MISSION VALLEY / ROCK COMPANY
ASPHALT COMPANY
READY MIX COMPANY

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

February 23, 2001

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 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
# Fourth Quarter 2000

Mission Valley Rock Company
7999 Athenour Way
Sunol, California

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

*February 13, 2001*

FEBRUARY 13, 2001

# GROUNDWATER MONITORING REPORT
# FOURTH QUARTER 2000

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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Staff Geologist

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Director

TAIT ENVIRONMENTAL MANAGEMENT
701 NORTH PARKCENTER DRIVE
SANTA ANA, CALIFORNIA 92705


PROJECT NO. EM 5008

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TAIT Environmental Management, Inc.
Environmental · Engineering · Compliance

# GROUNDWATER MONITORING REPORT
# FOURTH QUARTER 2000

## MISSION VALLEY ROCK COMPANY
## 7999 ATHENOUR WAY
## SUNOL, CALIFORNIA

## 1.0 INTRODUCTION

Tait Environmental Management, Inc. (TEM) is pleased to submit this Fourth Quarter 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 guidelines.

## 2.0 WORK CONDUCTED DURING PRESENT QUARTER

Work conducted by TEM during the fourth quarter of 2000 included:

- Submitted to the client, *Third Quarter Report, September 2000, Mission Valley Rock Company, October 16, 2000.*
- Measured depth-to-groundwater in monitoring wells MW-1, MW-2 and MW-3 for evaluation of groundwater flow direction.
- Collected groundwater samples from each well for analysis of total petroleum hydrocarbons as diesel and gasoline (TPH-D and TPH-G, respectively); benzene, toluene, ethylbenzene, and xylenes (BTEX); and methyl-tert-butyl-ether (MTBE).

## 3.0 GROUNDWATER MONITORING ACTIVITIES

### 3.1 Groundwater Elevation Monitoring

On December 20, 2000, TEM measured and recorded static groundwater levels in three (3) groundwater monitoring wells using a product/water interface meter. The meter was decontaminated with detergent and two (2) de-ionized water rinses following water level measurement of each well.

Water levels were measured from the top of the well casings representing the well head survey points. A slight Liquid Phase Hydrocarbons (LPH) sheen (0.07 feet) was observed in monitoring well MW-2. No LPH was observed in monitoring wells MW-1 and MW-3.

Based on the data, the average depth to groundwater measured at the SITE during this sampling event is approximately 5.96 feet below ground surface (bgs). The apparent groundwater flow direction is to the southeast 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 new disposable bailer for each well. A minimum of three (3) casing volumes of water were purged from each of the monitoring wells, until measurements of pH, electrical conductivity, temperature and turbidity stabilized. Groundwater was allowed to recharge to at least 80 percent of the static level prior to collecting the groundwater samples. Because a dedicated disposable bailer was used for each well, no decontamination was necessary between wells. 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 appropriate sampling containers, stored at <4° C, and hand delivered to the laboratory under chain-of-custody protocol.

The purged groundwater was stored on-SITE in one (1) Department of Transportation (DOT) approved 55-gallon steel drums pending the results of the laboratory analysis.

## 4.0 LABORATORY ANALYSES

Groundwater samples collected from the three (3) wells were analyzed for:

- BTEX and MTBE using SW846 Method No. 8021B; and
- TPH-D and TPH-D using SW846 Method 8015B.

### 4.1 Groundwater Analytical Results

Laboratory analyses of the groundwater samples were conducted by Severn Trent Laboratories (STL), a State-Certified laboratory located in Santa Ana, California. Fourth quarter groundwater sample analytical results are summarized in Table 2 and shown in Figure 3. Laboratory reports are presented in Appendix C. A historical summary of groundwater sample analytical results is summarized in Table 4. Charts 2A, 2B, and 2C present historic measurements of TPHD, TPHG and MTBE, 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:

- On December 20, 2000, groundwater sampling was conducted for three (3) groundwater monitoring wells (MW-1, MW-2, and MW-3). A total of three (3) groundwater samples, one (1) sample from each well, was collected and submitted to a State-Certified laboratory for analyses;

- The average depth to groundwater measured at the SITE during this sampling event is approximately 5.96 feet bgs. The apparent groundwater flow direction is to the southeast with a groundwater gradient of approximately 0.02 ft/ft;

- Groundwater elevations have generally been declining in all monitoring wells since their installation in June 1998;

- A slight LPH sheen (0.07 feet) was observed in monitoring well MW-2. No LPH was observed in monitoring wells MW-1 and MW-3;

- The highest TPH-D and TPH-G concentrations were detected in the groundwater sample collected from well MW-2. The TPH-D concentration was 19 milligrams per Liter (mg/L) and the TPH-G concentration was 7.1 mg/L;

- Benzene concentrations were only detected at or above the laboratory detection limit in the groundwater sample collected from monitoring well MW-1 and was reported at 5.3 micrograms per Liter (ug/L);

- The highest MTBE concentration (80 ug/L) was detected in the sample collected from well MW-3;

- Interpretation of Charts 2A, 2B, and 2C would indicate that TPH-D, TPH-G, and MTBE have shown an overall decrease since groundwater sampling began in June 1998 with the exception of well MW-2 where TPH-D and TPH-G concentrations have shown a recent increase.

- The purged groundwater was stored on-SITE in one (1) Department of Transportation (DOT) approved 55-gallon steel drums pending the results of the laboratory analysis.

## 6.0 RECOMMENDATIONS

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

- Continue monitoring all wells for floating product, sheen and odors.

- Continued quarterly groundwater sampling to evaluate gradient and to monitor contaminant concentrations.

- Perform additional site assessment using hydropunch sampling and auger drilling.

## 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 the results to be within acceptable percent recoveries with no results exceeding the laboratory-established control limits.

## 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 we were not authorized to investigate, or conditions not generally recognized as environmentally unacceptable at the time services were performed.

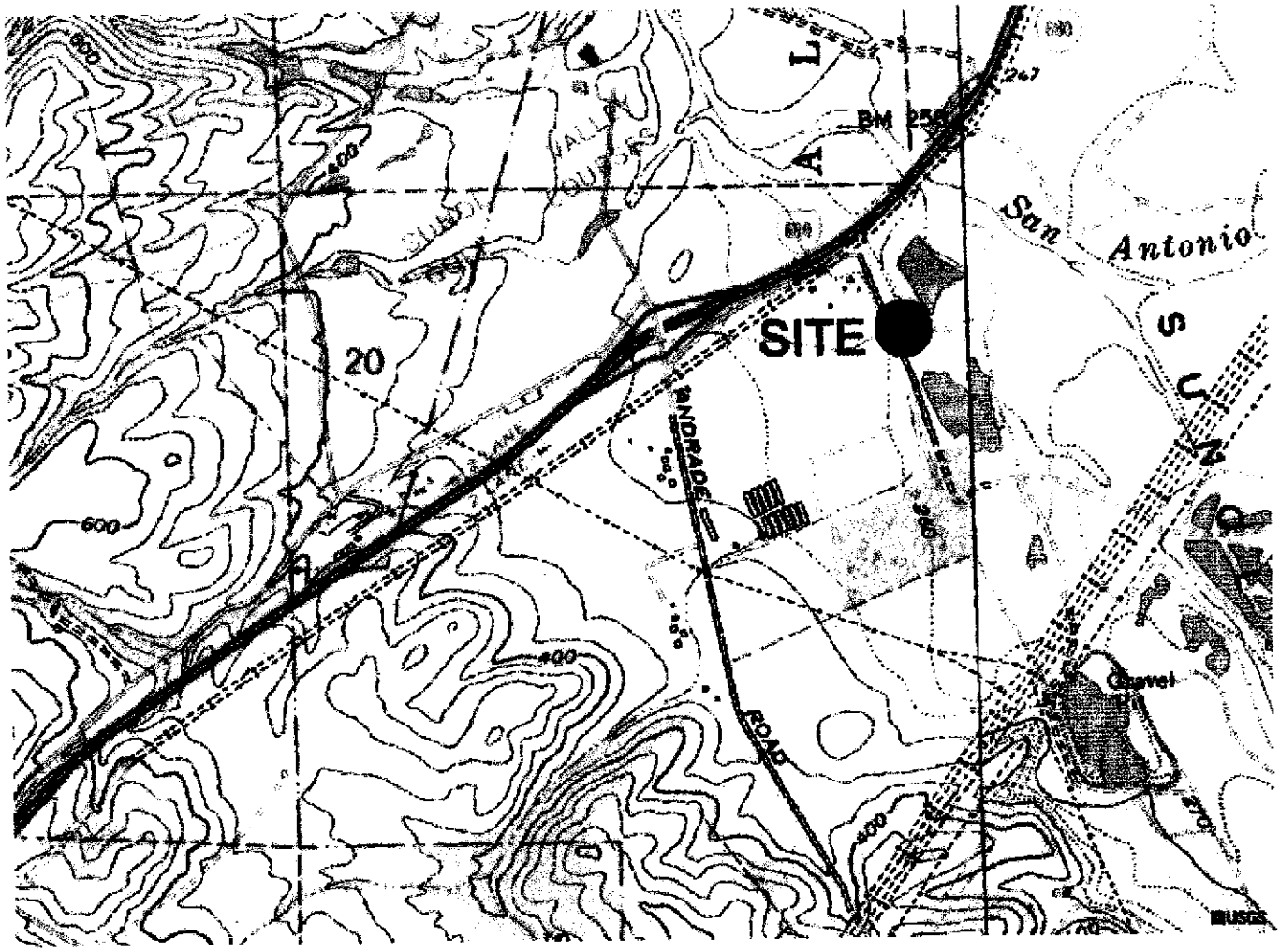
Services hereunder were performed in accordance with our agreement and understanding with, and solely for the use of, Mission Valley Rock Company. We are not responsible for the subsequent separation, detachment or partial use of this document. Any reliance on this report by a third party shall be at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

## 9.0 CLOSURE

The next sampling event is scheduled for March 2001.
Two additional copies of this letter report have been included for your delivery to:

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

- California Regional Water Quality Control Board
  San Francisco Bay Region
  Toxics Cleanup Division
  1515 Clay Street, Suite 1400
  Oakland, CA 94612




NORTH

0 2000

1" = 2000'

701 NORTH PARKCENTER DRIVE
SANTA ANA, CA 92705
(714) 560-8200
(714) 560-8235 FAX
ENVIRONMENTAL MANAGEMENT, INC.

NOTES:

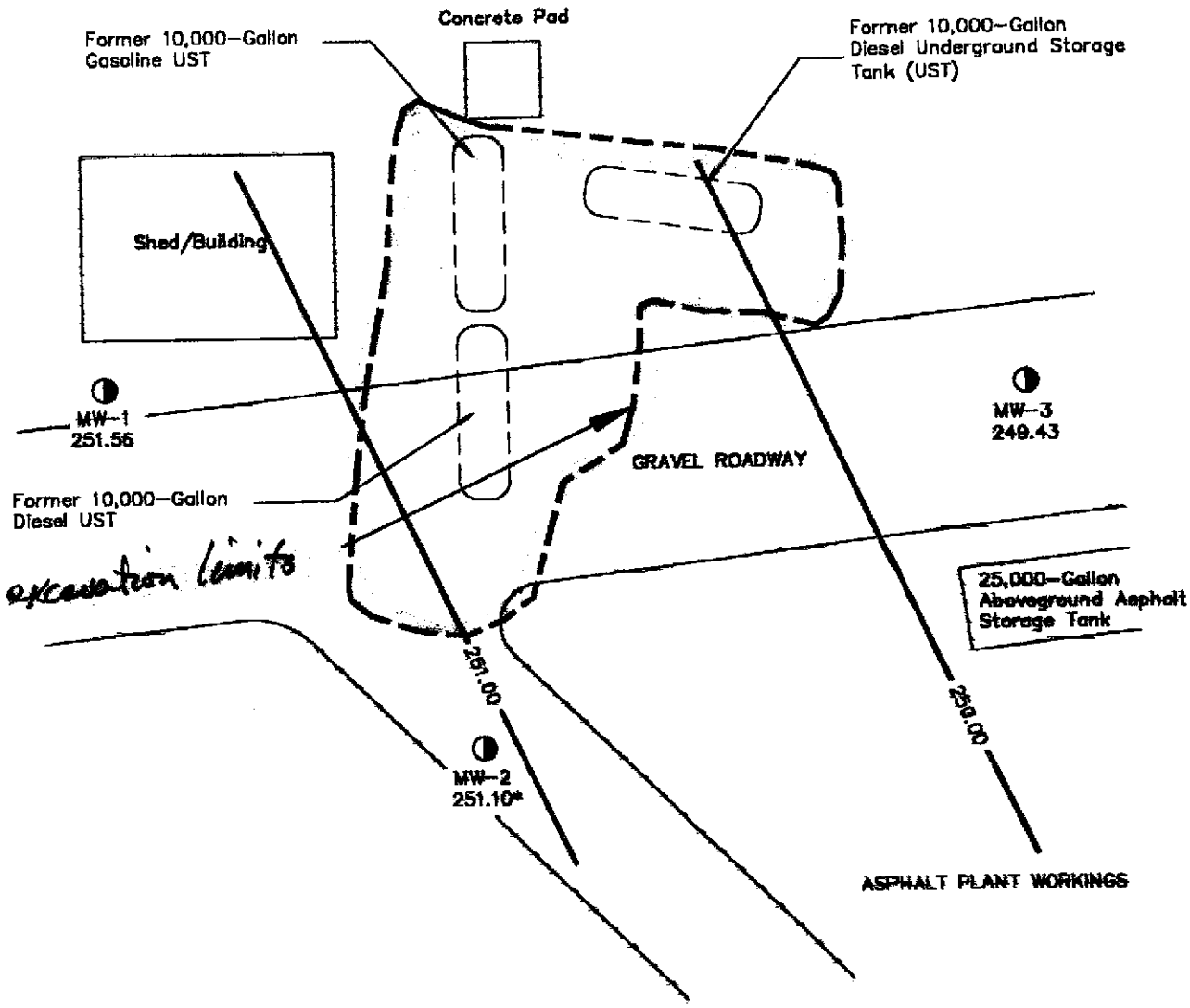
BASE MAP TAKEN FROM TERRASERVER.COM, UNITED STATES GEOLOGICAL SURVEY (USGS), FREEMONT QUADRANGLE, ALAMEDA COUNTY, CALIFORNIA. PRINTED JULY 1, 1989.

# SITE VICINITY MAP

MISSION VALLEY ROCK CO.
7999 ATHENOUR WAY
SUNOL, CALIFORNIA

| PROJECT NO. EM-5009 | FIGURE 1 |
|---|---|

M:\Term2\Clients\Mission Valley Rock\GW Monitoring 4th Qtr 2000\Mission Valley Rock – Figure 1




LEGEND:

BASE MAP REFERENCED FROM TANK PROTECT ENGINEERING

ALL DIMENSIONS AND LOCATIONS ARE APPROXIMATE

| | |
|---|---|
| MW-1 251.56 | GROUNDWATER MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (MSL) |
| 250.00 | GROUNDWATER CONTOUR WITH ELEVATION IN FEET ABOVE MSL |
| | GENERAL DIRECTION OF GROUNDWATER FLOW |
| | LIMITS OF FORMER UST EXCAVATION |
| 251.10* | CORRECTED GROUNDWATER ELEVATION |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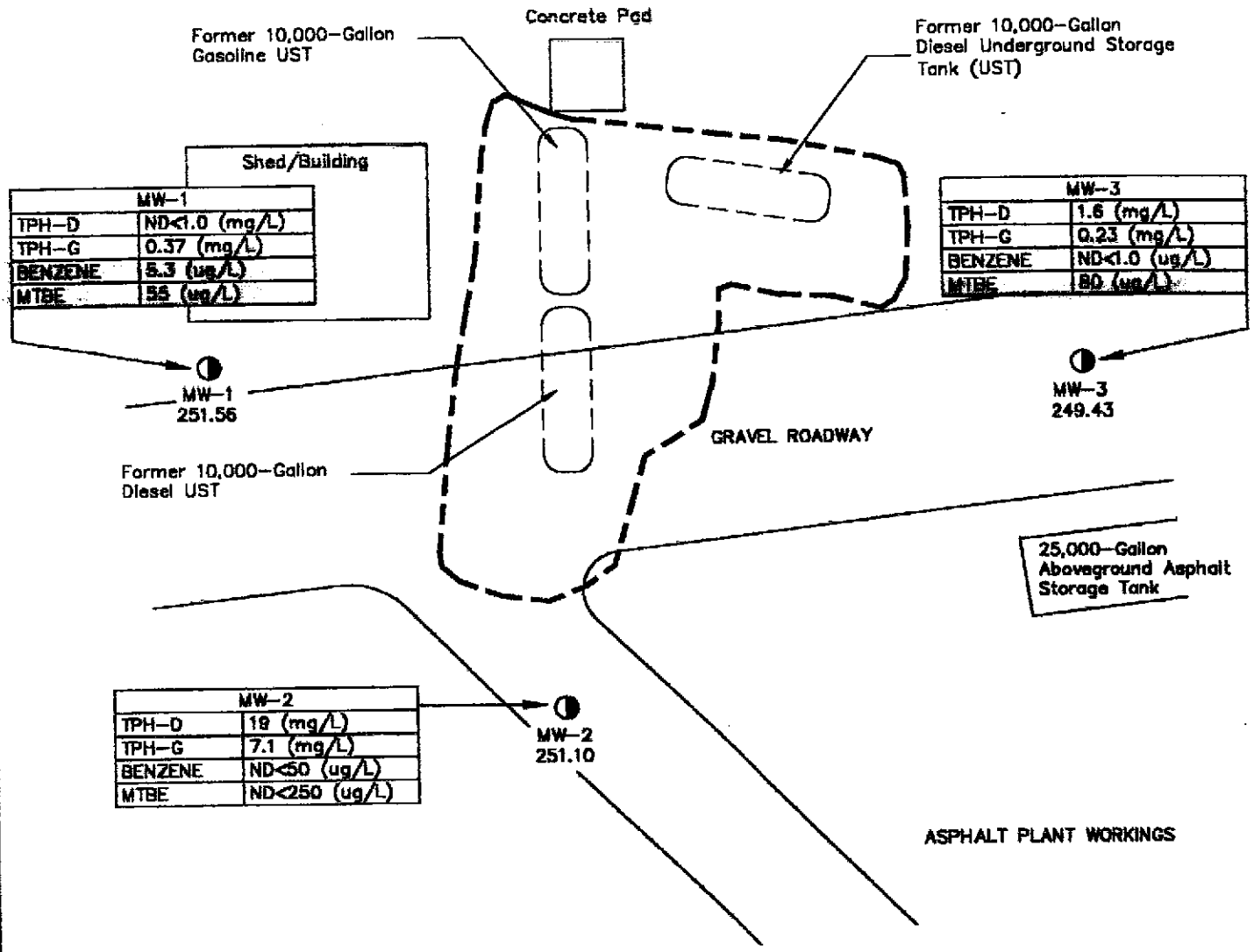
ENVIRONMENTAL MANAGEMENT, INC.


# SITE PLAN WITH GROUNDWATER ELEVATIONS (DECEMBER 2000)

MISSION VALLEY ROCK CO.
7999 ATHENOUR WAY
SUNOL, CALIFORNIA

| PROJECT NO. EM-5009 | FIGURE 2 |
|---|---|

S:\Team2\Clients\Mission Valley Rock\GW Monitoring 4th Qtr 2000\Mission Valley Rock - Figure 2




LEGEND:

BASE MAP REFERENCED FROM TANK PROTECT ENGINEERING

ALL DIMENSIONS AND LOCATIONS ARE APPROXIMATE

mg/L = MILLIGRAMS PER LITER

THP-D = TOTAL PETROLEUM HYDROCARBONS AS DIESEL

TPH-G = TOTAL PETROLEUM HYDROCARBONS AS GASOLINE

ug/L = MICROGRAMS PER LITER

◑ MW-1 GROUNDWATER MONITORING WELL

— — — — LIMITS OF FORMER UST EXCAVATION


701 NORTH PARKCENTER DRIVE
SANTA ANA, CA 92705
(714) 560-8200
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ENVIRONMENTAL MANAGEMENT, INC.


SELECT ANALYTICAL CONCENTRATIONS IN GROUNDWATER (DECEMBER 2000)

MISSION VALLEY ROCK CO.
7999 ATHENOUR WAY
SUNOL, CALIFORNIA

| PROJECT NO. EM-5009 | FIGURE 3 |
|---|---|

Table 1

**Groundwater Monitoring Well Construction and Groundwater Elevation Data (December 2000)**

Mission Valley Rock Company
7999 Athenour Way
Sunol, California

| Well | Diameter | Screened Interval | Total Depth | Depth to LPH | Depth to Water | LPH Thickness | Top of Casing Elevation | Groundwater Elevation |
|---|---|---|---|---|---|---|---|---|
| MW-1 | 2 | 5 - 20 | 16.71 | ND | 4.95 | ND | 256.51 | 251.56 |
| MW-2 | 2 | 5 - 20 | 19.16 | 5.58 | 5.65 | 0.07 | 256.70 | 251.10* |
| MW-3 | 2 | 5 - 20 | 17.38 | ND | 7.29 | ND | 256.72 | 249.43 |

Notes:

Screened Intervals are approximated.

LPH = Liquid Phase Hydrocarbons

LPH Thickness measurments reported in feet.

ND = Not Detected

Screened Interval, Total Depth, Depth to Water, and Depth to LPH measurements reported in feet below top of casing.

Surface Elevation, Top of Casing Elevation, and Groundwater Elevations are reported in feet above mean sea level.

Total depth and depth to water measurements taken by Tait Environmental Management from top of monitoring well casing on December 20, 2000.

Screened interval in wells is lower than total depth due to silt in the bottom of the wells.

* Adjusted groundwater elevation = TOC elevation-Depth to water+(product thickness* .79)

Table 2

**Summary of Groundwater Analytical Results**

**(December 2000)**

Mission Valley Rock Company
7999 Athenour Way
Sunol, California

| Well | Date | TPH-D (mg/L) | TPH-G (mg/L) | Benzene (ug/L) | Toluene (ug/L) | Ethylbenzene (ug/L) | Total Xylenes (ug/L) | MTBE (ug/L) |
|---|---|---|---|---|---|---|---|---|
| MW-1 | 12/20/00 | ND<1.0 | **0.37** | **5.3** | ND<1.0 | **2.7** | ND<3.0 | **55** |
| MW-2 | 12/20/00 | **19** | **7.1** | ND<50 | ND<50 | ND<50 | ND<150 | ND<250 |
| MW-3 | 12/20/00 | **1.6** | **0.23** | ND<1.0 | ND<1.0 | ND<1.0 | ND<3.0 | **80** |

Notes:

mg/L = milligrams per Liter

ug/L = micrograms per Liter

MTBE = Methyl-tert-Butyl Ether

ND = Not detected at or above respective detection limit.

TPH-D and TPH-G concentrations reported using method SW846 8015B.

Benzene, Toluene, Ethylbenzene, Total Xylene, and MTBE concentrations reported using method SW846 8012B.

Table 3

**Historical Summary of Groundwater Data**

Mission Valley Rock Company
7999 Athenour Way
Sunol, California

| | | | | |
|---|---|---|---|---|
| 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 | ND (Odor) |
| | Jun-00 | 4.01 | 252.50 | ND (Slight Odor) |
| | Sep-00 | 5.11 | 251.40 | ND (Slight Odor) |
| | Dec-00 | 4.95 | 251.56 | 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 |
| MW-3 | Jun-98 | 2.66 | 254.06 | ND |
| | Jan-99 | 4.47 | 252.25 | ND (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 | ND (Odor) |
| | Mar-00 | 4.61 | 252.11 | ND (Odor) |
| | Jun-00 | 6.35 | 250.37 | ND (Very Slight Odor) |
| | Sep-00 | 7.30 | 249.42 | ND (Very Slight Odor) |
| | Dec-00 | 7.29 | 249.43 | ND |

Notes:

msl = mean sea level

LPH = Liquid Phase Hydrocarbons

ND = Not Detected

TOC = Top of Casing

Table 4

**Historical Summary of Groundwater Analytical Data**

Mission Valley Rock Company
7999 Athenour Way
Sunol, California

| Well | Date | TPH-D (ug/L) | TPH-G (ng/L) | Benzene (ug/L) | Toluene (ug/L) | Ethylbenzene (ug/L) | Total Xylenes (ug/L) | MTBE (ug/L) |
|---|---|---|---|---|---|---|---|---|
| MW-1 | Jun-98 | ND<50 | **3,100** | **19** | **2.3** | **91** | **48** | **110** |
| | Oct-98 | ND<50 | **2,300** | **3.1** | **4.2** | **5** | **15** | ND<0.5 |
| | Dec-98 | **350** | ND<50 | **12** | **7.5** | **20** | **6.2** | ND<0.5 |
| | 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<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | 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<0.5 | **9.4** | **2.6** | **9.8** |
| | Dec-00 | ND<1.0 (mg/L) | **0.37** (mg/L) | **5.3** | ND<1.0 | **2.7** | ND<3.0 | **55** |
| MW-2 | Jun-98 | **12,000** | **2,500** | **0.68** | ND<0.5 | **1.2** | **0.57** | **14** |
| | Oct-98 | **4,300** | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 |
| | Dec-98 | **38,000** | ND<5000 | 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<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | **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<0.5 | ND<0.5 | ND<0.5 | **0.94** | **12** |
| | Dec-00 | **19** (mg/L) | **7.1** (mg/L) | ND<50 | ND<50 | ND<50 | ND<150 | ND<250 |

Table 4

**Historical Summary of Groundwater Analytical Data**

Mission Valley Rock Company
7999 Athenour Way
Sunol, California

| Well # | Date | TPH-D (ug/L) | TPH-G (ug/L) | Benzene (ug/L) | Toluene (ug/L) | Ethylbenzene (ug/L) | Total Xylenes (ug/L) | MTBE (ng/L) |
|---|---|---|---|---|---|---|---|---|
| MW-3 | Jun-98 | **12,000** | **300** | **0.8** | ND<0.5 | ND<0.5 | ND<0.5 | **150** |
| | Oct-98 | **6,400** | ND<50 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | ND<0.5 |
| | Dec-98 | **5,600** | ND<100 | **1.6** | **1.4** | ND<1 | ND<1 | **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<0.5 | ND<0.5 | ND<0.5 | ND<0.5 | **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<0.5 | ND<0.5 | ND<0.5 | **68** |
| | Dec-00 | **1.6** (mg/L) | **0.23** (mg/L) | ND<1.0 | ND<1.0 | ND<1.0 | ND<3.0 | **80** |

Notes:

mg/L = milligrams per Liter

msl = mean sea level

LPH = Liquid Phase Hydrocarbons

ND = Not detected at or above respective detection limit.

TOC = Top of Casing

ug/L = micrograms per Liter

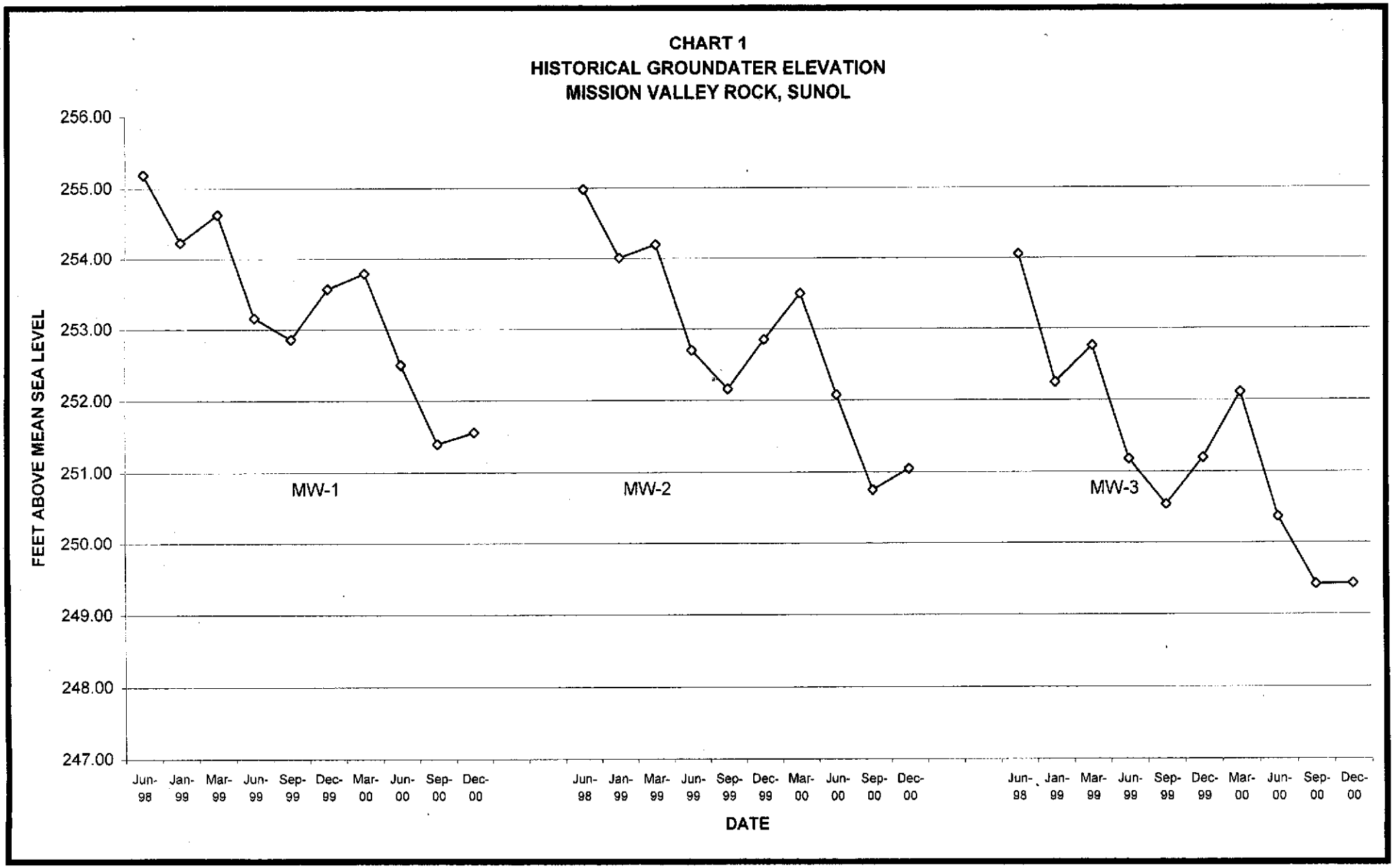


CHART 1
HISTORICAL GROUNDATER ELEVATION
MISSION VALLEY ROCK, SUNOL
FEET ABOVE MEAN SEA LEVEL
256.00
255.00
254.00
253.00
252.00
251.00
250.00
249.00
248.00
247.00
MW-1
MW-2
MW-3
Jun-98
Jan-99
Mar-99
Jun-99
Sep-99
Dec-99
Mar-00
Jun-00
Sep-00
Dec-00
DATE

**CHART 2A**
**HISTORICAL TPH-D CONCENTRATIONS**
**MISSION VALLEY ROCK, SUNOL**

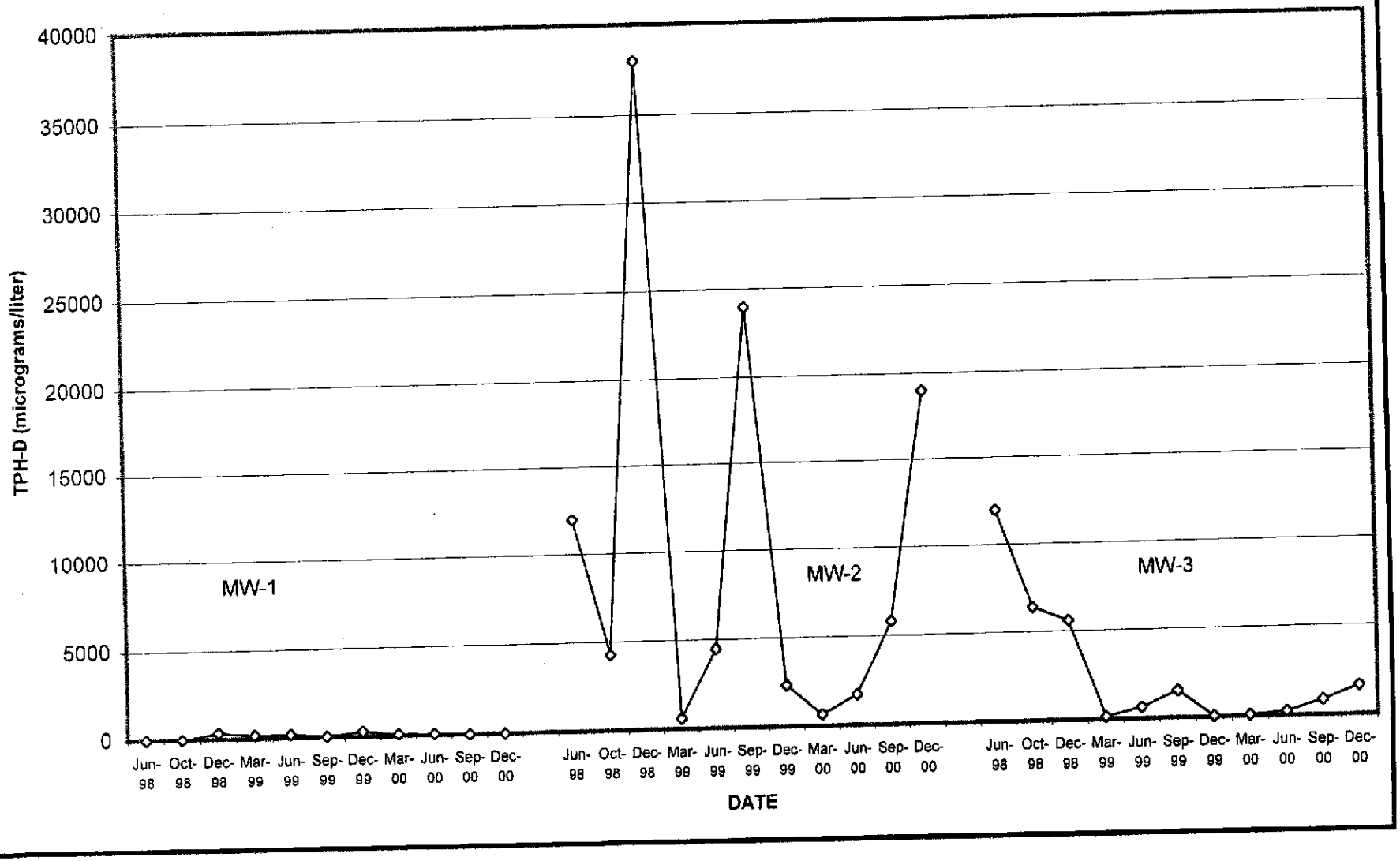


**CHART 2B**
**HISTORICAL TPH-G CONCENTRATIONS**
**MISSION VALLEY ROCK, SUNOL**

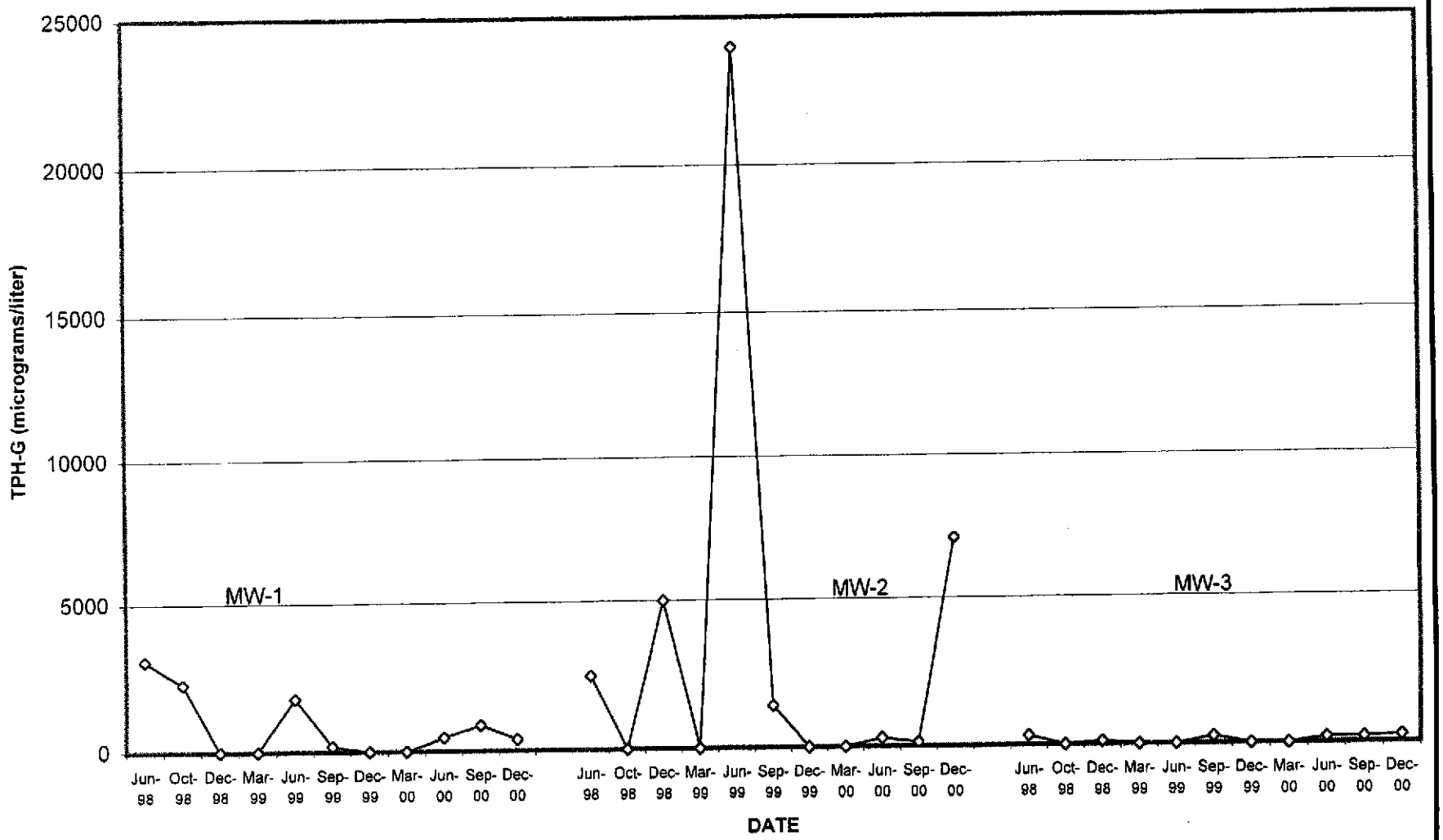
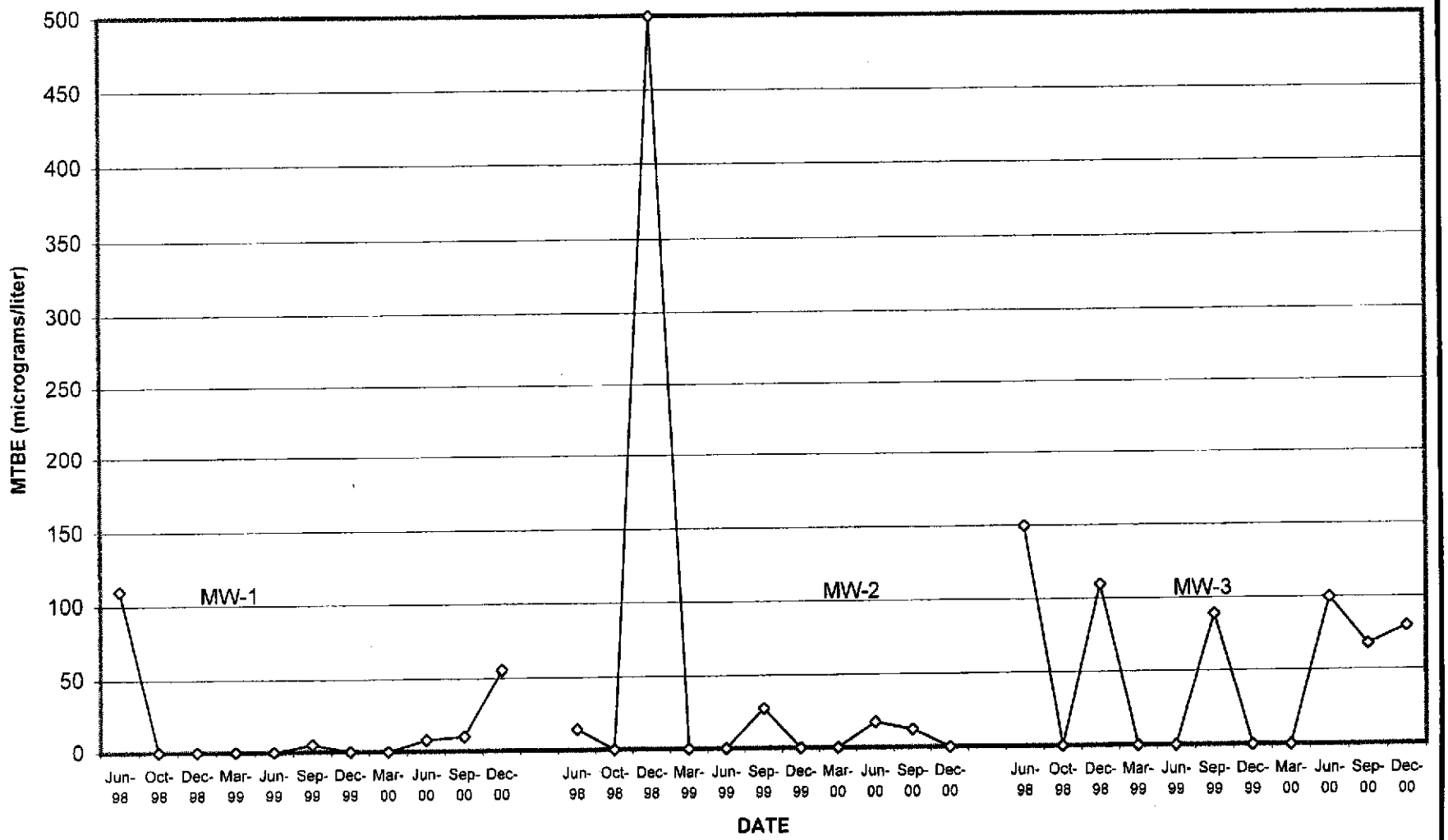


**CHART 2C**
**HISTORICAL MTBE CONCENTRATIONS**
**MISSION VALLEY ROCK, SUNOL**



**TAIT Environmental Management, Inc.**
Well Sampling Field Data Sheet

| | | | |
|---|---|---|---|
| **SITE:** Mission Valley Rock | | **Project #:** | |
| **Well ID:** MW-1 | **Well Diameter (in.):** 2 | **Personnel:** SEE | **Date:** 12/20/00 |
| Depth to Water (ft): 4.95 | | Depth to Product (ft): ND | |
| Total Depth (ft): 16.71 | | Product Thickness (ft): ND | |
| Height of Water Column (ft): 11.76 | | Three (3) Casing Volumes (gal): 5.75 | |
| One (1) Casing Volume (gal): 1.91 | | Purge Start Time: 7:21 | |

| Time | Volume (Gallons) | Conductivity (mS/cm) | Temp (°C) | pH | Turbidity (NTU) | Observations |
|---|---|---|---|---|---|---|
| 7:25 | 2 | 1.23 | 53.4 | 7.45 | 26.9 | clear, no odor |
| 7:29 | 4 | 1.19 | 53.4 | 7.41 | 92.6 | " " |
| 7:33 | 6 | 1.21 | 53.7 | 7.36 | 99.5 | " " |

| | | | |
|---|---|---|---|
| 80% Recovery Depth (ft): | 7.30 | Depth to Water at Sampling (ft): | 5.13 |
| | | Sample Collection Time: | 7:45 |

**Notes:** hand bail w/ disposable bailer.

| | | | |
|---|---|---|---|
| **SITE:** Mission Valley Rock | | **Project #:** | |
| **Well ID:** MW-2 | **Well Diameter (in.):** 2 | **Personnel:** SEE | **Date:** 12/20/00 |
| Depth to Water (ft): 5.65 ~~5.58~~ ~~6.50~~ SEE ~~6.05~~ | | Depth to Product (ft): 5.58 | |
| Total Depth (ft): 19.16 | | Product Thickness (ft): 0.07 | |
| Height of Water Column (ft): 13.51 | | Three (3) Casing Volumes (gal): 6.6 | |
| One (1) Casing Volume (gal): 2.20 | | Purge Start Time: 8:44 | |

| Time | Volume (Gallons) | Conductivity (mS/cm) | Temp (°C) | pH | Turbidity (NTU) | Observations |
|---|---|---|---|---|---|---|
| 8:48 | 2 | 1.08 | 49.8 | 7.41 | 56.9 | clear w/ slight prod. sheen |
| 8:54 | 4 | 1.16 | 54.0 | 7.27 | 46.5 | clear - no sheen |
| 8:58 | 6 | 1.17 | 55.6 | 7.38 | 65.3 | " " |

| | | | |
|---|---|---|---|
| 80% Recovery Depth (ft): | 8.35 | Depth to Water at Sampling (ft): | 6.19 |
| | | Sample Collection Time: | 9:09 |

**Notes:** hand bail w/ disposable bailer

**TAIT Environmental Management, Inc.**
Well Sampling Field Data Sheet

| | | | |
|---|---|---|---|
| **SITE:** Mission Valley Rock | | **Project #:** | |
| **Well ID:** MW-3 | **Well Diameter (in.):** 2 | **Personnel:** SEE | **Date:** 12/20/00 |

| | | | |
|---|---|---|---|
| Depth to Water (ft): | 7.29 | Depth to Product (ft): | ND |
| Total Depth (ft): | 17.38 | Product Thickness (ft): | ND |
| Height of Water Column (ft): | 10.09 | Three (3) Casing Volumes (gal): | 4.93 |
| One (1) Casing Volume (gal): | 1.65 | Purge Start Time: | 9:22 |

| Time | Volume (Gallons) | Conductivity (mS/cm) | Temp (°C) | pH | Turbidity (NTU) | Observations |
|---|---|---|---|---|---|---|
| 9:26 | 1.5 | 1.18 | 55.7 | 7.46 | 87.0 | slightly cloudy |
| 9:29 | 3.0 | 1.17 | 58.1 | 7.43 | 91.0 | " " " " |
| 9:34 | 4.5 | 1.19 | 59.0 | 7.39 | 90.0 | " " " " |

| | | | |
|---|---|---|---|
| 80% Recovery Depth (ft): | 9.30 | Depth to Water at Sampling (ft): | 7.60 |
| | | Sample Collection Time: | 9:45 |

**Notes:** hand bail w/ disposable bailer.

| | | | |
|---|---|---|---|
| **SITE:** | | **Project #:** | |
| **Well ID:** | **Well Diameter (in.):** | **Personnel:** | **Date:** |

| | | | |
|---|---|---|---|
| Depth to Water (ft): | | Depth to Product (ft): | |
| Total Depth (ft): | | Product Thickness (ft): | |
| Height of Water Column (ft): | | Three (3) Casing Volumes (gal): | |
| One (1) Casing Volume (gal): | | Purge Start Time: | |

| Time | Volume (Gallons) | Conductivity (mS/cm) | Temp (°C) | pH | Turbidity (NTU) | Observations |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |

| | | | |
|---|---|---|---|
| 80% Recovery Depth (ft): | | Depth to Water at Sampling (ft): | |
| | | Sample Collection Time: | |

**Notes:**

# ANALYTICAL REPORT

PROJECT NO. EM-5009

MISSION ROCK

Lot #: E0L210346

Scott Ek

Tait Environmental

SEVERN TRENT LABORATORIES, INC.

Marisol Tabirara
Project Manager

January 11, 2001

# EXECUTIVE SUMMARY - Detection Highlights

**E0L210346**

| PARAMETER | RESULT | REPORTING LIMIT | UNITS | ANALYTICAL METHOD |
|---|---|---|---|---|
| **MW-1 12/20/00 07:45 001** | | | | |
| TPH (as Gasoline) | 0.37 | 0.10 | mg/L | SW846 8015B |
| Benzene | 5.3 | 1.0 | ug/L | SW846 8021B |
| Ethylbenzene | 2.7 | 1.0 | ug/L | SW846 8021B |
| Methyl tert-butyl ether | 55 | 5.0 | ug/L | SW846 8021B |
| **MW-2 12/20/00 09:09 002** | | | | |
| TPH (as Diesel) | 19 | 1.0 | mg/L | SW846 8015B |
| TPH (as Gasoline) | 7.1 | 5.0 | mg/L | SW846 8015B |
| **MW-3 12/20/00 09:45 003** | | | | |
| TPH (as Diesel) | 1.6 | 1.0 | mg/L | SW846 8015B |
| TPH (as Gasoline) | 0.23 | 0.10 | mg/L | SW846 8015B |
| Methyl tert-butyl ether | 80 | 5.0 | ug/L | SW846 8021B |

# METHODS SUMMARY

**E0L210346**

| PARAMETER | ANALYTICAL METHOD | PREPARATION METHOD |
|---|---|---|
| Extractable Petroleum Hydrocarbons | SW846 8015B | SW846 3510 |
| Volatile Petroleum Hydrocarbons | SW846 8015B | SW846 5030 |
| Volatiles by GC | SW846 8021B | SW846 5030B |

**References:**

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

# SAMPLE SUMMARY

**E0L210346**

| WO # | SAMPLE# | CLIENT SAMPLE ID | DATE | TIME |
|---|---|---|---|---|
| DRWQT | 001 | MW-1 | 12/20/00 | 07:4 |
| DRWQV | 002 | MW-2 | 12/20/00 | 09:0 |
| DRWQW | 003 | MW-3 | 12/20/00 | 09:4 |

**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 Semivolatiles

| | | | | | |
|---|---|---|---|---|---|
| Lot-Sample #...: | E0L210346-001 | Work Order #...: | DRWQT1AA | Matrix.....: | WATER |
| Date Sampled...: | 12/20/00 07:45 | Date Received..: | 12/21/00 16:15 | MS Run #.....: | |
| Prep Date.....: | 12/26/00 | Analysis Date..: | 12/27/00 | | |
| Prep Batch #...: | 0361262 | Analysis Time..: | 15:27 | | |
| Dilution Factor: | 1 | | | | |
| Analyst ID.....: | 356074 | Instrument ID..: | G01 | | |
| | | Method.....: | SW846 8015B | | |

| PARAMETER | RESULT | REPORTING LIMIT | UNITS |
|---|---|---|---|
| TPH (as Diesel) | ND | 1.0 | mg/L |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| Benzo(a)pyrene | 112 | (60 - 130) |

TAIT ENVIRONMENTAL

Client Sample ID: MW-1

GC Volatiles

| | | | | | |
|---|---|---|---|---|---|
| Lot-Sample #...: | E0L210346-001 | Work Order #...: | DRWQT1AC | Matrix.....: | WATER |
| Date Sampled...: | 12/20/00 07:45 | Date Received..: | 12/21/00 16:15 | MS Run #.....: | 0364233 |
| Prep Date.....: | 12/28/00 | Analysis Date..: | 12/28/00 | | |
| Prep Batch #...: | 0364357 | Analysis Time..: | 20:07 | | |
| Dilution Factor: | 1 | | | | |
| Analyst ID.....: | 001464 | Instrument ID..: | G13 | | |
| | | Method.....: | SW846 8015B | | |

| PARAMETER | RESULT | REPORTING LIMIT | UNITS |
|---|---|---|---|
| TPH (as Gasoline) | 0.37 | 0.10 | mg/L |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| a,a,a-Trifluorotoluene (TFT) | 87 | (60 - 130) |

NOTE(S):

Unknown hydrocarbon pattern.

TAIT ENVIRONMENTAL

Client Sample ID: MW-1

GC Volatiles

| | | | | | |
|---|---|---|---|---|---|
| Lot-Sample #...: | E0L210346-001 | Work Order #...: | DRWQT1AD | Matrix.....: | WATER |
| Date Sampled...: | 12/20/00 07:45 | Date Received..: | 12/21/00 16:15 | MS Run #.....: | 1011181 |
| Prep Date.....: | 12/28/00 | Analysis Date..: | 12/28/00 | | |
| Prep Batch #...: | 1003215 | Analysis Time..: | 20:07 | | |
| Dilution Factor: | 1 | | | | |
| Analyst ID.....: | 001464 | Instrument ID..: | G13 | | |
| | | Method.....: | SW846 8021B | | |

| PARAMETER | RESULT | REPORTING LIMIT | UNITS |
|---|---|---|---|
| Benzene | 5.3 | 1.0 | ug/L |
| Toluene | ND | 1.0 | ug/L |
| Ethylbenzene | 2.7 | 1.0 | ug/L |
| Xylenes (total) | ND | 3.0 | ug/L |
| Methyl tert-butyl ether | 55 | 5.0 | ug/L |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| a,a,a-Trifluorotoluene (TFT) | 102 | (60 - 130) |

TAIT ENVIRONMENTAL

Client Sample ID: MW-2

GC Semivolatiles

| | | | | | |
|---|---|---|---|---|---|
| Lot-Sample #...: | E0L210346-002 | Work Order #...: | DRWQV1AA | Matrix.....: | WATER |
| Date Sampled...: | 12/20/00 09:09 | Date Received..: | 12/21/00 16:15 | MS Run #.....: | |
| Prep Date.....: | 12/26/00 | Analysis Date..: | 12/27/00 | | |
| Prep Batch #...: | 0361262 | Analysis Time..: | 15:57 | | |
| Dilution Factor: | 1 | | | | |
| Analyst ID.....: | 356074 | Instrument ID..: | G01 | | |
| | | Method.....: | SW846 8015B | | |

| PARAMETER | RESULT | REPORTING LIMIT | UNITS |
|---|---|---|---|
| TPH (as Diesel) | 19 | 1.0 | mg/L |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| Benzo(a)pyrene | 105 | (60 - 130) |

NOTE(S):

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

TAIT ENVIRONMENTAL

Client Sample ID: MW-2

GC Volatiles

| | | | | | |
|---|---|---|---|---|---|
| Lot-Sample #...: | E0L210346-002 | Work Order #...: | DRWQV1AC | Matrix.....: | WATER |
| Date Sampled...: | 12/20/00 09:09 | Date Received..: | 12/21/00 16:15 | MS Run #.....: | 0364233 |
| Prep Date.....: | 12/28/00 | Analysis Date..: | 12/28/00 | | |
| Prep Batch #...: | 0364357 | Analysis Time..: | 20:36 | | |
| Dilution Factor: | 50 | | | | |
| Analyst ID.....: | 001464 | Instrument ID..: | G13 | | |
| | | Method.....: | SW846 8015B | | |

| PARAMETER | RESULT | REPORTING LIMIT | UNITS |
|---|---|---|---|
| TPH (as Gasoline) | 7.1 | 5.0 | mg/L |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| a,a,a-Trifluorotoluene (TFT) | 80 | (60 - 130) |

NOTE(S):

Unknown hydrocarbon pattern.

TAIT ENVIRONMENTAL

Client Sample ID: MW-2

GC Volatiles

| | | | | | |
|---|---|---|---|---|---|
| Lot-Sample #...: | E0L210346-002 | Work Order #...: | DRWQV1AD | Matrix.....: | WATER |
| Date Sampled...: | 12/20/00 09:09 | Date Received..: | 12/21/00 16:15 | MS Run #.....: | 1011181 |
| Prep Date.....: | 12/28/00 | Analysis Date..: | 12/28/00 | | |
| Prep Batch #...: | 1003215 | Analysis Time..: | 20:36 | | |
| Dilution Factor: | 50 | | | | |
| Analyst ID.....: | 001464 | Instrument ID..: | G13 | | |
| | | Method.....: | SW846 8021B | | |

| PARAMETER | RESULT | REPORTING LIMIT | UNITS |
|---|---|---|---|
| Benzene | ND G | 50 | ug/L |
| Toluene | ND G | 50 | ug/L |
| Ethylbenzene | ND G | 50 | ug/L |
| Xylenes (total) | ND G | 150 | ug/L |
| Methyl tert-butyl ether | ND G | 250 | ug/L |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| a,a,a-Trifluorotoluene (TFT) | 89 | (60 - 130) |

NOTE(S):

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

TAIT ENVIRONMENTAL

Client Sample ID: MW-3

GC Semivolatiles

| | | | | | |
|---|---|---|---|---|---|
| Lot-Sample #...: | E0L210346-003 | Work Order #...: | DRWQW1AA | Matrix.....: | WATER |
| Date Sampled...: | 12/20/00 09:45 | Date Received..: | 12/21/00 16:15 | MS Run #.....: | |
| Prep Date.....: | 12/26/00 | Analysis Date..: | 12/27/00 | | |
| Prep Batch #...: | 0361262 | Analysis Time..: | 16:27 | | |
| Dilution Factor: | 1 | | | | |
| Analyst ID.....: | 356074 | Instrument ID..: | G01 | | |
| | | Method.....: | SW846 8015B | | |

| PARAMETER | RESULT | REPORTING LIMIT | UNITS |
|---|---|---|---|
| TPH (as Diesel) | 1.6 | 1.0 | mg/L |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| Benzo(a)pyrene | 109 | (60 - 130) |

NOTE(S):

The pattern is unknown hydrocarbons; C range- C14 to beyond C24.

TAIT ENVIRONMENTAL

Client Sample ID: MW-3

GC Volatiles

| | | | |
|---|---|---|---|
| Lot-Sample #...: E0L210346-003 | Work Order #...: DRWQW1AC | Matrix.....: WATER |
| Date Sampled...: 12/20/00 09:45 | Date Received..: 12/21/00 16:15 | MS Run #.....: 0364233 |
| Prep Date.....: 12/28/00 | Analysis Date..: 12/28/00 | |
| Prep Batch #...: 0364357 | Analysis Time..: 21:04 | |
| Dilution Factor: 1 | | |
| Analyst ID.....: 001464 | Instrument ID..: G13 | |
| | Method.....: SW846 8015B | |

| PARAMETER | RESULT | REPORTING LIMIT | UNITS |
|---|---|---|---|
| TPH (as Gasoline) | 0.23 | 0.10 | mg/L |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| a,a,a-Trifluorotoluene (TFT) | 75 | (60 - 130) |

NOTE(S):

Unknown hydrocarbon pattern.

TAIT ENVIRONMENTAL

Client Sample ID: MW-3

GC Volatiles

Lot-Sample #...: E0L210346-003 Work Order #...: DRWQW1AD Matrix.....: WATER
Date Sampled...: 12/20/00 09:45 Date Received..: 12/21/00 16:15 MS Run #.....: 1011181
Prep Date.....: 12/28/00 Analysis Date..: 12/28/00
Prep Batch #...: 1003215 Analysis Time..: 21:04
Dilution Factor: 1
Analyst ID.....: 001464 Instrument ID..: G13
Method.....: SW846 8021B

| PARAMETER | RESULT | REPORTING LIMIT | UNITS |
|---|---|---|---|
| Benzene | ND | 1.0 | ug/L |
| Toluene | ND | 1.0 | ug/L |
| Ethylbenzene | ND | 1.0 | ug/L |
| Xylenes (total) | ND | 3.0 | ug/L |
| Methyl tert-butyl ether | 80 | 5.0 | ug/L |

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

# QC DATA ASSOCIATION SUMMARY

**E0L210346**

Sample Preparation and Analysis Control Numbers

| SAMPLE# | MATRIX | ANALYTICAL METHOD | LEACH BATCH # | PREP BATCH # | MS RUN# |
|---|---|---|---|---|---|
| 001 | WATER | SW846 8015B | | 0361262 | |
| | WATER | SW846 8015B | | 0364357 | 0364233 |
| | WATER | SW846 8021B | | 1003215 | 1011181 |
| 002 | WATER | SW846 8015B | | 0361262 | |
| | WATER | SW846 8015B | | 0364357 | 0364233 |
| | WATER | SW846 8021B | | 1003215 | 1011181 |
| 003 | WATER | SW846 8015B | | 0361262 | |
| | WATER | SW846 8015B | | 0364357 | 0364233 |
| | WATER | SW846 8021B | | 1003215 | 1011181 |

## METHOD BLANK REPORT

### GC Semivolatiles

Client Lot #...: E0L210346
MB Lot-Sample #: E0L260000-262

Work Order #...: DR1ET1AA

Matrix.....: WATER

Prep Date.....: 12/26/00
Prep Batch #...: 0361262

Analysis Time..: 13:57
Instrument ID..: G01

Analysis Date..: 12/27/00
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 | 100 | (60 - 130) |

NOTE(S):

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

## METHOD BLANK REPORT

### GC Volatiles

Client Lot #...: E0L210346
MB Lot-Sample #: E0L290000-357

Work Order #...: DR5GM1AA

Matrix.....: WATER

Prep Date.....: 12/28/00
Prep Batch #...: 0364357

Analysis Time..: 12:37
Instrument ID..: G13

Analysis Date..: 12/28/00
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) | 72 | (60 - 130) |

NOTE(S):

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

## METHOD BLANK REPORT

### GC Volatiles

Client Lot #...: E0L210346
MB Lot-Sample #: E1A030000-215

Work Order #...: DR6781AA

Matrix.....: WATER

Prep Date.....: 12/28/00
Prep Batch #...: 1003215

Analysis Time..: 12:37
Instrument ID..: G13

Analysis Date..: 12/28/00
Dilution Factor: 1

Analyst ID.....: 001464

| PARAMETER | RESULT | REPORTING LIMIT | UNITS | METHOD |
|---|---|---|---|---|
| Benzene | ND | 1.0 | ug/L | SW846 8021B |
| Toluene | ND | 1.0 | ug/L | SW846 8021B |
| Ethylbenzene | ND | 1.0 | ug/L | SW846 8021B |
| Xylenes (total) | ND | 3.0 | ug/L | SW846 8021B |
| Methyl tert-butyl ether | ND | 5.0 | ug/L | SW846 8021B |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| a,a,a-Trifluorotoluene (TFT) | 87 | (60 - 130) |

NOTE(S):

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

## LABORATORY CONTROL SAMPLE DATA REPORT

### GC Semivolatiles

**Client Lot #...:** E0L210346
**LCS Lot-Sample#:** E0L260000-262
**Prep Date.....:** 12/26/00
**Prep Batch #...:** 0361262
**Dilution Factor:** 1
**Analyst ID.....:** 356074

**Work Order #...:** DR1ET1AC-LCS
DR1ET1AD-LCSD
**Analysis Date..:** 12/27/00
**Analysis Time..:** 14:27
**Instrument ID..:** G01

**Matrix.....:** WATER

| PARAMETER | SPIKE AMOUNT | MEASURED AMOUNT | UNITS | PERCENT RECOVERY | RPD | METHOD |
|---|---|---|---|---|---|---|
| **TPH (as Diesel)** | **5.00** | **5.35** | **mg/L** | **107** | | **SW846 8015B** |
| | **5.00** | **4.99** | **mg/L** | **100** | **7.1** | **SW846 8015B** |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| Benzo(a)pyrene | 111 | (60 - 130) |
| | 103 | (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 #...: E0L210346
LCS Lot-Sample#: E0L260000-262
Prep Date.....: 12/26/00
Prep Batch #...: 0361262
Dilution Factor: 1
Analyst ID.....: 356074

Work Order #...: DR1ET1AC-LCS
DR1ET1AD-LCSD
Analysis Date..: 12/27/00
Analysis Time..: 14:27
Instrument ID..: G01

Matrix.....: WATER

| PARAMETER | PERCENT RECOVERY | RECOVERY LIMITS | RPD | RPD LIMITS | METHOD |
|---|---|---|---|---|---|
| TPH (as Diesel) | 107 | (65 - 140) | | | SW846 8015B |
| | 100 | (65 - 140) | 7.1 | (0-25) | SW846 8015B |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| Benzo(a)pyrene | 111 | (60 - 130) |
| | 103 | (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 #...:** E0L210346 **Work Order #...:** DR5GM1AC **Matrix.....:** WATER
**LCS Lot-Sample#:** E0L290000-357
**Prep Date.....:** 12/28/00 **Analysis Date..:** 12/28/00
**Prep Batch #...:** 0364357 **Analysis Time..:** 11:41
**Dilution Factor:** 1 **Instrument ID..:** G13
**Analyst ID.....:** 001464

| PARAMETER | SPIKE AMOUNT | MEASURED AMOUNT | UNITS | PERCENT RECOVERY | METHOD |
|---|---|---|---|---|---|
| **TPH (as Gasoline)** | **1.00** | **0.971** | **mg/L** | **97** | **SW846 8015B** |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| 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

## LABORATORY CONTROL SAMPLE DATA REPORT

### GC Volatiles

Client Lot #...: E0L210346
LCS Lot-Sample#: E1A030000-215
Prep Date.....: 12/28/00
Prep Batch #...: 1003215
Dilution Factor: 1
Analyst ID.....: 001464

Work Order #...: DR6781AC
Analysis Date..: 12/28/00
Analysis Time..: 12:09
Instrument ID..: G13

Matrix.....: WATER

| PARAMETER | SPIKE AMOUNT | MEASURED AMOUNT | UNITS | PERCENT RECOVERY | METHOD |
|---|---|---|---|---|---|
| Benzene | 10.0 | 9.08 | ug/L | 91 | SW846 8021B |
| Toluene | 10.0 | 9.56 | ug/L | 96 | SW846 8021B |
| Ethylbenzene | 10.0 | 9.10 | ug/L | 91 | SW846 8021B |
| Xylenes (total) | 30.0 | 27.1 | ug/L | 90 | SW846 8021B |
| m-Xylene & p-Xylene | 20.0 | 17.4 | ug/L | 87 | SW846 8021B |
| o-Xylene | 10.0 | 8.69 | ug/L | 87 | SW846 8021B |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| a,a,a-Trifluorotoluene (TFT) | 90 | (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 #...:** E0L210346 **Work Order #...:** DR5GM1AC **Matrix.....:** WATER
**LCS Lot-Sample#:** E0L290000-357
**Prep Date.....:** 12/28/00 **Analysis Date..:** 12/28/00
**Prep Batch #...:** 0364357 **Analysis Time..:** 11:41
**Dilution Factor:** 1 **Instrument ID..:** G13
**Analyst ID.....:** 001464

| PARAMETER | PERCENT RECOVERY | RECOVERY LIMITS | METHOD |
|---|---|---|---|
| **TPH (as Gasoline)** | **97** | **(60 - 130)** | **SW846 8015B** |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| 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

## LABORATORY CONTROL SAMPLE EVALUATION REPORT

### GC Volatiles

**Client Lot #...:** E0L210346 **Work Order #...:** DR6781AC **Matrix.....:** WATER
**LCS Lot-Sample#:** E1A030000-215
**Prep Date.....:** 12/28/00 **Analysis Date..:** 12/28/00
**Prep Batch #...:** 1003215 **Analysis Time..:** 12:09
**Dilution Factor:** 1 **Instrument ID..:** G13
**Analyst ID.....:** 001464

| PARAMETER | PERCENT RECOVERY | RECOVERY LIMITS | METHOD |
|---|---|---|---|
| **Benzene** | **91** | **(80 - 125)** | **SW846 8021B** |
| **Toluene** | **96** | **(80 - 130)** | **SW846 8021B** |
| **Ethylbenzene** | **91** | **(80 - 125)** | **SW846 8021B** |
| **Xylenes (total)** | **90** | **(80 - 125)** | **SW846 8021B** |
| **m-Xylene & p-Xylene** | **87** | **(80 - 120)** | **SW846 8021B** |
| **o-Xylene** | **87** | **(80 - 125)** | **SW846 8021B** |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| a,a,a-Trifluorotoluene (TFT) | 90 | (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 #...:** | E0L210346 | **Work Order #...:** | DRXTH1AF-MS<br>DRXTH1AG-MSD | **Matrix.....:** | WATER |
| **MS Lot-Sample #:** | E0L220184-002 | | | | |
| **Date Sampled...:** | 12/20/00 | **Date Received..:** | 12/22/00 10:30 | **MS Run #.....:** | 0364233 |
| **Prep Date.....:** | 12/28/00 | **Analysis Date..:** | 12/28/00 | | |
| **Prep Batch #...:** | 0364357 | **Analysis Time..:** | 23:52 | | |
| **Dilution Factor:** | 1 | **Analyst ID.....:** | 001464 | **Instrument ID..:** | G13 |

| PARAMETER | SAMPLE AMOUNT | SPIKE AMT | MEASRD AMOUNT | UNITS | PERCENT RECOVERY | RPD | METHOD |
|---|---|---|---|---|---|---|---|
| **TPH (as Gasoline)** | **ND** | **1.00** | **1.03** | **mg/L** | **103** | | **SW846 8015B** |
| | **ND** | **1.00** | **1.03** | **mg/L** | **103** | **0.19** | **SW846 8015B** |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| a,a,a-Trifluorotoluene (TFT) | 103 | (60 - 130) |
| | 106 | (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 #...:** | E0L210346 | **Work Order #...:** | DRXTH1AH-MS<br>DRXTH1AJ-MSD | **Matrix.....:** | WATER |
| **MS Lot-Sample #:** | E0L220184-002 | | | | |
| **Date Sampled...:** | 12/20/00 | **Date Received..:** | 12/22/00 10:30 | **MS Run #.....:** | 1011181 |
| **Prep Date.....:** | 12/28/00 | **Analysis Date..:** | 12/29/00 | | |
| **Prep Batch #...:** | 1003215 | **Analysis Time..:** | 00:48 | | |
| **Dilution Factor:** | 1 | **Analyst ID.....:** | 001464 | **Instrument ID..:** | G13 |

| PARAMETER | SAMPLE AMOUNT | SPIKE AMT | MEASRD AMOUNT | UNITS | PERCENT RECOVERY | RPD | METHOD |
|---|---|---|---|---|---|---|---|
| **Benzene** | **ND** | **10.0** | **11.0** | **ug/L** | **110** | | **SW846 8021B** |
| | **ND** | **10.0** | **11.0** | **ug/L** | **110** | **0.05** | **SW846 8021B** |
| **Toluene** | **ND** | **10.0** | **11.5** | **ug/L** | **115** | | **SW846 8021B** |
| | **ND** | **10.0** | **11.3** | **ug/L** | **113** | **1.4** | **SW846 8021B** |
| **Ethylbenzene** | **ND** | **10.0** | **10.7** | **ug/L** | **101** | | **SW846 8021B** |
| | **ND** | **10.0** | **10.5** | **ug/L** | **99** | **1.7** | **SW846 8021B** |
| **Xylenes (total)** | **ND** | **30.0** | **32.5** | **ug/L** | **108** | | **SW846 8021B** |
| | **ND** | **30.0** | **32.8** | **ug/L** | **109** | **0.86** | **SW846 8021B** |
| **m-Xylene & p-Xylene** | **ND** | **20.0** | **20.7** | **ug/L** | **100** | | **SW846 8021B** |
| | **ND** | **20.0** | **20.8** | **ug/L** | **100** | **0.26** | **SW846 8021B** |
| **o-Xylene** | **ND** | **10.0** | **10.5** | **ug/L** | **97** | | **SW846 8021B** |
| | **ND** | **10.0** | **10.7** | **ug/L** | **99** | **2.0** | **SW846 8021B** |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| a,a,a-Trifluorotoluene (TFT) | 95 | (60 - 130) |
| | 93 | (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 Volatiles

| | | | | | |
|---|---|---|---|---|---|
| **Client Lot #...:** | E0L210346 | **Work Order #...:** | DRXTH1AF-MS | **Matrix.....:** | WATER |
| **MS Lot-Sample #:** | E0L220184-002 | | DRXTH1AG-MSD | | |
| **Date Sampled...:** | 12/20/00 | **Date Received..:** | 12/22/00 10:30 | **MS Run #.....:** | 0364233 |
| **Prep Date.....:** | 12/28/00 | **Analysis Date..:** | 12/28/00 | | |
| **Prep Batch #...:** | 0364357 | **Analysis Time..:** | 23:52 | | |
| **Dilution Factor:** | 1 | **Analyst ID.....:** | 001464 | **Instrument ID..:** | G13 |

| PARAMETER | PERCENT RECOVERY | RECOVERY LIMITS | RPD | RPD LIMITS | METHOD |
|---|---|---|---|---|---|
| **TPH (as Gasoline)** | **103** | **(60 - 130)** | | | **SW846 8015B** |
| | **103** | **(60 - 130)** | **0.19** | **(0-25)** | **SW846 8015B** |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| a,a,a-Trifluorotoluene (TFT) | 103 | (60 - 130) |
| | 106 | (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 Volatiles

| | | | | | |
|---|---|---|---|---|---|
| **Client Lot #...:** | E0L210346 | **Work Order #...:** | DRXTH1AH-MS | **Matrix.....:** | WATER |
| **MS Lot-Sample #:** | E0L220184-002 | | DRXTH1AJ-MSD | | |
| **Date Sampled...:** | 12/20/00 | **Date Received..:** | 12/22/00 10:30 | **MS Run #.....:** | 1011181 |
| **Prep Date.....:** | 12/28/00 | **Analysis Date..:** | 12/29/00 | | |
| **Prep Batch #...:** | 1003215 | **Analysis Time..:** | 00:48 | | |
| **Dilution Factor:** | 1 | **Analyst ID.....:** | 001464 | **Instrument ID..:** | G13 |

| PARAMETER | PERCENT RECOVERY | RECOVERY LIMITS | RPD | RPD LIMITS | METHOD |
|---|---|---|---|---|---|
| **Benzene** | **110** | **(80 - 125)** | | | **SW846 8021B** |
| | **110** | **(80 - 125)** | **0.05** | **(0-25)** | **SW846 8021B** |
| **Toluene** | **115** | **(80 - 130)** | | | **SW846 8021B** |
| | **113** | **(80 - 130)** | **1.4** | **(0-25)** | **SW846 8021B** |
| **Ethylbenzene** | **101** | **(80 - 125)** | | | **SW846 8021B** |
| | **99** | **(80 - 125)** | **1.7** | **(0-25)** | **SW846 8021B** |
| **Xylenes (total)** | **108** | **(80 - 125)** | | | **SW846 8021B** |
| | **109** | **(80 - 125)** | **0.86** | **(0-25)** | **SW846 8021B** |
| **m-Xylene & p-Xylene** | **100** | **(80 - 120)** | | | **SW846 8021B** |
| | **100** | **(80 - 120)** | **0.26** | **(0-25)** | **SW846 8021B** |
| **o-Xylene** | **97** | **(80 - 125)** | | | **SW846 8021B** |
| | **99** | **(80 - 125)** | **2.0** | **(0-25)** | **SW846 8021B** |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| a,a,a-Trifluorotoluene (TFT) | 95 | (60 - 130) |
| | 93 | (60 - 130) |

NOTE(S):

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

Bold print denotes control parameters

No. 203172

# SEVERN TRENT LABORATORIES

Committed To *Your* Success

## CHAIN OF CUSTODY RECORD

| CUSTOMER INFORMATION | PROJECT INFORMATION |
|---|---|
| COMPANY: Tait Environmental | PROJECT NAME/NUMBER: Mission Rock EM-5009 |
| SEND REPORT TO: Scott Ek | **BILLING INFORMATION** |
| ADDRESS: 701 N. Parkcenter Dr. Santa Ana, CA 92705 | BILL TO: |
| | ADDRESS: |
| PHONE: (714) 560-8694 | PHONE: |
| FAX: (714) 560-8235 | FAX: PO NO.: |

LAB JOB NO.

| SAMPLE NO. | SAMPLE DESCRIPTION | SAMPLE DATE | SAMPLE TIME | MATRIX | | | # OF CONTAINERS | TPH-G (8015M) | TPH-D (8015M) | BTEX/MTBE (8021B) | | | | | | | REMARKS/PRECAUTIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1 | | 12/20/00 | 7:45 | $H_2O$ | | | 6 | X | X | X | | | | | | | |
| MW-2 | | ↓ | 9:09 | ↓ | | | 6 | X | X | X | | | | | | | |
| MW-3 | | ↓ | 9:45 | ↓ | | | 6 | X | X | X | | | | | | | |
| | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | |

SAMPLER: Scott EK

SHIPMENT METHOD:

AIRBILL NO.:

REQUIRED TURNAROUND* ☐ SAME DAY ☐ 24 HOURS ☐ 48 HOURS ☐ 72 HOURS ☐ 5 DAYS ☐ 10 DAYS ☒ ROUTINE ☐ OTHER

| RELINQUISHED BY | DATE | RECEIVED BY | DATE | RELINQUISHED BY | DATE | RECEIVED BY | DATE |
|---|---|---|---|---|---|---|---|
| SIGNATURE: Scott E. Ek | 12/21 | SIGNATURE: | 12/21/00 | SIGNATURE: | | SIGNATURE: | |
| PRINTED NAME/COMPANY: Scott EK / TAIT | TIME 1130 | PRINTED NAME/COMPANY: STL | TIME 1685 | PRINTED NAME/COMPANY: | TIME | PRINTED NAME/COMPANY: | TIME |
| SIGNATURE: | DATE 12/21/00 | SIGNATURE: ADOLFO VILLALOBOS | DATE 12/21 | SIGNATURE: | DATE | SIGNATURE: | DATE |
| PRINTED NAME/COMPANY: STL | TIME 1150 | PRINTED NAME/COMPANY: STL | TIME 16:15 | PRINTED NAME/COMPANY: | TIME | PRINTED NAME/COMPANY: | TIME |

**SEVERN TRENT LABORATORIES**
1721 South Grand Avenue
Santa Ana, CA 92705