



Earth Systems Consultants
Northern California

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Alameda County Health Care Services Agency
Environmental Protection Division
1131 Harbor Bay Parkway, Room 250
Alameda, CA 94502-6577

Attention: Mr. Barney Chan, ~~Senior~~ Hazardous Materials Specialist

Subject: 2415 Mariner Square Drive
Alameda, California
FIRST SEMI-ANNUAL GROUNDWATER SAMPLING 2001

Dear Mr. Chan:

Earth Systems Consultants Northern California (ESCNC) is submitting this report which describes the first semi-annual groundwater sampling event for 2001 at the subject site (Figure 1). This sampling event, the second semi-annual groundwater sampling, took place during the first quarter 2001. The last event was in the third quarter 2000. The scope of work included measuring depth to groundwater in all site wells, and purging and sampling wells MW-5, MW-6A, MW-9, and MW-10. As a result of previous free product in wells MW-6A and MW-10, these wells were inspected and groundwater samples taken where possible.

Groundwater Sampling on January 12, 2001

On January 12, 2001, Blaine Tech Services measured the depth to groundwater in monitoring wells MW-1 through MW-5, MW-6A, and MW-7 through MW-10. Free product was not detected in wells MW-6A and MW-10 during this event. However, a sheen was observed in MW-10. MW-9 was inaccessible due to a large pond of water covering the well box. Blaine Tech Services personnel purged and sampled wells MW-5, MW-6A, and MW-10, since the remainder of site wells were removed from the sampling schedule by Alameda County Health Care Services Agency (ACHCSA). The wells were purged of at least three well casing volumes of water and allowed to recharge to at least 80% prior to collecting samples. Samples were collected from the three wells with new disposable bailers. Purge water was stored in labeled 55-gallon drums and stored at the subject site. Well monitoring forms are included in Attachment A.

Groundwater elevations across the site ranged from 7.70 to 10.25 feet above mean sea level with an average elevation of 9.22 feet. The average groundwater elevation during this sampling event, not including wells MW-6A and MW-10, is 0.11 feet lower than during the third quarter 2000. The groundwater flow direction was toward the southeast with a approximate gradient of 0.005. Groundwater elevations are summarized in Table 1. The groundwater gradient map is shown on Figure 2.

The groundwater samples were delivered under chain of custody protocol to Entech Analytical Labs, Inc. (Entech, ELAP #2346). The samples from wells MW-5, MW-6A, and MW-10 were analyzed for total petroleum hydrocarbons as gasoline, diesel, and motor oil (TPHg, TPHd, and TPHmo, respectively) using EPA methods 3510/3630/8015; and benzene, toluene, ethylbenzene, total xylenes (BTEX), and methyl tert-butyl ether (MTBE) using EPA method 8020. Wells MW-9 were not sampled due to well being inaccessible.

Results

The analytical results of groundwater samples collected from wells MW-5, MW-6A, and MW-10 indicated hydrocarbon concentrations similar or a slight decline compared to historical levels. The MW-6A sample results indicated levels of TPHd and TPHmo that were within the quantitation range, but the chromatographic pattern was not typical of the fuels. The analytical results are summarized in Table 2. The laboratory analytical reports are included in Attachment B.

Discussion and Conclusions

The results from the wells sampled during this event indicate similar or a decline in concentrations of TPHg, TPHd, and TPHmo. Wells MW-6A and MW-10 did not have free product during the sampling for this event. The groundwater gradient has not significantly changed from previous events.

The conclusion, at least from this event, is that natural biodegradation has occurred within the three wells sampled.

Recommendations

ESCNC recommends continued monitoring and sampling of wells MW-6A and MW-10. The adjacent Navy property is planned for development with a remedial action plan proposed for the Navy well

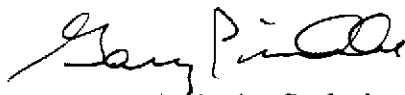
adjacent to the fire wall. The Navy FISC plans on using the bioslurping method to clean up the observed free product in their well adjacent to the fire wall.

ESCNC recommends placement of a bioremediation method adjacent to wells MW-6A and MW-10. This method would increase the localized biodegradation of the motor oil at MW-10, and the bunker crude at MW-6A. The bioremediation method could be installed as a curtain adjacent to MW-6A to prevent migration and enhance biodegradation of the bunker crude adjacent to MW-6A.

If you have any questions regarding this report, please call the undersigned at your earliest convenience.

Very truly yours,

EARTH SYSTEMS CONSULTANTS
Northern California



Gary Pischke, Senior Geologist
Certified Engineering Geologist 1501

GP/CWG: gwDisk004.21

Distribution: 1 to addressee
1 to Mr. John Beery

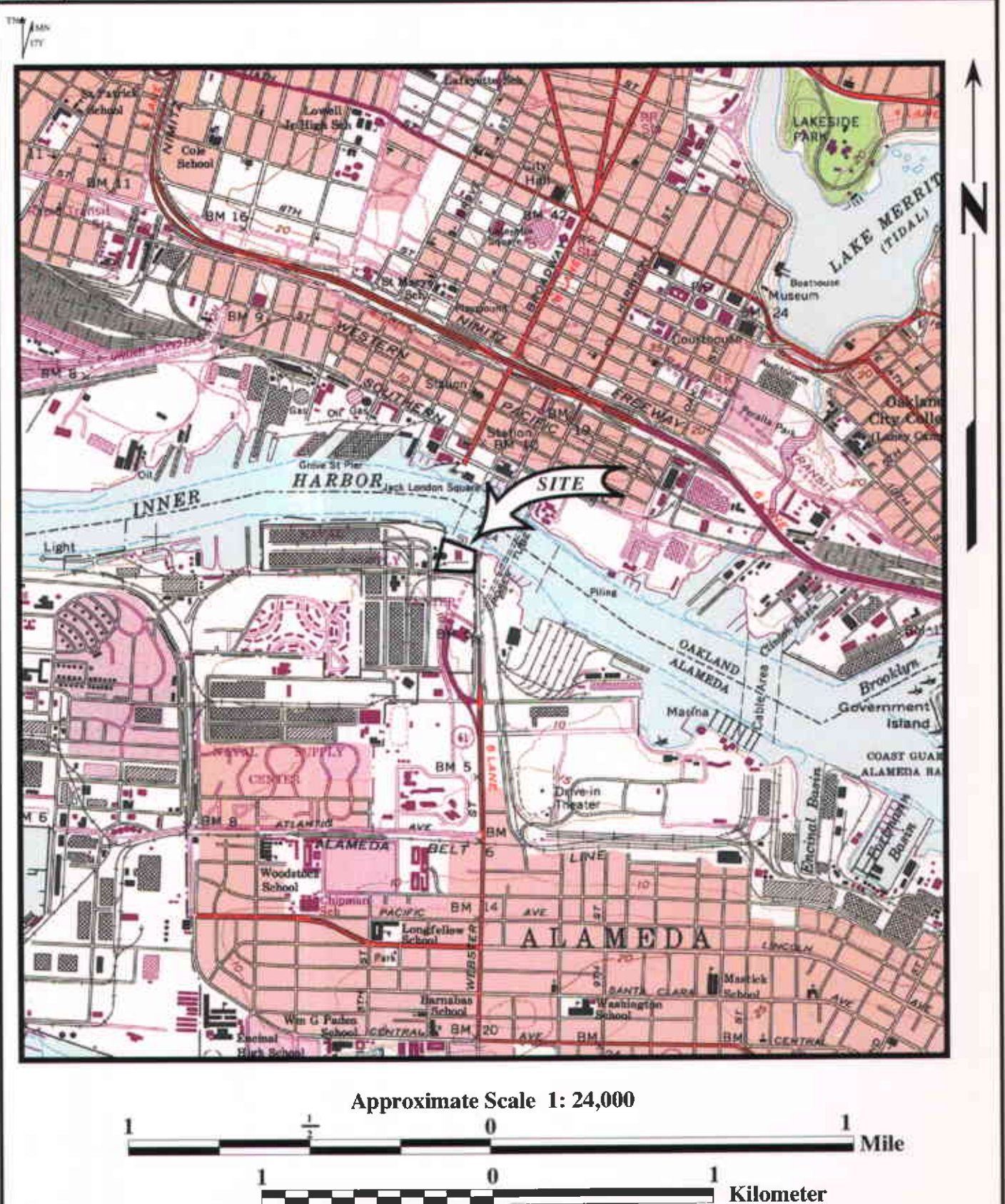


Carl W. Greenlee
Senior Engineer
Geotechnical Engineer 355

FIGURES

Figure 1 – Site Location

Figure 2 – Groundwater Gradient Map



Base: U.S.G.S. 7.5 minute Oakland West Quadrangle (1980)
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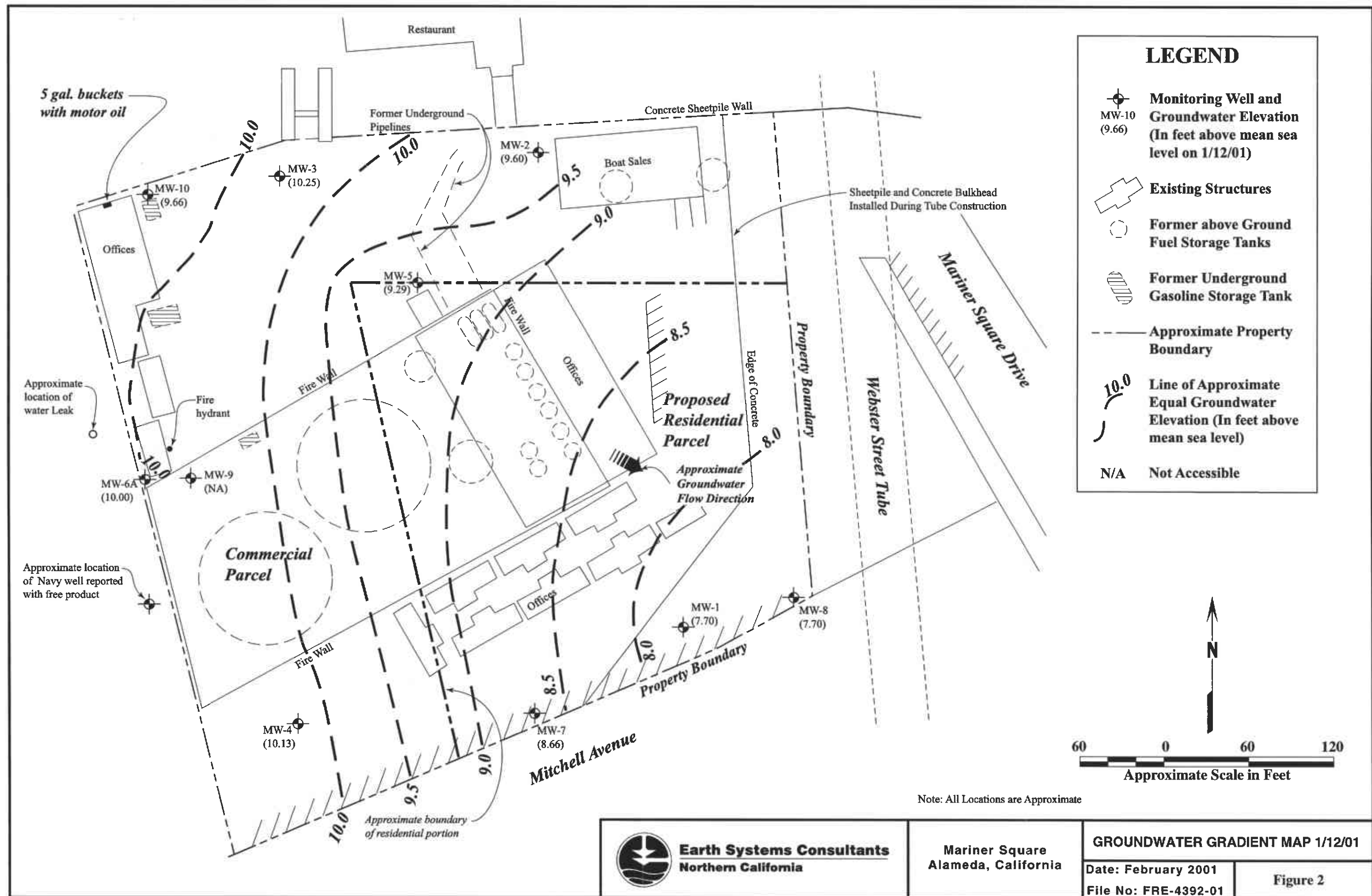


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Northern California

Mariner Square
Alameda, California

SITE LOCATION

Figure 1



TABLES

Table I – Historical Groundwater Elevations

Table II – Groundwater Analytical Results -- Organics

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Table I – Historical Groundwater Elevations

Table II – Groundwater Analytical Results -- Organics

TABLE 1
Historical Groundwater Elevations
Mariner Square, Alameda, California

Well	Date	Top of Casing (feet above msl)	Depth to Water (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet above msl)
MW-1	07/30/92	5.08	6.41	-	-1.33
	07/31/92	5.08	6.41	-	-1.33
	08/03/92	5.08	6.50	-	-1.42
	08/05/92	5.08	6.50	-	-1.42
	11/20/92	5.08	6.23	-	-1.15
	06/13/94	11.99	5.69	-	6.30
	09/27/94	11.99	5.64	-	6.35
	10/25/94	11.99	5.86	-	6.13
	06/28/96	11.99	5.34	-	6.65
	10/31/96	11.99	5.38	-	6.61
	09/30/97	11.99	5.08	-	6.91
	12/12/97	11.99	4.16	-	7.83
	02/18/98	11.99	2.97	-	9.02
	05/08/98	11.99	4.55	-	7.44
	06/24/99	11.99	4.75	-	7.24
	08/10/99	11.99	4.82	-	7.17
	09/09/99	11.99	4.94	-	7.05
	11/24/99	11.99	5.20	-	6.79
	03/15/00	11.99	3.92	-	8.07
	08/03/00	11.99	4.71	-	7.28
	01/12/01	11.99	4.29	-	7.70
MW-2	07/30/92	8.30	5.98	-	2.32
	07/31/92	8.30	6.07	-	2.23
	08/03/92	8.30	6.11	-	2.19
	08/05/92	8.30	6.18	-	2.12
	11/20/92	8.30	6.42	-	1.88
	06/13/94	15.21	5.92	-	9.29
	09/26/94	15.21	6.51	-	8.70
	10/25/94	15.21	6.67	-	8.54
	06/28/96	15.21	5.68	-	9.53
	10/31/96	15.21	6.37	-	8.84
	09/30/97	15.21	6.17	-	9.04
	12/12/97	15.21	5.18	-	10.03
	02/18/98	15.21	3.96	-	11.25
	05/08/98	15.21	4.82	-	10.39
	06/24/99	15.21	4.69	-	10.52
	08/10/99	15.21	4.72	-	10.49
	09/09/99	15.21	5.31	-	9.90
	11/24/99	15.21	5.83	-	9.38

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Historical Groundwater Elevations
Mariner Square, Alameda, California

Well	Date	Top of Casing (feet above msl)	Depth to Water (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet above msl)
MW-2	03/15/00	15.21	4.00	-	11.21
	08/03/00	15.21	5.45	-	9.76
	01/21/01	15.21	5.61	-	9.60
continued					
MW-3	07/30/92	7.28	4.97	-	2.31
	07/31/92	7.28	5.05	-	2.23
	08/03/92	7.28	4.43	-	2.85
	08/05/92	7.28	5.06	-	2.22
	11/20/92	7.28	5.27	-	2.01
	06/13/94	14.19	4.91	-	9.28
	09/27/94	14.19	5.29	-	8.90
	10/25/94	14.19	5.42	-	8.77
	06/28/96	14.19	4.69	-	9.50
	10/31/96	14.19	5.24	-	8.95
	09/30/97	14.19	5.04	-	9.15
	12/12/97	14.19	4.32	-	9.87
	02/18/98	14.19	2.97	-	11.22
	05/08/98	14.19	3.85	-	10.34
	06/24/99	14.19	2.95	-	11.24
	08/10/99	14.19	3.01	-	11.18
	09/09/99	14.19	4.10	-	10.09
	11/24/99	14.19	4.60	-	9.59
	03/15/00	14.19	3.00	-	11.19
	08/03/00	14.19	4.11	-	10.08
	01/12/01	14.19	3.94	-	10.25
MW-4	07/30/92	7.05	4.81	-	2.24
	07/31/92	7.05	4.88	-	2.17
	08/05/92	7.05	4.96	-	2.09
	11/20/92	7.05	5.13	-	1.92
	06/13/94	13.95	4.50	-	9.45
	09/27/94	13.95	5.39	-	8.56
	10/25/94	13.95	5.55	-	8.40
	06/28/96	13.95	4.25	-	9.70
	10/31/96	13.95	5.05	-	8.90
	09/30/97	13.95	4.73	-	9.22
	12/12/97	13.95	3.65	-	10.30
	02/18/98	13.95	2.38	-	11.57
	05/08/98	13.95	3.47	-	10.48
	08/10/99	13.95	4.90	-	9.05
	09/09/99	13.95	3.99	-	9.96

TABLE 1
Historical Groundwater Elevations
Mariner Square, Alameda, California

Well	Date	Top of Casing (feet above msl)	Depth to Water (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet above msl)
MW-4 continued	11/24/99	13.95	4.25	-	9.70
	03/15/00	13.95	2.50	-	11.45
	08/03/00	13.95	4.13	-	9.82
	01/12/01	13.95	3.82	-	10.13
MW-5	07/30/92	7.68	5.30	-	2.38
	07/31/92	7.68	5.42	-	2.26
	08/03/92	7.68	5.40	-	2.28
	08/05/92	7.68	5.47	-	2.21
	11/20/92	7.68	5.74	-	1.94
	06/13/94	14.60	5.30	-	9.30
	09/26/94	14.60	5.82	-	8.78
	10/25/94	14.60	5.95	-	8.65
	06/28/96	14.60	5.04	-	9.56
	10/31/96	14.60	5.73	-	8.87
	09/30/97	14.60	5.45	-	9.15
	12/12/97	14.60	4.71	-	9.89
	02/18/98	14.60	3.10	-	11.50
	05/08/98	14.60	4.13	-	10.47
	06/24/99	14.60	3.65	-	10.95
	08/10/99	14.60	3.71	-	10.89
	09/09/99	14.60	4.51	-	10.09
	11/24/99	14.60	4.91	Sheen	9.69
	03/15/00	14.60	3.03	Sheen	11.57
	08/03/00	14.60	4.57	-	10.03
	01/12/01	14.60	5.31	-	9.29
MW-6	06/13/94	14.81	5.96	0.02	8.85
	09/27/94	14.81	5.90	0.03	8.91
	10/07/94	14.81	5.82	Sheen	8.99
	10/14/94	14.81	5.89	Sheen	8.92
	10/21/94	14.81	5.90	Sheen	8.91
	10/25/94	14.81	5.99	Sheen	8.82
	06/28/96	14.81	5.33	0.16	9.48
	10/31/96	14.81	5.17	0.02	9.64
	09/30/97	14.81	5.58	Sheen	9.23
	12/12/97	14.81	4.84	0.39	9.97
	02/18/98	14.81	3.70	0.55	11.11
	04/28/98			Well Destroyed	

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Mariner Square, Alameda, California

Well	Date	Top of Casing (feet above msl)	Depth to Water (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet above msl)
MW-6A	08/10/99	15.22	4.96	Sheen	10.26
	09/09/99	15.22	4.35	Sheen	10.87
	11/24/99	15.22	4.90	Sheen	10.32
	03/15/00	15.22	3.61	Sheen	11.61
	08/03/00	15.22	4.44	Sheen/FP	10.78
	01/12/01	15.22	5.22		10.00
MW-7	09/27/94	13.61	5.95	-	7.66
	10/25/94	13.61	6.09	-	7.52
	06/28/96	13.61	5.42	-	8.19
	10/31/96	13.61	5.90	-	7.71
	09/30/97	13.61	5.71	-	7.90
	12/12/97	13.61	4.58	-	9.03
	02/18/98	13.61	3.21	-	10.40
	05/08/98	13.61	4.49	-	9.12
	06/24/99	13.61	4.78	-	8.83
	08/10/99	13.61	4.76	-	8.85
	09/09/99	13.61	5.14	-	8.47
	11/24/99	13.61	5.29	-	8.32
	03/15/00	13.61	3.65	-	9.96
	08/03/00	13.61	5.05	-	8.56
	01/12/01	13.61	4.95	-	8.66
MW-8	09/27/94	12.64	6.06	-	6.58
	10/25/94	12.64	6.26	-	6.38
	06/28/96	12.64	6.00	-	6.64
	10/31/96	12.64	5.85	-	6.79
	09/30/97	12.64	5.60	-	7.04
	12/12/97	12.64	4.87	-	7.77
	02/18/98	12.64	3.80	-	8.84
	05/08/98	12.64	5.30	-	7.34
	06/24/99	12.64	5.42	-	7.22
	08/10/99	12.64	5.48	-	7.16
	09/09/99	12.64	5.50	-	7.14
	11/24/99	12.64	5.89	-	6.75
	03/15/00	12.64	4.71	-	7.93
	08/03/00	12.64	5.31	-	7.33
	01/12/01	12.64	4.94	-	7.70
MW-9	09/26/94	14.92	5.88	-	9.04
	10/25/94	14.92	6.04	-	8.88
	06/28/96	14.92	5.14	-	9.78
	10/31/96	14.92	6.37	-	8.55

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Historical Groundwater Elevations
Mariner Square, Alameda, California

Well	Date	Top of Casing (feet above msl)	Depth to Water (feet)	Free Product Thickness (feet)	Groundwater Elevation (feet above msl)
MW-9 continued	09/30/97	14.92	5.59	-	9.33
	12/12/97	14.92	4.53	-	10.39
	02/18/98	14.92	3.12	-	11.80
	05/08/98	14.92	4.20	-	10.72
	06/24/99	14.92	3.45	-	11.47
	08/10/99	14.92	3.56	-	11.36
	09/09/99	14.92	4.59	-	10.33
	11/24/99	14.92	4.72	-	10.20
	03/15/00	14.92	3.07	-	11.85
	08/03/00	14.92	4.50	-	10.42
	01/12/01	14.92	n/a	-	n/a
MW-10	08/10/99	14.91	4.55	Sheen	10.36
	09/09/99	14.91	5.08	Sheen	9.83
	11/24/99	14.91	5.30	Sheen	9.61
	03/15/00	14.91	4.12	Sheen	10.79
	08/03/00	14.91	5.67	Sheen/FP	9.24
	01/12/01	14.91	5.25	Sheen	9.66

msl Mean Sea Level
- None measured
FP Free Product--not able to measure thickness
n/a Not accessible

TABLE 2
Groundwater Analytical Results -- Organics
Mariner Square, Alameda, California

Well	Date	TRPH	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	VOCs	Vinyl Chloride
MW-1	08/03/92	-	-	580	<5,000	<0.5	<0.5	<0.5	<0.5	-	-	-
	11/20/92	-	<50	600	<5,000	<0.5	<0.5	<0.5	<0.5	-	-	<2
	09/27/94	-	<50	530	<50	<0.3	<0.3	<0.3	<0.3	-	-	-
	06/28/96	-	<100	<50	<200	<0.5	<1.0	<1.0	<2.0	-	-	<0.5
	10/31/96	-	<100	93	<200	<0.5	<1.0	<1.0	<2.0	<10	-	<1.0
	09/30/97	-	120	<50	<200	4.7	<1.0	3.7	21	<10	-	<0.8
	12/12/97	-	<50	<50	<200	<0.5	<0.5	<0.5	<2.0	<5	-	<2
	02/18/98	-	<50	<50	<200	1.5	0.6	1.8	8	<5	-	<2
	05/08/98	-	<50	<50	<200	1.0	<0.5	0.7	5	<5	-	<2
	06/24/99	-	<50	<50	110	<0.50	<0.50	<0.50	<1.5	<5.0	-	<0.50
	09/09/99	-	-	-	-	Not Sampled						
	11/24/99	-	-	-	<250	-	-	-	-	-	-	-
	03/15/00	-	-	-	-	Not Sampled						
	08/03/00	-	-	-	-	Sampling discontinued						
MW-2	08/03/92	-	-	2,200	<5,000	<0.5	6.5	3.2	5.3	-	-	-
	11/20/92	-	340	2,100	<5,000	<0.5	<0.5	<0.5	2.4	-	-	<2
	09/26/94	-	320	<50	240	<3.0	<3.0	<3.0	<3.0	-	-	-
	06/28/96 (1)	-	980	100 (2,3)	<200	0.5	<1.0	2.3	3.1	-	-	<0.5
	10/31/96	-	220	180	<200	<0.5	<1.0	<1.0	<2.0	<10	-	<1.0
	09/30/97	-	900	150 (2)	<200	0.8	<1.0	2	6.2	<10	-	<0.8
	12/12/97	-	360	<50	<200	1.1	<0.5	2.2	3	<5	-	<2
	02/18/98	-	90	<50	<200	<0.5	<0.5	1.1	2	<5	-	<2
	05/08/98	-	170	<50	<200	<0.5	<0.5	1.7	3	<5	-	<2
	06/24/99	-	<50	<50	<100	<0.50	0.66	<0.50	<1.5	<5.0	-	<0.50
	09/09/99	-	120	130	<100	<0.50	<0.50	<0.50	<0.50	<5.0	-	-
	11/24/99	-	770	260 (4)	<250	0.92	<0.50	2.7	3.4	<5.0	-	-
	03/15/00	-	91	110 (4)	<250	<0.5	<0.5	<0.5	<0.5	<5	-	-
	08/03/00	-	-	-	-	Sampling discontinued						

TABLE 2
Groundwater Analytical Results -- Organics
Mariner Square, Alameda, California

Well	Date	TRPH	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	VOCs	Vinyl Chloride
MW-3	08/03/92	-	-	1,000	<5,000	<0.5	1	<0.5	2.4	-	-	-
	11/20/92	-	98	2,000	<5,000	<0.5	<0.5	0.9	1	-	-	<2
	09/27/94	-	<50	720	<50	<3.0	<0.3	<0.3	<0.3	-	-	-
	06/28/96	-	<100	120 (2)	<200	<0.5	<1.0	<1.0	<2.0	-	-	<0.5
	10/31/96	-	<100	160	<200	<0.5	<1.0	<1.0	<2.0	<10	-	<1.0
	09/30/97	-	<100	70	<200	0.8	<1.0	<1.0	3.3	<10	-	<0.8
	12/12/97	-	80	<50	<200	0.7	<0.5	0.7	4	9	-	<2
	02/18/98	-	60	<50	<200	<0.5	<0.5	<0.5	4	7	-	<2
	05/08/98	-	<50	<50	<200	0.5	<0.5	0.5	4	<5	-	<2
	06/24/99	-	<50	<50	<100	<0.50	1.1	<0.50	2.6	5.0	-	<0.50
	09/09/99	-	64	100	<100	<0.50	<0.50	<0.50	0.65	<5.0	-	-
	11/24/99	-	95	140 (4)	<250	<0.50	<0.50	<0.50	<0.50	<5.0	-	-
	03/15/00	-	88	350 (4)	440 (4)	<0.5	<0.5	<0.5	<0.5	<5.0	-	-
	08/03/00	Sampling discontinued										
MW-4	08/05/92	-	-	1,300	<5,000	16	2.6	0.6	2.7	-	-	9.0
	11/20/92	-	330	2,400	<5,000	31	5.2	0.7	2	-	-	13
	09/27/94	-	<50	890	<50	12	0.43	<0.3	<0.3	-	-	8.0
	06/28/96	-	180	170 (2,3)	<200	4	<1.0	<1.0	<2.0	-	-	2.5
	10/31/96	-	110	330	<200	6.2	<1.0	<1.0	<2.0	<10	-	4.3
	09/30/97	-	650	170 (2)	<200	3.9	<1.0	<1.0	<2.0	460	-	3.1
	12/12/97	-	260	<50	<200	4.9	0.9	<0.5	<2.0	320	-	3
	02/18/98	-	240	<50	<200	1.0	1.0	2.1	10	290	-	2
	05/08/98	-	90	<50	<200	0.5	0.5	0.8	5	30	-	<2
	08/10/99	-	93	270 (4)	320	0.59	1.4	<0.5	4.2	11	-	<0.5
	09/09/99	-	72	250	<100	<0.50	<0.50	<0.50	<0.50	25	-	-
	11/24/99	-	200	280 (4)	330 (4)	4.7	<0.50	0.68	<0.50	26	-	-
	03/15/00	-	82	300 (4)	390 (4)	1.2	<0.5	<0.5	<0.5	6.7	-	-
	08/03/00	Sampling discontinued										

TABLE 2
Groundwater Analytical Results -- Organics
Mariner Square, Alameda, California

Well	Date	TRPH	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	VOCs	Vinyl Chloride
MW-5	08/03/92	-	-	2,200	<5,000	9	6	49	11	-	-	-
	11/20/92	-	4,800	1,500	<5,000	7.6	12	5.8	26	-	-	<2
	09/26/94	-	3,100	780	<500	7.9	11	8.7	14	-	-	-
	06/28/96	-	5,000	610 (2,3)	790	1.2	6.8	21	14	-	-	<0.5
	10/31/96	-	6,800	4,900	860	20	5.9	15	19	<10	-	<1.0
	09/30/97	-	9,000	4,100 (2)	520	35	5.3	36	32	12	-	<0.8
	12/12/97	-	3,400	90	<200	26	4.6	5.9	13	11	-	<2
	02/18/98	-	3,200	<50	<200	7.9	1.4	14	12	<5	-	<2
	05/08/98	-	3,900	<50	<200	8.0	22	19	10	<5	-	<2
	06/24/99	-	290	60	<100	48	8.8	8.6	33	<5.0	-	<0.50
	09/09/99	-	5,000	8,800	<100	32	16	20	14	12	-	-
	11/24/99	-	3,200	3,400 (4)	1,700	25	<2.5	15	10	<25	-	-
	03/15/00	-	1,400	6,600 (4)	4,200	4.7	6.9	3.5	2.4	<5.0	-	-
	08/03/00	-	2,700	3,500(4)	1,000(4)	19	4.6	17	18	<5.0	-	-
	01/12/01	-	250	670(4)	840	0.53	<0.5	2.1	3.5	<5.0	-	-
MW-6	05/25/93	-	460	2,700,000	-	<5.0	<5.0	<5.0	<5.0	-	-	<10
	9/27/94	-	1,100	9,900	3,200	<3.0	<3.0	<3.0	<3.0	-	-	<1.0
	06/28/96	Not Sampled--Sheen Present										
	09/30/97	Not Sampled--Sheen Present										
	12/12/97	-	21,000	1,900,000	43,000	5	<0.5	8	19	<50	-	<2
	02/18/98	-	70,000	<50	<200	20	20	20	70	<100	-	<2
	04/28/98	-	800	920	<200	<0.5	<0.5	<0.5	<2	<5	-	<2
MW-6A	04/28/98	Well Destroyed										
	08/10/99	-	770	5,400 (4)	3,900 (4)	1.7	<0.5	<0.5	1.9	<5.0	-	<0.5
	09/09/99	-	670	180,000	<5,000	<0.50	0.61	0.66	<0.50	<5.0	-	-
	11/24/99	-	29,000	7,900	11,000	<25	<25	<25	<25	<250	-	-
	03/15/00	-	4,400	6,700	8,100	1.4	<1.0	<1.0	<1.0	<10	-	-
	08/03/00	Not Sampled--Sheen Present										
	09/06/00	-	290	3,600 (4)	4,600 (4)	0.60	<0.5	0.59	0.65	<5.0	-	-
	01/12/01	-	170	2,200 (4)	4,100 (4)	<0.5	<0.5	1.4	2.6	<5.0	-	-

TABLE 2
Groundwater Analytical Results -- Organics
Mariner Square, Alameda, California

Well	Date	TRPH	TPHg	TPHd	TPHmo	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	VOCs	Vinyl Chloride
MW-7	09/27/94	-	<250	1,800	<250	<0.3	<0.3	<0.3	<0.3	-	-	<1.0
	06/28/96	-	560	490 (2,3)	<200	0.6	<1.0	<1.0	2.7	-	-	<0.5
	10/31/96	-	200	420	<200	1.1	<1.0	<1.0	<2.0	<10	-	<1.0
	09/30/97	-	750	190 (2)	<200	8.1	5.3	<1.0	6.9	<10	-	<0.8
	12/12/97	-	420	<50	<200	7.9	<0.5	<0.5	5	5	-	<2
	02/18/98	-	650	<50	<200	9.5	0.6	<0.5	6	16	-	<2
	05/08/98	-	710	<50	<200	3.4	4.8	0.8	7	34	0.9 (5)	<2
	06/24/99	-	620	<250	<100	89	16	16	64	<5.0	-	<0.50
	09/09/99	-	420	400	<100	1.1	0.85	1.1	3.4	<5.0	-	-
	11/24/99	Sampling discontinued										
MW-8	09/27/94	-	<50	320	<50	<0.3	<0.3	<0.3	<0.3	-	-	-
	06/28/96	-	<100	58 (2)	<200	<0.5	<1.0	<1.0	<2.0	-	-	<0.5
	10/31/96	-	<100	120	<200	<0.5	<1.0	<1.0	<2.0	<10	-	<1.0
	09/30/97	-	110	70 (2)	<200	4.2	<1.0	3.4	16	<10	-	<0.8
	12/12/97	-	<50	<50	<200	<0.5	<0.5	<0.5	<2.0	15	-	<2
	02/18/98	-	<50	<50	<200	0.9	<0.5	0.8	3	5	-	<2
	05/08/98	-	<50	<50	<200	<0.5	<0.5	<0.5	<2.0	5	-	<2
	06/24/99	-	350	<50	<100	64	11	12	45	<5.0	-	<0.50
	09/09/99	-	56	120	130	<0.50	<0.50	<0.50	<0.50	<5.0	-	-
	11/24/99	-	-	-	<250	-	-	-	-	-	-	-
MW-9	09/26/94	-	<500	2,200	<500	<0.3	<0.3	<0.3	<0.3	-	-	<1.0
	06/28/96	-	390	550 (2,3)	<200	5.2	<1.0	<1.0	<2.0	-	-	<0.5
	10/31/96	-	300	590	720	5.9	<1.0	<1.0	<2.0	<10	-	<1.0
	09/30/97	-	150	460 (2)	<200	0.6	<1.0	<1.0	2.7	<10	-	<0.8
	12/12/97	-	180	<50	<200	<0.5	<0.5	<0.5	<2.0	5	-	<2
	02/18/98	-	100	<50	<200	<0.5	0.5	<0.5	<2.0	6	-	<2
	05/08/98	-	70	130	<200	<0.5	<0.5	<0.5	<2.0	16	-	<2
	06/24/99	-	380	140	<100	51	10	11	39	<5.0	-	<0.50
		Not Sampled										
		Sampling discontinued										

TABLE 2
Groundwater Analytical Results -- Organics
Mariner Square, Alameda, California

Well	Date	TRPH	TPHg	THPd	TPHmo	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE	VOCs	Vinyl Chloride
MW-9 continued	09/09/99	-	140	340	<100	<0.50	<0.50	<0.50	1.0	<5.0	-	-
	11/24/99	-	-	-	-	-	Not Sampled	-	-	-	-	-
	03/15/00	-	<50	650 (4)	900 (4)	<0.5	<0.5	<0.5	<0.5	<5.0	-	-
	08/03/00	-	<50	610 (4)	650 (4)	<0.5	<0.5	<0.5	<0.5	<5.0	-	-
	01/12/01	-	-	-	-	-	Not Sampled	-	-	-	-	-
MW-10	08/10/99	-	1,300	3,000 (4)	8,200 (4)	9.2	1.9	12	46	<5.0	-	NA
	09/09/99	-	890	8,600	210,000	5.2	<0.50	13	37	<5.0	-	-
	11/24/99	-	1,700	<500	17,000	6.7	0.67	9.5	28	<5.0	-	-
	03/15/00	-	1,200	<500	14,000	3.5	<1.0	2.2	18	<10	-	-
	08/03/00	-	-	-	-	-	Not Sampled--Sheen Present	-	-	-	-	-
	09/06/00	-	350	<260	6,400	1.4	<0.5	1.0	18	<5.0	-	-
	01/12/01	-	140	4,500 (4)	16,000	1.3	<0.5	1.0	12	<5.0	-	-

All results reported in parts per billion

TRPH Total Recoverable Petroleum Hydrocarbons

TPHg Total Petroleum Hydrocarbons as gasoline

THPd Total Petroleum Hydrocarbons as diesel

* Total Petroleum Hydrocarbons as Bunker Oil.

(1) Water sample also analyzed for Freon 113 by EPA Method 8010A. Results were below the detection limit of 1.0 ppb.

(2) Qualitative identification is uncertain because the material present does not match laboratory standards.

(3) Quantitation uncertain due to matrix interferences

(4) Results within quantitation range; chromatographic pattern not typical of fuel

(5) Tetrachloroethene reported by lab on vinyl chloride sample unedited run.

< Analyte not detected at or above stated detection limit

TPHmo Total Petroleum Hydrocarbons as motor oil

VOCs Volatile Organic Compounds

MTBE Methyl Tert-Butyl Ether

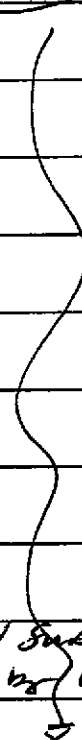
ATTACHMENT A

Well Monitoring Forms (January 12, 2001)

WELL GAUGING DATA

Project # 010112-41 Date 1/12/01 Client Earth Systems

Site Mariner Square Alameda, Ca.

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	
MW-1	2			No Lid		4.29	11.39		
MW-2	2					5.61	13.38		
MW-3	2					3.94	9.53		
MW-4	2			No Lid		3.62	11.52		
MW-5	2					5.22 5.31	13.42		
MW-6	1					5.22	10.84		
MW-7	4					4.95	13.50		
MW-8	4					4.94	13.83		
MW-9	4		Submerged / inaccessible					Surrounded by water puddle ↓	
MW-10	1	Shen				5.25	10.13		

WELL MONITORING DATA SHEET

Project #: 010112-41	Client: Earth Systems
Sampler: OA	Start Date: 11/12/01
Well I.D.: MW-5	Well Diameter: 2 3 4 6 8
Total Well Depth: 13.41	Depth to Water: 5.31
Before: After: ,	Before: After:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:

Bailer
 Disposable Bailer ☒
 Middleburg
 Electric Submersible
 Waterra
 Peristaltic
 Extraction Pump
 Other:

Sampling Method:

Bailer
 Disposable Bailer ☒
 Extraction Port
 Dedicated Tubing
 Other:

1.2 (Gals.) X 3 = 3.6 Gals.
 1 Case Volume Specified Volumes Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
937	60.1	7.1	856	170	1.5	
940	61.7	7.1	893	182	2.5	
943	62.1	7.1	898	179	3.5	

Did well dewater? Yes ☒ No Gallons actually evacuated: 3.5

Sampling Time: 948 Sampling Date: 11/12/01

Sample I.D.: MW-5 Laboratory: Entech

Analyzed for: TPH-G BTEX MTBE TPH-D Other: Motor Oil

Equipment Blank I.D.: @ Time Duplicate I.D.:

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: <u>010112-41</u>	Client: <u>Earth Systems</u>
Sampler: <u>OA</u>	Start Date: <u>1/12/01</u>
Well I.D.: <u>MW-6A</u>	Well Diameter: 2 3 4 6 8 <u>9</u>
Total Well Depth: <u>10.64</u>	Depth to Water: <u>5.22</u>
Before: After: ,	Before: After: ,
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:

Bailer

Disposable Bailer

Middleburg

Electric Submersible

Waterra

Peristaltic

Extraction Pump

Other: _____

Sampling Method:

Bailer

Disposable Bailer 0

Extraction Port

Dedicated Tubing

Other: _____

.2	(Gals.) X	3	=	.6	Gals.
I Case Volume		Specified Volumes		Calculated Volume	

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	<u>Other</u>	<u>.0407</u> radius ² * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
1/08	61.2	7.7	145	172	.2	
1/15	60.2	7.3	327	2200	.4	
1/19	60.4	7.3	336	2200	.5	

Did well dewater? Yes No Gallons actually evacuated: .6

Sampling Time: 1127 Sampling Date: 1/12/01

Sample I.D.: MW-6A Laboratory: Entech

Analyzed for: TPH-G BTEX MTBE TPH-D Other: Motor Oil

Equipment Blank I.D.: _____ @ _____ Time Duplicate I.D.: _____

Analyzed for: TPH-G BTEX MTBE TPH-D Other: _____

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: <u>010112-41</u>	Client: <u>Earth Systems</u>
Sampler: <u>OA</u>	Start Date: <u>1/12/01</u>
Well I.D.: <u>MW-9</u>	Well Diameter: 2 3 4 6 8 <u> </u>
Total Well Depth: <u> </u>	Depth to Water: <u> </u>
Before: <u> </u> After: <u> </u>	Before: <u> </u> After: <u> </u>
Depth to Free Product: <u> </u>	Thickness of Free Product (feet): <u> </u>
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:

Bailer

Disposable Bailer

Middleburg

Electric Submersible

Waterira

Peristaltic

Extraction Pump

Other

Sampling Method:

Bailer

Disposable Bailer 0

Extraction Port

Dedicated Tubing

Other:

(Gals.) X <u>3</u>	=	Gals.
1 Case Volume	Specified Volumes	Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius ² * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
						<u>UNDER LARGE Puddle</u>
						<u>20' W. the next to Storm Drain</u>

Did well dewater? Yes No

Gallons actually evacuated:

Sampling Time:

Sampling Date: 1/12/01

Sample I.D.: MW-9

Laboratory: Entech

Analyzed for: TPH-G BTEX MTBE TPH-D Other: Motor Oil

Equipment Blank I.D.: @ Time Duplicate I.D.:

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: <u>010112-41</u>	Client: <u>Earth Systems</u>
Sampler: <u>OA</u>	Start Date: <u>1/12/01</u>
Well I.D.: <u>MW-10</u>	Well Diameter: 2 3 4 6 8 <u>9</u>
Total Well Depth: <u>10.13</u>	Depth to Water: <u>5.25</u>
Before: After: ,	Before: After:
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH

Purge Method:

Bailer

Disposable Bailer ☒

Middleburg

Electric Submersible

Waterra

Peristaltic

Extraction Pump

Other _____

Sampling Method:

Bailer

Disposable Bailer ☒

Extraction Port

Dedicated Tubing

Other: _____

.1	(Gals.) X	3	=	.3	Gals.
1 Case Volume		Specified Volumes		Calculated Volume	

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	<u>radius</u> ² * 0.163

Time	Temp (°F)	pH	Cond.	Turbidity	Gals. Removed	Observations
1151	62.5	7.2	1076	141	.1	shoen
1153	61.9	7.3	1081	160	.2	
1159	61.8	7.3	1082	172	.3	

Did well dewater? Yes ☒ No

Gallons actually evacuated: 3

Sampling Time: 1210

Sampling Date: 1/12/01

Sample I.D.: MW-10

Laboratory: Entech

Analyzed for: TPH-G BTEX MTBE TPH-D Other: Motor Oil

Equipment Blank I.D.: @ Time

Duplicate I.D.:

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
ORP (if req'd):	Pre-purge:	mV	Post-purge:	mV

Date 1/12/01

		Assigned	Completed
MW-9	No Lid Could be under Concrete		
MW-7	No Lid 8" Emco wheels 3/4 in bolts		

ATTACHMENT B

Laboratory Analytical Reports (January 12, 2001)

Entech Analytical Labs, Inc.

REC'D JAN 23 2001

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

January 19, 2001

Gary Pischke
Earth Systems Consultants
47853 Warm Springs Boulevard
Fremont, CA 94539-7400

Order: 23970

Date Collected: 1/12/01

Project Name:

Date Received: 1/12/01

Project Number: BTS#010112-A1

P.O. Number: Invoice to Mariner Square Assoc

Project Notes:

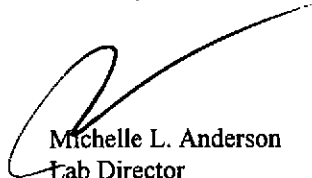
On January 12, 2001, samples were received under documented chain of custody. Results for the following analyses are attached:

<u>Matrix</u>	<u>Test</u>	<u>Method</u>
Liquid	Gas/BTEX/MTBE	EPA 8015 MOD. (Purgeable)
		EPA 8020
	TPH as Diesel	EPA 8015 MOD. (Extractable)
	TPH as Motor Oil	EPA 8015 MOD. (Extractable)

Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#2346). If you have any questions regarding procedures or results, please call me at 408-735-1550.

Sincerely,



Michelle L. Anderson
Lab Director

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Earth Systems Consultants
47853 Warm Springs Boulevard
Fremont, CA 94539-7400
Attn: Gary Pischke

Date: 01/19/01
Date Received: 1/12/01
Project Name:
Project Number: BTS#010112-A1
P.O. Number: Invoice to Mariner Square Assoc.
Sampled By: Blaine Tech

Certified Analytical Report

Order ID: 23970		Lab Sample ID: 23970-001				Client Sample ID: MW-5				
Sample Time: 9:48 AM		Sample Date: 1/12/01				Matrix: Liquid				
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	670	x	1	50	50	µg/L	1/15/01	1/17/01	DW010104	EPA 8015 MOD. (Extractable)
Surrogate o-Terphenyl						Surrogate Recovery		Control Limits (%)		
						92		45 - 105		

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Motor Oil	840		1	250	250	µg/L	1/15/01	1/17/01	DW010104	EPA 8015 MOD. (Extractable)
Surrogate o-Terphenyl						Surrogate Recovery		Control Limits (%)		
						92		45 - 120		

Order ID: 23970		Lab Sample ID: 23970-002				Client Sample ID: MW-6A				
Sample Time: 11:27 AM		Sample Date: 1/12/01				Matrix: Liquid				
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	2200	x	5	62	310	µg/L	1/15/01	1/17/01	DW010104	EPA 8015 MOD. (Extractable)
Surrogate o-Terphenyl						Surrogate Recovery		Control Limits (%)		
						105		45 - 105		

Comment:

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Motor Oil	4100	x	5	310	1550	µg/L	1/15/01	1/17/01	DW010104	EPA 8015 MOD. (Extractable)
Surrogate o-Terphenyl						Surrogate Recovery		Control Limits (%)		
						105		45 - 120		

Comment: Reporting limits increased due to limited sample volume.

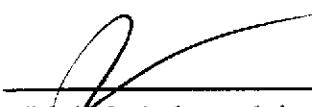
DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Earth Systems Consultants
47853 Warm Springs Boulevard
Fremont, CA 94539-7400
Attn: Gary Pischke

Date: 01/19/01
Date Received: 1/12/01
Project Name:
Project Number: BTS#010112-A1
P.O. Number: Invoice to Mariner Square Assoc.
Sampled By: Blaine Tech

Certified Analytical Report

Order ID: 23970

Lab Sample ID: 23970-003

Client Sample ID: MW-10

Sample Time: 12:10 PM

Sample Date: 1/12/01

Matrix: Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Diesel	4500	x	20	58	1160	µg/L	1/15/01	1/17/01	DW010104	EPA 8015 MOD. (Extractable)
Surrogate o-Terphenyl							Surrogate Recovery 94		Control Limits (%) 45 - 105	

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Motor Oil	16000		20	290	5800	µg/L	1/15/01	1/17/01	DW010104	EPA 8015 MOD. (Extractable)
Surrogate o-Terphenyl							Surrogate Recovery 94		Control Limits (%) 45 - 120	

Comment: Reporting limits increased due to limited sample volume.

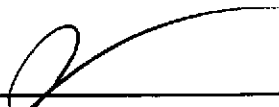
DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Earth Systems Consultants
47853 Warm Springs Boulevard
Fremont, CA 94539-7400
Attn: Gary Pischke

Date: 01/19/01
Date Received: 1/12/01
Project Name:
Project Number: BTS#010112-A1
P.O. Number: Invoice to Mariner Square Assoc.
Sampled By: Blaine Tech

Certified Analytical Report

Order ID: 23970			Lab Sample ID: 23970-001				Client Sample ID: MW-5			
Sample Time: 9:48 AM			Sample Date: 1/12/01				Matrix: Liquid			
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	0.53		1	0.5	0.5	µg/L	N/A	1/15/01	WGC2010112	EPA 8020
Toluene	ND		1	0.5	0.5	µg/L	N/A	1/15/01	WGC2010112	EPA 8020
Ethyl Benzene	2.1		1	0.5	0.5	µg/L	N/A	1/15/01	WGC2010112	EPA 8020
Xylenes, Total	3.5		1	0.5	0.5	µg/L	N/A	1/15/01	WGC2010112	EPA 8020
Surrogate aaa-Trifluorotoluene							Surrogate Recovery 72		Control Limits (%) 65 - 135	
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		1	5	5	µg/L	N/A	1/15/01	WGC2010112	EPA 8020
Surrogate aaa-Trifluorotoluene							Surrogate Recovery 72		Control Limits (%) 65 - 135	
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	250		1	50	50	µg/L	N/A	1/15/01	WGC2010112	EPA 8015 MOD. (Purgeable)
Surrogate aaa-Trifluorotoluene							Surrogate Recovery 68		Control Limits (%) 65 - 135	

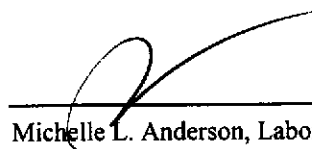
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ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

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Earth Systems Consultants
47853 Warm Springs Boulevard
Fremont, CA 94539-7400
Attn: Gary Pischke

Date: 01/19/01
Date Received: 1/12/01
Project Name:
Project Number: BTS#010112-A1
P.O. Number: Invoice to Mariner Square Assoc.
Sampled By: Blaine Tech

Certified Analytical Report

Order ID: 23970		Lab Sample ID: 23970-002				Client Sample ID: MW-6A				
Sample Time: 11:27 AM		Sample Date: 1/12/01				Matrix: Liquid				
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	N/A	1/17/01	WGC2010115	EPA 8020
Toluene	ND		1	0.5	0.5	µg/L	N/A	1/17/01	WGC2010115	EPA 8020
Ethyl Benzene	1.4		1	0.5	0.5	µg/L	N/A	1/17/01	WGC2010115	EPA 8020
Xylenes, Total	2.6		1	0.5	0.5	µg/L	N/A	1/17/01	WGC2010115	EPA 8020
Surrogate aaa-Trifluorotoluene							Surrogate Recovery 76		Control Limits (%) 65 - 135	
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		1	5	5	µg/L	N/A	1/17/01	WGC2010115	EPA 8020
Surrogate aaa-Trifluorotoluene							Surrogate Recovery 76		Control Limits (%) 65 - 135	
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	170		1	50	50	µg/L	N/A	1/17/01	WGC2010115	EPA 8015 MOD. (Purgeable)
Surrogate aaa-Trifluorotoluene							Surrogate Recovery 65		Control Limits (%) 65 - 135	

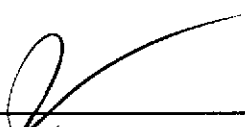
DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

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Project Number: BTS#010112-A1
P.O. Number: Invoice to Mariner Square Assoc.
Sampled By: Blaine Tech

Certified Analytical Report

Order ID: 23970

Lab Sample ID: 23970-003

Client Sample ID: MW-10

Sample Time: 12:10 PM

Sample Date: 1/12/01

Matrix: Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	1.3		1	0.5	0.5	µg/L	N/A	1/17/01	WGC2010115	EPA 8020
Toluene	ND		1	0.5	0.5	µg/L	N/A	1/17/01	WGC2010115	EPA 8020
Ethyl Benzene	1.0		1	0.5	0.5	µg/L	N/A	1/17/01	WGC2010115	EPA 8020
Xylenes, Total	12		1	0.5	0.5	µg/L	N/A	1/17/01	WGC2010115	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
aaa-Trifluorotoluene	76	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		1	5	5	µg/L	N/A	1/17/01	WGC2010115	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
aaa-Trifluorotoluene	76	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	140		1	50	50	µg/L	N/A	1/17/01	WGC2010115	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
aaa-Trifluorotoluene	71	65 - 135

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STANDARD LAB QUALIFIERS (FLAGS)

All Entech lab reports now reference standard lab qualifiers. These qualifiers are noted in the adjacent column to the analytical result and are adapted from the U.S. EPA CLP program. The current qualifier list is as follows:

Qualifier (Flag)	Description
U	Compound was analyzed for but not detected
J	Estimated value for tentatively identified compounds or if result is below PQL but above MDL
N	Presumptive evidence of a compound (for Tentatively Identified Compounds)
B	Analyte is found in the associated Method Blank
E	Compounds whose concentrations exceed the upper level of the calibration range
D	Multiple dilutions reported for analysis; discrepancies between analytes may be due to dilution
X	Results within quantitation range; chromatographic pattern not typical of fuel

Entech Analytical Labs, Inc.

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Quality Control Results Summary

QC Batch #: DW010104

Units: µg/L

Matrix: Liquid

Date Analyzed: 1/17/01

Parameter	Method	Method Blank	Spike Sample ID	Spike Amount	Sample Result	Spike Result	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
Test: TPH as Diesel											
TPH as Diesel	EPA 8015 M	ND		1000		632.23	LCS	63.2			50.0 - 135.0
Surrogate			Surrogate Recovery		Control Limits (%)						
o-Terphenyl			70		45 - 105						
Test: TPH as Diesel											
TPH as Diesel	EPA 8015 M	ND		1000		836.05	LCSD	83.6	27.76		50.0 - 135.0
Surrogate			Surrogate Recovery		Control Limits (%)						
o-Terphenyl			110		45 - 105						

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Quality Control Results Summary

QC Batch #: WGC2010112
Matrix: Liquid

Units: µg/L
Date Analyzed: 1/12/01

Parameter	Method	Method Blank	Spike Sample ID	Spike Amount	Sample Result	Spike Result	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
Test: TPH as Gasoline											
TPH as Gasoline	EPA 8015 M	ND		561		563.1	LCS	100.4			65.0 - 135.0
Surrogate			Surrogate Recovery		Control Limits (%)						
aaa-Trifluorotoluene			105		65 - 135						
Test: BTEX											
Benzene	EPA 8020	ND		6.2		6.5	LCS	104.8			65.0 - 135.0
Ethyl Benzene	EPA 8020	ND		7.8		7.4	LCS	94.9			65.0 - 135.0
Toluene	EPA 8020	ND		35.8		34.5	LCS	96.4			65.0 - 135.0
Xylenes, total	EPA 8020	ND		43		43.7	LCS	101.6			65.0 - 135.0
Surrogate			Surrogate Recovery		Control Limits (%)						
aaa-Trifluorotoluene			84		65 - 135						
Test: MTBE by EPA 8020											
Methyl-t-butyl Ether	EPA 8020	ND		52.8		48.5	LCS	91.9			65.0 - 135.0
Surrogate			Surrogate Recovery		Control Limits (%)						
aaa-Trifluorotoluene			84		65 - 135						
Test: TPH as Gasoline											
TPH as Gasoline	EPA 8015 M	ND		561		563.0	LCSD	100.4	0.02	25.00	65.0 - 135.0
Surrogate			Surrogate Recovery		Control Limits (%)						
aaa-Trifluorotoluene			105		65 - 135						
Test: BTEX											
Benzene	EPA 8020	ND		6.2		6.5	LCSD	104.8	0.00	25.00	65.0 - 135.0
Ethyl Benzene	EPA 8020	ND		7.8		7.6	LCSD	97.4	2.67	25.00	65.0 - 135.0
Toluene	EPA 8020	ND		35.8		35.3	LCSD	98.6	2.29	25.00	65.0 - 135.0
Xylenes, total	EPA 8020	ND		43		43.0	LCSD	100.0	1.61	25.00	65.0 - 135.0
Surrogate			Surrogate Recovery		Control Limits (%)						
aaa-Trifluorotoluene			85		65 - 135						
Test: MTBE by EPA 8020											
Methyl-t-butyl Ether	EPA 8020	ND		52.8		52.0	LCSD	98.5	6.97	25.00	65.0 - 135.0
Surrogate			Surrogate Recovery		Control Limits (%)						
aaa-Trifluorotoluene			85		65 - 135						

Entech Analytical Labs, Inc.

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Quality Control Results Summary

QC Batch #: WGC2010115

Units: µg/L

Matrix: Liquid

Date Analyzed: 1/15/01

Parameter	Method	Method Blank	Spike Sample ID	Spike Amount	Sample Result	Spike Result	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
Test: TPH as Gasoline											
TPH as Gasoline	EPA 8015 M	ND		561		570.5	LCS	101.7			65.0 - 135.0
Surrogate			Surrogate Recovery		Control Limits (%)						
aaa-Trifluorotoluene			107		65 - 135						
Test: BTEX											
Benzene	EPA 8020	ND		6.2		6.2	LCS	100.0			65.0 - 135.0
Ethyl Benzene	EPA 8020	ND		7.8		7.7	LCS	98.7			65.0 - 135.0
Toluene	EPA 8020	ND		35.8		36.3	LCS	101.4			65.0 - 135.0
Xylenes, total	EPA 8020	ND		43		43.8	LCS	101.9			65.0 - 135.0
Surrogate			Surrogate Recovery		Control Limits (%)						
aaa-Trifluorotoluene			78		65 - 135						
Test: MTBE by EPA 8020											
Methyl-t-butyl Ether	EPA 8020	ND		52.8		50.2	LCS	95.1			65.0 - 135.0
Surrogate			Surrogate Recovery		Control Limits (%)						
aaa-Trifluorotoluene			78		65 - 135						
Test: TPH as Gasoline											
TPH as Gasoline	EPA 8015 M	ND		561		551.1	LCSD	98.2	3.46	25.00	65.0 - 135.0
Surrogate			Surrogate Recovery		Control Limits (%)						
aaa-Trifluorotoluene			105		65 - 135						
Test: BTEX											
Benzene	EPA 8020	ND		6.2		6.6	LCSD	106.5	6.25	25.00	65.0 - 135.0
Ethyl Benzene	EPA 8020	ND		7.8		7.5	LCSD	96.2	2.63	25.00	65.0 - 135.0
Toluene	EPA 8020	ND		35.8		35.6	LCSD	99.4	1.95	25.00	65.0 - 135.0
Xylenes, total	EPA 8020	ND		43		42.8	LCSD	99.5	2.31	25.00	65.0 - 135.0
Surrogate			Surrogate Recovery		Control Limits (%)						
aaa-Trifluorotoluene			82		65 - 135						
Test: MTBE by EPA 8020											
Methyl-t-butyl Ether	EPA 8020	ND		52.8		49.5	LCSD	93.8	1.40	25.00	65.0 - 135.0
Surrogate			Surrogate Recovery		Control Limits (%)						
aaa-Trifluorotoluene			82		65 - 135						

TECH SERVICES, INC.

**1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112-1105
FAX (408) 573-7771
PHONE (408) 573-0555**

C = COMPOSITE ALL CONTAINERS

LAB	Entech	DHS #
ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND		
☐ EPA ☐ RWQCB REGION		
☐ LIA		
☐ OTHER		
SPECIAL INSTRUCTIONS		
Invoice and Report to : Mariner Square Assoc. Attn: John Beery 2900 Main St.#100 San Leandro, CA 94601		
Report to: Gary Pischke Earth Systems		
ADD'L INFORMATION	STATUS	CONDITION
		LAB SAMPLE #

[illegible]

SAMPLING COMPLETED	DATE 11/12/01	TIME	SAMPLING PERFORMED BY Oscar Angulo	RESULTS NEEDED NO LATER THAN	Per Client
RELEASED BY O. Angulo	DATE 11/12/01	TIME 1401	RECEIVED BY RA	DATE 1-17-01	
RELEASED BY RA	DATE 11/12/01	TIME 1610	RECEIVED BY K Bailey	DATE 11/12/01	
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	
SHIPPED VIA	DATE SENT	TIME SENT	COOLER #		