

DEPARTMENT OF TRANSPORTATION

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January 10, 2003

20126
Alameda County
JAN 16 2003
Environmental Health

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 you will find the report for the fourth quarter 2002 groundwater sampling event at the former Thomas A. Short Company site (3430 Wood Street, Oakland, CA 94508). The monitor well sampling took place on October 17, 2002.

The groundwater study at this site is scheduled to continue with the next sampling event on January 27, 2003. I am planning on eliminating EPA Method 1664, total petroleum hydrocarbons (TPH), from the analytical schedule starting this month because the TPH results have all been non-detect for the last four quarters. When the report for the upcoming sampling session is finalized, it will be forwarded to you. 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

Enclosure

20126



IT CORPORATION

A Member of The IT Group

**FOURTH QUARTER 2002 GROUNDWATER MONITORING REPORT
FORMER THOMAS A. SHORT COMPANY PROPERTY
OAKLAND, ALAMEDA COUNTY, CALIFORNIA**

January 6, 2003

Prepared for:

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

Prepared by:

IT Corporation
1326 North Market Boulevard
Sacramento, California 95834

**EA No.: 04-911052
Task Order No.: 04-0911052-WB
Contract No.: 43A0078**

IT Project No.: 830714

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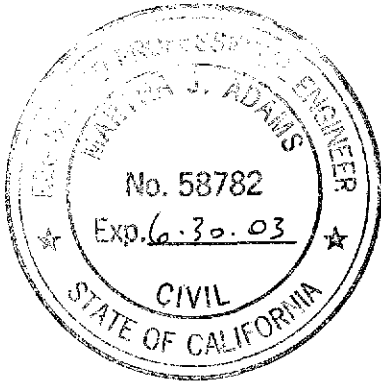
- Appendix A Groundwater Monitoring Procedures
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- Appendix C Laboratory Analytical Report and Chain-of-Custody Documentation

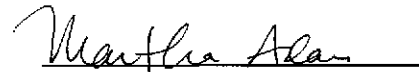
**FOURTH QUARTER 2002 GROUNDWATER MONITORING REPORT
FORMER THOMAS A. SHORT COMPANY PROPERTY
OAKLAND, ALAMEDA COUNTY, CALIFORNIA**

IT Corporation (IT), is pleased to submit this report for fourth quarterly 2002 groundwater monitoring 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.

IT Corporation




Martha Adams, P.E.
Project Manager

Distribution: Chris Wilson, Caltrans
File 830714

1.0 Project History

The Thomas Short property (Figure 1) was purchased by 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 W-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 seven quarters of groundwater monitoring, 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. 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 2.45 mg/l. Benzene concentrations have ranged from below the detection limit to 191 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 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 of 2002 was conducted on October 17, 2002, by personnel of IT. 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	Total Petroleum Hydrocarbons as Gasoline EPA Method 8015 modified
Water	Total Petroleum Hydrocarbons as Diesel EPA Method 8015 modified
Water	Total Petroleum Hydrocarbons EPA Method 1664
Water	Fuel Oxygenate Compounds EPA Method 8260B
Water	Volatile Organic Compounds EPA Method 8260B
Water	California Assessment Manual (CAM) 17 Metals EPA 6010/7470
Water	Total Dissolved Solids

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 volatile organic compounds. The trip blank was analyzed for TPHg, fuel oxygenate compounds, and volatile organic compounds

(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, fuel oxygenate compounds, and VOCs were not reported present in the travel blank set at concentrations exceeding reporting limits of the analytical method 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 2002 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:	<u>Former Thomas A. Short Company</u> <u>3430 Wood Street, Oakland, California, Figure 1</u>
Current Phase of Project:	<u>Monitoring</u>
Frequency of Monitoring:	<u>Quarterly</u>
Separate-Phase Hydrocarbons Present:	<u>None present</u>
Water Purged from Wells This Quarter:	<u>6.0 gallons (from 3 monitoring wells)</u>
Range of Depth to Groundwater:	<u>11.73 to 15.33 (feet from top of casing), Table 1</u> <u>3.6 to 4.7 (meters from top of casing)</u>
Groundwater Elevation Change Since Last Quarter:	<u>Groundwater elevations decreased in all wells.</u> <u>Decreases ranged from -1.01 to -0.31 feet</u> <u>-0.31 to -0.09 meters</u>
Groundwater Gradient:	<u>0.008, Figure 3</u>
Groundwater Flow Direction:	<u>Southwest, Figure 3</u>

3.2 Analytical Results

Total petroleum hydrocarbons were not reported in the groundwater samples analyzed at concentrations greater than the analytical method reporting limits (Table 3). TPHg was reported by the laboratory in groundwater samples from wells MW-4 and MW-5 at concentrations of 2.1 and 1.7 mg/l, respectively. TPHd was reported by the laboratory in groundwater samples from wells MW-4 and MW-5 at concentrations of 1.1 and 1.5 mg/l, respectively. TPHg and TPHd were not reported in the groundwater sample from well MW-6 at concentrations above the laboratory analytical method reporting limit of 0.05 mg/l (Table 3).

Benzene, toluene, ethylbenzene, and xylenes were reported in groundwater samples collected from wells MW-4 and MW-5. The reported concentrations were 0.023 mg/l, 0.0056 mg/l, 0.02 mg/l, and 0.0154 mg/l, respectively in well MW-4, and 0.062 mg/l, 0.002 mg/l, 0.0069 mg/l, and 0.0027 mg/l, respectively in well MW-5. Benzene, toluene, ethylbenzene, and xylenes were not reported in the groundwater sample collected from well MW-6 (Table 3).

MTBE and other fuel oxygenate compounds were not reported by the laboratory in the groundwater samples collected (Table 3).

Additional volatile organic compounds (VOCs) were reported in groundwater samples collected from wells MW-4 and MW-5 (Table 4). The following VOCs and concentration ranges were reported (in mg/l).

1,2,4-trimethylbenzene	0.0026 (MW-5)	N-propylbenzene	0.039 to 0.068
1,3,5-trimethylbenzene	0.0027 to 0.014	Sec-butylbenzene	0.0044 to 0.0056
4-Isopropyltoluene	0.0037 (MW-4)	Tert-butylbenzene	0.0098 to 0.011
Isopropylbenzene	0.018 to 0.052		

The only metals that groundwater samples were reported to contain was mercury (Table 5). Mercury was reported in groundwater samples collected from wells MW-4, MW-5, and MW-6 at concentrations ranging from 0.00041 to 0.00063 mg/l.

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 2002 sampling event are generally consistent with historical data. Compared to July 2002 data, the TPHg concentration decreased from 2.9 to 2.1 mg/l in well MW-4, decreased from 4.1 to 1.7 mg/l in well MW-5, and remained the same, none detected, in well MW-6 (Table 6). TPHd concentrations decreased from 1.26 to 1.1 mg/l in well MW-4, decreased from 2.45 to 1.5 mg/l in well MW-5, and remained the same, none detected, in well MW-6 (Table 6). Benzene increased in well MW-4 from 0.0097 to 0.023 mg/l, and toluene, ethylbenzene, and xylenes increased from none detected to 0.0056 mg/l, 0.02 mg/l, and 0.0154 mg/l, respectively (Table 6). Benzene decreased in well MW-5 from 0.099 to 0.062 mg/l. Toluene, ethylbenzene, and xylenes also decreased from the previous quarter to 0.002, 0.0069, and 0.0027 mg/l, respectively. BTEX results are generally consistent with historical results and trends for wells MW-4, MW-5 and MW-6 (Table 6). MTBE results

are generally consistent with historical results and trends for wells MW-4, MW-5, and MW-6 (Table 6).

Remaining VOC results are generally comparable to historical compounds and concentrations reported for MW-6 (Table 7). For MW-4, the compounds 2-butanone, 2-chloroethylvinylether, acetone, acrolein, and trichloroethene, detected in July 2002, decreased to below the method reporting limits. For MW-4, the compounds 1,3,5-trimethylbenzene, 4-isopropyltoluene, isopropylbenzene, n-propylbenzene, and sec-butylbenzene increased from below the method reporting limits to 14, 3.7, 52, 68, and 4.4 µg/l, respectively. For MW-5 the compounds 2-butanone, 2-hexanone, n-butylbenzene, and trichloroethene, detected in July 2002, decreased to below the method reporting limits. For MW-5, the compounds 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, isopropylbenzene, n-propylbenzene, sec-butylbenzene, and tert-butylbenzene decreased in concentration relative to the July 2002 results.

Historically, groundwater samples from the site were reported to contain arsenic, barium, chromium, cobalt, copper, lead, molybdenum, nickel, selenium, silver, vanadium and zinc. Current results reported only mercury (Table 8). Mercury has never been detected previously. The reason for the difference between current results and historical results is not known. The change in mercury concentrations is greater than historical concentrations. Additional monitoring should be conducted to confirm any further changes in concentration.

3.4 Comparison to Risk-Based Screening Levels

The analytical results will be compared to risk-based screening levels (RBSLs). The RBSLs (RWQCB, 2001) 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 RBSLs developed for groundwater that is not a current or potential drinking water resource are used for comparison to the current quarter's groundwater data. RBSLs are presented in Tables 6, 7, and 8.

Constituent	RBSL (mg/l)	Wells with Groundwater Results Exceeding RBSL
TPHg	0.500	MW-4, MW-5
TPHd	0.640	MW-4, MW-5
Benzene	0.046	MW-5
Xylenes	0.013	MW-4
Mercury	0.000012	MW-4, MW-5, MW-6

4.0 Recommendations

IT recommends continued groundwater monitoring to evaluate temporal changes in groundwater quality and mercury concentrations.

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 2002 Groundwater Elevations
 Former Thomas 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	10/17/02	11.73	0	-3.40
MW-5	12.35	5 to 15	10/17/02	15.33	0	-2.98
MW-6	12.01	5 to 15	10/17/02	15.18	0	-3.17

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 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	
	07/11/02		10.72	0	-2.39	
	10/17/02		11.73	0	-3.40	
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	
	07/11/02		15.02	0	-2.67	
	10/17/02		15.33	0	-2.98	
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	
	07/11/02		14.24	0	-2.23	
	10/17/02		15.18	0	-3.17	

- 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 2002 Groundwater Analytical Results
Selected Compounds
Former Thomas Short Company
Oakland, California

Sample Designation	MW-4	MW-5	MW-6	Trip Blank
Sampling Date	10/17/02	10/17/02	10/17/02	10/17/02
<u>Petroleum Hydrocarbons, mg/l</u>				
Total Petroleum Hydrocarbons	<5	<5	<5	---
TPH as Gasoline	2.1	1.7	<0.050	<0.050
TPH as Diesel	1.1	1.5	<0.050	---
<u>Selected Volatile Organic Compounds, ug/l</u>				
Benzene	23	62	<2.0	<2.0
Toulene	5.6	2	<2.0	<2.0
Ethylbenzene	20	6.9	<2.0	<2.0
Total Xylenes	15.4	2.7	<2.0	<2.0
<u>Fuel Oxygenates, ug/l</u>				
MTBE	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids, mg/l	2830	1820	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.

Table 4
Fourth Quarter 2002 Groundwater Analytical Results
Additional Volatile Organic Compounds
Former Thomas Short Company
Oakland, California

Sample Designation Sampling Date	MW-4 10/17/02	MW-5 10/17/02	MW-6 10/17/02	Trip Blank 10/17/02
1,2,4-trimethylbenzene	<2.0	2.6	<2.0	<2.0
1,3,5-trimethylbenzene	14	2.7	<2.0	<2.0
isopropylbenzene (Cumene)	52	18	<2.0	<2.0
n-propylbenzene	68	39	<2.0	<2.0
sec-butylbenzene	4.4	5.6	<2.0	<2.0
tert-butylbenzene	11	9.8	<2.0	<2.0
4-Isopropyltoluene	3.7	<2.0	<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 2002 Groundwater Analytical Results
Heavy Metals
Former Thomas Short Company
Oakland, California

Sample Designation Sampling Date	MW-4 10/17/02	MW-5 10/17/02	MW-6 10/17/02
Antimony	<0.060	<0.060	<0.060
Arsenic	<0.080	<0.080	<0.080
Barium	<0.020	<0.020	<0.020
Beryllium	<0.0030	<0.0030	<0.0030
Cadmium	<0.0050	<0.0050	<0.0050
Chromium	<0.010	<0.010	<0.010
Cobalt	<0.050	<0.050	<0.050
Copper	<0.020	<0.020	<0.020
Lead	<0.010	<0.010	<0.010
Mercury	0.00063	0.00055	0.00041
Molybdenum	<0.050	<0.050	<0.050
Nickel	<0.040	<0.040	<0.040
Selenium	<0.10	<0.10	<0.10
Silver	<0.010	<0.010	<0.010
Thallium	<0.10	<0.10	<0.10
Vanadium	<0.050	<0.050	<0.050
Zinc	<0.0150	<0.0150	<0.0150

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.

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

Sample Designation Sampling Date	MW-4 5/26/00	MW-4 11/27/00	MW-4 3/29/01	MW-4 1/15/02	MW-4 4/19/02	MW-4 7/11/02	MW-4 10/17/02	MW-5 5/26/00	MW-5 11/27/00	MW-5 3/29/01	MW-5 1/15/02	MW-5 4/19/02	MW-5 7/11/02	MW-5 10/17/02	MW-6 5/26/00	MW-6 11/27/00	MW-6 3/29/01	MW-6 1/15/02	MW-6 4/19/02	MW-6 7/11/02	MW-6 10/17/02	Risk-Based Screening Levels
<u>Petroleum Hydrocarbons, mg/l</u>																						
Total Petroleum Hydrocarbons	---	---	---	<5	<5	<5	<5	---	---	---	<5	<5	<5	<5	---	---	---	<5	<5	<5	<5	
TPH as Gasoline	4.8	4.2	8.1	<0.050	11	2.9	2.1	4.6	1.7	2.7	7.8	1.2	4.1	1.7	4.4	0.32	0.26	3.5	<0.050	<0.050	<0.050	0.500
TPH as Diesel	0.5	0.47	0.61	<0.050	1.17	1.26	1.1	0.6	0.45	0.96	<0.050	0.942	2.45	1.5	0.4	0.18	0.42	<0.050	<0.050	<0.050	<0.050	0.640
<u>Selected Volatile Organic Compounds, ug/l</u>																						
Benzene	122	55	51	47	35	9.7	23	98	39	35	63	53	99	62	191	16	52	<2.0	<2.0	<2.0	<2.0	46
Toluene	39	18	23	18	13	<2.0	5.6	7	2	1.1	3.1	2.5	4.6	2	14	0.51	0.62	<2.0	<2.0	<2.0	<2.0	130
Ethylbenzene	126	65	180	130	140	<2.0	20	35	3.8	3.5	18	18	43	6.9	110	1.1	1.1	<2.0	<2.0	<2.0	<2.0	290
Total Xylenes	24.7	26.3	44.5	32.5	23	<2.0	15.4	44	6.1	3.2	<2.0	<2.0	5.6	2.7	121	0.88	<0.50	<2.0	<2.0	<2.0	<2.0	13
<u>Fuel Oxygenates, ug/l</u>																						
MTBE	<0.5	1.2	<5.0	<2.0	<2.0	<2.0	<2.0	7	1.5	<5.0	<2.0	<2.0	<2.0	<2.0	7	1.8	<5.0	<2.0	<2.0	<2.0	<2.0	1800
Total Dissolved Solids, mg/l	---	---	---	---	2240	2280	2830	---	---	---	---	1410	1440	1820	---	---	---	---	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
Additional Volatile Organic Compounds
Former Thomas Short Company
Oakland, California

Well Number Date Sampled	MW-4 5/26/00	MW-4 11/27/00	MW-4 3/29/01	MW-4 1/15/02	MW-4 4/19/02	MW-4 7/11/02	MW-4 10/17/02	MW-5 5/26/00	MW-5 11/27/00	MW-5 3/29/01	MW-5 1/15/02	MW-5 4/19/02	MW-5 7/11/02	MW-5 10/17/02	MW-6 5/26/00	MW-6 11/27/00	MW-6 3/29/01	MW-6 1/15/02	MW-6 4/19/02	MW-6 7/11/02	MW-6 10/17/02	Risk-Based Screening Levels
1,1,2-trichloroethane	<5.0	<5.0	<5.0	3.6	<10	<2.0	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	930
1,2,4-trimethylbenzene	<5.0	<5.0	<5.0	<2.0	<10	<2.0	<2.0	96	<5.0	<5.0	<2.0	<2.0	5.4	2.6	149	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	
1,2-dichloroethane	<5.0	<5.0	<5.0	3.9	<10	<2.0	<2.0	<5.0	<5.0	<5.0	3.9	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	500
1,2-dichloropropane	<5.0	<5.0	<5.0	4.1	<10	<2.0	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	100
1,3,5-trimethylbenzene	12	<5.0	8	<2.0	190	<2.0	14	51	<5.0	<5.0	<2.0	16	8.4	2.7	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	
2-Butanone	<5.0	<5.0	<5.0	<2.0	<10	7.8	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	8.8	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	14000
2-Chloroethylvinyl ether	<5.0	<5.0	<5.0	<2.0	<10	30	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	
2-Hexanone	<5.0	<5.0	<5.0	<2.0	<10	<2.0	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	10	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	
4-chlorotoluene	<5.0	<5.0	<5.0	<2.0	<10	<2.0	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	7.4	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	
4-Isopropyltoluene	5	<5.0	8	3.6	<10	<2.0	3.7	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	6.6	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	
Acetone	<5.0	<5.0	<5.0	<2.0	<10	13	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	1500
Acrolein	<5.0	<5.0	<5.0	<2.0	<10	100	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	
bromodichloromethane	<5.0	<5.0	<5.0	6.8	<10	<2.0	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	420
chloroform	<5.0	<5.0	<5.0	23	<10	<2.0	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	28
isopropylbenzene (Cumene)	141	70	180	180	190	<2.0	52	29	<5.0	7.1	25	16	49	18	25	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	
naphthalene	101	<5.0	45	12	<10	<2.0	<2.0	14	<5.0	15	38	<2.0	<2.0	<2.0	44	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	24
n-butylbenzene	18	7.3	26	17	22	<2.0	<2.0	21	<5.0	<5.0	21	9.8	64	<2.0	17	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	
n-propylbenzene	170	63	280	<2.0	300	<2.0	68	31	<5.0	11	45	26	97	39	36	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	
sec-butylbenzene	0.6	<5.0	12	11	13	<2.0	4.4	8.2	<5.0	<5.0	5.1	4.2	12	5.6	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	
tert-butylbenzene	14	9.9	21	20	25	4.0	11	11	<5.0	14	16	16	21	9.8	5.4	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	
trichloroethane	<5.0	<5.0	<5.0	6.7	<10	5.0	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	2.2	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	360

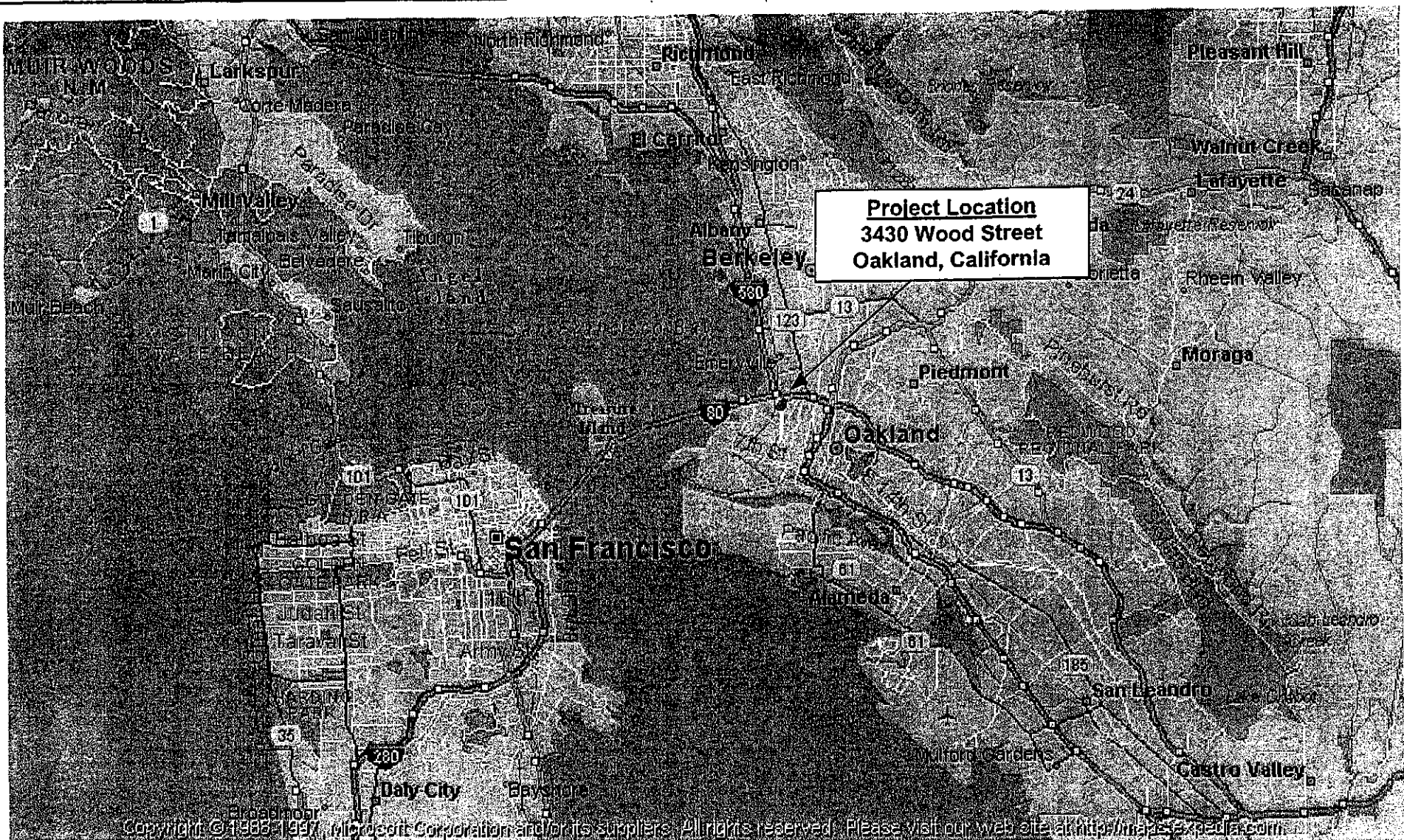
Notes:

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 Short Company
Oakland, California

Sample Designation Sampling Date	MW-4 5/26/00	MW-4 11/27/00	MW-4 3/29/01	MW-4 1/15/02	MW-4 4/19/02	MW-4 7/11/02	MW-4 10/17/02	MW-5 5/26/00	MW-5 11/27/00	MW-5 3/29/01	MW-5 1/15/02	MW-5 4/19/02	MW-5 7/11/02	MW-5 10/17/02	MW-6 5/26/00	MW-6 11/27/00	MW-6 3/29/01	MW-6 1/15/02	MW-6 4/19/02	MW-6 7/11/02	MW-6 10/17/02	Risk-Based Screening Levels
Antimony	--	<0.0050	<0.0050	<0.060	<0.060	<0.060	<0.060	--	<0.0050	<0.0050	<0.060	<0.060	<0.060	<0.060	--	<0.0050	<0.0050	<0.060	<0.060	<0.060	<0.060	0.030
Arsenic	--	0.01	0.009	<0.080	<0.080	<0.080	<0.080	--	0.030	0.010	<0.080	<0.080	<0.080	<0.080	--	0.0091	0.0091	<0.080	<0.080	<0.080	<0.080	0.036
Barium	--	0.47	0.33	0.34	0.30	0.31	<0.020	--	1.2	0.20	0.19	0.32	0.42	<0.020	--	0.20	0.11	0.092	0.12	0.21	<0.020	0.0039
Beryllium	--	<0.0010	<0.0010	<0.0030	<0.0030	<0.0030	<0.0030	--	<0.0010	<0.0010	<0.0030	<0.0030	<0.0030	<0.0030	--	<0.0010	<0.0010	<0.0030	<0.0030	<0.0030	<0.0030	0.0051
Cadmium	--	<0.0030	<0.0030	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0030	<0.0030	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0030	<0.0030	<0.0050	<0.0050	<0.0050	<0.0050	0.0011
Chromium	--	0.0032	<0.003	<0.010	<0.010	<0.010	<0.010	--	0.05	<0.003	<0.010	0.22	<0.010	<0.010	--	<0.003	<0.003	<0.010	<0.010	<0.010	<0.010	0.180
Cobalt	--	<0.003	<0.003	<0.050	<0.050	<0.050	<0.050	--	0.01	<0.003	<0.050	<0.050	<0.050	<0.050	--	0.0049	0.0040	<0.050	<0.050	<0.050	<0.050	0.0030
Copper	--	0.01	0.010	<0.020	<0.020	<0.020	<0.020	--	0.05	0.010	<0.020	<0.020	<0.020	<0.020	--	0.010	0.020	<0.020	0.23	<0.020	<0.020	0.0031
Lead	0.20	0.0077	<0.0050	<0.010	<0.010	<0.010	<0.010	0.33	0.020	<0.0050	<0.010	<0.010	<0.010	<0.010	0.40	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.010	0.0032
Mercury	--	<0.004	<0.004	<0.00020	<0.00020	<0.00020	0.00063	--	<0.004	<0.004	<0.00020	<0.00020	<0.00020	0.00055	--	<0.004	<0.004	<0.00020	<0.00020	<0.00020	0.00041	0.000012
Molybdenum	--	0.0064	0.0060	<0.050	<0.050	<0.050	<0.050	--	0.010	<0.005	<0.050	<0.050	<0.050	<0.050	--	0.010	0.0054	<0.050	<0.050	<0.050	<0.050	0.240
Nickel	--	0.030	0.0056	<0.040	<0.040	<0.040	<0.040	--	0.010	0.0062	<0.040	<0.040	<0.040	<0.040	--	0.040	0.010	<0.040	0.10	<0.040	<0.040	0.0082
Selenium	--	<0.0050	0.0058	<0.10	<0.10	<0.10	<0.10	--	<0.0050	<0.0050	<0.10	<0.10	<0.10	<0.10	--	<0.0050	<0.0050	<0.10	<0.10	<0.10	<0.10	0.0050
Silver	--	0.020	0.010	<0.010	<0.010	<0.010	<0.010	--	0.010	0.0013	<0.010	<0.010	<0.010	<0.010	--	0.010	0.001	<0.010	<0.010	<0.010	<0.010	0.00012
Thallium	--	<0.0050	<0.0050	<0.10	<0.10	<0.10	<0.10	--	<0.0050	<0.0050	<0.10	<0.10	<0.10	<0.10	--	<0.0050	<0.0050	<0.10	<0.10	<0.10	<0.10	0.040
Vanadium	--	0.0034	0.003	<0.050	<0.050	<0.050	<0.050	--	0.050	<0.003	<0.050	<0.050	<0.050	<0.050	--	0.0036	0.003	<0.050	<0.050	<0.050	<0.050	0.019
Zinc	--	0.070	0.020	<0.015	0.015	0.02	<0.0150	--	0.010	0.030	0.020	0.16	0.041	<0.0150	--	0.050	0.37	0.031	0.02	0.043	<0.0150	0.023

- 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.



Reference:
 Microsoft Expedia, Streets 98

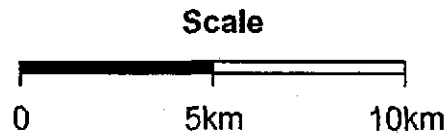


Figure 1

SITE LOCATION MAP



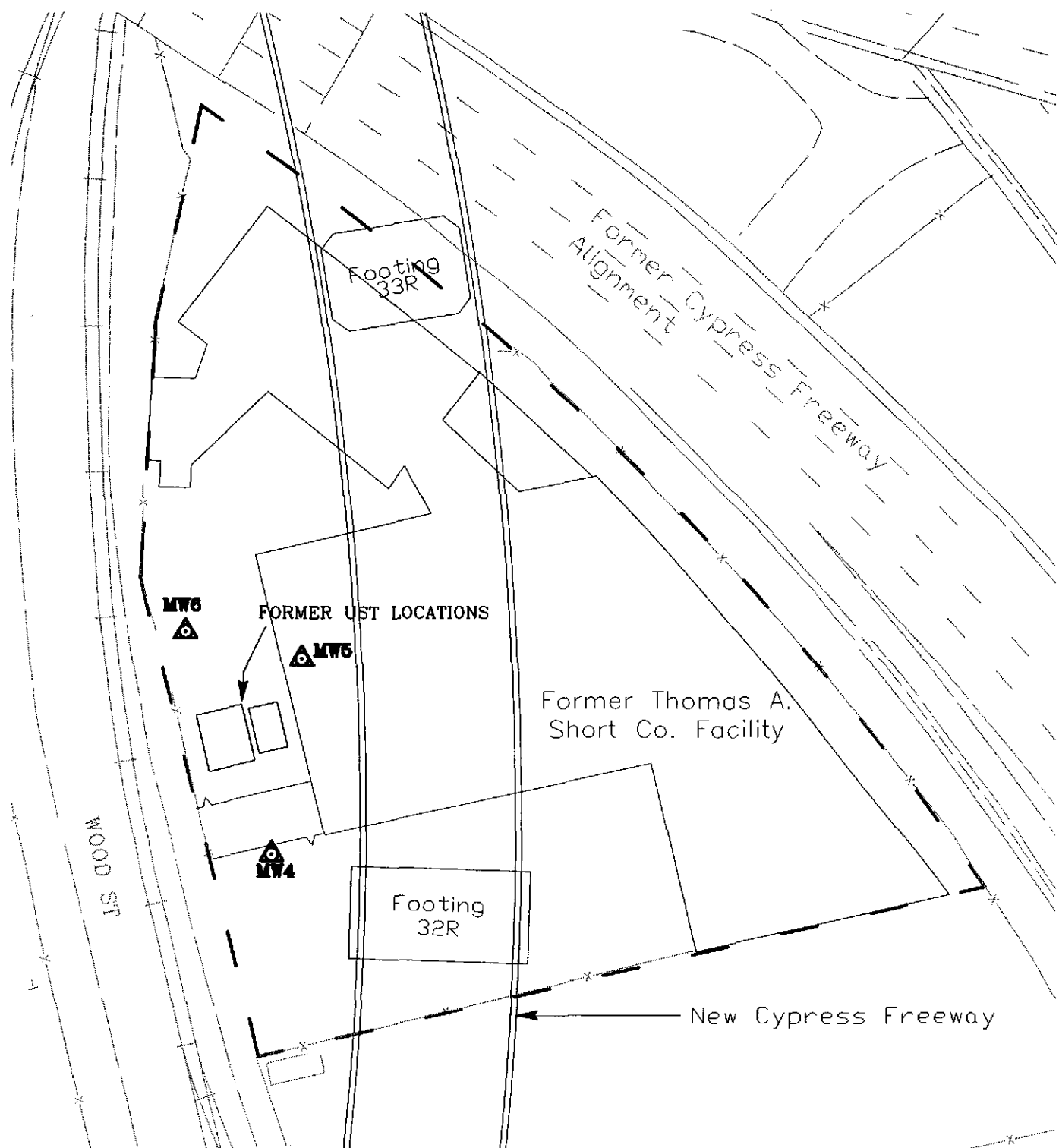
Caltrans-Cypress GW (Thomas Short Co.)
 Quarterly GW Monitoring
 Task Order No.04-911052-WB

PROJECT NUMBER 830714

CHECKED BY
APPROVED BY

DPB 3/26/02

DRAWN BY



LEGEND



WELL LOCATION AND DESIGNATION

Notes:

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

SCALE

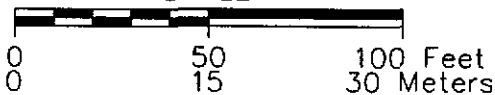


FIGURE 2

MONITORING WELL LOCATIONS

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



IT CORPORATION
A Member of
The IT Group

PROJECT NUMBER 830714

CHECKED BY

APPROVED BY

CBD 12/10/02

DRAWN BY

WOOD ST

MW6

-3.17

FORMER UST LOCATIONS

MW5

-2.98

-3.0

-3.1

-3.2

-3.3

MW4

-3.40

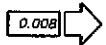
0.008

Footing 32R

LEGEND



WELL LOCATION, DESIGNATION, AND GROUNDWATER ELEVATION IN FEET



APPROXIMATE DIRECTION OF GROUNDWATER FLOW AND GRADIENT

Notes:

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

SCALE

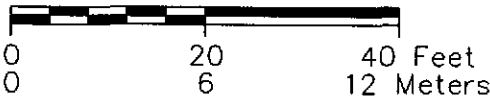


FIGURE 3

PIEZOMETRIC ELEVATION CONTOUR MAP

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



IT CORPORATION
A Member of
The IT Group

PROJECT NUMBER
830714

CHECKED BY

APPROVED BY

DPB
12/10/02

DRAWN BY

WOOD ST

TPH - <5
TPHg - <0.050
TPHd - <0.050
benzene - <0.0020
toluene - <0.0020
ethylbenzene - <0.0020
xylenes - <0.0020
MTBE - <0.0020

MW6



FORMER UST LOCATIONS

MW5



TPH - <5
TPHg - 1.7
TPHd - 1.5
benzene - 0.062
toluene - 0.002
ethylbenzene - 0.0069
xylenes - 0.0027
MTBE - <0.0020

MW4



TPH - <5
TPHg - 2.1
TPHd - 1.1
benzene - 0.023
toluene - 0.0056
ethylbenzene - 0.02
xylenes - 0.0154
MTBE - <0.0020

Footing
32R

LEGEND



WELL LOCATION AND DESIGNATION

Notes:

1. Base map compiled from maps provided by Caltrans.
2. All locations and dimensions are approximate.
3. Concentrations reported in milligrams per liter.

SCALE

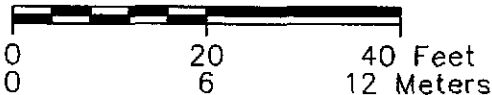


FIGURE 4

PETROLEUM HYDROCARBON
CONCENTRATIONS

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



IT CORPORATION
A Member of
The IT Group

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 an insulated chest overnight in the custody of an IT Corporation (IT) 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 IT 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: 10-17-02

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	8:14	15.00	11.73			
MW-5	8:19	19.20	15.33			
MW-6	8:25	19.00	15.18			

Comments :



Signature

WATER SAMPLE FIELD DATA SHEET

PROJECT NO : 830714 / 01010000
 PURGED BY : Paul Weinhardt
 SAMPLED BY : Paul Weinhardt

SAMPLE ID : MW5
 CLIENT NAME : Caltrans - Former Thomas Short Co.
 LOCATION : 3430 Wood Street, Oakland, CA

TYPE: Groundwater Surface Water _____ Leachate _____ Other _____
 CASING DIAMETER (inches): 2 3 _____ 4 _____ 4.5 _____ 6 _____ Other _____
(.163) (.367) (.652) (.826) (1.47) (1"-0.041 / 8"-2.61)

CASING ELEVATION (feet/MSL) : _____ VOLUME IN CASING (gal.) : .65
 DEPTH OF WELL (feet) : 11.20 CALCULATED PURGE (gal.) : 1.97
 DEPTH TO WATER (feet) : 15.33 ACTUAL PURGE VOL. (gal.) : 2.25

DATE PURGED : 10.17.02 END PURGE : 901
 DATE SAMPLED : 10.17.02 SAMPLING TIME : 937
 DTW AT SAMPLE TIME: 15.63

TIME (2400 HR)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm@25°C)	TEMPERATURE (°C)	COLOR (visual)	TURBIDITY (visual)
<u>855</u>	<u>.75</u>	<u>7.43</u>	<u>1.840</u>	<u>65.2</u>	<u>DK Grey</u>	<u>Hvy</u>
<u>850</u>	<u>1.50</u>	<u>7.14</u>	<u>1.730</u>	<u>65.4</u>	<u>DK Grey</u>	<u>Hvy</u>
<u>901</u>	<u>2.25</u>	<u>7.11</u>	<u>1.670</u>	<u>65.2</u>	<u>DK Grey</u>	<u>Hvy</u>

OTHER: _____ ODOR: _____
(COBALT 0-100) (NTU 0-200)

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

PURGING EQUIPMENT

SAMPLING EQUIPMENT

<input type="checkbox"/> 2" Bladder Pump	<input type="checkbox"/> Bailer (Teflon)	<input type="checkbox"/> 2" Bladder Pump	<input type="checkbox"/> Bailer (Teflon)
<input type="checkbox"/> Centrifugal Pump	<input type="checkbox"/> Bailer (PVC)	<input type="checkbox"/> Bomb Sampler	<input type="checkbox"/> Bailer (Stainless Steel)
<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailer (Stainless Steel)	<input type="checkbox"/> Dipper	<input type="checkbox"/> Submersible Pump
<input checked="" type="checkbox"/> Dispo Bailer	<input type="checkbox"/> Dedicated	<input checked="" type="checkbox"/> Dispo Bailer	<input type="checkbox"/> Dedicated
Other: _____		Other: _____	

WELL INTEGRITY: GOOD LOCK: NO

REMARKS: _____

pH, E.C., Temp. Meter Calibration: Date: _____ Time: _____ Meter Serial No.: _____
 E.C. 1000 _____ / _____ pH _____ / _____ pH 10 _____ / _____ pH 4 _____ / _____
 Temperature °C _____

SIGNATURE: Paul Weinhardt REVIEWED BY: [Signature] PAGE 2 OF 3

WATER SAMPLE FIELD DATA SHEET

PROJECT NO : 830714 / 01010000
 PURGED BY : Paul Weinhardt
 SAMPLED BY : Paul Weinhardt

SAMPLE ID : MW6
 CLIENT NAME : Caltrans - Former Thomas Short Co.
 LOCATION : 3430 Wood Street, Oakland, CA

TYPE: Groundwater Surface Water Leachate Other
 CASING DIAMETER (inches): 2 3 4 4.5 6 Other
 (.163) (367) (.652) (.826) (1.47) (1"-0.041 / 8"-2.61)

CASING ELEVATION (feet/MSL) : _____ VOLUME IN CASING (gal.) : .64
 DEPTH OF WELL (feet) : 19.00 CALCULATED PURGE (gal.) : 1.94
 DEPTH TO WATER (feet) : 15.18 ACTUAL PURGE VOL. (gal.) : 2.25

DATE PURGED : 10.17.02 END PURGE : 844
 DATE SAMPLED : 10.17.02 SAMPLING TIME : 921
 DTW AT SAMPLE TIME : 15.86

TIME (2400 HR)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm@25°C)	TEMPERATURE (°C)	COLOR (visual)	TURBIDITY (visual)
<u>837</u>	<u>.75</u>	<u>7.19</u>	<u>5.490</u>	<u>65.1°</u>	<u>CLOUDY</u>	<u>MOD</u>
<u>841</u>	<u>1.50</u>	<u>7.10</u>	<u>3.850</u>	<u>65.0°</u>	<u>CLOUDY</u>	<u>MOD</u>
<u>844</u>	<u>2.25</u>	<u>7.07</u>	<u>3.820</u>	<u>65.4°</u>	<u>CLOUDY</u>	<u>MOD</u>

OTHER: _____ ODOR: _____
 (COBALT 0-100) (NTU 0-200)

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

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
<input type="checkbox"/> 2" Bladder Pump	<input type="checkbox"/> Bailer (Teflon)	<input type="checkbox"/> 2" Bladder Pump	<input type="checkbox"/> Bailer (Teflon)
<input type="checkbox"/> Centrifugal Pump	<input type="checkbox"/> Bailer (PVC)	<input type="checkbox"/> Bomb Sampler	<input type="checkbox"/> Bailer (Stainless Steel)
<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailer (Stainless Steel)	<input type="checkbox"/> Dipper	<input type="checkbox"/> Submersible Pump
<input checked="" type="checkbox"/> Dispo Bailer	<input type="checkbox"/> Dedicated	<input checked="" type="checkbox"/> Dispo Bailer	<input type="checkbox"/> Dedicated
Other: _____		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: [Signature] PAGE 3 OF 3

Drum Inventory Record

830714 / 01010000

Project No

Former Thomas Short Co. Property

3430 Wood Street, Oakland

Location

10-17-02

Date

Caltrans

Client

Paul Weinhardt

Sampler

THUR

Day of Week

DRUM NUMBER OR ID	WELL OR SOURCE ID(s)	TYPE OF MATERIAL	AMOUNT OF MATERIAL IN DRUM	DATE ACCUMULATED OR GENERATED
	LOGAL	ON SITE		

Sketch locations of drums, include drum ID's

COMMENTS: _____

Number of Drums From This Event

_____ / _____

Total Number of Drums At Site

_____ / _____

CHAIN OF CUSTODY / LABORATORY ANALYSIS REQUEST FORM

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

Purchase Order: # 189348 for 2nd
Lab: Sparger Technology

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 Weinhardt

Analysis Requested

Sample I.D.	Date	Time	LAB I.D.	Sample Matrix	Number of Containers	Fuel Oxygenates by 8260B;	VOCs by 8260B;	TPH as gas by 8015M	TPH as Diesel by 8015M	TRPH by 1664	CAM Metals by 6010/7470	NOT field filtered.	TDS	REMARKS										
						1	6	6	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
MW-4	10.17	9:29		Water	8	4	1	1	1	1	1	1	1											
MW-5	↓	9:31		Water	8	4	1	1	1	1	1	1	1											
MW-6	↓	9:24		Water	8	4	1	1	1	1	1	1	1											
Trip Blank	↓	N/A		Water	2	2																		

RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY		TURNAROUND REQUIREMENTS		REPORT REQUIREMENTS	
Signature: <u>Paul Weinhardt</u>		Signature: <u>Samuel Riley</u>		Signature:		Signature:		24 hr <input type="checkbox"/> 48 hr <input type="checkbox"/> 5 day <input type="checkbox"/>		X I. Routine Report	
Printed Name: <u>PAUL WEINHARDT</u>		Printed Name: <u>Samuel Riley</u>		Printed Name:		Printed Name:		X Standard (~10-15 working days)		II. Report (includes DUP, MS MSD, as required, may be charged as samples)	
Firm: <u>SHAW GROUP</u>		Firm: <u>Sparger</u>		Firm:		Firm:		Provide Verbal Preliminary Results		III. Data Validation Report (includes All Raw Data)	
Date/Time: <u>10-17-02 13:41</u>		Date/Time: <u>10/17/02 13:40</u>		Date/Time:		Date/Time:		Provide FAX Preliminary Results		RWQCB (MDLs/PQLs/TRACE#)	
Date/Time:		Date/Time:		Date/Time:		Date/Time:		Requested Report Date:			

RELINQUISHED BY		RECEIVED BY		Special Instructions/Comments: CAM 17 Metals to be filtered / preserved in the lab.		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			
Signature:		Signature:									
Printed Name:		Printed Name:									
Firm:		Firm:									
Date/Time:		Date/Time:									

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

Client	Shaw Environmental & Infrastructure	
Workorder	15130	830714 Former Thomas Short
Received	10/17/02	

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



Environmental Laboratories

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130001
Sample ID MW-4
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

8015M DHS TPH LUFT - 8015M DHS

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
TPH ^{diesel} †	10/21/02	10/21/02	1100	50 ug/L	1:1

† - Non-typical TPH pattern in diesel range.

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130001
Sample ID MW-4
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

8015M DHS TPH LUFT - 8015M DHS

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
TPHgas	10/18/02	10/21/02	2100	50 ug/L	1:1

Surrogates	Result	Recovery	Limits
Trifluorotoluene	20.8 ug/L	104 %	(65 - 135)

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130001
Sample ID MW-4
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

Total Dissolved Solids - EPA 160.1

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
Total Dissolved Solids	10/22/02	10/22/02	2830	10 mg/L	1:1

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130001
Sample ID MW-4
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

TPH by IR - EPA 1664

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
Total Pet. Hydrocarbons	10/22/02	10/22/02	ND	5000 ug/L	1:1



Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130001
Sample ID MW-4
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

EPA Method 7470A Mercury - EPA 7470A

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
Mercury	10/25/02	11/04/02	0.000630	0.00020 mg/L	1:1

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130001
Sample ID MW-4
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

8260B Oxygenates - 8260B

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
Tertiary butanol	10/23/02	10/23/02	ND	10 ug/L	1:1
Methyl-tert-butyl-ether	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Di-isopropyl ether	10/23/02	10/23/02	ND	5.0 ug/L	1:1
Ethyl tert-butyl ether	10/23/02	10/23/02	ND	5.0 ug/L	1:1
Tertiaryamyl methylether	10/23/02	10/23/02	ND	5.0 ug/L	1:1

Surrogates	Result	Recovery	Limits
Dibromodifluoromethane	51.9 ug/L	104 %	(76 - 135)

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
 Workorder # 15130
 Laboratory ID 15130001
 Sample ID MW-4
 Matrix Water

Workorder ID 830714 Former Thomas Short
 Sampled 10/17/02
 Received 10/17/02
 Reported 11/21/02

8260B GC/MS Volatiles - 8260B

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
Dichlorodifluoromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Chloromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Vinyl chloride	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Bromomethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Chloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Trichlorofluoromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Acrolein	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1-Dichloroethene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Acetone	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Methyl iodide	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Carbon disulfide	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Dichloromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Acrylonitrile	10/23/02	10/23/02	ND	2.0 ug/L	1:1
trans-1,2-Dichloroethene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1-Dichloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Vinyl acetate	10/23/02	10/23/02	ND	2.0 ug/L	1:1
cis-1,2-Dichloroethene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
2-Butanone (MEK)	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Bromochloromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Chloroform	10/23/02	10/23/02	ND	2.0 ug/L	1:1
2,2-dichloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1,1-Trichloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1-dichloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Carbon tetrachloride	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Benzene	10/23/02	10/23/02	23	2.0 ug/L	1:1
1,2-Dichloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Dibromomethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Bromodichloromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2-Dichloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Trichloroethene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
2-Chloroethylvinyl ether	10/23/02	10/23/02	ND	2.0 ug/L	1:1
cis-1,3-Dichloropropene	10/23/02	10/23/02	ND	2.0 ug/L	1:1

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130001
Sample ID MW-4
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

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

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
4-Methyl-2-pentanone	10/23/02	10/23/02	ND	2.0 ug/L	1:1
trans-1,3-Dichloropropene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1,2-Trichloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Toluene	10/23/02	10/23/02	5.6	2.0 ug/L	1:1
1,2-Dibromoethane (EDB)	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,3-Dichloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
2-Hexanone	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Dibromochloromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Tetrachloroethene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1,1,2-Tetrachloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Chlorobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Ethylbenzene	10/23/02	10/23/02	20	2.0 ug/L	1:1
M+P-Xylene	10/23/02	10/23/02	13	2.0 ug/L	1:1
Bromoform	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Styrene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
o-Xylene	10/23/02	10/23/02	2.4	2.0 ug/L	1:1
1,1,2,2-Tetrachloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2,3-Trichloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Isopropylbenzene (Cumene)	10/23/02	10/23/02	52	2.0 ug/L	1:1
Bromobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
n-Propylbenzene	10/23/02	10/23/02	68	2.0 ug/L	1:1
2-Chlorotoluene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
4-Chlorotoluene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,3,5-Trimethylbenzene	10/23/02	10/23/02	14	2.0 ug/L	1:1
tert-Butylbenzene	10/23/02	10/23/02	11	2.0 ug/L	1:1
1,2,4-Trimethylbenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
sec-Butylbenzene	10/23/02	10/23/02	4.4	2.0 ug/L	1:1
1,3-Dichlorobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,4-Dichlorobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
4-Isopropyltoluene	10/23/02	10/23/02	3.7	2.0 ug/L	1:1
1,2-Dichlorobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
n-Butylbenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1



Environmental Laboratories

Analytical Laboratory Division
 Mobile Laboratory Division
 Scientific Division

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130001
Sample ID MW-4
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

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

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
1,2-Dibromo-3-chloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2,4-Trichlorobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Naphthalene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Hexachlorobutadiene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2,3-Trichlorobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1

Surrogates	Result	Recovery	Limits
1,2-Dichloroethane-d4	50.6 ug/L	101 %	(76 - 135)
Toluene d8	50.6 ug/L	101 %	(88 - 118)
4-Bromofluorobenzene	53.1 ug/L	106 %	(86 - 121)

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130001
Sample ID MW-4
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

Metals, CAM16 - 6010B

Parameter	Prep Date	Analyzed	Result	RL	Units	Dilution
Antimony	10/21/02	10/21/02	ND	0.060	mg/L	1:1
Arsenic	10/21/02	10/21/02	ND	0.080	mg/L	1:1
Barium	10/21/02	10/21/02	ND	0.020	mg/L	1:1
Beryllium	10/21/02	10/21/02	ND	0.0030	mg/L	1:1
Cadmium	10/21/02	10/21/02	ND	0.0050	mg/L	1:1
Chromium	10/21/02	10/21/02	ND	0.010	mg/L	1:1
Cobalt	10/21/02	10/21/02	ND	0.050	mg/L	1:1
Copper	10/21/02	10/21/02	ND	0.020	mg/L	1:1
Lead	10/21/02	10/21/02	ND	0.010	mg/L	1:1
Molybdenum	10/21/02	10/21/02	ND	0.050	mg/L	1:1
Nickel	10/21/02	10/21/02	ND	0.040	mg/L	1:1
Selenium	10/21/02	10/21/02	ND	0.10	mg/L	1:1
Silver	10/21/02	10/21/02	ND	0.010	mg/L	1:1
Thallium	10/21/02	10/21/02	ND	0.10	mg/L	1:1
Vanadium	10/21/02	10/21/02	ND	0.050	mg/L	1:1
Zinc	10/21/02	10/21/02	ND	0.015	mg/L	1:1

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130002
Sample ID MW-5
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

8015M DHS TPH LUFT - 8015M DHS

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
TPH ^{diesel}	10/21/02	10/21/02	1500	50 ug/L	1:1

1 - Non-typical TPH pattern in diesel range.

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130002
Sample ID MW-5
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

8015M DHS TPH LUFT - 8015M DHS

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
TPHgas	10/18/02	10/21/02	1700	50 ug/L	1:1

Surrogates	Result	Recovery	Limits
Trifluorotoluene	19.6 ug/L	98 %	(65 - 135)

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130002
Sample ID MW-5
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

Total Dissolved Solids - EPA 160.1

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
Total Dissolved Solids	10/22/02	10/22/02	1820	10 mg/L	1:1

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130002
Sample ID MW-5
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

TPH by IR - EPA 1664

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
Total Pet. Hydrocarbons	10/22/02	10/22/02	ND	5000 ug/L	1:1



Environmental Laboratories

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130002
Sample ID MW-5
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

EPA Method 7470A Mercury - EPA 7470A

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
Mercury	10/25/02	11/04/02	0.000550	0.00020 mg/L	1:1

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130002
Sample ID MW-5
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

8260B Oxygenates - 8260B

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
Tertiary butanol	10/23/02	10/23/02	ND	10 ug/L	1:1
Methyl-tert-butyl-ether	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Di-isopropyl ether	10/23/02	10/23/02	ND	5.0 ug/L	1:1
Ethyl tert-butyl ether	10/23/02	10/23/02	ND	5.0 ug/L	1:1
Tertiaryamyl methylether	10/23/02	10/23/02	ND	5.0 ug/L	1:1

Surrogates	Result	Recovery	Limits
Dibromodifluoromethane	56.2 ug/L	112 %	(76 - 135)

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130002
Sample ID MW-5
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

8260B GC/MS Volatiles - 8260B

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
Dichlorodifluoromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Chloromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Vinyl chloride	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Bromomethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Chloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Trichlorofluoromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Acrolein	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1-Dichloroethene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Acetone	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Methyl iodide	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Carbon disulfide	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Dichloromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Acrylonitrile	10/23/02	10/23/02	ND	2.0 ug/L	1:1
trans-1,2-Dichloroethene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1-Dichloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Vinyl acetate	10/23/02	10/23/02	ND	2.0 ug/L	1:1
cis-1,2-Dichloroethene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
2-Butanone (MEK)	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Bromochloromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Chloroform	10/23/02	10/23/02	ND	2.0 ug/L	1:1
2,2-dichloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1,1-Trichloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1-dichloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Carbon tetrachloride	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Benzene	10/23/02	10/23/02	62	2.0 ug/L	1:1
1,2-Dichloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Dibromomethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Bromodichloromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2-Dichloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Trichloroethene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
2-Chloroethylvinyl ether	10/23/02	10/23/02	ND	2.0 ug/L	1:1
cis-1,3-Dichloropropene	10/23/02	10/23/02	ND	2.0 ug/L	1:1

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130002
Sample ID MW-5
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

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

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
4-Methyl-2-pentanone	10/23/02	10/23/02	ND	2.0 ug/L	1:1
trans-1,3-Dichloropropene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1,2-Trichloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Toluene	10/23/02	10/23/02	2.0	2.0 ug/L	1:1
1,2-Dibromoethane (EDB)	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,3-Dichloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
2-Hexanone	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Dibromochloromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Tetrachloroethene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1,1,2-Tetrachloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Chlorobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Ethylbenzene	10/23/02	10/23/02	6.9	2.0 ug/L	1:1
M+P-Xylene	10/23/02	10/23/02	2.7	2.0 ug/L	1:1
Bromoform	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Styrene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
o-Xylene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1,2,2-Tetrachloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2,3-Trichloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Isopropylbenzene (Cumene)	10/23/02	10/23/02	18	2.0 ug/L	1:1
Bromobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
n-Propylbenzene	10/23/02	10/23/02	39	2.0 ug/L	1:1
2-Chlorotoluene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
4-Chlorotoluene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,3,5-Trimethylbenzene	10/23/02	10/23/02	2.7	2.0 ug/L	1:1
tert-Butylbenzene	10/23/02	10/23/02	9.8	2.0 ug/L	1:1
1,2,4-Trimethylbenzene	10/23/02	10/23/02	2.6	2.0 ug/L	1:1
sec-Butylbenzene	10/23/02	10/23/02	5.6	2.0 ug/L	1:1
1,3-Dichlorobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,4-Dichlorobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
4-Isopropyltoluene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2-Dichlorobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
n-Butylbenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1



Environmental Laboratories

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130002
Sample ID MW-5
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

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

Table with 6 columns: Parameter, Prep Date, Analyzed, Result, RL Units, Dilution. Rows include 1,2-Dibromo-3-chloropropane, 1,2,4-Trichlorobenzene, Naphthalene, Hexachlorobutadiene, 1,2,3-Trichlorobenzene.

Table with 4 columns: Surrogates, Result, Recovery, Limits. Rows include 1,2-Dichloroethane-d4, Toluene d8, 4-Bromofluorobenzene.

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130002
Sample ID MW-5
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

Metals, CAM16 - 6010B

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
Antimony	10/21/02	10/21/02	ND	0.060 mg/L	1:1
Arsenic	10/21/02	10/21/02	ND	0.080 mg/L	1:1
Barium	10/21/02	10/21/02	ND	0.020 mg/L	1:1
Beryllium	10/21/02	10/21/02	ND	0.0030 mg/L	1:1
Cadmium	10/21/02	10/21/02	ND	0.0050 mg/L	1:1
Chromium	10/21/02	10/21/02	ND	0.010 mg/L	1:1
Cobalt	10/21/02	10/21/02	ND	0.050 mg/L	1:1
Copper	10/21/02	10/21/02	ND	0.020 mg/L	1:1
Lead	10/21/02	10/21/02	ND	0.010 mg/L	1:1
Molybdenum	10/21/02	10/21/02	ND	0.050 mg/L	1:1
Nickel	10/21/02	10/21/02	ND	0.040 mg/L	1:1
Selenium	10/21/02	10/21/02	ND	0.10 mg/L	1:1
Silver	10/21/02	10/21/02	ND	0.010 mg/L	1:1
Thallium	10/21/02	10/21/02	ND	0.10 mg/L	1:1
Vanadium	10/21/02	10/21/02	ND	0.050 mg/L	1:1
Zinc	10/21/02	10/21/02	ND	0.015 mg/L	1:1

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130003
Sample ID MW-6
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

8015M DHS TPH LUFT - 8015M DHS

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
TPHdiesel	10/21/02	10/21/02	ND	50 ug/L	1:1

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130003
Sample ID MW-6
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

8015M DHS TPH LUFT - 8015M DHS

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
TPHgas	10/18/02	10/18/02	ND	50 ug/L	1:1

Surrogates	Result	Recovery	Limits
Trifluorotoluene	20.4 ug/L	102 %	(65 - 135)

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130003
Sample ID MW-6
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

Total Dissolved Solids - EPA 160.1

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
Total Dissolved Solids	10/22/02	10/22/02	4360	10 mg/L	1:1

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130003
Sample ID MW-6
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

TPH by IR - EPA 1664

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
Total Pet. Hydrocarbons	10/22/02	10/22/02	ND	5000 ug/L	1:1

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130003
Sample ID MW-6
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

EPA Method 7470A Mercury - EPA 7470A

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
Mercury	10/25/02	11/04/02	0.000410	0.00020 mg/L	1:1

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130003
Sample ID MW-6
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

8260B Oxygenates - 8260B

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
Tertiary butanol	10/23/02	10/23/02	ND	10 ug/L	1:1
Methyl-tert-butyl-ether	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Di-isopropyl ether	10/23/02	10/23/02	ND	5.0 ug/L	1:1
Ethyl tert-butyl ether	10/23/02	10/23/02	ND	5.0 ug/L	1:1
Tertiaryamyl methylether	10/23/02	10/23/02	ND	5.0 ug/L	1:1

Surrogates	Result	Recovery	Limits
Dibromodifluoromethane	57 ug/L	114 %	(76 - 135)



Environmental Laboratories

Analytical Laboratory Division
 Mobile Laboratory Division
 Scientific Division

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
 Workorder # 15130
 Laboratory ID 15130003
 Sample ID MW-6
 Matrix Water

Workorder ID 830714 Former Thomas Short
 Sampled 10/17/02
 Received 10/17/02
 Reported 11/21/02

8260B GC/MS Volatiles - 8260B

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
Dichlorodifluoromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Chloromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Vinyl chloride	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Bromomethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Chloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Trichlorofluoromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Acrolein	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1-Dichloroethene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Acetone	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Methyl iodide	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Carbon disulfide	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Dichloromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Acrylonitrile	10/23/02	10/23/02	ND	2.0 ug/L	1:1
trans-1,2-Dichloroethene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1-Dichloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Vinyl acetate	10/23/02	10/23/02	ND	2.0 ug/L	1:1
cis-1,2-Dichloroethene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
2-Butanone (MEK)	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Bromochloromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Chloroform	10/23/02	10/23/02	ND	2.0 ug/L	1:1
2,2-dichloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1,1-Trichloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1-dichloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Carbon tetrachloride	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Benzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2-Dichloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Dibromomethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Bromodichloromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2-Dichloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Trichloroethene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
2-Chloroethylvinyl ether	10/23/02	10/23/02	ND	2.0 ug/L	1:1
cis-1,3-Dichloropropene	10/23/02	10/23/02	ND	2.0 ug/L	1:1

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130003
Sample ID MW-6
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

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

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
4-Methyl-2-pentanone	10/23/02	10/23/02	ND	2.0 ug/L	1:1
trans-1,3-Dichloropropene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1,2-Trichloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Toluene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2-Dibromoethane (EDB)	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,3-Dichloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
2-Hexanone	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Dibromochloromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Tetrachloroethene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1,1,2-Tetrachloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Chlorobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Ethylbenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
M+P-Xylene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Bromoform	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Styrene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
o-Xylene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1,2,2-Tetrachloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2,3-Trichloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Isopropylbenzene (Cumene)	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Bromobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
n-Propylbenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
2-Chlorotoluene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
4-Chlorotoluene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,3,5-Trimethylbenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
tert-Butylbenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2,4-Trimethylbenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
sec-Butylbenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,3-Dichlorobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,4-Dichlorobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
4-Isopropyltoluene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2-Dichlorobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
n-Butylbenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130003
Sample ID MW-6
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

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

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
1,2-Dibromo-3-chloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2,4-Trichlorobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Naphthalene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Hexachlorobutadiene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2,3-Trichlorobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1

Surrogates	Result	Recovery	Limits
1,2-Dichloroethane-d4	48.2 ug/L	96 %	(76 - 135)
Toluene d8	45.1 ug/L	90 %	(88 - 118)
4-Bromofluorobenzene	53.3 ug/L	107 %	(86 - 121)

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130003
Sample ID MW-6
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

Metals, CAM16 - 6010B

Parameter	Prep Date	Analyzed	Result	RL	Units	Dilution
Antimony	10/21/02	10/21/02	ND	0.060	mg/L	1:1
Arsenic	10/21/02	10/21/02	ND	0.080	mg/L	1:1
Barium	10/21/02	10/21/02	ND	0.020	mg/L	1:1
Beryllium	10/21/02	10/21/02	ND	0.0030	mg/L	1:1
Cadmium	10/21/02	10/21/02	ND	0.0050	mg/L	1:1
Chromium	10/21/02	10/21/02	ND	0.010	mg/L	1:1
Cobalt	10/21/02	10/21/02	ND	0.050	mg/L	1:1
Copper	10/21/02	10/21/02	ND	0.020	mg/L	1:1
Lead	10/21/02	10/21/02	ND	0.010	mg/L	1:1
Molybdenum	10/21/02	10/21/02	ND	0.050	mg/L	1:1
Nickel	10/21/02	10/21/02	ND	0.040	mg/L	1:1
Selenium	10/21/02	10/21/02	ND	0.10	mg/L	1:1
Silver	10/21/02	10/21/02	ND	0.010	mg/L	1:1
Thallium	10/21/02	10/21/02	ND	0.10	mg/L	1:1
Vanadium	10/21/02	10/21/02	ND	0.050	mg/L	1:1
Zinc	10/21/02	10/21/02	ND	0.015	mg/L	1:1

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130004
Sample ID Trip Blank
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

8015M DHS TPH LUFT - 8015M DHS

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
TPHgas	10/18/02	10/18/02	ND	50 ug/L	1:1

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130004
Sample ID Trip Blank
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

8260B Oxygenates - 8260B

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
Tertiary butanol	10/23/02	10/23/02	ND	10 ug/L	1:1
Methyl-tert-butyl-ether	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Di-isopropyl ether	10/23/02	10/23/02	ND	5.0 ug/L	1:1
Ethyl tert-butyl ether	10/23/02	10/23/02	ND	5.0 ug/L	1:1
Tertiaryamyl methylether	10/23/02	10/23/02	ND	5.0 ug/L	1:1



Environmental Laboratories

Analytical Laboratory Division
 Mobile Laboratory Division
 Scientific Division

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
 Workorder # 15130
 Laboratory ID 15130004
 Sample ID Trip Blank
 Matrix Water

Workorder ID 830714 Former Thomas Short
 Sampled 10/17/02
 Received 10/17/02
 Reported 11/21/02

8260B GC/MS Volatiles - 8260B

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
Dichlorodifluoromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Chloromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Vinyl chloride	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Bromomethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Chloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Trichlorofluoromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Acrolein	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1-Dichloroethene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Acetone	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Methyl iodide	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Carbon disulfide	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Dichloromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Acrylonitrile	10/23/02	10/23/02	ND	2.0 ug/L	1:1
trans-1,2-Dichloroethene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1-Dichloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Vinyl acetate	10/23/02	10/23/02	ND	2.0 ug/L	1:1
cis-1,2-Dichloroethene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
2-Butanone (MEK)	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Bromochloromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Chloroform	10/23/02	10/23/02	ND	2.0 ug/L	1:1
2,2-dichloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1,1-Trichloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1-dichloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Carbon tetrachloride	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Benzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2-Dichloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Dibromomethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Bromodichloromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2-Dichloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Trichloroethene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
2-Chloroethylvinyl ether	10/23/02	10/23/02	ND	2.0 ug/L	1:1
cis-1,3-Dichloropropene	10/23/02	10/23/02	ND	2.0 ug/L	1:1

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130004
Sample ID Trip Blank
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

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

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
4-Methyl-2-pentanone	10/23/02	10/23/02	ND	2.0 ug/L	1:1
trans-1,3-Dichloropropene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1,2-Trichloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Toluene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2-Dibromoethane (EDB)	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,3-Dichloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
2-Hexanone	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Dibromochloromethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Tetrachloroethene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1,1,2-Tetrachloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Chlorobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Ethylbenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
M+P-Xylene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Bromoform	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Styrene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
o-Xylene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,1,2,2-Tetrachloroethane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2,3-Trichloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Isopropylbenzene (Cumene)	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Bromobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
n-Propylbenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
2-Chlorotoluene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
4-Chlorotoluene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,3,5-Trimethylbenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
tert-Butylbenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2,4-Trimethylbenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
sec-Butylbenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,3-Dichlorobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,4-Dichlorobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
4-Isopropyltoluene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2-Dichlorobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
n-Butylbenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1

Test Certificate of Analysis

Client ID Shaw Environmental & Infrastructure
Workorder # 15130
Laboratory ID 15130004
Sample ID Trip Blank
Matrix Water

Workorder ID 830714 Former Thomas Short
Sampled 10/17/02
Received 10/17/02
Reported 11/21/02

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

Parameter	Prep Date	Analyzed	Result	RL Units	Dilution
1,2-Dibromo-3-chloropropane	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2,4-Trichlorobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Naphthalene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
Hexachlorobutadiene	10/23/02	10/23/02	ND	2.0 ug/L	1:1
1,2,3-Trichlorobenzene	10/23/02	10/23/02	ND	2.0 ug/L	1:1

Method Blank Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49022
Sample ID MB for HBN 165973 [TDSV/1119]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Total Dissolved Solids	EPA 160.1	10/22/02	10/22/02	ND	10	mg/L	1:1



Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

Lab Control Sample Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49023
Sample ID LCS for HBN 165973 [TDSV/1119]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Total Dissolved Solids	EPA 160.1	10/22/02	10/22/02	525	10	mg/L	1

Lab Control Sample Duplicate Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49024
Sample ID LCSD for HBN 165973 [TDSV/1119]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Total Dissolved Solids	EPA 160.1	10/22/02	10/22/02	523	10	mg/L	1:1



Environmental Laboratories

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

Duplicate Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49025
Sample ID DUP for HBN 165973 [TDSV/1119]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Total Dissolved Solids	EPA 160.1	10/22/02	10/22/02	2760	10	mg/L	1:

Matrix Spike Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49026
Sample ID MS for HBN 165973 [TDSV/1119]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Total Dissolved Solids	EPA 160.1	10/22/02	10/22/02	3380	10	mg/L	1:1

Matrix Spike Duplicate Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49027
Sample ID MSD for HBN 165973 [TDSV/1119]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Total Dissolved Solids	EPA 160.1	10/22/02	10/22/02	3390	10	mg/L	1:

Method Blank Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49040
Sample ID MB for HBN 165983 [SGXV/1780]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
TPHdiesel	8015M DHS	10/21/02	10/21/02	ND	50	ug/L	1:1

Lab Control Sample Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49041
Sample ID LCS for HBN 165983 [SGXV/1780]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
TPHdiesel	8015M DHS	10/21/02	10/21/02	500	50	ug/L	1

Lab Control Sample Duplicate Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49042
Sample ID LCSD for HBN 165983 [SGXV/1780
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
TPHdiesel	8015M DHS	10/21/02	10/21/02	470	50	ug/L	1:1

Method Blank Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49090
Sample ID MB for HBN 166071 [ICPV/4041]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilutio
Antimony	6010B	10/21/02	10/21/02	ND	0.060	mg/L	1:1
Arsenic	6010B	10/21/02	10/21/02	ND	0.080	mg/L	1:1
Barium	6010B	10/21/02	10/21/02	ND	0.020	mg/L	1:1
Beryllium	6010B	10/21/02	10/21/02	ND	0.0030	mg/L	1:1
Cadmium	6010B	10/21/02	10/21/02	ND	0.0050	mg/L	1:1
Chromium	6010B	10/21/02	10/21/02	ND	0.010	mg/L	1:1
Cobalt	6010B	10/21/02	10/21/02	ND	0.050	mg/L	1:1
Copper	6010B	10/21/02	10/21/02	ND	0.020	mg/L	1:1
Lead	6010B	10/21/02	10/21/02	ND	0.010	mg/L	1:1
Molybdenum	6010B	10/21/02	10/21/02	ND	0.050	mg/L	1:1
Nickel	6010B	10/21/02	10/21/02	ND	0.040	mg/L	1:1
Selenium	6010B	10/21/02	10/21/02	ND	0.10	mg/L	1:1
Silver	6010B	10/21/02	10/21/02	ND	0.010	mg/L	1:1
Thallium	6010B	10/21/02	10/21/02	ND	0.10	mg/L	1:1
Vanadium	6010B	10/21/02	10/21/02	ND	0.050	mg/L	1:1
Zinc	6010B	10/21/02	10/21/02	ND	0.015	mg/L	1:1

Lab Control Sample Report

Client ID Shaw Environmental & Infrastructure
 Workorder ID 830714 Former Thomas Short
 Laboratory ID 49091
 Sample ID LCS for HBN 166071 [ICPV/4041]
 Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Antimony	6010B	10/21/02	10/21/02	0.50	0.060	mg/L	1:1
Arsenic	6010B	10/21/02	10/21/02	0.47	0.080	mg/L	1:1
Barium	6010B	10/21/02	10/21/02	0.43	0.020	mg/L	1:1
Beryllium	6010B	10/21/02	10/21/02	0.10	0.0030	mg/L	1:1
Cadmium	6010B	10/21/02	10/21/02	0.16	0.0050	mg/L	1:1
Chromium	6010B	10/21/02	10/21/02	0.47	0.010	mg/L	1:1
Cobalt	6010B	10/21/02	10/21/02	0.15	0.050	mg/L	1:1
Copper	6010B	10/21/02	10/21/02	0.46	0.020	mg/L	1:1
Lead	6010B	10/21/02	10/21/02	0.42	0.010	mg/L	1:1
Molybdenum	6010B	10/21/02	10/21/02	0.38	0.050	mg/L	1:1
Nickel	6010B	10/21/02	10/21/02	0.94	0.040	mg/L	1:1
Selenium	6010B	10/21/02	10/21/02	0.50	0.10	mg/L	1:1
Thallium	6010B	10/21/02	10/21/02	0.50	0.10	mg/L	1:1
Vanadium	6010B	10/21/02	10/21/02	0.15	0.050	mg/L	1:1
Zinc	6010B	10/21/02	10/21/02	0.42	0.015	mg/L	1:1



Environmental Laboratories

Analytical Laboratory Division
 Mobile Laboratory Division
 Scientific Division

Lab Control Sample Duplicate Report

Client ID Shaw Environmental & Infrastructure
 Workorder ID 830714 Former Thomas Short
 Laboratory ID 49092
 Sample ID LCSD for HBN 166071 [ICPV/4041
 Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Antimony	6010B	10/21/02	10/21/02	0.51	0.060	mg/L	1:1
Arsenic	6010B	10/21/02	10/21/02	0.47	0.080	mg/L	1:1
Barium	6010B	10/21/02	10/21/02	0.44	0.020	mg/L	1:1
Beryllium	6010B	10/21/02	10/21/02	0.10	0.0030	mg/L	1:1
Cadmium	6010B	10/21/02	10/21/02	0.17	0.0050	mg/L	1:1
Chromium	6010B	10/21/02	10/21/02	0.48	0.010	mg/L	1:1
Cobalt	6010B	10/21/02	10/21/02	0.15	0.050	mg/L	1:1
Copper	6010B	10/21/02	10/21/02	0.46	0.020	mg/L	1:1
Lead	6010B	10/21/02	10/21/02	0.44	0.010	mg/L	1:1
Molybdenum	6010B	10/21/02	10/21/02	0.40	0.050	mg/L	1:1
Nickel	6010B	10/21/02	10/21/02	0.95	0.040	mg/L	1:1
Selenium	6010B	10/21/02	10/21/02	0.50	0.10	mg/L	1:1
Thallium	6010B	10/21/02	10/21/02	0.50	0.10	mg/L	1:1
Vanadium	6010B	10/21/02	10/21/02	0.15	0.050	mg/L	1:1
Zinc	6010B	10/21/02	10/21/02	0.41	0.015	mg/L	1:1

Duplicate Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49093
Sample ID DUP for HBN 166071 [ICPV/4041]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Antimony	6010B	10/21/02	10/21/02	ND	0.060	mg/L	1:1
Arsenic	6010B	10/21/02	10/21/02	ND	0.080	mg/L	1:1
Barium	6010B	10/21/02	10/21/02	ND	0.020	mg/L	1:1
Beryllium	6010B	10/21/02	10/21/02	ND	0.0030	mg/L	1:1
Cadmium	6010B	10/21/02	10/21/02	ND	0.0050	mg/L	1:1
Chromium	6010B	10/21/02	10/21/02	ND	0.010	mg/L	1:1
Cobalt	6010B	10/21/02	10/21/02	ND	0.050	mg/L	1:1
Copper	6010B	10/21/02	10/21/02	ND	0.020	mg/L	1:1
Lead	6010B	10/21/02	10/21/02	ND	0.010	mg/L	1:1
Molybdenum	6010B	10/21/02	10/21/02	ND	0.050	mg/L	1:1
Nickel	6010B	10/21/02	10/21/02	ND	0.040	mg/L	1:1
Selenium	6010B	10/21/02	10/21/02	ND	0.10	mg/L	1:1
Silver	6010B	10/21/02	10/21/02	ND	0.010	mg/L	1:1
Thallium	6010B	10/21/02	10/21/02	ND	0.10	mg/L	1:1
Vanadium	6010B	10/21/02	10/21/02	ND	0.050	mg/L	1:1
Zinc	6010B	10/21/02	10/21/02	ND	0.015	mg/L	1:1

Matrix Spike Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49094
Sample ID MS for HBN 166071 [ICPV/4041]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilutio
Antimony	6010B	10/21/02	10/21/02	0.48	0.060	mg/L	1:
Arsenic	6010B	10/21/02	10/21/02	0.44	0.080	mg/L	1:
Barium	6010B	10/21/02	10/21/02	0.44	0.020	mg/L	1:1
Beryllium	6010B	10/21/02	10/21/02	0.096	0.0030	mg/L	1:
Cadmium	6010B	10/21/02	10/21/02	0.15	0.0050	mg/L	1:
Chromium	6010B	10/21/02	10/21/02	0.44	0.010	mg/L	1:1
Cobalt	6010B	10/21/02	10/21/02	0.13	0.050	mg/L	1:1
Copper	6010B	10/21/02	10/21/02	0.38	0.020	mg/L	1:
Lead	6010B	10/21/02	10/21/02	0.38	0.010	mg/L	1:1
Molybdenum	6010B	10/21/02	10/21/02	0.36	0.050	mg/L	1:1
Nickel	6010B	10/21/02	10/21/02	0.78	0.040	mg/L	1:
Selenium	6010B	10/21/02	10/21/02	0.48	0.10	mg/L	1:
Thallium	6010B	10/21/02	10/21/02	0.47	0.10	mg/L	1:1
Vanadium	6010B	10/21/02	10/21/02	0.14	0.050	mg/L	1:
Zinc	6010B	10/21/02	10/21/02	0.34	0.015	mg/L	1:

Matrix Spike Duplicate Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49095
Sample ID MSD for HBN 166071 [ICPV/4041]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Antimony	6010B	10/21/02	10/21/02	0.50	0.060	mg/L	1:1
Arsenic	6010B	10/21/02	10/21/02	0.46	0.080	mg/L	1:1
Barium	6010B	10/21/02	10/21/02	0.47	0.020	mg/L	1:1
Beryllium	6010B	10/21/02	10/21/02	0.10	0.0030	mg/L	1:1
Cadmium	6010B	10/21/02	10/21/02	0.16	0.0050	mg/L	1:1
Chromium	6010B	10/21/02	10/21/02	0.46	0.010	mg/L	1:1
Cobalt	6010B	10/21/02	10/21/02	0.14	0.050	mg/L	1:1
Copper	6010B	10/21/02	10/21/02	0.42	0.020	mg/L	1:1
Lead	6010B	10/21/02	10/21/02	0.40	0.010	mg/L	1:1
Molybdenum	6010B	10/21/02	10/21/02	0.38	0.050	mg/L	1:1
Nickel	6010B	10/21/02	10/21/02	0.88	0.040	mg/L	1:1
Selenium	6010B	10/21/02	10/21/02	0.50	0.10	mg/L	1:1
Thallium	6010B	10/21/02	10/21/02	0.48	0.10	mg/L	1:1
Vanadium	6010B	10/21/02	10/21/02	0.15	0.050	mg/L	1:1
Zinc	6010B	10/21/02	10/21/02	0.39	0.015	mg/L	1:1



Environmental Laboratories

Analytical Laboratory Division
Mobile Laboratory Division
Scientific Division

Method Blank Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49111
Sample ID MB for HBN 166083 [VGXV/2333]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
TPHgas	8015M DHS	10/18/02	10/18/02	ND	50	ug/L	1:

Lab Control Sample Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49112
Sample ID LCS for HBN 166083 [VGXV/2333]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
TPHgas	8015M DHS	10/18/02	10/18/02	930	50	ug/L	1:1



Environmental Laboratories

Analytical Laboratory Division
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Lab Control Sample Duplicate Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49113
Sample ID LCSD for HBN 166083 [VGXV/2333
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
TPHgas	8015M DHS	10/18/02	10/18/02	980	50	ug/L	1:

Matrix Spike Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49114
Sample ID Trip Blank(15130004MS)
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
TPHgas	8015M DHS	10/18/02	10/18/02	1020	50	ug/L	1:1

Matrix Spike Duplicate Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49115
Sample ID Trip Blank(15130004MSD)
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
TPHgas	8015M DHS	10/18/02	10/18/02	999	50	ug/L	1:

Method Blank Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49165
Sample ID MB for HBN 166362 [VMXV/2054]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Dichlorodifluoromethane	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Chloromethane	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Vinyl chloride	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Bromomethane	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Chloroethane	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Trichlorofluoromethane	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Acrolein	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
1,1-Dichloroethene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Acetone	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Methyl iodide	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Carbon disulfide	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Dichloromethane	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Acrylonitrile	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
trans-1,2-Dichloroethene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
1,1-Dichloroethane	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Vinyl acetate	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
cis-1,2-Dichloroethene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
2-Butanone (MEK)	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Bromochloromethane	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Chloroform	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
2,2-dichloropropane	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
1,1,1-Trichloroethane	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
1,1-dichloropropane	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Carbon tetrachloride	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Benzene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
1,2-Dichloroethane	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Dibromomethane	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Bromodichloromethane	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
1,2-Dichloropropane	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Trichloroethene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
2-Chloroethylvinyl ether	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
cis-1,3-Dichloropropene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
4-Methyl-2-pentanone	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1



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Method Blank Report

Client ID Shaw Environmental & Infrastructure
 Workorder ID 830714 Former Thomas Short
 Laboratory ID 49165
 Sample ID MB for HBN 166362 [VMXV/2054]
 Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
(continued)							
trans-1,3-Dichloropropene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
1,1,2-Trichloroethane	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Toluene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
1,2-Dibromoethane (EDB)	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
1,3-Dichloropropane	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
2-Hexanone	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Dibromochloromethane	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Tetrachloroethene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
1,1,1,2-Tetrachloroethane	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Chlorobenzene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Ethylbenzene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
M+P-Xylene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Bromoform	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Styrene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
o-Xylene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
1,1,2,2-Tetrachloroethane	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
1,2,3-Trichloropropane	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Isopropylbenzene (Cumene)	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Bromobenzene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
n-Propylbenzene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
2-Chlorotoluene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
4-Chlorotoluene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
1,3,5-Trimethylbenzene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
tert-Butylbenzene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
1,2,4-Trimethylbenzene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
sec-Butylbenzene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
1,3-Dichlorobenzene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
1,4-Dichlorobenzene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
4-Isopropyltoluene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
1,2-Dichlorobenzene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
n-Butylbenzene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1

Method Blank Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49165
Sample ID MB for HBN 166362 [VMXV/2054]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
(continued)							
1,2-Dibromo-3-chloropropane	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
1,2,4-Trichlorobenzene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Naphthalene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Hexachlorobutadiene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
1,2,3-Trichlorobenzene	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1

Surrogates	Result	Recovery	Limits
1,2-Dichloroethane-d4	56.9 ug/L	114 %	(76 - 135)
Toluene d8	47.5 ug/L	95 %	(88 - 118)
4-Bromofluorobenzene	52.3 ug/L	105 %	(86 - 121)



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Lab Control Sample Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49166
Sample ID LCS for HBN 166362 [VMXV/2054]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
1,1-Dichloroethene	8260B	10/23/02	10/23/02	34	2.0	ug/L	1:
Benzene	8260B	10/23/02	10/23/02	46	2.0	ug/L	1:
Trichloroethene	8260B	10/23/02	10/23/02	44	2.0	ug/L	1:1
Toluene	8260B	10/23/02	10/23/02	46	2.0	ug/L	1:
Chlorobenzene	8260B	10/23/02	10/23/02	46	2.0	ug/L	1:

Lab Control Sample Duplicate Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49167
Sample ID LCSD for HBN 166362 [VMXV/2054
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
1,1-Dichloroethene	8260B	10/23/02	10/23/02	36	2.0	ug/L	1:1
Benzene	8260B	10/23/02	10/23/02	47	2.0	ug/L	1:1
Trichloroethene	8260B	10/23/02	10/23/02	44	2.0	ug/L	1:1
Toluene	8260B	10/23/02	10/23/02	43	2.0	ug/L	1:1
Chlorobenzene	8260B	10/23/02	10/23/02	46	2.0	ug/L	1:1



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Matrix Spike Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49168
Sample ID Trip Blank(15130004MS)
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
1,1-Dichloroethene	8260B	10/23/02	10/23/02	37	2.0	ug/L	1:1
Benzene	8260B	10/23/02	10/23/02	48	2.0	ug/L	1:1
Trichloroethene	8260B	10/23/02	10/23/02	45	2.0	ug/L	1:1
Toluene	8260B	10/23/02	10/23/02	47	2.0	ug/L	1:1
Chlorobenzene	8260B	10/23/02	10/23/02	46	2.0	ug/L	1:1

Matrix Spike Duplicate Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49169
Sample ID Trip Blank(15130004MSD)
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
1,1-Dichloroethene	8260B	10/23/02	10/23/02	41	2.0	ug/L	1:1
Benzene	8260B	10/23/02	10/23/02	43	2.0	ug/L	1:1
Trichloroethene	8260B	10/23/02	10/23/02	40	2.0	ug/L	1:1
Toluene	8260B	10/23/02	10/23/02	41	2.0	ug/L	1:1
Chlorobenzene	8260B	10/23/02	10/23/02	41	2.0	ug/L	1:1

Method Blank Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49170
Sample ID MB for HBN 166365 [VMXV/2055]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Tertiary butanol	8260B	10/23/02	10/23/02	ND	10	ug/L	1:1
Methyl-tert-butyl-ether	8260B	10/23/02	10/23/02	ND	2.0	ug/L	1:1
Di-isopropyl ether	8260B	10/23/02	10/23/02	ND	5.0	ug/L	1:1
Ethyl tert-butyl ether	8260B	10/23/02	10/23/02	ND	5.0	ug/L	1:1
Tertiaryamyl methylether	8260B	10/23/02	10/23/02	ND	5.0	ug/L	1:1

Surrogates	Result	Recovery	Limits
Dibromodifluoromethane	55.9 ug/L	112 %	(76 - 135)

Lab Control Sample Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49171
Sample ID LCS for HBN 166365 [VMXV/2055]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Tertiary butanol	8260B	10/23/02	10/23/02	47	10	ug/L	1:1
Methyl-tert-butyl-ether	8260B	10/23/02	10/23/02	57	2.0	ug/L	1:1
Di-isopropyl ether	8260B	10/23/02	10/23/02	48	5.0	ug/L	1:1
Ethyl tert-butyl ether	8260B	10/23/02	10/23/02	50	5.0	ug/L	1:1
Tertiaryamyl methylether	8260B	10/23/02	10/23/02	50	5.0	ug/L	1:1

Lab Control Sample Duplicate Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49172
Sample ID LCSD for HBN 166365 [VMXV/2055]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Tertiary butanol	8260B	10/23/02	10/23/02	52	10	ug/L	1:1
Methyl-tert-butyl-ether	8260B	10/23/02	10/23/02	58	2.0	ug/L	1:1
Di-isopropyl ether	8260B	10/23/02	10/23/02	49	5.0	ug/L	1:1
Ethyl tert-butyl ether	8260B	10/23/02	10/23/02	52	5.0	ug/L	1:1
Tertiaryamyl methylether	8260B	10/23/02	10/23/02	52	5.0	ug/L	1:1

Matrix Spike Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49173
Sample ID Trip Blank(15130004MS)
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Tertiary butanol	8260B	10/23/02	10/23/02	46	10	ug/L	1:1
Methyl-tert-butyl-ether	8260B	10/23/02	10/23/02	48	2.0	ug/L	1:1
Di-isopropyl ether	8260B	10/23/02	10/23/02	41	5.0	ug/L	1:1
Ethyl tert-butyl ether	8260B	10/23/02	10/23/02	43	5.0	ug/L	1:1
Tertiaryamyl methylether	8260B	10/23/02	10/23/02	45	5.0	ug/L	1:1

Matrix Spike Duplicate Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49174
Sample ID Trip Blank(15130004MSD)
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Tertiary butanol	8260B	10/23/02	10/23/02	50	10	ug/L	1:
Methyl-tert-butyl-ether	8260B	10/23/02	10/23/02	58	2.0	ug/L	1:
Di-isopropyl ether	8260B	10/23/02	10/23/02	50	5.0	ug/L	1:1
Ethyl tert-butyl ether	8260B	10/23/02	10/23/02	52	5.0	ug/L	1:
Tertiaryamyl methylether	8260B	10/23/02	10/23/02	53	5.0	ug/L	1:

Method Blank Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49560
Sample ID MB for HBN 168168 [DIGV/1388]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Mercury	EPA 7470A	10/25/02	11/04/02	ND0.00020		mg/L	1:1

Lab Control Sample Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49561
Sample ID LCS for HBN 168168 [DIGV/1388]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Mercury	EPA 7470A	10/25/02	11/04/02	0.001200.00020		mg/L	1:

Lab Control Sample Duplicate Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49562
Sample ID LCSD for HBN 168168 [DIGV/1388]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Mercury	EPA 7470A	10/25/02	11/04/02	0.001200.00020		mg/L	1:1



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Duplicate Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49563
Sample ID DUP for HBN 168168 [DIGV/1388]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Mercury	EPA 7470A	10/25/02	11/04/02	0.0004000	0.00020	mg/L	1:

Matrix Spike Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49564
Sample ID MS for HBN 168168 [DIGV/1388]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Mercury	EPA 7470A	10/25/02	11/04/02	0.001270.00020		mg/L	1:1

Matrix Spike Duplicate Report

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
Laboratory ID 49565
Sample ID MSD for HBN 168168 [DIGV/1388]
Matrix Water

Parameter	Method	Prep Date	Analyzed	Result	RL	Units	Dilution
Mercury	EPA 7470A	10/25/02	11/04/02	0.001450.00020		mg/L	1.3

QC SUMMARY

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
QC Batch TDSX 1127
Matrix Water

Original Sample 15130001
 Duplicate [49025]

Parameter	RPD	RPD Limits
Total Dissolved Solids	2.5	(30)

QC SUMMARY

Client ID	Shaw Environmental & Infrastructure	Original	15124001
Workorder ID	830714 Former Thomas Short	Sample	Duplicate [49093]
QC Batch	ICPP 4078		
Matrix	Water		

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)
Nickel	00	(35)
Selenium	00	(35)
Silver	00	(35)
Thallium	00	(35)
Vanadium	00	(35)
Zinc	00	(35)

QC SUMMARY

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
QC Batch DIG 1394
Matrix Water

Original Sample 15130003
 Duplicate [49563]

Parameter	RPD	RPD Limits
Mercury	2.47	(35)

QC SUMMARY

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
QC Batch TDSX 1127
Matrix Water

Original Samples 15130001
 Matrix Spike [49026]
 Matrix Spike Duplicate [49027]

Parameter	Spike %Recovery	Spike Dup %Recovery	Recovery Limits	RPD	RPD Limits
Total Dissolved Solids	111	114	(75-125)	2.7	(30 MAX)

QC SUMMARY

Client ID Shaw Environmental & Infrastructure
 Workorder ID 830714 Former Thomas Short
 QC Batch ICPP 4078
 Matrix Water

Original Samples 15124001
 Matrix Spike [49094]
 Matrix Spike Duplicate [49095]

Parameter	Spike % Recovery	Spike Dup % Recovery	Recovery Limits	RPD	RPD Limits
Antimony	96	100	(25-125)	4.1	(35 MAX)
Arsenic	89	93	(75-125)	4.4	(35 MAX)
Barium	89	93	(75-125)	4.4	(35 MAX)
Beryllium	96	100	(75-125)	4.1	(35 MAX)
Cadmium	76	80	(75-125)	5.1	(35 MAX)
Chromium	88	91	(75-125)	3.4	(35 MAX)
Cobalt	66	69	(75-125)	4.4	(35 MAX)
Copper	77	84	(75-125)	8.7	(35 MAX)
Lead	76	80	(75-125)	5.1	(35 MAX)
Nickel	78	88	(75-125)	12	(35 MAX)
Selenium	97	100	(75-125)	3.0	(35 MAX)
Thallium	95	96	(50-125)	1.0	(35 MAX)
Vanadium	71	74	(75-125)	4.1	(35 MAX)
Zinc	68	78	(75-125)	14	(35 MAX)

QC SUMMARY

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
QC Batch VGX 2441
Matrix Water

Original Samples 15130004
Matrix Spike [49114]
Matrix Spike Duplicate [49115]

Parameter	Spike % Recovery	Spike Dup % Recovery	Recovery Limits	RPD	RPD Limits
TPHgas	102	100	(65-135)	2.0	(20 MAX)

QC SUMMARY

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
QC Batch VMX 2096
Matrix Water

Original Samples 15130004
 Matrix Spike [49168]
 Matrix Spike Duplicate [49169]

Parameter	Spike % Recovery	Spike Dup % Recovery	Recovery Limits	RPD	RPD Limits
1,1-Dichloroethene	74	82	(61-145)	10	(20 MAX)
Benzene	96	86	(76-127)	11	(20 MAX)
Trichloroethene	90	80	(71-135)	12	(20 MAX)
Toluene	94	82	(76-130)	14	(20 MAX)
Chlorobenzene	92	82	(75-130)	11	(20 MAX)

QC SUMMARY

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
QC Batch VMX 2097
Matrix Water

Original Samples 15130004
 Matrix Spike [49173]
 Matrix Spike Duplicate [49174]

Parameter	Spike % Recovery	Spike Dup % Recovery	Recovery Limits	RPD	RPD Limits
Tertiary butanol	92	100	(76-135)	8.3	(20 MAX)
Methyl-tert-butyl-ether	96	116	(76-135)	19	(20 MAX)
Di-isopropyl ether	82	100	(76-135)	20	(20 MAX)
Ethyl tert-butyl ether	86	104	(76-135)	19	(20 MAX)
Tertiaryamyl methylether	90	106	(76-135)	16	(20 MAX)

QC SUMMARY

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
QC Batch DIG 1394
Matrix Water

Original Samples 15130003
 Matrix Spike [49564]
 Matrix Spike Duplicate [49565]

Parameter	Spike % Recovery	Spike Dup % Recovery	Recovery Limits	RPD	RPD Limits
Mercury	86.0	104	(75-125)	18.9	(35 MAX)



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QC SUMMARY

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
QC Batch TDSX 1127
Matrix Water

Samples Lab Control Sample [49023]
Lab Control Sample Duplicate [49024]

Parameter	Check % Recovery	Check Dup % Recovery	Recovery Limits	RPD	RPD Limits
Total Dissolved Solids	105	105	(80-120)	00	(20 MAX)

QC SUMMARY

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
QC Batch SGX 1819
Matrix Water

Samples Lab Control Sample [49041]
 Lab Control Sample Duplicate [49042]

Parameter	Check % Recovery	Check Dup % Recovery	Recovery Limits	RPD	RPD Limits
TPHdiesel	100	94	(65-135)	6.2	(20 MAX)

QC SUMMARY

Client ID Shaw Environmental & Infrastructure
 Workorder ID 830714 Former Thomas Short
 QC Batch ICPP 4078
 Matrix Water

Samples Lab Control Sample [49091]
 Lab Control Sample Duplicate [49092]

Parameter	Check %Recovery	Check Dup %Recovery	Recovery Limits	RPD	RPD Limits
Antimony	100	102	(70-120)	2.0	(20 MAX)
Arsenic	93	95	(80-120)	2.1	(20 MAX)
Barium	86	88	(80-120)	2.3	(20 MAX)
Beryllium	101	104	(80-120)	2.9	(20 MAX)
Cadmium	82	85	(80-120)	3.6	(20 MAX)
Chromium	93	97	(80-120)	4.2	(20 MAX)
Cobalt	74	77	(80-120)	4.0	(20 MAX)
Copper	91	93	(80-120)	2.2	(20 MAX)
Lead	85	87	(80-120)	2.3	(20 MAX)
Molybdenum	77	79	(80-120)	2.6	(20 MAX)
Nickel	94	95	(80-120)	1.1	(20 MAX)
Selenium	99	101	(80-120)	2.0	(20 MAX)
Thallium	100	101	(80-120)	1.0	(20 MAX)
Vanadium	74	76	(80-120)	2.7	(20 MAX)
Zinc	84	82	(80-120)	2.4	(20 MAX)

QC SUMMARY

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
QC Batch VGX 2441
Matrix Water

Samples Lab Control Sample [49112]
 Lab Control Sample Duplicate [49113]

Parameter	Check % Recovery	Check Dup % Recovery	Recovery Limits	RPD	RPD Limits
TPHgas	93	98	(65-135)	5.2	(20 MAX)

QC SUMMARY

Client ID Shaw Environmental & Infrastructure
 Workorder ID 830714 Former Thomas Short
 QC Batch VMX 2096
 Matrix Water

Samples Lab Control Sample [49166]
 Lab Control Sample Duplicate [49167]

Parameter	Check % Recovery	Check Dup % Recovery	Recovery Limits	RPD	RPD Limits
1,1-Dichloroethene	68	72	(65-145)	5.7	(20 MAX)
Benzene	92	94	(71-127)	2.2	(20 MAX)
Trichloroethene	88	88	(75-135)	00	(20 MAX)
Toluene	92	86	(76-135)	6.7	(20 MAX)
Chlorobenzene	92	92	(76-135)	00	(20 MAX)

QC SUMMARY

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
QC Batch VMX 2097
Matrix Water

Samples Lab Control Sample [49171]
 Lab Control Sample Duplicate [49172]

Parameter	Check % Recovery	Check Dup % Recovery	Recovery Limits	RPD	RPD Limits
Tertiary butanol	94	104	(76-135)	10	(20 MAX)
Methyl-tert-butyl-ether	114	116	(76-135)	1.7	(20 MAX)
Di-isopropyl ether	96	98	(76-135)	2.1	(20 MAX)
Ethyl tert-butyl ether	100	104	(76-135)	3.9	(20 MAX)
Tertiaryamyl methylether	100	104	(76-135)	3.9	(20 MAX)

QC SUMMARY

Client ID Shaw Environmental & Infrastructure
Workorder ID 830714 Former Thomas Short
QC Batch DIG 1394
Matrix Water

Samples Lab Control Sample [49561]
 Lab Control Sample Duplicate [49562]

Parameter	Check % Recovery	Check Dup % Recovery	Recovery Limits	RPD	RPD Limits
Mercury	120	120	(80-120)	0000	(20 MAX)

WORKORDER DATA SHEET

Nov 22, 2002 15:18

ID 15130 WO #15130 830714 Former Thomas Short STATUS CO
DESC B-Floor/R3-3 JR
CREATED 10/17/02 02:48 PO 830714 QA TYPE CM ACODE REPORT_WO
CLIENT Shaw Shaw Environmental & Infrastructure
PROFILE 10213 Standard Standard w/o discount

WORKORDER SAMPLES

1 15130001 15130001 MW-4
RP TYPE SAMPLE MATRIX Water
COLLECTED 10/17/02 00:00 COMPLETED 11/17/02 15:15 DUE 10/31/02 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
OXG/60W	8260B OXYGENATES WATR	10
160.1	160.1 TOTAL DISSOLVED SOLIDS	10
1664TRPHW	TRPH 1664, Water	10

2 15130002 15130002 MW-5
RP TYPE SAMPLE MATRIX Water
COLLECTED 10/17/02 00:00 COMPLETED 11/17/02 15:15 DUE 10/31/02 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
OXG/60W	8260B OXYGENATES WATR	10
160.1	160.1 TOTAL DISSOLVED SOLIDS	10
1664TRPHW	TRPH 1664, Water	10

3 15130003 15130003 MW-6
RP TYPE SAMPLE MATRIX Water
COLLECTED 10/17/02 00:00 COMPLETED 11/17/02 15:15 DUE 10/31/02 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
OXG/60W	8260B OXYGENATES WATR	10
160.1	160.1 TOTAL DISSOLVED SOLIDS	10
1664TRPHW	TRPH 1664, Water	10

WORKORDER DATA SHEET

Nov 22, 2002 15:18

4 15130004 15130004 Trip Blank
RP TYPE TB MATRIX Water
COLLECTED 10/17/02 00:00 COMPLETED 10/25/02 15:26 DUE 10/31/02 17:00

<u>Analyses</u>		<u>Turndays</u>
8015M_G W	TPH Gas WATR	10
8260 WATR	8260B GCMS VOLATILES WATR	10
OXG/60W	8260B OXYGENATES WATR	10

