/97	<0.2	3.9	--	<0.2	120	--	3,570	--	--	1
	03/26/98	0.41	2.1	--	<0.2	110	--	3,240	--	--	3
	12/16/98	--	--	3.3	<0.1	70	<0.5	--	32	40	--
	02/26/99	0.21	--	0.57	<0.1	110	1.1	--	30	147	--
	05/20/99	0.26	1.2	--	<0.1	97	1.5	--	22	96	--
	08/17/99	0.31	--	0.88	<0.1	100	1.3	--	74	151	--
	11/11/99	0.27	--	0.96	<0.1	110	1.3	--	108	57	--
	03/23/00	0.65	--	1.5	<0.1	53	<0.5	--	16.6	79	--
	04/25/00	--	--	--	--	--	--	--	--	90	--
	05/24/00	0.78	--	0.74	<0.1	35	<0.5	--	21.5	84	--
	07/10/00	--	--	--	--	--	--	--	--	193	--
	08/31/00	0.024	1.4	1.424 *	<1.0	59	<5.0	--	63.3	142	--
	01/11/01	0.33	1.5	1.90	<0.1	46	<0.5	--	21.6	127	--
MW-2	04/25/95	--	--	--	--	--	--	1,700	--	--	1
	08/11/95	--	--	--	--	--	--	2,500	--	--	1
	11/03/95	--	--	--	--	--	--	2,000	--	--	1
	06/19/96	--	--	--	--	--	--	--	--	--	1
	10/24/96	--	--	--	--	--	--	--	--	--	1

Table 4. Groundwater Analytical Results - Inorganics
Quarterly Groundwater Monitoring Report
United Airlines Hanger Economy Parking
Oakland International Airport

Monitoring Well ID	Date	Ferrous Iron Fe^{+2} (mg/L)	Ferric Iron Fe^{+3} (mg/L)	Total Iron (mg/L)	Nitrate NO_3 (mg/L)	Sulfate (mg/L)	Ortho-phosphate PO_4 (mg/L)	TDS (mg/L)	TOC (mg/L)	Redox (millivolts)	Notes
	01/22/97	--	--	--	--	--	--	--	--	--	1
MW-2	04/25/97	--	--	--	--	--	--	--	--	--	1
	08/06/97	--	--	--	--	--	--	--	--	--	1
	04/25/97	--	--	--	--	--	--	--	--	--	1
	12/23/97	--	--	--	--	--	--	--	--	--	1,2
	05/13/98	0.53	8.0	--	<0.05	12	0.72	3,240	--	123	3
	12/16/98	--	--	28	<0.1	21	<0.5	--	210	146	--
	02/26/99	17	--	36	<0.1	27	0.59	--	100	-235	--
	05/20/99	8.9	36	--	<0.1	2	<1.0	--	130	-124	--
	08/17/99	0.37	--	31	0.15	33	<0.5	--	210	-110	--
	11/11/99	0.1	--	17	<0.1	10	<0.5	--	214	-145	--
	03/23/00	9	--	36	<0.1	4	<0.5	--	103	-116	--
	04/25/00	--	--	--	--	--	--	--	--	-118	--
	05/24/00	4.7	--	19	<0.2	0.54	<1.0	--	110	-147	--
	07/10/00	--	--	--	--	--	--	--	--	-130	--
	08/31/00	2.7	9.6	12.3 *	<1.0	9.0	<5.0	--	141	-172	--
	01/11/01	12	8.5	21	<0.1	1.3	<0.5	--	142	264	--
MW-3	04/25/95	--	--	--	--	--	--	5,600	--	--	1
	08/11/95	--	--	--	--	--	--	--	--	--	1
	11/03/95	--	--	--	--	--	--	--	--	--	1
	06/19/96	--	--	--	--	--	--	--	--	--	1
	10/24/96	--	--	--	--	--	--	--	--	--	1
	01/22/97	--	--	--	--	--	--	--	--	--	1
	04/25/97	--	--	--	--	--	--	--	--	--	1
	08/06/97	--	--	--	--	--	--	15,100	--	--	1
	04/25/97	--	--	--	--	--	--	13,900	--	--	1
	12/23/97	--	--	--	--	--	--	--	--	--	1
	03/26/98	--	--	--	--	--	--	--	--	--	3,2
	12/16/98	--	--	--	--	--	--	--	240	157	4
	02/26/99	--	--	--	--	--	--	--	100	-142	4
	05/20/99	--	--	--	--	--	--	--	84	-125	4
	08/17/99	--	--	--	--	--	--	--	290	-156	4
	11/11/99	--	--	--	--	--	--	--	217	-272	4
	03/23/00	0.54	--	6.3	<1.0	380	4.7	--	102	-237	--
	04/25/00	--	--	--	--	--	--	--	--	-244	--

Table 4. Groundwater Analytical Results - Inorganics
Quarterly Groundwater Monitoring Report
United Airlines Hanger Economy Parking
Oakland International Airport

Monitoring Well ID	Date	Ferrous Iron Fe+2 (mg/L)	Ferric Iron Fe+3 (mg/L)	Total Iron (mg/L)	Nitrate NO3 (mg/L)	Sulfate (mg/L)	Ortho-phosphate PO4 (mg/L)	TDS (mg/L)	TOC (mg/L)	Redox (millivolts)	Notes
	05/24/00	0.27	--	13	<0.1	43	<1.0	--	97.5	-279	--
MW-3	07/10/00	--	--	--	--	--	--	--	--	-225	--
	08/31/00	0.23	26	26.23 *	<1.0	640	<5.0	--	183	-369	--
	01/11/01	0.53	57	58	6.7	550	2.1	--	227	337	--
MW-4	05/13/98	0.53	2.9	--	<0.05	20	2.1	1,420	66	168	3
	12/16/98	--	--	13	<0.1	2.8	4.1	--	140	118	-
(Dup)	12/16/98	--	--	11	<0.1	2.6	4.6	--	110	118	--
	02/26/99	<0.01	--	2.7	1.6	56	2.8	--	60	81	--
(Dup)	02/26/99	<0.01	--	2.9	1.3	54	2.9	--	95	81	--
	05/20/99	<0.01	3.7	--	<0.1	44	3.3	--	36	89	--
(Dup)	05/20/99	<0.01	2.9	--	0.22	56	2.2	--	39	208	--
	08/17/99	0.36	--	0.91	<0.1	13	2.4	--	110	208	--
(Dup)	08/17/99	0.017	--	1.3	<0.1	14	2.4	--	130	208	--
	11/11/99	<0.01	--	1.1	<0.1	3	2.8	--	116	122	--
(Dup)	11/11/99	<0.01	--	0.89	<0.1	3	2.9	--	93.5	122	--
	03/23/00	0.091	--	2.8	1.0	36	3.2	--	62.5	122	--
(Dup)	03/23/00	0.14	--	2	1.1	33	3.5	--	51.4	112	--
	04/25/00	--	--	--	--	--	--	--	--	-204	--
	05/24/00	0.067	--	1.4	<0.1	21	5.0	--	45.7	-137	--
(Dup)	05/24/00	0.029	--	1.0	<0.1	19	4.4	--	52.3	-137	--
	07/10/00	--	--	--	--	--	--	--	--	-194	--
	08/31/00	<0.01	0.31	0.31 *	<1.0	6.4	<5.0	--	90.4	-121	--
(Dup)	08/31/00	0.054	0.34	0.394 *	<1.0	6.4	<5.0	--	96.2	-121	--
	01/11/01	<0.05	1.1	1.0	<0.10	16	5.3	--	115	--	--
MW-5	05/13/98	<0.2	0.7	--	0.36	250	0.47	2,300	20	150	3
	12/16/98	--	--	10	<0.1	340	0.57	--	32	46	--
	02/26/99	0.64	--	23	<0.1	260	1.2	--	22	230	--
	05/20/99	0.75	11	--	0.11	260	<1.0	--	15	209	--
	08/17/99	0.23	--	12	<0.1	350	<0.5	--	82	62	--
	11/11/99	0.046	--	2.9	<0.1	320	<0.5	--	94.5	-48	--
	03/23/00	8.6	--	74	<0.1	190	0.67	--	14.1	76	--
	04/25/00	--	--	--	--	--	--	--	--	-15	--
	05/24/00	3.9	--	5.3	<0.1	27	<0.5	--	17.7	23	--
	07/10/00	--	--	--	--	--	--	--	--	-121	--
	08/31/00	0.29	3.7	3.99 *	<1.0	220	<5.0	--	48.4	125	--

Table 4. Groundwater Analytical Results - Inorganics
Quarterly Groundwater Monitoring Report
United Airlines Hanger Economy Parking
Oakland International Airport

Monitoring Well ID	Date	Ferrous Iron Fe^{+2} (mg/L)	Ferric Iron Fe^{+3} (mg/L)	Total Iron (mg/L)	Nitrate NO_3 (mg/L)	Sulfate (mg/L)	Ortho-phosphate PO_4 (mg/L)	TDS (mg/L)	TOC (mg/L)	Redox (millivolts)	Notes
	01/11/01	0.14	13	13	0.74	4.3	<0.5	--	5.11	211	--
MW-6	05/13/98	<0.2	0.69	--	2.1	400	0.15	4,240	13	126	3
	12/16/98	--	--	26	0.45	400	0.65	--	22	47	--
	02/26/99	0.44	--	16	4.3	380	0.89	--	42	262	--
	05/20/99	1.2	8.7	--	7.5	300	<1.0	--	22	227	--
	08/17/99	3.7	--	18	2.1	470	0.64	--	92	251	--
	11/11/99	0.15	--	12	0.91	440	0.58	--	103	216	--
	03/23/00	1.9	--	38	1.2	350	<0.5	--	22.3	133	--
	04/25/00	--	--	--	--	--	--	--	--	169	--
	05/24/00	0.67	--	0.12	1.8	290	0.53	--	27.2	172	--
	07/10/00	--	--	--	--	--	--	--	--	265	--
	08/31/00	0.13	11	11.13 *	<1.0	340	<5.0	--	72.5	262	--
	01/11/01	<0.05	2.7	2.6	0.74	350	1.0	--	26.3	206	--
MW-7	05/13/98	<0.2	0.62	--	0.9	100	<0.03	1,380	7	132	3
	12/16/98	--	--	19	6.9	100	0.53	--	7.7	159	--
	02/26/99	0.15	--	14	8.3	82	0.78	--	20	272	--
	05/20/99	0.89	13	--	4.3	160	<1.0	--	6.8	243	--
	08/17/99	0.52	--	12	3.4	160	0.68	--	38	200	--
	11/11/99	0.34	--	3.7	2.9	140	<0.5	--	49.6	137	--
	03/23/00	3.4	--	53	7.1	120	<0.5	--	7.2	205	--
	04/25/00	--	--	--	--	--	--	--	--	237	--
	05/24/00	0.25	--	0.52	7.8	71	0.73	--	4.59	201	--
	07/10/00	--	--	--	--	--	--	--	--	226	--
	08/31/00	0.23	6.5	6.73 *	4.8	120	<5.0	--	33.5	272	--
	01/11/01	<0.05	9	9.1	7.7	90	1.1	--	4.67	194	--
MW-8	05/13/98	<0.2	2.2	--	<0.5	500	0.08	8,300	99	60.4	3
	12/16/98	--	--	37	<0.1	360	<0.5	--	2.4	83	--
	02/26/99	0.076	--	26	<0.1	290	0.69	--	63	280	--
	05/20/99	2	26	--	17	440	<1.0	--	21	196	--
	08/17/99	1.4	--	3.8	<0.2	580	<1.0	--	150	-62	--
	11/11/99	<0.01	--	46	20	400	<0.5	--	163	-31	--
	03/23/00	1.6	--	41	<1.0	440	<5.0	--	17.2	-10	--
	04/25/00	--	--	--	--	--	--	--	--	-70	--
	05/24/00	0.074	--	1.2	<0.1	260	1.6	--	19.1	-85	--
	07/10/00	--	--	--	--	--	--	--	--	-74	--

Table 4. Groundwater Analytical Results - Inorganics
Quarterly Groundwater Monitoring Report
United Airlines Hanger Economy Parking
Oakland International Airport

Monitoring Well ID	Date	Ferrous Iron Fe^{+2} (mg/L)	Ferric Iron Fe^{+3} (mg/L)	Total Iron (mg/L)	Nitrate NO_3 (mg/L)	Sulfate (mg/L)	Ortho-phosphate PO_4 (mg/L)	TDS (mg/L)	TOC (mg/L)	Redox (millivolts)	Notes
	08/31/00	<0.01	0.92	0.92 *	<1.0	440	<5.0	--	109	-21	--
MW-8	01/11/01	<0.05	8.6	8.5	3.0	280	<0.5	--	102	276	--
Dup	01/11/01	<0.05	4.8	4.7	3.6	240	<0.5	--	102	--	--

Notes

1 - Data from Table 4-Summary of Laboratory Results for Inorganic Analytes Tanks MF25 and MF26 (United Airlines Hanger Area - Economy Parking Lot Site) Metropolitan Oakland International Airport (MOIA), 1100 Airport Drive, Oakland California by ITSI.

2 - Not sampled due to presence of free product in monitoring well.

3 - Data from Table 5 of Results of Additional Site Investigation, Port of Oakland, Oakland International Airport, United Airlines Hanger Area Economy Parking Lot Site, dated October 21, 1998

4 - MW-3 has slow recovery so not enough water could be collected for all analysis.

* - Total iron is the ferrous iron plus the ferric iron.

Table 5 - Dissolved Oxygen Concentrations
Quarterly Groundwater Monitoring Report
United Airlines Hanger Economy Parking
Oakland International Airport

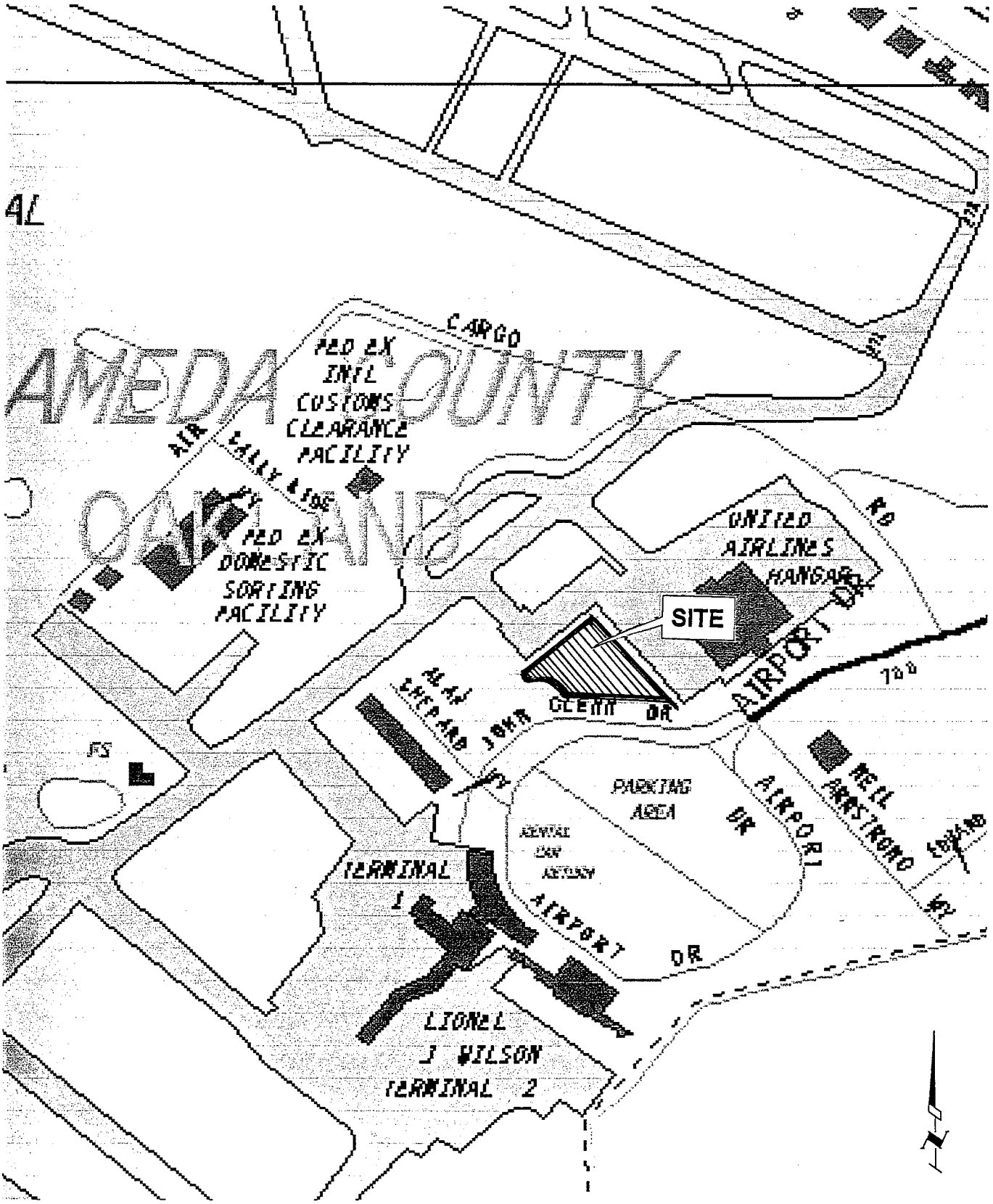
	MW-1		MW-2		MW-3		MW-4		MW-5		MW-6		MW-7		MW-8
16-Dec-98	2.0		1.2		0.5		1.2		2.0		1.1		2.4		0.8
23-Dec-98		ORC injected in former UST cavity.													
6-Jan-99	>15	[1]	1.1	[2]	0.9		>15	[1,2]	1.3		2.8		3.0		0.6
12-Jan-99	>15	[1]	0.8		1.0		8.0		0.7		2.4		3.2		0.7
22-Jan-99	>15	[1]	0.6		0.8		1.4		1.1		3.1		4.7		1.4
30-Jan-99	>15	[1]	0.6		1.6		1.0		1.6		4.8		2.6		2.8
26-Feb-99	>15		0.5		0.5		1.4		1.1		4.4		4.0		5.2
30-Mar-99	>15		0.5	[2]	0.8		1.0		1.2		1.1		4.2		1.6
20-May-99	>15		1.0	[2]	1.4	[2]	1.5		1.7		1.9		3.2		1.2
23-Jun-99	>15		0.5	[2]	0.4	[2]	0.6		0.6		1.0		0.8		0.6
26-Jul-99	>15		0.5	[2]	0.4	[2]	0.6		0.8		0.6		0.5		0.7
17-Aug-99	>15		0.3	[2]	0.45	[2]	0.5		0.2		0.3		0.8		0.6
12-Sep-99	>15		0.5	[2]	0.3	[2]	0.8		0.4		0.5		0.5		0.4
19-Oct-99	>15		0.4	[2]	0.3	[2]	0.2		0.6		0.4		0.3		0.6
11-Nov-99	10.2		0.6	[2]	0.7	[2]	0.7		0.8		0.8		1.8		1.1
22-Dec-99	>15		0.3	[2]	0.3	[2]	0.4		0.7		0.4		0.8		0.4
6-Jan-00	>15		0.3	[2]	0.4	[2]	0.4		0.6		1.0		1.4		0.4
7-Jan-00		ORC injected in the vicinity of MW-2 and in the former UST cavity.													
14-Jan-00	>15		0.8	[2]	0.4	[2]	0.5		2.2		0.4		2.0		1.0
19-Jan-00	>15		0.6	[2]	0.4	[2]	0.4		1.4		1.6		1.0		0.7
26-Jan-00	14.2		0.7	[2]	0.4	[2]	0.6		0.5		2.7		6.0		1.7
29-Feb-00	13.2		0.9	[2]	0.9	[2]	0.8		--	[3]	1.0		2.2		3.4
23-Mar-00	>15		2.8	[2]	1.1	[2]	1.0		1.0		1.4		2.4		2.2
25-Apr-00	4.2		0.7	[2]	1.3	[2]	0.8		0.6		1.1		2.6		0.6
24-May-00	2.3		0.9	[2]	0.4	[2]	1.0		0.9		1.0		1.8		1.0
29-Jun-00	1.4		0.4	[2]	0.3	[2]	0.3		0.3		0.4		0.9		0.4
10-Jul-00	3.7		0.8	[2]	0.4	[2]	0.6		0.8		0.8		1.6		0.7
31-Aug-00	4.0		0.6	[2]	0.2	[2]	0.7		0.8		0.8		1.0		0.8
20-Sep-00	0.4		0.6	[2]	0.5	[2]	0.6		0.6		0.8		0.8		0.9
24-Oct-00	9.2		0.4	[2]	0.3		0.3		0.4		0.4		0.6		0.6
29-Nov-00	14.2		1.2	[2]	1.4	[2]	1.2		6.0		1.7		1.9		1.4
20-Dec-00	14.6		1.2	[2]	1.4	[2]	1.0		1.5		1.2		2.7		1.8
11-Jan-01	>15		1.7	[2]	1.9	[2]	1.9		--	[4]	2.4		3.7		5.8

All concentrations are presented in milligrams per liter (mg/L)

Notes:

1 Milky water; ORC is visibly present in well.
2 Diesel odor
3 Well damaged in bus route repavement, unable to access
4 Well cap also damaged in bus route and well casing and box are filled with rain water.
Could not get an initial undisturbed DO reading.

PLATES



Thomas Bros. Map 2000

Not to Scale

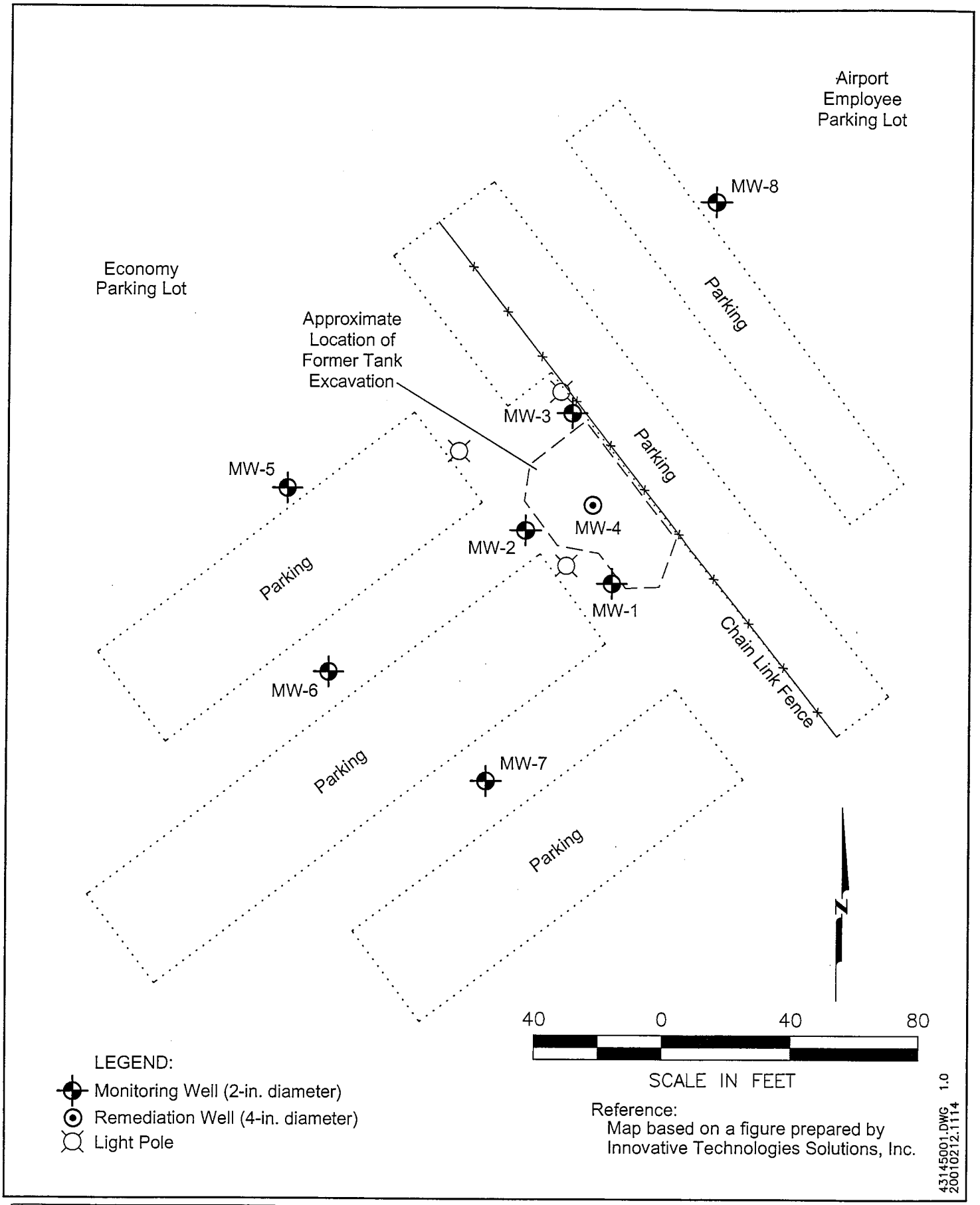
43145003.DWG 1.0
20010122.1534

Harding ESE

Site Location Map
Economy Parking Lot - United Aitlines Hanger Site
Oakland International Airport
1100 Airport Drive, Oakland, California

PLATE
1

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
PH	43145.4		1/01	

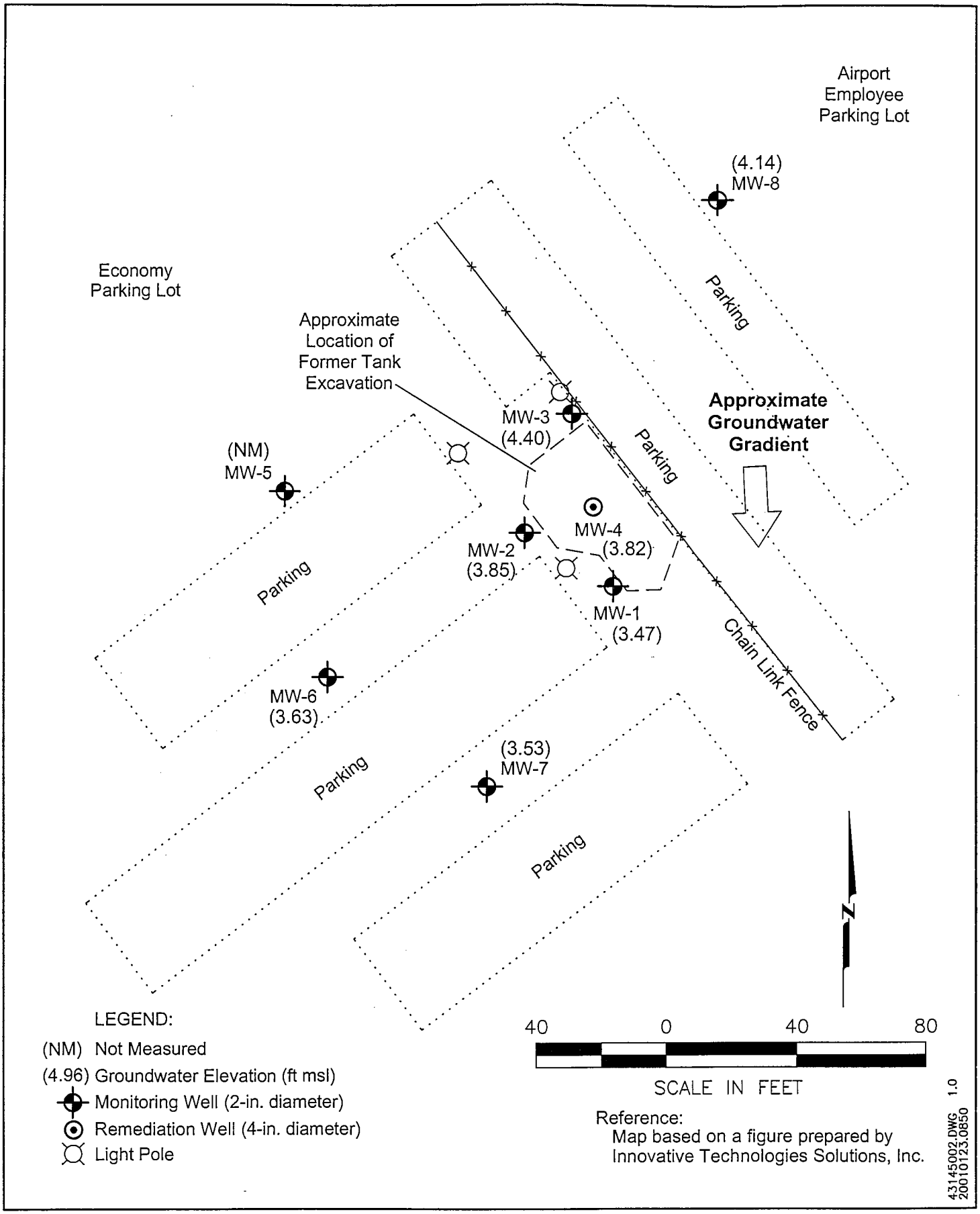


Harding ESE
A MACTEC COMPANY

Site Plan
Economy Parking Lot - United Aitlines Hanger Site
Oakland International Airport
1100 Airport Drive, Oakland, California

PLATE
2

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
PH	43145.4		1/01	



Harding ESE

Groundwater Elevation Map
Economy Parking Lot - United Aitlines Hanger Site
Oakland International Airport
1100 Airport Drive, Oakland, California

PLATE
3

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
PH	43145.4		1/01	

APPENDIX A
GROUNDWATER SAMPLING REPORTS

Harding Lawson Associates
Engineering and Environmental Services

GROUNDWATER SAMPLING FORM

Well Number: MW- 1

Well Type: [x] Monitor [ ] Extraction [ ] Other ___ [x] PVC [ ] St. Steel [ ] Other ___

Job Name: Port of Oakland - Economy Parking

Job Number: 43145.4 (Fourth Quarter Sampling)

Date: 11-Jan-01

Recorded By: [signature] (Signature)

Sampled By: VJH (initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 2
Total Depth of Casing (TD in ft BTOC): 13.09
Water Level Depth (WL in ft BTOC): 3.44
No.of Well Volumes to be purged (# 3

PURGE METHOD

[x] Bailer - Type: teflon
[ ] Submersible - Type:
[ ] Other - Type:

PUMP INTAKE SETTING

[ ] Near Bottom [ ] Near Top
[ ] Other
Depth in feet (BTOC):
Screen Interval in feet (BTOC): from ___ to ___

PURGE VOLUME CALCULATION

(13.09 ~~10.09~~ - 3.44) x 2 ² x 3 X 0.0408 = 4.7 gals

TD (feet) | WL (Feet) | D (inches) | #V | Calculated Purge Volume

Field Parameter Measurement

Minutes	pH	Conductivity (µS)	Temp. [ ] °C [x] °F	DO/Redox
Initial	7.26	7030	54.3	715/127
1GAL	8.18	5100	57.9	
3	8.23	4530	58.1	
Final	8.19	4250	56.6	
Meter S/N	9510	9510	9510	

PURGE TIME

Purge Start: 1030
Purge Stop: 1045
Elapsed: 15

PURGE RATE

GPM:
GPM:

PURGE VOLUME

Volume: 5 gallons

Observations During Purging (Well Condition, Color, Odor):
clear, no odor

Discharge Water Disposal: [ ] Sanitary Sewer [ ] Storm Sewer [x] Other onsite drum

WELL SAMPLING

[x] Bailer - Type: disposable

Sample Time: 1050

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
MW- 1	3 VOA	8010/8020/BTEX/MTBE	HCL	Sequoia	
	3 VOA	TPHgas	HCL	Sequoia	
	2 amber	TOC	HCL	Sequoia	
	1 LA	TPH d, TPH mo, TPH j(A)	none	Sequoia	
	500 mL Poly	Ferrous Iron, NO3, SO4, PO4	none	Sequoia	24 hr Hold on Ferrous
	250 mL Poly	Ferric Iron	HNO3	Sequoia	

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

Harding Lawson Associates
Engineering and Environmental Services

GROUNDWATER SAMPLING FORM

Well Number: MW- 2

Well Type: [x] Monitor [ ] Extraction [ ] Other ___ ; [x] PVC [ ] St. Steel [ ] Other ___

Job Name: Port of Oakland - Economy Parking

Job Number: 43145.4 (Fourth Quarter Sampling)

Date: 11-Jan-01

Recorded By: _____ (Signature)

Sampled By: VJH (initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 2
Total Depth of Casing (TD in ft BTOC): 10.89
Water Level Depth (WL in ft BTOC): 2.73
No.of Well Volumes to be purged (# 3

PURGE METHOD

[x] Bailer - Type: teflon
[ ] Submersible - Type:
[ ] Other - Type:

PURGE VOLUME CALCULATION

(10.89 - 2.73) x 2 ² x 3 X 0.0408 = 4 gals

TD (feet) WL (Feet) D (inches) #V Calculated Purge Volume

PUMP INTAKE SETTING

[ ] Near Bottom [ ] Near Top
[ ] Other
Depth in feet (BTOC):
Screen Interval in feet (BTOC): from ____ to ____

Field Parameter Measurement

Minutes	pH	Conductivity (µS)	Temp. [ ]°C [x]°F	DO/Redox
Initial	7.61	1740	53.7	1.70/764
1 GAL	7.57	1400	55.3	
2	7.31	1650	56.3	
Final	6.76	764	57.6	
Meter S/N	9510	9510	9510	

PURGE TIME

Purge Start: 0950
Purge Stop: 1000
Elapsed: 10

PURGE RATE

GPM: ____
GPM: ____

PURGE VOLUME

Volume: 4 gallons

Observations During Purging (Well Condition, Color, Odor):
Slight odor, light brown/green turns black

Discharge Water Disposal: [ ] Sanitary Sewer [ ] Storm Sewer [x] Other onsite drum

WELL SAMPLING

[x] Bailer - Type: disposable

Sample Time: 1010

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
MW-2	3 VOA	8010/8020/BTEX/MTBE	HCL	Sequoia	
	3 VOA	TPHgas	HCL	Sequoia	
	2 amber	TOC	HCL	Sequoia	
	1 LA	TPH d, TPH mo, TPH j(A)	none	Sequoia	
	500 mL Poly	Ferrous Iron, NO3, SO4, PO4	none	Sequoia	24 hr Hold on Ferrrous
	250 mL Poly	Ferric Iron	HNO3	Sequoia	

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

Harding Lawson Associates
Engineering and Environmental Services

GROUNDWATER SAMPLING FORM

Well Number: MW- 3

Well Type: [x] Monitor [ ] Extraction [ ] Other ___
[x] PVC [ ] St. Steel [ ] Other ___

Job Name: Port of Oakland - Economy Parking

Job Number: 43145.4 (Fourth Quarter Sampling)

Date: 11-Jan-01

Recorded By: _____ (Signature)

Sampled By: VJH (initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 2
Total Depth of Casing (TD in ft BTOC): 11.06
Water Level Depth (WL in ft BTOC): 2.96
No.of Well Volumes to be purged (# 3

PURGE METHOD

[x] Bailer - Type: teflon
[ ] Submersible - Type:
[ ] Other - Type:

PUMP INTAKE SETTING

[ ] Near Bottom [ ] Near Top
[ ] Other
Depth in feet (BTOC):
Screen Interval in feet (BTOC): from ___ to ___

PURGE VOLUME CALCULATION

(11.06 - 2.96) X 2² X 3 X 0.0408 = 4 gals
TD (feet) WL (Feet) D (Inches) #V Calculated Purge Volume

Field Parameter Measurement

Minutes	pH	Conductivity (µS)	Temp. [ ]°C [x]°F	DO/Redox
Initial	7.18	16260	54.9	1.9/337
1GAL	7.05	12940	57.3	
2.5GAL	7.32	14170	58.8	
Meter S/N	9510	9510	9510	

dry@

PURGE TIME

Purge Start: 0840
Purge Stop: 0945
Elapsed: 5

PURGE RATE

GPM: ___
GPM: ___

PURGE VOLUME

Volume: 2.5 gallons dry

Observations During Purging (Well Condition, Color, Odor):
Sheen, fuel odor, black

Discharge Water Disposal: [ ] Sanitary Sewer
[ ] Storm Sewer [x] Other onsite drum

WELL SAMPLING

[x] Bailer - Type: disposable

Sample Time: 0850

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
MW-3A	3 VOA	8010/8020/BTEX/MTBE	HCL	Sequoia	@ 0945
	3 VOA	TPHgas	HCL	Sequoia	
	2 amber	TOC	HCL	Sequoia	
	1 LA	TPH d, TPH mo, TPH j(A)	none	Sequoia	
MW-3B	500 mL Poly	Ferrous Iron, NO3, SO4, PO4	none	Sequoia	24 hr Hold on Ferrrous @1320
	250 mL Poly	Ferric Iron	HNO3	Sequoia	

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

Harding Lawson Associates
Engineering and Environmental Services

GROUNDWATER SAMPLING FORM

Well Number: MW-~~2~~ 4

Well Type: [x] Monitor [ ] Extraction [ ] Other ___
[x] PVC [ ] St. Steel [ ] Other ___

Job Name: Port of Oakland - Economy Parking

Job Number: 43145.4 (Fourth Quarter Sampling)

Date: 11-Jan-01

Recorded By: [signature] (Signature)

Sampled By: VJH (initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 2

Total Depth of Casing (TD in ft BTOC): ~~10.87~~ 9.97

Water Level Depth (WL in ft BTOC): 3.10

No.of Well Volumes to be purged (# 3

PURGE METHOD

[x] Bailer - Type: teflon

[ ] Submersible - Type:

[ ] Other - Type:

PURGE VOLUME CALCULATION

(~~10.87~~ 9.97 - 3.10) X ~~2~~ 4 X 3 X 0.0408 = ~~3.8~~ 13.5 gals

TD (feet) WL (Feet) D (inches) #V Calculated Purge Volume

PUMP INTAKE SETTING

[ ] Near Bottom [ ] Near Top

[ ] Other

Depth in feet (BTOC):

Screen Interval in feet (BTOC): from ___ to ___

Field Parameter Measurement

Minutes	pH	Conductivity (µS)	Temp. [ ] °C [x] °F	DO/Redox
Initial	7.81	2620	55.8	1.85
1 GAL	7.83	2230	57.6	
2	7.85	2330	58.7	
FINAL	7.96	2940	57.7	
Meter S/N	9510	9510	9510	

PURGE TIME

Purge Start: 0900

Purge Stop: 0915

Elapsed: 15

PURGE RATE

GPM: ___

GPM: ___

PURGE VOLUME

Volume: 13.5 gallons

Observations During Purging (Well Condition, Color, Odor):

slight odor, slightly discolored-brown

Discharge Water Disposal: [ ] Sanitary Sewer [ ] Storm Sewer [x] Other onsite drum

WELL SAMPLING

[x] Bailer - Type: disposable

Sample Time: ~~09~~ 0930

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
~~MW-4~~	3 VOA	8010/8020/BTEX/MTBE	HCL	Sequoia	
	3 VOA	TPHgas	HCL	Sequoia	
MW-4	2 amber	TOC	HCL	Sequoia	
	1 LA	TPH d, TPH mo, TPH j(A)	none	Sequoia	
	500 mL Poly	Ferrous Iron, NO3, SO4, PO4	none	Sequoia	24 hr Hold on Ferrrous
	250 mL Poly	Ferric Iron	HNO3	Sequoia	

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

Harding Lawson Associates
Engineering and Environmental Services

GROUNDWATER SAMPLING FORM

Well Number: MW-5

Well Type: [x] Monitor [ ] Extraction [ ] Other ___ [x] PVC [ ] St. Steel [ ] Other ___

Job Name: Port of Oakland - Economy Parking

Job Number: 43145.4 (Fourth Quarter Sampling)

Date: 11-Jan-01

Recorded By: [signature] (Signature)

Sampled By: VJH (initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 2
Total Depth of Casing (TD in ft BTOC): 7.92
Water Level Depth (WL in ft BTOC): 0
No.of Well Volumes to be purged (# 3

PURGE METHOD

[x] Bailer - Type: teflon
[ ] Submersible - Type:
[ ] Other - Type:

PURGE VOLUME CALCULATION

(7.92 - 0) X 2 ² X 3 X 0.0408 = 4 gals
TD (feet) WL (Feet) D (inches) # V Calculated Purge Volume

PUMP INTAKE SETTING

[ ] Near Bottom [ ] Near Top
[ ] Other
Depth in feet (BTOC):
Screen Interval in feet (BTOC): from ___ to ___

Field Parameter Measurement

Minutes	pH	Conductivity (µS)	Temp. [ ]°C [x]°F	DO/Redox
Initial	9.77	273	49.3	211 mV
Meter S/N	9510	9510	9510	

PURGE TIME

Purge Start: 1210
Purge Stop: 1220
Elapsed: 10

PURGE RATE

GPM:
GPM:

PURGE VOLUME

Volume: 6 gallons

Observations During Purging (Well Condition, Color, Odor):

Discharge Water Disposal: [ ] Sanitary Sewer [ ] Storm Sewer [x] Other onsite drum

WELL SAMPLING

[x] Bailer - Type: disposable

Sample Time: 1220

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
MW-5	3 VOA	8010/8020/BTEX/MTBE	HCL	Sequoia	
	3 VOA	TPHgas	HCL	Sequoia	
	2 amber	TOC	HCL	Sequoia	
	1 LA	TPH d, TPH mo, TPH j(A)	none	Sequoia	
	500 mL Poly	Ferrous Iron, NO3, SO4, PO4	none	Sequoia	24 hr Hold on Ferrrous
	250 mL Poly	Ferric Iron	HNO3	Sequoia	

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

Harding Lawson Associates
Engineering and Environmental Services

GROUNDWATER SAMPLING FORM

Well Number: MW- 6

Well Type: [x] Monitor [ ] Extraction [ ] Other ___
[x] PVC [ ] St. Steel [ ] Other ___

Job Name: Port of Oakland - Economy Parking

Job Number: 43145.4 (Fourth Quarter Sampling)

Date: 11-Jan-01

Recorded By: [signature] (Signature)

Sampled By: VJH (initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 2
Total Depth of Casing (TD in ft BTOC): 8.13
Water Level Depth (WL in ft BTOC): 2.76
No.of Well Volumes to be purged (# 3

PURGE METHOD

[x] Bailer - Type: teflon
[ ] Submersible - Type:
[ ] Other - Type:

PUMP INTAKE SETTING

[ ] Near Bottom [ ] Near Top
[ ] Other
Depth in feet (BTOC):
Screen Interval in feet (BTOC): from ___ to ___

PURGE VOLUME CALCULATION

(8.13 - 2.76) x 2 ²x 3 X 0.0408 = 2.6 gals
TD (feet) WL (Feet) D (inches) #V Calculated Purge Volume

Field Parameter Measurement

Minutes	pH	Conductivity (µS)	Temp. [ ]°C [x]°F	DO/Redox
Initial	8.42	1660	53.0	2.4/206
1Gal	8.14	3300	55.3	
2	7.65	10290	57.4	
Final	7.97	6170	56.5	
Meter S/N	9510	9510	9510	

PURGE TIME

Purge Start: 1135
Purge Stop: 1145
Elapsed: 10

PURGE RATE

GPM: ___
GPM: ___

PURGE VOLUME

Volume: 3 gallons

Observations During Purging (Well Condition, Color, Odor):
no odor

Discharge Water Disposal: [ ] Sanitary Sewer
[ ] Storm Sewer [x] Other onsite drum

WELL SAMPLING

[x] Bailer - Type: disposable

Sample Time: 1150

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
MW- 6	3 VOA	8010/8020/BTEX/MTBE	HCL	Sequoia	
	3 VOA	TPHgas	HCL	Sequoia	
	2 amber	TOC	HCL	Sequoia	
	1 LA	TPH d, TPH mo, TPH j(A)	none	Sequoia	
	500 mL Poly	Ferrous Iron, NO3, SO4, PO4	none	Sequoia	24 hr Hold on Ferrrous
	250 mL Poly	Ferric Iron	HNO3	Sequoia	

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

Harding Lawson Associates
Engineering and Environmental Services

GROUNDWATER SAMPLING FORM

Well Number: MW- 7

Well Type: [x] Monitor [ ] Extraction [ ] Other ___
[x] PVC [ ] St. Steel [ ] Other ___

Job Name: Port of Oakland - Economy Parking

Job Number: 43145.4 (Fourth Quarter Sampling)

Date: 11-Jan-01

Recorded By: Trish Elkins (Signature)

Sampled By: VJH (initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 2
Total Depth of Casing (TD in ft BTOC): 8.43
Water Level Depth (WL in ft BTOC): 2.33
No.of Well Volumes to be purged (# 3

PURGE METHOD

[x] Bailer - Type: teflon
[ ] Submersible - Type:
[ ] Other - Type:

PUMP INTAKE SETTING

[ ] Near Bottom [ ] Near Top
[ ] Other
Depth in feet (BTOC):
Screen Interval in feet (BTOC): from ___ to ___

PURGE VOLUME CALCULATION

(8.43 - 2.33) x 2 ²X 3 X 0.0408 = 3 gals
TD (feet) WL (Feet) D (inches) #V Calculated Purge Volume

Field Parameter Measurement

Minutes	pH	Conductivity (µS)	Temp. [ ] °C [x] °F	DO/Redox
Initial	8.37	840	52.3	365/194
1 GAL	7.95	2160	55.6	
2	7.81	2940	55.1	
Final	7.87	3050	55.5	
Meter S/N	9510	9510	9510	

PURGE TIME

Purge Start: 1105
Purge Stop: 1115
Elapsed: 10

PURGE RATE

GPM:
GPM:

PURGE VOLUME

Volume: ~~1 GAL~~ 3 gallons

Observations During Purging (Well Condition, Color, Odor):
cloudy brown, no odor

Discharge Water Disposal: [ ] Sanitary Sewer
[ ] Storm Sewer [x] Other onsite drum

WELL SAMPLING

[x] Bailer - Type: disposable

Sample Time: 1120

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
MW- 7	3 VOA	8010/8020/BTEX/MTBE	HCL	Sequoia	
	3 VOA	TPHgas	HCL	Sequoia	
	2 amber	TOC	HCL	Sequoia	
	1 LA	TPH d, TPH mo, TPH j(A)	none	Sequoia	
	500 mL Poly	Ferrous Iron, NO3, SO4, PO4	none	Sequoia	24 hr Hold on Ferrous
	250 mL Poly	Ferric Iron	HNO3	Sequoia	

QUALITY CONTROL SAMPLES

Duplicate Samples	
Original Sample No.	Dupl. Sample No.

Blank Samples	
Type	Sample No.

Other Samples	
Type	Sample No.

Harding Lawson Associates
Engineering and Environmental Services

GROUNDWATER SAMPLING FORM

Well Number: MW- 8

Well Type: [x] Monitor [ ] Extraction [ ] Other ___
[x] PVC [ ] St. Steel [ ] Other ___

Job Name: Port of Oakland - Economy Parking

Job Number: 43145.4 (Fourth Quarter Sampling)

Date: 11-Jan-01

Recorded By: [signature] (Signature)

Sampled By: VJH (initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches):
Total Depth of Casing (TD in ft BTOC): 11.02
Water Level Depth (WL in ft BTOC): 3.42
No.of Well Volumes to be purged (# 3

PURGE METHOD

[x] Bailer - Type: teflon
[ ] Submersible - Type:
[ ] Other - Type:

PUMP INTAKE SETTING

[ ] Near Bottom [ ] Near Top
[ ] Other
Depth in feet (BTOC):
Screen Interval in feet (BTOC): from ___ to ___

PURGE VOLUME CALCULATION

(11.02 - 3.42) x 2 ² x 3 x 0.0408 = 3.7 gals

TD (feet) | WL (Feet) | D (inches) | #V | Calculated Purge Volume

Field Parameter Measurement

Minutes	pH	Conductivity (µS)	[ ] °C [x] °F Temp.	DO/Redox
Initial	8.43	~~1970~~ 1955	46.3	5.80/27%
1	8.06	1815	55.3	
	7.63	8280	56.3	
	7.75	9650	58.1	
Meter S/N	9510	9510	9510	

PURGE TIME

Purge Start: 1245
Purge Stop: 1300
Elapsed: 15

PURGE RATE

GPM: ___
GPM: ___

PURGE VOLUME

Volume: 4 gallons

Observations During Purging (Well Condition, Color, Odor):
no odor, slightly turbid

Discharge Water Disposal: [ ] Sanitary Sewer [ ] Storm Sewer [x] Other onsite drum

WELL SAMPLING

[x] Bailer - Type: disposable

Sample Time: 1300

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
MW- 8	3 VOA	8010/8020/BTEX/MTBE	HCL	Sequoia	
	3 VOA	TPHgas	HCL	Sequoia	
	2 amber	TOC	HCL	Sequoia	
	1 LA	TPH d, TPH mo, TPH j(A)	none	Sequoia	
	500 mL Poly	Ferrous Iron, NO3, SO4, PO4	none	Sequoia	24 hr Hold on Ferrrous
	250 mL Poly	Ferric Iron	HNO3	Sequoia	

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Dupl. Sample No.
MW-8	DUP
@ 1300	@ 1310

Blank Samples

Type	Sample No.

Other Samples

Type	Sample No.

APPENDIX B
LABORATORY REPORTS

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673
www.sequoialabs.com

1 February, 2001

Valerie Harris
Harding-Lawson Associates - Oakland
383 Fourth Street
Oakland, CA 94607

RE: Port of Oakland
Sequoia Report: W101243

Enclosed are the results of analyses for samples received by the laboratory on 11-Jan-01 15:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kyle Anderson

for Dimple Sharma
Project Manager

CA ELAP Certificate #1271

Sequoia Analytical

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-4	W101243-01	Water	11-Jan-01 09:30	11-Jan-01 15:35
MW-3A	W101243-02	Water	11-Jan-01 09:45	11-Jan-01 15:35
MW-2	W101243-03	Water	11-Jan-01 10:10	11-Jan-01 15:35
MW-1	W101243-04	Water	11-Jan-01 10:50	11-Jan-01 15:35
MW-7	W101243-05	Water	11-Jan-01 11:20	11-Jan-01 15:35
MW-6	W101243-06	Water	11-Jan-01 11:50	11-Jan-01 15:35
MW-5	W101243-07	Water	11-Jan-01 12:20	11-Jan-01 15:35
MW-8	W101243-08	Water	11-Jan-01 13:00	11-Jan-01 15:35
DUP	W101243-09	Water	11-Jan-01 13:10	11-Jan-01 15:35
MW-3B	W101243-10	Water	11-Jan-01 13:20	11-Jan-01 15:35

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Kyle Anderson for

Dimple Sharma, Project Manager

Sequoia Analytical

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (W101243-01) Water Sampled: 11-Jan-01 09:30 Received: 11-Jan-01 15:35									**P-07**
Purgeable Hydrocarbons	**860**	250	ug/l	5	1A24002	24-Jan-01	24-Jan-01	EPA 8015M/8020	
Benzene	15	2.5	"	"	"	"	"	"	
Toluene	ND	2.5	"	"	"	"	"	"	
Ethylbenzene	**3.3**	2.5	"	"	"	"	"	"	
Xylenes (total)	**4.5**	2.5	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	13	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*89.7 %*	*70-130*		"	"	"	"	
MW-3A (W101243-02) Water Sampled: 11-Jan-01 09:45 Received: 11-Jan-01 15:35									**A-03,P-03**
Purgeable Hydrocarbons	**2400**	100	ug/l	2	1A26002	26-Jan-01	26-Jan-01	EPA 8015M/8020	
Benzene	**2.3**	1.0	"	"	"	"	"	"	CC-3
Toluene	**1.1**	1.0	"	"	"	"	"	"	CC-3
Ethylbenzene	**1.7**	1.0	"	"	"	"	"	"	CC-3
Xylenes (total)	**5.7**	1.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*87.7 %*	*70-130*		"	"	"	"	
MW-2 (W101243-03) Water Sampled: 11-Jan-01 10:10 Received: 11-Jan-01 15:35									**P-03**
Purgeable Hydrocarbons	**2700**	2500	ug/l	50	1A25002	25-Jan-01	25-Jan-01	EPA 8015M/8020	
Benzene	**45**	25	"	"	"	"	"	"	
Toluene	**34**	25	"	"	"	"	"	"	
Ethylbenzene	**72**	25	"	"	"	"	"	"	
Xylenes (total)	**130**	25	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	130	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*118 %*	*70-130*		"	"	"	"	

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (W101243-04) Water Sampled: 11-Jan-01 10:50 Received: 11-Jan-01 15:35									**P-01**
Purgeable Hydrocarbons	**63**	50	ug/l	1	1A24002	24-Jan-01	24-Jan-01	EPA 8015M/8020	
Benzene	**3.0**	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*101 %*	*70-130*		"	"	"	"	
MW-7 (W101243-05) Water Sampled: 11-Jan-01 11:20 Received: 11-Jan-01 15:35									
Purgeable Hydrocarbons	ND	50	ug/l	1	1A24002	24-Jan-01	24-Jan-01	EPA 8015M/8020	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*101 %*	*70-130*		"	"	"	"	
MW-6 (W101243-06) Water Sampled: 11-Jan-01 11:50 Received: 11-Jan-01 15:35									
Purgeable Hydrocarbons	ND	50	ug/l	1	1A24002	24-Jan-01	24-Jan-01	EPA 8015M/8020	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*104 %*	*70-130*		"	"	"	"	

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Sequoia Analytical

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Walnut Creek, CA 94598
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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-5 (W101243-07) Water Sampled: 11-Jan-01 12:20 Received: 11-Jan-01 15:35									
Purgeable Hydrocarbons	ND	50	ug/l	1	1A25001	25-Jan-01	25-Jan-01	EPA 8015M/8020	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	CC-3
Surrogate: a,a,a-Trifluorotoluene		*98.7 %*		*70-130*	"	"	"	"	
MW-8 (W101243-08) Water Sampled: 11-Jan-01 13:00 Received: 11-Jan-01 15:35									
Purgeable Hydrocarbons	ND	50	ug/l	1	1A24001	24-Jan-01	24-Jan-01	EPA 8015M/8020	
Benzene	**1.4**	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	CC-3
Surrogate: a,a,a-Trifluorotoluene		*138 %*		*70-130*	"	"	"	"	*S-04*
DUP (W101243-09) Water Sampled: 11-Jan-01 13:10 Received: 11-Jan-01 15:35									
Purgeable Hydrocarbons	ND	50	ug/l	1	1A24001	24-Jan-01	24-Jan-01	EPA 8015M/8020	
Benzene	**1.4**	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	CC-3
Surrogate: a,a,a-Trifluorotoluene		*139 %*		*70-130*	"	"	"	"	*S-04*

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup by DHS LUFT

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (W101243-01) Water	**Sampled: 11-Jan-01 09:30**	**Received: 11-Jan-01 15:35**							
Jet-A (C9-C17)	**2700**		ug/l	5	1A25010	25-Jan-01	29-Jan-01	DHS LUFT	D-14
Diesel Range Hydrocarbons	**3300**	250	"	"	"	"	"	"	D-13
Motor Oil (C16-C36)	**1400**	1300	"	"	"	"	"	"	D-14
Surrogate: n-Pentacosane		*120 %*	*50-150*		"	"	"	"	
MW-2 (W101243-03) Water	**Sampled: 11-Jan-01 10:10**	**Received: 11-Jan-01 15:35**							
Jet-A (C9-C17)	**18000**		ug/l	20	1A25010	25-Jan-01	29-Jan-01	DHS LUFT	D-04
Diesel Range Hydrocarbons	**21000**	1000	"	"	"	"	"	"	D-14
Motor Oil (C16-C36)	**6700**	5000	"	"	"	"	"	"	D-12
Surrogate: n-Pentacosane		*280 %*	*50-150*		"	"	"	"	*S-04*
MW-1 (W101243-04) Water	**Sampled: 11-Jan-01 10:50**	**Received: 11-Jan-01 15:35**							
Jet-A (C9-C17)	**170**	50	ug/l	1	1A25010	25-Jan-01	28-Jan-01	DHS LUFT	D-14
Diesel Range Hydrocarbons	**440**	50	"	"	"	"	"	"	D-13
Motor Oil (C16-C36)	**290**	250	"	"	"	"	"	"	D-12
Surrogate: n-Pentacosane		*83.2 %*	*50-150*		"	"	"	"	
MW-7 (W101243-05) Water	**Sampled: 11-Jan-01 11:20**	**Received: 11-Jan-01 15:35**							
Jet-A (C9-C17)	ND	50	ug/l	1	1A25010	25-Jan-01	28-Jan-01	DHS LUFT	
Diesel Range Hydrocarbons	ND	50	"	"	"	"	"	"	
Motor Oil (C16-C36)	ND	250	"	"	"	"	"	"	
Surrogate: n-Pentacosane		*62.2 %*	*50-150*		"	"	"	"	
MW-6 (W101243-06) Water	**Sampled: 11-Jan-01 11:50**	**Received: 11-Jan-01 15:35**							
Jet-A (C9-C17)	ND	50	ug/l	1	1A25010	25-Jan-01	28-Jan-01	DHS LUFT	
Diesel Range Hydrocarbons	ND	50	"	"	"	"	"	"	
Motor Oil (C16-C36)	ND	250	"	"	"	"	"	"	
Surrogate: n-Pentacosane		*62.2 %*	*50-150*		"	"	"	"	

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup by DHS LUFT

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-5 (W101243-07) Water	**Sampled: 11-Jan-01 12:20**	**Received: 11-Jan-01 15:35**							
Jet-A (C9-C17)	ND	50	ug/l	1	1A25010	25-Jan-01	28-Jan-01	DHS LUFT	
Diesel Range Hydrocarbons	**80**	50	"	"	"	"	"	"	D-12
Motor Oil (C16-C36)	**300**	250	"	"	"	"	"	"	D-05
Surrogate: n-Pentacosane		*92.2 %*	*50-150*		"	"	"	"	
MW-8 (W101243-08) Water	**Sampled: 11-Jan-01 13:00**	**Received: 11-Jan-01 15:35**							
Jet-A (C9-C17)	ND	50	ug/l	1	1A25010	25-Jan-01	29-Jan-01	DHS LUFT	
Diesel Range Hydrocarbons	**82**	50	"	"	"	"	"	"	D-13
Motor Oil (C16-C36)	ND	250	"	"	"	"	"	"	
Surrogate: n-Pentacosane		*69.1 %*	*50-150*		"	"	"	"	
DUP (W101243-09) Water	**Sampled: 11-Jan-01 13:10**	**Received: 11-Jan-01 15:35**							
Jet-A (C9-C17)	ND	50	ug/l	1	1A25010	25-Jan-01	29-Jan-01	DHS LUFT	
Diesel Range Hydrocarbons	**90**	50	"	"	"	"	"	"	D-13
Motor Oil (C16-C36)	ND	250	"	"	"	"	"	"	
Surrogate: n-Pentacosane		*69.1 %*	*50-150*		"	"	"	"	

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (W101243-01) Water	**Sampled: 11-Jan-01 09:30**	**Received: 11-Jan-01 15:35**							
Ferrous Iron	ND	0.050	mg/l	1	1A22025	22-Jan-01	29-Jan-01	EPA 6010A	
Iron	**1.0**	0.050	"	"	"	"	29-Jan-01	"	
Ferric Iron	**1.1**	0.050	"	"	"	"	29-Jan-01	"	
MW-2 (W101243-03) Water	**Sampled: 11-Jan-01 10:10**	**Received: 11-Jan-01 15:35**							
Ferrous Iron	**12**	0.050	mg/l	1	1A22025	22-Jan-01	29-Jan-01	EPA 6010A	
Iron	**21**	0.050	"	"	"	"	29-Jan-01	"	
Ferric Iron	**8.5**	0.050	"	"	"	"	29-Jan-01	"	
MW-1 (W101243-04) Water	**Sampled: 11-Jan-01 10:50**	**Received: 11-Jan-01 15:35**							
Ferrous Iron	**0.33**	0.050	mg/l	1	1A22025	22-Jan-01	29-Jan-01	EPA 6010A	
Iron	**1.9**	0.050	"	"	"	"	29-Jan-01	"	
Ferric Iron	**1.5**	0.050	"	"	"	"	29-Jan-01	"	
MW-7 (W101243-05) Water	**Sampled: 11-Jan-01 11:20**	**Received: 11-Jan-01 15:35**							
Ferrous Iron	ND	0.050	mg/l	1	1A22025	22-Jan-01	29-Jan-01	EPA 6010A	
Iron	**9.1**	0.050	"	"	"	"	29-Jan-01	"	
Ferric Iron	**9.0**	0.050	"	"	"	"	29-Jan-01	"	
MW-6 (W101243-06) Water	**Sampled: 11-Jan-01 11:50**	**Received: 11-Jan-01 15:35**							
Ferrous Iron	ND	0.050	mg/l	1	1A22025	22-Jan-01	29-Jan-01	EPA 6010A	
Iron	**2.6**	0.050	"	"	"	"	29-Jan-01	"	
Ferric Iron	**2.7**	0.050	"	"	"	"	29-Jan-01	"	
MW-5 (W101243-07) Water	**Sampled: 11-Jan-01 12:20**	**Received: 11-Jan-01 15:35**							
Ferrous Iron	**0.14**	0.050	mg/l	1	1A22025	22-Jan-01	29-Jan-01	EPA 6010A	
Iron	**13**	0.050	"	"	"	"	29-Jan-01	"	
Ferric Iron	**13**	0.050	"	"	"	"	29-Jan-01	"	

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-8 (W101243-08) Water Sampled: 11-Jan-01 13:00 Received: 11-Jan-01 15:35									
Ferrous Iron	ND	0.050	mg/l	1	1A22025	22-Jan-01	29-Jan-01	EPA 6010A	
Iron	8.5	0.050	"	"	"	"	29-Jan-01	"	
Ferric Iron	8.6	0.050	"	"	"	"	29-Jan-01	"	
DUP (W101243-09) Water Sampled: 11-Jan-01 13:10 Received: 11-Jan-01 15:35									
Ferrous Iron	ND	0.050	mg/l	1	1A22025	22-Jan-01	29-Jan-01	EPA 6010A	
Iron	4.7	0.050	"	"	"	"	29-Jan-01	"	
Ferric Iron	4.8	0.050	"	"	"	"	29-Jan-01	"	
MW-3B (W101243-10) Water Sampled: 11-Jan-01 13:20 Received: 11-Jan-01 15:35									
Ferrous Iron	39	0.050	mg/l	1	1A22025	22-Jan-01	29-Jan-01	EPA 6010A	

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Volatile Organic Compounds by EPA Method 8010B

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (W101243-01) Water Sampled: 11-Jan-01 09:30 Received: 11-Jan-01 15:35									
Chloromethane	ND	2.0	ug/l	1	1A18006	18-Jan-01	18-Jan-01	EPA 8010B	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.2	"	"	"	"	"	"	
Chloroethane	13	1.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.60	"	"	"	"	"	"	
Freon 113	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethene	2.8	1.0	"	"	"	"	"	"	
Methylene chloride	ND	10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethane	42	1.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	25	1.0	"	"	"	"	"	"	
Chloroform	ND	1.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.6	"	"	"	"	"	"	
Trichloroethene	ND	2.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.60	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	
Tetrachloroethene	ND	0.60	"	"	"	"	"	"	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane	ND	1.0	"	"	"	"	"	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.60	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.2	"	"	"	"	"	"	
Surrogate: Dibromodifluoromethane		*89.0 %*	*50-150*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*91.0 %*	*50-150*		"	"	"	"	

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383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Volatile Organic Compounds by EPA Method 8010B

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3A (W101243-02) Water Sampled: 11-Jan-01 09:45 Received: 11-Jan-01 15:35									
Chloromethane	ND	2.0	ug/l	1	1A18006	18-Jan-01	18-Jan-01	EPA 8010B	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.2	"	"	"	"	"	"	
Chloroethane	ND	1.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.60	"	"	"	"	"	"	
Freon 113	ND	1.0	"	"	"	"	"	"	
,1-Dichloroethene	**3.1**	1.0	"	"	"	"	"	"	
Methylene chloride	ND	10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
,1-Dichloroethane	ND	1.0	"	"	"	"	"	"	
is-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Chloroform	ND	1.0	"	"	"	"	"	"	
',1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.6	"	"	"	"	"	"	
Trichloroethene	ND	2.0	"	"	"	"	"	"	
,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
rans-1,3-Dichloropropene	ND	0.60	"	"	"	"	"	"	
,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	
Tetrachloroethene	ND	0.60	"	"	"	"	"	"	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
,2-Dibromoethane	ND	1.0	"	"	"	"	"	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	0.50	"	"	"	"	"	"	
,1,2,2-Tetrachloroethane	ND	0.60	"	"	"	"	"	"	
,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	"	"	"	"	"	"	
',2-Dichlorobenzene	ND	1.2	"	"	"	"	"	"	
urrogate: Dibromodifluoromethane		*88.0 %*	*50-150*		*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene		*100 %*	*50-150*		*"*	*"*	*"*	*"*	

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383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Volatile Organic Compounds by EPA Method 8010B

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 (W101243-03) Water Sampled: 11-Jan-01 10:10 Received: 11-Jan-01 15:35									
Chloromethane	ND	2.0	ug/l	1	1A18006	18-Jan-01	18-Jan-01	EPA 8010B	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.2	"	"	"	"	"	"	
Chloroethane	**3.4**	1.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.60	"	"	"	"	"	"	
Freon 113	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Methylene chloride	ND	10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethane	**43**	1.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	**80**	10	"	10	"	"	24-Jan-01	"	
Chloroform	ND	1.0	"	1	"	"	18-Jan-01	"	
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.6	"	"	"	"	"	"	
Trichloroethene	ND	2.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.60	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	
Tetrachloroethene	ND	0.60	"	"	"	"	"	"	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane	ND	1.0	"	"	"	"	"	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.60	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.2	"	"	"	"	"	"	
Surrogate: Dibromodifluoromethane		*92.0 %*	*50-150*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*120 %*	*50-150*		"	"	"	"	

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383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Volatile Organic Compounds by EPA Method 8010B

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TW-1 (W101243-04) Water Sampled: 11-Jan-01 10:50 Received: 11-Jan-01 15:35									
Chloromethane	ND	2.0	ug/l	1	1A18006	18-Jan-01	18-Jan-01	EPA 8010B	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.2	"	"	"	"	"	"	
Chloroethane	ND	1.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.60	"	"	"	"	"	"	
Freon 113	ND	1.0	"	"	"	"	"	"	
,1-Dichloroethene	**2.4**	1.0	"	"	"	"	"	"	
Methylene chloride	ND	10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
,1-Dichloroethane	**32**	1.0	"	"	"	"	"	"	
is-1,2-Dichloroethene	**11**	1.0	"	"	"	"	"	"	
Chloroform	ND	1.0	"	"	"	"	"	"	
',1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0	"	"	"	"	"	"	
,2-Dichloroethane	ND	1.6	"	"	"	"	"	"	
Trichloroethene	ND	2.0	"	"	"	"	"	"	
,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
rans-1,3-Dichloropropene	ND	0.60	"	"	"	"	"	"	
,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	
Tetrachloroethene	ND	0.60	"	"	"	"	"	"	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
,2-Dibromoethane	ND	1.0	"	"	"	"	"	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	0.50	"	"	"	"	"	"	
,1,2,2-Tetrachloroethane	ND	0.60	"	"	"	"	"	"	
,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	"	"	"	"	"	"	
',2-Dichlorobenzene	ND	1.2	"	"	"	"	"	"	
urrogate: Dibromodifluoromethane		*86.0 %*	*50-150*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*94.0 %*	*50-150*		"	"	"	"	

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383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Volatile Organic Compounds by EPA Method 8010B

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-7 (W101243-05) Water Sampled: 11-Jan-01 11:20 Received: 11-Jan-01 15:35									
Chloromethane	ND	2.0	ug/l	1	1A18006	18-Jan-01	18-Jan-01	EPA 8010B	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.2	"	"	"	"	"	"	
Chloroethane	ND	1.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.60	"	"	"	"	"	"	
Freon 113	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethene	7.7	1.0	"	"	"	"	"	"	
Methylene chloride	ND	10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethane	18	1.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Chloroform	ND	1.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.6	"	"	"	"	"	"	
Trichloroethene	ND	2.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.60	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	
Tetrachloroethene	1.5	0.60	"	"	"	"	"	"	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane	ND	1.0	"	"	"	"	"	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.60	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.2	"	"	"	"	"	"	
Surrogate: Dibromodifluoromethane		*89.0 %*	*50-150*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*100 %*	*50-150*		"	"	"	"	

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Sequoia Analytical

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Volatile Organic Compounds by EPA Method 8010B

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-6 (W101243-06) Water Sampled: 11-Jan-01 11:50 Received: 11-Jan-01 15:35									
Chloromethane	ND	2.0	ug/l	1	1A18006	18-Jan-01	18-Jan-01	EPA 8010B	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.2	"	"	"	"	"	"	
Chloroethane	ND	1.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.60	"	"	"	"	"	"	
Freon 113	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Methylene chloride	ND	10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Chloroform	ND	1.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.6	"	"	"	"	"	"	
Trichloroethene	ND	2.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.60	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	
Tetrachloroethene	ND	0.60	"	"	"	"	"	"	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane	ND	1.0	"	"	"	"	"	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.60	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.2	"	"	"	"	"	"	
Surrogate: Dibromodifluoromethane		*100 %*	*50-150*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*110 %*	*50-150*		"	"	"	"	

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Volatile Organic Compounds by EPA Method 8010B

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-5 (W101243-07) Water Sampled: 11-Jan-01 12:20 Received: 11-Jan-01 15:35									
Chloromethane	ND	2.0	ug/l	1	1A18006	18-Jan-01	18-Jan-01	EPA 8010B	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.2	"	"	"	"	"	"	
Chloroethane	ND	1.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.60	"	"	"	"	"	"	
Freon 113	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Methylene chloride	ND	10	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
Chloroform	ND	1.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.6	"	"	"	"	"	"	
Trichloroethene	ND	2.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.60	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	
Tetrachloroethene	ND	0.60	"	"	"	"	"	"	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane	ND	1.0	"	"	"	"	"	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.60	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.2	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.2	"	"	"	"	"	"	
Surrogate: Dibromodifluoromethane		*95.0 %*		*50-150*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*110 %*		*50-150*	"	"	"	"	

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Volatile Organic Compounds by EPA Method 8010B

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-8 (W101243-08) Water Sampled: 11-Jan-01 13:00 Received: 11-Jan-01 15:35									
Chloromethane	ND	20	ug/l	10	1A18006	18-Jan-01	18-Jan-01	EPA 8010B	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Bromomethane	ND	12	"	"	"	"	"	"	
Chloroethane	ND	10	"	"	"	"	"	"	
Trichlorofluoromethane	ND	6.0	"	"	"	"	"	"	
Freon 113	ND	10	"	"	"	"	"	"	
,1-Dichloroethene	**300**	10	"	"	"	"	"	"	
Methylene chloride	ND	100	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	10	"	"	"	"	"	"	
,1-Dichloroethane	**260**	10	"	"	"	"	"	"	
.is-1,2-Dichloroethene	ND	10	"	"	"	"	"	"	
Chloroform	ND	10	"	"	"	"	"	"	
,1,1-Trichloroethane	ND	10	"	"	"	"	"	"	
Carbon tetrachloride	ND	10	"	"	"	"	"	"	
1,2-Dichloroethane	ND	16	"	"	"	"	"	"	
Trichloroethene	ND	20	"	"	"	"	"	"	
,2-Dichloropropane	ND	10	"	"	"	"	"	"	
Bromodichloromethane	ND	10	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	10	"	"	"	"	"	"	
rans-1,3-Dichloropropene	ND	6.0	"	"	"	"	"	"	
,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	6.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
,2-Dibromoethane	ND	10	"	"	"	"	"	"	
Chlorobenzene	ND	10	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	12	"	"	"	"	"	"	
,2-Dichlorobenzene	ND	12	"	"	"	"	"	"	
urrogate: Dibromodifluoromethane		*97.0 %*	*50-150*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.0 %*	*50-150*		"	"	"	"	

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Volatile Organic Compounds by EPA Method 8010B

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DUP (W101243-09) Water Sampled: 11-Jan-01 13:10 Received: 11-Jan-01 15:35									
Chloromethane	ND	20	ug/l	10	1A18006	18-Jan-01	18-Jan-01	EPA 8010B	
Vinyl chloride	ND	10	"	"	"	"	"	"	
Bromomethane	ND	12	"	"	"	"	"	"	
Chloroethane	ND	10	"	"	"	"	"	"	
Trichlorofluoromethane	ND	6.0	"	"	"	"	"	"	
Freon 113	ND	10	"	"	"	"	"	"	
1,1-Dichloroethene	**290**	10	"	"	"	"	"	"	
Methylene chloride	ND	100	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	10	"	"	"	"	"	"	
1,1-Dichloroethane	**250**	10	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	10	"	"	"	"	"	"	
Chloroform	ND	10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	10	"	"	"	"	"	"	
Carbon tetrachloride	ND	10	"	"	"	"	"	"	
1,2-Dichloroethane	ND	16	"	"	"	"	"	"	
Trichloroethene	ND	20	"	"	"	"	"	"	
1,2-Dichloropropane	ND	10	"	"	"	"	"	"	
Bromodichloromethane	ND	10	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	10	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	6.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	6.0	"	"	"	"	"	"	
Dibromochloromethane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane	ND	10	"	"	"	"	"	"	
Chlorobenzene	ND	10	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	12	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	12	"	"	"	"	"	"	
Surrogate: Dibromodifluoromethane		*96.0 %*	*50-150*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*100 %*	*50-150*		"	"	"	"	

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Conventional Chemistry Parameters by APHA/EPA Methods

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (W101243-01) Water	Sampled: 11-Jan-01 09:30	Received: 11-Jan-01 15:35							
Orthophosphate as PO4	5.3	0.50	mg/l	1	1A12007	11-Jan-01	11-Jan-01	EPA 300.0	
MW-2 (W101243-03) Water	Sampled: 11-Jan-01 10:10	Received: 11-Jan-01 15:35							
Orthophosphate as PO4	ND	0.50	mg/l	1	1A12007	11-Jan-01	11-Jan-01	EPA 300.0	
MW-1 (W101243-04) Water	Sampled: 11-Jan-01 10:50	Received: 11-Jan-01 15:35							
Orthophosphate as PO4	ND	0.50	mg/l	1	1A12007	11-Jan-01	11-Jan-01	EPA 300.0	
MW-7 (W101243-05) Water	Sampled: 11-Jan-01 11:20	Received: 11-Jan-01 15:35							
Orthophosphate as PO4	1.1	0.50	mg/l	1	1A12007	11-Jan-01	11-Jan-01	EPA 300.0	
MW-6 (W101243-06) Water	Sampled: 11-Jan-01 11:50	Received: 11-Jan-01 15:35							
Orthophosphate as PO4	1.0	0.50	mg/l	1	1A12007	11-Jan-01	11-Jan-01	EPA 300.0	
MW-5 (W101243-07) Water	Sampled: 11-Jan-01 12:20	Received: 11-Jan-01 15:35							
Orthophosphate as PO4	ND	0.50	mg/l	1	1A12007	11-Jan-01	11-Jan-01	EPA 300.0	
MW-8 (W101243-08) Water	Sampled: 11-Jan-01 13:00	Received: 11-Jan-01 15:35							
Orthophosphate as PO4	ND	0.50	mg/l	1	1A12007	11-Jan-01	11-Jan-01	EPA 300.0	
DUP (W101243-09) Water	Sampled: 11-Jan-01 13:10	Received: 11-Jan-01 15:35							
Orthophosphate as PO4	ND	0.50	mg/l	1	1A12007	11-Jan-01	11-Jan-01	EPA 300.0	
MW-3B (W101243-10) Water	Sampled: 11-Jan-01 13:20	Received: 11-Jan-01 15:35							
Orthophosphate as PO4	2.1	0.50	mg/l	1	1A12007	11-Jan-01	11-Jan-01	EPA 300.0	

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Anions by EPA Method 300.0

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (W101243-01) Water Sampled: 11-Jan-01 09:30 Received: 11-Jan-01 15:35									
Nitrate as NO3	ND	0.10	mg/l	1	1A12007	11-Jan-01	11-Jan-01	EPA 300.0	
Sulfate as SO4	**16**	0.10	"	"	"	"	"	"	
MW-2 (W101243-03) Water Sampled: 11-Jan-01 10:10 Received: 11-Jan-01 15:35									
Nitrate as NO3	ND	0.10	mg/l	1	1A12007	11-Jan-01	11-Jan-01	EPA 300.0	
Sulfate as SO4	**1.3**	0.10	"	"	"	"	"	"	
MW-1 (W101243-04) Water Sampled: 11-Jan-01 10:50 Received: 11-Jan-01 15:35									
Nitrate as NO3	ND	0.10	mg/l	1	1A12007	11-Jan-01	11-Jan-01	EPA 300.0	
Sulfate as SO4	**46**	1.0	"	10	"	"	"	"	
MW-7 (W101243-05) Water Sampled: 11-Jan-01 11:20 Received: 11-Jan-01 15:35									
Nitrate as NO3	**7.7**	0.10	mg/l	1	1A12007	11-Jan-01	11-Jan-01	EPA 300.0	
Sulfate as SO4	**90**	1.0	"	10	"	"	"	"	
MW-6 (W101243-06) Water Sampled: 11-Jan-01 11:50 Received: 11-Jan-01 15:35									
Nitrate as NO3	**0.74**	0.10	mg/l	1	1A12007	11-Jan-01	11-Jan-01	EPA 300.0	
Sulfate as SO4	**350**	5.0	"	50	"	"	"	"	
MW-5 (W101243-07) Water Sampled: 11-Jan-01 12:20 Received: 11-Jan-01 15:35									
Nitrate as NO3	**0.74**	0.10	mg/l	1	1A12007	11-Jan-01	11-Jan-01	EPA 300.0	
Sulfate as SO4	**4.3**	0.10	"	"	"	"	"	"	
MW-8 (W101243-08) Water Sampled: 11-Jan-01 13:00 Received: 11-Jan-01 15:35									
Nitrate as NO3	**3.0**	0.10	mg/l	1	1A12007	11-Jan-01	11-Jan-01	EPA 300.0	
Sulfate as SO4	**280**	5.0	"	50	"	"	"	"	

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Anions by EPA Method 300.0

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DUP (W101243-09) Water Sampled: 11-Jan-01 13:10 Received: 11-Jan-01 15:35									
Nitrate as NO3	**3.6**	0.10	mg/l	1	1A12007	11-Jan-01	11-Jan-01	EPA 300.0	
Sulfate as SO4	**240**	5.0	"	50	"	"	"	"	
MW-3B (W101243-10) Water Sampled: 11-Jan-01 13:20 Received: 11-Jan-01 15:35									
Nitrate as NO3	**6.7**	0.10	mg/l	1	1A12007	11-Jan-01	11-Jan-01	EPA 300.0	
Sulfate as SO4	**550**	5.0	"	50	"	"	"	"	

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Conventional Chemistry Parameters by APHA/EPA Methods

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (W101243-01) Water	**Sampled: 11-Jan-01 09:30**	**Received: 11-Jan-01 15:35**							
Total Organic Carbon	115	10.0	mg/l	10	1010659	30-Jan-01	30-Jan-01	EPA 415.1	
MW-2 (W101243-03) Water	**Sampled: 11-Jan-01 10:10**	**Received: 11-Jan-01 15:35**							
Total Organic Carbon	142	10.0	mg/l	10	1010659	30-Jan-01	30-Jan-01	EPA 415.1	
MW-1 (W101243-04) Water	**Sampled: 11-Jan-01 10:50**	**Received: 11-Jan-01 15:35**							
Total Organic Carbon	21.6	10.0	mg/l	10	1010659	30-Jan-01	30-Jan-01	EPA 415.1	
MW-7 (W101243-05) Water	**Sampled: 11-Jan-01 11:20**	**Received: 11-Jan-01 15:35**							
Total Organic Carbon	4.67	4.00	mg/l	4	1010659	30-Jan-01	30-Jan-01	EPA 415.1	
MW-6 (W101243-06) Water	**Sampled: 11-Jan-01 11:50**	**Received: 11-Jan-01 15:35**							
Total Organic Carbon	26.3	10.0	mg/l	10	1010659	30-Jan-01	30-Jan-01	EPA 415.1	
MW-5 (W101243-07) Water	**Sampled: 11-Jan-01 12:20**	**Received: 11-Jan-01 15:35**							
Total Organic Carbon	5.11	2.00	mg/l	2	1010659	30-Jan-01	30-Jan-01	EPA 415.1	
MW-8 (W101243-08) Water	**Sampled: 11-Jan-01 13:00**	**Received: 11-Jan-01 15:35**							
Total Organic Carbon	102	10.0	mg/l	10	1010659	30-Jan-01	30-Jan-01	EPA 415.1	
DUP (W101243-09) Water	**Sampled: 11-Jan-01 13:10**	**Received: 11-Jan-01 15:35**							
Total Organic Carbon	102	10.0	mg/l	10	1010659	30-Jan-01	30-Jan-01	EPA 415.1	

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT - Quality Control

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1A24001 - EPA 5030B [P/T]										
Blank (1A24001-BLK1)				Prepared & Analyzed: 24-Jan-01						
Purgeable Hydrocarbons	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	*30.1*		"	*30.0*		*100*	*70-130*			
LCS (1A24001-BS1)				Prepared & Analyzed: 24-Jan-01						
Benzene	17.8	0.50	ug/l	20.0		89.0	70-130			
Toluene	18.5	0.50	"	20.0		92.5	70-130			
Ethylbenzene	19.4	0.50	"	20.0		97.0	70-130			
Xylenes (total)	58.0	0.50	"	60.0		96.7	70-130			
Surrogate: a,a,a-Trifluorotoluene	*29.6*		"	*30.0*		*98.7*	*70-130*			
Matrix Spike (1A24001-MS1)		**Source: W101329-02**		Prepared & Analyzed: 24-Jan-01						
Benzene	17.4	0.50	ug/l	20.0	ND	87.0	70-130			
Toluene	18.3	0.50	"	20.0	ND	91.5	70-130			
Ethylbenzene	19.1	0.50	"	20.0	ND	95.5	70-130			
Xylenes (total)	57.4	0.50	"	60.0	ND	95.7	70-130			
Surrogate: a,a,a-Trifluorotoluene	*32.8*		"	*30.0*		*109*	*70-130*			
Matrix Spike Dup (1A24001-MSD1)		**Source: W101329-02**		Prepared & Analyzed: 24-Jan-01						
Benzene	18.2	0.50	ug/l	20.0	ND	91.0	70-130	4.49	20	
Toluene	19.2	0.50	"	20.0	ND	96.0	70-130	4.80	20	
Ethylbenzene	20.1	0.50	"	20.0	ND	101	70-130	5.10	20	
Xylenes (total)	59.7	0.50	"	60.0	ND	99.5	70-130	3.93	20	
Surrogate: a,a,a-Trifluorotoluene	*35.8*		"	*30.0*		*119*	*70-130*			

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT - Quality Control

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1A24002 - EPA 5030B [P/T]										
Blank (1A24002-BLK1)				Prepared & Analyzed: 24-Jan-01						
Purgeable Hydrocarbons	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	*34.6*		"	*30.0*		*115*	*70-130*			
LCS (1A24002-BS1)				Prepared & Analyzed: 24-Jan-01						
Benzene	20.3	0.50	ug/l	20.0		101	70-130			
Toluene	20.2	0.50	"	20.0		101	70-130			
Ethylbenzene	19.8	0.50	"	20.0		99.0	70-130			
Xylenes (total)	60.0	0.50	"	60.0		100	70-130			
Surrogate: a,a,a-Trifluorotoluene	*27.2*		"	*30.0*		*90.7*	*70-130*			
Matrix Spike (1A24002-MS1)		**Source: W101329-05**		Prepared & Analyzed: 24-Jan-01						
Benzene	20.3	0.50	ug/l	20.0	ND	101	70-130			
Toluene	20.3	0.50	"	20.0	ND	101	70-130			
Ethylbenzene	19.8	0.50	"	20.0	ND	99.0	70-130			
Xylenes (total)	59.6	0.50	"	60.0	ND	99.3	70-130			
Surrogate: a,a,a-Trifluorotoluene	*28.7*		"	*30.0*		*95.7*	*70-130*			
Matrix Spike Dup (1A24002-MSD1)		**Source: W101329-05**		Prepared & Analyzed: 24-Jan-01						
Benzene	21.0	0.50	ug/l	20.0	ND	105	70-130	3.39	20	
Toluene	20.8	0.50	"	20.0	ND	104	70-130	2.43	20	
Ethylbenzene	20.2	0.50	"	20.0	ND	101	70-130	2.00	20	
Xylenes (total)	59.5	0.50	"	60.0	ND	99.2	70-130	0.168	20	
Surrogate: a,a,a-Trifluorotoluene	*29.3*		"	*30.0*		*97.7*	*70-130*			

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	Reported:
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT - Quality Control

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1A25001 - EPA 5030B [P/T]										
Blank (1A25001-BLK1)				Prepared & Analyzed: 25-Jan-01						
Purgeable Hydrocarbons	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	*29.5*		"	*30.0*		*98.3*	*70-130*			
LCS (1A25001-BS1)				Prepared & Analyzed: 25-Jan-01						
Benzene	18.6	0.50	ug/l	20.0		93.0	70-130			
Toluene	19.3	0.50	"	20.0		96.5	70-130			
Ethylbenzene	20.4	0.50	"	20.0		102	70-130			
Xylenes (total)	60.9	0.50	"	60.0		102	70-130			
Surrogate: a,a,a-Trifluorotoluene	*28.6*		"	*30.0*		*95.3*	*70-130*			
Matrix Spike (1A25001-MS1)	Source: W101243-07			Prepared & Analyzed: 25-Jan-01						
Benzene	16.6	0.50	ug/l	20.0	ND	83.0	70-130			
Toluene	17.8	0.50	"	20.0	ND	89.0	70-130			
Ethylbenzene	18.9	0.50	"	20.0	ND	94.5	70-130			
Xylenes (total)	56.6	0.50	"	60.0	ND	94.3	70-130			
Surrogate: a,a,a-Trifluorotoluene	*30.4*		"	*30.0*		*101*	*70-130*			
Matrix Spike Dup (1A25001-MSD1)	Source: W101243-07			Prepared & Analyzed: 25-Jan-01						
Benzene	16.8	0.50	ug/l	20.0	ND	84.0	70-130	1.20	20	
Toluene	17.8	0.50	"	20.0	ND	89.0	70-130	0	20	
Ethylbenzene	18.7	0.50	"	20.0	ND	93.5	70-130	1.06	20	
Xylenes (total)	56.4	0.50	"	60.0	ND	94.0	70-130	0.354	20	
Surrogate: a,a,a-Trifluorotoluene	*30.5*		"	*30.0*		*102*	*70-130*			

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT - Quality Control
Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1A25002 - EPA 5030B [P/T]										
Blank (1A25002-BLK1)				Prepared & Analyzed: 25-Jan-01						
Purgeable Hydrocarbons	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	*31.2*		"	*30.0*		*104*	*70-130*			
LCS (1A25002-BS1)				Prepared & Analyzed: 25-Jan-01						
Benzene	22.5	0.50	ug/l	20.0		113	70-130			
Toluene	22.5	0.50	"	20.0		113	70-130			
Ethylbenzene	22.2	0.50	"	20.0		111	70-130			
Xylenes (total)	66.9	0.50	"	60.0		112	70-130			
Surrogate: a,a,a-Trifluorotoluene	*28.6*		"	*30.0*		*95.3*	*70-130*			
Matrix Spike (1A25002-MS1)		Source: W101427-01		Prepared & Analyzed: 25-Jan-01						
Benzene	21.6	0.50	ug/l	20.0	ND	108	70-130			
Toluene	21.6	0.50	"	20.0	ND	108	70-130			
Ethylbenzene	21.1	0.50	"	20.0	ND	106	70-130			
Xylenes (total)	62.3	0.50	"	60.0	ND	104	70-130			
Surrogate: a,a,a-Trifluorotoluene	*32.2*		"	*30.0*		*107*	*70-130*			
Matrix Spike Dup (1A25002-MSD1)		Source: W101427-01		Prepared & Analyzed: 25-Jan-01						
Benzene	22.0	0.50	ug/l	20.0	ND	110	70-130	1.83	20	
Toluene	21.9	0.50	"	20.0	ND	109	70-130	1.38	20	
Ethylbenzene	21.5	0.50	"	20.0	ND	108	70-130	1.88	20	
Xylenes (total)	64.8	0.50	"	60.0	ND	108	70-130	3.93	20	
Surrogate: a,a,a-Trifluorotoluene	*28.4*		"	*30.0*		*94.7*	*70-130*			

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT - Quality Control
Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1A26002 - EPA 5030B [P/T]										
Blank (1A26002-BLK1)				Prepared & Analyzed: 26-Jan-01						
Purgeable Hydrocarbons	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	*32.6*		"	*30.0*		*109*	*70-130*			
LCS (1A26002-BS1)				Prepared & Analyzed: 26-Jan-01						
Benzene	21.0	0.50	ug/l	20.0		105	70-130			
Toluene	20.9	0.50	"	20.0		104	70-130			
Ethylbenzene	20.5	0.50	"	20.0		103	70-130			
Xylenes (total)	61.9	0.50	"	60.0		103	70-130			
Surrogate: a,a,a-Trifluorotoluene	*26.9*		"	*30.0*		*89.7*	*70-130*			
Matrix Spike (1A26002-MS1)		**Source: W101460-05**		Prepared & Analyzed: 26-Jan-01						
Benzene	22.3	0.50	ug/l	20.0	ND	111	70-130			
Toluene	22.4	0.50	"	20.0	ND	112	70-130			
Ethylbenzene	21.7	0.50	"	20.0	ND	109	70-130			
Xylenes (total)	65.1	0.50	"	60.0	ND	108	70-130			
Surrogate: a,a,a-Trifluorotoluene	*29.5*		"	*30.0*		*98.3*	*70-130*			
Matrix Spike Dup (1A26002-MSD1)		**Source: W101460-05**		Prepared & Analyzed: 26-Jan-01						
Benzene	21.4	0.50	ug/l	20.0	ND	107	70-130	4.12	20	
Toluene	21.4	0.50	"	20.0	ND	107	70-130	4.57	20	
Ethylbenzene	21.1	0.50	"	20.0	ND	106	70-130	2.80	20	
Xylenes (total)	63.6	0.50	"	60.0	ND	106	70-130	2.33	20	
Surrogate: a,a,a-Trifluorotoluene	*28.3*		"	*30.0*		*94.3*	*70-130*			

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup by DHS LUFT - Quality Control
Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1A25010 - EPA 3510B										
Blank (1A25010-BLK1)				Prepared: 25-Jan-01 Analyzed: 29-Jan-01						
Jet-A (C9-C17)	ND	50	ug/l							
Diesel Range Hydrocarbons	ND	50	"							
Motor Oil (C16-C36)	ND	250	"							
Surrogate: n-Pentacosane	*37.0*		"	*33.3*		*111*	*50-150*			
LCS (1A25010-BS1)				Prepared: 25-Jan-01 Analyzed: 26-Jan-01						
Diesel Range Hydrocarbons	417	50	ug/l	500		83.4	35-125			
Surrogate: n-Pentacosane	*33.3*		"	*33.3*		*100*	*50-150*			
LCS Dup (1A25010-BSD1)				Prepared: 25-Jan-01 Analyzed: 26-Jan-01						
Diesel Range Hydrocarbons	443	50	ug/l	500		88.6	35-125	6.05	50	
Surrogate: n-Pentacosane	*30.7*		"	*33.3*		*92.2*	*50-150*			

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Total Metals by EPA 6000/7000 Series Methods - Quality Control

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1A22025 - 200.7										
Blank (1A22025-BLK1)				Prepared: 22-Jan-01 Analyzed: 29-Jan-01						
Ferrous Iron	ND	0.050	mg/l							
Iron	ND	0.050	"							
LCS (1A22025-BS1)				Prepared: 22-Jan-01 Analyzed: 29-Jan-01						
Ferrous Iron	0.901	0.050	mg/l	1.00		90.1	80-120			
Iron	0.901	0.050	"	1.00		90.1	80-120			
LCS Dup (1A22025-BSD1)				Prepared: 22-Jan-01 Analyzed: 29-Jan-01						
Ferrous Iron	0.945	0.050	mg/l	1.00		94.5	80-120	4.77	20	
Iron	0.950	0.050	"	1.00		95.0	80-120	5.29	20	

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Volatile Organic Compounds by EPA Method 8010B - Quality Control

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1A18006 - EPA 5030B [P/T]										
Blank (1A18006-BLK1)			Prepared & Analyzed: 18-Jan-01							
Chloromethane	ND	2.0	ug/l							
Vinyl chloride	ND	1.0	"							
Bromomethane	ND	1.2	"							
Chloroethane	ND	1.0	"							
Trichlorofluoromethane	ND	0.60	"							
Freon 113	ND	1.0	"							
1,1-Dichloroethene	ND	1.0	"							
Methylene chloride	ND	10	"							
trans-1,2-Dichloroethene	ND	1.0	"							
1,1-Dichloroethane	ND	1.0	"							
cis-1,2-Dichloroethene	ND	1.0	"							
Chloroform	ND	1.0	"							
1,1,1-Trichloroethane	ND	1.0	"							
Carbon tetrachloride	ND	1.0	"							
1,2-Dichloroethane	ND	1.6	"							
Trichloroethene	ND	2.0	"							
1,2-Dichloropropane	ND	1.0	"							
Bromodichloromethane	ND	1.0	"							
cis-1,3-Dichloropropene	ND	1.0	"							
trans-1,3-Dichloropropene	ND	0.60	"							
1,1,2-Trichloroethane	ND	0.50	"							
Tetrachloroethene	ND	0.60	"							
Dibromochloromethane	ND	0.50	"							
1,2-Dibromoethane	ND	1.0	"							
Chlorobenzene	ND	1.0	"							
Bromoform	ND	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.60	"							
1,3-Dichlorobenzene	ND	0.50	"							
1,4-Dichlorobenzene	ND	1.2	"							
1,2-Dichlorobenzene	ND	1.2	"							
Surrogate: Dibromodifluoromethane	*8.10*		"	*10.0*		*81.0*	*50-150*			
Surrogate: 4-Bromofluorobenzene	*8.40*		"	*10.0*		*84.0*	*50-150*			

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Volatile Organic Compounds by EPA Method 8010B - Quality Control

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1A18006 - EPA 5030B [P/T]										
LCS (1A18006-BS1)				Prepared & Analyzed: 18-Jan-01						
,1-Dichloroethene	28.0	1.0	ug/l	28.0		100	65-135			
richloroethene	23.0	2.0	"	20.0		115	70-130			
Chlorobenzene	22.0	1.0	"	20.0		110	70-130			
urrogate: Dibromodifluoromethane	*8.90*		"	*10.0*		*89.0*	*50-150*			
urrogate: 4-Bromofluorobenzene	*9.70*		"	*10.0*		*97.0*	*50-150*			
Matrix Spike (1A18006-MS1)		**Source: W101243-02**		Prepared & Analyzed: 24-Jan-01						
.1-Dichloroethene	26.0	1.0	ug/l	28.0	3.1	81.8	60-140			
richloroethene	23.0	2.0	"	20.0	ND	115	60-140			
Chlorobenzene	23.0	1.0	"	20.0	ND	115	60-140			
urrogate: Dibromodifluoromethane	*8.80*		"	*10.0*		*88.0*	*50-150*			
urrogate: 4-Bromofluorobenzene	*9.90*		"	*10.0*		*99.0*	*50-150*			
Matrix Spike Dup (1A18006-MSD1)		**Source: W101243-02**		Prepared & Analyzed: 24-Jan-01						
1-Dichloroethene	28.0	1.0	ug/l	28.0	3.1	88.9	60-140	7.41	25	
richloroethene	25.0	2.0	"	20.0	ND	125	60-140	8.33	25	
Chlorobenzene	25.0	1.0	"	20.0	ND	125	60-140	8.33	25	
urrogate: Dibromodifluoromethane	*9.00*		"	*10.0*		*90.0*	*50-150*			
urrogate: 4-Bromofluorobenzene	*10.0*		"	*10.0*		*100*	*50-150*			

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	Reported:
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1A12007 - General Preparation										
Blank (1A12007-BLK1)				Prepared & Analyzed: 11-Jan-01						
Orthophosphate as PO4	ND	0.50	mg/l							
LCS (1A12007-BS1)				Prepared & Analyzed: 11-Jan-01						
Orthophosphate as PO4	18.8	0.50	mg/l	20.0		94.0	80-120			
Matrix Spike (1A12007-MS1)		Source: W101193-02		Prepared & Analyzed: 11-Jan-01						
Orthophosphate as PO4	18.5	1.0	mg/l	20.0	ND	92.5	75-125			
Matrix Spike Dup (1A12007-MSD1)		Source: W101193-02		Prepared & Analyzed: 11-Jan-01						
Orthophosphate as PO4	18.5	1.0	mg/l	20.0	ND	92.5	75-125	0	20	

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Harding-Lawson Associates - Oakland
383 Fourth Street
Oakland CA, 94607

Project: Port of Oakland
Project Number: 43145.4
Project Manager: Valerie Harris

Reported:
01-Feb-01 13:44

Anions by EPA Method 300.0 - Quality Control
Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1A12007 - General Preparation										
Blank (1A12007-BLK1)				Prepared & Analyzed: 11-Jan-01						
Nitrate as NO3	ND	0.10	mg/l							
Sulfate as SO4	ND	0.10	"							
LCS (1A12007-BS1)				Prepared & Analyzed: 11-Jan-01						
Nitrate as NO3	10.9	0.10	mg/l	10.0		109	80-120			
Sulfate as SO4	10.1	0.10	"	10.0		101	80-120			
Matrix Spike (1A12007-MS1)	Source: W101193-02			Prepared & Analyzed: 11-Jan-01						
Nitrate as NO3	12.6	0.20	mg/l	10.0	1.5	111	75-125			
Sulfate as SO4	13.8	0.20	"	10.0	3.9	99.0	75-125			
Matrix Spike Dup (1A12007-MSD1)	Source: W101193-02			Prepared & Analyzed: 11-Jan-01						
Nitrate as NO3	12.7	0.20	mg/l	10.0	1.5	112	75-125	0.791	20	
Sulfate as SO4	13.8	0.20	"	10.0	3.9	99.0	75-125	0	20	

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1010659 - General Preparation										
Blank (1010659-BLK1)				Prepared & Analyzed: 30-Jan-01						
Total Organic Carbon	ND	1.00	mg/l							
LCS (1010659-BS1)				Prepared & Analyzed: 30-Jan-01						
Total Organic Carbon	39.0	2.00	mg/l	40.0		97.5	80-120			
Matrix Spike (1010659-MS1)		Source: P101252-01		Prepared & Analyzed: 30-Jan-01						
Total Organic Carbon	37.6	4.00	mg/l	40.0	ND	94.0	75-125			
Matrix Spike Dup (1010659-MSD1)		Source: P101252-01		Prepared & Analyzed: 30-Jan-01						
Total Organic Carbon	39.2	4.00	mg/l	40.0	ND	98.0	75-125	4.17	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 13:44

Notes and Definitions

A-03	This sample was originally analyzed within holding time. Re-analysis for confirmation or dilution was performed past the recommended holding time.
CC-3	Continuing Calibration indicates that the quantitative result for this analyte includes a greater than 15% degree of uncertainty. The value as reported is within method acceptance.
D-04	Chromatogram Pattern: Jet Fuel C9-C17.
D-05	Chromatogram Pattern: Motor Oil C16-C36.
D-12	Chromatogram Pattern: Unidentified Hydrocarbons > C16
D-13	Chromatogram Pattern: Diesel C9-C24
D-14	Chromatogram Pattern: Unidentified Hydrocarbons C9-C24
P-01	Chromatogram Pattern: Gasoline C6-C12
P-03	Chromatogram Pattern: Unidentified Hydrocarbons C6-C12
P-07	Chromatogram Pattern: Gasoline C6-C12 + Unidentified Hydrocarbons >C10
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

01/01/2 F5 No 2695

CHAIN OF CUSTODY FORM

Lab: Sequoia

Harding Lawson Associates
383 Fourth Street, Third Floor
Oakland, California 94607
(510) 451-1001 - Phone
(510) 451-3165 - Fax

Samplers: Valerie Harris

Job Number: 43145.4

Name/Location: Port of Oakland - Economy Lot

Project Manager: Valerie Harris

Recorder: Tim Eliason (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	# CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	HCL	Ice	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Day	Time	STATION DESCRIPTION/ NOTES
	X				2		1	8		MW-	4		01	01	11	0930	C1A-K
	X							4		MW-	3	A	01	01	11	0945	C2A-D
	X				2		1	8		MW-	2		01	01	11	1010	C3A-K
	X				2		1	8		MW-	1		01	01	11	1050	C4
	X				2		1	8		MW-	7		01	01	11	1120	C5
	X				2		1	8		MW-	6		01	01	11	1150	C6
	X				2		1	8		MW-	5		01	01	11	1220	C7
	X				2		1	8		MW-	8		01	01	11	1300	C8
	X				2		1	8		DUP			01	01	11	1310	C9
	X				1					MW-	3	B	01	01	11	1320	NO TPHj(A) 10A

ANALYSIS REQUESTED

EPA 8010 + MTBE	EPA 8020	EPA 8260	EPA 8270	METALS	EPA 8015M/TPHG	EPA 8020/BTEX	EPA 8015M/TPHd,o	TPHj(A)	Ferrous Iron	Nitrate	Sulfate	Orthophosphate	Ferric Iron	TOC by 415.1
X					X	X	X	X	X	X	X	X	X	X
X					X	X								
X					X	X	X	X	X	X	X	X	X	X
X					X	X	X	X	X	X	X	X	X	X
X					X	X	X	X	X	X	X	X	X	X
X					X	X	X	X	X	X	X	X	X	X
X					X	X	X	X	X	X	X	X	X	X
X					X	X	X	X	X	X	X	X	X	X
X					X	X	X	X	X	X	X	X	X	X
X					X	X	X	X	X	X	X	X	X	X

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
						Standard TAT
						* Ferrous Iron 24 hr. hold time
						email results to vjharris@mactec.com

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
Tim Eliason	Brian O'Neill	1/1/1 1450
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
Brian O'Neill	Mercedes Jensen	1/1/01 15:35
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME

METHOD OF SHIPMENT

SAMPLE CONDITION WHEN RECEIVED BY THE LABORATORY

Laboratory Copy White — Project Office Copy Yellow — Field or Office Copy Pink

Sequoia
Analytical

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1 February, 2001

Valerie Harris
Harding-Lawson Associates - Oakland
383 Fourth Street
Oakland, CA 94607

RE: Port of Oakland
Sequoia Report: W101297

Enclosed are the results of analyses for samples received by the laboratory on 12-Jan-01 14:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kyle Anderson

for Dimple Sharma
Project Manager

CA ELAP Certificate #1271

Sequoia Analytical

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 14:42

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-3B	W101297-01	Water	11-Jan-01 18:00	12-Jan-01 14:10

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Kyle Anderson for
Dimple Sharma, Project Manager

Sequoia Analytical

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 14:42

Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup by DHS LUFT

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3B (W101297-01) Water	**Sampled: 11-Jan-01 18:00**	**Received: 12-Jan-01 14:10**							
Jet-A (C9-C17)	**4000**	71	ug/l	1	1A25010	25-Jan-01	29-Jan-01	DHS LUFT	D-14
Diesel Range Hydrocarbons	7200	71	"	"	"	"	"	"	D-18
Motor Oil (C16-C36)	**2300**	360	"	"	"	"	"	"	D-05
Surrogate: n-Pentacosane		*136 %*	*50-150*		"	"	"	"	

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 14:42

Total Metals by EPA 200 Series Methods

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3B (W101297-01) Water Sampled: 11-Jan-01 18:00 Received: 12-Jan-01 14:10									
Iron	**58**	0.050	mg/l	1	1A23008	23-Jan-01	29-Jan-01	EPA 200.7	

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 14:42

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3B (W101297-01) Water Sampled: 11-Jan-01 18:00 Received: 12-Jan-01 14:10									
Ferrous Iron	**0.53**	0.050	mg/l	1	1A23008	23-Jan-01	29-Jan-01	EPA 6010A	
Ferric Iron	57	0.050	"	"	"	"	29-Jan-01	"	

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 14:42

Conventional Chemistry Parameters by APHA/EPA Methods

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3B (W101297-01) Water Sampled: 11-Jan-01 18:00 Received: 12-Jan-01 14:10									
Total Organic Carbon	**227**	10.0	mg/l	10	1010659	30-Jan-01	30-Jan-01	EPA 415.1	

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 14:42

Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup by DHS LUFT - Quality Control

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1A25010 - EPA 3510B										
Blank (1A25010-BLK1)				Prepared: 25-Jan-01 Analyzed: 29-Jan-01						
Jet-A (C9-C17)	ND	50	ug/l							
Diesel Range Hydrocarbons	ND	50	"							
Motor Oil (C16-C36)	ND	250	"							
Surrogate: n-Pentacosane	*37.0*		"	*33.3*		*111*	*50-150*			
LCS (1A25010-BS1)				Prepared: 25-Jan-01 Analyzed: 26-Jan-01						
Diesel Range Hydrocarbons	417	50	ug/l	500		83.4	35-125			
Surrogate: n-Pentacosane	*33.3*		"	*33.3*		*100*	*50-150*			
LCS Dup (1A25010-BSD1)				Prepared: 25-Jan-01 Analyzed: 26-Jan-01						
Diesel Range Hydrocarbons	443	50	ug/l	500		88.6	35-125	6.05	50	
Surrogate: n-Pentacosane	*30.7*		"	*33.3*		*92.2*	*50-150*			

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 14:42

Total Metals by EPA 200 Series Methods - Quality Control

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1A23008 - 200.7										
Blank (1A23008-BLK1)				Prepared: 23-Jan-01 Analyzed: 29-Jan-01						
Iron	ND	0.050	mg/l							
LCS (1A23008-BS1)				Prepared: 23-Jan-01 Analyzed: 29-Jan-01						
Iron	0.961	0.050	mg/l	1.00		96.1	80-120			
LCS Dup (1A23008-BSD1)				Prepared: 23-Jan-01 Analyzed: 29-Jan-01						
Iron	0.964	0.050	mg/l	1.00		96.4	80-120	0.312	20	

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Harding-Lawson Associates - Oakland
383 Fourth Street
Oakland CA, 94607

Project: Port of Oakland
Project Number: 43145.4
Project Manager: Valerie Harris

Reported:
01-Feb-01 14:42

Total Metals by EPA 6000/7000 Series Methods - Quality Control
Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1A23008 - 200.7										
Blank (1A23008-BLK1)				Prepared: 23-Jan-01 Analyzed: 29-Jan-01						
Ferrous Iron	ND	0.050	mg/l							
LCS (1A23008-BS1)				Prepared: 23-Jan-01 Analyzed: 29-Jan-01						
Ferrous Iron	0.961	0.050	mg/l	1.00		96.1	80-120			
LCS Dup (1A23008-BSD1)				Prepared: 23-Jan-01 Analyzed: 29-Jan-01						
Ferrous Iron	0.964	0.050	mg/l	1.00		96.4	80-120	0.312	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 14:42

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1010659 - General Preparation										
Blank (1010659-BLK1)				Prepared & Analyzed: 30-Jan-01						
Total Organic Carbon	ND	1.00	mg/l							
LCS (1010659-BS1)				Prepared & Analyzed: 30-Jan-01						
Total Organic Carbon	39.0	2.00	mg/l	40.0		97.5	80-120			
Matrix Spike (1010659-MS1)		**Source: P101252-01**		Prepared & Analyzed: 30-Jan-01						
Total Organic Carbon	37.6	4.00	mg/l	40.0	ND	94.0	75-125			
Matrix Spike Dup (1010659-MSD1)		**Source: P101252-01**		Prepared & Analyzed: 30-Jan-01						
Total Organic Carbon	39.2	4.00	mg/l	40.0	ND	98.0	75-125	4.17	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Harding-Lawson Associates - Oakland	Project: Port of Oakland	
383 Fourth Street	Project Number: 43145.4	**Reported:**
Oakland CA, 94607	Project Manager: Valerie Harris	01-Feb-01 14:42

Notes and Definitions

D-05	Chromatogram Pattern: Motor Oil C16-C36.
D-14	Chromatogram Pattern: Unidentified Hydrocarbons C9-C24
D-18	Chromatogram Pattern: Diesel C9-C24 + Unidentified Hydrocarbons >C16
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

WIC 12.7 Nº 2690

Harding Lawson Associates
383 Fourth Street, Third Floor
Oakland, California 94607
(510) 451-1001 - Phone
(510) 451-3165 - Fax

CHAIN OF CUSTODY FORM

Lab: GEOTRACKER

Samplers: VALERIE HARRIS

Job Number: 43145.1 PORT OF OAKLAND

Name/Location: ECONOMY PARKING LOT

Project Manager: VALERIE HARRIS

Recorder: _____ (Signature Required)

SOURCE CODE	MATRIX: Water	Sediment	Soil	Oil	# CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	HCL	Ice	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Day	Time	STATION DESCRIPTION/ NOTES	ANALYSIS REQUESTED: EPA 8010	EPA 8020	EPA 8260	EPA 8270	METALS	EPA 8015M/TPHG	EPA 8020/BTEX	EPA 8015M/TPHd,o	TOC (415.1)	FERRIC IRON	TPH jet A
	X				1		1/3 2			MW	-3	B	00	01	11	1800	D1A-D								X	X	X	X

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS
		1				*SILICA GEL CLEANUP ON TPHd, mo, jeta.
		2				STD TURNAROUND
		3				EMAIL RESULTS TO vjharris@mactec.com
		4				
		5				
		6				
		7				
		8				
		9				
		10				

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
[signature]	[signature] Segura	1/12/01 1117
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
[signature]	WIC [signature]	1/12/01 14:10
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME

METHOD OF SHIPMENT

SAMPLE CONDITION WHEN RECEIVED BY THE LABORATORY

Laboratory Copy White — Project Office Copy Yellow — Field or Office Copy Pink