

**MISSION VALLEY / ROCK COMPANY  
ASPHALT COMPANY  
READY MIX COMPANY**

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

January 29, 2002

JAN 31 2002

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

Dear Mr. Seery:

Submitted herewith is the fourth 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

JAN 31 2002

**Groundwater Monitoring Report  
Fourth Quarter 2001**

Mission Valley Rock Company  
7999 Athenour Way  
Sunol, California

Prepared by:  
**Tait Environmental Management, Inc.**

*January 21, 2002*

January 21, 2002

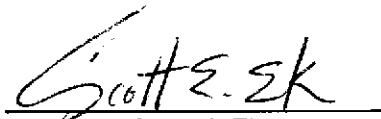
**Groundwater Monitoring Report  
Fourth Quarter 2001**


Mission Valley Rock Company  
7999 Athenour Way  
Sunol, California

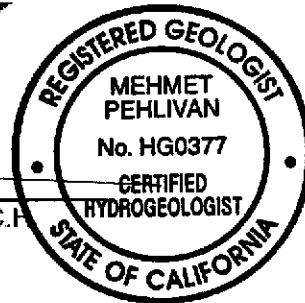
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Mission Valley Rock Company  
7999 Athenour Way  
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**Tait Environmental Management**  
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Project No. EM-5009

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**GROUNDWATER MONITORING REPORT - FOURTH QUARTER 2001  
MISSION VALLEY ROCK COMPANY  
SUNOL, CALIFORNIA**

**1.0 INTRODUCTION**

Tait Environmental Management, Inc. (TEM) is pleased to submit this Third Quarter 2001 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, Third 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 December 27, 2001 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 was observed in monitoring well MW-2. No LPH was observed in monitoring wells MW-1 and MW-3. A historical summary of the presence of LPH and corresponding thickness is presented in Table 3 and plotted over time in Chart 5 (Appendix A).

Based on the data, the depth to groundwater measured at the Site averaged 2.41 feet below ground surface (bgs). The apparent groundwater flow direction is to the East with a groundwater gradient of approximately 0.02 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 6. 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 2.41 feet bgs. The groundwater flow direction is to the East with a groundwater gradient of approximately 0.02 ft/ft.
- LPH (0.26') was observed in monitoring well MW-2.
- The highest TPHd concentration (1.0 milligrams per Liter [mg/L]) was detected in the groundwater sample collected from well MW-2. The TPHg concentration (0.50 mg/L) was detected in the groundwater sample collected from well MW-1.
- Benzene concentrations were reported in the groundwater samples collected from well MW-1 and MW-3 at 15 micrograms per Liter ( $\mu\text{g/L}$ ) and 1.4  $\mu\text{g/L}$ , respectively.
- MTBE concentrations were reported in the groundwater samples collected from well MW-2 and MW-3 at 62  $\mu\text{g/L}$  and 45  $\mu\text{g/L}$ , respectively; and

- Interpretation of Charts 2 through 5 would indicate that TPHd, TPHg, MTBE, and Benzene have shown an overall decrease or remained stable since groundwater sampling began in June 1998. The exception to this is well MW-2 which has shown a slight increase in MTBE and MW-1 which has shown a slight increase in benzene concentrations since September 2001 (Third Quarter).
- The depth to static groundwater at the Site has risen this quarter. The wells at the Site are now 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 all free-phase product, and record field observations and measurements.

## **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.

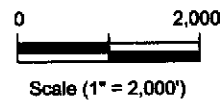
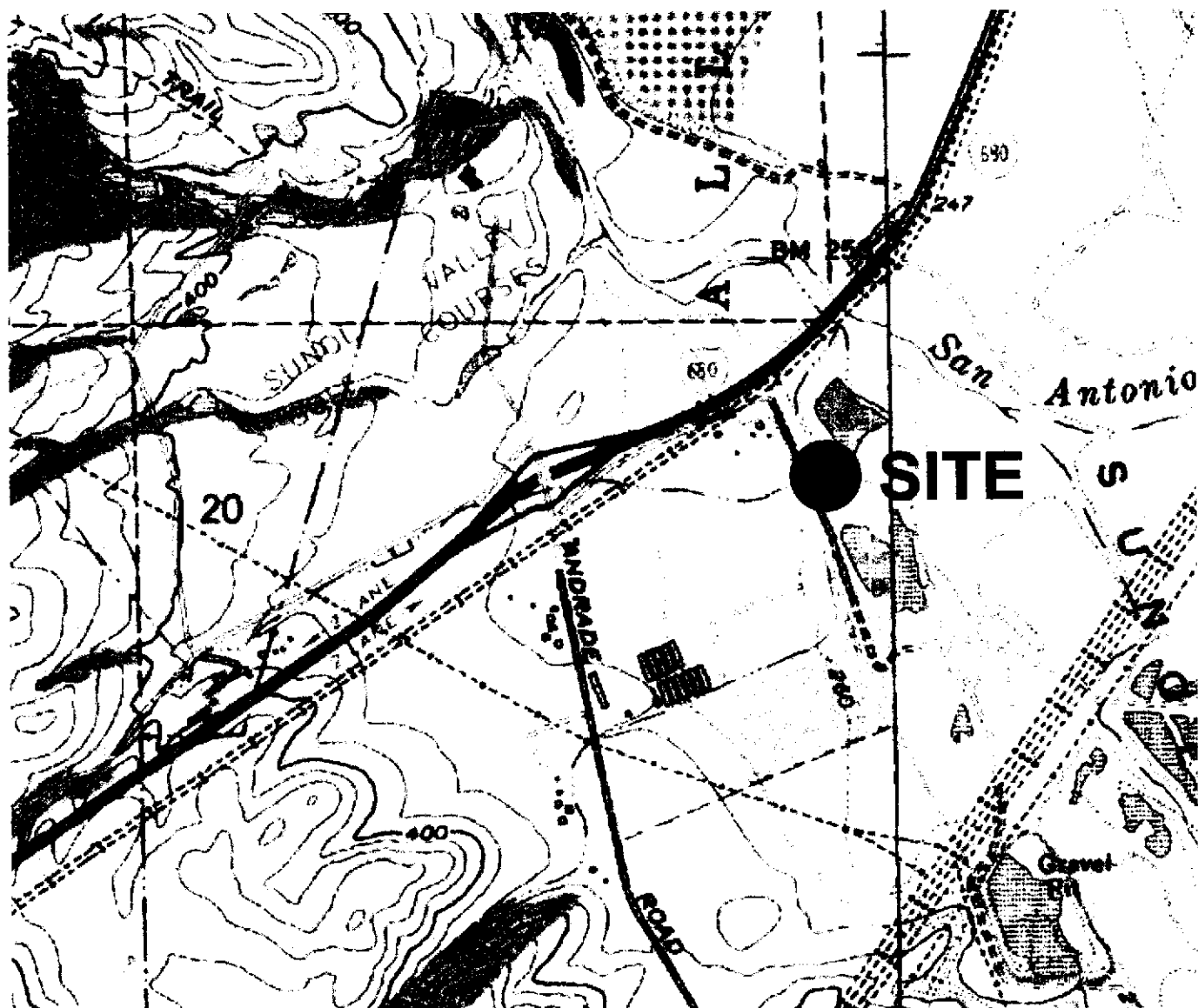
## **8.0 LIMITATIONS**

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.





**LEGEND**

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



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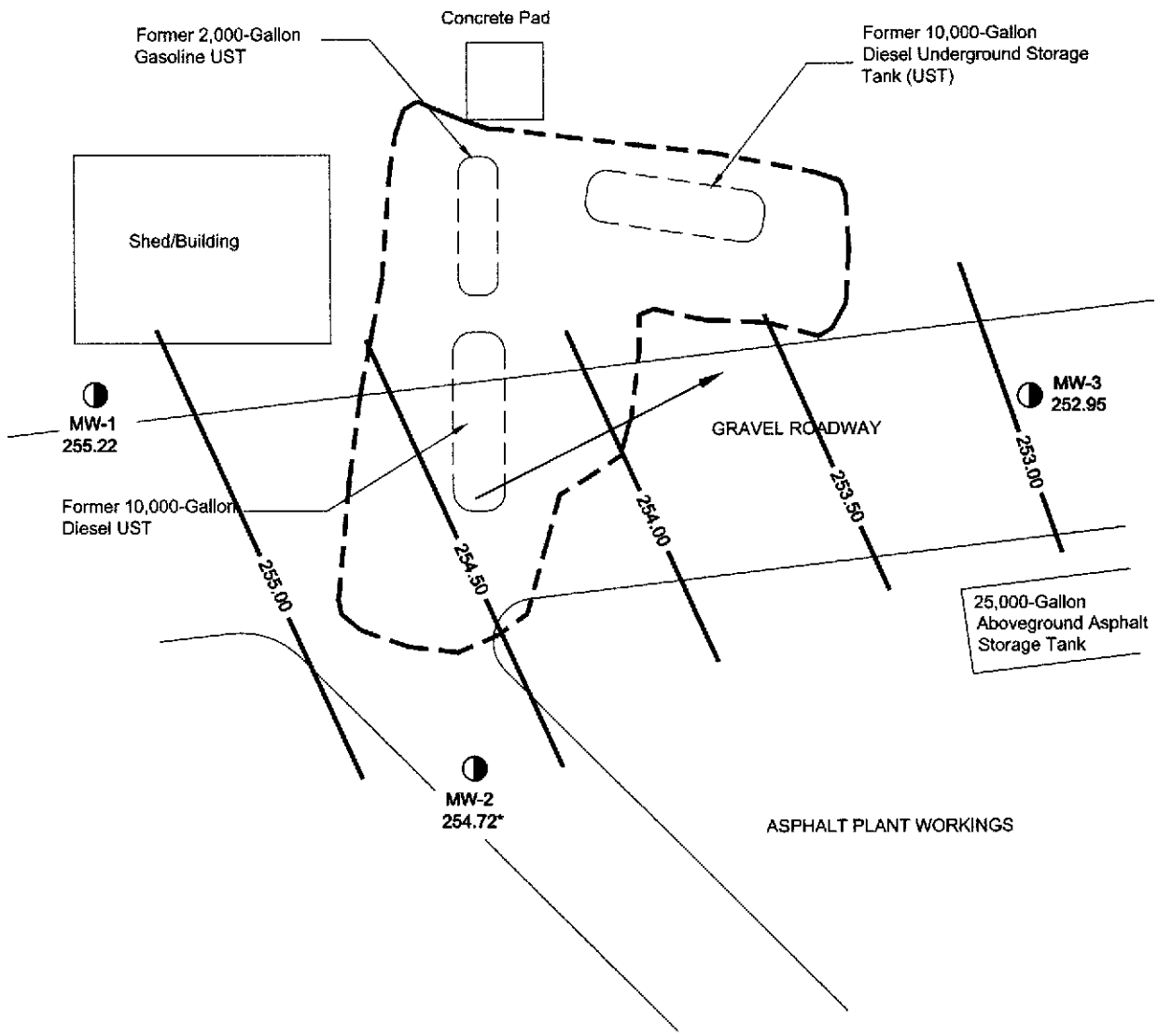
ENVIRONMENTAL MANAGEMENT, INC.

**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

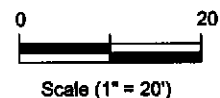

**MW-1**      Groundwater monitoring well location with groundwater elevation in feet above mean sea level (ft-msl)  
 255.22


 255.00      Groundwater elevation contour in feet-msl


                     General direction of groundwater flow


                     Approximate limits of former UST excavation

254.72\*      Corrected groundwater elevation



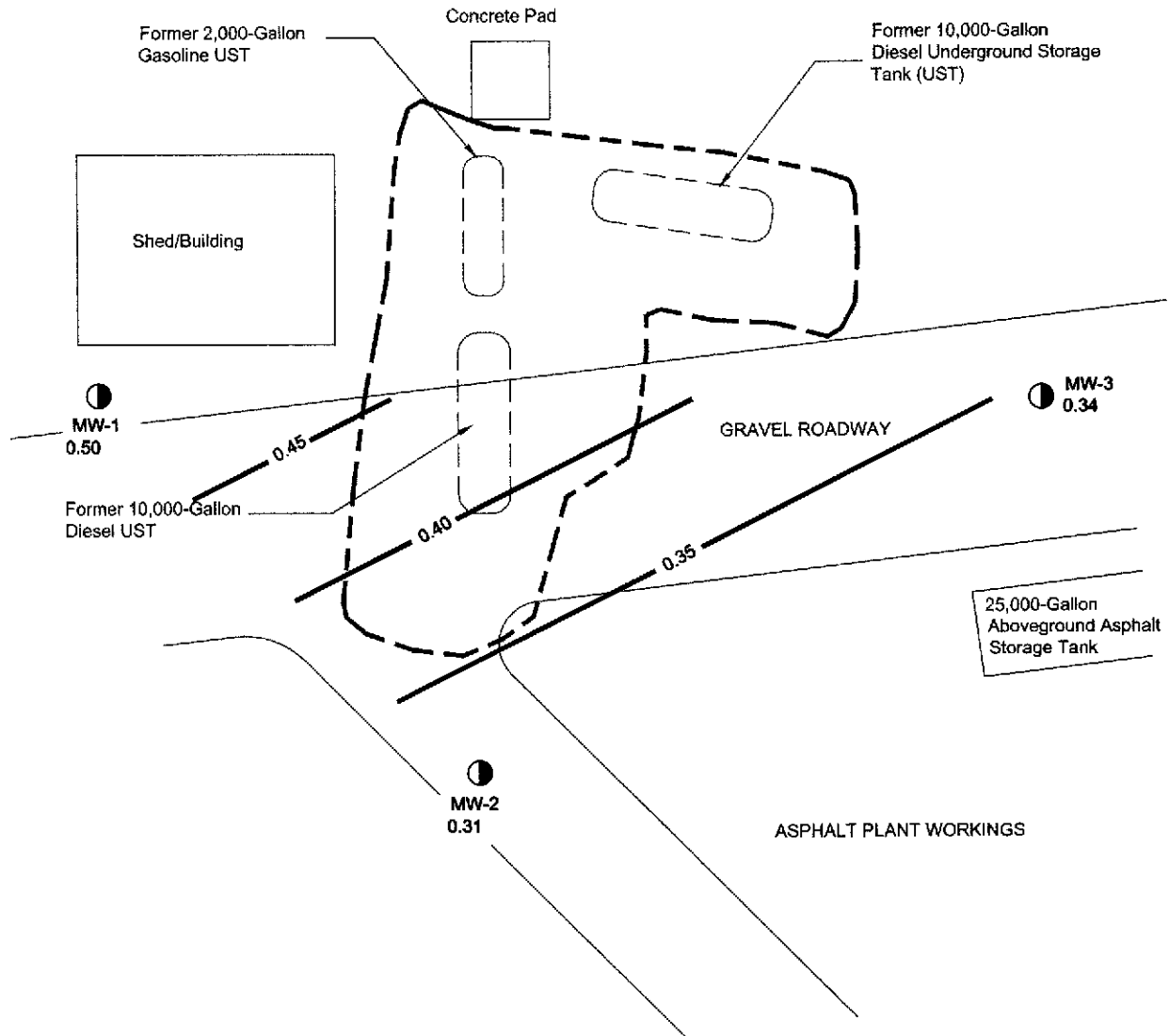

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**SITE PLAN WITH GROUNDWATER ELEVATION CONTOURS**  
(DECEMBER 27, 2001)

MISSION VALLEY ROCK CO.  
7999 ATHENOUR WAY  
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  
0.50

Groundwater monitoring well location and designation with dissolved TPHg concentrations

— 0.45 — Dissolved TPHg concentration contours (contour interval 0.05 mg/L)

- - - - - Approximate limits of former UST excavations



Scale (1" = 20')



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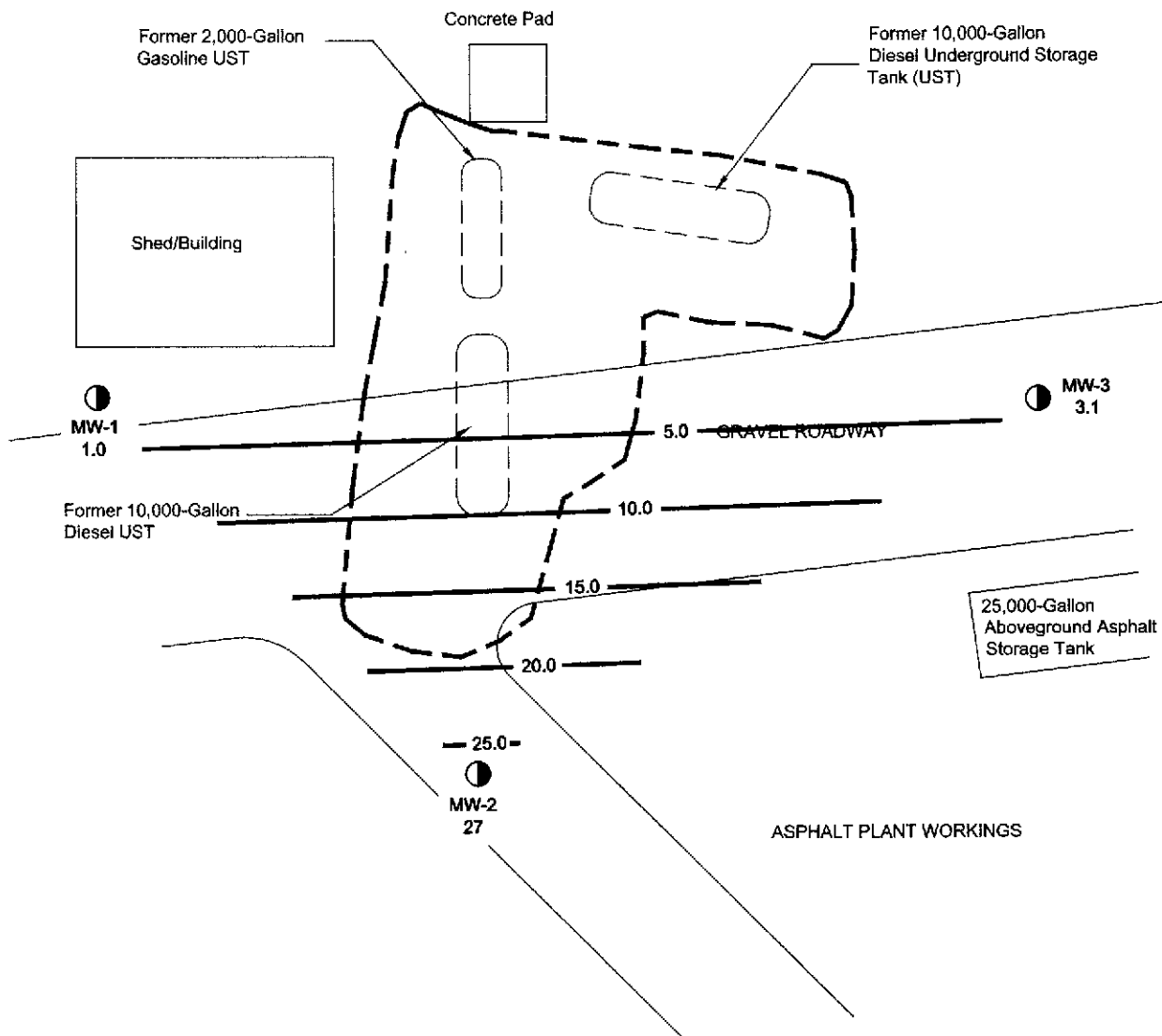
ENVIRONMENTAL MANAGEMENT, INC.

SITE PLAN WITH DISSOLVED THPg CONTOURS  
(DECEMBER 27, 2001)

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  
1.0

Groundwater monitoring well location and designation with dissolved TPHd concentrations

— 5.0 — Dissolved TPHd concentration contours (contour interval 5 mg/L)

- - - - - Approximate limits of former UST excavations



Scale (1" = 20')



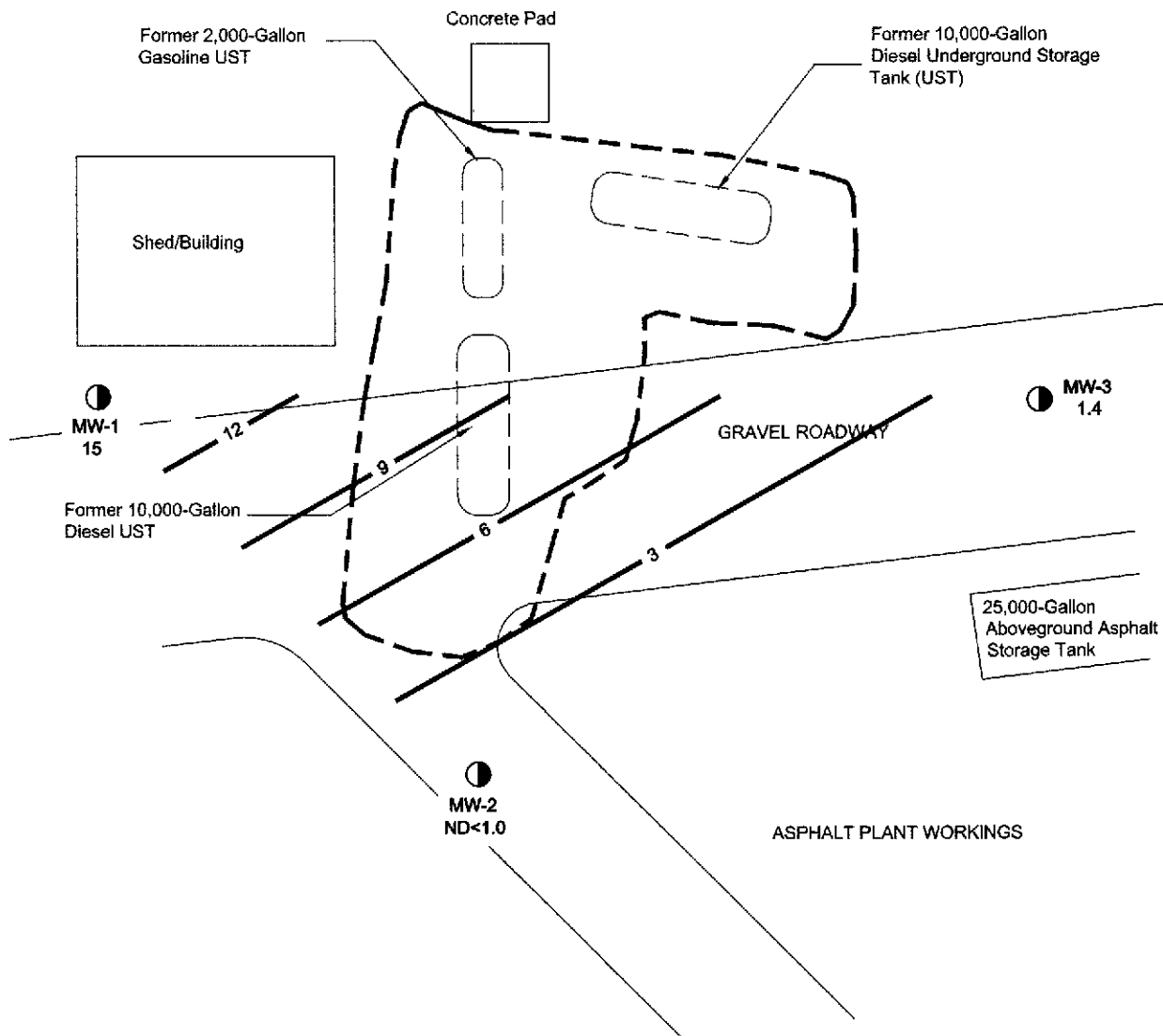
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ENVIRONMENTAL MANAGEMENT, INC.

SITE PLAN WITH DISSOLVED TPHd CONTOURS  
(DECEMBER 27, 2001)

MISSION VALLEY ROCK CO.  
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SUNOL, CALIFORNIA

PROJECT NO. EM-5009

FIGURE 4



**LEGEND**

Base map referenced from Tank Protect Engineers.

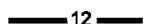
All locations and dimensions are approximate.

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



MW-1  
15

Groundwater monitoring well location and designation with dissolved benzene concentrations.



12 Dissolved benzene concentration contours (contour interval 3 ug/L).



Approximate limits of former UST excavations



Scale (1" = 20')



North



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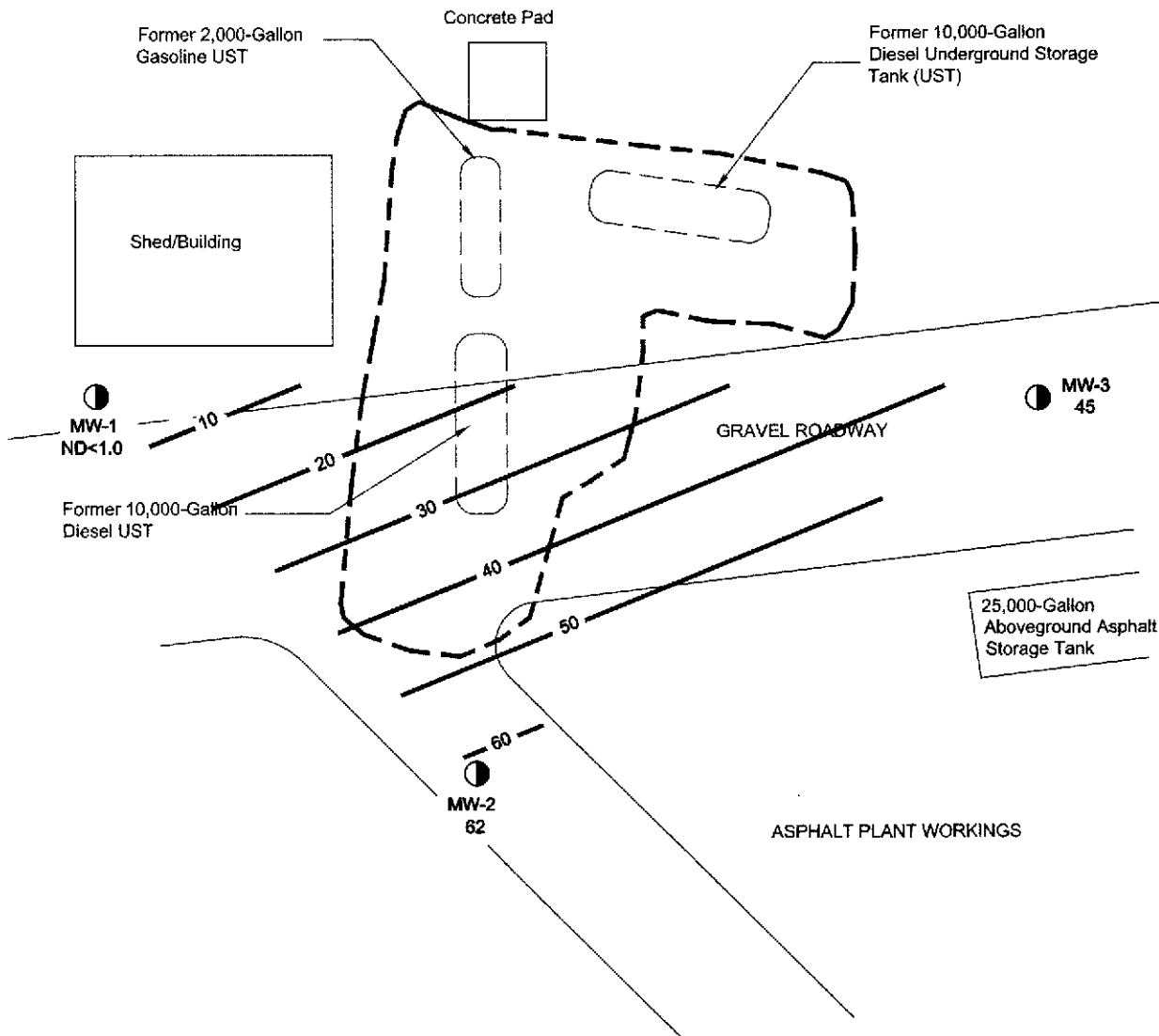
ENVIRONMENTAL MANAGEMENT, INC.

SITE PLAN WITH DISSOLVED BENZENE CONTOURS  
(DECEMBER 27, 2001)

MISSION VALLEY ROCK CO.  
7999 ATHENOUR WAY  
SUNOL, CALIFORNIA

PROJECT NO. EM-5009

FIGURE 5




**LEGEND**

Base map referenced from Tank Protect Engineers.

All locations and dimensions are approximate.

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


**MW-1**    Groundwater monitoring well location and designation with dissolved MTBE concentrations  
 ND<1.0


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


   Approximate limits of former UST excavations



Scale (1" = 20')



North


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SITE PLAN WITH DISSOLVED MTBE CONTOURS  
(DECEMBER 27, 2001)

MISSION VALLEY ROCK CO.  
7999 ATHENOUR WAY  
SUNOL, CALIFORNIA

PROJECT NO. EM-5009

FIGURE 6

**Table 1**  
**Well Construction and Groundwater Elevation Data**  
**Third Quarter 2001**  
 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	1.29	ND	15.75	5.0 - 20.0	256.51	255.22	Well in good condition. Well cover missing 1 bolt
MW-2	2	1.92	2.18	0.26	19.15	5.0 - 20.0	256.70	254.72*	Well in good condition. Well cover damaged.
MW-3	2	ND	3.77	ND	17.39	5.0 - 20.0	256.72	252.95	Well in good condition. Steel plate covering well box.

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 December 27, 2001.

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 Analysis Summary**  
**Third Quarter 2001**  
 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	12/27/2001	1.0	0.50	15	ND<1.0	27	5.5	ND<1.0
MW-2	12/27/2001	27	0.31	ND<1.0	ND<1.0	ND<1.0	ND<1.0	62
MW-3	12/27/2001	3.1	0.34	1.4	1.1	10	3.8	45

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.



**Table 3**  
**Historical Summary of 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	
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	
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	

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 Summary of Groundwater Sample Analytical Results**  
**Third Quarter 2001**  
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	
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	
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	

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 respective reporting limit

NS = Not Sampled

Chart 1  
Groundwater Hydrograph - Fourth Quarter 2001  
Mission Valley Rock Company  
Sunol, California

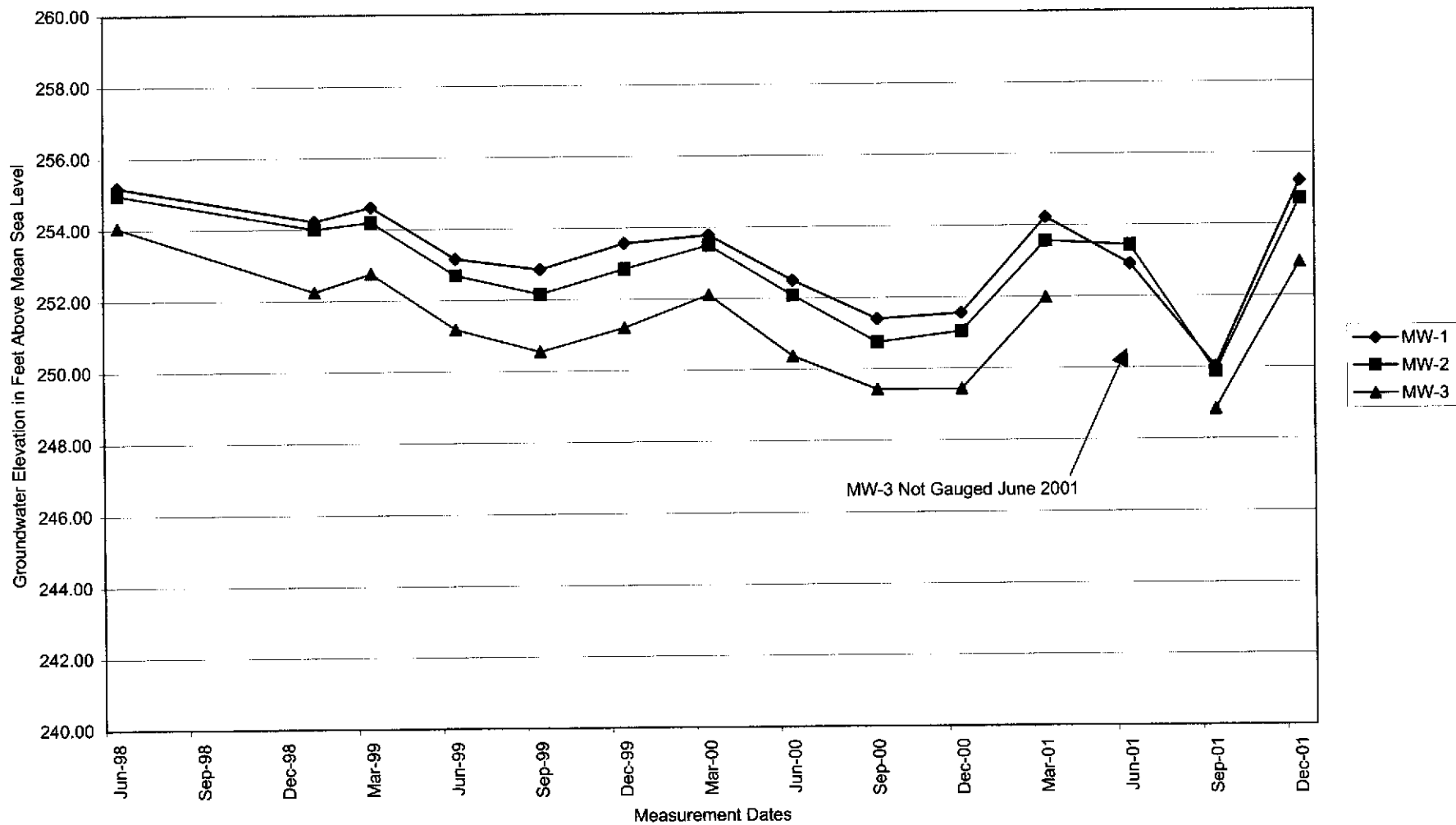


Chart 2  
Historical TPHd Concentrations - Fourth Quarter 2001  
Mission Valley Rock Company  
Sunol, California

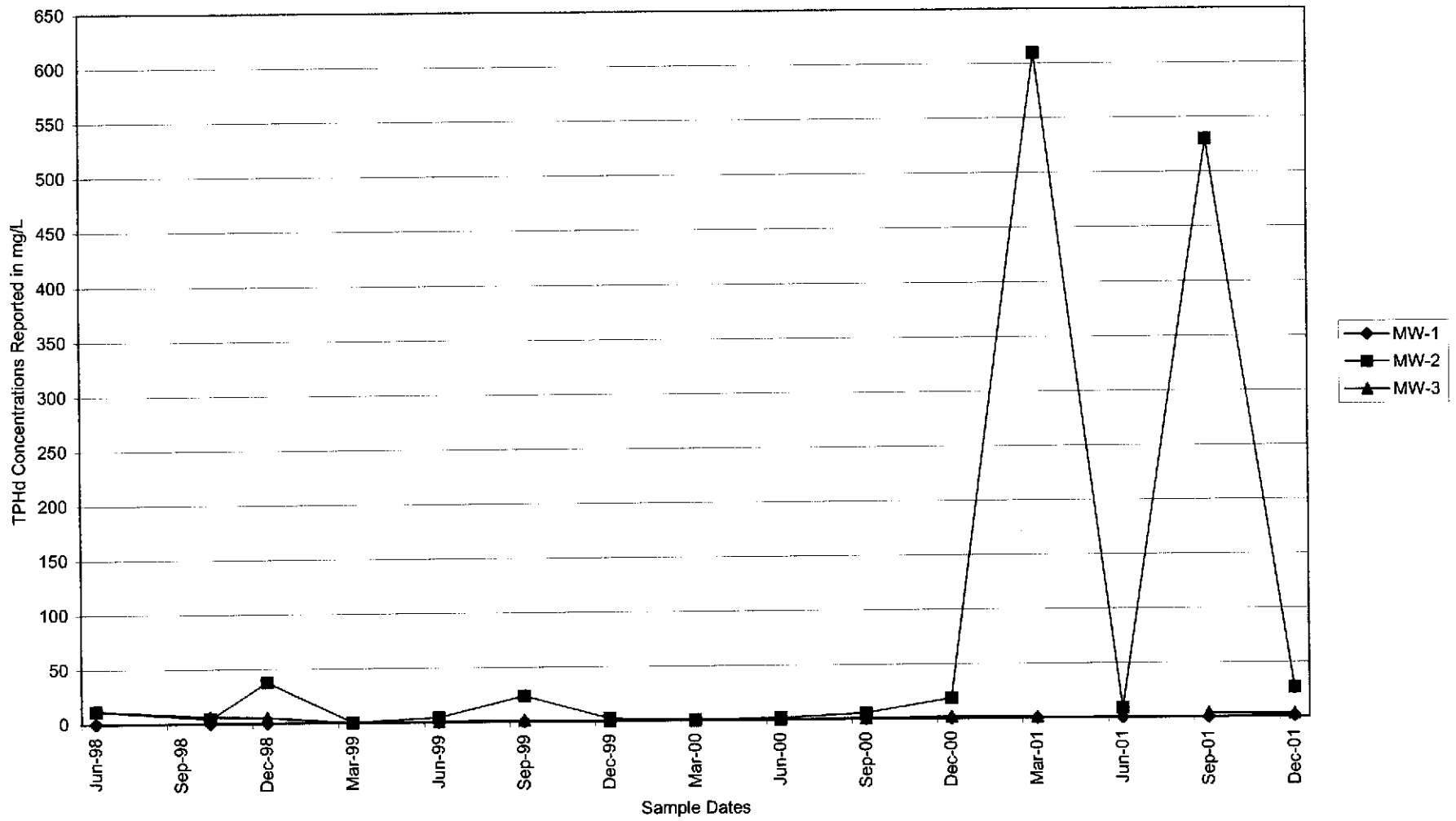


Chart 3  
Historical TPHg Concentrations - Fourth Quarter 2001  
Mission Valley Rock Company  
Sunol, California

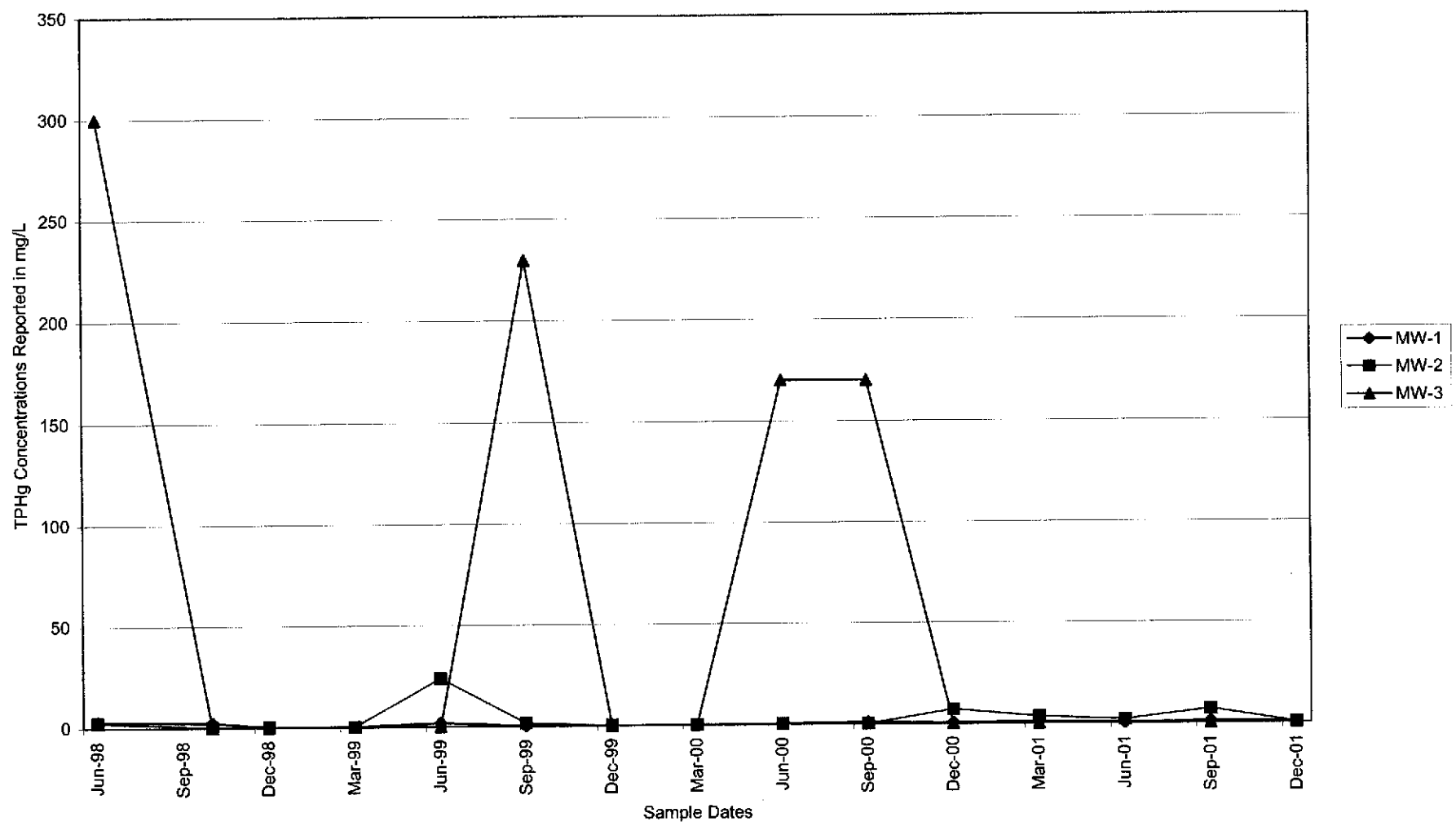


Chart 4  
Historical MTBE Concentrations - Fourth Quarter 2001  
Mission Valley Rock Company  
Sunol, California

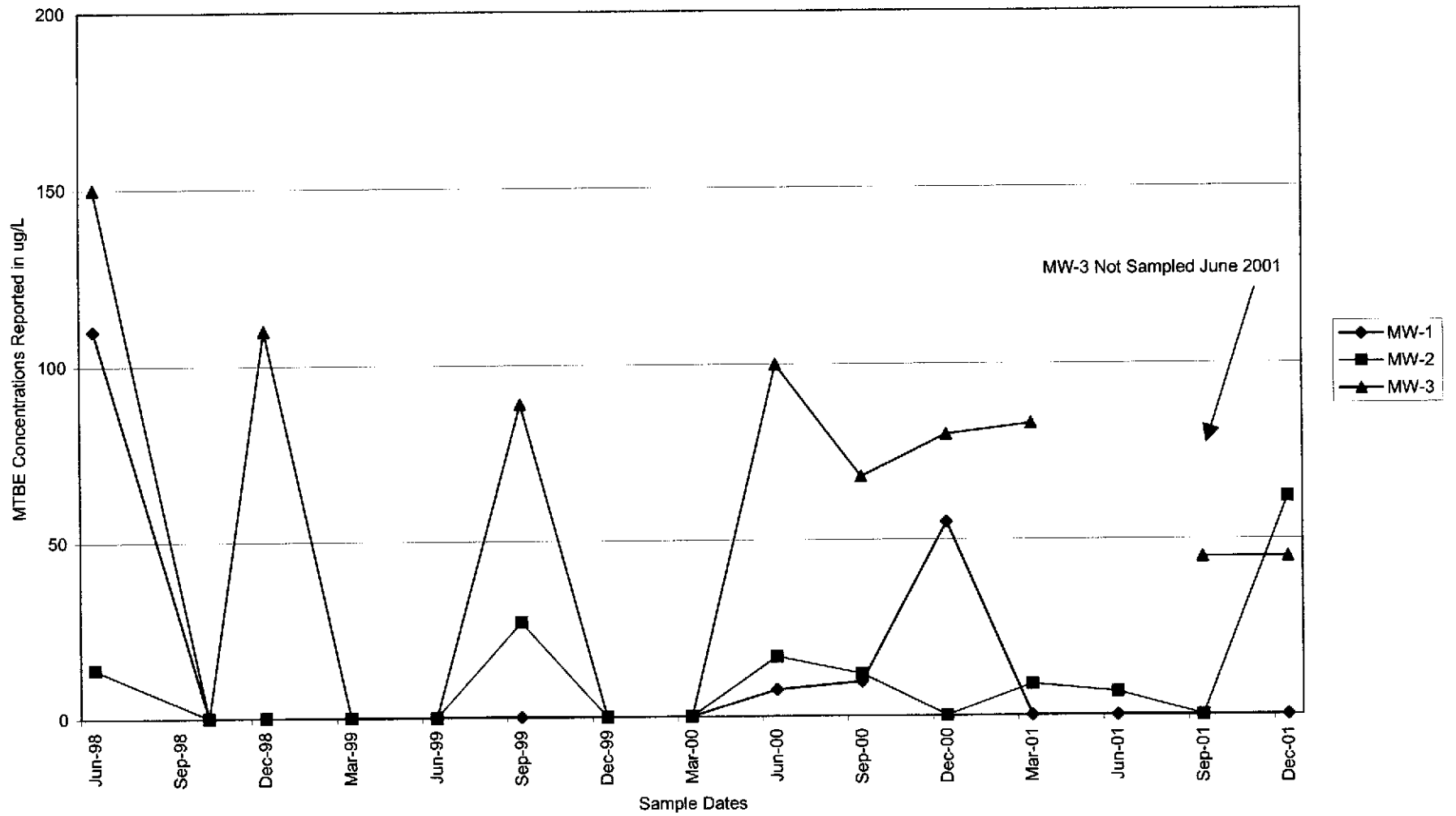


Chart 5  
Historical Benzene Concentrations - Fourth Quarter 2001  
Mission Valley Rock Company  
Sunol, California

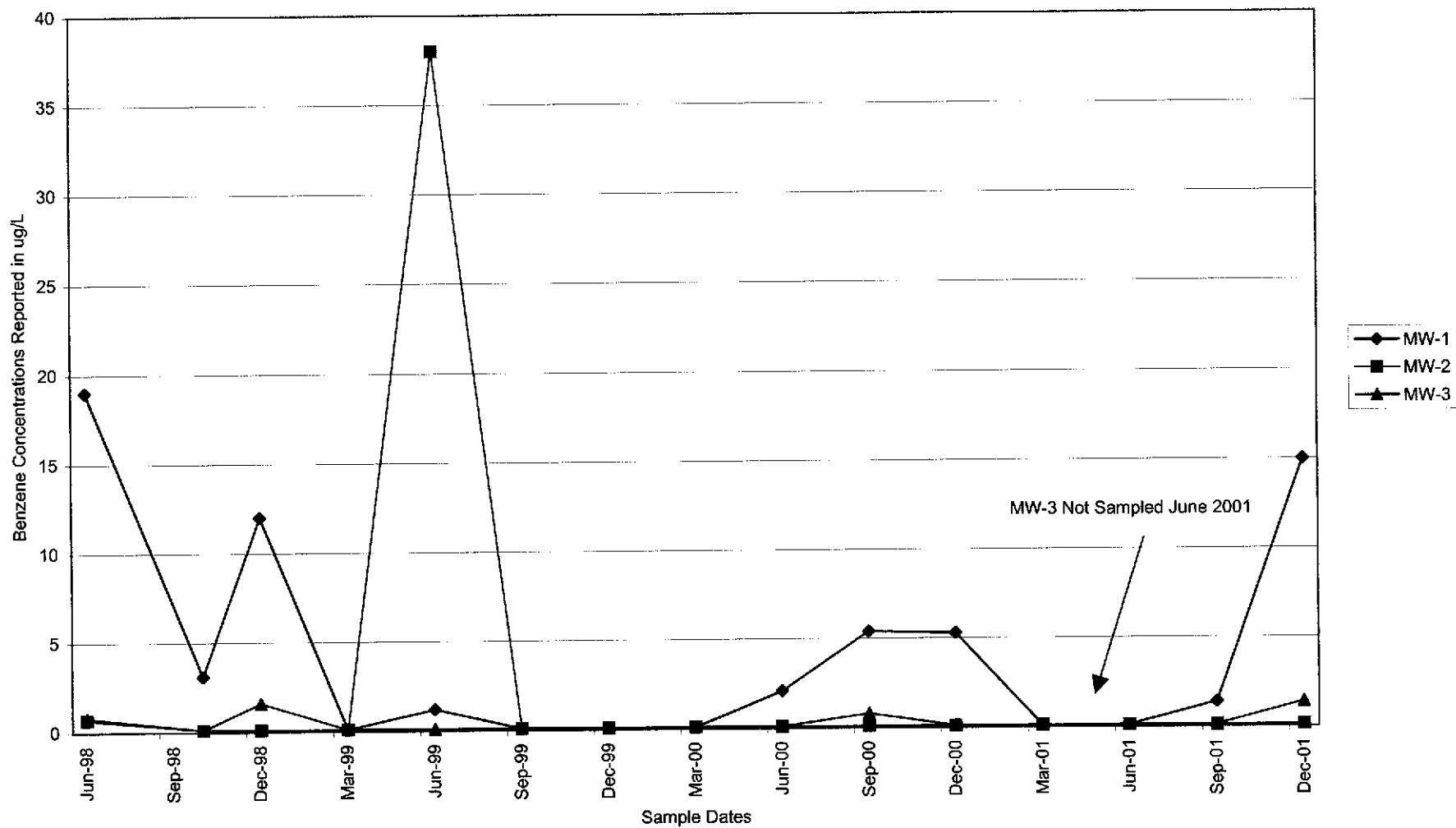
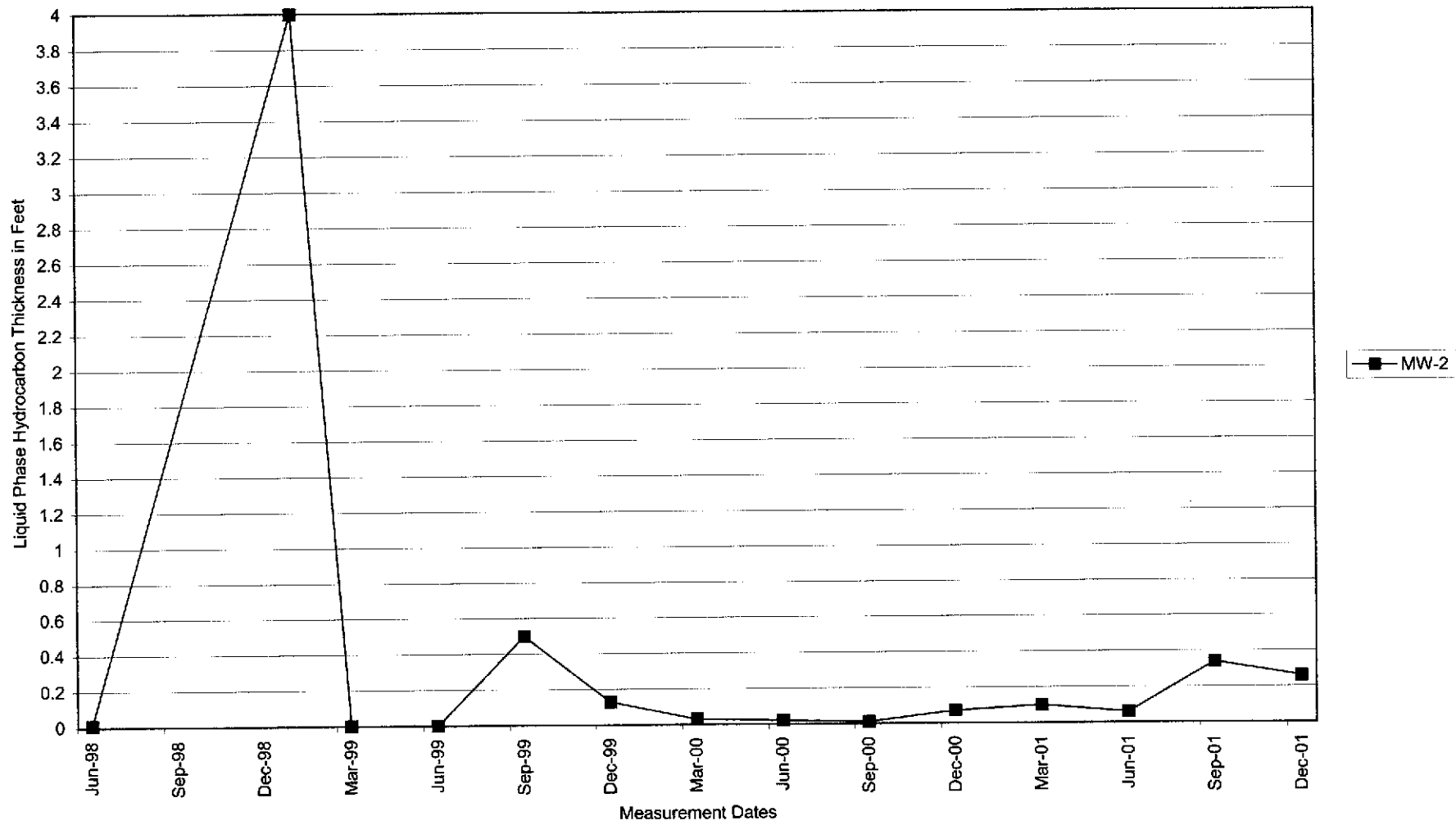


Chart 6  
Historical Liquid Phase Hydrocarbon Thickness in Well MW-2 - Fourth Quarter 2001  
Mission Valley Rock Company  
Sunol, California







Groundwater Sampling Data Sheet

<b>Project Name:</b> <i>Mission Valley Rock Co.</i>	<b>Date:</b> <i>12-27-01</i>
<b>Project No.:</b> <i>EM 5009</i>	<b>Prepared By:</b> <i>RK</i>
<b>Well Identification:</b> <i>MW-1</i>	<b>Weather:</b> <i>cloudy &amp; cool</i>
<b>Measurement Point Description:</b> <i>TOC north side</i>	

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)
—	<i>1.29</i>	<i>15.75</i>	<i>14.46</i>	—	<i>2.31</i>	<i>6.94</i>

<b>Well Diameter (in)</b>	<b>Gallons/Foot</b>				<b>Field Equipment:</b>			
	0.75	2	4	6	<b>Purge Method:</b>			
0.75	<i>(2)</i>	4	6	0.02	<i>(0.16)</i>	0.65	1.47	<b>Well Condition:</b> <i>OK</i>

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (S/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
<i>11:18</i>	<i>1</i>	<i>2.0</i>	<i>0.87</i>	<i>NM</i>	<i>6.98</i>	<i>15.54</i>	<i>7999</i>	<i>0.2465, M</i>	<i>7.3</i>	<i>5</i>	<i>Grayish color</i>
<i>11:21</i>	<i>2</i>	<i>4.0</i>	<i>0.87</i>	<i>↓</i>	<i>7.17</i>	<i>15.88</i>	<i>7999</i>	<i>0.2485, M</i>	<i>6.0</i>	<i>-43</i>	<i>Fuel odor</i>
<i>11:24</i>	<i>3</i>	<i>7.0</i>	<i>0.87</i>	<i>↓</i>	<i>7.23</i>	<i>15.58</i>	<i>7999</i>	<i>0.2475, M</i>	<i>6.7</i>	<i>-6</i>	<i>slightly clearing</i>

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
<i>11:15</i>	<i>11:24</i>	<i>0.77</i>	<i>7.0</i>	<i>3</i>	<i>4.5</i>	<i>4.5</i>	<i>11:45</i>	<i>MW-1</i>

**Notes:** *Turbidity and dissolved oxygen would not calibrate (Horiba) right.*

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\TEM2\field Forms\Well Sampling Field Data Sheet.DOC



Groundwater Sampling Data Sheet

<b>Project Name:</b> <i>Mission Valley Rock Co</i>	<b>Date:</b> <i>12-27-01</i>
<b>Project No.:</b> <i>EM5009</i>	<b>Prepared By:</b> <i>RL</i>
<b>Well Identification:</b> <i>MW-2</i>	<b>Weather:</b> <i>cloudy &amp; cool</i>
<b>Measurement Point Description:</b> <i>Top - north side</i>	

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)
<i>1.92</i>	<i>2.18</i>	<i>19.15</i>	<i>16.97</i>	<i>—</i>	<i>2.71</i>	<i>8.1</i>

<b>Well Diameter (in)</b>	<b>Gallons/Foot</b>				<b>Field Equipment:</b>			
	0.75	2	4	6	<b>Purge Method:</b>			
0.75	<i>(2)</i>	4	6	0.02	<i>(0.16)</i>	0.65	1.47	<b>Well Condition:</b> <i>well box poor condition</i>

Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (S/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
<i>10:40</i>	<i>1</i>	<i>2.7</i>	<i>0.67</i>	<i>NM</i>	<i>7.31</i>	<i>15.93</i>	<i>747.0</i>	<i>0.1835M</i>	<i>7.4</i>	<i>-60</i>	<i>only film on top of water</i>
<i>10:44</i>	<i>2</i>	<i>5.2</i>	<i>0.67</i>	<i>↓</i>	<i>6.82</i>	<i>17.42</i>	<i>735.0</i>	<i>0.1815M</i>	<i>5.6</i>	<i>-74</i>	<i>H424</i>
<i>10:47</i>	<i>3</i>	<i>8.1</i>	<i>0.9</i>	<i>↓</i>	<i>6.76</i>	<i>18.39</i>	<i>641.0</i>	<i>0.1785M</i>	<i>4.3</i>	<i>-84</i>	<i>clearing odor</i>

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
<i>10:36</i>	<i>10:47</i>	<i>0.75</i>	<i>8.1</i>	<i>3</i>	<i>5.5</i>	<i>5.5</i>	<i>11:00</i>	<i>MW-2</i>

**Notes:** *Had problems calibrating equipment (Horiba) Turb... & DO*

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\TEM2\Field Forms\Well Sampling Field Data Sheet.DOC



### Groundwater Sampling Data Sheet

<b>Project Name:</b> <i>Mission Valley Rock Co.</i>					<b>Date:</b> <i>12-27-01</i>						
<b>Project No.:</b> <i>EM 5009</i>					<b>Prepared By:</b> <i>PK</i>						
<b>Well Identification:</b> <i>MW-3</i>					<b>Weather:</b> <i>cloudy &amp; cool</i>						
<b>Measurement Point Description:</b> <i>TOC - north side</i>											
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)	
—		3.77		17.39		13.62		—	2.17	6.53	
Well Diameter (in)			Gallons/Foot				Field Equipment:				
			0.75	2	4	6	Purge Method:				
0.75	(2)	4	6	0.02	(0.16)	0.65	1.47	<b>Well Condition:</b> <i>Destroyed well box</i>			
Time	Casing Volumes Purged	Volume Purged (gallons)	Flow Rate (gpm)	Water Level (ft-bmp)	Ph	Temperature (°C)	Turbidity (NTU)	Conductivity (S/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Observations
10:03	1	2.0	0.72	NM	6.26	17.34	7999	0.163 S/m	9.1	100mV	Hazy cloudy
10:06	2	4.0	0.72	NM	6.65	18.49	7999	0.167 S/m	5.7	56mV	smells like fuel
10:09	3	6.53	0.72	NM	6.80	18.68	7999	0.174 S/m	4.0	-34mV	" "
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			
10:00	10:09	0.72	6.53	3	6.49	6.49	10:15	MW-3			

**Notes:**  
*Had problems calibrating Horiba equipment.*

ft-bmp = feet below measuring point  
 LNAPL = light non-aqueous phase liquid  
 M:\TEM2\Field Forms\Well Sampling Field Data Sheet.DOC

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**STL Los Angeles**  
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Santa Ana, CA 92705-4808

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

January 10, 2002

STL LOT NUMBER: **E1L280163**  
PO/CONTRACT: EM 5009

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

Dear Mr. Ek:

This report contains the analytical results for the three samples received under chain of custody by STL Los Angeles on December 28, 2001. These samples are associated with your **MISSION VALLEY ROCK** project.

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 January 07, 2002.

This report shall not be reproduced except in full, without the written approval of the laboratory.

This report contains 000041 pages.

**000001**

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**CASE NARRATIVE**

There was insufficient sample volume provided to prepare a project-specific MS/MSD for the 8015 method (TPH as Diesel). 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  
Project Manager

cc: Project File

**000002**



# 39910

Project Name Mission Valley Rock			Project or PO# EM 5009			Lab Name STL			Turn Around Requested: <input type="checkbox"/> Immediate Attention <input type="checkbox"/> Rush 24-48 Hours <input type="checkbox"/> Rush 72-96 Hours <input checked="" type="checkbox"/> Normal									
Address			Client TAIT			Analyses Required												
City, State, Zip Sunol, CA			Report attention Scott EK			TPH <sub>9</sub> (8015) TPH <sub>4</sub> (8015) VOC/MTBE/Oxy BTEX (8260)												
SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	SAMPLED BY RK	MATRIX	LAB I.D. NUMBER							Number of Containers	Remarks / Special Instructions					
MW-1	12-27-01	11:45	H <sub>2</sub> O									7	3	1	3			
MW-2	↓	11:00	H <sub>2</sub> O									7	3	1	3			
MW-3	↓	10:15	H <sub>2</sub> O			7	3	1	3									
EIL 280103																		
Signature			Print Name			Company			Date	Time								
<i>Richard Kinder</i>			Richard Kinder			—			12-28-01	8:55am								
<i>M. Trufas</i>			M. TRUFAS						12/28/01	8:55am								

000003



SEVERN

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SERVICES

# Analytical Report

000005



**ANALYTICAL REPORT**

PROJECT NO. EM 5009

MISSION VALLEY ROCK

Lot #: E1L280163

Scott Ek

Tait Environmental

SEVERN TRENT LABORATORIES, INC.

Marisol Tabirara  
Project Manager

January 10, 2002

000006

# EXECUTIVE SUMMARY - Detection Highlights

EIL280163

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>MW-1 12/27/01 11:45 001</b>				
TPH (as Diesel)	1.0	1.0	mg/L	SW846 8015B
TPH (as Gasoline)	0.50	0.10	mg/L	SW846 8015B
Benzene	15	1.0	ug/L	SW846 8260B
Ethylbenzene	27	1.0	ug/L	SW846 8260B
m-Xylene & p-Xylene	5.5	1.0	ug/L	SW846 8260B
<b>MW-2 12/27/01 11:00 002</b>				
TPH (as Diesel)	27	2.0	mg/L	SW846 8015B
TPH (as Gasoline)	0.31	0.10	mg/L	SW846 8015B
Methyl tert-butyl ether	62	1.0	ug/L	SW846 8260B
<b>MW-3 12/27/01 10:15 003</b>				
TPH (as Diesel)	3.1	1.0	mg/L	SW846 8015B
TPH (as Gasoline)	0.34	0.10	mg/L	SW846 8015B
Methyl tert-butyl ether	45	1.0	ug/L	SW846 8260B
Benzene	1.4	1.0	ug/L	SW846 8260B
Toluene	1.1	1.0	ug/L	SW846 8260B
Ethylbenzene	10	1.0	ug/L	SW846 8260B
o-Xylene	3.8	1.0	ug/L	SW846 8260B

000007

# METHODS SUMMARY

E1L280163

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
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.

000008

# SAMPLE SUMMARY

E1L280163

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT</u>	<u>SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
EQ4XM	001	MW-1		12/27/01	11:45
EQ40A	002	MW-2		12/27/01	11:00
EQ40E	003	MW-3		12/27/01	10:15

## 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.

000009

TAIT ENVIRONMENTAL

Client Sample ID: MW-1

GC Semivolatiles

Lot-Sample #...: E1L280163-001    Work Order #...: EQ4XM1AA    Matrix.....: WATER  
Date Sampled...: 12/27/01 11:45    Date Received...: 12/28/01 08:55    MS Run #.....:  
Prep Date.....: 12/31/01    Analysis Date...: 12/31/01  
Prep Batch #...: 1365173    Analysis Time...: 13:37  
Dilution Factor: 1  
Analyst ID.....: 356074    Instrument ID...: G03  
Method.....: SW846 8015B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>
TPH (as Diesel)	1.0	1.0	mg/L
<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	
Benzo (a) pyrene	83	(65 - 135)	

**NOTE (S) :**

The pattern is unknown hydrocarbons. C range-C10 to beyond C24.

000010

TAIT ENVIRONMENTAL

Client Sample ID: MW-1

GC Volatiles

Lot-Sample #...: E1L280163-001    Work Order #...: EQ4XM1AC    Matrix.....: WATER  
Date Sampled...: 12/27/01 11:45    Date Received...: 12/28/01 08:55    MS Run #.....: 2002196  
Prep Date.....: 12/28/01    Analysis Date...: 12/28/01  
Prep Batch #...: 2002363    Analysis Time...: 18:16  
Dilution Factor: 1  
Analyst ID.....: 001464    Instrument ID...: G13  
Method.....: SW846 8015B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>
TPH (as Gasoline)	0.50	0.10	mg/L
<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	
a,a,a-Trifluorotoluene (TFT)	99	(60 - 130)	

NOTE(S) :

The gasoline pattern appears degraded.

000011

TAIT ENVIRONMENTAL

Client Sample ID: MW-1

GC/MS Volatiles

Lot-Sample #...: E1L280163-001 Work Order #...: EQ4XM1AE Matrix.....: WATER  
 Date Sampled...: 12/27/01 11:45 Date Received...: 12/28/01 08:55 MS Run #.....: 1365139  
 Prep Date.....: 12/31/01 Analysis Date...: 12/31/01  
 Prep Batch #...: 1365291 Analysis Time...: 14:31  
 Dilution Factor: 1  
 Analyst ID.....: 015590 Instrument ID...: MSC  
 Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Methyl tert-butyl ether	ND	1.0	ug/L
<b>Benzene</b>	<b>15</b>	<b>1.0</b>	<b>ug/L</b>
Toluene	ND	1.0	ug/L
Ethylbenzene	27	1.0	ug/L
m-Xylene & p-Xylene	5.5	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

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Bromofluorobenzene	103	(75 - 130)
1,2-Dichloroethane-d4	93	(65 - 135)
Toluene-d8	110	(80 - 130)

000012

TAIT ENVIRONMENTAL

Client Sample ID: MW-2

GC Semivolatiles

Lot-Sample #...: E1L280163-002    Work Order #...: EQ40A1AA    Matrix.....: WATER  
Date Sampled...: 12/27/01 11:00    Date Received...: 12/28/01 08:55    MS Run #.....:  
Prep Date.....: 12/31/01    Analysis Date...: 01/02/02  
Prep Batch #...: 1365173    Analysis Time...: 10:58  
Dilution Factor: 2  
Analyst ID.....: 356074    Instrument ID...: G03  
Method.....: SW846 8015B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
TPH (as Diesel)	27	2.0	mg/L
<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	
Benzo (a) pyrene	93	(65 - 135)	

**NOTE (S) :**

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

000013



TAIT ENVIRONMENTAL

Client Sample ID: MW-2

GC Volatiles

Lot-Sample #...: E1L280163-002    Work Order #...: EQ40A1AC    Matrix.....: WATER  
Date Sampled...: 12/27/01 11:00    Date Received...: 12/28/01 08:55    MS Run #.....: 2003095  
Prep Date.....: 01/02/02    Analysis Date...: 01/02/02  
Prep Batch #...: 2003240    Analysis Time...: 17:32  
Dilution Factor: 1  
Analyst ID.....: 001464    Instrument ID...: G13  
Method.....: SW846 8015B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>
TPH (as Gasoline)	0.31	0.10	mg/L
<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	
a,a,a-Trifluorotoluene (TFT)	84	(60 - 130)	

TAIT ENVIRONMENTAL

Client Sample ID: MW-2

GC/MS Volatiles

Lot-Sample #...: E1L280163-002    Work Order #...: EQ40A1AE    Matrix.....: WATER  
 Date Sampled...: 12/27/01 11:00    Date Received...: 12/28/01 08:55    MS Run #.....: 1365139  
 Prep Date.....: 12/28/01    Analysis Date...: 12/28/01  
 Prep Batch #...: 1365184    Analysis Time...: 17:50  
 Dilution Factor: 1  
 Analyst ID.....: 015590    Instrument ID...: MSC  
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
<b>Methyl tert-butyl ether</b>	<b>62</b>	<b>1.0</b>	<b>ug/L</b>
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	120	(75 - 130)
1,2-Dichloroethane-d4	121	(65 - 135)
Toluene-d8	123	(80 - 130)

TAIT ENVIRONMENTAL

Client Sample ID: MW-3

GC Semivolatiles

Lot-Sample #...: E1L280163-003    Work Order #...: EQ40E1AA    Matrix.....: WATER  
Date Sampled...: 12/27/01 10:15    Date Received...: 12/28/01 08:55    MS Run #.....:  
Prep Date.....: 12/31/01    Analysis Date...: 12/31/01  
Prep Batch #...: 1365173    Analysis Time...: 14:54  
Dilution Factor: 1  
Analyst ID.....: 356074    Instrument ID...: G03  
Method.....: SW846 8015B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
TPH (as Diesel)	3.1	1.0	mg/L
<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	
Benzo (a) pyrene	85	(65 - 135)	

NOTE (S) :

The pattern is unknown hydrocarbons; C range-C10 to beyond C24.

000016

TAIT ENVIRONMENTAL

Client Sample ID: MW-3

GC Volatiles

Lot-Sample #...: E1L280163-003    Work Order #...: EQ40E1AC    Matrix.....: WATER  
Date Sampled...: 12/27/01 10:15    Date Received...: 12/28/01 08:55    MS Run #.....: 2002196  
Prep Date.....: 12/28/01    Analysis Date...: 12/28/01  
Prep Batch #...: 2002363    Analysis Time...: 19:12  
Dilution Factor: 1  
Analyst ID.....: 001464    Instrument ID...: G13  
Method.....: SW846 8015B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
TPH (as Gasoline)	0.34	0.10	mg/L
<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	
a,a,a-Trifluorotoluene (TFT)	92	(60 - 130)	

NOTE(S):

Unknown hydrocarbon pattern.

000017



SEVERN

TRENT

SERVICES

QA/QC

000019

# QC DATA ASSOCIATION SUMMARY

E1L280163

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	WATER	SW846 8015B		1365173	
	WATER	SW846 8015B		2002363	2002196
	WATER	SW846 8260B		1365291	1365139
002	WATER	SW846 8015B		1365173	
	WATER	SW846 8015B		2003240	2003095
	WATER	SW846 8260B		1365184	1365139
003	WATER	SW846 8015B		1365173	
	WATER	SW846 8015B		2002363	2002196
	WATER	SW846 8260B		1365184	1365139

000020

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: E1L280163  
MB Lot-Sample #: E1L310000-173

Work Order #...: EQ59A1AA

Matrix.....: WATER

Analysis Date...: 12/31/01  
Dilution Factor: 1

Prep Date.....: 12/31/01  
Prep Batch #...: 1365173

Analysis Time...: 11:42  
Instrument ID...: G03

Analyst ID.....: 356074

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>
		<u>LIMIT</u>	<u>UNITS</u>	
TPH (as Diesel)	ND	1.0	mg/L	SW846 8015B
<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>		
		<u>RECOVERY</u>	<u>LIMITS</u>	
Benzo (a) pyrene	93		(65 - 135)	

**NOTE (S) :**

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

000021



METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E1L280163      Work Order #...: EQ59P1AA      Matrix.....: WATER  
 MB Lot-Sample #: E1L310000-184  
 Analysis Date...: 12/28/01      Prep Date.....: 12/28/01      Analysis Time...: 09:16  
 Dilution Factor: 1      Prep Batch #...: 1365184      Instrument ID...: MSC  
 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	95	(75 - 130)
1,2-Dichloroethane-d4	91	(65 - 135)
Toluene-d8	103	(80 - 130)

NOTE (S) :

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

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E1L280163  
 MB Lot-Sample #: E1L310000-291

Work Order #...: EQ6F61AA

Matrix.....: WATER

Analysis Date...: 12/31/01  
 Dilution Factor: 1

Prep Date.....: 12/31/01

Analysis Time...: 10:05

Prep Batch #...: 1365291

Instrument ID...: MSC

Analyst ID.....: 015590

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
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	102	(75 - 130)
1,2-Dichloroethane-d4	91	(65 - 135)
Toluene-d8	109	(80 - 130)

**NOTE (S) :**

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

000023

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: E1L280163      Work Order #...: EQ66E1AA      Matrix.....: WATER  
MB Lot-Sample #: E2A020000-363  
Analysis Date...: 12/28/01      Prep Date.....: 12/28/01      Analysis Time...: 14:24  
Dilution Factor: 1      Prep Batch #...: 2002363      Instrument ID...: G13  
Analyst ID.....: 001464

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

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
a, a, a-Trifluorotoluene (TFT)	80	(60 - 130)

NOTE(S) :

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

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: E1L280163  
MB Lot-Sample #: E2A030000-240

Work Order #...: EQ72X1AA

Matrix.....: WATER

Analysis Date...: 01/02/02  
Dilution Factor: 1

Prep Date.....: 01/02/02  
Prep Batch #...: 2003240

Analysis Time...: 12:21  
Instrument ID...: G13

Analyst ID.....: 001464

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

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
a, a, a-Trifluorotoluene (TFT)	82	(60 - 130)

**NOTE(S) :**

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

000025

LABORATORY CONTROL SAMPLE DATA REPORT

GC Semivolatiles

Client Lot #...: E1L280163      Work Order #...: EQ59A1AC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: E1L310000-173      EQ59A1AD-LCSD  
 Prep Date.....: 12/31/01      Analysis Date...: 12/31/01  
 Prep Batch #...: 1365173      Analysis Time...: 12:20  
 Dilution Factor: 1      Instrument ID...: G03  
 Analyst ID.....: 356074

<u>PARAMETER</u>	<u>SPIKE</u> <u>AMOUNT</u>	<u>MEASURED</u> <u>AMOUNT</u>	<u>UNITS</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
TPH (as Diesel)	5.00	4.69	mg/L	94		SW846 8015B
	5.00	4.63	mg/L	93	1.2	SW846 8015B
<u>SURROGATE</u>				<u>PERCENT</u> <u>RECOVERY</u>		<u>RECOVERY</u> <u>LIMITS</u>
Benzo(a)pyrene				94		(65 - 135)
				92		(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 EVALUATION REPORT

GC Semivolatiles

Client Lot #...: E1L280163      Work Order #...: EQ59A1AC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: E1L310000-173      EQ59A1AD-LCSD  
 Prep Date.....: 12/31/01      Analysis Date...: 12/31/01  
 Prep Batch #...: 1365173      Analysis Time...: 12:20  
 Dilution Factor: 1      Instrument ID...: G03  
 Analyst ID.....: 356074

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
TPH (as Diesel)	94	(65 - 140)			SW846 8015B
	93	(65 - 140)	1.2	(0-25)	SW846 8015B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Benzo (a) pyrene	94	(65 - 135)
	92	(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/MS Volatiles

Client Lot #...: E1L280163      Work Order #...: EQ59P1AC      Matrix.....: WATER  
 LCS Lot-Sample#: E1L310000-184  
 Prep Date.....: 12/28/01      Analysis Date...: 12/28/01  
 Prep Batch #...: 1365184      Analysis Time...: 08:47  
 Dilution Factor: 1      Instrument ID...: MSC  
 Analyst ID.....: 015590

<u>PARAMETER</u>	<u>SPIKE</u> <u>AMOUNT</u>	<u>MEASURED</u> <u>AMOUNT</u>	<u>UNITS</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>METHOD</u>
Chlorobenzene	10.0	9.69	ug/L	97	SW846 8260B
1,1-Dichloroethene	10.0	11.2	ug/L	112	SW846 8260B
Trichloroethene	10.0	9.91	ug/L	99	SW846 8260B
Benzene	10.0	9.51	ug/L	95	SW846 8260B
Toluene	10.0	10.8	ug/L	108	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
Bromofluorobenzene	104	(75 - 130)
1,2-Dichloroethane-d4	84	(65 - 135)
Toluene-d8	124	(80 - 130)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

000028

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E1L280163      Work Order #...: EQ6F61AC      Matrix.....: WATER  
 LCS Lot-Sample#: E1L310000-291  
 Prep Date.....: 12/31/01      Analysis Date...: 12/31/01  
 Prep Batch #...: 1365291      Analysis Time...: 09:35  
 Dilution Factor: 1      Instrument ID...: MSC  
 Analyst ID.....: 015590

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCENT RECOVERY</u>	<u>METHOD</u>
Chlorobenzene	10.0	9.62	ug/L	96	SW846 8260B
1,1-Dichloroethene	10.0	9.93	ug/L	99	SW846 8260B
Trichloroethene	10.0	9.46	ug/L	95	SW846 8260B
Benzene	10.0	9.49	ug/L	95	SW846 8260B
Toluene	10.0	10.1	ug/L	101	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Bromofluorobenzene	108	(75 - 130)
1,2-Dichloroethane-d4	90	(65 - 135)
Toluene-d8	114	(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 Volatiles

Client Lot #...: E1L280163      Work Order #...: EQ66E1AC      Matrix.....: WATER  
 LCS Lot-Sample#: E2A020000-363  
 Prep Date.....: 12/28/01      Analysis Date...: 12/28/01  
 Prep Batch #...: 2002363      Analysis Time...: 13:28  
 Dilution Factor: 1      Instrument ID...: G13  
 Analyst ID.....: 001464

<u>PARAMETER</u>	<u>SPIKE</u> <u>AMOUNT</u>	<u>MEASURED</u> <u>AMOUNT</u>	<u>UNITS</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>METHOD</u>
TPH (as Gasoline)	1.00	1.08	mg/L	108	SW846 8015B

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
a, a, a-Trifluorotoluene (TFT)	111	(60 - 130)

**NOTE (S) :**

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

Bold print denotes control parameters

000030

LABORATORY CONTROL SAMPLE DATA REPORT

GC Volatiles

Client Lot #...: E1L280163      Work Order #...: EQ72X1AC      Matrix.....: WATER  
 LCS Lot-Sample#: E2A030000-240  
 Prep Date.....: 01/02/02      Analysis Date...: 01/02/02  
 Prep Batch #...: 2003240      Analysis Time...: 11:25  
 Dilution Factor: 1      Instrument ID...: G13  
 Analyst ID.....: 001464

<u>PARAMETER</u>	<u>SPIKE</u> <u>AMOUNT</u>	<u>MEASURED</u> <u>AMOUNT</u>	<u>UNITS</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>METHOD</u>
TPH (as Gasoline)	1.00	1.03	mg/L	103	SW846 8015B
<u>SURROGATE</u>		<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>		
a, a, a-Trifluorotoluene (TFT)		108	(60 - 130)		

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

000031

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: E1L280163      Work Order #...: EQ59P1AC      Matrix.....: WATER  
 LCS Lot-Sample#: E1L310000-184  
 Prep Date.....: 12/28/01      Analysis Date...: 12/28/01  
 Prep Batch #...: 1365184      Analysis Time...: 08:47  
 Dilution Factor: 1      Instrument ID...: MSC  
 Analyst ID.....: 015590

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>
Chlorobenzene	97	(75 - 120)	SW846 8260B
1,1-Dichloroethene	112	(70 - 140)	SW846 8260B
Trichloroethene	99	(70 - 130)	SW846 8260B
Benzene	95	(75 - 120)	SW846 8260B
Toluene	108	(75 - 125)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Bromofluorobenzene	104	(75 - 130)
1,2-Dichloroethane-d4	84	(65 - 135)
Toluene-d8	124	(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/MS Volatiles

Client Lot #...: E1L280163      Work Order #...: EQ6F61AC      Matrix.....: WATER  
 LCS Lot-Sample#: E1L310000-291  
 Prep Date.....: 12/31/01      Analysis Date...: 12/31/01  
 Prep Batch #...: 1365291      Analysis Time...: 09:35  
 Dilution Factor: 1      Instrument ID...: MSC  
 Analyst ID.....: 015590

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>
Chlorobenzene	96	(75 - 120)	SW846 8260B
1,1-Dichloroethene	99	(70 - 140)	SW846 8260B
Trichloroethene	95	(70 - 130)	SW846 8260B
Benzene	95	(75 - 120)	SW846 8260B
Toluene	101	(75 - 125)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Bromofluorobenzene	108	(75 - 130)
1,2-Dichloroethane-d4	90	(65 - 135)
Toluene-d8	114	(80 - 130)

**NOTE (S) :**

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

Bold print denotes control parameters

000033

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: E1L280163      Work Order #...: EQ66E1AC      Matrix.....: WATER  
 LCS Lot-Sample#: E2A020000-363  
 Prep Date.....: 12/28/01      Analysis Date...: 12/28/01  
 Prep Batch #...: 2002363      Analysis Time...: 13:28  
 Dilution Factor: 1      Instrument ID...: G13  
 Analyst ID.....: 001464

<u>PARAMETER</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	
TPH (as Gasoline)	108	(70 - 140)	SW846 8015B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
a, a, a-Trifluorotoluene (TFT)	111	(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 Volatiles

Client Lot #...: E1L280163      Work Order #...: EQ72X1AC      Matrix.....: WATER  
 LCS Lot-Sample#: E2A030000-240  
 Prep Date.....: 01/02/02      Analysis Date...: 01/02/02  
 Prep Batch #...: 2003240      Analysis Time...: 11:25  
 Dilution Factor: 1      Instrument ID...: G13  
 Analyst ID.....: 001464

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>
TPH (as Gasoline)	103	(70 - 140)	SW846 8015B

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
a,a,a-Trifluorotoluene (TFT)	108	(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 #...: E1L280163      Work Order #...: EQJ601A2-MS      Matrix.....: WATER  
 MS Lot-Sample #: G1L140395-001      EQJ601A3-MSD  
 Date Sampled...: 12/14/01 10:55      Date Received...: 12/14/01 17:20      MS Run #.....: 2003095  
 Prep Date.....: 01/02/02      Analysis Date...: 01/02/02  
 Prep Batch #...: 2003240      Analysis Time...: 18:00  
 Dilution Factor: 1      Analyst ID.....: 001464      Instrument ID...: G13

PARAMETER	SAMPLE	SPIKE	MEASRD	UNITS	PERCENT		METHOD
	AMOUNT	AMT	AMOUNT		RECOVERY	RPD	
TPH (as Gasoline)	ND	1.00	1.04	mg/L	104		SW846 8015B
	ND	1.00	1.09	mg/L	109	4.5	SW846 8015B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
a, a, a-Trifluorotoluene (TFT)	119	(60 - 130)
	121	(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/MS Volatiles

Client Lot #...: E1L280163      Work Order #...: EQ36M1AC-MS      Matrix.....: WATER  
 MS Lot-Sample #: E1L270236-004      EQ36M1AD-MSD  
 Date Sampled...: 12/27/01 11:12      Date Received...: 12/27/01 20:00      MS Run #.....: 1365139  
 Prep Date.....: 12/31/01      Analysis Date...: 12/31/01  
 Prep Batch #...: 1365291      Analysis Time...: 13:32  
 Dilution Factor: 1      Analyst ID.....: 015590      Instrument ID...: MSC

PARAMETER	SAMPLE	SPIKE	MEASRD	UNITS	PERCENT		
	AMOUNT	AMT	AMOUNT		RECOVERY	RPD	METHOD
Chlorobenzene	ND	10.0	9.76	ug/L	98		SW846 8260B
	ND	10.0	9.83	ug/L	98	0.71	SW846 8260B
1,1-Dichloroethene	ND	10.0	10.5	ug/L	105		SW846 8260B
	ND	10.0	10.5	ug/L	105	0.0	SW846 8260B
Trichloroethene	ND	10.0	9.52	ug/L	95		SW846 8260B
	ND	10.0	9.75	ug/L	98	2.4	SW846 8260B
Benzene	ND	10.0	9.53	ug/L	95		SW846 8260B
	ND	10.0	10.0	ug/L	100	5.2	SW846 8260B
Toluene	ND	10.0	10.3	ug/L	103		SW846 8260B
	ND	10.0	9.92	ug/L	99	3.4	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Bromofluorobenzene	109	(75 - 130)
	109	(75 - 130)
1,2-Dichloroethane-d4	93	(65 - 135)
	101	(65 - 135)
Toluene-d8	119	(80 - 130)
	112	(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 Volatiles

Client Lot #...: E1L280163      Work Order #...: EQ5C51AD-MS      Matrix.....: WATER  
 MS Lot-Sample #: E1L280225-002      EQ5C51AE-MSD  
 Date Sampled...: 12/27/01 11:10      Date Received...: 12/28/01 09:50      MS Run #.....: 2002196  
 Prep Date.....: 12/28/01      Analysis Date...: 12/28/01  
 Prep Batch #...: 2002365      Analysis Time...: 16:24  
 Dilution Factor: 1      Analyst ID.....: 001464      Instrument ID...: G13

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCENT		METHOD
					RECOVERY	RPD	
TPH (as Gasoline)	ND	1000	1330	ug/L	133		WA-DOE WTPH-G
	ND	1000	1340	ug/L	134	0.56	WA-DOE WTPH-G
Gasoline Range Organics (	ND	1000	1330	ug/L	133		WA-DOE WTPH-G
	ND	1000	1340	ug/L	134	0.56	WA-DOE WTPH-G

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

NOTE(S):

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 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: E1L280163      Work Order #...: EQJ601A2-MS      Matrix.....: WATER  
 MS Lot-Sample #: G1L140395-001      EQJ601A3-MSD  
 Date Sampled...: 12/14/01 10:55      Date Received...: 12/14/01 17:20      MS Run #.....: 2003095  
 Prep Date.....: 01/02/02      Analysis Date...: 01/02/02  
 Prep Batch #...: 2003240      Analysis Time...: 18:00  
 Dilution Factor: 1      Analyst ID.....: 001464      Instrument ID...: G13

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
TPH (as Gasoline)	104	(70 - 140)			SW846 8015B
	109	(70 - 140)	4.5	(0-25)	SW846 8015B
<u>SURROGATE</u>		<u>PERCENT RECOVERY</u>		<u>RECOVERY LIMITS</u>	
a, a, a-Trifluorotoluene (TFT)		119		(60 - 130)	
		121		(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 EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: E1L280163      Work Order #...: EQ36M1AC-MS      Matrix.....: WATER  
 MS Lot-Sample #: E1L270236-004      EQ36M1AD-MSD  
 Date Sampled...: 12/27/01 11:12      Date Received...: 12/27/01 20:00      MS Run #.....: 1365139  
 Prep Date.....: 12/31/01      Analysis Date...: 12/31/01  
 Prep Batch #...: 1365291      Analysis Time...: 13:32  
 Dilution Factor: 1      Analyst ID.....: 015590      Instrument ID...: MSC

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Chlorobenzene	98	(75 - 120)			SW846 8260B
	98	(75 - 120)	0.71	(0-25)	SW846 8260B
1,1-Dichloroethene	105	(70 - 140)			SW846 8260B
	105	(70 - 140)	0.0	(0-25)	SW846 8260B
Trichloroethene	95	(70 - 130)			SW846 8260B
	98	(70 - 130)	2.4	(0-25)	SW846 8260B
Benzene	95	(75 - 120)			SW846 8260B
	100	(75 - 120)	5.2	(0-25)	SW846 8260B
Toluene	103	(75 - 125)			SW846 8260B
	99	(75 - 125)	3.4	(0-25)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	109	(75 - 130)
	109	(75 - 130)
1,2-Dichloroethane-d4	93	(65 - 135)
	101	(65 - 135)
Toluene-d8	119	(80 - 130)
	112	(80 - 130)

NOTE (S) :

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 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #...: E1L280163      Work Order #...: EQ5C51AD-MS      Matrix.....: WATER  
 MS Lot-Sample #: E1L280225-002      EQ5C51AE-MSD  
 Date Sampled...: 12/27/01 11:10      Date Received...: 12/28/01 09:50      MS Run #.....: 2002196  
 Prep Date.....: 12/28/01      Analysis Date...: 12/28/01  
 Prep Batch #...: 2002365      Analysis Time...: 16:24  
 Dilution Factor: 1      Analyst ID.....: 001464      Instrument ID...: G13

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
TPH (as Gasoline)	133	(70 - 140)			WA-DOE WTPH-G
	134	(70 - 140)	0.56	(0-25)	WA-DOE WTPH-G
Gasoline Range Organics (	133	(70 - 140)			WA-DOE WTPH-G
	134	(70 - 140)	0.56	(0-25)	WA-DOE WTPH-G

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
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

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