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20126

Flex your power!
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February 19, 2004

Mr. Don Hwang, Hazardous Materials Specialist
Environmental Health Services
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Dear Mr. Hwang:

Enclosed is the report for the fourth quarter 2003 groundwater sampling event at the former Thomas A. Short Company site (3430 Wood Street, Oakland, CA 94508). The monitoring well sampling took place on October 15, 2003.

Unfortunately, due to budget constraints in the State of California, funding restrictions have impacted this groundwater monitoring project. However, we are in the process of seeking funding for the continuation of monitoring. We will be resuming sampling work as soon as the funding is available. In the meanwhile, if you have any questions please call me at (510) 286-5647.

Sincerely,

Christopher R. Wilson

CHRISTOPHER R. WILSON
Senior Engineer
Office of Environmental Engineering

R0126

Shaw Environmental, Inc.

FOURTH QUARTER 2003 GROUNDWATER MONITORING REPORT
FORMER THOMAS A. SHORT COMPANY PROPERTY
OAKLAND, ALAMEDA COUNTY, CALIFORNIA

January 16, 2004

Prepared for:

California Department of Transportation
Office of Environmental Engineering
P.O. Box 23660
Oakland, California 94623-0660

Prepared By:

Shaw Environmental, Inc.
1326 North Market Boulevard
Sacramento, California 95834

Project No.: 830714.01010000

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FOURTH QUARTER 2003 GROUNDWATER MONITORING REPORT
FORMER THOMAS A. SHORT COMPANY PROPERTY
OAKLAND, ALAMEDA COUNTY, CALIFORNIA

Shaw Environmental, Inc. (Shaw), is pleased to submit this report for the fourth quarter 2003 groundwater monitoring event conducted at the former Thomas A. Short Company property, Oakland, Alameda County, California. This report is submitted in accordance with Contract No. 43A0078, Task Order No. 04-911052-WB.

The material and data in this report were prepared under the supervision and direction of the undersigned and performed consistent with generally accepted professional consulting principles and practices.

Shaw Environmental, Inc.

Martha Adams
Martha Adams, P.E.
Project Manager

Distribution: Chris Wilson, Caltrans
Project File 830714

1.0 Project History

The Thomas A. Short Company property (Figure 1) was purchased by California Department of Transportation (Caltrans) in 1994. According to a previous report on this site (Geocon, 2001), one 4,000-gallon gasoline underground storage tank (UST) and one 1,000-gallon diesel UST were located at the site. The USTs were removed in January 1993. Groundwater samples collected from monitoring well MW-1 in February and October 1993, following UST removal, were reported to contain 4.6 and 3.7 milligrams per liter (mg/l) total petroleum hydrocarbons as gasoline (TPHg), respectively (Geocon, 2001).

Three additional monitoring wells were installed in November 1996. The monitoring wells were buried during construction activities before groundwater samples could be collected. The wells have subsequently not been located.

Three more monitoring wells were installed in May 2000. Based on the results from quarterly groundwater monitoring since June 2000, groundwater has been encountered at depths ranging from approximately 2.45 to 5.03 meters (8.03 to 16.5 feet) from top of casing. Groundwater gradient directions have varied from east, southeast, southwest, and west. The most common groundwater gradient direction is southwest. TPHg concentrations have ranged from below the detection limit to 11 mg/l and total petroleum hydrocarbons as diesel (TPHd) concentrations have ranged from below the detection limit to 3.7 mg/l. Benzene concentrations have ranged from below the detection limit to 191 micrograms per liter (µg/l). Toluene and ethyl benzene have been detected at levels that do not exceed their respective risk-based screening levels. Xylene concentrations have ranged from below the detection limit to 121 µg/l. Various other volatile organic compounds (VOCs) common to gasoline have been reported. Methyl tertiary butyl ether (MTBE) concentrations have ranged from below the detection limit to 7 µg/l, well below its risk-based screening level of 1,800 µg/l.

2.0 Groundwater Sampling Event

2.1 Groundwater Sampling and Analytical Program

Groundwater sampling for the fourth quarter 2003 was conducted on October 15, 2003, by Shaw Environmental, Inc. (Shaw) personnel. This monitoring event included the collection and analysis of groundwater samples from three on-site monitoring wells. Monitoring procedures are included in Appendix A. Groundwater sample field data sheets are included in Appendix B.

Groundwater samples were analyzed by Sparger Technology, Inc. (Sparger), of Sacramento, California, a California-certified analytical laboratory. Samples were collected, retained, and transported to the laboratory using chain-of-custody procedures. The analyses were conducted on a normal turn-around basis in general accordance with holding times specified by the U.S. Environmental Protection Agency (EPA). The analyses were performed in general accordance with the following EPA methods listed.

Matrix	Analyses
Water	TPHg, EPA Method 8015 modified
Water	TPHd, EPA Method 8015 modified
Water	VOCs, EPA Method 8260B
Water	California Assessment Manual (CAM) 17 Metals, EPA 6010/7470

Samples collected for CAM 17 Metals analysis were transferred into unpreserved containers in the field. The samples were filtered and preserved at the laboratory prior to analysis.

2.2 Quality Assurance Program

The quality assurance (QA) program included the collection and analysis of travel blanks. These additional samples were submitted for analysis to assess potential errors introduced during transport of the groundwater samples. A trip blank was carried in the insulated chest with the groundwater samples. The trip blank consisted of two volatile organic analysis (VOA) vials filled at the laboratory with water that had been purged of VOCs. The trip blank was analyzed for total petroleum hydrocarbons as gasoline and VOCs in accordance with the methods listed in Section 2.1. A brief assessment of the QA data is presented in this report.

The purpose of the travel blanks was to assess potential "cross contamination" of samples during storage and transport to the laboratory. During this program, one set of travel blanks was analyzed. TPHg and VOCs were not reported present in the travel blank set at concentrations exceeding reporting limits of the analytical methods used by the laboratory.

Based on the results of the travel blank analysis, the groundwater samples are judged to be free of interferences, which may have occurred during storage and transport to the laboratory.

3.0 Monitoring Results

The monitoring results from the groundwater samples collected during the fourth quarter 2003 sampling event are summarized below. Monitoring well locations are shown on Figure 2. Current and historical groundwater elevation data are presented on Tables 1 and 2. The current groundwater gradient is depicted on Figure 3. Current analytical results are summarized on Tables 3, 4, and 5. Selected compounds are plotted on Figure 4. Historical analytical data are presented on Tables 6, 7, and 8.

3.1 Summary

Site Location:	Former Thomas A. Short Company 3430 Wood Street, Oakland, California, Figure 1
Current Phase of Project:	Monitoring
Frequency of Monitoring:	Quarterly
Separate-Phase Hydrocarbons Present:	None present
Water Purged from Wells This Quarter:	4.8 gallons (from 3 monitoring wells)
Range of Depth to Groundwater:	12.09 to 15.67 (feet from top of casing), Table 1 3.7 to 4.8 (meters from top of casing)
Groundwater Elevation Change Relative to Previous Quarter:	Groundwater elevations decreased in all wells. Decreases ranged from 1.56 to 1.72 feet (0.48 to 0.52 meters)
Groundwater Gradient:	0.011, Figure 3
Groundwater Flow Direction:	Southwest, Figure 3

3.2 Analytical Results

TPHg was reported by the laboratory in groundwater samples from wells MW-4, MW-5 and MW-6 at concentrations of 0.37, 1.6 and 0.078 mg/l, respectively. TPHd was reported by the laboratory in groundwater samples from wells MW-4 and MW-5 at concentrations of 0.33 and 1.2 mg/l, respectively. TPHd was not reported present at concentrations exceeding the reporting limit of the analytical method in the groundwater sample collected from well MW-6 (Table 3).

Benzene, toluene, ethylbenzene, and xylenes (BTEX) were not reported present at concentrations exceeding reporting limits of the analytical methods in the groundwater samples collected from wells MW-4 and MW-6. Benzene was the only BTEX component detected in groundwater samples collected from well MW-5 at a concentration of 0.0046 mg/l (Table 3).

Additional VOCs were detected in groundwater samples collected from wells MW-4 and MW-5. VOCs did not exceed the reporting limits for well MW-6 (Table 4). The following VOCs and concentration ranges were reported (in mg/l).

tert-butylbenzene	0.0051 to 0.013	naphthalene	0.0037 to 0.0065

Barium was reported in groundwater samples collected from wells MW-4, MW-5, and MW-6 at concentrations of 0.50, 0.24, and 0.33 mg/l, respectively. Mercury was detected at a concentration of 0.0040 mg/l in the groundwater sample collected from well MW-5 (Table 5).

Laboratory analytical reports and chain-of-custody documentation are included in Appendix C.

3.3 Discussion of Analytical Results

Groundwater analytical results from the fourth quarter 2003 sampling event for TPH are generally consistent with historical data. Compared to third quarter 2003 data, the TPHg concentrations decreased in wells MW-4 and MW-5 from 3.5 mg/l to 0.37 mg/l and from 2.1 mg/l to 1.6 mg/l, respectively. TPHg concentrations increased in well MW-6 from below the detection limit (less than 0.050 mg/l) to 0.078 mg/l. In comparison, the most recent detection of TPHg in MW-6 (3.5 mg/l) was from the sampling event in January 2002. TPHd concentrations decreased in both well MW-4 (from 0.88 to 0.33 mg/l) and well MW-5 (from 1.7 to 1.2 mg/l), and remained the same, below the detection limit, in well MW-6.

Since quarterly sampling commenced in May 2000, this is the first quarter that BTEX concentrations in well MW-4 all decreased to concentrations below the detection limits. Benzene decreased in well MW-5 to the lowest level since sampling began (0.0046 mg/l). Similarly for toluene and ethylbenzene, concentrations in MW-5 decreased to below the detection limits for the first time since sampling began at the site. Xylenes remained the same at below the detection limit. The BTEX concentrations in well MW-6 remained the same at below the detection limits (Table 6).

Remaining VOC results are below historical concentrations (Table 7). For MW-4, the concentration of the VOCs 1,3,5-trimethylbenzene, 4-isopropyltoluene, isopropylbenzene, n-propylbenzene and sec-butylbenzne decreased from the previous quarter and were reported at concentrations less than the detection limit. Similarly for MW-5, the concentration of VOCs 1,3,5-trimethylbenzene, isopropylbenzene, n-propylbenzene, and sec-butylbenzene decreased from the previous quarter to below the detection limit. Naphthalene was reported in MW-4 and MW-5 at concentrations higher than the previous quarter results and tert-butylbenzene was reported in MW-4 and MW-5 at concentrations less than the previous quarter results. For MW-6, the compounds remained at below the detection limits.

Historically, groundwater samples from the site were reported to contain arsenic, barium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, vanadium and zinc. Barium was reported in MW-4, MW-5, and MW-6 at concentrations that were generally comparable to historical concentrations. Mercury was reported in MW-5 for the second time since sampling began at the site. The first detection of mercury in MW-5 was from the sampling event in October 2002 (Table 8).

3.4 Comparison to Environmental Screening Levels

The analytical results will be compared to environmental screening levels (ESLs), formerly called risk-based screening levels. The ESLs (RWQCB, 2003) were developed by the Regional Water Quality Control Board, San Francisco Bay Region (RWQCB), to address environmental protection goals as set forth in the Water Quality Control Plan for the San Francisco Bay Basin (RWQCB, 1995). The ESLs developed for groundwater that is not a current or potential drinking water resource are used for comparison to the current quarter's groundwater data. ESLs are presented below and in Tables 6, 7, and 8.

Constituent	ESL (mg/l)	Wells with Groundwater Results Exceeding ESL
TPHg	0.500	MW-5
TPHd	0.640	MW-5
Mercury	0.000012	MW-5

It should be noted that that the reporting limits (RLs) for cadmium, lead, mercury, and silver exceed the respective ESLs. The RL for cadmium is 0.0030 mg/l and the ESL is 0.0022 mg/l; the RL for lead is 0.0050 mg/l and the ESL is 0.0025 mg/l; the RL for mercury is 0.00020 mg/l and the ESL is 0.000012 mg/l; and the RL for silver is 0.0016 mg/l and the ESL is 0.00019 mg/l.

4.0 Recommendations

Shaw recommends continued groundwater monitoring to evaluate temporal changes in groundwater quality and benzene concentrations in MW-5.

5.0 References

Caltrans (California Department of Transportation), 2001a, District 4, Office of Environmental Engineering, Task Order No. 04-911052-WB: dated August 2001.

IT (IT Corporation), 2001b, Work plan, groundwater monitoring, former Thomas A. Short Company property, Oakland, Alameda County, California: dated December 19, 2001.

IT, 2001c, Health and Safety plan, groundwater monitoring, former Thomas A. Short Company property, Oakland, Alameda County, California: dated December 19, 2001.

Geocon (Geotechnical & Environmental Consultants), 2001, Monitoring Well Installation and Groundwater Sampling Report: Former Thomas A. Short Co., Oakland, Alameda County, California, Task Order No. 04-190270-RM, Geocon Project No. S8225-06-103: dated June 2001.

RWQCB (Regional Water Quality Control Board, San Francisco Bay Region), 1995, San Francisco Bay basin (region 2), water quality control plan: dated June 21, 1995.

RWQCB, 2001, Application of risk-based screening levels and decision making to sites with impacted soil and groundwater; volume 1: summary tier 1 lookup tables: interim final dated December 2001.

Table 1
Fourth Quarter 2003 Groundwater Elevations
Former Thomas A. Short Company
Oakland, California

Well Number	Well TOC Elevation (feet-MSL)	Screened Interval (feet bgs)	Date Measured	Depth to Groundwater (feet bTOC)	Free Product Thickness (feet)	Groundwater Elevation (feet-MSL)
MW-4	8.33	5 to 15	10/15/03	12.09	0	-3.76
MW-5	12.35	5 to 15	10/15/03	15.64	0	-3.29
MW-6	12.01	5 to 15	10/15/03	15.67	0	-3.66

Notes:

1. *MSL = Mean Sea Level*
2. *TOC = Top of Casing*
3. *bgs = below ground surface*
4. *bTOC = below top of casing*

Table 2
Historical Groundwater Elevations
Former Thomas A. Short Company
Oakland, California

Well Number	Well TOC Elevation (feet-MSL)	Screened Interval (feet bgs)	Date Measured	Depth to Groundwater (feet bTOC)	Free Product Thickness (feet)	Groundwater Elevation (feet-MSL)
MW-4	8.33	5 to 15	06/19/00	12.71	0	-4.38
			11/27/00	11.51	0	-3.18
			03/29/01	9.58	0	-1.25
			01/15/02	8.03	0	0.30
			04/19/02	10.42	0	-2.09
	8.33		07/11/02	10.72	0	-2.39
			10/17/02	11.73	0	-3.40
			01/27/03	8.54	0	-0.21
			04/14/03	9.82	0	-1.49
			06/16/03	10.47	0	-2.14
			10/15/03	12.09	0	-3.76
MW-5	12.33	5 to 15	06/19/00	16.5	0	-4.17
			11/27/00	14.72	0	-2.39
			03/29/01	13.30	0	-0.97
			01/15/02	11.92	0	0.41
			04/19/02	14.13	0	-1.80
	12.35		07/11/02	15.02	0	-2.67
			10/17/02	15.33	0	-2.98
			01/27/03	12.34	0	0.01
			04/14/03	13.81	0	-1.46
			06/16/03	14.08	0	-1.73
			10/15/03	15.64	0	-3.29
MW-6	11.49	5 to 15	06/19/00	15.31	0	-3.82
			11/27/00	14.09	0	-2.60
			03/29/01	12.71	0	-1.22
			01/15/02	11.58	0	-0.09
			04/19/02	13.48	0	-1.99
	12.01		07/11/02	14.24	0	-2.23
			10/17/02	15.18	0	-3.17
			01/27/03	12.42	0	-0.41
			04/14/03	13.42	0	-1.41
			06/16/03	13.95	0	-1.94
			10/15/03	15.67	0	-3.66

Notes:

1. *MSL = Mean Sea Level*
2. *TOC = Top of Casing*
3. *bgs = below ground surface*
4. *bTOC = below top of casing*

Table 3
Fourth Quarter 2003 Groundwater Analytical Results
Petroleum Hydrocarbons

Former Thomas A. Short Company
Oakland, California

Sample Designation Sampling Date	MW-4 10/15/03	MW-5 10/15/03	MW-6 10/15/03	Trip Blank 10/15/03
Petroleum Hydrocarbons, mg/l				
TPH as Gasoline	0.37	1.6	0.078	<0.050
TPH as Diesel	0.33	1.2	<0.050	---
Selected Volatile Organic Compounds, ug/l				
Benzene	<2.0	4.6	<2.0	<2.0
Toulene	<2.0	<2.0	<2.0	<2.0
Ethylbenzene	<2.0	<2.0	<2.0	<2.0
M+P Xylene	<2.0	<2.0	<2.0	<2.0
o-Xylene	<2.0	<2.0	<2.0	<2.0

Notes:

1. *TPH = Total Petroleum Hydrocarbons*
2. *mg/l = milligrams per liter*
3. *ug/l = micrograms per liter*
4. *"<" = not detected at concentrations above the indicated amount.*

Table 4
Fourth Quarter 2003 Groundwater Analytical Results
Volatile Organic Compounds
Former Thomas A. Short Company
Oakland, California

Sample Designation Sampling Date	MW-4 10/15/03	MW-5 10/15/03	MW-6 10/15/03	Trip Blank 10/15/03
tert-butylbenzene	5.1	13	<2.0	<2.0
naphthalene	3.7	6.5	<2.0	<2.0

Notes:

1. *Concentrations reported in micrograms per liter.*
2. *"<" = not detected at concentrations above the indicated amount.*

Table 5
Fourth Quarter 2003 Groundwater Analytical Results
Heavy Metals
Former Thomas A. Short Company
Oakland, California

Sample Designation Sampling Date	MW-4 10/15/03	MW-5 10/15/03	MW-6 10/15/03
Antimony	<0.0050	<0.0050	<0.0050
Arsenic	<0.0050	<0.0050	<0.0050
Barium	0.50	0.24	0.33
Beryllium	<0.0010	<0.0010	<0.0010
Cadmium	<0.0030	<0.0030	<0.0030
Chromium	<0.0030	<0.0030	<0.0030
Cobalt	<0.0030	<0.0030	<0.0030
Copper	<0.0030	<0.0030	<0.0030
Lead	<0.0050	<0.0050	<0.0050
Mercury	<0.00020	0.0040	<0.00020
Molybdenum	<0.0050	<0.0050	<0.0050
Nickel	<0.0030	<0.0030	<0.0030
Selenium	<0.0050	<0.0050	<0.0050
Silver	<0.0016	<0.0016	<0.0016
Thallium	<0.0050	<0.0050	<0.0050
Vanadium	<0.0030	<0.0030	<0.0030
Zinc	<0.010	<0.010	<0.010

Notes:

1. *Metals analyses conducted in general accordance with U.S. Environmental Protection Agency (EPA) Methods 6010 and 7470.*
2. *Concentrations reported in milligrams per liter.*
3. *"<" = not detected at concentrations above the indicated amount.*

Table 6
Historical Groundwater Analytical Results
Petroleum Hydrocarbons
Former Thomas A. Short Company
Oakland, California

Sample Designation	MW-4											Environmental
Sampling Date	5/26/00	11/27/00	3/29/01	1/15/02	4/19/02	7/11/02	10/17/02	1/27/03	4/14/03	6/16/03	10/15/03	Screening Levels
Petroluem Hydrocarbons, mg/l												
Total Petroleum Hydrocarbons	---	---	---	<5	<5	<5	<5	---	---	---	---	
TPH as Gasoline	**4.8**	**4.2**	**8.1**	<0.050	**11**	**2.9**	**2.1**	**3.8**	<0.050	**3.5**	0.37	0.500
TPH as Diesel	0.5	0.47	0.61	<0.050	**1.17**	**1.26**	**1.1**	**1.4**	**1.4**	**0.88**	0.33	0.640
Selected Volatile Organic Compounds, ug/l												
Benzene	**122**	**55**	**51**	**47**	35	9.7	23	24	18	24	<2.0	46
Toulene	39	18	23	18	13	<2.0	5.6	10	4	7.5	<2.0	130
Ethylbenzene	126	65	160	130	140	<2.0	20	84	<4.0	36	<2.0	290
Total Xylenes	**24.7**	**26.3**	**44.5**	**32.5**	**23**	<4.0	**15.4**	**24.6**	<11.9	10.9	<4.0	13
Fuel Oxygenates, ug/l												
MTBE	<0.5	1.2	<5.0	<2.0	<2.0	<2.0	<2.0	---	---	---	---	1800
Total Dissolved Solids, mg/l	---	---	---	---	2240	2280	2830	---	---	---	---	---

Notes:

1. *TPH = Total Petroleum Hydrocarbons*
2. *mg/l = milligrams per liter*
3. *ug/l = micrograms per liter*
4. *"<" = not detected at concentrations above the indicated amount.*
5. *Risk-based screening levels (RBSLs) for groundwater that is not a current or potential drinking water source.*
6. *Bold results exceed RBSLs.*

Table 6
Historical Groundwater Analytical Results
Petroleum Hydrocarbons
Former Thomas A. Short Company
Oakland, California

Sample Designation	MW-5											Environmental
Sampling Date	5/26/00	11/27/00	3/29/01	1/15/02	4/19/02	7/11/02	10/17/02	1/27/03	4/14/03	6/16/03	10/15/03	Screening Levels
Petroluem Hydrocarbons, mg/l												
Total Petroleum Hydrocarbons	—	—	—	<5	<5	<5	<5	—	—	—	—	
TPH as Gasoline	**4.6**	**1.7**	**2.7**	**7.8**	**1.2**	**4.1**	**1.7**	**4.6**	<0.050	**2.1**	**1.6**	0.500
TPH as Diesel	0.6	0.45	**0.96**	<0.050	**0.942**	**2.45**	**1.5**	**3.7**	**2.3**	**1.7**	**1.2**	0.640
Selected Volatile Organic Compounds, ug/l												
Benzene	**98**	39	35	**63**	**53**	**99**	**62**	**150**	**150**	**94**	4.6	46
Toulene	7	2	1.1	3.1	2.5	4.6	2	6.3	5.2	2.5	<2.0	130
Ethylbenzene	35	3.8	3.5	18	18	43	6.9	84	42	3.6	<2.0	290
Total Xylenes	**44**	6.1	3.2	<4.0	<4.0	5.6	<4.7	<4.3	<8.0	<4.0	<4.0	13
Fuel Oxygenates, ug/l												
MTBE	7	1.5	<5.0	<2.0	<2.0	<2.0	<2.0	—	—	—	—	1800
Total Dissolved Solids, mg/l	—	—	—	—	1410	1440	1820	—	—	—	—	—

Notes:

1. *TPH = Total Petroleum Hydrocarbons*
2. *mg/l = milligrams per liter*
3. *ug/l = micrograms per liter*
4. *"<" = not detected at concentrations above the indicated amount.*
5. *Risk-based screening levels (RBSLs) for groundwater that is not a current or potential drinking water source.*
6. *Bold results exceed RBSLs.*

Table 6
Historical Groundwater Analytical Results
Petroleum Hydrocarbons
Former Thomas A. Short Company
Oakland, California

Sample Designation	MW-6											Environmental
Sampling Date	5/26/00	11/27/00	3/29/01	1/15/02	4/19/02	7/11/02	10/17/02	1/27/03	4/14/03	6/16/03	10/15/03	Screening Levels
Petroluem Hydrocarbons, mg/l												
Total Petroleum Hydrocarbons	---	—	—	<5	<5	<5	<5	---	---	---	---	
TPH as Gasoline	**4.4**	0.32	0.26	**3.5**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.078	0.500
TPH as Diesel	0.4	0.18	0.42	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.640
Selected Volatile Organic Compounds, ug/l												
Benzene	**191**	16	**52**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	46
Toulene	14	0.51	0.62	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	130
Ethylbenzene	110	1.1	1.1	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	290
Total Xylenes	**121**	0.88	<0.50	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	13
Fuel Oxygenates, ug/l												
MTBE	7	1.8	<5.0	<2.0	<2.0	<2.0	<2.0	---	---	---	---	1800
Total Dissolved Solids, mg/l	---	—	—	—	2820	3060	4360	---	---	---	---	—

Notes:

1. *TPH = Total Petroleum Hydrocarbons*
2. *mg/l = milligrams per liter*
3. *ug/l = micrograms per liter*
4. *"<" = not detected at concentrations above the indicated amount.*
5. *Risk-based screening levels (RBSLs) for groundwater that is not a current or potential drinking water source.*
6. *Bold results exceed RBSLs.*

Table 7
Historical Groundwater Analytical Results
Volatile Organic Compounds
Former Thomas A. Short Company
Oakland, California

Well Number	MW-4											
Date Sampled	5/26/00	11/27/00	3/29/01	1/15/02	4/19/02	7/11/02	10/17/02	1/27/03	4/14/03	6/16/03	10/15/03	Environmental Screening Levels
1,1,2-trichloroethane	<5.0	<5.0	<5.0	3.6	<10	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	350
1,2,4-trimethylbenzene	<5.0	<5.0	<5.0	<2.0	<10	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	
1,2-dichloroethane	<5.0	<5.0	<5.0	3.9	<10	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	200
1,2-dichloropropane	<5.0	<5.0	<5.0	4.1	<10	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	100
1,3,5-trimethylbenzene	12	<5.0	8	<2.0	190	<2.0	14	52	24	24	<2.0	
2-butanone	<5.0	<5.0	<5.0	<2.0	<10	7.8	<2.0	<2.0	<4.0	<2.0	<2.0	14,000
2-chloroethylvinyl ether	<5.0	<5.0	<5.0	<2.0	<10	30	<2.0	<2.0	<4.0	<2.0	<2.0	
2-hexanone	<5.0	<5.0	<5.0	<2.0	<10	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	
4-chlorotoluene	<5.0	<5.0	<5.0	<2.0	<10	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	
4-isopropyltoluene	5	<5.0	8	3.6	<10	<2.0	3.7	9.6	6.8	8.8	<2.0	
acetone	<5.0	<5.0	<5.0	<2.0	<10	13	<2.0	<2.0	<4.0	<2.0	<2.0	1500
acrolein	<5.0	<5.0	<5.0	<2.0	<10	100	<2.0	<2.0	<4.0	<2.0	<2.0	
bromodichloromethane	<5.0	<5.0	<5.0	6.8	<10	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	160
chloroform	<5.0	<5.0	<5.0	23	<10	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	340
isopropylbenzene (cumene)	141	70	180	180	190	<2.0	52	160	5.0	130.0	<2.0	
napthalene	**101**	<5.0	**45**	12	<10	<2.0	<2.0	<2.0	<4.0	<2.0	3.7	24
n-butylbenzene	18	7.3	26	17	22	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	
n-propylbenzene	170	63	280	<2.0	300	<2.0	68	230	<4.0	200	<2.0	
sec-butylbenzene	0.6	<5.0	12	11	13	<2.0	4.4	12	<4.0	14	<2.0	
tert-butylbenzene	14	9.9	21	20	25	4.0	11	23	16	23	5.1	
trichloroethene	<5.0	<5.0	<5.0	6.7	<10	5.0	<2.0	<2.0	<4.0	<2.0	<2.0	360

Notes:

1. *Concentrations reported in micrograms per liter.*
2. *"<" = not detected at concentrations above the indicated amount.*
3. *Risk-based screening levels (RBSLs) for groundwater that is not a current or potential drinking water source.*
4. *Bold results exceed RBSLs.*

Table 7
Historical Groundwater Analytical Results
Volatile Organic Compounds
Former Thomas A. Short Company
Oakland, California

Well Number	MW-5											
Date Sampled	5/26/00	11/27/00	3/29/01	1/15/02	4/19/02	7/11/02	10/17/02	1/27/03	4/14/03	6/16/03	10/15/03	Environmental Screening Levels
1,1,2-trichloroethane	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	350
1,2,4-trimethylbenzene	96	<5.0	<5.0	<2.0	<2.0	5.4	2.6	<2.0	<4.0	<2.0	<2.0	
1,2-dichloroethane	<5.0	<5.0	<5.0	3.9	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	200
1,2-dichloropropane	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	100
1,3,5-trimethylbenzene	51	<5.0	<5.0	<2.0	16	8.4	2.7	10	<4.0	3.0	<2.0	
2-butanone	<5.0	<5.0	<5.0	<2.0	<2.0	8.8	<2.0	<2.0	<4.0	<2.0	<2.0	14000
2-chloroethylvinyl ether	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	
2-hexanone	<5.0	<5.0	<5.0	<2.0	<2.0	10	<2.0	<2.0	<4.0	<2.0	<2.0	
4-chlorotoluene	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	
4-isopropyltoluene	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	
acetone	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	1500
acrolein	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	
bromodichloromethane	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	160
chloroform	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	340
Isopropylbenzene (cumene)	29	<5.0	7.1	25	16	49	18	80	27	6.3	<2.0	
napthalene	14	<5.0	15	**38**	<2.0	<2.0	<2.0	**130**	<4.0	<2.0	6.5	24
n-butylbenzene	21	<5.0	<5.0	21	9.8	64	<2.0	<2.0	<4.0	<2.0	<2.0	
n-propylbenzene	31	<5.0	11	45	26	97	39	190	44	7.4	<2.0	
sec-butylbenzene	8.2	<5.0	<5.0	5.1	4.2	12	5.6	24	9.1	2.4	<2.0	
tert-butylbenzene	11	<5.0	14	16	16	21	9.8	30	27	19	13	
trichloroethene	<5.0	<5.0	<5.0	<2.0	<2.0	2.2	<2.0	<2.0	<4.0	<2.0	<2.0	360

Notes:

1. *Concentrations reported in micrograms per liter.*
2. *"<" = not detected at concentrations above the indicated amount.*
3. *Risk-based screening levels (RBSLs) for groundwater that is not a current or potential drinking water source.*
4. *Bold results exceed RBSLs.*

Table 7
Historical Groundwater Analytical Results
Volatile Organic Compounds
Former Thomas A. Short Company
Oakland, California

Well Number / Date Sampled	MW-6											Environmental Screening Levels
	5/26/00	11/27/00	3/29/01	1/15/02	4/19/02	7/11/02	10/17/02	1/27/03	4/14/03	6/16/03	10/15/03	
1,1,2-trichloroethane	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	350
1,2,4-trimethylbenzene	149	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
1,2-dichloroethane	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	200
1,2-dichloropropane	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	100
1,3,5-trimethylbenzene	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
2-butanone	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	14000
2-chloroethylvinyl ether	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
2-hexanone	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
4-chlorotoluene	7.4	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
4-isopropyltoluene	6.6	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
acetone	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	1500
acrolein	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
bromodichloromethane	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	160
chloroform	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	340
isopropylbenzene (cumene)	25	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
napthalene	**44**	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	19	<2.0	<2.0	<2.0	24
n-butylbenzene	17	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
n-propylbenzene	36	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	2.9	<2.0	<2.0	<2.0	
sec-butylbenzene	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
tert-butylbenzene	5.4	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
trichloroethene	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	360

Notes:

1. *Concentrations reported in micrograms per liter.*
2. *"<" = not detected at concentrations above the indicated amount.*
3. *Risk-based screening levels (RBSLs) for groundwater that is not a current or potential drinking water source.*
4. *Bold results exceed RBSLs.*

Table 8
Historical Groundwater Analytical Results
Heavy Metals
Former Thomas A. Short Company
Oakland, California

Sample Designation / Sampling Date	5/26/00	11/27/00	3/29/01	1/15/02	4/19/02	MW-4 7/11/02	10/17/02	1/27/03	4/14/03	6/16/03	10/15/03	Environmental Screening Levels
Antimony	--	<0.0050	<0.0050	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.0050	<0.0050	0.030
Arsenic	--	0.01	0.009	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.0050	<0.0050	0.036
Barium	--	0.47	0.33	0.34	0.30	0.31	<0.020	0.24	0.35	0.24	0.50	1.0
Beryllium	--	<0.0010	<0.0010	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0010	<0.0010	0.0027
Cadmium	--	<0.0030	<0.0030	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0030	<0.0030	0.0022
Chromium	--	0.0032	<0.003	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.0030	<0.0030	0.180
Cobalt	--	<0.003	<0.003	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0030	<0.0030	0.0030
Copper	--	**0.01**	**0.010**	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.0030	<0.0030	0.0031
Lead	**0.20**	**0.0077**	<0.0050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.0050	<0.0050	0.0025
Mercury	--	<0.004	<0.004	<0.00020	<0.00020	<0.00020	**0.00063**	<0.00020	<0.00020	<0.00020	<0.00020	0.000012
Molybdenum	--	0.0064	0.0060	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.0050	0.240
Nickel	--	**0.030**	0.0056	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.0030	<0.0030	0.0082
Selenium	--	<0.0050	**0.0058**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.0050	<0.0050	0.0050
Silver	--	**0.020**	**0.010**	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.0016	<0.0016	0.00019
Thallium	--	<0.0050	<0.0050	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.0050	<0.0050	0.020
Vanadium	--	0.0034	0.003	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0030	<0.0030	0.019
Zinc	--	0.070	0.020	<0.015	0.015	0.02	<0.0150	<0.0150	0.040	0.054	<0.010	0.081

Notes:

1. *Metals analyses conducted in general accordance with U.S. Environmental Protection Agency (EPA) Methods 6010 and 7470.*
2. *Concentrations reported in milligrams per liter.*
3. *"<" = not detected at concentrations above the indicated amount.*
4. *Risk-based screening levels (RBSLs) for groundwater that is not a current or potential drinking water source.*
5. *Bold results exceed RBSLs.*

Table 8
Historical Groundwater Analytical Results
Heavy Metals
Former Thomas A. Short Company
Oakland, California

Sample Designation / Sampling Date	5/26/00	11/27/00	3/29/01	1/15/02	4/19/02	MW-5 7/11/02	10/17/02	1/27/03	4/14/03	6/16/03	10/15/03	Environmental Screening Levels
Antimony	--	<0.0050	<0.0050	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.0050	<0.0050	0.030
Arsenic	--	0.030	0.010	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.0050	<0.0050	0.036
Barium	--	**1.2**	0.20	0.19	0.32	0.42	<0.020	0.28	0.51	0.41	0.24	1.0
Beryllium	--	<0.0010	<0.0010	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0010	<0.0010	0.0027
Cadmium	--	<0.0030	<0.0030	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0030	<0.0030	0.0022
Chromium	--	0.05	<0.003	<0.010	**0.22**	<0.010	<0.010	<0.010	<0.010	<0.0030	<0.0030	0.180
Cobalt	--	**0.01**	<0.003	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0030	<0.0030	0.0030
Copper	--	**0.05**	**0.010**	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.0030	<0.0030	0.0031
Lead	**0.33**	**0.020**	<0.0050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.0050	<0.0050	0.0025
Mercury	--	<0.004	<0.004	<0.00020	<0.00020	<0.00020	**0.00055**	<0.00020	<0.00020	<0.00020	**0.0040**	0.000012
Molybdenum	--	0.010	<0.005	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.0050	0.240
Nickel	--	**0.010**	0.0062	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.0030	<0.0030	0.0082
Selenium	--	<0.0050	<0.0050	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.0050	<0.0050	0.0050
Silver	--	**0.010**	**0.0013**	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.0016	<0.0016	0.00019
Thallium	--	<0.0050	<0.0050	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.0050	<0.0050	0.020
Vanadium	--	**0.050**	<0.003	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0030	<0.0030	0.019
Zinc	--	0.010	0.030	0.020	**0.16**	0.041	<0.0150	<0.0150	<0.0150	0.058	<0.010	0.081

Notes:

1. *Metals analyses conducted in general accordance with U.S. Environmental Protection Agency (EPA) Methods 6010 and 7470.*
2. *Concentrations reported in milligrams per liter.*
3. *"<" = not detected at concentrations above the indicated amount.*
4. *Risk-based screening levels (RBSLs) for groundwater that is not a current or potential drinking water source.*
5. *Bold results exceed RBSLs.*

Table 8
Historical Groundwater Analytical Results
Heavy Metals
Former Thomas A. Short Company
Oakland, California

Sample Designation / Sampling Date	MW-6 5/26/00	11/27/00	3/29/01	1/15/02	4/19/02	7/11/02	10/17/02	1/27/03	4/14/03	6/16/03	10/15/03	Environmental Screening Levels
Antimony	--	<0.0050	<0.0050	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.0050	<0.0050	0.030
Arsenic	--	0.0091	0.0091	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.0050	<0.0050	0.036
Barium	--	0.20	0.11	0.092	0.12	0.21	<0.020	0.16	0.21	0.18	0.33	1.0
Beryllium	--	<0.0010	<0.0010	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0010	<0.0010	0.0027
Cadmium	--	<0.0030	<0.0030	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0030	<0.0030	0.0022
Chromium	--	<0.003	<0.003	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.0030	<0.0030	0.180
Cobalt	--	**0.0049**	**0.0040**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0030	<0.0030	0.0030
Copper	--	**0.010**	**0.020**	<0.020	**0.23**	<0.020	<0.020	<0.020	<0.020	<0.0030	<0.0030	0.0031
Lead	**0.40**	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.0050	<0.0050	0.0025
Mercury	--	<0.004	<0.004	<0.00020	<0.00020	<0.00020	**0.00041**	**0.00023**	<0.00020	<0.00020	<0.00020	0.000012
Molybdenum	--	0.010	0.0054	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.0050	0.240
Nickel	--	**0.040**	**0.010**	<0.040	**0.10**	<0.040	<0.040	<0.040	<0.040	<0.0030	<0.0030	0.0082
Selenium	--	<0.0050	<0.0050	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.0050	<0.0050	0.0050
Silver	--	**0.010**	**0.001**	**<0.010**	<0.010	<0.010	<0.010	<0.010	<0.010	<0.0016	<0.0016	0.00019
Thallium	--	<0.0050	<0.0050	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.0050	<0.0050	0.020
Vanadium	--	0.0036	0.003	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0030	<0.0030	0.019
Zinc	--	0.050	**0.37**	0.031	0.02	0.043	<0.0150	0.027	<0.0150	0.044	<0.010	0.081

Notes:

1. *Metals analyses conducted in general accordance with U.S. Environmental Protection Agency (EPA) Methods 6010 and 7471.*
2. *Concentrations reported in milligrams per liter.*
3. *"<" = not detected at concentrations above the indicated amount.*
4. *Risk-based screening levels (RBSLs) for groundwater that is not a current or potential drinking water source.*
5. *Bold results exceed RBSLs.*

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3/17/03	
DRAWN BY	

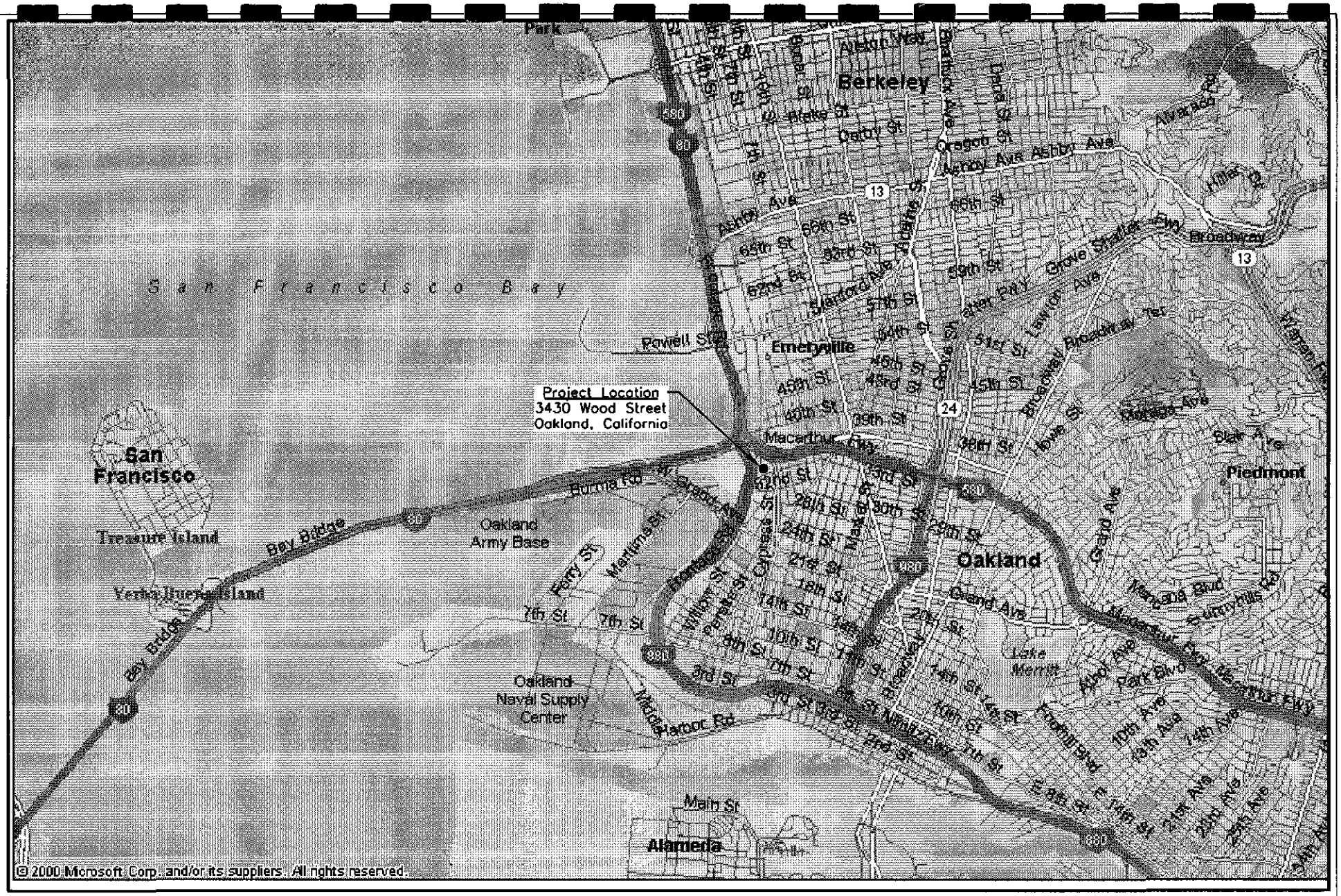

FIGURE 1

SITE LOCATION MAP

SCALE

0 1 2 Miles

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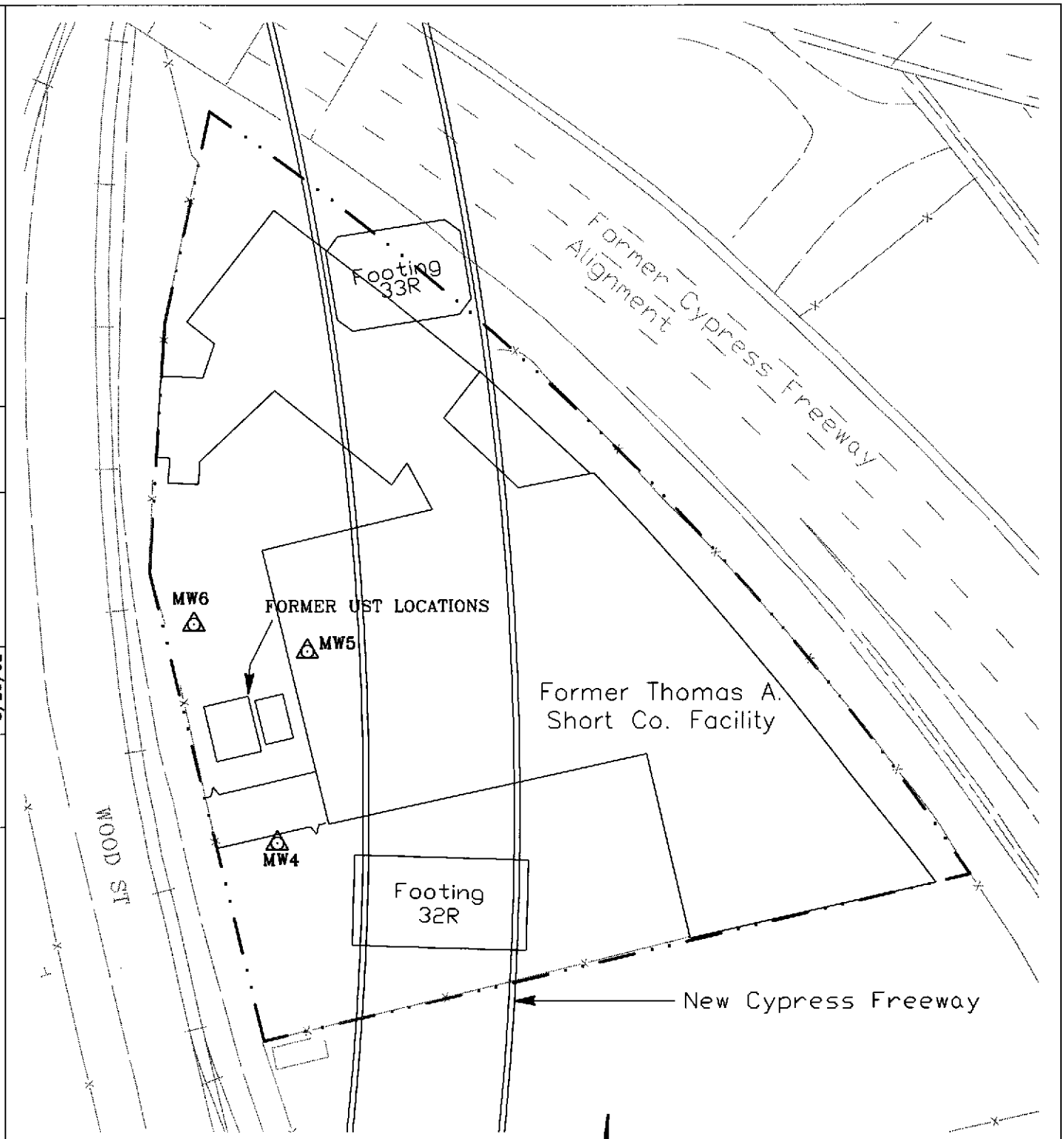
Caltrans – Former Thomas A. Short Co. Property
Oakland, California



DRAWN BY	DPB	CHECKED BY		PROJECT NUMBER
	3/26/02	APPROVED BY		830714

LEGEND

MW4 WELL LOCATION AND DESIGNATION

Notes:
1. Base map compliled from maps provided by Caltrans.
2. All locations and dimensions are approximate.

SCALE

0 50 100 Feet
0 15 30 Meters

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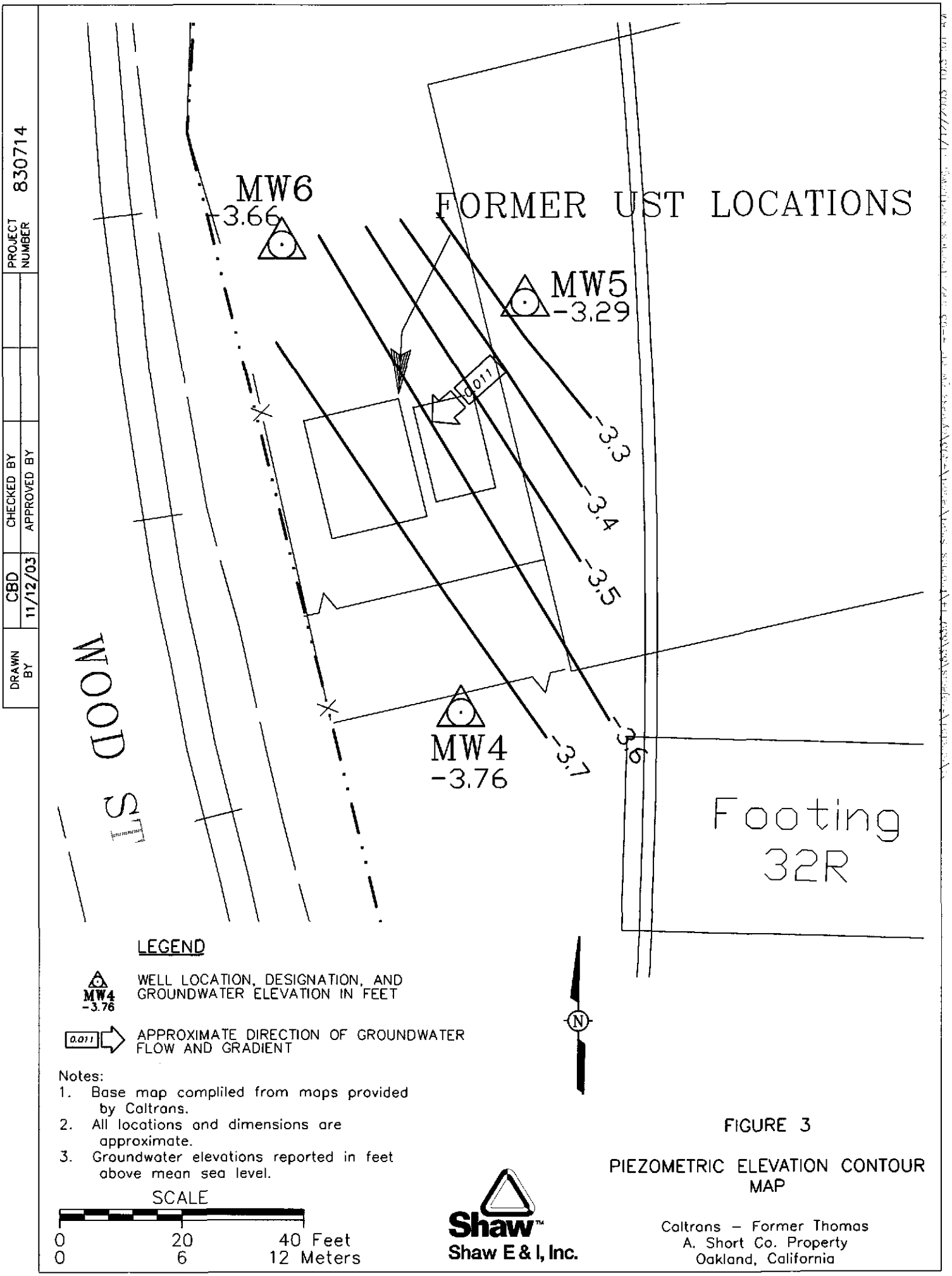
Shaw E & I, Inc.

FIGURE 2

MONITORING WELL LOCATIONS
Caltrans – Former Thomas A. Short Co. Property
Oakland, California



PROJECT NUMBER 830714

DRAWN BY	CBD	CHECKED BY	
	11/12/03	APPROVED BY	

LEGEND

MW4 -3.76 — WELL LOCATION, DESIGNATION, AND GROUNDWATER ELEVATION IN FEET

0.011 — APPROXIMATE DIRECTION OF GROUNDWATER FLOW AND GRADIENT

Notes:
1. Base map compliled from maps provided by Caltrans.
2. All locations and dimensions are approximate.
3. Groundwater elevations reported in feet above mean sea level.

SCALE

0 20 40 Feet
0 6 12 Meters

Shaw™
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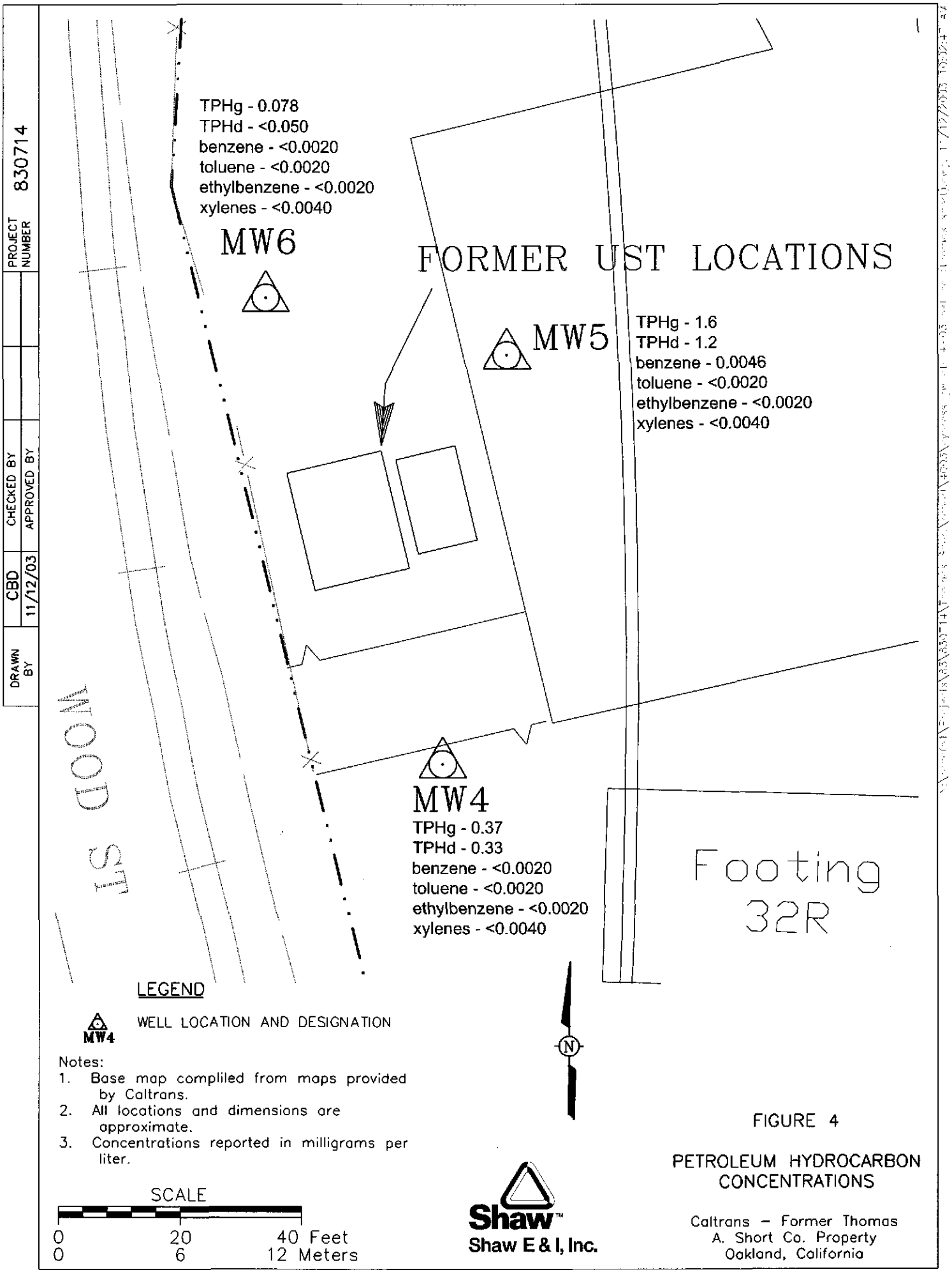
FIGURE 3

PIEZOMETRIC ELEVATION CONTOUR MAP

Caltrans – Former Thomas A. Short Co. Property
Oakland, California


TPHg - 0.078
TPHd - <0.050
benzene - <0.0020
toluene - <0.0020
ethylbenzene - <0.0020
xylenes - <0.0040
MW6
FORMER UST LOCATIONS
MW5
TPHg - 1.6
TPHd - 1.2
benzene - 0.0046
toluene - <0.0020
ethylbenzene - <0.0020
xylenes - <0.0040
MW4
TPHg - 0.37
TPHd - 0.33
benzene - <0.0020
toluene - <0.0020
ethylbenzene - <0.0020
xylenes - <0.0040
Wood St
Footing
32R
LEGEND
MW4
WELL LOCATION AND DESIGNATION
N
Notes:
1. Base map compliled from maps provided by Caltrans.
2. All locations and dimensions are approximate.
3. Concentrations reported in milligrams per liter.
SCALE
0 20 40 Feet
0 6 12 Meters
Shaw™
Shaw E & I, Inc.
FIGURE 4
PETROLEUM HYDROCARBON CONCENTRATIONS
Caltrans – Former Thomas A. Short Co. Property
Oakland, California
PROJECT NUMBER 830714
CHECKED BY
APPROVED BY
CBD
11/12/03
DRAWN BY

Appendix A
Groundwater Monitoring Procedures

The procedures that were used for collecting the groundwater samples are presented below.

- General safety procedures were reviewed with the field investigation staff prior to commencement of field activities.

Groundwater Sampling Procedures

- Field activities and equipment utilization were recorded on field report forms.
- Water levels within each well casing were measured to the nearest 0.01-foot and the presence of free-phase petroleum product evaluated. The water level meter was rinsed with deionized water between wells.
- Purging was conducted using dedicated, disposable, polyethylene bailers. A minimum of three well casing volumes of water was removed from each well during purging. Wells that purge dry were purged dry twice, if at least three casing volumes of water could not be removed. Well purging activities were recorded on groundwater sample collection forms.
- The temperature, conductivity, and pH of the groundwater removed during purging of the wells was monitored.
- Water removed from the wells was contained in 208-liter (55-gallon) drums. Labels were placed on the drums with the contents, date, well number, and job number recorded on the label. The drums were stored at the site pending disposal/recycling.
- All wells were purged before any of the samples were collected. Groundwater sample collection followed in the order that the wells were purged.
- Groundwater samples were collected following recovery of water levels within the wells to at least 90 percent (%) of the pre-purge levels. A water level measurement was made prior to sample collection to confirm the recovery of water levels within the wells.
- A dedicated, disposable, polyethylene bottom valve bailer was used for collection of each groundwater sample. Polyethylene bailers were discarded after each sample was collected. New nylon rope was used to lower the bailers into the wells. The nylon rope was discarded after each well.
- Groundwater samples were placed into laboratory-supplied containers containing preservatives, except samples retained for heavy metal analyses.

- Groundwater was discharged from the bailer via a bottom-emptying device. Discharge to the containers was conducted in a manner to minimize bubbling and agitation of the liquid. The volatile organic analysis vials were filled to the top forming a meniscus to minimize the headspace.

- Groundwater samples were collected in the following order for the indicated analyses: volatile organic compounds and fuel oxygenate compounds, total petroleum hydrocarbons as gasoline, total petroleum hydrocarbons as diesel, total recoverable petroleum hydrocarbons, and heavy metals. Groundwater grab samples collected for heavy metals analyses were not filtered in the field, but were filtered at the laboratory prior to analysis.

Sample Retention and Analysis Procedures

- Chain of custody procedures, including the use of chain of custody forms, were used to document sample handling and transport from collection to delivery to the laboratory for analysis.

- The samples were placed on ice in insulated chests overnight in the custody of a Shaw Environmental, Inc. (Shaw) employee. The samples were picked up within approximately 24 hours of collection of the last sample by a courier supplied by the laboratory, or were delivered to the laboratory by Shaw personnel within approximately 24 hours of collection of the last sample. The samples were transported to the laboratory in a motor vehicle.

- Groundwater samples were labeled with the well number followed by the date.

- Laboratory quality assurance/quality control procedures are summarized below:

  - Method Blank Frequency = one per 20 samples
  - Matrix Spike/Matrix Spike Duplicate = one per 20 samples
  - Laboratory Control Sample/Laboratory Control Sample Duplicate = one per 20 samples

FIELD REPORT
WATER LEVEL / FLOATING PRODUCT SURVEY

SHAW Environmental & Infrastructure, Inc.
1326 North Market Boulevard
Sacramento, California 95834

PROJECT NO : 830714 / 01010000 **LOCATION : 3430 Wood Street, Oakland**

DATE: 10-15-03

CLIENT : Caltrans
Former Thomas Short Co. Property

SAMPLER : Paul Weinhardt

WELL ID	TIME	TOTAL DEPTH (Feet)	DEPTH TO WATER (Feet)	DEPTH TO FLOATING PRODUCT (Feet)	FLOATING PRODUCT THICKNESS (Feet)	COMMENTS
MW-4	857	15.00	12.09	—	—	
MW-5	853	19.20	15.64	—	—	
MW-6	899	18.70	15.67	—	—	

Comments :

Paul Weinhardt
Signature

Rev. 1/97

WATER SAMPLE FIELD DATA SHEET

PROJECT NO : 830714 / 01010000 — SAMPLE ID : MW4

PURGED BY : Paul Weinhardt — CLIENT NAME : Caltrans - Former Thomas Short Co.

SAMPLED BY : Paul Weinhardt — LOCATION : 3430 Wood Street, Oakland, CA

TYPE: Groundwater X — Surface Water ____ — Leachate ____ — Other ____

CASING DIAMETER (inches): 2 X (.163) — 3 ____ (.367) — 4 ____ (.652) — 4.5 ____ (.826) — 6 ____ (1.47) — Other ____ (1"-.041 / 8"-2.61)

CASING ELEVATION (feet/MSL) : ____ — VOLUME IN CASING (gal.) : .47

DEPTH OF WELL (feet) : 15.00 — CALCULATED PURGE (gal.) : 1.42

DEPTH TO WATER (feet) : 12.09 — ACTUAL PURGE VOL. (gal.) : 1.5

DATE PURGED : 10-15-03 — END PURGE : 941

DATE SAMPLED : 10-15-03 — SAMPLING TIME : 1014

DTW AT SAMPLE TIME: 12.28

TIME (2400 HR)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm@25°c)	TEMPERATURE (°C)	COLOR (visual)	TURBIDITY (visual)
935	.50	6.94	4795	17.8°	cloudy	MOD
938	1.0	6.93	5314	18.2°	cloudy	MOD
941	1.5	6.97	5553	18.3°	cloudy	MOD

OTHER: ____ — ODOR: ____ — (COBALT 0-100) — (NTU 0-200)

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1) : ____

PURGING EQUIPMENT

____ 2" Bladder Pump — ____ Bailer (Teflon)
____ Centrifugal Pump — ____ Bailer (PVC)
____ Submersible Pump — ____ Bailer (Stainless Steel)
X Dispo Bailer — ____ Dedicated
Other: ____

SAMPLING EQUIPMENT

____ 2" Bladder Pump — ____ Bailer (Teflon)
____ Bomb Sampler — ____ Bailer (Stainless Steel)
____ Dipper — ____ Submersible Pump
X Dispo Bailer — ____ Dedicated
Other: ____

WELL INTEGRITY: Well Box Damaged — LOCK: NO

REMARKS: ____

pH, E.C., Temp. Meter Calibration: Date: ____ Time: ____ Meter Serial No.: ____

E.C. 1000 ____ / ____ — pH 7 ____ / ____ — pH 10 ____ / ____ — pH 4 ____ / ____

Temperature °C ____

SIGNATURE: Paul Weinhardt — REVIEWED BY: ____ — PAGE 1 OF 3

Rev. 1/97

WATER SAMPLE FIELD DATA SHEET

PROJECT NO : 830714 / 01010000 — SAMPLE ID : MW5

PURGED BY : Paul Weinhardt — CLIENT NAME : Caltrans - Former Thomas Short Co.

SAMPLED BY : Paul Weinhardt — LOCATION : 3430 Wood Street, Oakland, CA

TYPE: Groundwater X — Surface Water ____ — Leachate ____ — Other ____

CASING DIAMETER (inches): 2 X (.163) — 3 ____ (.367) — 4 ____ (.652) — 4.5 ____ (.826) — 6 ____ (1.47) — Other ____ (1"-.041 / 8"-2.61)

CASING ELEVATION (feet/MSL) : ____ — VOLUME IN CASING (gal.) : .58

DEPTH OF WELL (feet) : 19.20 — CALCULATED PURGE (gal.) : 1.74

DEPTH TO WATER (feet) : 15.64 — ACTUAL PURGE VOL. (gal.) : 1.80

DATE PURGED : 10.15.03 — END PURGE : 924

DATE SAMPLED : 10.15.03 — SAMPLING TIME : 1005

DTW AT SAMPLE TIME: 15.84

TIME (2400 HR)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm@25°c)	TEMPERATURE (°C)	COLOR (visual)	TURBIDITY (visual)
918	.60	7.00	3348	18.5°	Black	Hvy
924	1.20	7.02	3559	18.7°	Black	Hvy
924	1.80	7.04	3673	18.5°	Black	Hvy

OTHER: ____ — ODOR: ____ — (COBALT 0-100) — (NTU 0-200)

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1) : ____

PURGING EQUIPMENT

____ 2" Bladder Pump — ____ Bailer (Teflon)
____ Centrifugal Pump — ____ Bailer (PVC)
____ Submersible Pump — ____ Bailer (Stainless Steel)
X Dispo Bailer — ____ Dedicated
Other: ____

SAMPLING EQUIPMENT

____ 2" Bladder Pump — ____ Bailer (Teflon)
____ Bomb Sampler — ____ Bailer (Stainless Steel)
____ Dipper — ____ Submersible Pump
X Dispo Bailer — ____ Dedicated
Other: ____

WELL INTEGRITY: Good — LOCK: NO

REMARKS: ____

pH, E.C., Temp. Meter Calibration: Date: ____ Time: ____ Meter Serial No.: ____

E.C. 1000 ____ / ____ — pH 7 ____ / ____ — pH 10 ____ / ____ — pH 4 ____ / ____

Temperature °C ____

SIGNATURE: Paul Weinhardt — REVIEWED BY: ____ — PAGE 2 OF 3

Rev. 1/97

WATER SAMPLE FIELD DATA SHEET

PROJECT NO : 830714 / 01010000 — SAMPLE ID : MW6

PURGED BY : Paul Weinhardt — CLIENT NAME : Caltrans - Former Thomas Short Co.

SAMPLED BY : Paul Weinhardt — LOCATION : 3430 Wood Street, Oakland, CA

TYPE: Groundwater X — Surface Water ____ — Leachate ____ — Other ____

CASING DIAMETER (inches): 2 X (.163) — 3 ____ (.367) — 4 ____ (.652) — 4.5 ____ (.826) — 6 ____ (1.47) — Other ____ (1"-.041 / 8"-2.61)

CASING ELEVATION (feet/MSL) : ____

DEPTH OF WELL (feet) : 18.70

DEPTH TO WATER (feet) : 15.61

VOLUME IN CASING (gal.) : .49

CALCULATED PURGE (gal.) : 1.48

ACTUAL PURGE VOL. (gal.) : 1.50

DATE PURGED : 10.15.03 — END PURGE : 911

DATE SAMPLED : 10.15.03 — SAMPLING TIME : 952

DTW AT SAMPLE TIME: 15.96

TIME (2400 HR)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm@25°c)	TEMPERATURE (°C)	COLOR (visual)	TURBIDITY (visual)
905	.50	6.85	7944	17.8°	cloudy	MOD
908	1.0	6.92	8059	18.5°	cloudy	MOD
911	1.5	6.97	8134	18.5°	cloudy	MOD

OTHER: ____ — ODOR: ____ — (COBALT 0-100) — (NTU 0-200)

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1) : ____

PURGING EQUIPMENT

____ 2" Bladder Pump — ____ Bailer (Teflon)
____ Centrifugal Pump — ____ Bailer (PVC)
____ Submersible Pump — ____ Bailer (Stainless Steel)
X Dispo Bailer — ____ Dedicated
Other: ____

SAMPLING EQUIPMENT

____ 2" Bladder Pump — ____ Bailer (Teflon)
____ Bomb Sampler — ____ Bailer (Stainless Steel)
____ Dipper — ____ Submersible Pump
X Dispo Bailer — ____ Dedicated
Other: ____

WELL INTEGRITY: Good — LOCK: NO

REMARKS: ____

pH, E.C., Temp. Meter Calibration: Date: ____ Time: ____ Meter Serial No.: ____

E.C. 1000 ____ / ____ — pH 7 ____ / ____ — pH 10 ____ / ____ — pH 4 ____ / ____

Temperature °C ____

SIGNATURE: Paul Weinhardt — REVIEWED BY: ____ — PAGE 3 OF 3

Sparger Technology, Inc.
Environmental Laboratories

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

Martha Adams
Shaw Environmental & Infrastructure
1326 N. Market Blvd.
Sacramento, CA 95834

Client	Shaw Environmental & Infrastructure
Workorder	15822 830714 Caltrans, Former Thomas
Received	10/16/03

The samples were received in EPA specified containers. The samples were transported and received under documented chain of custody and stored at four (4) degrees C until analysis was performed.

Sparger Technology, Inc. ID Suffix Keys - These descriptors will follow the Sparger Technology, Inc. ID numbers and help identify the specific sample and clarify the report.

- DUP - Matrix Duplicate
- MS - Matrix Spike
- MSD - Matrix Spike Duplicate
- LCS - Lab Control Sample
- LCSD - Lab Control Sample Duplicate
- RPD - Relative Percent Difference
- QC - Additional Quality Control
- DIL - Results from a diluted sample
- ND - None Detected
- RL - Reporting Limit

Note: In an effort to conserve paper, the results are printed on both sides of the paper.

Ray James
Laboratory Director

3050 Fite Circle, Suite 112 • Sacramento, California 95827 • (916) 362-8947 • FAX (916) 362-0947

Sparger Technology, Inc.
Environmental Laboratories

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

Test Certificate of Analysis

Client ID	Shaw Environmental & Infrastructure	**Workorder ID**	830714 Caltrans, Former Thomas
Workorder #	15822	**Sampled**	10/15/03
Laboratory ID	15822001	**Received**	10/15/03
Sample ID	MW-4	**Reported**	11/05/03
Matrix	Water		

EPA Method 7470A Mercury - EPA 7470A

Parameter	Prep Date	Analyzed	Result	RL	Units	Dilution
Mercury	10/22/03	10/27/03	ND	0.00020	mg/L	1:1

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Sparger Technology, Inc.
Environmental Laboratories

Test Certificate of Analysis

Client ID	Shaw Environmental & Infrastructure	**Workorder ID**	830714 Caltrans, Former Thomas
Workorder #	15822	**Sampled**	10/15/03
Laboratory ID	15822001	**Received**	10/15/03
Sample ID	MW-4	**Reported**	11/05/03
Matrix	Water		

8260B GC/MS Volatiles - 8260B

Parameter	Prep Date	Analyzed	Result	RL	Units	Dilution
Dichlorodifluoromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Chloromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Vinyl chloride	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromomethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Chloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Trichlorofluoromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Acrolein	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1-Dichloroethene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Acetone	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Methyl iodide	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Carbon disulfide	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Dichloromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Acrylonitrile	10/25/03	10/25/03	ND	2.0	ug/L	1:1
trans-1,2-Dichloroethene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1-Dichloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Vinyl acetate	10/25/03	10/25/03	ND	2.0	ug/L	1:1
cis-1,2-Dichloroethene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2-Butanone (MEK)	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromochloromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Chloroform	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2,2-dichloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1,1-Trichloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1-dichloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Carbon tetrachloride	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Benzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2-Dichloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Dibromomethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromodichloromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2-Dichloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Trichloroethene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2-Chloroethylvinyl ether	10/25/03	10/25/03	ND	2.0	ug/L	1:1
cis-1,3-Dichloropropene	10/25/03	10/25/03	ND	2.0	ug/L	1:1

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Sparger Technology, Inc.
Environmental Laboratories

Test Certificate of Analysis

Client ID	Shaw Environmental & Infrastructure	**Workorder ID**	830714 Caltrans, Former Thomas
Workorder #	15822	**Sampled**	10/15/03
Laboratory ID	15822001	**Received**	10/15/03
Sample ID	MW-4	**Reported**	11/05/03
Matrix	Water		

8260B GC/MS Volatiles - 8260B (continued)

Parameter	Prep Date	Analyzed	Result	RL	Units	Dilution
4-Methyl-2-pentanone	10/25/03	10/25/03	ND	2.0	ug/L	1:1
trans-1,3Dichloropropene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1,2-Trichloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Toluene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2-Dibromoethane (EDB)	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,3-Dichloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2-Hexanone	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Dibromochloromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Tetrachloroethene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1,1,2Tetrachloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Chlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Ethylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
M+P-Xylene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromoform	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Styrene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
o-Xylene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1,2,2Tetrachloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2,3-Trichloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Isopropylbenzene (Cumene)	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
n-Propylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2-Chlorotoluene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
4-Chlorotoluene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,3,5-Trimethylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
tert-Butylbenzene	**10/25/03**	**10/25/03**	**5.1**	**2.0**	**ug/L**	**1:1**
1,2,4-Trimethylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
sec-Butylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,3-Dichlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,4-Dichlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
4-Isopropyltoluene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2-Dichlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
n-Butylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1

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Test Certificate of Analysis

Client ID	Shaw Environmental & Infrastructure	**Workorder ID**	830714 Caltrans, Former Thomas
Workorder #	15822	**Sampled**	10/15/03
Laboratory ID	15822001	**Received**	10/15/03
Sample ID	MW-4	**Reported**	11/05/03
Matrix	Water		

8260B GC/MS Volatiles - 8260B (continued)

Parameter	Prep Date	Analyzed	Result	RL	Units	Dilution
1,2Dibromo3chloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2,4-Trichlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Naphthalene	**10/25/03**	**10/25/03**	**3.7**	**2.0**	**ug/L**	**1:1**
Hexachlorobutadiene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2,3-Trichlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1

Surrogates	Result	Recovery	Limits
1,2-Dichloroethane-d4	47 ug/L	94 %	(65 - 135)
Toluene d8	47 ug/L	94 %	(65 - 118)
4-Bromofluorobenzene	48 ug/L	96 %	(65 - 121)

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Test Certificate of Analysis

Client ID	Shaw Environmental & Infrastructure	**Workorder ID**	830714 Caltrans, Former Thomas
Workorder #	15822	**Sampled**	10/15/03
Laboratory ID	15822001	**Received**	10/15/03
Sample ID	MW-4	**Reported**	11/05/03
Matrix	Water		

Metals, CAM16 - 6010B

Parameter	Prep Date	Analyzed	Result	RL	Units	Dilution
Antimony	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Arsenic	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Barium	**10/21/03**	**10/27/03**	**0.50**	**0.0010**	**mg/L**	**1:1**
Beryllium	10/21/03	10/27/03	ND	0.0010	mg/L	1:1
Cadmium	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Chromium	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Cobalt	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Copper	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Lead	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Molybdenum	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Nickel	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Selenium	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Silver	10/21/03	10/27/03	ND	0.0016	mg/L	1:1
Thallium	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Vanadium	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Zinc	10/21/03	10/27/03	ND	0.010	mg/L	1:1

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Client ID	Shaw Environmental & Infrastructure	**Workorder ID**	830714 Caltrans, Former Thomas
Workorder #	15822	**Sampled**	10/15/03
Laboratory ID	15822002	**Received**	10/15/03
Sample ID	MW-5	**Reported**	11/05/03
Matrix	Water		

EPA Method 7470A Mercury - EPA 7470A

Parameter	Prep Date	Analyzed	Result	RL	Units	Dilution
Mercury	10/22/03	10/27/03	0.0040	0.00020	mg/L	1:1

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Client ID	Shaw Environmental & Infrastructure	**Workorder ID**	830714 Caltrans, Former Thomas
Workorder #	15822	**Sampled**	10/15/03
Laboratory ID	15822002	**Received**	10/15/03
Sample ID	MW-5	**Reported**	11/05/03
Matrix	Water		

8260B GC/MS Volatiles - 8260B

Parameter	Prep Date	Analyzed	Result	RL	Units	Dilution
Dichlorodifluoromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Chloromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Vinyl chloride	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromomethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Chloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Trichlorofluoromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Acrolein	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1-Dichloroethene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Acetone	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Methyl iodide	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Carbon disulfide	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Dichloromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Acrylonitrile	10/25/03	10/25/03	ND	2.0	ug/L	1:1
trans-1,2-Dichloroethene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1-Dichloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Vinyl acetate	10/25/03	10/25/03	ND	2.0	ug/L	1:1
cis-1,2-Dichloroethene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2-Butanone (MEK)	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromochloromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Chloroform	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2,2-dichloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1,1-Trichloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1-dichloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Carbon tetrachloride	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Benzene	**10/25/03**	**10/25/03**	**4.6**	**2.0**	**ug/L**	**1:1**
1,2-Dichloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Dibromomethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromodichloromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2-Dichloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Trichloroethene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2-Chloroethylvinyl ether	10/25/03	10/25/03	ND	2.0	ug/L	1:1
cis-1,3-Dichloropropene	10/25/03	10/25/03	ND	2.0	ug/L	1:1

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Test Certificate of Analysis

Client ID	Shaw Environmental & Infrastructure	**Workorder ID**	830714 Caltrans, Former Thomas
Workorder #	15822	**Sampled**	10/15/03
Laboratory ID	15822002	**Received**	10/15/03
Sample ID	MW-5	**Reported**	11/05/03
Matrix	Water		

8260B GC/MS Volatiles - 8260B (continued)

Parameter	Prep Date	Analyzed	Result	RL	Units	Dilution
4-Methyl-2-pentanone	10/25/03	10/25/03	ND	2.0	ug/L	1:1
trans-1,3Dichloropropene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1,2-Trichloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Toluene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2-Dibromoethane (EDB)	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,3-Dichloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2-Hexanone	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Dibromochloromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Tetrachloroethene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1,1,2Tetrachloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Chlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Ethylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
M+P-Xylene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromoform	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Styrene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
o-Xylene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1,2,2Tetrachloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2,3-Trichloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Isopropylbenzene (Cumene)	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
n-Propylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2-Chlorotoluene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
4-Chlorotoluene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,3,5-Trimethylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
tert-Butylbenzene	**10/25/03**	**10/25/03**	**13**	**2.0**	**ug/L**	**1:1**
1,2,4-Trimethylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
sec-Butylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,3-Dichlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,4-Dichlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
4-Isopropyltoluene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2-Dichlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
n-Butylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1

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Client ID	Shaw Environmental & Infrastructure	**Workorder ID**	830714 Caltrans, Former Thomas
Workorder #	15822	**Sampled**	10/15/03
Laboratory ID	15822002	**Received**	10/15/03
Sample ID	MW-5	**Reported**	11/05/03
Matrix	Water		

8260B GC/MS Volatiles - 8260B (continued)

Parameter	Prep Date	Analyzed	Result	RL	Units	Dilution
1,2Dibromo3chloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2,4-Trichlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Naphthalene	**10/25/03**	**10/25/03**	**6.5**	**2.0**	**ug/L**	**1:1**
Hexachlorobutadiene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2,3-Trichlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1

Surrogates	Result	Recovery	Limits
1,2-Dichloroethane-d4	46 ug/L	92 %	(65 - 135)
Toluene d8	49 ug/L	98 %	(65 - 118)
4-Bromofluorobenzene	49 ug/L	98 %	(65 - 121)

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Client ID	Shaw Environmental & Infrastructure	**Workorder ID**	830714 Caltrans, Former Thomas
Workorder #	15822	**Sampled**	10/15/03
Laboratory ID	15822002	**Received**	10/15/03
Sample ID	MW-5	**Reported**	11/05/03
Matrix	Water		

Metals, CAM16 - 6010B

Parameter	Prep Date	Analyzed	Result	RL	Units	Dilution
Antimony	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Arsenic	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Barium	**10/21/03**	**10/27/03**	**0.24**	**0.0010**	**mg/L**	**1:1**
Beryllium	10/21/03	10/27/03	ND	0.0010	mg/L	1:1
Cadmium	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Chromium	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Cobalt	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Copper	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Lead	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Molybdenum	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Nickel	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Selenium	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Silver	10/21/03	10/27/03	ND	0.0016	mg/L	1:1
Thallium	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Vanadium	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Zinc	10/21/03	10/27/03	ND	0.010	mg/L	1:1

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Client ID	Shaw Environmental & Infrastructure	**Workorder ID**	830714 Caltrans, Former Thomas
Workorder #	15822	**Sampled**	10/15/03
Laboratory ID	15822003	**Received**	10/15/03
Sample ID	MW-6	**Reported**	11/05/03
Matrix	Water		

EPA Method 7470A Mercury - EPA 7470A

Parameter	Prep Date	Analyzed	Result	RL	Units	Dilution
Mercury	10/22/03	10/27/03	ND	0.00020	mg/L	1:1

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Client ID	Shaw Environmental & Infrastructure	**Workorder ID**	830714 Caltrans, Former Thomas
Workorder #	15822	**Sampled**	10/15/03
Laboratory ID	15822003	**Received**	10/15/03
Sample ID	MW-6	**Reported**	11/05/03
Matrix	Water		

8260B GC/MS Volatiles - 8260B

Parameter	Prep Date	Analyzed	Result	RL	Units	Dilution
Dichlorodifluoromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Chloromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Vinyl chloride	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromomethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Chloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Trichlorofluoromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Acrolein	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1-Dichloroethene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Acetone	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Methyl iodide	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Carbon disulfide	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Dichloromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Acrylonitrile	10/25/03	10/25/03	ND	2.0	ug/L	1:1
trans-1,2-Dichloroethene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1-Dichloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Vinyl acetate	10/25/03	10/25/03	ND	2.0	ug/L	1:1
cis-1,2-Dichloroethene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2-Butanone (MEK)	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromochloromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Chloroform	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2,2-dichloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1,1-Trichloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1-dichloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Carbon tetrachloride	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Benzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2-Dichloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Dibromomethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromodichloromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2-Dichloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Trichloroethene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2-Chloroethylvinyl ether	10/25/03	10/25/03	ND	2.0	ug/L	1:1
cis-1,3-Dichloropropene	10/25/03	10/25/03	ND	2.0	ug/L	1:1

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Client ID	Shaw Environmental & Infrastructure	**Workorder ID**	830714 Caltrans, Former Thomas
Workorder #	15822	**Sampled**	10/15/03
Laboratory ID	15822003	**Received**	10/15/03
Sample ID	MW-6	**Reported**	11/05/03
Matrix	Water		

8260B GC/MS Volatiles - 8260B (continued)

Parameter	Prep Date	Analyzed	Result	RL	Units	Dilution
4-Methyl-2-pentanone	10/25/03	10/25/03	ND	2.0	ug/L	1:1
trans-1,3Dichloropropene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1,2-Trichloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Toluene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2-Dibromoethane (EDB)	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,3-Dichloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2-Hexanone	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Dibromochloromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Tetrachloroethene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1,1,2Tetrachloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Chlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Ethylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
M+P-Xylene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromoform	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Styrene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
o-Xylene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1,2,2Tetrachloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2,3-Trichloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Isopropylbenzene (Cumene)	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
n-Propylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2-Chlorotoluene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
4-Chlorotoluene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,3,5-Trimethylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
tert-Butylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2,4-Trimethylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
sec-Butylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,3-Dichlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,4-Dichlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
4-Isopropyltoluene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2-Dichlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
n-Butylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1

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Client ID	Shaw Environmental & Infrastructure	**Workorder ID**	830714 Caltrans, Former Thomas
Workorder #	15822	**Sampled**	10/15/03
Laboratory ID	15822003	**Received**	10/15/03
Sample ID	MW-6	**Reported**	11/05/03
Matrix	Water		

8260B GC/MS Volatiles - 8260B (continued)

Parameter	Prep Date	Analyzed	Result	RL	Units	Dilution
1,2Dibromo3chloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2,4-Trichlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Naphthalene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Hexachlorobutadiene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2,3-Trichlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1

Surrogates	Result	Recovery	Limits
1,2-Dichloroethane-d4	46 ug/L	92 %	(65 - 135)
Toluene d8	49 ug/L	98 %	(65 - 118)
4-Bromofluorobenzene	50 ug/L	100 %	(65 - 121)

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Environmental Laboratories

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Mobile Laboratory Division
Scientific Division

Test Certificate of Analysis

Client ID	Shaw Environmental & Infrastructure	**Workorder ID**	830714 Caltrans, Former Thomas
Workorder #	15822	**Sampled**	10/15/03
Laboratory ID	15822003	**Received**	10/15/03
Sample ID	MW-6	**Reported**	11/05/03
Matrix	Water		

Metals, CAM16 - 6010B

Parameter	Prep Date	Analyzed	Result	RL	Units	Dilution
Antimony	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Arsenic	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Barium	**10/21/03**	**10/27/03**	**0.33**	**0.0010**	**mg/L**	**1:1**
Beryllium	10/21/03	10/27/03	ND	0.0010	mg/L	1:1
Cadmium	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Chromium	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Cobalt	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Copper	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Lead	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Molybdenum	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Nickel	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Selenium	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Silver	10/21/03	10/27/03	ND	0.0016	mg/L	1:1
Thallium	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Vanadium	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Zinc	10/21/03	10/27/03	ND	0.010	mg/L	1:1

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Sparger Technology, Inc.
Environmental Laboratories

Test Certificate of Analysis

Client ID	Shaw Environmental & Infrastructure	**Workorder ID**	830714 Caltrans, Former Thomas
Workorder #	15822	**Sampled**	10/15/03
Laboratory ID	15822004	**Received**	10/15/03
Sample ID	Trip Blank	**Reported**	11/05/03
Matrix	Water		

8260B GC/MS Volatiles - 8260B

Parameter	Prep Date	Analyzed	Result	RL	Units	Dilution
Dichlorodifluoromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Chloromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Vinyl chloride	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromomethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Chloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Trichlorofluoromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Acrolein	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1-Dichloroethene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Acetone	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Methyl iodide	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Carbon disulfide	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Dichloromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Acrylonitrile	10/25/03	10/25/03	ND	2.0	ug/L	1:1
trans-1,2-Dichloroethene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1-Dichloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Vinyl acetate	10/25/03	10/25/03	ND	2.0	ug/L	1:1
cis-1,2-Dichloroethene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2-Butanone (MEK)	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromochloromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Chloroform	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2,2-dichloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1,1-Trichloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1-dichloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Carbon tetrachloride	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Benzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2-Dichloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Dibromomethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromodichloromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2-Dichloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Trichloroethene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2-Chloroethylvinyl ether	10/25/03	10/25/03	ND	2.0	ug/L	1:1
cis-1,3-Dichloropropene	10/25/03	10/25/03	ND	2.0	ug/L	1:1

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Test Certificate of Analysis

Client ID	Shaw Environmental & Infrastructure	**Workorder ID**	830714 Caltrans, Former Thomas
Workorder #	15822	**Sampled**	10/15/03
Laboratory ID	15822004	**Received**	10/15/03
Sample ID	Trip Blank	**Reported**	11/05/03
Matrix	Water		

8260B GC/MS Volatiles - 8260B (continued)

Parameter	Prep Date	Analyzed	Result	RL	Units	Dilution
4-Methyl-2-pentanone	10/25/03	10/25/03	ND	2.0	ug/L	1:1
trans-1,3Dichloropropene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1,2-Trichloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Toluene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2-Dibromoethane (EDB)	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,3-Dichloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2-Hexanone	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Dibromochloromethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Tetrachloroethene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1,1,2Tetrachloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Chlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Ethylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
M+P-Xylene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromoform	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Styrene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
o-Xylene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1,2,2Tetrachloroethane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2,3-Trichloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Isopropylbenzene (Cumene)	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
n-Propylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2-Chlorotoluene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
4-Chlorotoluene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,3,5-Trimethylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
tert-Butylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2,4-Trimethylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
sec-Butylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,3-Dichlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,4-Dichlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
4-Isopropyltoluene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2-Dichlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
n-Butylbenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1

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Test Certificate of Analysis

Client ID	Shaw Environmental & Infrastructure	**Workorder ID**	830714 Caltrans, Former Thomas
Workorder #	15822	**Sampled**	10/15/03
Laboratory ID	15822004	**Received**	10/15/03
Sample ID	Trip Blank	**Reported**	11/05/03
Matrix	Water		

8260B GC/MS Volatiles - 8260B (continued)

Parameter	Prep Date	Analyzed	Result	RL	Units	Dilution
1,2Dibromo3chloropropane	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2,4-Trichlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Naphthalene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Hexachlorobutadiene	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2,3-Trichlorobenzene	10/25/03	10/25/03	ND	2.0	ug/L	1:1

Surrogates	Result	Recovery	Limits
1,2-Dichloroethane-d4	46 ug/L	92 %	(65 - 135)
Toluene d8	48 ug/L	96 %	(65 - 118)
4-Bromofluorobenzene	50 ug/L	100 %	(65 - 121)

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Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15822 **Workorder ID** 830714 Caltrans, Former Thomas

Parameter TPHdiesel
Method 8015M DHS

Lab ID	Sample ID	Result	RL	Units	Collected	Analyzed	Matrix	Dilution
15822001	MW-4	330	50	ug/L	10/15/03	10/23/03	Water	1:1
15822002	MW-5	1200	50	ug/L	10/15/03	10/23/03	Water	1:1
15822003	MW-6	ND	50	ug/L	10/15/03	10/23/03	Water	1:1

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Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15822 **Workorder ID** 830714 Caltrans, Former Thomas

Parameter TPHgas
Method 8015M DHS

Lab ID	Sample ID	Result	RL	Units	Collected	Analyzed	Matrix	Dilution
15822001	MW-4	370	50	ug/L	10/15/03	10/21/03	Water	1:1
15822002	MW-5	1600	50	ug/L	10/15/03	10/21/03	Water	1:1
15822003	MW-6	78	50	ug/L	10/15/03	10/21/03	Water	1:1
15822004	Trip Blank	ND	50	ug/L	10/15/03	10/21/03	Water	1:1

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Method Blank Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58461
Sample ID	*MB for HBN 200836* [SGXV/2004]
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
TPHdiesel	8015M DHS	10/17/03	10/23/03	ND	50	ug/L	1:1

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Lab Control Sample Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58462
Sample ID	LCS for HBN 200836 [SGXV/2004]
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
TPHdiesel	8015M DHS	10/17/03	10/23/03	475	50	ug/L	1:1

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Lab Control Sample Duplicate Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58463
Sample ID	LCSD for HBN 200836 [SGXV/2004
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
TPHdiesel	8015M DHS	10/17/03	10/23/03	492	50	ug/L	1:1

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Method Blank Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58526
Sample ID	MB for HBN 201056 [ICPV/4620]
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Antimony	6010B	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Arsenic	6010B	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Barium	6010B	10/21/03	10/27/03	ND	0.0010	mg/L	1:1
Beryllium	6010B	10/21/03	10/27/03	ND	0.0010	mg/L	1:1
Cadmium	6010B	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Chromium	6010B	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Cobalt	6010B	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Copper	6010B	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Lead	6010B	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Molybdenum	6010B	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Nickel	6010B	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Selenium	6010B	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Silver	6010B	10/21/03	10/27/03	ND	0.0016	mg/L	1:1
Thallium	6010B	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Vanadium	6010B	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Zinc	6010B	10/21/03	10/27/03	ND	0.010	mg/L	1:1

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Lab Control Sample Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Caltrans, Former Thomas
Laboratory ID 58527
Sample ID LCS for HBN 201056 [ICPV/4620]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Antimony	6010B	10/21/03	10/27/03	0.51	0.0050	mg/L	1:1
Arsenic	6010B	10/21/03	10/27/03	0.50	0.0050	mg/L	1:1
Barium	6010B	10/21/03	10/27/03	0.55	0.0010	mg/L	1:1
Beryllium	6010B	10/21/03	10/27/03	0.100	0.0010	mg/L	1:1
Cadmium	6010B	10/21/03	10/27/03	0.20	0.0030	mg/L	1:1
Chromium	6010B	10/21/03	10/27/03	0.51	0.0030	mg/L	1:1
Cobalt	6010B	10/21/03	10/27/03	0.20	0.0030	mg/L	1:1
Copper	6010B	10/21/03	10/27/03	0.53	0.0030	mg/L	1:1
Lead	6010B	10/21/03	10/27/03	0.54	0.0050	mg/L	1:1
Molybdenum	6010B	10/21/03	10/27/03	0.52	0.0050	mg/L	1:1
Nickel	6010B	10/21/03	10/27/03	1.0	0.0030	mg/L	1:1
Selenium	6010B	10/21/03	10/27/03	0.48	0.0050	mg/L	1:1
Silver	6010B	10/21/03	10/27/03	0.050	0.0016	mg/L	1:1
Thallium	6010B	10/21/03	10/27/03	0.53	0.0050	mg/L	1:1
Vanadium	6010B	10/21/03	10/27/03	0.20	0.0030	mg/L	1:1
Zinc	6010B	10/21/03	10/27/03	0.49	0.010	mg/L	1:1

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Lab Control Sample Duplicate Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58528
Sample ID	LCSD for HBN 201056 [ICPV/4620
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Antimony	6010B	10/21/03	10/27/03	0.52	0.0050	mg/L	1:1
Arsenic	6010B	10/21/03	10/27/03	0.51	0.0050	mg/L	1:1
Barium	6010B	10/21/03	10/27/03	0.55	0.0010	mg/L	1:1
Beryllium	6010B	10/21/03	10/27/03	0.11	0.0010	mg/L	1:1
Cadmium	6010B	10/21/03	10/27/03	0.20	0.0030	mg/L	1:1
Chromium	6010B	10/21/03	10/27/03	0.51	0.0030	mg/L	1:1
Cobalt	6010B	10/21/03	10/27/03	0.20	0.0030	mg/L	1:1
Copper	6010B	10/21/03	10/27/03	0.53	0.0030	mg/L	1:1
Lead	6010B	10/21/03	10/27/03	0.54	0.0050	mg/L	1:1
Molybdenum	6010B	10/21/03	10/27/03	0.53	0.0050	mg/L	1:1
Nickel	6010B	10/21/03	10/27/03	1.0	0.0030	mg/L	1:1
Selenium	6010B	10/21/03	10/27/03	0.48	0.0050	mg/L	1:1
Silver	6010B	10/21/03	10/27/03	0.050	0.0016	mg/L	1:1
Thallium	6010B	10/21/03	10/27/03	0.53	0.0050	mg/L	1:1
Vanadium	6010B	10/21/03	10/27/03	0.20	0.0030	mg/L	1:1
Zinc	6010B	10/21/03	10/27/03	0.49	0.010	mg/L	1:1

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Duplicate Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58529
Sample ID	DUP for HBN 201056 [ICPV/4620]
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Antimony	6010B	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Arsenic	6010B	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Barium	6010B	10/21/03	10/27/03	0.50	0.0010	mg/L	1:1
Beryllium	6010B	10/21/03	10/27/03	ND	0.0010	mg/L	1:1
Cadmium	6010B	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Chromium	6010B	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Cobalt	6010B	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Copper	6010B	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Lead	6010B	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Molybdenum	6010B	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Nickel	6010B	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Selenium	6010B	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Silver	6010B	10/21/03	10/27/03	ND	0.0016	mg/L	1:1
Thallium	6010B	10/21/03	10/27/03	ND	0.0050	mg/L	1:1
Vanadium	6010B	10/21/03	10/27/03	ND	0.0030	mg/L	1:1
Zinc	6010B	10/21/03	10/27/03	ND	0.010	mg/L	1:1

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Matrix Spike Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58530
Sample ID	MS for HBN 201056 [ICPV/4620]
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Antimony	6010B	10/21/03	10/27/03	0.49	0.0050	mg/L	1:1
Arsenic	6010B	10/21/03	10/27/03	0.53	0.0050	mg/L	1:1
Barium	6010B	10/21/03	10/27/03	1.0	0.0010	mg/L	1:1
Beryllium	6010B	10/21/03	10/27/03	0.100	0.0010	mg/L	1:1
Cadmium	6010B	10/21/03	10/27/03	0.20	0.0030	mg/L	1:1
Chromium	6010B	10/21/03	10/27/03	0.48	0.0030	mg/L	1:1
Cobalt	6010B	10/21/03	10/27/03	0.19	0.0030	mg/L	1:1
Copper	6010B	10/21/03	10/27/03	0.52	0.0030	mg/L	1:1
Lead	6010B	10/21/03	10/27/03	0.49	0.0050	mg/L	1:1
Molybdenum	6010B	10/21/03	10/27/03	0.51	0.0050	mg/L	1:1
Nickel	6010B	10/21/03	10/27/03	0.94	0.0030	mg/L	1:1
Selenium	6010B	10/21/03	10/27/03	0.50	0.0050	mg/L	1:1
Silver	6010B	10/21/03	10/27/03	0.050	0.0016	mg/L	1:1
Thallium	6010B	10/21/03	10/27/03	0.47	0.0050	mg/L	1:1
Vanadium	6010B	10/21/03	10/27/03	0.17	0.0030	mg/L	1:1
Zinc	6010B	10/21/03	10/27/03	0.50	0.010	mg/L	1:1

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Matrix Spike Duplicate Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Caltrans, Former Thomas
Laboratory ID 58531
Sample ID MSD for HBN 201056 [ICPV/4620]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Antimony	6010B	10/21/03	10/27/03	0.49	0.0050	mg/L	1:1
Arsenic	6010B	10/21/03	10/27/03	0.53	0.0050	mg/L	1:1
Barium	6010B	10/21/03	10/27/03	1.0	0.0010	mg/L	1:1
Beryllium	6010B	10/21/03	10/27/03	0.100	0.0010	mg/L	1:1
Cadmium	6010B	10/21/03	10/27/03	0.20	0.0030	mg/L	1:1
Chromium	6010B	10/21/03	10/27/03	0.48	0.0030	mg/L	1:1
Cobalt	6010B	10/21/03	10/27/03	0.19	0.0030	mg/L	1:1
Copper	6010B	10/21/03	10/27/03	0.52	0.0030	mg/L	1:1
Lead	6010B	10/21/03	10/27/03	0.50	0.0050	mg/L	1:1
Molybdenum	6010B	10/21/03	10/27/03	0.52	0.0050	mg/L	1:1
Nickel	6010B	10/21/03	10/27/03	0.94	0.0030	mg/L	1:1
Selenium	6010B	10/21/03	10/27/03	0.49	0.0050	mg/L	1:1
Silver	6010B	10/21/03	10/27/03	0.050	0.0016	mg/L	1:1
Thallium	6010B	10/21/03	10/27/03	0.48	0.0050	mg/L	1:1
Vanadium	6010B	10/21/03	10/27/03	0.17	0.0030	mg/L	1:1
Zinc	6010B	10/21/03	10/27/03	0.50	0.010	mg/L	1:1

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Method Blank Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58567
Sample ID	MB for HBN 201149 [DIGV/1461]
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Mercury	EPA 7470A	10/22/03	10/27/03	ND	0.00020	mg/L	1:1

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Lab Control Sample Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58568
Sample ID	LCS for HBN 201149 [DIGV/1461]
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Mercury	EPA 7470A	10/22/03	10/27/03	0.00091	0.00020	mg/L	1:1

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Lab Control Sample Duplicate Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58569
Sample ID	LCSD for HBN 201149 [DIGV/1461
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Mercury	EPA 7470A	10/22/03	10/27/03	0.00100	0.00020	mg/L	1:1

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Duplicate Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58570
Sample ID	DUP for HBN 201149 [DIGV/1461]
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Mercury	EPA 7470A	10/22/03	10/27/03	ND	0.00020	mg/L	1:1

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Matrix Spike Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58571
Sample ID	MS for HBN 201149 [DIGV/1461]
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Mercury	EPA 7470A	10/22/03	10/27/03	0.0012	0.00020	mg/L	1:1

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Matrix Spike Duplicate Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58572
Sample ID	MSD for HBN 201149 [DIGV/1461]
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Mercury	EPA 7470A	10/22/03	10/27/03	0.0013	0.00020	mg/L	1:1

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Method Blank Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58719
Sample ID	MB for HBN 203368 [VMXV/2323]
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Dichlorodifluoromethane	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Chloromethane	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Vinyl chloride	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromomethane	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Chloroethane	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Trichlorofluoromethane	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Acrolein	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1-Dichloroethene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Acetone	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Methyl iodide	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Carbon disulfide	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Dichloromethane	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Acrylonitrile	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
trans-1,2-Dichloroethene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1-Dichloroethane	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Vinyl acetate	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
cis-1,2-Dichloroethene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2-Butanone (MEK)	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromochloromethane	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Chloroform	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2,2-dichloropropane	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1,1-Trichloroethane	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1-dichloropropane	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Carbon tetrachloride	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Benzene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2-Dichloroethane	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Dibromomethane	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromodichloromethane	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2-Dichloropropane	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Trichloroethene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2-Chloroethylvinyl ether	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
cis-1,3-Dichloropropene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
4-Methyl-2-pentanone	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1

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Method Blank Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58719
Sample ID	MB for HBN 203368 [VMXV/2323]
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
(continued)							
trans-1,3Dichloropropene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1,2-Trichloroethane	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Toluene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2-Dibromoethane (EDB)	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,3-Dichloropropane	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2-Hexanone	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Dibromochloromethane	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Tetrachloroethene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1,1,2Tetrachloroethane	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Chlorobenzene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Ethylbenzene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
M+P-Xylene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromoform	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Styrene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
o-Xylene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,1,2,2Tetrachloroethane	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2,3-Trichloropropane	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Isopropylbenzene (Cumene)	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Bromobenzene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
n-Propylbenzene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
2-Chlorotoluene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
4-Chlorotoluene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,3,5-Trimethylbenzene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
tert-Butylbenzene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2,4-Trimethylbenzene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
sec-Butylbenzene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,3-Dichlorobenzene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,4-Dichlorobenzene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
4-Isopropyltoluene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2-Dichlorobenzene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
n-Butylbenzene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1

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Method Blank Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58719
Sample ID	MB for HBN 203368 [VMXV/2323]
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
(continued)							
1,2Dibromo3chloropropane	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2,4-Trichlorobenzene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Naphthalene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
Hexachlorobutadiene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1
1,2,3-Trichlorobenzene	8260B	10/25/03	10/25/03	ND	2.0	ug/L	1:1

Surrogates	Result	Recovery	Limits
1,2-Dichloroethane-d4	47.3 ug/L	95 %	(65 - 135)
Toluene d8	47.6 ug/L	95 %	(65 - 118)
4-Bromofluorobenzene	49 ug/L	98 %	(65 - 121)

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Lab Control Sample Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58720
Sample ID	LCS for HBN 203368 [VMXV/2323]
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
1,1-Dichloroethene	8260B	10/25/03	10/25/03	55	2.0	ug/L	1:1
Benzene	8260B	10/25/03	10/25/03	48	2.0	ug/L	1:1
Trichloroethene	8260B	10/25/03	10/25/03	47	2.0	ug/L	1:1
Toluene	8260B	10/25/03	10/25/03	46	2.0	ug/L	1:1
Chlorobenzene	8260B	10/25/03	10/25/03	50	2.0	ug/L	1:1

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Lab Control Sample Duplicate Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58721
Sample ID	LCSD for HBN 203368 [VMXV/2323
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
1,1-Dichloroethene	8260B	10/25/03	10/25/03	54	2.0	ug/L	1:1
Benzene	8260B	10/25/03	10/25/03	48	2.0	ug/L	1:1
Trichloroethene	8260B	10/25/03	10/25/03	47	2.0	ug/L	1:1
Toluene	8260B	10/25/03	10/25/03	47	2.0	ug/L	1:1
Chlorobenzene	8260B	10/25/03	10/25/03	51	2.0	ug/L	1:1

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Matrix Spike Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58722
Sample ID	MS for HBN 203368 [VMXV/2323]
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
1,1-Dichloroethene	8260B	10/25/03	10/25/03	57	2.0	ug/L	1:1
Benzene	8260B	10/25/03	10/25/03	48	2.0	ug/L	1:1
Trichloroethene	8260B	10/25/03	10/25/03	48	2.0	ug/L	1:1
Toluene	8260B	10/25/03	10/25/03	45	2.0	ug/L	1:1
Chlorobenzene	8260B	10/25/03	10/25/03	50	2.0	ug/L	1:1

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Matrix Spike Duplicate Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58723
Sample ID	MSD for HBN 203368 [VMXV/2323]
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
1,1-Dichloroethene	8260B	10/25/03	10/25/03	55	2.0	ug/L	1:1
Benzene	8260B	10/25/03	10/25/03	48	2.0	ug/L	1:1
Trichloroethene	8260B	10/25/03	10/25/03	47	2.0	ug/L	1:1
Toluene	8260B	10/25/03	10/25/03	46	2.0	ug/L	1:1
Chlorobenzene	8260B	10/25/03	10/25/03	50	2.0	ug/L	1:1

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Method Blank Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58736
Sample ID	MB for HBN 203375 [VGXV/2547]
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
TPHgas	8015M DHS	10/21/03	10/21/03	ND	50	ug/L	1:1

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Lab Control Sample Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58737
Sample ID	LCS for HBN 203375 [VGXV/2547]
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
TPHgas	8015M DHS	10/21/03	10/21/03	1170	50	ug/L	1:1

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Lab Control Sample Duplicate Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58738
Sample ID	LCSD for HBN 203375 [VGXV/2547
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
TPHgas	8015M DHS	10/21/03	10/21/03	1110	50	ug/L	1:1

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Matrix Spike Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58739
Sample ID	MS for HBN 203375 [VGXV/2547]
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
TPHgas	8015M DHS	10/21/03	10/21/03	1340	50	ug/L	1:1

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Matrix Spike Duplicate Report

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
Laboratory ID	58740
Sample ID	MSD for HBN 203375 [VGXV/2547]
Matrix	Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
TPHgas	8015M DHS	10/21/03	10/21/03	1380	50	ug/L	1:1

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QC SUMMARY

Client ID	Shaw Environmental & Infrastructure		
Workorder ID	830714 Caltrans, Former Thomas		
QC Batch	ICPP 4650	**Original**	15822001
Matrix	Water	**Sample**	Duplicate [58529]

Parameter	RPD	RPD Limits
Antimony	00	(35)
Arsenic	00	(35)
Barium	00	(35)
Beryllium	00	(35)
Cadmium	00	(35)
Chromium	00	(35)
Cobalt	00	(35)
Copper	00	(35)
Lead	00	(35)
Molybdenum	00	(35)
Nickel	00	(35)
Selenium	00	(35)
Silver	00	(35)
Thallium	00	(35)
Vanadium	00	(35)
Zinc	00	(35)

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QC SUMMARY

Client ID	Shaw Environmental & Infrastructure		
Workorder ID	830714 Caltrans, Former Thomas		
QC Batch	DIG 1467	**Original**	15822001
Matrix	Water	**Sample**	Duplicate [58570]

Parameter	RPD	RPD Limits
Mercury	0000	(35)

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QC SUMMARY

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Caltrans, Former Thomas
QC Batch ICPP 4650
Matrix Water

Original Samples 15822001
Matrix Spike [58530]
Matrix Spike Duplicate [58531]

Parameter	Spike %Recovery	Spike Dup %Recovery	Recovery Limits	RPD	RPD Limits
Antimony	99	99	(25-125)	00	(35 MAX)
Arsenic	106	107	(75-125)	0.90	(35 MAX)
Barium	101	103	(75-125)	2.0	(35 MAX)
Beryllium	101	102	(75-125)	1.0	(35 MAX)
Cadmium	101	102	(75-125)	1.0	(35 MAX)
Chromium	97	97	(75-125)	00	(35 MAX)
Cobalt	93	94	(75-125)	1.1	(35 MAX)
Copper	104	104	(75-125)	00	(35 MAX)
Lead	99	100	(75-125)	1.0	(35 MAX)
Molybdenum	103	104	(75-125)	1.0	(35 MAX)
Nickel	94	94	(75-125)	00	(35 MAX)
Selenium	99	99	(75-125)	00	(35 MAX)
Silver	100	100	(25-125)	00	(35 MAX)
Thallium	94	95	(50-125)	1.1	(35 MAX)
Vanadium	83	83	(75-125)	00	(35 MAX)
Zinc	100	100	(75-125)	00	(35 MAX)

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Sparger Technology, Inc.
Environmental Laboratories

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

QC SUMMARY

Client ID	Shaw Environmental & Infrastructure		
Workorder ID	830714 Caltrans, Former Thomas		
QC Batch	DIG 1467	**Original**	15822001
Matrix	Water	**Samples**	Matrix Spike [58571]
			Matrix Spike Duplicate [58572]

Parameter	Spike %Recovery	Spike Dup %Recovery	Recovery Limits	RPD	RPD Limits
Mercury	120	128	(75-125)	6.45	(35 MAX)

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Sparger Technology, Inc.
Environmental Laboratories

QC SUMMARY

Client ID	Shaw Environmental & Infrastructure		
Workorder ID	830714 Caltrans, Former Thomas		
QC Batch	VMX 2368	**Original**	15822001
Matrix	Water	**Samples**	Matrix Spike [58722]
			Matrix Spike Duplicate [58723]

Parameter	Spike %Recovery	Spike Dup %Recovery	Recovery Limits	RPD	RPD Limits
1,1-Dichloroethene	114	110	(61-145)	3.6	(20 MAX)
Benzene	96	96	(76-127)	00	(20 MAX)
Trichloroethene	96	94	(71-135)	2.1	(20 MAX)
Toluene	90	92	(76-130)	2.2	(20 MAX)
Chlorobenzene	100	100	(75-130)	00	(20 MAX)

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Sparger Technology, Inc.
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QC SUMMARY

Client ID	Shaw Environmental & Infrastructure		
Workorder ID	830714 Caltrans, Former Thomas		
QC Batch	VGX 2658	**Original**	15822001
Matrix	Water	**Samples**	Matrix Spike [58739]
			Matrix Spike Duplicate [58740]

Parameter	Spike %Recovery	Spike Dup %Recovery	Recovery Limits	RPD	RPD Limits
TPHgas	97	101	(65-135)	4.0	(20 MAX)

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Sparger Technology, Inc.
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QC SUMMARY

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Caltrans, Former Thomas
QC Batch SGX 2040
Matrix Water

Samples Lab Control Sample [58462]
Lab Control Sample Duplicate [58463]

Parameter	Check %Recovery	Check Dup %Recovery	Recovery Limits	RPD	RPD Limits
TPHdiesel	95	98	(65-135)	3.1	(20 MAX)

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Sparger Technology, Inc.
Environmental Laboratories

QC SUMMARY

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Caltrans, Former Thomas
QC Batch ICPP 4650
Matrix Water

Samples Lab Control Sample [58527]
Lab Control Sample Duplicate [58528]

Parameter	Check %Recovery	Check Dup %Recovery	Recovery Limits	RPD	RPD Limits
Antimony	103	104	(70-120)	1.0	(20 MAX)
Arsenic	101	102	(80-120)	1.0	(20 MAX)
Barium	110	110	(80-120)	00	(20 MAX)
Beryllium	105	106	(80-120)	0.90	(20 MAX)
Cadmium	100	100	(80-120)	00	(20 MAX)
Chromium	101	101	(80-120)	00	(20 MAX)
Cobalt	100	102	(80-120)	2.0	(20 MAX)
Copper	106	106	(80-120)	00	(20 MAX)
Lead	107	108	(80-120)	0.90	(20 MAX)
Molybdenum	105	106	(80-120)	0.90	(20 MAX)
Nickel	104	105	(80-120)	1.0	(20 MAX)
Selenium	95	96	(80-120)	1.0	(20 MAX)
Silver	100	100	(60-120)	00	(20 MAX)
Thallium	106	106	(80-120)	00	(20 MAX)
Vanadium	100	100	(80-120)	00	(20 MAX)
Zinc	98	99	(80-120)	1.0	(20 MAX)

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Sparger Technology, Inc.
Environmental Laboratories

QC SUMMARY

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Caltrans, Former Thomas
QC Batch DIG 1467
Matrix Water

Samples Lab Control Sample [58568]
Lab Control Sample Duplicate [58569]

Parameter	Check %Recovery	Check Dup %Recovery	Recovery Limits	RPD	RPD Limits
Mercury	91.1	100	(80-120)	9.31	(20 MAX)

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Sparger Technology, Inc.
Environmental Laboratories

QC SUMMARY

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Caltrans, Former Thomas
QC Batch VMX 2368
Matrix Water

Samples Lab Control Sample [58720]
Lab Control Sample Duplicate [58721]

Parameter	Check %Recovery	Check Dup %Recovery	Recovery Limits	RPD	RPD Limits
1,1-Dichloroethene	110	108	(65-145)	1.8	(20 MAX)
Benzene	96	96	(71-127)	00	(20 MAX)
Trichloroethene	94	94	(75-135)	00	(20 MAX)
Toluene	92	94	(76-135)	2.2	(20 MAX)
Chlorobenzene	100	102	(76-135)	2.0	(20 MAX)

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Sparger Technology, Inc.
Environmental Laboratories

Analytical Laboratory Division
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QC SUMMARY

Client ID	Shaw Environmental & Infrastructure
Workorder ID	830714 Caltrans, Former Thomas
QC Batch	VGX 2658
Matrix	Water
Samples	Lab Control Sample [58737] Lab Control Sample Duplicate [58738]

Parameter	Check %Recovery	Check Dup %Recovery	Recovery Limits	RPD	RPD Limits
TPHgas	117	111	(65-135)	5.3	(20 MAX)

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WORKORDER DATA SHEET
Oct 16, 2003 08:48

ID 15822 WO # 15822 830714 Caltrans, Former Thomas STATUS CO
DESC B10D/R3-3 JR

CREATED	10/16/03 08:32	PO 830714	QA	TYPE CM	ACODE REPORT_WO
CLIENT	Shaw Shaw Environmental & Infrastructure				
PROFILE	10213 CaltransStan Caltrans Standard				

WORKORDER SAMPLES

1 **15822001** 15822001 MW-4

WP	TYPE SAMPLE	MATRIX	Water
COLLECTED	10/15/03 00:00	DUE	10/29/03 17:00

Analyses		Turndays
8015M_G W	TPH Gas WATR	10
8015M_D W	TPHdiesel Water	10
CAM16WATR	6010B ELEMENTS CAM16 WATER	10
8260 WATR	8260B GCMS VOLATILES WATR	10

2 **15822002** 15822002 MW-5

WP	TYPE SAMPLE	MATRIX	Water
COLLECTED	10/15/03 00:00	DUE	10/29/03 17:00

Analyses		Turndays
8260 WATR	8260B GCMS VOLATILES WATR	10
8015M_G W	TPH Gas WATR	10
8015M_D W	TPHdiesel Water	10
CAM16WATR	6010B ELEMENTS CAM16 WATER	10

3 **15822003** 15822003 MW-6

WP	TYPE SAMPLE	MATRIX	Water
COLLECTED	10/15/03 00:00	DUE	10/29/03 17:00

Analyses		Turndays
8260 WATR	8260B GCMS VOLATILES WATR	10
8015M_G W	TPH Gas WATR	10
8015M_D W	TPHdiesel Water	10
CAM16WATR	6010B ELEMENTS CAM16 WATER	10

4 **15822004** 15822004 Trip Blank

WP	TYPE SAMPLE	MATRIX	Water
COLLECTED	10/15/03 00:00	DUE	10/29/03 17:00

Analyses		Turndays
8260 WATR	8260B GCMS VOLATILES WATR	10
8015M_G W	TPH Gas WATR	10

CHAIN OF CUSTODY / LABORATORY ANALYSIS REQUEST FORM

B100/R33

SHAW Environmental & Infrastructure, Inc.
1326 North Market Boulevard, Sacramento, CA 95834

Purchase Order: # 189348
Lab: **Sparger Technology, Sacto**

Project Name: **Caltrans, Former Thomas Short Property**
Project Number: **830714 / 01010000**
Project Manager: **Martha Adams**
Company: **SHAW Environmental & Infrastructure, Inc.**
Address: **1326 North Market Boulevard**
Sacramento, CA 95834
Dir. Ph: **(916) 565-4183** FAX: **(916) 565-4356**

Sampler's Signature: Paul Wenhardt

Sample I.D.	Date	Time	LAB I.D.	Sample Matrix	Number of Containers	VOCs by 8260B; TPH as gas by 8015M	TPH as Diesel by 8015M	CAM Metals by 6010/7470 LAB TO FILTER/PRES. Note Required Detection Limits ATTACHED.	REMARKS
					1	6	5		Container Types
					HCl	NP	NP		Preservations
1 MW-4	10-15	1014		Water	6	4	1	1	
2 MW-5	↓	1005		Water	6	4	1	1	
3 MW-6		952		Water	6	4	1	1	
4 Trip Blank	↓	N/A		Water	2	2			

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Paul Wenhardt	Signature: Jennifer Ritter	Signature	Signature
Printed Name: Paul Wenhardt	Printed Name: Sparger	Printed Name	Printed Name
Firm: SHAW E+I	Firm: 10/15/03 15:15	Firm	Firm
Date/Time: 10-15-03 15:45	Date/Time	Date/Time	Date/Time

RELINQUISHED BY	RECEIVED BY
Signature	Signature
Printed Name	Printed Name
Firm	Firm
Date/Time	Date/Time

TURNAROUND REQUIREMENTS

___ 24 hr ___ 48 hr ___ 5 day
X Standard (~10-15 working days)
___ Provide Verbal Preliminary Results
___ Provide FAX Preliminary Results
Requested Report Date: _____

REPORT REQUIREMENTS

X I. Routine Report
___ II. Report (includes DUP, MS MSD, as required, may be charged as samples)
___ III. Data Validation Report (includes All Raw Data)
___ RWQCB (MDLs/PQLs/TRACE#)

Special Instructions/Comments:

CAM 17 Metals to be filtered / preserved in the lab.
Metals detection limits are attached. Please use these specific detection limits.

Sparger Technology
3050 Fite Circle, St. 112
Sacto, Ca 95827
916-362-8947 / Fx 362-0947
Contact: Will Fleming

Container Types Key:

40 ml VOA:	1
250 ml LPE:	2
500 ml LPE:	3
1 liter HDPE:	4
500 ml glass:	5
1 liter glass:	6
2x6 s/s ring:	7
glass jar:	8