MISSION VALLEY / ROCK COMPANY
ASPHALT COMPANY
READY MIX COMPANY

7999 ATHENOUR WAY SUNOL, CA 94586 (925) 862-2257

May 22, 2002

Mr. Scott Seery
Alameda County Health Care Services
1131 Harbor Bay Parkway Suite 250
Alameda, CA 94502-6577

MAY 28 2002

Dear Mr. Seery:

Submitted herewith is the first quarter Groundwater Monitoring Report prepared by Mission Valley Rock Company's consultant Tait Environmental Management Inc (T.E.M.). If you require further information or clarification please direct your correspondence to T.E.M with a copy to Mission Valley Rock Company at the above address.

Thank You,
MISSION VALLEY ROCK CO.

W.M. Calvert

Groundwater Monitoring Report
First Quarter 2002

Mission Valley Rock Company
7999 Athenour Way
Sunol, California

Prepared by:
Tait Environmental Management, Inc.

May 2, 2002

May 2, 2002

Groundwater Monitoring Report
First Quarter 2002

Mission Valley Rock Company
7999 Athenour Way
Sunol, California

Prepared for:

Mr. Mort Calvert
Mission Valley Rock Company
7999 Athenour Way
Sunol, California 94586

Prepared by:

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Project Geologist

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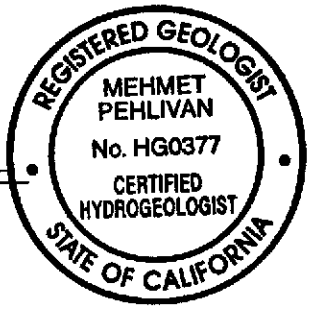
Senior Hydrogeologist



Tait Environmental Management
701 North Parkcenter Drive
Santa Ana, California 92705

Project No. EM-5009

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Tait Environmental Management, Inc.
Engineering • Environmental • Compliance

GROUNDWATER MONITORING REPORT - FIRST QUARTER 2002
MISSION VALLEY ROCK COMPANY
SUNOL, CALIFORNIA

1.0 INTRODUCTION

Tait Environmental Management, Inc. (TEM) is pleased to submit this First Quarter 2002 Groundwater Monitoring Report for environmental services conducted at Mission Valley Rock Company (MVR) located at 7999 Athenour Way in Sunol, California (Site, see Figure 1). This report has been prepared by or under the direct supervision of a California Registered Geologist. The groundwater monitoring activities were conducted by TEM in accordance with the Alameda County Health Care Services Agency (ACHCSA) guidelines.

2.0 WORK CONDUCTED DURING PRESENT QUARTER

Work conducted by TEM during the Fourth Quarter of 2001 included:

- Submitted to the client, *Groundwater Monitoring Report, Fourth Quarter 2001.*
- Measured depth-to-groundwater in all monitoring wells (MW-1, MW-2, and MW-3) for evaluation of groundwater flow direction and presence of liquid phase hydrocarbons (LPH).
- Collected groundwater samples from each well for analysis of total petroleum hydrocarbons as diesel and gasoline (TPHd and TPHg, respectively); benzene, toluene, ethylbenzene, and total xylenes (BTEX); and methyl-tert-butyl ether (MTBE).

3.0 GROUNDWATER MONITORING ACTIVITIES

3.1 Groundwater Elevation Monitoring

On March 29, 2002 TEM measured and recorded static groundwater levels in three (3) groundwater monitoring wells using a product/water interface meter. The meter was decontaminated prior to use at each well using a mild detergent solution and two (2) de-ionized water rinses.

Water levels were measured from the top of the well casings representing the well-head survey points. LPH (0.90') was observed in monitoring well MW-2. No LPH was observed in monitoring wells MW-1 and MW-3. A historical summary LPH thickness is presented in Table 3 and plotted over time in Chart 6 (Appendix A).

Based on the data, the depth to groundwater measured at the Site averaged 3.81 feet below ground surface (bgs). The apparent groundwater flow direction is to the East with a groundwater gradient of approximately 0.03 ft/ft. Groundwater elevation data is summarized in Table 1 and shown on Figure 2. A historical summary of groundwater elevation data is summarized in Table 3 and shown in Chart 1 (Appendix A).

3.2 Groundwater Sampling

Prior to collecting samples, groundwater was purged using a 12-volt DC submersible pump for each well. The polyethylene tubing for the pump discharge was discarded and replaced for each well. The pump was decontaminated prior to pumping each well, with a detergent bath followed by two (2) de-ionized water rinses.

A minimum of three (3) casing volumes of water were purged from each of the monitoring wells until measurements of temperature, pH, electrical conductivity, turbidity, dissolved oxygen, and oxygen reduction potential stabilized. Groundwater was allowed to recharge to at least 80 percent of the static level prior to collecting the groundwater samples. Copies of the well sampling field data sheets are presented in Appendix B.

Groundwater samples were collected using a new disposable bailer for each well. The groundwater samples were placed in chilled coolers and hand delivered to the laboratory using chain-of-custody procedures.

The purged groundwater and decontamination water was stored onsite in one (1) Department of Transportation (DOT) approved 55-gallon steel drum pending the results of the laboratory analysis.

4.0 LABORATORY ANALYSES

Groundwater samples collected from the groundwater monitoring wells were analyzed for:

- BTEX and MTBE using Method No. 8260B; and
- TPHd and TPHg using Method 8015B.

4.1 Groundwater Analytical Results

Laboratory analyses of the groundwater samples were conducted by Severn Trent Laboratories, Inc. (STL), a State-Certified laboratory located in Santa Ana, California. Fourth Quarter 2001 groundwater sample analytical results are summarized in Table 2 and contoured in Figures 3 through 5. Laboratory reports are presented in Appendix C. A historical summary of groundwater sample analytical results is summarized in Table 4. Charts 2 through 5 present historic measurements of TPHd, TPHg, MTBE, and benzene, respectively (Appendix A).

5.0 SUMMARY

Based upon the data presented in this report, previous investigations, current regulatory guidelines, and the judgment of TEM, the following summary of findings and conclusions are presented:

- Groundwater samples were collected from groundwater monitoring wells MW-1, MW-2, and MW-3. The samples were submitted to STL under chain of custody protocol;
- Based on the data, the depth to groundwater measured at the Site averaged 3.81 feet bgs. The groundwater flow direction is to the East with a groundwater gradient of approximately 0.03 ft/ft;
- LPH (0.90') was observed in monitoring well MW-2. The LPH thickness in MW-2 has shown an increase since the last sampling event in December 2001;

- The highest TPHd concentration (65 milligrams per Liter [mg/L]) was detected in the groundwater sample collected from well MW-2. The highest TPHg concentration (29 mg/L) was detected in the groundwater sample collected from well MW-1;

- The only benzene concentrations was reported in the groundwater sample collected from well MW-1 at 50 micrograms per Liter (µg/L);

- MTBE concentrations were reported in the groundwater samples collected from well MW-2 and MW-3 at 30 ug/L and 50 ug/L, respectively;

- Interpretation of Charts 2 through 5 indicate that well MW-1 has shown a slight increase in TPHd and TPHg concentrations and a higher increase in the benzene concentration (from 15 ug/L in December 2001 to 50 ug/L in March 2002). Concentrations of TPHd, TPHg, and MTBE have generally remained stable or have shown a decline in well MW-3. Well MW-2 has shown a slight increase in TPHd concentrations and decreasing concentrations of TPHg and MTBE; and

- The depth to static groundwater at the Site has decreased this quarter. The wells at the Site are screened below the water table. Therefore, the observed LPH in well MW-2 may be a reflection of a greater LPH thickness within the formation.

6.0 RECOMMENDATIONS

Based on the data obtained, current regulatory guidelines, and the professional judgment of TEM, the following recommendations are presented for your consideration:

- Recommend additional assessment to determine the extent of free product found in MW-2 and to further delineate the lateral and vertical extent of groundwater contamination.

- Continue monitoring all wells for LPH and record field observations and measurements.

- Repair all three (3) wells by replacing damaged well boxes and installing new water-tight locking caps.

7.0 QUALITY ASSURANCE/QUALITY CONTROL

To increase the confidence levels in the data obtained and minimize the likelihood that judgments were made from potentially erroneous data, a quality assurance/quality control (QA/QC) program was implemented. QA refers to management of actions designed to maintain precision, accuracy, completeness, and representativeness of the data developed from the project. QC refers to accepted formal procedures and activities specifically designed for the purpose of collecting data that are intended to be reliable and consistent for the Site conditions.

The laboratory reported all of the sample results to be within acceptable percent recoveries with no results exceeding the laboratory-established quality control parameters. The percent recoveries on the laboratory control sample (LCS) were well within the laboratories published QA/QC criteria. The results of the matrix spike (MS) and matrix spike duplicate (MSD) were also with acceptable limits. The samples arrived at the laboratory within the normal acceptable temperature range (4°C +/- 2°C) and were extracted and analyzed within acceptable holding times for each method and each sample.

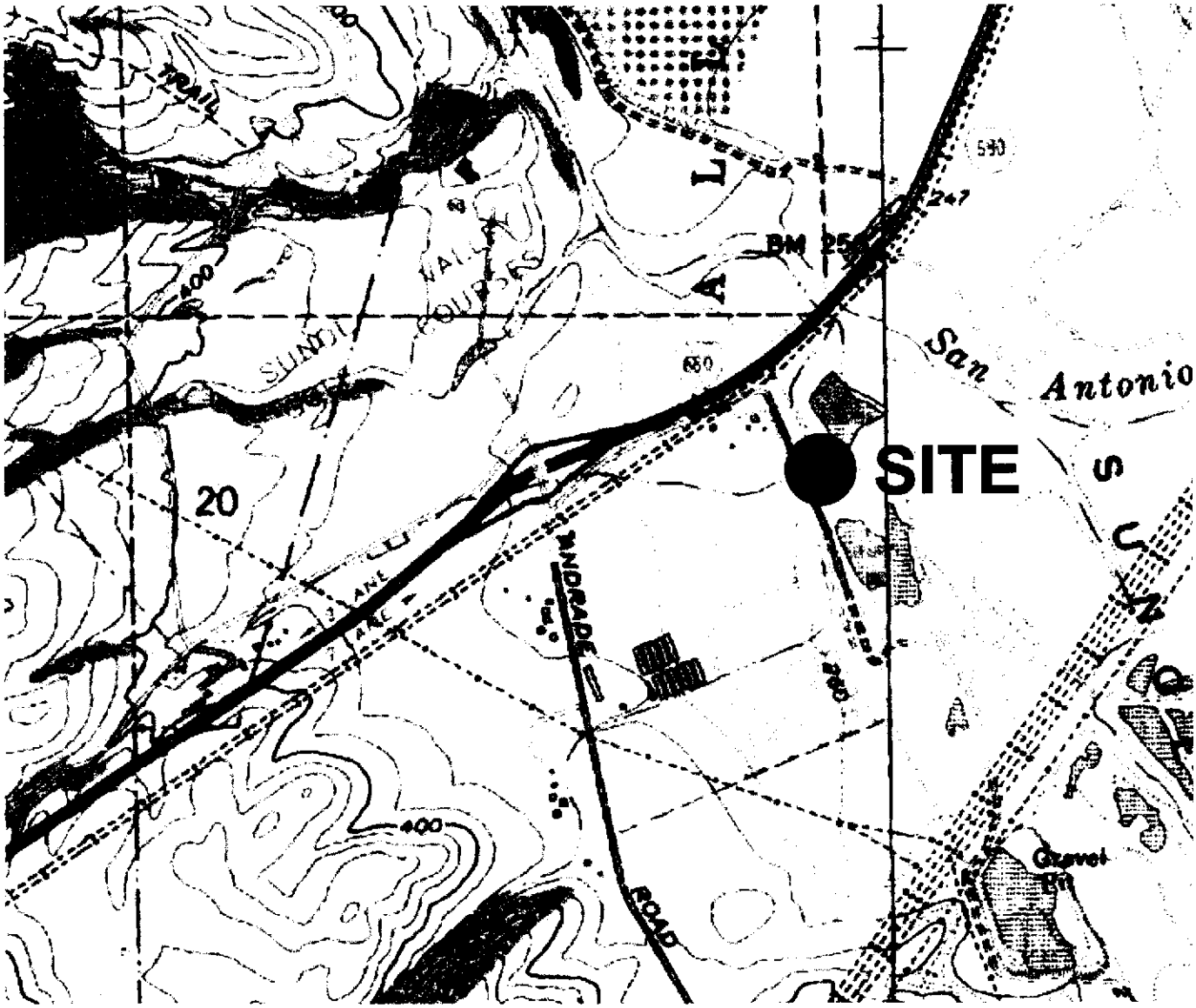
Several of the laboratories reporting limits exceeded cleanup criteria in groundwater appropriate for this site. In all instances this was because of sample dilution and elevated concentrations of hydrocarbons were detected in the samples that were affected. The QA/QC objectives for this project have been met.

8.0 LIMITATIONS

No investigation is considered thorough enough to exclude the presence of hazardous materials at a given site. Any opinions and/or recommendations presented apply to site conditions existing at the time of the performance of services.

TEM is unable to report on or accurately predict events which may impact the site following conduct of the described services, whether occurring naturally or caused by external forces. TEM assumes no responsibility for conditions that we were not authorized to investigate or conditions not generally recognized as environmentally unacceptable at the time services were performed.

Services hereunder were performed in accordance with our agreement and understanding with, and solely for the use of, Mission Valley Rock Company. We are not responsible for the subsequent separation, detachment or partial use of this document. Any reliance on this report by a third party shall be at such party's sole risk.



0 2,000

Scale (1" = 2,000')

North

LEGEND

Base map referenced from United States Geological Survey (USGS), Freemont Quadrangle, Alameda County, California, July 1, 1989.

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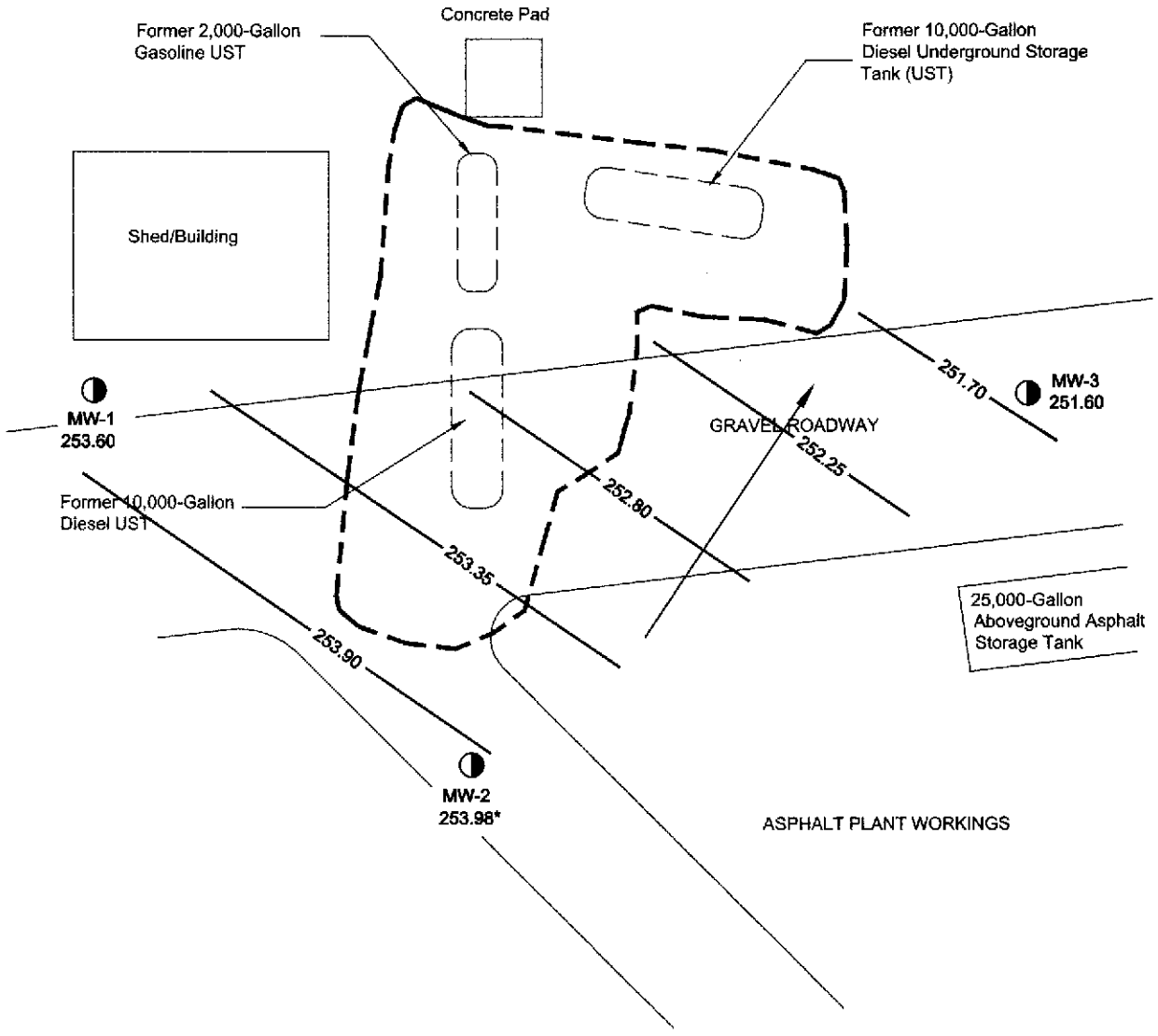
SITE VICINITY MAP

MISSION VALLEY ROCK CO.
7999 ATHENOUR WAY
SUNOL, CALIFORNIA

PROJECT NO. EM-5009

FIGURE 1



LEGEND

Base map referenced from Tank Protect Engineers

All locations and dimensions are approximate

MW-1 253.60 — Groundwater monitoring well location with groundwater elevation in feet above mean sea level (ft-msl)

253.90 — Groundwater elevation contour in feet-msl

General direction of groundwater flow

Approximate limits of former UST excavation

253.98* — Corrected groundwater elevation

0 20

Scale (1" = 20')

North

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ENVIRONMENTAL MANAGEMENT, INC.

SITE PLAN WITH GROUNDWATER ELEVATION CONTOURS
(MARCH 29, 2002)

MISSION VALLEY ROCK CO.
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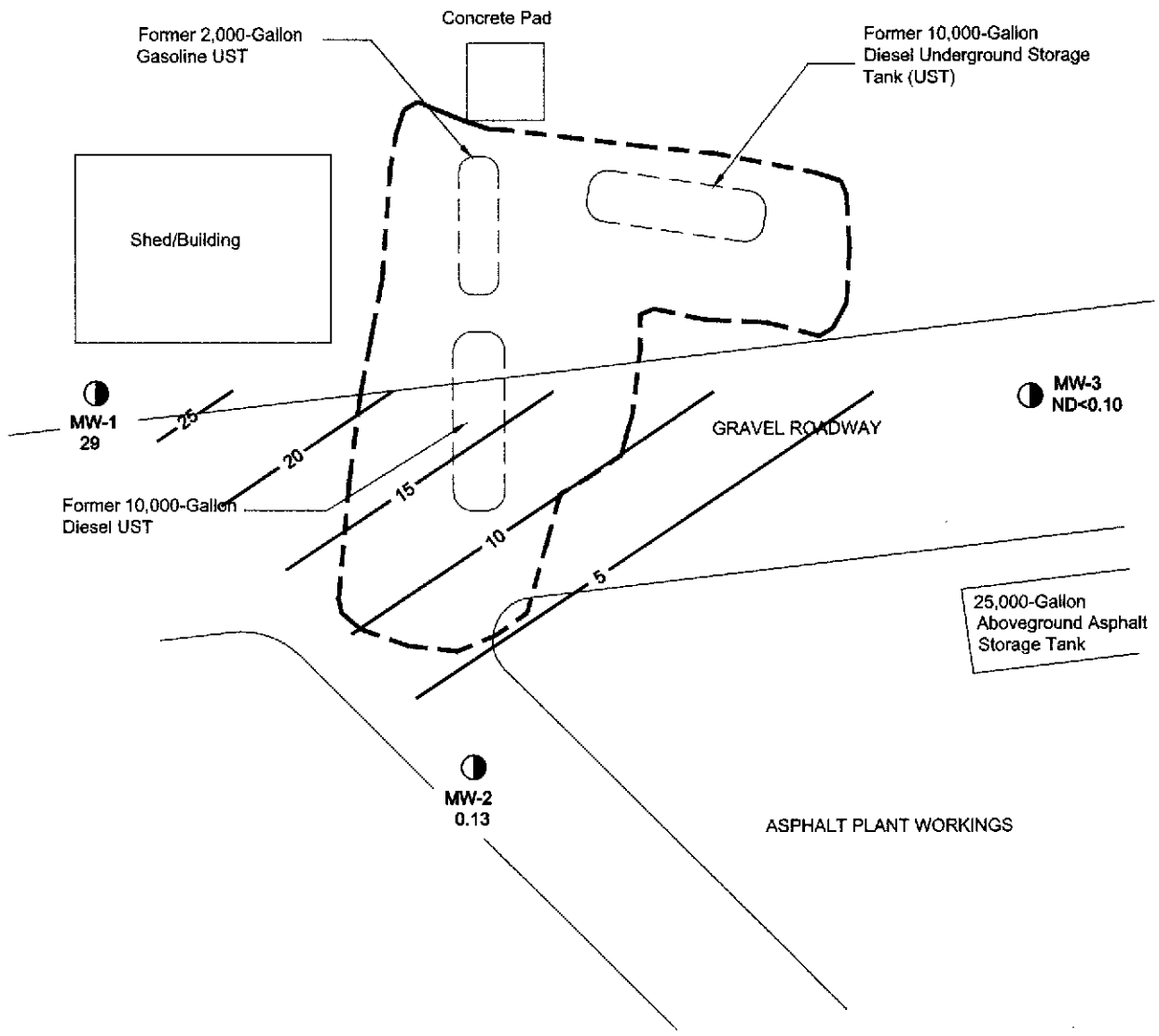
SUNOL, CALIFORNIA

PROJECT NO. EM-5009 | FIGURE 2



LEGEND

Base map referenced from Tank Protect Engineers.

All locations and dimensions are approximate.

Total petroleum hydrocarbons as gasoline (TPHg) concentrations reported in milligrams per Liter (mg/L).

MW-1
29 — Groundwater monitoring well location and designation with dissolved TPHg concentrations

25 — Dissolved TPHg concentration contours (contour interval 5 mg/L)

— — — — Approximate limits of former UST excavations

0 20

Scale (1" = 20')

North

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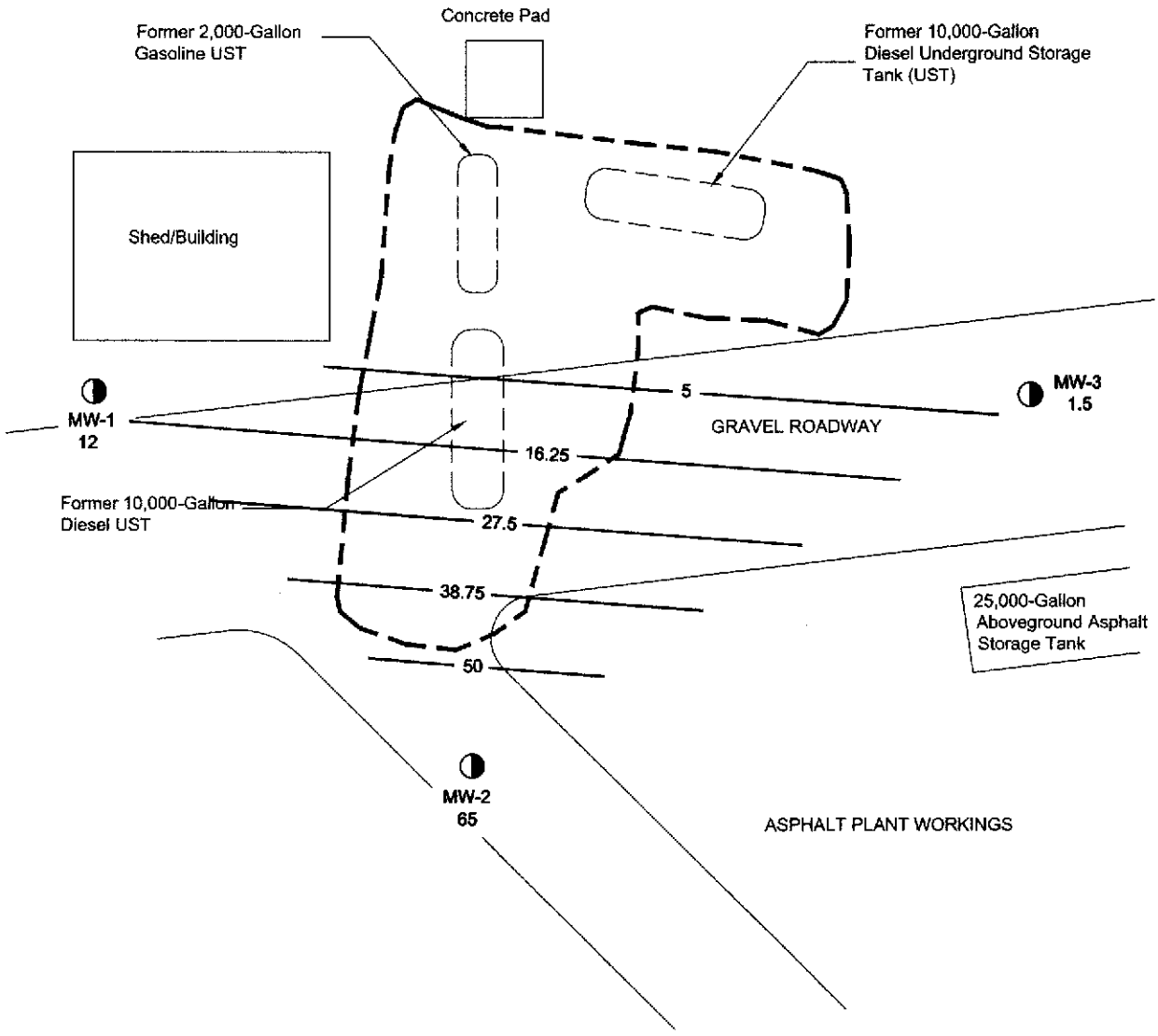
ENVIRONMENTAL MANAGEMENT, INC.

SITE PLAN WITH DISSOLVED THPg CONTOURS
(MARCH 29, 2002)

MISSION VALLEY ROCK CO.
7999 ATHENOUR WAY
SUNOL, CALIFORNIA

PROJECT NO. EM-5009 | FIGURE 3



LEGEND

Base map referenced from Tank Protect Engineers.

All locations and dimensions are approximate.

Total petroleum hydrocarbons as diesel (TPHd) concentrations reported in milligrams per Liter (mg/L).

MW-1 / 12 — Groundwater monitoring well location and designation with dissolved TPHd concentrations

— 5.0 — Dissolved TPHd concentration contours (contour interval 11.25 mg/L)

— — — — Approximate limits of former UST excavations

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Scale (1" = 20')

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SITE PLAN WITH DISSOLVED THPd CONTOURS
(MARCH 29, 2002)

MISSION VALLEY ROCK CO.
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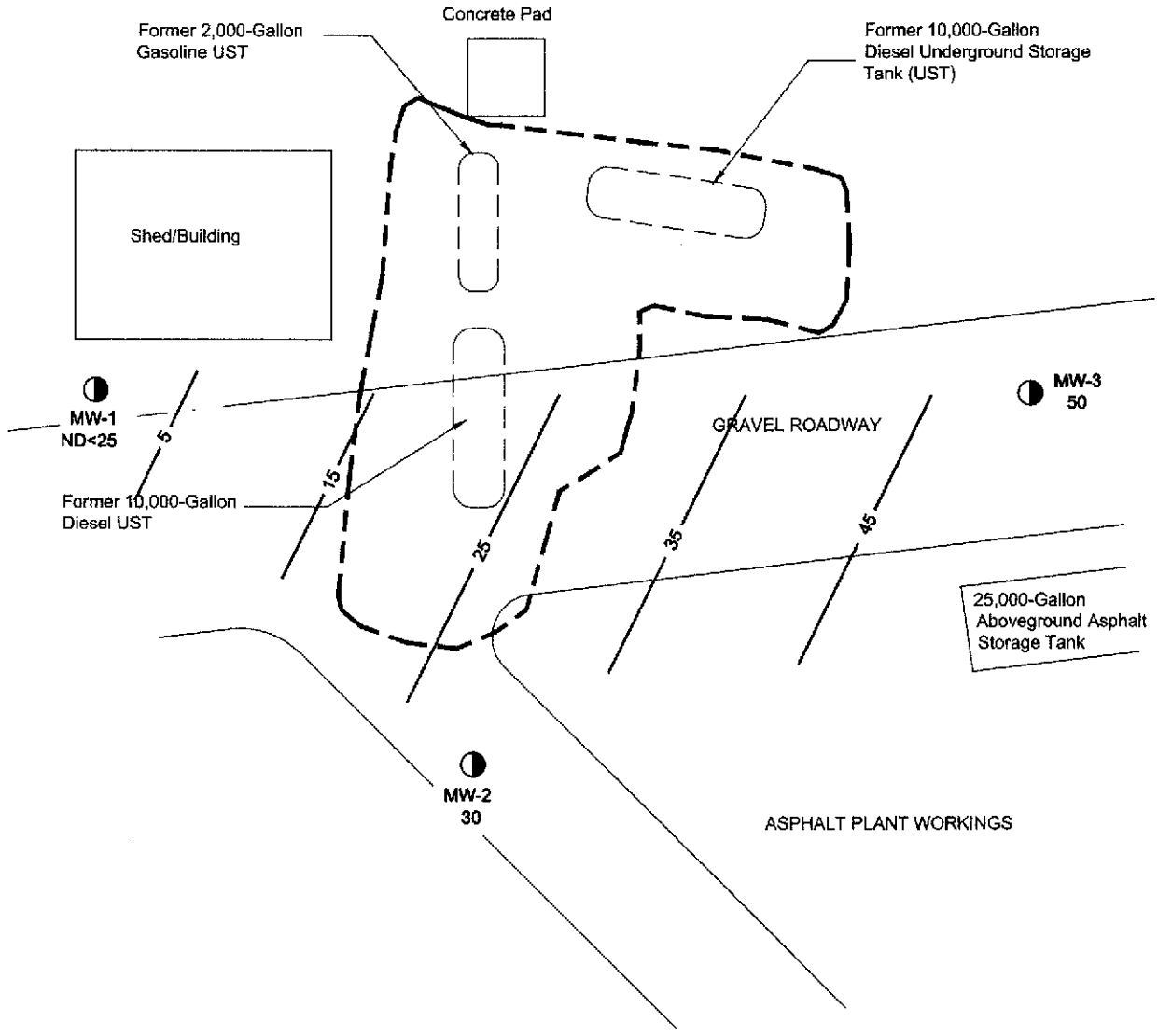
PROJECT NO. EM-5009 | FIGURE 4



LEGEND

Base map referenced from Tank Protect Engineers.

All locations and dimensions are approximate.

MTBE concentrations reported in micrograms per Liter (ug/L).

MW-2
30 — Groundwater monitoring well location and designation with dissolved MTBE concentrations

15 — Dissolved MTBE concentration contours (contour interval 10 ug/L)

— — — — Approximate limits of former UST excavations

0 20

Scale (1" = 20')

North

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SITE PLAN WITH DISSOLVED MTBE CONTOURS
(MARCH 29, 2002)

MISSION VALLEY ROCK CO.
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PROJECT NO. EM-5009 | FIGURE 5

Table 1
Well Construction and Groundwater Elevation Data
First Quarter 2002
Mission Valley Rock Company
Sunol, California

Well ID	Casing Diameter	Depth to LPH	Depth to Water	LPH Thickness	Total Depth	Screened Interval	Measuring Point Elevation	Groundwater Elevation	Comments
MW-1	2	ND	2.91	ND	17.42	5.0 - 20.0	256.51	253.60	Well in poor condition.
MW-2	2	2.5	3.40	0.90	19.15	5.0 - 20.0	256.70	253.98	Well cover damaged.
MW-3	2	ND	5.12	ND	17.32	5.0 - 20.0	256.72	251.60	Well cover damaged.

Screened intervals are approximated. Screened interval in wells is lower than the measured total depth due to silting in the bottom of wells.
The measurement point for the above three wells is the north side of the top of casing.
Depth to water and total depth measurements taken by Tait Environmental Management, Inc. personnel on March 29, 2002.
Casing diameter reported in inches (in); depth to LPH, depth to water, total depths, and screened interval reported in feet below measuring point (ft-bmp); LPH thickness reported in feet; measuring point elevation and groundwater elevations reported in feet above mean sea level.
Total depth and depth to water measurements taken by Tait Environmental Management from designated measurement point.
* Adjusted groundwater elevation = Measurement Point Elevation - Depth to Water + (LPH Thickness x 0.75).
LPH = Liquid Phase Hydrocarbons
ND = Not Detected

Table 2
Groundwater Sample Analytical Data
First Quarter 2002
Mission Valley Rock Company
Sunol, California

Well	Date	TPHd (mg/L)	TPHg (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)
MW-1	03/29/2002	**12**	**29**	**50**	ND<25	**960**	**290**	ND<25
MW-2	03/29/2002	**65**	**0.13**	ND<1.0	ND<1.0	ND<1.0	ND<1.0	**30**
MW-3	03/29/2002	**1.5**	ND<0.10	ND<1.0	ND<1.0	ND<1.0	ND<1.0	**50**

Notes:
Analyses for Total Petroleum Hydrocarbons as Gasoline and Diesel (TPHg and TPHd, respectively) were performed using EPA Method No. 8015B.
Analyses for benzene, toluene, ethylbenzene, total xylenes, and methyl-tert-butyl ether (MTBE) were performed using EPA Method No. 8260B.
Total xylene concentrations were determined by adding m,p-xylene and o-xylene from laboratory report.
mg/L = Milligrams per Liter
ug/L = Micrograms per Liter
MTBE = Methyl-tert-Butyl Ether

Table 3
Historical Groundwater Data
Third Quarter 2001
Mission Valley Rock Company
Sunol, California

Well	Date	Depth to Water	Groundwater Elevation	LPH Thickness
MW-1	Jun-98	1.32	255.19	ND
	Jan-99	2.28	254.23	ND
	Mar-99	1.88	254.63	ND
	Jun-99	3.35	253.16	ND
	Sep-99	3.66	252.85	ND
	Dec-99	2.94	253.57	ND
	Mar-00	2.72	253.79	Odor
	Jun-00	4.01	252.50	Slight Odor
	Sep-00	5.11	251.40	Slight Odor
	Dec-00	4.95	251.56	ND
	Mar-01	2.28	254.23	ND
	Jun-01	3.60	252.91	ND
	Sep-01	6.50	250.01	ND
	Dec-01	1.29	255.22	ND
	Mar-02	2.91	253.60	ND
MW-2	Jun-98	1.72	254.98	0.005
	Jan-99	2.69	254.01	4.00
	Mar-99	2.50	254.20	ND
	Jun-99	4.00	252.70	Sheen
	Sep-99	4.54	252.16	0.50
	Dec-99	3.85	252.85	0.13
	Mar-00	3.20	253.50	0.03
	Jun-00	4.62	252.08	0.02
	Sep-00	5.95	250.75	>0.01
	Dec-00	5.65	251.05	0.07
	Mar-01	3.21	253.57*	0.10
	Jun-01	3.31	253.44*	0.06
	Sep-01	7.08	249.88*	0.34
	Dec-01	2.18	254.72*	0.26
	Mar-02	3.40	253.98*	0.90
MW-3	Jun-98	2.66	254.06	ND
	Jan-99	4.47	252.25	Slight Odor
	Mar-99	3.96	252.76	Sheen
	Jun-99	5.54	251.18	ND
	Sep-99	6.18	250.54	Sheen
	Dec-99	5.52	251.20	Odor
	Mar-00	4.61	252.11	Odor
	Jun-00	6.35	250.37	Very Slight Odor
	Sep-00	7.30	249.42	Very Slight Odor
	Dec-00	7.29	249.43	ND
	Mar-01	4.73	251.99	ND
	Jun-01	NM	NM	NM
	Sep-01	7.89	248.83	ND
	Dec-01	3.77	252.95	ND
	Mar-02	5.12	251.60	ND

Depth to water and liquid phase hydrocarbon (LPH) thickness reported in feet below measurement point.
Groundwater elevations reported in feet above mean sea level.
* Adjusted groundwater elevation = Measurement Point Elevation - Depth to Water + (LPH Thickness x 0.75)
NM = Not Measured
ND = Not Detected

Table 4
Historical Groundwater Sample Analytical Results
First Quarter 2002
Mission Valley Rock Company
Sunol, California

Well	Date	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
MW-1	Jun-98	0.1	3,100	19	2.3	91	48	110
	Oct-98	0.1	2,300	3.1	4.2	5.0	15	ND<0.50
	Dec-98	350	ND<50	12	7.5	20	6.2	ND<5.0
	Mar-99	190	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	Jun-99	210	1,800	1.2	0.9	1.5	4.6	ND<0.5
	Sep-99	62	180	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.5
	Dec-99	290	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	Mar-00	86	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	Jun-00	70	450	2.1	ND<0.5	2.1	1.4	7.6
	Sep-00	ND<50	850	5.4	ND<0.50	9.4	2.6	9.8
	Dec-00	ND<1.0*	0.37*	5.3	ND<1.0	2.7	ND<3.0	55
	Mar-01	ND<1.0*	0.7*	ND<1.0	ND<1.0	1.4	ND<1.0	ND<1.0
	Jun-01	ND<1.0*	0.17*	ND<1.0	ND<1.0	1.2	ND<1.0	ND<1.0
	Sep-01	ND<1.0*	0.73*	1.4	ND<1.0	7.6	1.2	ND<1.0
	Dec-01	1*	0.5*	15	ND<1.0	27	5.5	ND<1.0
	Mar-02	12*	29*	50	ND<25	960	290	ND<25
MW-2	Jun-98	12,000	2,500	0.68	ND<0.50	1.2	0.57	14
	Oct-98	4,300	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	Dec-98	38,000	ND<5,000	ND<50	ND<50	51	190	ND<500
	Mar-99	580	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	Jun-99	4,500	24,000	38	27	41	98	ND<0.5
	Sep-99	24,000	1,400	ND<0.50	ND<0.50	ND<0.50	ND<0.50	27
	Dec-99	2,300	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	Mar-00	620	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	Jun-00	1,700	270	ND<0.5	ND<0.5	ND<0.5	ND<0.5	17
	Sep-00	5,800	130	ND<0.50	ND<0.50	ND<0.50	0.94	12
	Dec-00	19*	7.1*	ND<50	ND<50	ND<50	ND<150	ND<250
	Mar-01	610*	3.3*	ND<1.0	ND<1.0	ND<1.0	ND<1.0	9.0
	Jun-01	8.8*	1.8*	ND<1.0	ND<1.0	ND<1.0	ND<1.0	6.7
	Sep-01	530*	7.0*	ND<50	ND<50	ND<50	ND<50	ND<50
	Dec-01	27*	0.31*	ND<1.0	ND<1.0	ND<1.0	ND<1.0	62
	Mar-02	65*	0.13*	ND<1.0	ND<1.0	ND<1.0	ND<1.0	30
MW-3	Jun-98	12,000	300	0.80	ND<0.50	ND<0.50	ND<0.50	150
	Oct-98	6400	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
	Dec-98	5,600	ND<100	1.6	1.4	ND<1.0	ND<1.0	110
	Mar-99	150	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	Jun-99	620	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	Sep-99	1,500	230	ND<0.50	ND<0.50	ND<0.50	ND<0.50	89
	Dec-99	58	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	Mar-00	94	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	Jun-00	240	170	ND<0.5	0.52	ND<0.5	ND<0.5	100
	Sep-00	850	170	0.81	ND<0.50	ND<0.50	ND<0.50	68
	Dec-00	1.6*	0.23*	ND<1.0	ND<1.0	ND<1.0	ND<3.0	80
	Mar-01	1.1*	0.14*	ND<1.0	ND<1.0	ND<1.0	ND<1.0	83
	Jun-01	NS	NS	NS	NS	NS	NS	NS
	Sep-01	3.8*	ND<0.10*	ND<1.0	ND<1.0	ND<1.0	ND<1.0	45
	Dec-01	3.1*	0.34*	1.4	1.1	10	3.8	45
	Mar-02	1.5*	ND<0.10*	ND<1.0	ND<1.0	ND<1.0	ND<1.0	50

Concentrations reported in micrograms per Liter (ug/L).
*Concentrations reported in milligrams per Kilogram (mg/Kg).
MTBE = Methyl-tert-Butyl Ether
ND = Not Detected at or above corresponding reporting limit
NS = Not Sampled

Chart 1
Groundwater Hydrograph - First Quarter 2002
Mission Valley Rock Company
Sunol, California

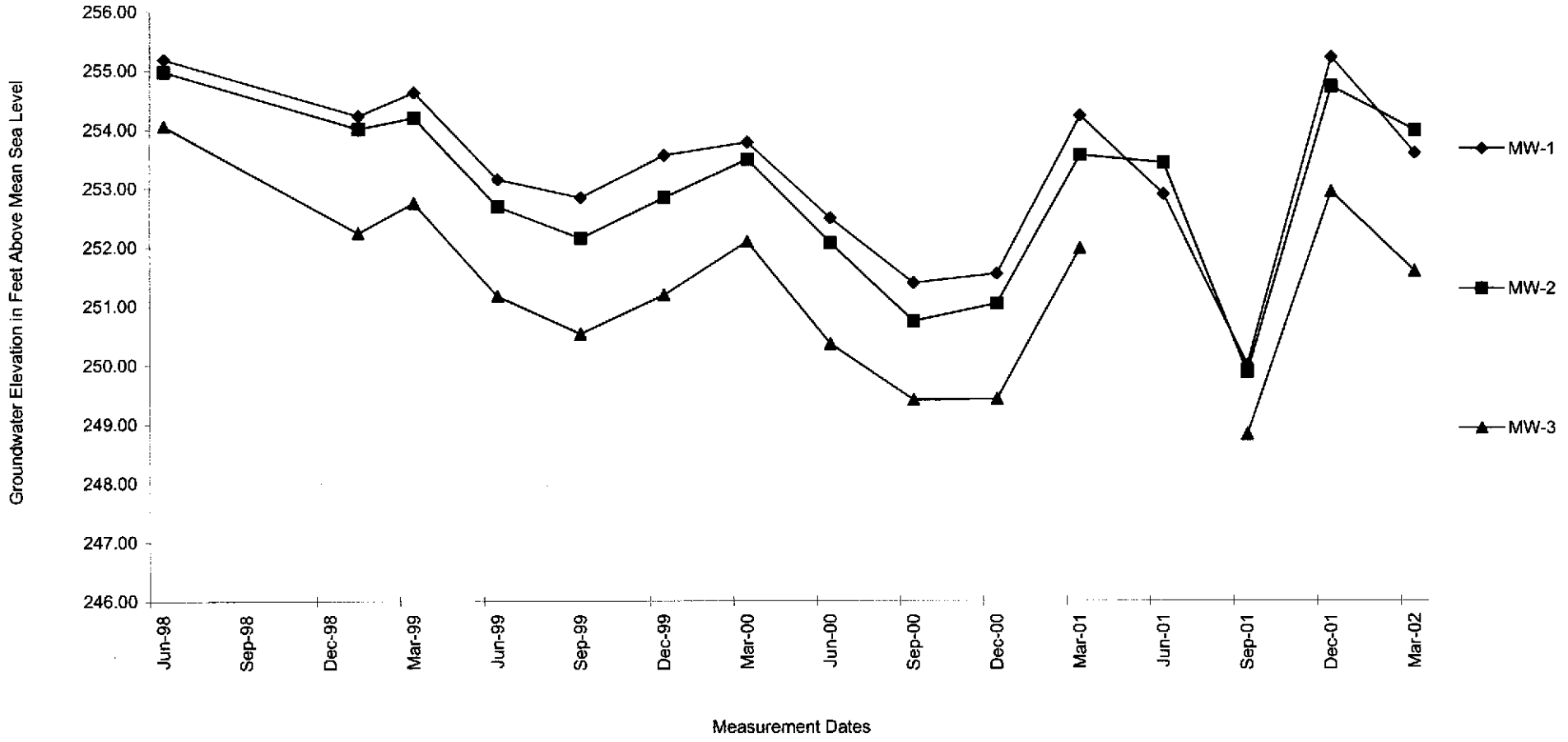


Chart 2
Historical TPHd Concentrations - First Quarter 2002
Mission Valley Rock Company
Sunol, California

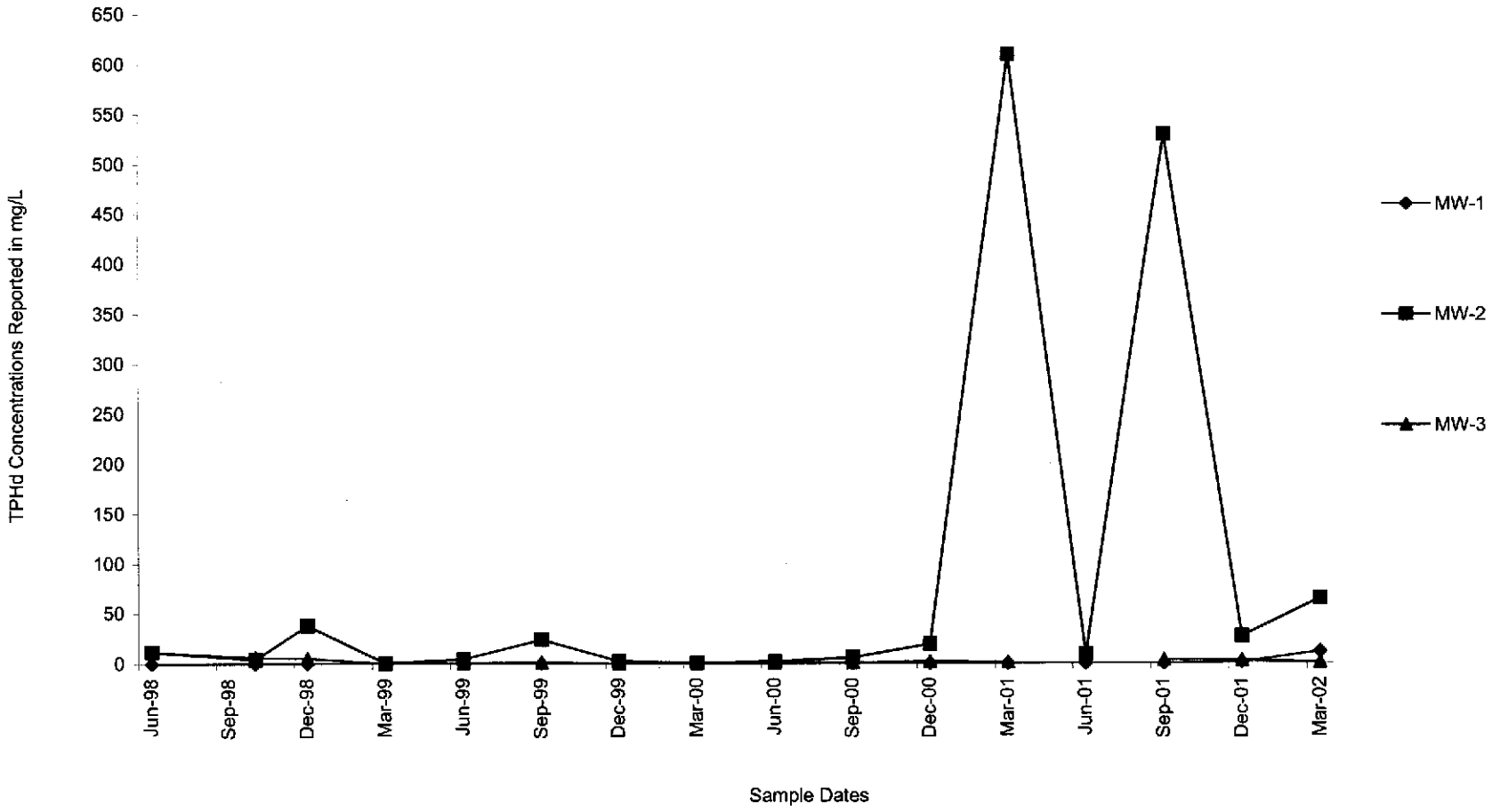


Chart 3
Historical TPHg Concentrations - First Quarter 2002
Mission Valley Rock Company
Sunol, California

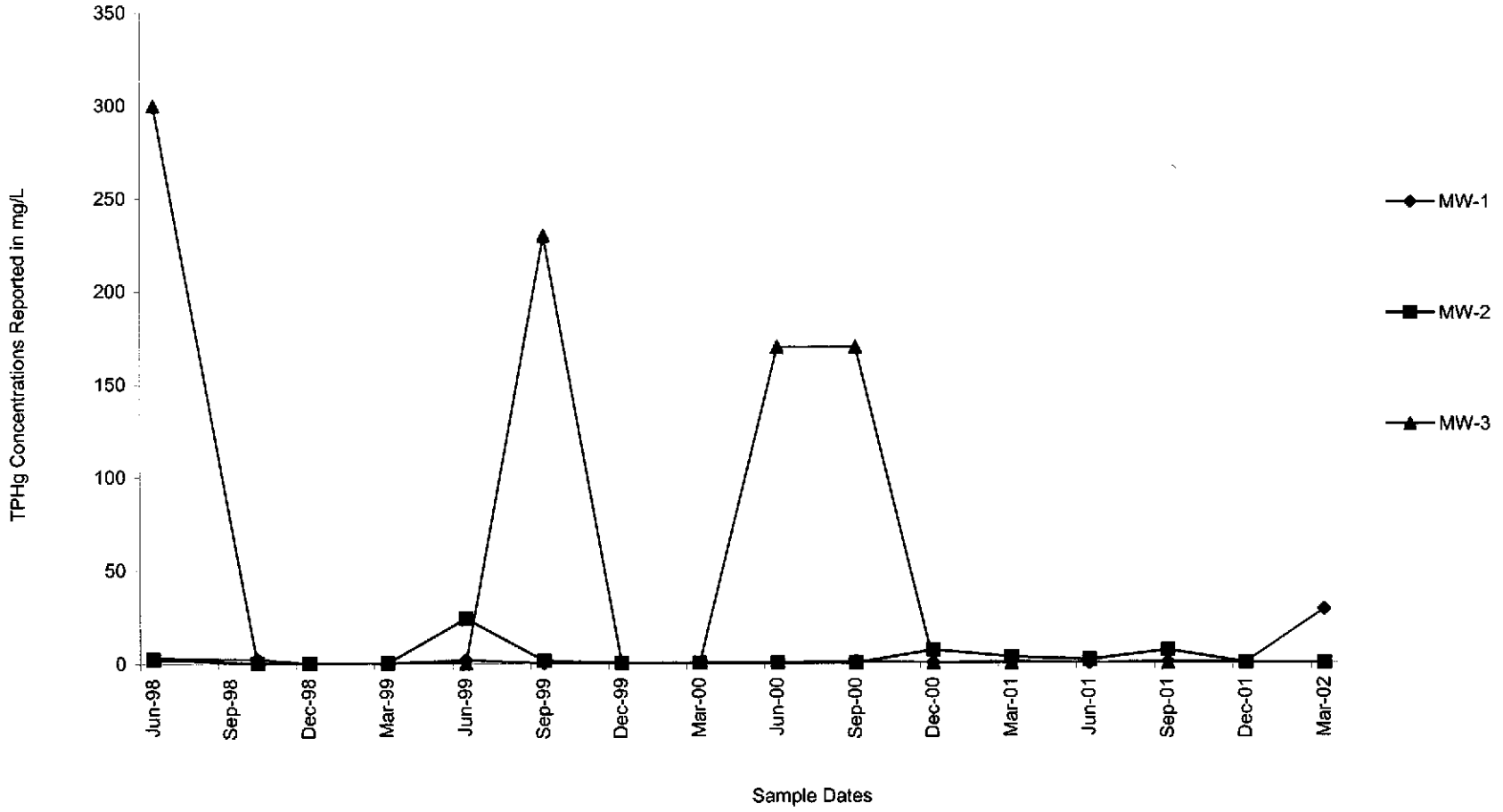


Chart 4
Historical MTBE Concentrations - First Quarter 2002
Mission Valley Rock Company
Sunol, California

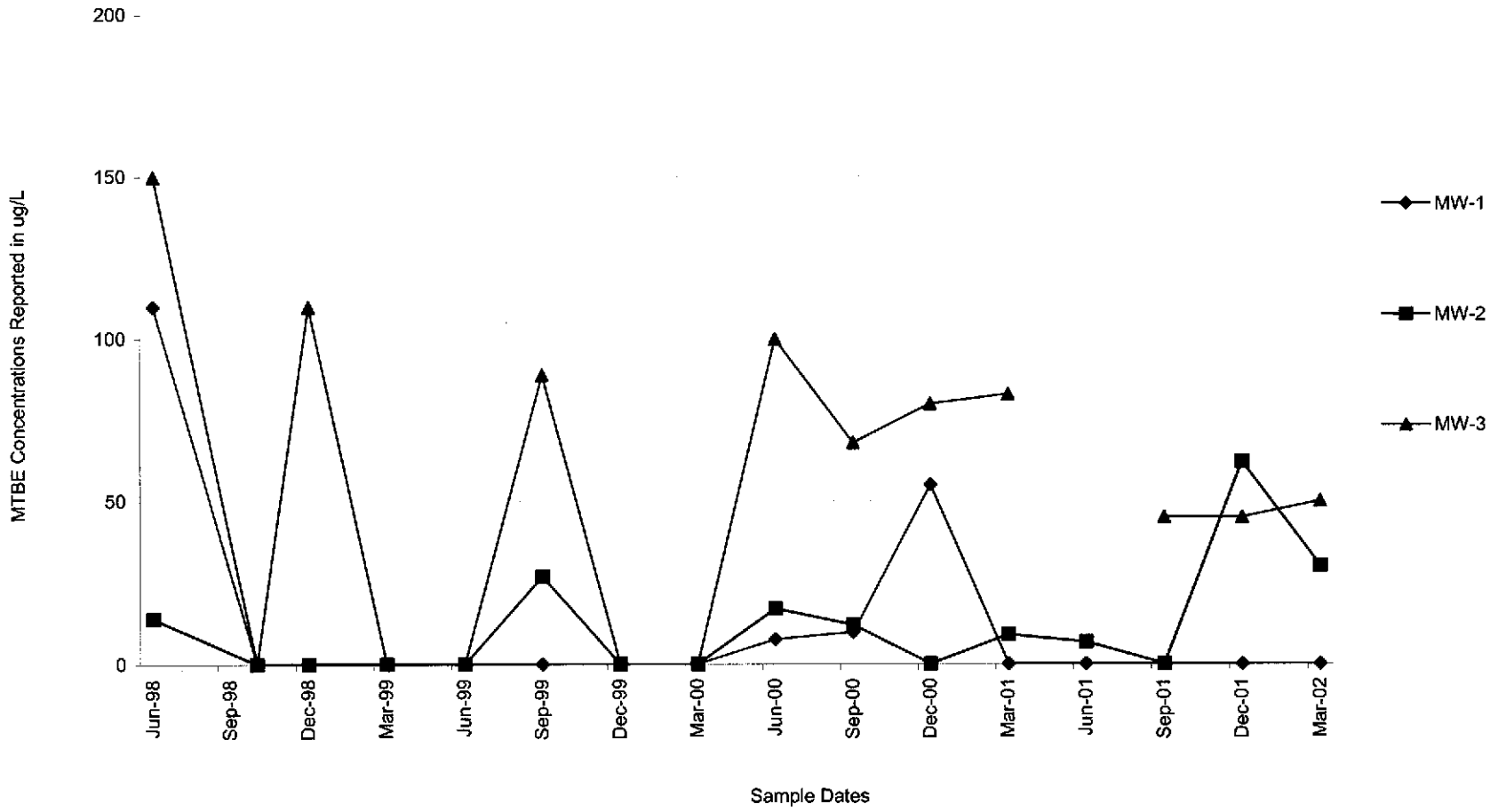


Chart 5
Historical Benzene Concentrations - First Quarter 2002
Mission Valley Rock Company
Sunol, California

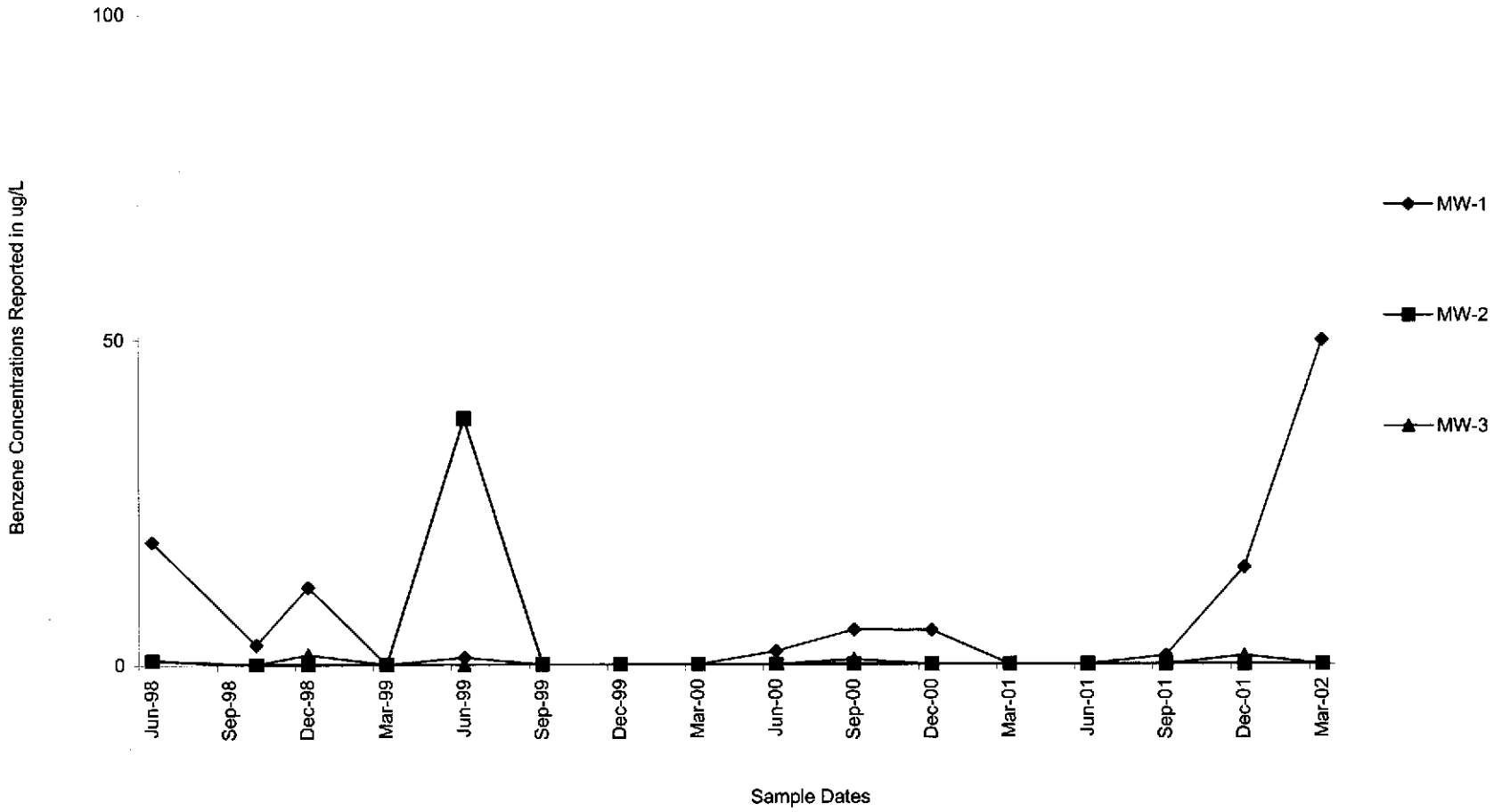
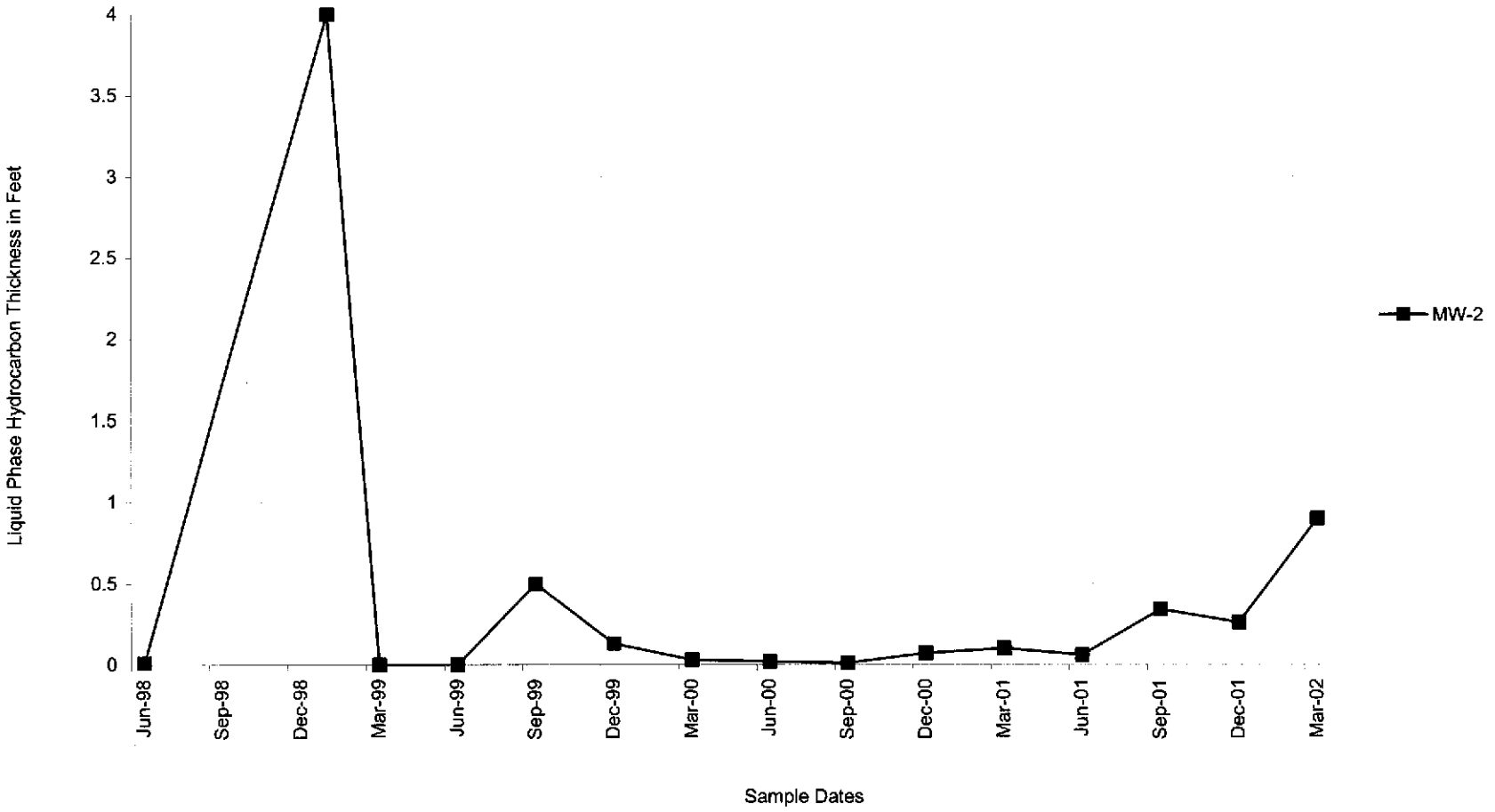


Chart 6
Historical Liquid Phase Hydrocarbon Thickness in Well MW-2 - First Quarter 2002
Mission Valley Rock Company
Sunol, California



TAIT Environmental Management, Inc

Groundwater Sampling Data Sheet

Project Name: Mission Valley Rock	**Date:** 03/29/2002
Project No.: EM-5009	**Prepared By:** Richard Kinder
Well Identification: MW-1	**Pump Intake Depth (ft-bmp):** ~14.42
Measurement Point Description: Top of casing at northside	

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
Not Detected	2.91	15.42	12.51	Not Detected	2.0	6.0

Well Diameter (in)				Gallons/Foot			
				0.75	2	4	6
0.75	**2**	4	6	0.02	**0.16**	0.65	1.47

Field Equipment: Solinst Interface Meter; Horiba U-22 Water Parameter Meter

Purge Method: 12-Volt DC Whale Pump

Well Condition: Poor

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (S/m)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
11:28	1	2.0	0.5	NA	7.18	15.56	>999	0.206	1.13	+65	Gray
11:36	2	4.0	0.3	NA	7.00	15.27	>999	0.207	9.8	+19	Clearing
11:43	3	6.0	0.3	NA	6.96	16.01	476	0.200	4.6	-76	Clearing

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
11:24	11:43	0.3	6.0	3	5.41	NA	11:45	MW-1

Notes: Flow rate adjusted after first reading.

TAIT Environmental Management, Inc

Groundwater Sampling Data Sheet

Project Name: Mission Valley Rock	**Date:** 03/29/2002
Project No.: EM-5009	**Prepared By:** Richard Kinder
Well Identification: MW-2	**Pump Intake Depth (ft-bmp):** ~18.15
Measurement Point Description: Top of casing at northside	

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
2.50	3.40	19.15	15.75	0.90	2.5	7.5

Well Diameter (in)				Gallons/Foot			
				0.75	2	4	6
0.75	**2**	4	6	0.02	**0.16**	0.65	1.47

Field Equipment: Solinst Interface Meter; Horiba U-22 Water Parameter Meter

Purge Method: 12-Volt DC Whale Pump

Well Condition: Poor, Well Box Damaged

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (S/m)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
11:00	1	2.5	0.5	NA	5.52	18.13	>999	0.172	9.3	+84	Silty/Gray
11:06	2	5.0	0.4	NA	6.24	17.79	>999	0.164	9.0	+61	Gray
11:10	3	7.5	0.6	NA	6.63	17.47	490	0.162	10.9	+80	Clearing

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
10:55	11:10	0.5	7.5	3	6.55	5.96	11:25	MW-2

Notes:

TAIT Environmental Management, Inc

Groundwater Sampling Data Sheet

Project Name: Mission Valley Rock	**Date:** 03/29/2002
Project No.: EM-5009	**Prepared By:** Richard Kinder
Well Identification: MW-3	**Pump Intake Depth (ft-bmp):** ~18.15
Measurement Point Description: Top of casing at northside	

Depth to LNAPL (ft-bmp)	Depth to Static Water Level (ft-bmp)	Well Total Depth (ft-bmp)	Water Column Height (ft)	LNAPL Thickness (ft)	One (1) Casing Volume (gallons)	Three (3) Casing Volumes (gallons)
Not Detected	5.12	17.32	12.20	Not Detected	1.9	5.7

Well Diameter (in)				Gallons/Foot			
				0.75	2	4	6
0.75	**2**	4	6	0.02	**0.16**	0.65	1.47

Field Equipment: Solinst Interface Meter; Horiba U-22 Water Parameter Meter

Purge Method: 12-Volt DC Whale Pump

Well Condition: Poor, Well Box Damaged

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (S/m)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
12:05	1	2.0	0.4	NA	7.04	18.68	465	0.189	10.0	-21	Blackish Gray
12:12	2	4.0	0.3	NA	6.86	17.92	308	0.188	7.6	-69	Gray
12:20	3	6.0	0.3	NA	6.87	18.90	208	0.185	3.3	-87	Clearing

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery Water Level Depth	Water Level at Sampling Time (ft-bmp)	Sample Collection Time	Sample Identification
12:00	12:21	0.3	6.0	3	7.56	7.0	12:30	MW-3

Notes:

SEVERN TRENT SERVICES

STL Los Angeles
1721 South Grand Avenue
Santa Ana, CA 92705-4808

Tel: 714 258 8610
Fax: 714 258 0921
www.stl-inc.com

May 6, 2002

STL LOT NUMBER: **E2D020155 AMENDED**

Scott Ek
Tait Environmental
701 Park Center Dr
Santa Ana, CA 92705

Dear Mr. Ek:

This report contains the amended analytical results for the four samples received under chain of custody by STL Los Angeles on April 1, 2002. These samples are associated with your **MISSION VALLEY ROCK** project.

This report supercedes the report initially submitted on April 18, 2002. It is being re-issued to correct the sample identifications (MW-2 and MW-3) which were inadvertently reversed on the chain of custody, per your request on May 2, 2002.

STL Los Angeles certifies that the test results provided in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of the report. NELAP Certification Number for STL Los Angeles is 01118CA.

Any matrix related anomaly is footnoted within the report. A cooler receipt temperature between 2-6 degrees Celsius is within EPA acceptance criteria. The temperature of the cooler received for this project can be found on the Project Receipt Checklist. All applicable quality control procedures met method-specified acceptance criteria except as noted on the following page.

Preliminary results were sent via facsimile on April 12, 2002.

This report contains **000034** pages.

SEVERN
TRENT
SERVICES

STL Los Angeles
1721 South Grand Avenue
Santa Ana, CA 92705-4808

Tel: 714 258 8610
Fax: 714 258 0921
www.stl-inc.com

CASE NARRATIVE

1) Sample Trip Blank was analyzed only for method 8260B not as specified on the chain of custody, per your request on April 3, 2002.

2) There was insufficient sample volume provided to prepare a project-specific MS/MSD for 8015B (TPH Diesel) analysis. A duplicate LCS has been prepared to provide accuracy and precision measurement for the samples in this project.

If you have any questions, please feel free to call me at (714) 258-8610.

Sincerely,

Marisol Tabirara

Marisol Tabirara
Project Manager

cc: Project File

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (0700)

Client	Project Manager	Date	Chain of Custody Number
TAIT ENV MGMT.	SCOTT EK.	3-29-2	051418
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** 1 of
711 N. Parkcenter Dr.	(714) 560-8200		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	**Analysis (Attach list if more space is needed)**
Santa Ana / CA / 92705		Diane Sozuki	
Project Name and Location (State)	**Carrier/Waybill Number**		
Mission Valley Rock			
Contract/Purchase Order/Quote No.			
EM5009			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	TPH-G (8015)	TPH-D (8015)	VOC (8260) BTEX
MW-1	3-29-2	11:45		X			1			6			X	X	X
MW-2		11:25		X			1			6			X	X	X
MW-3		12:30		X			1			6			X	X	X
Trip blank				X						3			X	X	X

000003

Special Instructions/ Conditions of Receipt

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal

☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required

☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☒ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

1. Relinquished By	Date	Time	1. Received By	Date	Time
			Paul Christe	4/1/02	10:00 AM
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

STL LOS ANGELES
PROJECT RECEIPT CHECKLIST

Date: 4/1/02

Quantims Lot #: E21) 020155
Client Name: TAIT
Received by: P.C

Quote #:
Project: MISSION VALLEY ROCK
Date/Time Received: 4/01/02 10.00Am.

Delivered by : ☐Client ☐Airborne ☒Fed Ex ☐DHL ☐In-House Courier ☐Rey B.
☐UPS ☐DES ☐Other

	Initial / Date
Custody Seal Status: ☒Intact ☐Broken ☐None	MLT 4/02/02
Custody Seal #(s): ☐No Seal #	
Sample Container(s): ☐STL-LA ☐Client ☐N/A	
Temperature(s) (Cooler/blank) in °C (4.1) Correction factor -0.1°C (Corrected Temp.) +0	
Thermometer Used : ID: B ☒IR (Infra-red) ☐Digital (Probe)	
Samples: ☐Intact ☐Broken ☐Other	
Anomalies: ☐No ☐Yes (See Clouseau)	
Labeled by	
Labeling checked by	
Turn Around Time: ☐RUSH-24HR ☐RUSH-48HR ☐RUSH-72HR ☒NORMAL	
Short-Hold Notification: ☐Ph ☐Wet Chem ☐Metals (Filter/Pres) ☐Encore ☒N/A	✓
Outside Analysis(es) (Test/Lab/Date Sent Out) :	

********** LEAVE NO BLANK SPACES ; USE N/A **********

Fraction	1->3	STB									PH
VOAh 1*	6.	3									N/A
1L AGB	1										=7

h:HCl na:Sodium Hydoxide znna:Zinc Acetate/Sodium Hydroxide s: H2SO4 n:HNO3 n/f:HNO3-Field filtered n/f/l:HNO3-Lab filtered
CGJ:Clear Glass Jar CGB:Clear Glass Bottle AGJ:Amber Glass Jar AGB:Amber Glass Bottle PB: Poly Bottle E:Encore Sampler V:VOA SL:Sleeve
* Number of VOA's w/ Headspace present

LOGGED BY/DATE: MS 04/02/02 REVIEWED BY/DATE: MS 4/2/02

PRC Ver. 0 081401 XRF

O:\NACA01\ln\Prece\Sample Control Forms

SEVERN TRENT SERVICES

Analytical Report

ANALYTICAL REPORT

PROJECT NO. EM-5009

MISSION VALLEY ROCK

Lot #: E2D020155

Scott Ek

Tait Environmental

SEVERN TRENT LABORATORIES, INC.

Marisol Tabirara
Project Manager

May 6, 2002

EXECUTIVE SUMMARY - Detection Highlights

E2D020155

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
MW-1 03/29/02 11:45 001				
TPH (as Diesel)	29	5.0	mg/L	SW846 8015B
TPH (as Gasoline)	12	5.0	mg/L	SW846 8015B
Benzene	50	25	ug/L	SW846 8260B
Ethylbenzene	960	25	ug/L	SW846 8260B
m-Xylene & p-Xylene	290	25	ug/L	SW846 8260B
MW-3 03/29/02 11:25 002				
TPH (as Diesel)	1.5	1.0	mg/L	SW846 8015B
Methyl tert-butyl ether	50	1.0	ug/L	SW846 8260B
MW-2 03/29/02 12:30 003				
TPH (as Diesel)	65	10	mg/L	SW846 8015B
TPH (as Gasoline)	0.13	0.10	mg/L	SW846 8015B
Methyl tert-butyl ether	30	1.0	ug/L	SW846 8260B

METHODS SUMMARY

E2D020155

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Extractable Petroleum Hydrocarbons	SW846 8015B	SW846 3510
Volatile Organics by GC/MS	SW846 8260B	SW846 5030B/826
Volatile Petroleum Hydrocarbons	SW846 8015B	SW846 5030

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

E2D020155

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
EW84X	001	MW-1	03/29/02	11:45
EW85C	002	MW-3	03/29/02	11:25
EW85D	003	MW-2	03/29/02	12:30
EW85E	004	TRIP BLANK	03/29/02	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

TAIT ENVIRONMENTAL

Client Sample ID: MW-1

GC/MS Volatiles

Lot-Sample #...:	E2D020155-001	**Work Order #...:**	EW84X1AD	**Matrix.....:**	WATER
Date Sampled...:	03/29/02 11:45	**Date Received..:**	04/01/02 10:00	**MS Run #.....:**	2093257
Prep Date.....:	04/02/02	**Analysis Date..:**	04/03/02		
Prep Batch #...:	2093505	**Analysis Time..:**	04:35		
Dilution Factor:	25				
Analyst ID.....:	015590	**Instrument ID..:**	MSC		
		Method.....:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methyl tert-butyl ether	ND	25	ug/L
Benzene	**50**	**25**	**ug/L**
Toluene	ND	25	ug/L
Ethylbenzene	**960**	**25**	**ug/L**
m-Xylene & p-Xylene	**290**	**25**	**ug/L**
o-Xylene	ND	25	ug/L
Tert-amyl methyl ether	ND	50	ug/L
Tert-butyl ethyl ether	ND	50	ug/L
t-Butanol	ND	620	ug/L
Isopropyl ether	ND	50	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	107	(75 - 130)
1,2-Dichloroethane-d4	79	(65 - 135)
Toluene-d8	110	(80 - 130)

TAIT ENVIRONMENTAL

Client Sample ID: MW-1

GC Volatiles

Lot-Sample #...:	E2D020155-001	**Work Order #...:**	EW84X1AC	**Matrix.....:**	WATER
Date Sampled...:	03/29/02 11:45	**Date Received..:**	04/01/02 10:00	**MS Run #.....:**	2095173
Prep Date.....:	04/02/02	**Analysis Date..:**	04/02/02		
Prep Batch #...:	2095348	**Analysis Time..:**	13:04		
Dilution Factor:	50				
Analyst ID.....:	001464	**Instrument ID..:**	G15		
		Method.....:	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	**12**	**5.0**	**mg/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	108	(60 - 130)

TAIT ENVIRONMENTAL

Client Sample ID: MW-1

GC Semivolatiles

Lot-Sample #...:	E2D020155-001	**Work Order #...:**	EW84X1AA	**Matrix.....:**	WATER
Date Sampled...:	03/29/02 11:45	**Date Received..:**	04/01/02 10:00	**MS Run #.....:**	
Prep Date.....:	04/03/02	**Analysis Date..:**	04/04/02		
Prep Batch #...:	2093392	**Analysis Time..:**	08:58		
Dilution Factor:	5				
Analyst ID.....:	356074	**Instrument ID..:**	G03		
		Method.....:	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	**29**	**5.0**	**mg/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Benzo(a)pyrene	102	(65 - 135)

NOTE(S):

The pattern does not match diesel. C range- before C10to C24.

TAIT ENVIRONMENTAL

Client Sample ID: MW-3

GC/MS Volatiles

Lot-Sample #...: E2D020155-002 **Work Order #...:** EW85C1AD **Matrix.....:** WATER
Date Sampled...: 03/29/02 11:25 **Date Received..:** 04/01/02 10:00 **MS Run #.....:** 2093257
Prep Date.....: 04/02/02 **Analysis Date..:** 04/03/02
Prep Batch #...: 2093505 **Analysis Time..:** 03:36
Dilution Factor: 1
Analyst ID.....: 015590 **Instrument ID..:** MSC
Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methyl tert-butyl ether	**50**	**1.0**	**ug/L**
Benzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L
o-Xylene	ND	1.0	ug/L
Tert-amyl methyl ether	ND	2.0	ug/L
Tert-butyl ethyl ether	ND	2.0	ug/L
t-Butanol	ND	25	ug/L
Isopropyl ether	ND	2.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	108	(75 - 130)
1,2-Dichloroethane-d4	84	(65 - 135)
Toluene-d8	108	(80 - 130)

TAIT ENVIRONMENTAL

Client Sample ID: MW-3

GC Volatiles

Lot-Sample #...:	E2D020155-002	**Work Order #...:**	EW85C1AC	**Matrix.....:**	WATER
Date Sampled...:	03/29/02 11:25	**Date Received..:**	04/01/02 10:00	**MS Run #.....:**	2095173
Prep Date.....:	04/02/02	**Analysis Date..:**	04/02/02		
Prep Batch #...:	2095348	**Analysis Time..:**	12:37		
Dilution Factor:	1				
Analyst ID.....:	001464	**Instrument ID..:**	G15		
		Method.....:	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	ND	0.10	mg/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	94	(60 - 130)

TAIT ENVIRONMENTAL

Client Sample ID: MW-3

GC Semivolatiles

Lot-Sample #...:	E2D020155-002	**Work Order #...:**	EW85C1AA	**Matrix.....:**	WATER
Date Sampled...:	03/29/02 11:25	**Date Received..:**	04/01/02 10:00	**MS Run #.....:**	
Prep Date.....:	04/03/02	**Analysis Date..:**	04/03/02		
Prep Batch #...:	2093392	**Analysis Time..:**	19:17		
Dilution Factor:	1				
Analyst ID.....:	356074	**Instrument ID..:**	G03		
		Method.....:	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	**1.5**	**1.0**	**mg/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Benzo(a)pyrene	101	(65 - 135)

NOTE(S):

The pattern elutes within the diesel range but does not match diesel. C range- C12 to C24.

TAIT ENVIRONMENTAL

Client Sample ID: MW-2

GC/MS Volatiles

Lot-Sample #...:	E2D020155-003	**Work Order #...:**	EW85D1AD	**Matrix.....:**	WATER
Date Sampled...:	03/29/02 12:30	**Date Received..:**	04/01/02 10:00	**MS Run #.....:**	2093257
Prep Date.....:	04/02/02	**Analysis Date..:**	04/03/02		
Prep Batch #...:	2093505	**Analysis Time..:**	04:06		
Dilution Factor:	1				
Analyst ID.....:	015590	**Instrument ID..:**	MSC		
		Method.....:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methyl tert-butyl ether	**30**	**1.0**	**ug/L**
Benzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L
o-Xylene	ND	1.0	ug/L
Tert-amyl methyl ether	ND	2.0	ug/L
Tert-butyl ethyl ether	ND	2.0	ug/L
t-Butanol	ND	25	ug/L
Isopropyl ether	ND	2.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	108	(75 - 130)
1,2-Dichloroethane-d4	83	(65 - 135)
Toluene-d8	106	(80 - 130)

TAIT ENVIRONMENTAL

Client Sample ID: MW-2

GC Volatiles

Lot-Sample #...:	E2D020155-003	**Work Order #...:**	EW85D1AC	**Matrix.....:**	WATER
Date Sampled...:	03/29/02 12:30	**Date Received..:**	04/01/02 10:00	**MS Run #.....:**	2095173
Prep Date.....:	04/02/02	**Analysis Date..:**	04/02/02		
Prep Batch #...:	2095348	**Analysis Time..:**	14:26		
Dilution Factor:	1				
Analyst ID.....:	001464	**Instrument ID..:**	G15		
		Method.....:	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Gasoline)	**0.13**	**0.10**	**mg/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	91	(60 - 130)

TAIT ENVIRONMENTAL

Client Sample ID: MW-2

GC Semivolatiles

Lot-Sample #...:	E2D020155-003	**Work Order #...:**	EW85D1AA	**Matrix.....:**	WATER
Date Sampled...:	03/29/02 12:30	**Date Received..:**	04/01/02 10:00	**MS Run #.....:**	
Prep Date.....:	04/03/02	**Analysis Date..:**	04/04/02		
Prep Batch #...:	2093392	**Analysis Time..:**	09:41		
Dilution Factor:	10				
Analyst ID.....:	356074	**Instrument ID..:**	G03		
		Method.....:	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
TPH (as Diesel)	**65**	**10**	**mg/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Benzo(a)pyrene	101	(65 - 135)

NOTE(S):

The pattern is similar to diesel but not a perfect match with the diesel standard used for calibration.
C range-C10 to beyond C24.

TAIT ENVIRONMENTAL

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #...: E2D020155-004	**Work Order #...:** EW85E1AC	**Matrix.....:** WATER
Date Sampled...: 03/29/02	**Date Received..:** 04/01/02 10:00	**MS Run #.....:** 2093257
Prep Date.....: 04/02/02	**Analysis Date..:** 04/02/02	
Prep Batch #...: 2093505	**Analysis Time..:** 23:40	
Dilution Factor: 1		
Analyst ID.....: 015590	**Instrument ID..:** MSC	
	Method.....: SW846 8260B	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methyl tert-butyl ether	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L
o-Xylene	ND	1.0	ug/L
Tert-amyl methyl ether	ND	2.0	ug/L
Tert-butyl ethyl ether	ND	2.0	ug/L
t-Butanol	ND	25	ug/L
Isopropyl ether	ND	2.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	105	(75 - 130)
1,2-Dichloroethane-d4	76	(65 - 135)
Toluene-d8	106	(80 - 130)

SEVERN
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SERVICES

QA/QC

QC DATA ASSOCIATION SUMMARY

E2D020155

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WATER	SW846 8015B		2093392	
	WATER	SW846 8015B		2095348	2095173
	WATER	SW846 8260B		2093505	2093257
002	WATER	SW846 8015B		2093392	
	WATER	SW846 8015B		2095348	2095173
	WATER	SW846 8260B		2093505	2093257
003	WATER	SW846 8015B		2093392	
	WATER	SW846 8015B		2095348	2095173
	WATER	SW846 8260B		2093505	2093257
004	WATER	SW846 8260B		2093505	2093257

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E2D020155 **Work Order #...:** EXCRF1AA **Matrix.....:** WATER
MB Lot-Sample #: E2D030000-505

Prep Date.....: 04/02/02 **Analysis Time..:** 21:34
Analysis Date..: 04/02/02 **Prep Batch #...:** 2093505 **Instrument ID..:** MSC
Dilution Factor: 1

Analyst ID.....: 015590

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Methyl tert-butyl ether	ND	1.0	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
m-Xylene & p-Xylene	ND	1.0	ug/L	SW846 8260B
o-Xylene	ND	1.0	ug/L	SW846 8260B
Tert-amyl methyl ether	ND	2.0	ug/L	SW846 8260B
Tert-butyl ethyl ether	ND	2.0	ug/L	SW846 8260B
t-Butanol	ND	25	ug/L	SW846 8260B
Isopropyl ether	ND	2.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	98	(75 - 130)
1,2-Dichloroethane-d4	67	(65 - 135)
Toluene-d8	97	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: E2D020155 **Work Order #...:** EXGJX1AA **Matrix.....:** WATER
MB Lot-Sample #: E2D050000-348

Prep Date.....: 04/02/02 **Analysis Time..:** 11:43
Analysis Date..: 04/02/02 **Prep Batch #...:** 2095348 **Instrument ID..:** G15
Dilution Factor: 1

Analyst ID.....: 001464

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
TPH (as Gasoline)	ND	0.10	mg/L	SW846 8015B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	95	(60 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: E2D020155 **Work Order #...:** EXCD81AA **Matrix.....:** WATER
MB Lot-Sample #: E2D030000-392

Prep Date.....: 04/03/02 **Analysis Time..:** 16:26
Analysis Date..: 04/03/02 **Prep Batch #...:** 2093392 **Instrument ID..:** G03
Dilution Factor: 1

Analyst ID.....: 356074

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
TPH (as Diesel)	ND	1.0	mg/L	SW846 8015B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Benzo(a)pyrene	105	(65 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: E2D020155 **Work Order #...:** EXCRF1AC **Matrix.....:** WATER
LCS Lot-Sample#: E2D030000-505
Prep Date.....: 04/02/02 **Analysis Date..:** 04/02/02
Prep Batch #...: 2093505 **Analysis Time..:** 22:03
Dilution Factor: 1 **Instrument ID..:** MSC
Analyst ID.....: 015590

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Chlorobenzene	**99**	**(75 - 120)**	**SW846 8260B**
1,1-Dichloroethene	**92**	**(70 - 140)**	**SW846 8260B**
Trichloroethene	**94**	**(70 - 130)**	**SW846 8260B**
Benzene	**105**	**(75 - 120)**	**SW846 8260B**
Toluene	**101**	**(75 - 125)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	105	(75 - 130)
1,2-Dichloroethane-d4	72	(65 - 135)
Toluene-d8	105	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E2D020155 **Work Order #...:** EXCRF1AC **Matrix.....:** WATER
LCS Lot-Sample#: E2D030000-505
Prep Date.....: 04/02/02 **Analysis Date..:** 04/02/02
Prep Batch #...: 2093505 **Analysis Time..:** 22:03
Dilution Factor: 1 **Instrument ID..:** MSC
Analyst ID.....: 015590

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Chlorobenzene	**10.0**	**9.89**	**ug/L**	**99**	**SW846 8260B**
1,1-Dichloroethene	**10.0**	**9.16**	**ug/L**	**92**	**SW846 8260B**
Trichloroethene	**10.0**	**9.36**	**ug/L**	**94**	**SW846 8260B**
Benzene	**10.0**	**10.5**	**ug/L**	**105**	**SW846 8260B**
Toluene	**10.0**	**10.1**	**ug/L**	**101**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	105	(75 - 130)
1,2-Dichloroethane-d4	72	(65 - 135)
Toluene-d8	105	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: E2D020155 **Work Order #...:** EXGJX1AC **Matrix.....:** WATER
LCS Lot-Sample#: E2D050000-348
Prep Date.....: 04/02/02 **Analysis Date..:** 04/02/02
Prep Batch #...: 2095348 **Analysis Time..:** 12:10
Dilution Factor: 1 **Instrument ID..:** G15
Analyst ID.....: 001464

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
TPH (as Gasoline)	**89**	**(70 - 140)**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	110	(60 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC Volatiles

Client Lot #...: E2D020155 **Work Order #...:** EXGJX1AC **Matrix.....:** WATER
LCS Lot-Sample#: E2D050000-348
Prep Date.....: 04/02/02 **Analysis Date..:** 04/02/02
Prep Batch #...: 2095348 **Analysis Time..:** 12:10
Dilution Factor: 1 **Instrument ID..:** G15
Analyst ID.....: 001464

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
TPH (as Gasoline)	**1.00**	**0.889**	**mg/L**	**89**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	110	(60 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: E2D020155 **Work Order #...:** EXCD81AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: E2D030000-392 EXCD81AD-LCSD
Prep Date.....: 04/03/02 **Analysis Date..:** 04/03/02
Prep Batch #...: 2093392 **Analysis Time..:** 17:09
Dilution Factor: 1 **Instrument ID..:** G03
Analyst ID.....: 356074

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
TPH (as Diesel)	**100**	**(65 - 140)**			**SW846 8015B**
	100	**(65 - 140)**	**0.56**	**(0-25)**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Benzo(a)pyrene	106	(65 - 135)
	106	(65 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC Semivolatiles

Client Lot #...: E2D020155 **Work Order #...:** EXCD81AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: E2D030000-392 EXCD81AD-LCSD
Prep Date.....: 04/03/02 **Analysis Date..:** 04/03/02
Prep Batch #...: 2093392 **Analysis Time..:** 17:09
Dilution Factor: 1 **Instrument ID..:** G03
Analyst ID.....: 356074

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
TPH (as Diesel)	**5.00**	**5.02**	**mg/L**	**100**		**SW846 8015B**
	5.00	**4.99**	**mg/L**	**100**	**0.56**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Benzo(a)pyrene	106	(65 - 135)
	106	(65 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...:	E2D020155	**Work Order #...:**	EW9Q01AD-MS	**Matrix.....:**	WATER
MS Lot-Sample #:	E2D020249-001		EW9Q01AE-MSD		
Date Sampled...:	04/02/02 10:30	**Date Received..:**	04/02/02 13:50	**MS Run #.....:**	2093257
Prep Date.....:	04/02/02	**Analysis Date..:**	04/03/02		
Prep Batch #...:	2093505	**Analysis Time..:**	02:37		
Dilution Factor:	1	**Analyst ID.....:**	015590	**Instrument ID..:**	MSC

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Chlorobenzene	**103**	**(75 - 120)**			**SW846 8260B**
	102	**(75 - 120)**	**0.29**	**(0-25)**	**SW846 8260B**
1,1-Dichloroethene	**97**	**(70 - 140)**			**SW846 8260B**
	95	**(70 - 140)**	**1.4**	**(0-25)**	**SW846 8260B**
Trichloroethene	**98**	**(70 - 130)**			**SW846 8260B**
	95	**(70 - 130)**	**2.7**	**(0-25)**	**SW846 8260B**
Benzene	**106**	**(75 - 120)**			**SW846 8260B**
	103	**(75 - 120)**	**2.9**	**(0-25)**	**SW846 8260B**
Toluene	**104**	**(75 - 125)**			**SW846 8260B**
	101	**(75 - 125)**	**2.4**	**(0-25)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	113	(75 - 130)
	111	(75 - 130)
1,2-Dichloroethane-d4	88	(65 - 135)
	87	(65 - 135)
Toluene-d8	113	(80 - 130)
	113	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...:	E2D020155	**Work Order #...:**	EW9Q01AD-MS	**Matrix.....:**	WATER
MS Lot-Sample #:	E2D020249-001		EW9Q01AE-MSD		
Date Sampled...:	04/02/02 10:30	**Date Received..:**	04/02/02 13:50	**MS Run #.....:**	2093257
Prep Date.....:	04/02/02	**Analysis Date..:**	04/03/02		
Prep Batch #...:	2093505	**Analysis Time..:**	02:37		
Dilution Factor:	1	**Analyst ID.....:**	015590	**Instrument ID..:**	MSC

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Chlorobenzene	**ND**	**10.0**	**10.3**	**ug/L**	**103**		**SW846 8260B**
	ND	**10.0**	**10.2**	**ug/L**	**102**	**0.29**	**SW846 8260B**
1,1-Dichloroethene	**ND**	**10.0**	**9.68**	**ug/L**	**97**		**SW846 8260B**
	ND	**10.0**	**9.54**	**ug/L**	**95**	**1.4**	**SW846 8260B**
Trichloroethene	**ND**	**10.0**	**9.80**	**ug/L**	**98**		**SW846 8260B**
	ND	**10.0**	**9.54**	**ug/L**	**95**	**2.7**	**SW846 8260B**
Benzene	**ND**	**10.0**	**10.6**	**ug/L**	**106**		**SW846 8260B**
	ND	**10.0**	**10.3**	**ug/L**	**103**	**2.9**	**SW846 8260B**
Toluene	**ND**	**10.0**	**10.4**	**ug/L**	**104**		**SW846 8260B**
	ND	**10.0**	**10.1**	**ug/L**	**101**	**2.4**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	113	(75 - 130)
	111	(75 - 130)
1,2-Dichloroethane-d4	88	(65 - 135)
	87	(65 - 135)
Toluene-d8	113	(80 - 130)
	113	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...:	E2D020155	**Work Order #...:**	EW85D1AE-MS	**Matrix.....:**	WATER
MS Lot-Sample #:	E2D020155-003		EW85D1AF-MSD		
Date Sampled...:	03/29/02 12:30	**Date Received..:**	04/01/02 10:00	**MS Run #.....:**	2095173
Prep Date.....:	04/02/02	**Analysis Date..:**	04/02/02		
Prep Batch #...:	2095348	**Analysis Time..:**	14:53		
Dilution Factor:	1	**Analyst ID.....:**	001464	**Instrument ID..:**	G15

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
TPH (as Gasoline)	**89**	**(70 - 140)**			**SW846 8015B**
	118	**(70 - 140)**	**25**	**(0-25)**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	118	(60 - 130)
	120	(60 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC Volatiles

Client Lot #...:	E2D020155	**Work Order #...:**	EW85D1AE-MS	**Matrix.....:**	WATER
MS Lot-Sample #:	E2D020155-003		EW85D1AF-MSD		
Date Sampled...:	03/29/02 12:30	**Date Received..:**	04/01/02 10:00	**MS Run #.....:**	2095173
Prep Date.....:	04/02/02	**Analysis Date..:**	04/02/02		
Prep Batch #...:	2095348	**Analysis Time..:**	14:53		
Dilution Factor:	1	**Analyst ID.....:**	001464	**Instrument ID..:**	G15

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
TPH (as Gasoline)	**0.13**	**1.00**	**1.02**	**mg/L**	**89**		**SW846 8015B**
	0.13	**1.00**	**1.31**	**mg/L**	**118**	**25**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	118	(60 - 130)
	120	(60 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters