

# MISSION VALLEY / ROCK COMPANY ASPHALT COMPANY READY MIX COMPANY

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

February 7, 2000

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, Tank Protect Engineering. If you require further information or clarification please direct your correspondence to Tank Protect with a copy to Mission Valley Rock Company at the above address.

Thank You,  
MISSION VALLEY ROCK CO.



W.M. Calvert

ENVIRONMENTAL  
PROTECTION  
00 FEB -9 PM 3:12

January 18, 2000

Mr. Mort Calvert  
Mission Valley Rock  
799 Athenour Way  
Sunol, CA 94586

Re: Fourth Quarter Report, 1999, Mission Valley Rock, 799 Athenour Way, Sunol,  
CA 94586

Dear Mr. Calvert:

Tank Protect Engineering of Northern California, Inc. (TPE) is pleased to submit this quarterly letter report of environmental services conducted at the subject site. Work conducted prior to the fourth quarter 1998, is documented in TPE's October 30, 1998 Preliminary Site Assessment Report, Mission Valley Rock, 799 Athenour Way, Sunol, CA 94586.

Work conducted by TPE during fourth quarter, 1998:

- . January 5, 1999 - Loosened well caps on all wells to allow depth-to-groundwater to stabilize to atmospheric pressure for groundwater gradient determination. Measured depth-to-groundwater in monitoring wells MW-1 through MW-3 for evaluation of groundwater flow direction and gradient. Collected a groundwater sample from each well for analysis for total petroleum hydrocarbons as diesel (TPHD) and gasoline (TPHG); methyl t-butyl ether (MTBE); and benzene, toluene, ethylbenzene, and xylenes (BTEX). Additionally, analyzed a trip blank sample (MW-4) for BTEX.

Work conducted by TPE during first quarter, 1999:

- . February 24, 1999 - Submitted to the client a Fourth Quarter Report, 1998, Mission Valley Rock, 799 Athenour Way, Sunol, CA 94586.

- March 29, 1999 - Loosened well caps on all wells to allow depth-to groundwater to stabilize to atmospheric pressure for groundwater gradient determination. Measured depth-to-groundwater in monitoring wells MW-1 through MW-3 for evaluation of groundwater flow direction and gradient. Collected a groundwater sample from each well for analysis for TPHD, TPHG, MTBE, and BTEX. Additionally, analyzed a trip blank sample (MW-4) for TPHD, TPHG, MTBE, and BTEX. Collected one sample (DW) to characterize the on-site drummed water for landfill disposal.

?

Work conducted by TPE during second quarter, 1999:

- April 2, 1999 - Collected samples to characterize the drill cuttings contained in 55-gallon drums for landfill disposal.
- April 26, 1999 - Checked on-site monitoring well MW-2 for the presence of free product. Removed approximately 25 gallons of petroleum contaminated water using a dedicated polyethylene bailer.
- May 21, 1999 - Checked on-site monitoring well MW-2 for the presence of free product. Removed approximately 20 gallons of petroleum contaminated water using a dedicated polyethylene bailer.
- May 24, 1999 - Disposed of approximately 170 gallons of petroleum contaminated water contained in 55-gallon drums, resulting from sampling and/or bailing events.
- June 10, 1999 - Loosened well caps on all wells to allow depth-to groundwater to stabilize to atmospheric pressure for groundwater gradient determination. Measured depth-to-groundwater in monitoring wells MW-1 through MW-3 for evaluation of groundwater flow direction and gradient. Collected a groundwater sample from each well for analysis for TPHD, TPHG, MTBE, and BTEX. Additionally, analyzed a trip blank sample (MW-4) for TPHG, MTBE, and BTEX.

Work conducted by TPE during third quarter, 1999:

- . September 1, 1999 - Submitted to the client a First Quarter Report, 1999, Mission Valley Rock, 799 Athenour Way, Sunol, CA 94586.
- . September 17, 1999 - Loosened well caps on all wells to allow depth-to-groundwater to stabilize to atmospheric pressure for groundwater gradient determination. Measured depth-to-groundwater in monitoring wells MW-1 through MW-3 for evaluation of groundwater flow direction and gradient. Collected a groundwater sample from each well for analysis for TPHD, TPHG, MTBE, and BTEX. Additionally, analyzed a trip blank sample (MW-4) for TPHG, MTBE, and BTEX.
- . September 22, 1999 - Submitted to the client a Second Quarter Report, 1999, Mission Valley Rock, 799 Athenour Way, Sunol, CA 94586.

WORK CONDUCTED BY TPE DURING FOURTH QUARTER, 1999:

- . October 26, 1999 - Submitted to the client a Third Quarter Report, 1999, Mission Valley Rock, 799 Athenour Way, Sunol, CA 94586.
- . December 27, 1999 - Loosened well caps on all wells to allow depth-to-groundwater to stabilize to atmospheric pressure for groundwater gradient determination. Measured depth-to-groundwater in monitoring wells MW-1 through MW-3 for evaluation of groundwater flow direction and gradient. Collected a groundwater sample from each well for analysis for TPHD, TPHG, MTBE, and BTEX. Additionally, analyzed a trip blank sample (MW-4T) for TPHG, MTBE, and BTEX.

Details of the above work are presented below.

### Groundwater Gradient

On December 27, 1999, depth-to-groundwater was measured from top of casing (TOC) in wells MW-1 through MW-3 to the nearest 0.01 foot using an electronic Solinst water level meter. A minimum of 3 repetitive measurements were made for each level determination to ensure accuracy. Depth-to-groundwater was subtracted from the TOC elevation, measured relative to mean sea level, to calculate the elevation of the groundwater level in each well (see attached Table 1).

Attached Figure 1 is a groundwater gradient map constructed from the data collected on December 27, 1999. Groundwater flow direction was to the southeast with an average gradient of about 0.02 feet per foot.

Based on the groundwater flow direction for the subject quarter, well MW-1 is located upgradient, well MW-2 is located cross-gradient, and well MW-3 is downgradient of the location of the former underground fuel tanks.

### Groundwater Sampling and Analytical Results

On December 27, 1999, groundwater samples were collected from monitoring wells MW-1 through MW-3. Before sampling, each well was purged of 8 to 9 gallons of groundwater with a dedicated polyethylene bailer and until the temperature, conductivity and pH of the water in the wells had stabilized (see attached Records of Water Sampling). Because a dedicated bailer was used for each well sampled, no decontamination was necessary between sampling events. The water samples were collected in laboratory-provided, sterilized, 40-milliliter glass vials having Teflon-lined screw caps; measured for turbidity and labeled with project name, date and time collected, sample number and sampler name. The samples were immediately stored on crushed ice for transport to California State Department of Health Services (DHS) certified Priority Environmental Labs located in Milpitas, California accompanied by chain-of-custody documentation.

All groundwater samples were analyzed for TPHD and TPHG by Environmental Protection Agency (EPA) Methods 3510/8015 and 5030/8015, respectively and for

MTBE and BTEX by EPA Method 602. The trip blank sample MW-4T was analyzed for TPHG, MTBE, and BTEX.

Each well was checked for floating product using a dedicated, disposable polyethylene bailer. Hydrocarbon odor was noted in well MW-3. Approximately 0.13 feet of free product was observed in MW-2 (see attached Table 2).

*MW-2 ?  
-lab data indicate low conc.*

Purge water was stored on site in 55-gallon drums labeled to show material stored, date filled, company name, contact person and telephone number.

See attached protocols for TPE's sample handling, groundwater monitoring well sampling and quality assurance and quality control procedures.

Analytical results for wells MW-1, MW-2, and MW-3 detected TPHD at concentrations of 290 parts per billion (ppb), 2,300 ppb, and 58 ppb, respectively. No TPHG, MTBE or BTEX chemicals were detected in any well. All analytical results were nondetectable for the trip blank sample MW-4T.

Analytical results are summarized in attached Table 3 and documented in an attached certified analytical report and chain-of-custody.

### CONCLUSIONS AND RECOMMENDATIONS

TPHD was detected in all wells ranging in concentration from 58 ppb in well MW-3 to 2,300 ppb in well MW-2. Analytical results for TPHG, MTBE, and BTEX were nondetectable for all the wells.

Figure 2 presents groundwater concentration contour map for diesel.

TPE recommends that all wells continue to be monitored for floating product, sheen and odors.

TPE recommends continued quarterly groundwater sampling to evaluate gradient and to monitor contaminant concentrations.

The next sampling event is due in March, 2000.

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

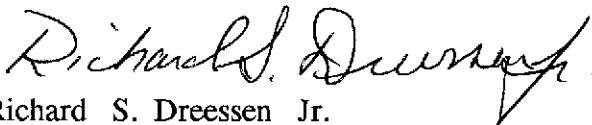
California Regional Water Quality Control Board  
San Francisco Bay Region  
Toxics Cleanup Division  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

TPE recommends that this quarterly letter report be submitted with a cover letter from Mission Valley Rock. According to Alameda County Water District (ACWD) groundwater monitoring guidelines, the cover letter must be signed by an authorized representative and state, at a minimum, the following:

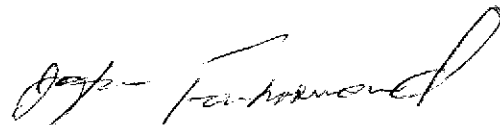
"I declare, under penalty of perjury, that the information and/or recommendations contained in the attached report are true and correct."

If you have any questions, please call TPE at (510) 429-8088.

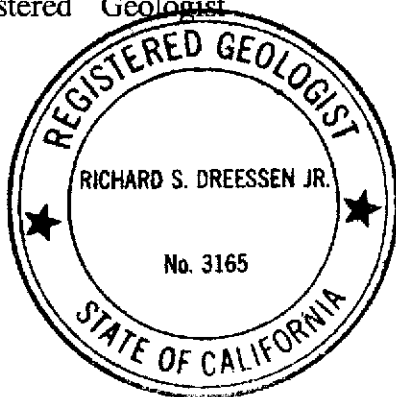
Sincerely,

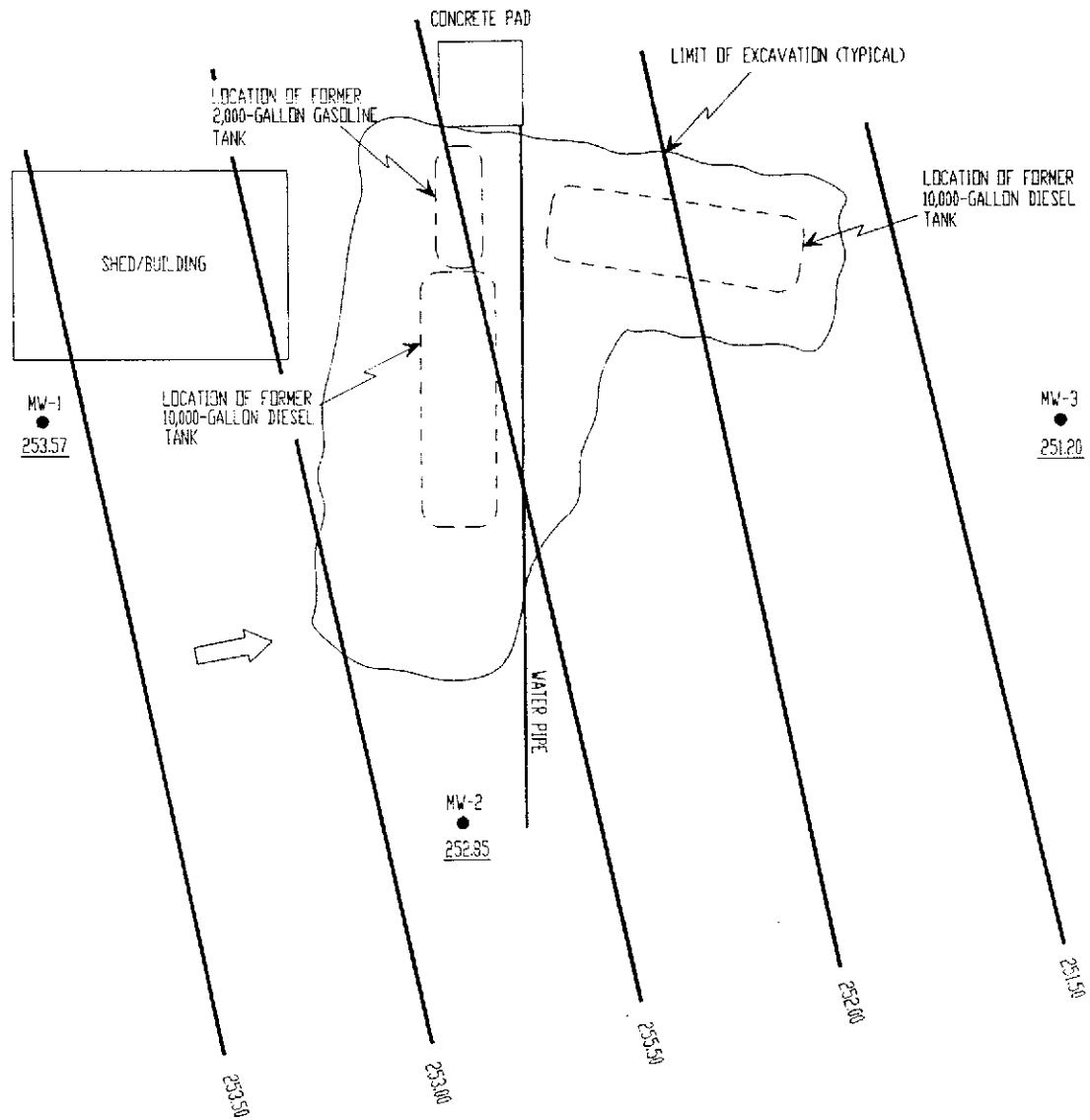


Richard S. Dreesen Jr.  
Registered Geologist



Jeff Farhoomand, M.S.  
Principal Engineer





LEGEND

MW-1 ● GROUNDWATER MONITORING WELL LOCATIONS

253.57 POTENTIOMETRIC ELEVATION

— 253.50 POTENTIOMETRIC CONTOUR

→ GROUNDWATER FLOW DIRECTION



0 20  
APPROXIMATE SCALE IN FEET

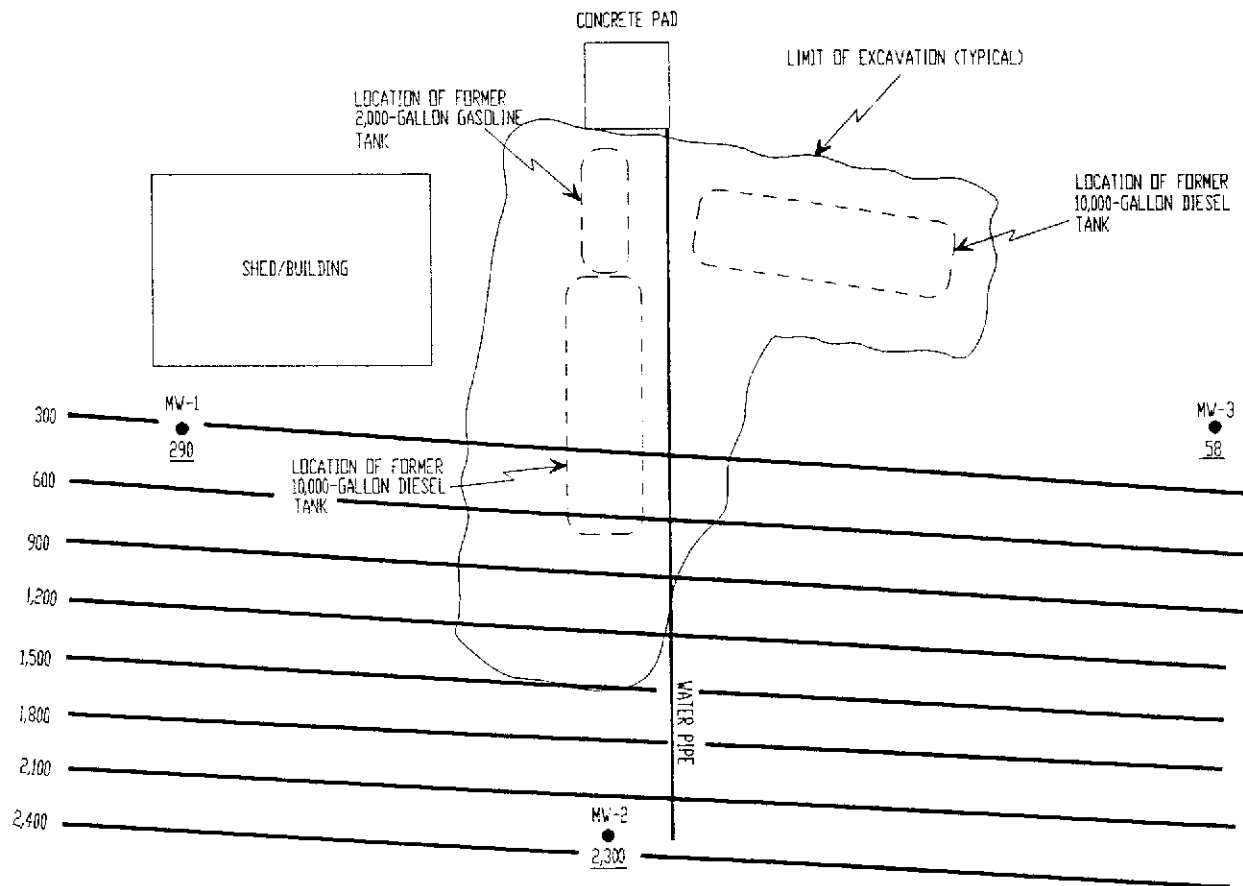
TANK PROTECT ENGINEERING

SITE PLAN:  
GROUNDWATER ELEVATION AND GRADIENT MAP (12/27/99)

MISSION VALLEY ROCK  
799 ATHENDUR WAY  
SUNOL, CA 94586

DATE	01/13/2000
FIGURE	1
FILE #	384-1-T
DRAWN BY	VK
CHECKED BY	RD





LEGEND

MW-1 ● GROUNDWATER MONITORING WELL LOCATIONS

290 CONCENTRATION (ppb)



0 20  
APPROXIMATE SCALE IN FEET

TANK PROTECT ENGINEERING

SITE PLAN:  
TPHD CONCENTRATIONS (12/27/99)

MISSION VALLEY ROCK  
799 ATHENDUR WAY  
SUNDL, CA 94586

DATE	01/13/2000
FIGURE	2
FILE #	384-2-2-1
DRAWN BY	VK
CHECKED BY	RD

TABLE 1  
GROUNDWATER ELEVATION

Well Name	Elevation TOC <sup>1</sup> (Feet MSL <sup>2</sup> )	Date	Depth-to-Water From TOC	Groundwater Elevation (Feet MSL)
MW-1	256.51 <sup>2</sup>	06/23/98	1.32	255.19
		01/05/99	2.28	254.23
		03/29/99	1.88	254.63
		06/10/99	3.35	253.16
		09/17/99	3.66	252.86
		12/27/99	2.94	253.57
MW-2	256.70 <sup>2</sup>	06/23/98	1.72	254.98
		01/05/99	2.69 <sup>3</sup>	254.01
		03/29/99	2.50	254.20
		06/10/99	4.0	252.70
		09/17/99	4.54	252.16
		12/27/99	3.85	252.85
MW-3	256.72 <sup>2</sup>	06/23/98	2.66	254.06
		01/05/99	4.47	252.25
		03/29/99	3.96	252.76
		06/10/99	5.54	251.18
		09/17/99	6.18	250.54
		12/27/99	5.52	251.20

<sup>1</sup> TOP-OF-CASING

<sup>2</sup> TOC SURVEYED 10/09/98 BY PROFESSIONAL ENGINEER. ELEVATION BASED ON ONSITE BENCHMARK ELEVATION 257.10, NATIONAL GEODETIC VERTICAL DATUM (NGVD), ESTABLISHED 1929.

<sup>3</sup> CORRECTED FOR FREE PRODUCT

TABLE 2  
SUMMARY OF FLOATING PRODUCT THICKNESS

Well Name	Date	Depth-to-Water From TOC <sup>1</sup> (Feet)	Depth-to-Product From TOC (Feet)	Product Thickness (Feet)
MW-1	06/23/98	1.32	ND <sup>2</sup>	---
	01/05/99	2.28	ND	---
	03/29/99	1.88	ND	---
	06/10/99	3.35	ND	---
	09/17/99	3.66	ND	---
	12/27/99	2.94	ND	---
MW-2	06/23/98	1.72	1.715	.005
	01/05/99	2.69 (5.3 <sup>3</sup> )	1.33	4
	03/29/99	2.50	ND	---
	06/10/99	4.0	ND	SHEEN
	09/17/99	4.54	4.04	0.5
	12/27/99	3.85	3.72	0.13
MW-3	06/23/98	2.662	ND	---
	01/05/99	4.47	ND	---
	03/29/99	3.96	ND	SHEEN
	06/10/99	5.54	ND	---
	09/17/99	6.18	ND	SHEEN
	12/27/99	5.52	ND	ODOR

<sup>1</sup> TOP-OF-CASING.

<sup>2</sup> NOT DETECTED.

<sup>3</sup> CORRECTED FOR FREE PRODUCT THICKNESS; ACTUAL FIELD MEASUREMENT IN PARENTHESIS

TABLE 3  
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS  
(ppb)<sup>1</sup>

Sample ID Name	Date	TPHD	TPHG	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes
MW-1	06/23/98	<1.0	3,100	110	19	2.3	91	48
	10/08/98	<50	2,300	<0.50	3.1	4.2	5.0	15
	12/01/98	350	<50	<0.50	12	7.5	20	6.2
	03/29/99	190	<50	<0.50	<0.50	<0.50	<0.50	<0.50
	06/10/99	210	1,800	<0.50	1.2	0.9	1.5	4.6
	09/17/99	62	180	<5.0	<0.50	<0.50	<0.50	<0.50
	12/27/99	290	<50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-2	06/23/98	12,000	2,500	14	0.68	<0.50	1.2	0.57
	10/08/98	4,300	<50	<0.50	<0.50	<0.50	<0.50	<0.50
	12/01/98	38,000	<5,000	<500	<0.50	<0.50	<0.50	<0.50
	03/29/99	580	<50	<0.50	<0.50	<0.50	<0.50	<0.50
	06/10/99	4,500	24,000	<0.50	38	27	41	98
	09/17/99	24,000	1,400	27	<0.50	<0.50	<0.50	<0.50
	12/27/99	2,300	<50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-3	06/23/98	12,000	300	150	0.80	<0.50	<0.50	<0.50
	10/08/98	6,400	<50	<0.50	<0.50	<0.50	<0.50	<0.50
	12/01/98	5,600	<100	110	1.6	1.4	<1.0	<1.0
	03/29/99	150	<50	<0.50	<0.50	<0.50	<0.50	<0.50
	06/10/99	620	<50	<0.50	<0.50	<0.50	<0.50	<0.50
	09/17/99	1,500	230	89	<0.50	<0.50	<0.50	<0.50
	12/27/99	58	<50	<0.50	<0.50	<0.50	<0.50	<0.50
MW-4	06/23/98	NA <sup>2</sup>	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50
	10/08/98	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
	12/01/98	NA	NA	NA	<0.50	<0.50	<0.50	<0.50
	03/29/99	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
	06/10/99	NA	<50	<0.50	<0.50	<0.50	<0.50	<0.50
	09/17/99	NA	430	110	<2.5	<2.5	<2.5	<2.5

TABLE 3  
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS  
(ppb)<sup>1</sup>

Sample ID Name	Date	TPHD	TPHG	MTBE	Benzene	Toluene	Ethyl- benzene	Xylenes
MW-4T	12/27/99	NA	<50	<0.50	<0.50	<0.50	<0.50	<0.50

<sup>1</sup> PARTS PER BILLION

<sup>2</sup> NOT ANALYZED

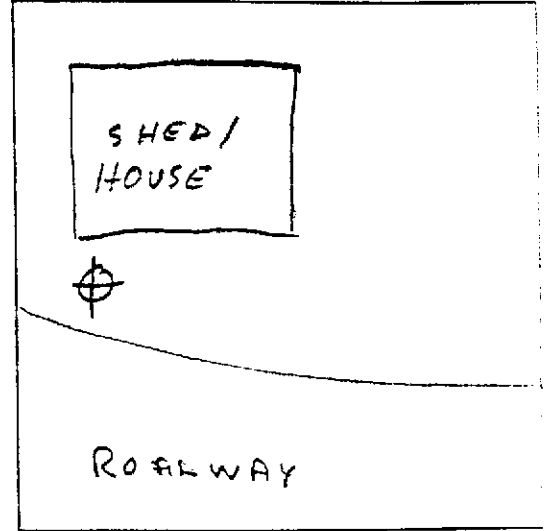
RECORD OF WATER SAMPLING

PROJECT NO.: 384 DATE: 12-27-99  
 PROJECT NAME: Mission Valley Road  
 PROJECT LOCATION: 799 Athena Ave, Sunol  
 SAMPLER: R Drusesen  
 ANALYSES: TPHG, MBTEX, TPHD

WELL NO.: WU-1  
 WELL DIAMETER: 2"  
 TOC ELEV: \_\_\_\_\_  
 LOCK NO.: \_\_\_\_\_

WELL DEPTH (from construction detail): 18.10'  
 WELL DEPTH (measured): NM SOFT BOTTOM?: -  
 DEPTH TO WATER: 2.94 TIME: 10:49  
 PRESSURE (circle one?): YES OR NO  
 IF YES, WAS PRESSURE (circle one): POSITIVE OR NEGATIVE?

WATER VOLUME IN WELL: 7.2 gal  
 [2-INCH CASING = 0.16 GAL/FT] [4-INCH CASING = 0.65 GAL/FT]  
 [6-INCH CASING = 1.47 GAL/FT] [1 GAL = 3.78 L]



LOCATION MAP

CALCULATED PURGE VOL. (GAL): 7.2 (L): \_\_\_\_\_ ACTUAL PURGE VOL. (GAL): 9 (L): \_\_\_\_\_  
 PURGE METHOD: Bail by hand SAMPLE METHOD: Disposable Bailor

FIELD MEASUREMENTS

Time	Depth to Water (FT)	Vol (L/gal)	Temp (Deg. F)	pH	EC	Clarity	Turbidity (NTU)	Remarks
1215	NM	1	65.1	5.14	6.88	clr	-	Dishum
1222	↓	3	66.3	5.02	7.10	clr		
1228		4 gal	65.8	5.05	7.11	CLR		
1246			68.2	5.24	7.55	-	-	
1251		9 gal	67.1	5.23	7.32			
				SAMPLED @ 1252				

SIGNATURE: R. Drusesen

WATER VOL. IN DRUM: \_\_\_\_\_  
 NEED NEW DRUM?: No

RECORD OF WATER SAMPLING

PROJECT NO.: 384 DATE: 12-27-99

WELL NO.: MW-

PROJECT NAME: Mission Valley Rock

WELL DIAMETER: 2"

PROJECT LOCATION: 799 Athena Dr, Sunol

TOC ELEV: \_\_\_\_\_

SAMPLER: R Dreesen

LOCK NO.: \_\_\_\_\_

ANALYSES: TPHG, TPHD, MBTEX

WELL DEPTH (from construction detail): 19.26'

WELL DEPTH (measured): NM SOFT BOTTOM?: -

DEPTH TO WATER: 3.85 TIME: 10:42

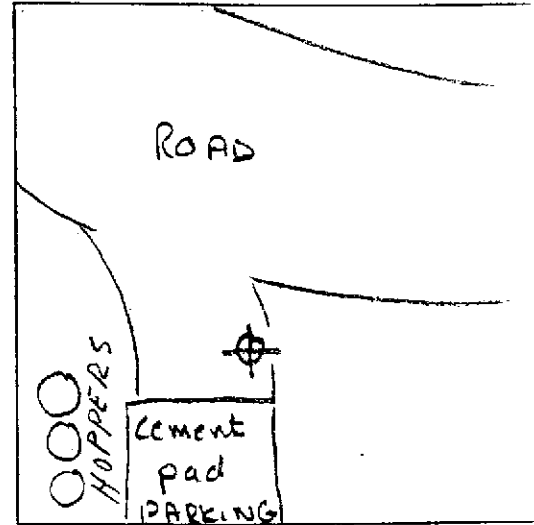
PRESSURE (circle one)? YES OR NO

IF YES, WAS PRESSURE (circle one): POSITIVE OR NEGATIVE?

WATER VOLUME IN WELL: 2.56 gal

[2-INCH CASING = 0.16 GAL/FT] [4-INCH CASING = 0.65 GAL/FT]

[6-INCH CASING = 1.47 GAL/FT] [1 GAL = 3.78 L]



LOCATION MAP

CALCULATED PURGE VOL. (GAL): 8 gal (L): \_\_\_\_\_ ACTUAL PURGE VOL. (GAL): 8.5 (L): \_\_\_\_\_

PURGE METHOD: Hand bail SAMPLE METHOD: Disposable Bail

FIELD MEASUREMENTS

Time	Depth to Water (FT)	Vol (L)	Temp (Deg. F)	pH	EC	Clarity	Turbidity (NTU)	Remarks
	<u>NM</u>							<u>3.72 @ 1 3.85 H<sub>2</sub>O</u>
								<u>.13 feet inches product</u>
<u>11:11</u>		<u>2.5 gal</u>	<u>62.5</u>	<u>5.78</u>	<u>7.65</u>	<u>Clear</u>		<u>Prod. measured with</u>
<u>11:23</u>		<u>4 gal</u>	<u>61.7</u>	<u>4.70</u>	<u>7.84</u>	<u>✓</u>		<u>interface probe</u>
<u>11:28</u>		<u>6 gal</u>	<u>62.5</u>	<u>4.57</u>	<u>7.68</u>	<u>✓</u>		
<u>11:38</u>		<u>8 gal</u>	<u>62.0</u>	<u>4.50</u>	<u>7.54</u>			
			<u>SAMPLED @</u>					

SIGNATURE: R Dreesen

WATER VOL. IN DRUM: \_\_\_\_\_  
NEED NEW DRUM?: No

RECORD OF WATER SAMPLING

PROJECT NO: 384 DATE: 12-27-99

WELL NO.: MW-3

PROJECT NAME: Mission Valley Road

WELL DIAMETER: 2"

PROJECT LOCATION: 799 Athenou, Sunol

TOC ELEV: \_\_\_\_\_

SAMPLER: R Dresser

LOCK NO.: \_\_\_\_\_

ANALYSES: TPHD, TPHG, MBTEX

WELL DEPTH (from construction detail): 18.70

WELL DEPTH (measured): NM SOFT BOTTOM?: -

DEPTH TO WATER: 5.52 TIME: 10:45

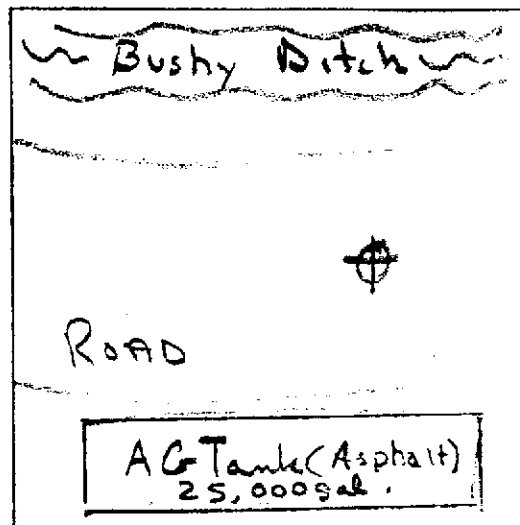
PRESSURE (circle one): YES OR NO

IF YES, WAS PRESSURE (circle one): POSITIVE OR NEGATIVE?

WATER VOLUME IN WELL: 2.11

[2-INCH CASING = 0.16 GAL/FT] [4-INCH CASING = 0.65 GAL/FT]

[6-INCH CASING = 1.47 GAL/FT] [1 GAL = 3.78 L]



LOCATION MAP

CALCULATED PURGE VOL. (GAL): 6.33 (L): \_\_\_\_\_ ACTUAL PURGE VOL. (GAL): 8 (L): \_\_\_\_\_

PURGE METHOD: Hand Bail SAMPLE METHOD: Disposable Bail

FIELD MEASUREMENTS

Time	Depth to Water (FT)	Vol <del>liters</del>	Temp (Deg. F)	pH	EC	Clarity	Turbidity (NTU)	Remarks
1318	—	1	67.3	4.92	6.77	turbid	slight	Odor slight
1323		3	67.4	4.91	6.87			
1332		6	69.5	5.13	6.94			
1341	✓	9	67.2	4.98	6.78	-		
			SAMPLED @		1345			
								* surface box destroyed by heavy truck traffic.

SIGNATURE: R. Dresser

WATER VOL. IN DRUM: \_\_\_\_\_  
NEED NEW DRUM?: No



## SAMPLE HANDLING PROCEDURES

Soil and groundwater samples will be packaged carefully to avoid breakage or contamination and will be delivered to the laboratory in an iced-cooler. The following sample packaging requirements will be followed.

- . Sample bottle/sleeve lids will not be mixed. All sample lids will stay with the original containers and have custody seals affixed to them.
- . Samples will be secured in coolers to maintain custody, control temperature and prevent breakage during transportation to the laboratory.
- . A chain-of-custody form will be completed for all samples and accompany the sample cooler to the laboratory.
- . Ice, blue ice or dry ice (dry ice will be used for preserving soil samples collected for the Alameda County Water District) will be used to cool samples during transport to the laboratory.
- . Water samples will be cooled with crushed ice. In the Alameda County Water District, water samples will be buried in the crushed ice with a thermometer, and the laboratory will be requested to record thermometer temperature at the time of receipt.
- . Each sample will be identified by affixing a pressure sensitive, gummed label or standardized tag on the container(s). This label will contain the site identification, sample identification number, date and time of sample collection and the collector's initials.
- . Soil samples collected in brass tubes will be preserved by covering the ends with Teflon tape and capping with plastic end-caps. The tubes will

be labeled, sealed in quart size bags and placed in an iced-cooler for transport to the laboratory.

All groundwater sample containers will be precleaned and will be obtained from a State Department of Health Services certified analytical laboratory.

Sample Control/Chain-of-Custody: All field personnel will refer to this workplan to verify the methods to be employed during sample collection. All sample gathering activities will be recorded in the site file; all sample transfers will be documented in the chain-of-custody; samples will be identified with labels; all sample bottles will be custody-sealed. All information is to be recorded in waterproof ink. All TPE field personnel are personally responsible for sample collection and the care and custody of collected samples until the samples are transferred or properly dispatched.

The custody record will be completed by the field technician or professional who has been designated by the TPE project manager as being responsible for sample shipment to the appropriate laboratory. The custody record will include, among other things, the following information: site identification, name of person collecting the samples, date and time samples were collected, type of sampling conducted (composite/grab), location of sampling station, number and type of containers used and signature of the TPE person relinquishing samples to a non-TPE person with the date and time of transfer noted. The relinquishing individual will also put all the specific shipping data on the custody record.

Records will be maintained by a designated TPE field employee for each sample: site identification, sampling location, station number, date, time, sampler's name, designation of the sample as a grab or composite, notation of the type of sample (e.g., groundwater, soil boring, etc.), preservatives used, onsite measurement data and other observations or remarks.

## GROUNDWATER MONITORING WELL SAMPLING PROCEDURES

Groundwater monitoring wells will not be sampled until at least 24 to 72 hours (according to local regulatory guidelines) after well development. Groundwater samples will be obtained using a bladder pump, clear Teflon bailer or dedicated polyethylene bailer. Prior to collecting samples, the sampling equipment will be thoroughly decontaminated to prevent introduction of contaminants into the well and to avoid cross-contamination. Monitoring wells will be sampled after 3 to 10 wetted casing volumes of groundwater have been evacuated and pH, electrical conductivity and temperature have stabilized as measured with a Hydac Digital Tester. If the well is emptied before 3 to 10 well volumes are removed, the sample will be taken when the water level in the well recovers to 80% or more of its initial water level.

When a water sample is collected, turbidity of the water will be measured and recorded with a digital turbidimeter. Degree of turbidity will be measured and recorded in nephelometric turbidity units (NTU).

TPE will also measure the thickness of any floating product in the monitoring wells using an interface probe or clear Teflon or polyethylene bailer. The floating product will be measured after well development but prior to the collection of groundwater samples. If floating product is present in the well, TPE will recommend to the client that product removal be commenced immediately and reported to the appropriate regulatory agency.

Unless specifically waived or changed by the local, prevailing regulatory agency, water samples will be handled and preserved according to the latest United States Environmental Protection Agency methods as described in the Federal Register (Volume 44, No. 233, Page 69544, Table II) for the type of analysis to be performed.

Development and/or purge water will be stored on site in labeled containers. The disposal of the containers and development and/or purge water is the responsibility of the client.

### MEASUREMENTS

Purged Water Parameter: During purging, discharged water will be measured for the following parameters.

<u>Parameter</u>	<u>Units of Measurement</u>
pH	None
Electrical Conductivity	Micromhos
Temperature	Degrees F or C
Depth to Water	Feet/Hundredths
Volume of Water Discharged	Gallons
Turbidity	NTU

Documentation: All parameter measurements will be documented in writing on TPE development logs.

## QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

The overall objectives of the field sampling program include generation of reliable data that will support development of a remedial action plan. Sample quality will be checked by the use of proper sampling, handling and testing methods. Additional sample quality control methods may include the use of background samples, equipment rinsate samples and trip and field blanks. Chain-of-custody forms, use of a qualified laboratory, acceptable detection limits and proper sample preservation and holding times also provide assurance of accurate analytical data.

TPE will follow a quality assurance and quality control (QA/QC) program in the field to ensure that all samples collected and field measurements taken are representative of actual field and environmental conditions and that data obtained are accurate and reproducible. These activities and laboratory QA/QC procedures are described below.

Field Samples: Additional samples may be taken in the field to evaluate both sampling and analytical methods. Three basic categories of QA/QC samples that may be collected are trip blanks, field blanks and duplicate samples.

Trip blanks are a check for cross-contamination during sample collection, shipment, and laboratory analysis. They are water samples that remain with the collected samples during transportation and are analyzed along with the field samples to check for residual contamination. Analytically confirmed organic-free water will be used for organic parameters and deionized water for metal parameters. Blanks will be prepared by the laboratory supplying the sample containers. The blanks will be numbered, packaged and sealed in the same manner as the other samples. One trip blank will be used for each sample set of less than 20 samples. At least 5% blanks will be used for sets greater than 20 samples. The trip blank is not to be opened by either the sample collectors or the handlers.

The field blank is a water sample that is taken into the field and is opened and exposed at the sampling point to detect contamination from air exposure. The water

sample is poured into appropriate containers to simulate actual sampling conditions. Contamination due to air exposure can vary considerably from site to site.

The laboratory will not be informed about the presence of trip and field blanks, and false identifying numbers will be put on the labels. Full documentation of these collection and decoy procedures will be made in the site log book.

Duplicate samples are identical sample pairs (collected in the same place and at the same time), placed in identical containers. For soils, adjacent sample liners will be analyzed. For the purpose of data reporting, one is arbitrarily designated the sample, and the other is designated as a duplicate sample. Both sets of results are reported to give an indication of the precision of sampling and analytical methods.

The laboratory's precision will be assessed without the laboratory's knowledge by labeling one of the duplicates with false identifying information. Data quality will be evaluated on the basis of the duplicate results.

Laboratory QA/QC: Execution of a strict QA/QC program is an essential ingredient in high-quality analytical results. By using accredited laboratory techniques and analytical procedures, estimates of the experimental values can be very close to the actual value of the environmental sample. The experimental value is monitored for its precision and accuracy by performing QC tests designed to measure the amount of random and systematic errors and to signal when correction of these errors is needed.

The QA/QC program describes methods for performing QC tests. These methods involve analyzing method blanks, calibration standards, check standards (both independent and the United States Environmental Protection Agency-certified standards), duplicates, replicates and sample spikes. Internal QC also requires adherence to written methods, procedural documentation and the observance of good laboratory practices.



TANK PROTECT ENGINEERING  
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LAB: Priority Pollutants  
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P.O. #: 001241  
(408) 946-9636

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### CHAIN OF CUSTODY

PROJECT NO.		SITE NAME & ADDRESS				(1) TYPE OF CON- TAINER	ANALYTES REQUESTED							REMARKS
384		Mission Valley Road 799 Atherton Way Sunol					TOTAL LIGHT HC	AROMATIC HC	TOTAL HEAVY HC	OIL & GREASE	PCC SOLN (624's)	OTHER	TPHD	
SAMPLER NAME, ADDRESS AND TELEPHONE NUMBER														
2821 WHIPPLE ROAD, UNION CITY, CA 94587 (415) 429-8088														
ID NO.	DATE	TIME	SOIL	WATER	SAMPLING LOCATION									
MW-1	12/27	1255		X	MV12	3V0As	X	X					TPAG MTBE/BTEX (8015/8020)	
MW-1	12/27	1255		X		2-1L				X			TPHD (8015)	
MW-2	12/27	1155		X		3V0As	X	X					TPHG/MBTEX (8015/8020)	
MW-2	12/27	1155		X		2-1L				X			TPHD (8015)	
MW-3	12/27	1348		X		3V0As	X	X					TPHD/MBTEX (8015/8020)	
MW-3	12/27	1348		X		2-1L				X			TPHD (8015)	
MW-4T	12/27	1348		X		2V0As	X	X					TPHG/MBTEX (8015/8020)	
Relinquished by: (Signature)						Date / Time	Received by: (Signature)		Relinquished by: (Signature)		Date / Time	Received by: (Signature)		
Richard Drennon						12/27/99 12:45								
Relinquished by: (Signature)						Date / Time	Received by: (Signature)		Relinquished by: (Signature)		Date / Time	Received by: (Signature)		
Relinquished by: (Signature)						Date / Time	Received for Laboratory by: (Signature)		Date / Time	Remarks				
							D. Williams		12/27/99 3:05					

DATE: 12/27/99