



ENVIRONMENTAL SERVICES

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SAMPLING REPORT
for
THE DETERMINATION OF BTEX AND DIESEL
at the
RMC LONESTAR SUNOL AGGREGATE PLANT
SUNOL, CALIFORNIA

SEMI-ANNUAL REPORTS
FOR
JULY - DECEMBER, 1992 & JANUARY - JULY, 1993

Prepared for: California Regional Quality Control Board
San Francisco Bay Region

July 27, 1993

INTRODUCTION

RMC Lonestar operates the Santa Clara Sand and Gravel plant located at 6527 Calaveras Road, Sunol. This facility mines and processes sand and gravel for the construction industry. As part of the operation RMC Lonestar maintains a 10,000 gallon, above ground diesel fuel tank. On August 21, 1990 approximately 2,700 gallons of diesel fuel were spilled onto the soil near the tank as part of an act of vandalism during a Labor strike. The perpetrators of this act have never been caught.

Three monitoring wells, designated RMC-2, RMC-3, and RMC-4, were installed to evaluate the effect on the spill on the local ground water in September 1990 by GeoStrategies Inc. (GSI) of Hayward. GSI sampled these wells on a quarterly basis until January 1993. Beginning in January 1993 the sampling and reporting of these wells was assumed by RMC Lonestar personnel. Although instructed to do so, GSI did not prepare a summary report for the sampling activities during the second half of 1992. The original data was not transmitted to RMC Lonestar staff by the consultant until June 16, 1993. After discussions with Alameda County Health Care Services Agency staff it was agreed to combine the reporting periods of July through December 1992 with January through July 1993 into the present summary report.

SAMPLING PROCEDURES

SCHEDULE

In accordance with the letter from Alameda County Health Care Services Agency dated January 21, 1990, well RMC-4 is sampled quarterly whereas wells RMC-2 and RMC-3 are sampled semiannually. Ground water levels are measured quarterly in all three wells.

SAMPLING

Water Level Measurements

The depth to the static water level is measured in each well using a electronic interface probe. The static water level is measured relative to the top of the PVC well casing to the nearest 0.01 foot. Ground water elevations presented in the attached Tables and Figures are referenced to an assumed project datum and are calculated by assigning the top of casing of RMC-2 the value of 100 foot elevation.

Water Quality Sampling

Ground water samples were collected using a clean teflon bailer after purging three to five casing volumes of water from each well. Samples were stored and transported to the analytical laboratory at $\pm 4^{\circ}\text{C}$ under strict Chain of Custody protocol. All samples were analyzed by a California state

certified laboratory, for TPH-Diesel using EPA Method 3510 and BTEX using EPA Method 8020. Analysis of the September 18, 1992 and December 29, 1992 were performed by NET Pacific, Santa Rosa whereas the April 6, 1993 and July 10, 1993 analysis were performed by Priority Environmental Labs, Milpitas.

Quality Control

One quality control sample was included in each sampling event. This consisted of an equipment blank prepared by running a portion of distilled water through all the sampling equipment after normal cleaning in the field. This procedure is useful in assessing not only sampling handling but also the possibility of contamination crossover between wells.

REPORTING

A summary of data collected and analytical results are presented in tabular form on the attached tables. Monitor well information, static water level data and well purging volumes are presented on Table 1. Graphical representations of the static water levels in the form of contour plots shown as Figures 2 through 5. Analytical results for the six month period covered by this report (July 1992 through July 1993) are presented on Table 2. Table 3 presents the historical database of all analytical data collected for wells RMC-2 through RMC-4.

Copies of all original analytical certificates, field data forms and chain-of-custody sheets are included as Appendix A.

SUMMARY OF TEST RESULTS

During this reporting period, no tested constituent was found in the ground water at levels above the analytical detection limits except for 110 µg/L diesel reported in well RMC-3 during the December 29, 1992 sampling. The analytical laboratory (NET Pacific) noted that the positive result in this sample appeared to be attributable to a hydrocarbon heavier than diesel. The presence of diesel in RMC-3 reported in the December 29, 1992 sampling was not supported by the July 10, 1993 sampling results. At this time, the December 1992 value seems to be an anomalous data point, possibly from outside contamination. However, at least one more negative analysis of the ground water from this well is needed to confirm this assumption.

TABLE 1

FIELD MONITORING DATA							
WELL NO.	MONITORING DATE	CASING DIA. (IN)	TOTAL WELL DEPTH (FT)	WELL ELEV. (FT)	DEPTH TO WATER (PT)	STATIC WATER ELEV. (FT)	PURGED WELL VOLUMES
RMC-2	9-18-92	2	43.50	100.00	35.14	64.86	---
RMC-2	12-29-92	2	43.50	100.00	34.24	65.76	---
RMC-2	3-13-93	2	42.50	100.00	29.13	70.87	---
RMC-2	7-10-93	2	42.50	100.00	31.72	68.28	5.2 gal
RMC-3	9-18-92	2	17.90	69.84	5.90	63.94	---
RMC-3	12-29-92	2	17.90	69.84	5.13	64.71	---
RMC-3	3-13-93	2	18.50	69.84	2.44	67.40	---
RMC-3	7-10-93	2	18.50	69.84	3.46	66.38	7.2 gal
RMC-4	9-18-93	2	42.80	101.38	36.43	64.95	---
RMC-4	12-29-93	2	42.70	101.38	35.51	65.87	---
RMC-4	3-13-93	2	40.40	101.38	30.34	71.04	3.3 gal
RMC-4	7-10-93	2	40.40	101.38	33.06	68.32	3.5 gal

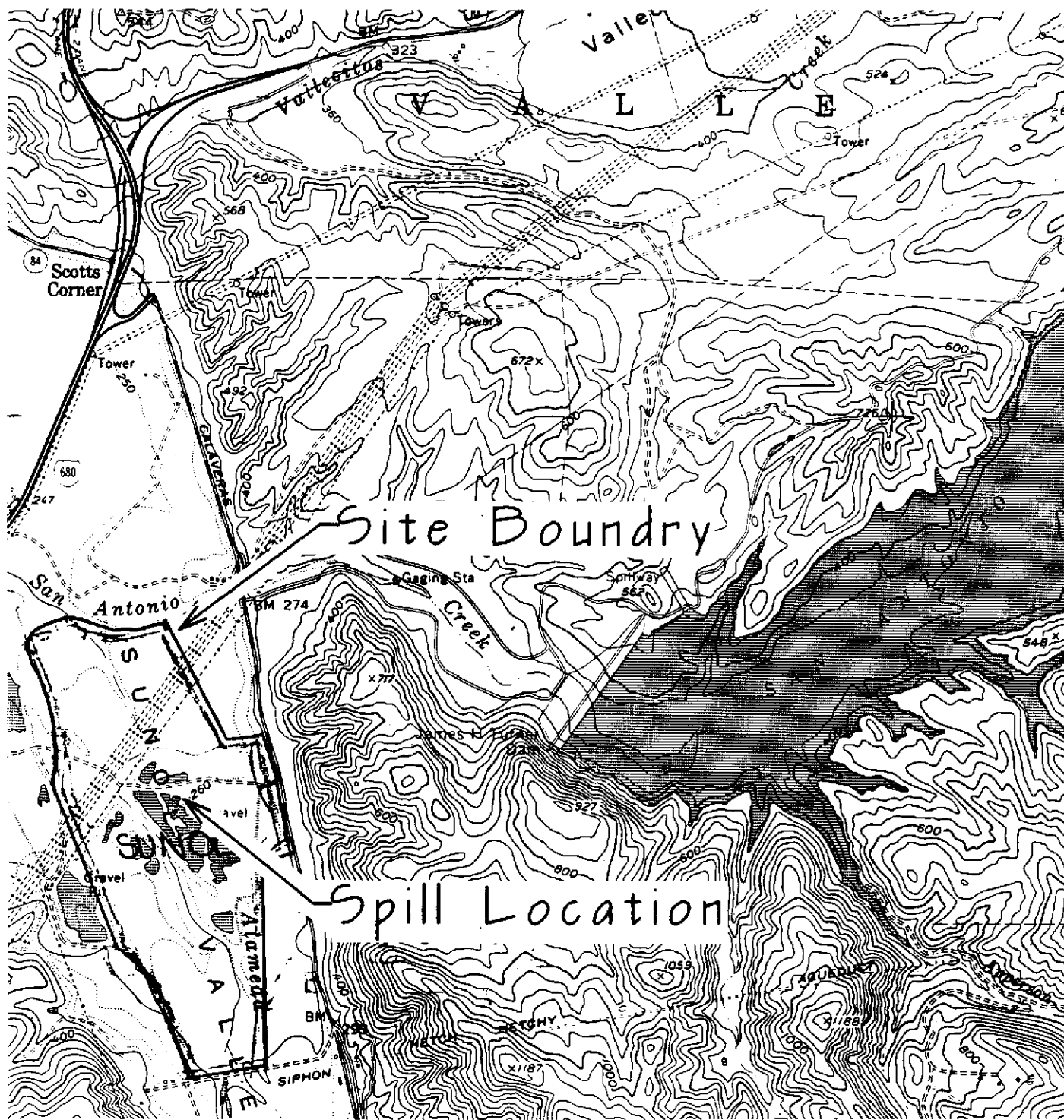
TABLE I I

GROUND-WATER ANALYSES DATA							
WELL NO	SAMPLE DATE	ANALYSIS DATE	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENES (PPB)	TPH-DIESEL (PPM)
RMC-2	7-10-93	7-12-93 & 7-13-93	<0.5	<0.5	<0.5	<0.5	<50
RMC-3	7-10-93	7-12-93 & 7-13-93	<0.5	<0.5	<0.5	<0.5	<50
RMC-4	9-18-92	9-24-92	<0.5	<0.5	<0.5	<0.5	<50
RMC-4	12-29-92	1-04-93	<0.5	<0.5	<0.5	<0.5	118
RMC-4	3-13-93	3-13-93 & 3-14-93	<0.5	<0.5	<0.5	<0.5	<50
RMC-4	7-10-93	7-12-93 & 7-13-93	<0.5	<0.5	<0.5	<0.5	<50

TABLE III

HISTORICAL GROUND-WATER QUALITY DATABASE

SAMPLE DATE	SAMPLE POINT	TPH-D (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENES (PPB)
10/05/90	RMC-2	<60.	----	----	----	----
01/19/91	RMC-2	<50.	<0.5	<0.5	<0.5	<0.5
02/20/91	RMC-2	<50.	<0.5	<0.5	<0.5	<0.5
03/18/91	RMC-2	<50.	<0.5	<0.5	<0.5	<0.5
06/10/91	RMC-2	<50.	<0.5	<0.5	<0.5	<0.5
09/17/91	RMC-2	<50.	<0.5	<0.5	<0.5	<0.5
12/16/91	RMC-2	<50.	<0.5	<0.5	<0.5	<0.5
03/09/92	RMC-2	Not Sampled				
06/30/92	RMC-2	<50.	<0.5	<0.5	<0.5	<0.5
09/18/92	RMC-2	Not Sampled				
12/29/92	RMC-2	<50.	<0.5	<0.5	<0.5	<0.5
03/13/93	RMC-2	Not Sampled				
07/10/93	RMC-2	<50	<0.5	<0.5	<0.5	<0.5
10/05/90	RMC-3	<50.	----	----	----	----
01/19/91	RMC-3	<50.	<0.5	<0.5	<0.5	<0.5
02/20/91	RMC-3	<50.	<0.5	<0.5	<0.5	<0.5
03/18/91	RMC-3	<50.	<0.5	<0.5	<0.5	<0.5
06/10/91	RMC-3	<50.	<0.5	<0.5	<0.5	<0.5
09/17/91	RMC-3	<50.	<0.5	<0.5	<0.5	<0.5
12/16/91	RMC-3	<50.	<0.5	<0.5	<0.5	<0.5
03/09/92	RMC-3	Not Sampled				
06/30/92	RMC-3	<50.	<0.5	<0.5	<0.5	<0.5
09/18/92	RMC-3	Not Sampled				
12/29/92	RMC-3	110.	<0.5	<0.5	<0.5	<0.5
03/13/93	RMC-3	Not Sampled				
07/10/93	RMC-3	<50	<0.5	<0.5	<0.5	<0.5
10/05/90	RMC-4	<50.	----	----	----	----
01/19/91	RMC-4	<50.	1.0	0.8	3.1	1.2
02/20/91	RMC-4	<50.	<0.5	<0.5	<0.5	<0.5
03/18/91	RMC-4	<50.	0.83	4.4	<0.5	2.3
06/10/91	RMC-4	<50.	<0.5	4.1	<0.5	0.6
09/17/91	RMC-4	<50.	<0.5	<0.5	<0.5	<0.5
12/16/91	RMC-4	<50.	<0.5	<0.5	<0.5	<0.5
03/09/92	RMC-4	<50.	<0.5	<0.5	<0.5	<0.5
06/30/92	RMC-4	<50.	<0.5	<0.5	<0.5	<0.5
09/18/92	RMC-4	<50.	<0.5	<0.5	<0.5	<0.5
12/29/92	RMC-4	<50.	<0.5	<0.5	<0.5	<0.5
03/13/93	RMC-4	<50.	<0.5	<0.5	<0.5	<0.5
07/10/93	RMC-4	<50.	<0.5	<0.5	<0.5	<0.5



Source: USGS La Costa Valley
7.5 minute Quadrangle

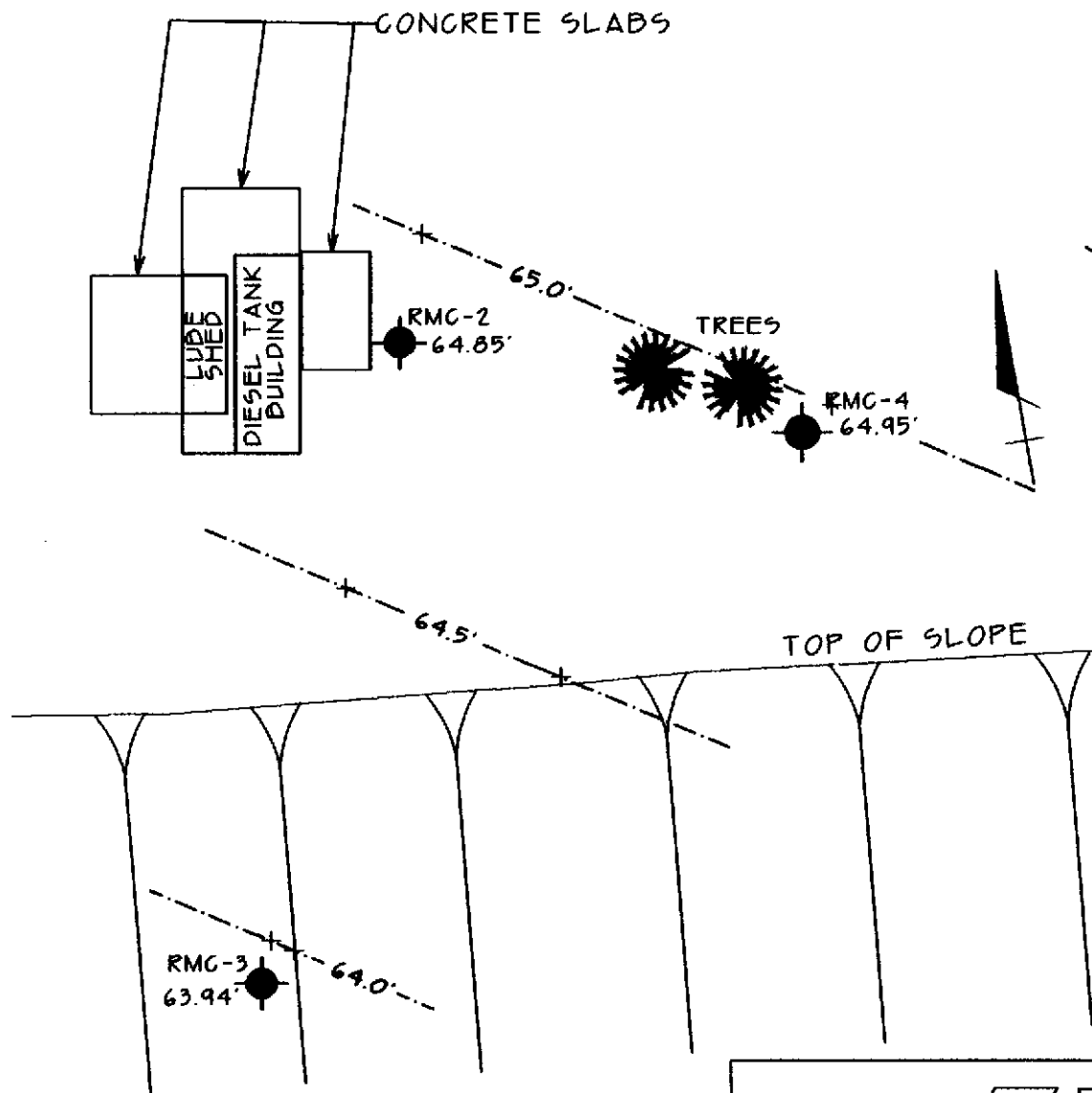
FIGURE 1

▬ RMC LONESTAR ▬

6601 KOLL CENTER PARKWAY-P.O. BOX 5252-PLEASANTON, CALIFORNIA 94566

SANTA CLARA SAND AND GRAVEL
Facility Location Map

DATE	SCALE	DRAWN	FILE	DRAWING NUMBER	REV
7-27-93	1:24000	LBS		SUFRAM	0



LEGEND

- RMC-4 76.53' Ground Water Monitoring Well
- Ground Water Elevation (project datum)
- Ground water Contour

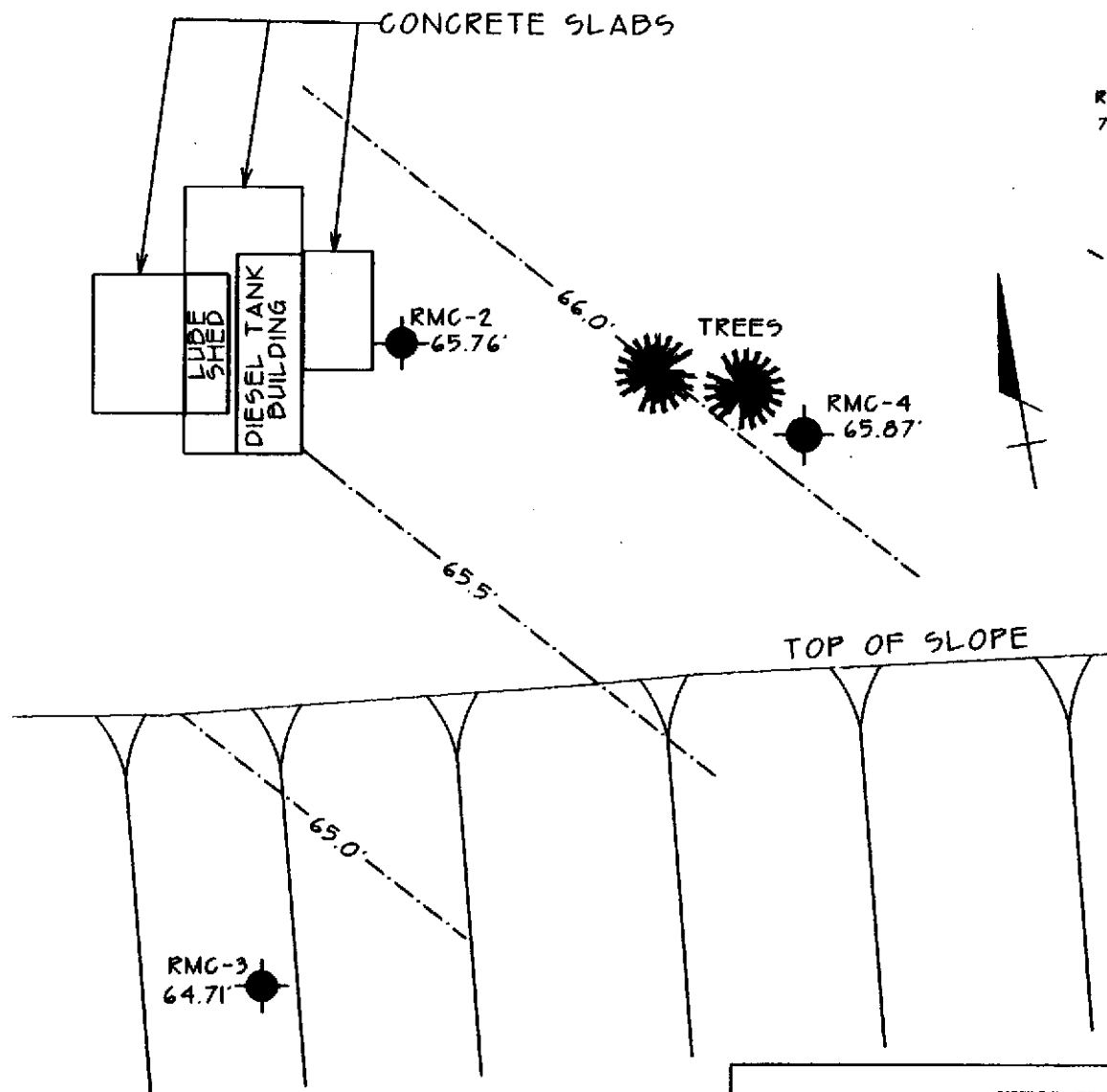
FIGURE 2

RMC LONESTAR

8601 KOLL CENTER PARKWAY-P.O. BOX 5252-PLEASANTON, CALIFORNIA 94568

SANTA CLARA SAND AND GRAVEL
 Static Water Levels on September 18, 1992

DATE	SCALE	DRAWN	FILE	DRAWING NUMBER	REV
7-6-93	1:480	LBS		SWL91892	0



LEGEND


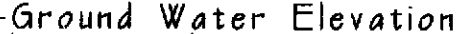
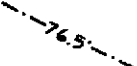

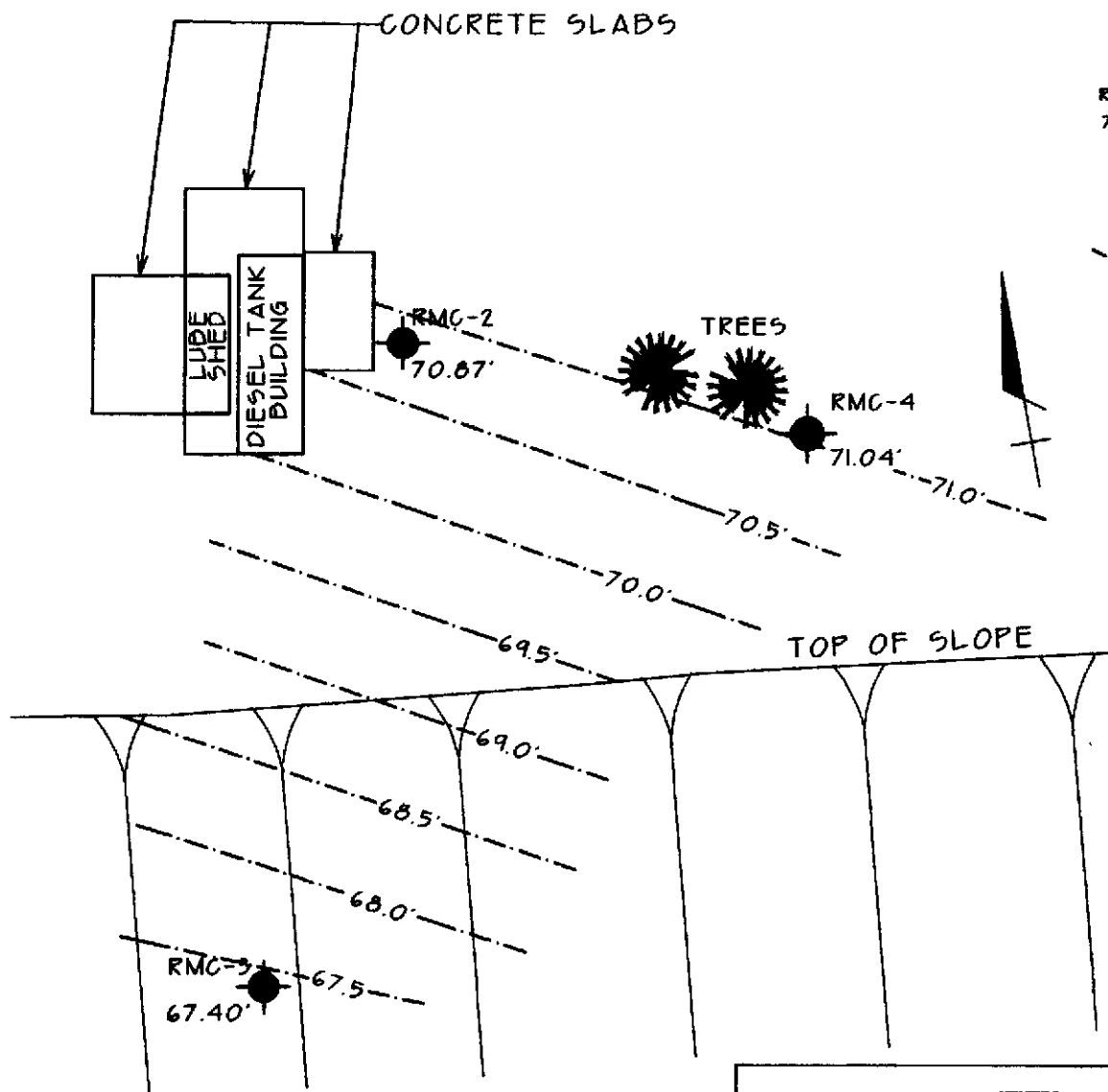
-  RMC-4
76.93' Ground Water Monitoring Well
-  Ground Water Elevation (project datum)
-  -76.5' Ground water Contour

FIGURE 3

					
8801 KOLL CENTER PARKWAY-P.O. BOX 5252-PLEASANTON,CALIFORNIA 94588					
SANTA CLARA SAND AND GRAVEL					
Static Water Levels on December 29, 1992					
DATE	SCALE	DRAWN	FILE	DRAWING NUMBER	REV
7-6-93	1:480	LBS		SW122993	0



LEGEND

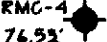

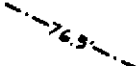

-  RMC-4 76.53' Ground Water Monitoring Well
-  Ground Water Elevation (project datum)
-  76.5' Ground water Contour

FIGURE 4

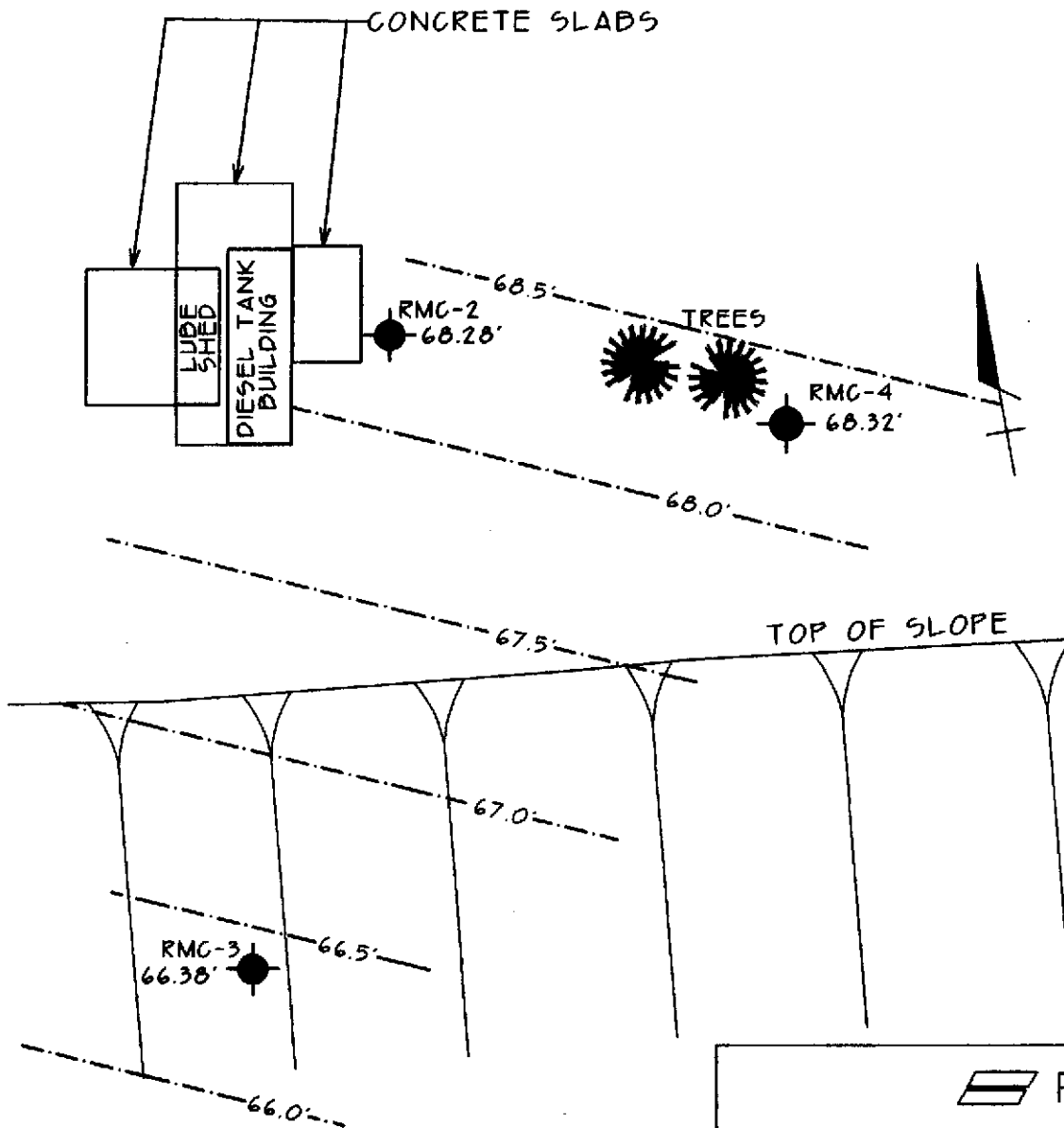


8801 KOLL CENTER PARKWAY-P.O. BOX 5252-PLEASANTON,CALIFORNIA 94586

SANTA CLARA SAND AND GRAVEL

Static Water Levels on April 6, 1993

DATE	SCALE	DRAWN	FILE	DRAWING NUMBER	REV
4-6-93	1:480	LBS		SWL4693	0



LEGEND

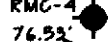



-  Ground Water Monitoring Well
-  Ground Water Elevation (project datum)
-  Ground water Contour

FIGURE 5

					
6801 KOLL CENTER PARKWAY-P.O. BOX 5252-PLEASANTON.CALIFORNIA 94566					
SANTA CLARA SAND AND GRAVEL					
Static Water Levels on July 10, 1993					
DATE	SCALE	DRAWN	FILE	DRAWING NUMBER	REV
7-27-93	1:480	LBS		SWL793	0

APPENDIX A



NATIONAL
ENVIRONMENTAL
TESTING, INC.®

NET Pacific, Inc.
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

Frank Cline
Gettler-Ryan Inc.
2150 W. Winton Avenue
Hayward, CA 94545

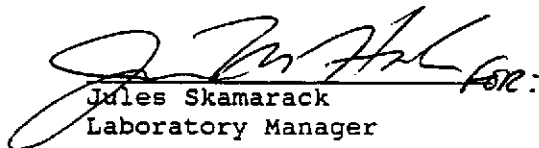
Date: 10/06/1992
NET Client Acct No: 67900
NET Pacific Job No: 92.48382
Received: 09/21/1992

Client Reference Information

RMC Lonestar 6527 Calaveras Rd Sunol / 3004.01

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:


Jules Skamarack
Laboratory Manager

JS:rct
Enclosure(s)



Client No: 67900
Client Name: Gettler-Ryan Inc.
NET Job No: 92.48382

Date: 10/06/1992

Page: 2

Ref: RMC Lonestar 6527 Calaveras Rd Sunol / 3004.01

Descriptor, Lab No. and Results

Parameter	Method	Reporting Limit	RMC-4 09/18/1992 09:46 137478	Trip 137479	Units
METHOD 8020 (GC,Liquid)					
DATE ANALYZED			09-24-92	09-24-92	
DILUTION FACTOR*			1	1	
Benzene	8020	0.5	ND	ND	ug/L
Ethylbenzene	8020	0.5	ND	ND	ug/L
Toluene	8020	0.5	ND	ND	ug/L
Xylenes (Total)	8020	0.5	ND	ND	ug/L
SURROGATE RESULTS					
Bromofluorobenzene			89	92	% Rec.
METHOD 3510 (GC,FID)					
DILUTION FACTOR*			1	1	
DATE EXTRACTED			09-24-92	09-24-92	
DATE ANALYZED			09-25-92	09-25-92	
as Diesel	3510	0.05	ND	ND	mg/L



Client No: 67900
Client Name: Gettler-Ryan Inc.
NET Job No: 92.48382

Date: 10/06/1992

Page: 3

Ref: RMC Lonestar 6527 Calaveras Rd Sunol / 3004.01

QUALITY CONTROL DATA

<u>Parameter</u>	<u>Reporting Limits</u>	<u>Units</u>	<u>Cal Verif Stand % Recovery</u>	<u>Blank Data</u>	<u>Spike % Recovery</u>	<u>Duplicate Spike % Recovery</u>	<u>RPD</u>
Benzene	0.5	ug/L	87	ND	103	98	4.3
Toluene	0.5	ug/L	96	ND	102	98	4.8
Diesel	0.05	mg/L	83	ND	65	62	5.5

COMMENT: Blank Results were ND on other analytes tested.

KEY TO ABBREVIATIONS and METHOD REFERENCES

- < : Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
- * : Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
- ICVS : Initial Calibration Verification Standard (External Standard).
- mean : Average; sum of measurements divided by number of measurements.
- mg/Kg (ppm) : Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
- mg/L : Concentration in units of milligrams of analyte per liter of sample.
- mL/L/hr : Milliliters per liter per hour.
- MPN/100 mL : Most probable number of bacteria per one hundred milliliters of sample.
- N/A : Not applicable.
- NA : Not analyzed.
- ND : Not detected; the analyte concentration is less than applicable listed reporting limit.
- NTU : Nephelometric turbidity units.
- RPD : Relative percent difference, $100 \text{ [Value 1 - Value 2] / mean value}$.
- SNA : Standard not available.
- ug/Kg (ppb) : Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
- ug/L : Concentration in units of micrograms of analyte per liter of sample.
- umhos/cm : Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

COMPANY RMC Lonestar

JOB NO. 8850

JOB LOCATION 6527 Calaveras Rd

CITY Sunol

PHONE NO. (510) 783-7800

AUTHORIZED Frank Cline

DATE 9-18-92

P.O. NO. 3004-01

SAMPLE ID	NO. OF CONTAINERS	SAMPLE MATRIX	DATE/TIME SAMPLED	ANALYSIS REQUIRED	SAMPLE CONDITION LAB ID
<u>RMC-4</u>	<u>5</u>	<u>H₂O</u>	<u>9-18-92/946</u>	<u>BTXE & TPH-Diesel</u>	
<u>Trip</u>	<u>2</u>	<u>↓</u>	<u>- 1 -</u>	<u>↓</u>	

RELINQUISHED BY: [Signature] 9-18-92 1430

RECEIVED BY: Refrij #1 9-18-92 1430

RELINQUISHED BY: [Signature] 9-21-92 08:00

RECEIVED BY: [Signature] 9-21-92 08:00

RELINQUISHED BY: [Signature] 9-21-92 16:08

RECEIVED BY LAB: [Signature] 9/21/92 1600

DESIGNATED LABORATORY: PET

DHS #:

REMARKS: Normal TAT

DATE COMPLETED 9-18-92

FOREMAN G. Sanchez

COMPANY RMC Lonestar

JOB NO. 8850

JOB LOCATION 6537 Calaveras Rd

CITY Sunnyvale

PHONE NO. 510 723-7100

AUTHORIZED Frank Cline

DATE 9-18-92

P.O. NO. 3004.01

SAMPLE ID	NO. OF CONTAINERS	SAMPLE MATRIX	DATE/TIME SAMPLED	ANALYSIS REQUIRED	SAMPLE CONDITION LAB ID
RMC-4	5	H ₂ O	9-12-92/946	BTXE TPH-Diesel	
trip	2	↓	- / -	↓	

RELINQUISHED BY: [Signature] 9-18-92 1430

RECEIVED BY: Retrij #1 9-18-92 1430

RELINQUISHED BY: Retrij #1 9-21-92 0800

RECEIVED BY: [Signature] 9-21-92 0800

RELINQUISHED BY: [Signature] 9-21-92 16:08

RECEIVED BY LAB: J. Lawrence 9/21/92 1600

DESIGNATED LABORATORY: PET

DHS #

REMARKS: Normal TAT

DATE COMPLETED 9-18-92

FOREMAN G Souther



NATIONAL
ENVIRONMENTAL
TESTING, INC.

NET Pacific, Inc.
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

Louis Schipper
RMC Lonestar
P.O. Box 5252
6601 Koll Center Pkwy
Pleasanton, CA 94566

Date: 01/15/1993
NET Client Acct No: 67400
NET Pacific Job No: 92.50053
Received: 12/31/1992

Client Reference Information

RMC Lonestar/6527 Calaveras Blvd, Sunol

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:


Jules Skamarack
Laboratory Manager

JS:rct
Enclosure(s)



Client No: 67400
 Client Name: RMC Lonestar
 NET Job No: 92.50053

Date: 01/15/1993

Page: 2

Ref: RMC Lonestar/6527 Calaveras Blvd, Sunol

Descriptor, Lab No. and Results

Parameter	Method	Reporting Limit	RMC-2	RMC-3	Units
			12/29/1992 12:07 148321	12/29/1992 11:39 148322	
METHOD 8020 (GC,Liquid)					
DATE ANALYZED			01-04-93	01-04-93	
DILUTION FACTOR*			1	1	
Benzene	8020	0.5	ND	ND	ug/L
Ethylbenzene	8020	0.5	ND	ND	ug/L
Toluene	8020	0.5	ND	ND	ug/L
Xylenes (Total)	8020	0.5	ND	ND	ug/L
SURROGATE RESULTS					
Bromofluorobenzene			73	100	% Rec.
METHOD 3510 (GC,FID)					
DILUTION FACTOR*			1	1	
DATE EXTRACTED			01-08-93	01-08-93	
DATE ANALYZED			01-12-93	01-12-93	
as Diesel	3510	0.05	ND	0.11**	mg/L

** The positive result for Petroleum Hydrocarbons as Diesel appears to be due to the presence of heavier hydrocarbon rather than Diesel.



Client No: 67400
 Client Name: RMC Lonestar
 NET Job No: 92.50053

Date: 01/15/1993

Page: 3

Ref: RMC Lonestar/6527 Calaveras Blvd, Sunol

Descriptor, Lab No. and Results

Parameter	Method	Reporting Limit	RMC-4	TB	Units
			12/29/1992 11:18 148323	148324	
METHOD 8020 (GC,Liquid)					
DATE ANALYZED			01-04-93	01-05-92	
DILUTION FACTOR*			1	1	
Benzene	8020	0.5	ND	ND	ug/L
Ethylbenzene	8020	0.5	ND	ND	ug/L
Toluene	8020	0.5	ND	ND	ug/L
Xylenes (Total)	8020	0.5	ND	ND	ug/L
SURROGATE RESULTS					
Bromofluorobenzene			87	88	% Rec.
METHOD 3510 (GC,FID)					
DILUTION FACTOR*			1	1	
DATE EXTRACTED			01-05-93	01-05-93	
DATE ANALYZED			01-06-93	01-06-93	
as Diesel	3510	0.05	ND	ND	mg/L



Client No: 67400
Client Name: RMC Lonestar
NET Job No: 92.50053

Date: 01/15/1993

Page: 4

Ref: RMC Lonestar/6527 Calaveras Blvd, Sunol

QUALITY CONTROL DATA

Parameter	Reporting Limits	Units	Cal Verif Stand % Recovery	Blank Data	Spike % Recovery	Duplicate Spike % Recovery	RPD
Benzene	0.5	ug/L	109	ND	103	114	9.7
Toluene	0.5	ug/L	96	ND	100	119	17
Benzene	0.5	ug/L	104	ND	102	98	4.0
Toluene	0.5	ug/L	106	ND	99	94	5.0
Diesel	0.05	mg/L	101	ND	92	85	7.9

COMMENT: Blank Results were ND on other analytes tested.



KEY TO ABBREVIATIONS and METHOD REFERENCES

- < : Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
- * : Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
- ICVS : Initial Calibration Verification Standard (External Standard).
- mean : Average; sum of measurements divided by number of measurements.
- mg/Kg (ppm) : Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
- mg/L : Concentration in units of milligrams of analyte per liter of sample.
- mL/L/hr : Milliliters per liter per hour.
- MPN/100 mL : Most probable number of bacteria per one hundred milliliters of sample.
- N/A : Not applicable.
- NA : Not analyzed.
- ND : Not detected; the analyte concentration is less than applicable listed reporting limit.
- NTU : Nephelometric turbidity units.
- RPD : Relative percent difference, $100 \text{ [Value 1 - Value 2] / mean value}$.
- SNA : Standard not available.
- ug/Kg (ppb) : Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
- ug/L : Concentration in units of micrograms of analyte per liter of sample.
- umhos/cm : Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

Gottler - Ryan Inc.

ENVIRONMENTAL DIVISION

3137 Chain of Custody

COMPANY

RMC LONESTAR

JOB NO.

1529

JOB LOCATION

6527 CALAVERAS BLVD

CITY

SUNOL

PHONE NO.

AUTHORIZED

F. CLINE

DATE

12-29-92

P.O. NO.

3004.01

SAMPLE ID	NO. OF CONTAINERS	SAMPLE MATRIX	DATE/TIME SAMPLED	ANALYSIS REQUIRED	SAMPLE CONDITION LAB ID
Rmc 2	5	H ₂ O	12-29-92 / 1207	BTXE TPH - Dried	
Rmc-3	↓	↓	↓ / 1139		
Rmc-4	↓	↓	↓ / 1118		
TB	2	↓	—		

RELINQUISHED BY:

12-29-92

RECEIVED BY:

[Signature] 12-29-92 13.00

RELINQUISHED BY:

12-31-92 16:00

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY LAB:

[Signature] Young 12/31/92 16:15

DESIGNATED LABORATORY:

NET

DHS #:

REMARKS:

NORMAL TBT

DATE COMPLETED

12-29-92

FOREMAN

[Signature]

ier - Ryan Inc.

ENVIRONMENTAL DIVISION

3137 Chain of Custody

COMPANY

Rmc LONESTAR

JOB NO. 1529

JOB LOCATION

6527 CALAVERAS BLVD

CITY

SUNOL

PHONE NO.

AUTHORIZED

F. CLINE

DATE

12-29-92

P.O. NO.

3004-01

SAMPLE ID	NO. OF CONTAINERS	SAMPLE MATRIX	DATE/TIME SAMPLED	ANALYSIS REQUIRED	SAMPLE CONDITION LAB ID
Rmc-2	5	H ₂ O	12-29-92 / 1207	BTXE TPH - Dissol	
Rmc-3	↓	↓	↓ / 1139	↓	
Rmc-4	↓	↓	↓ / 1118	↓	
TB	2	↓	—	↓	

RELINQUISHED BY:

12-29-92

RECEIVED BY:

[Signature] 12-29-92 13:00

RELINQUISHED BY:

12-31-92 16:00

RECEIVED BY:

RECEIVED BY LAB:

[Signature] 12/31/92 16:15

DESIGNATED LABORATORY:

NET

DHS #:

REMARKS:

NORMAL TAT

DATE COMPLETED:

12.29-92

FOREMAN

[Signature]

COOLER RECEIPT FORM

Project: RMC Lanester, 6527 Calaveras Blvd Log No: 1529
Cooler received on: 12/31/92 and checked on 12/31/92 by K. Temple
[Signature]
(signature)

- Were custody papers present?..... YES NO
 - Were custody papers properly filled out?..... YES NO
 - Did you sign custody papers?..... YES NO
 - Was sufficient ice used?..... YES NO
 - Did all bottles arrive in good condition (unbroken)?..... YES NO
 - Did bottle labels match COC?..... YES NO
 - Were proper bottles used for analysis indicated?..... YES NO
 - Correct preservatives used?..... YES NO
 - VOA vials checked for headspace bubbles?..... YES NO
- Note which voas (if any) had bubbles:

Sample descriptor:

Number of vials:

none

List here all other jobs received in the same cooler:

Gettler-Ryan Job #	NET log #
<u>Unocal 3840.01</u>	<u>1531</u>
<u>Unocal #4553 3833.01</u>	<u>1530</u>

Trip Blank prepared 12/9/92 (previous to batch)



GeoStrategies Inc.

LETTER OF TRANSMITTAL

Environmental Consulting
Engineering and Geologic Services

DATE June 21, 1993

TO: Mr. Louis Shipper
BMC Lonestar
P. O. Box 5252
Pleasanton Ca. 94566

PROJECT NO. 7004
SUBJECT: Quarterly Monitoring data
BMC Lonestar
6927 Calaveras Road
Sunny, Ca.

THE FOLLOWING ITEMS ARE:

ATTACHED

FORWARDED SEPARATELY VIA _____

QUANTITY	PROJECT NO.	DATE	DESCRIPTION
1	7004	9-18-92	Observation Well Monitoring Report
1	7004	12-29-92	Observation Well Monitoring Report

THESE ARE TRANSMITTED as checked below:

- For approval
- For your use
- As requested
- For review and

- Approved
- Approved as noted
- Returned for
- Other _____

COMMENTS:

Empty box for comments.

Signed: _____

[Signature]

2140 W. Winton Avenue, Hayward, CA 94545
(510) 352-4800 - FAX (510) 783-1089

601 University Avenue, Suite 150, Sacramento, CA 95825
(916) 568-7500 - FAX (916) 568-7504

Copies To:

Empty box for copies to.

GETTLER-RYAN INC.

General and Environmental Contractors

OBSERVATION WELL DAILY MONITOR RECORD

COMPANY RMC Lonestar JOB # 3004.01
 LOCATION 6527 Calaveras Rd DATE 9-18-92
 CITY Sono 1 TIME _____

WELL	DEPTH TO LIQUID (DTH) OR (DTV)		HYDROCARBON THICKNESS (HT)		AMOUNT PUMPED	COMMENTS
	BEFORE	AFTER	BEFORE	AFTER		
RMC-1	2.30		dry			monitor
↓ 2	35.14		Ø	43.5		↓
↓ 3	5.90		Ø	17.9		↓
↓ 4	36.43		Ø	42.8		sampled

PRODUCT TANK: _____ TOTAL _____ FLOWMETER _____
 WATER _____ OTHER _____

COMMENTS _____

FOREMAN G. Sand ASSISTANT _____

GETTLER-RYAN INC.

General and Environmental Contractors

OBSERVATION WELL DAILY MONITOR RECORD

COMPANY Rmc Lonestar JOB # 3004.01
 LOCATION 6527 Calaveras DATE 12-29-92
 CITY Sunol TIME _____

WELL	DEPTH TO LIQUID (DTH) OR (DTW)	HYDROCARBON THICKNESS (HT)		AMOUNT PUMPED	COMMENTS
		BEFORE	AFTER		
Rmc - 1	—	Dry	2.2	/	
2	34.24	Ø	43.5		
3	5.13	Ø	17.9		
4	35.51	Ø	42.7		

PRODUCT TANK: TOTAL _____ FLOWMETER _____
 WATER _____ OTHER _____

COMMENTS _____

FOREMAN [Signature] ASSISTANT _____



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

March 15, 1993

PEL # 9303025

RMC LONESTAR

Attn: Bradd Statley
Re: One water samples for BTEX and Diesel analyses.

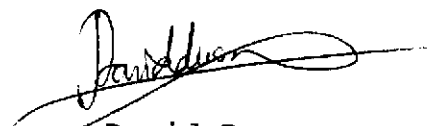
Project name: Sunol

Date sampled: Mar 13, 1993
Date extracted: Mar 13-14, 1993

Date submitted: Mar 13, 1993
Date analyzed: Mar 13-14, 1993

RESULTS:

SAMPLE I.D.	Diesel (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
RMC-4	N.D.	N.D.	N.D.	N.D.	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	92.3%	93.0%	91.9%	92.7%	95.8%
Detection limit	50	0.5	0.5	0.5	0.5
Method of Analysis	3510 / 8015	602	602	602	602



David Duong
Laboratory Director

RMC LONESTAR
WATER QUALITY SAMPLE
COLLECTION LOG

SITE LOCATION: SUNOL

DATE: 3-13-93 SAMPLERS NAME: Joseph Moorman

WELL ID.: RMC-2 SAMPLE ID.: NA

SAMPLING METHOD: _____

CONTAINER TYPE/SIZE: _____

NUMBER OF CONTAINERS: _____

WEATHER CONDITION: N/A

WELL CASING DIAMETER (in): 2

WELL CASING ELEVATION (ft): 100.00

WELL CASING DEPTH (ft): 42.50

DEPTH TO WATER (ft): * SEE NOTE

HEIGHT OF WATER IN WELL (ft): _____

VOLUME OF WATER IN WELL (gal): _____

2-inch casing=0.16 gal/ft

4-inch casing=0.65 gal/ft

6-inch casing=1.47 gal/ft

TIME	VOLUME REMOVED (gal)	CONDUCT. (micro-mhos/cm)	TEMP. (deg. C)	pH	REMARKS

SAMPLE CONTAINERS DELIVERED TO: _____

Additional remarks by sampler: * ATTEMPTED 8:55 - NO KEY TO FIT LOCK.

DTW = 29.43 @ 10:26 on 4-6-93 Luis Schipper

Sampler's Signature: Joseph Moorman

RMC LONESTAR

WATER QUALITY SAMPLE

COLLECTION LOG

SITE LOCATION: SUNCL

DATE: 3-13-93 SAMPLERS NAME: JOSEPH MOOMAN

WELL ID.: RMC-3 SAMPLE ID.: NA

SAMPLING METHOD: _____

CONTAINER TYPE/SIZE: _____

NUMBER OF CONTAINERS: _____

WEATHER CONDITION: _____

WELL CASING DIAMETER (in): 2

WELL CASING ELEVATION (ft): 69.84

WELL CASING DEPTH (ft): 18.50

DEPTH TO WATER (ft): SEE WORK

HEIGHT OF WATER IN WELL (ft): _____

VOLUME OF WATER IN WELL (gal): _____

2-inch casing=0.16 gal/ft

4-inch casing=0.65 gal/ft

6-inch casing=1.47 gal/ft

TIME	VOLUME REMOVED (gal)	CONDUCT. (micro-mhos/cm)	TEMP. (deg. C)	pH	REMARKS

SAMPLE CONTAINERS DELIVERED TO: _____

Additional remarks by sampler: * UNABLE TO FIND CONTACT KEY LOCK #2034 - NOT ON SAMPLING KEY RING. HESITANT TO CUT LOCKS OFF AS I HAVE NO REPLACEMENTS ON HAND.

DTW = 2.44' @ 10:16 on 4-6-93 Louis Schipper

Sampler's Signature: Joseph Moman

RMC LONESTAR

WATER QUALITY SAMPLE

COLLECTION LOG

SITE LOCATION: SUNOL

DATE: 3-13-93 SAMPLERS NAME: Joseph Mooser
 WELL ID.: RMC-4 SAMPLE ID.: RMC-4
 SAMPLING METHOD: TEFLON BAILER
 CONTAINER TYPE/SIZE: (1) 1-L BROWN GLASS BOTTLE / (2) 40 mL VOA
 NUMBER OF CONTAINERS: 3

WEATHER CONDITION: Sunny, warm

WELL CASING DIAMETER (in): 2
 WELL CASING ELEVATION (ft): 101.38
 WELL CASING DEPTH (ft): 40.40
 DEPTH TO WATER (ft): 30.80 2-inch casing=0.16 gal/ft
 HEIGHT OF WATER IN WELL (ft): 9.60 4-inch casing=0.65 gal/ft
 VOLUME OF WATER IN WELL (gal): 1.5 6-inch casing=1.47 gal/ft

TIME	VOLUME REMOVED (gal)	CONDUCT. (micro-mhos/cm)	TEMP. (deg. C)	pH	REMARKS
8:30am	5 GALLONS				

SAMPLE CONTAINERS DELIVERED TO: PRIORITY ENVIRONMENTAL LABS

Additional remarks by sampler: SAMPLE TAKEN AT 8:45

DTW = 30.34' @ 10:21 am 4-6-93 Louis Schipper

Sampler's Signature: Joseph Mooser

Priority Environmental Labs

1764 Houret Court

Milpitas, CA 95035

(408) 946-9636

PEL # 9303025

PO # 98670891

INV # 23437

Chain of Custody

1764 Houret Ct. Milpitas, CA 95035 Tel: 408-946-9636 Fax: 408-940-9003

DATE: 3/13/93 PAGE: 1 OF: 1

PROJECT MGR.: Joseph Moomau
 COMPANY: RMC LONESTAR
 ADDRESS: P.O. Box 5252
 : Pleasanton, CA 94566
 PHONE: 510-426-8787 FAX: 510-426-2281
 SIGNATURE:

ANALYSIS REPORT

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
-----------	------	------	--------	--------

TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020)	TPH - Diesel (EPA 3510/3550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	TOTAL OIL & GREASE (EPA 5520 E&F)	PESTICIDES/PCB (EPA 608, 8080)	TOTAL RECOVERABLE HYDROCARBONS EPA 418.1																NUMBER OF CONTAINERS					
		X	X																								3

PROJECT INFORMATION	SAMPLE RECEIPT
PROJECT NAME: Suno1	TOTAL # OF CONTAINERS: 3
PROJECT NUMBER:	RECD. GOOD COND./COLD:
INSTRUCTIONS & COMMENTS:	

RELINQUISHED BY: 1
 SIGNATURE: *Joseph Moomau*
 NAME: Joseph Moomau
 COMPANY: RMC LONESTAR
 Date: 3-13-93
 Time:

RECEIVED BY: 1
 SIGNATURE: *Therese...*
 NAME: THERESA...
 COMPANY: PEL
 Date: 3/13/93
 Time:

RELINQUISHED BY: 2
 SIGNATURE:
 NAME:
 COMPANY:
 Date:
 Time:

RECEIVED BY: 2
 SIGNATURE:
 NAME:
 COMPANY:
 Date:
 Time:



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

July 13, 1993

PEL # 9307024

RMC LONESTAR

Attn: Louis Schipper

Re: Four water samples for BTEX and Diesel analyses.

Project name: Sunol

Date sampled: Jul 10, 1993

Date submitted: Jul 12, 1993

Date extracted: Jul 12-13, 1993

Date analyzed: Jul 12-13, 1993

RESULTS:

SAMPLE I.D.	Diesel (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
Blank	N.D.	N.D.	N.D.	N.D.	N.D.
RMC-2	N.D.	N.D.	N.D.	N.D.	N.D.
RMC-3	N.D.	N.D.	N.D.	N.D.	N.D.
RMC-4	N.D.	N.D.	N.D.	N.D.	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	94.1%	85.2%	87.6%	82.4%	93.0%
Duplicate Spiked Recovery	93.6%	94.8%	96.7%	90.4%	102.5%
Detection limit	50	0.5	0.5	0.5	0.5
Method of Analysis	3510 / 8015	602	602	602	602


David Duong
Laboratory Director

**RMC LONESTAR
WATER QUALITY SAMPLE
COLLECTION LOG**

SITE LOCATION: Sunol

DATE: 7/10/93 SAMPLERS NAME: Kelly McLean

WELL ID.: RMC-2 SAMPLE ID.: _____

SAMPLING METHOD: Plastic Bailor

CONTAINER TYPE/SIZE: GLASS 1 Large 2 Small

NUMBER OF CONTAINERS: 3

WEATHER CONDITION: Dry, Clear, Warm

WELL CASING DIAMETER (in): 2

WELL CASING ELEVATION (ft): _____

WELL CASING DEPTH (ft): 42.50

DEPTH TO WATER (ft): 31.72 2-inch casing=0.16 gal/ft

HEIGHT OF WATER IN WELL (ft): 10.78 4-inch casing=0.65 gal/ft

VOLUME OF WATER IN WELL (gal): 1.72 6-inch casing=1.47 gal/ft

TIME	VOLUME REMOVED (gal)	CONDUCT. (micro-mhos/cm)	TEMP. (deg. C)	pH	REMARKS
10:35	7				Water Brown/Cloudy

SAMPLE CONTAINERS DELIVERED TO: _____

Additional remarks by sampler: Samples taken AT 10:35
Started purge AT 9:30

Sampler's Signature: Kelly McLean

**RMC LONESTAR
WATER QUALITY SAMPLE
COLLECTION LOG**

SITE LOCATION: Suno 1

DATE: 7/10/93 SAMPLERS NAME: Kelly McCarroll

WELL ID.: RMC-3 SAMPLE ID.: RMC-3

SAMPLING METHOD: Plastic Bailor

CONTAINER TYPE/SIZE: Bottles- GLASS 1 Large 2 Small

NUMBER OF CONTAINERS: 3

WEATHER CONDITION: Dry, Warm, Clear

WELL CASING DIAMETER (in): 2

WELL CASING ELEVATION (ft): _____

WELL CASING DEPTH (ft): 18.50

DEPTH TO WATER (ft): 3.46

HEIGHT OF WATER IN WELL (ft): 15.04

VOLUME OF WATER IN WELL (gal): 2.41

2-inch casing=0.16 gal/ft

4-inch casing=0.65 gal/ft

6-inch casing=1.47 gal/ft

TIME	VOLUME REMOVED (gal)	CONDUCT. (micro-mhos/cm)	TEMP. (deg. C)	pH	REMARKS
12:40	8				Brown, Cloudy water

SAMPLE CONTAINERS DELIVERED TO: _____

Additional remarks by sampler: Sample taken at 12:40
Started pouring at 12:16 p.m.

Sampler's Signature: Kelly J. McCarroll

**RMC LONESTAR
WATER QUALITY SAMPLE
COLLECTION LOG**

SITE LOCATION: Sund

DATE: 7/10/93 SAMPLERS NAME: RMC-4 Kelly McLean

WELL ID.: RMC-4 SAMPLE ID.: RMC-4

SAMPLING METHOD: Plastic Bailor

CONTAINER TYPE/SIZE: 6 Glass Bottles 1 Large 2 Small

NUMBER OF CONTAINERS: 3

WEATHER CONDITION: Dry, Clear, Warm

WELL CASING DIAMETER (in): 2

WELL CASING ELEVATION (ft): _____

WELL CASING DEPTH (ft): 40.40

DEPTH TO WATER (ft): 33.06

HEIGHT OF WATER IN WELL (ft): 7.34

VOLUME OF WATER IN WELL (gal): 1.17

2-inch casing=0.16 gal/ft

4-inch casing=0.65 gal/ft

6-inch casing=1.47 gal/ft

TIME	VOLUME REMOVED (gal)	CONDUCT. (micro-mhos/cm)	TEMP. (deg. C)	pH	REMARKS
11:40	4				Brown, Cloudy water

SAMPLE CONTAINERS DELIVERED TO: _____

Additional remarks by sampler: _____

Started purge at 11:00

samples taken at 11:40

Sampler's Signature: Kelly/McLean



PROJECT MOR: <u>Louis Schipper</u>				ANALYSIS REPORT													NUMBER OF CONTAINERS									
COMPANY: <u>BMC Lonestar</u>				TPH-Gasoline (EPA 5030.8015)	TPH-Gasoline (5030.8015) w/BTEX (EPA 602.8020)	TPH-Diesel (EPA 3510/3550.8015)	PURGEABLE AROMATICS BTEX (EPA 602.8020)	TOTAL OIL & GREASE (EPA 5520 E&F)	PESTICIDES/PCB (EPA 608.8080)	TOTAL RECOVERABLE HYDROCARBONS EPA 418.1	BTEX															
SAMPLE ID	DATE	TIME	MATRIX	LAB ID																						
RMC-2	7/10/93	10:35	Water			X					X															3
RMC-3	7/10/93	12:40				X					X															3
RMC-4	7/10/93	11:40				X					X															3
Blank	7/10/93	1:00				X					X															3

PROJECT INFORMATION		SAMPLE RECEIPT		RELINQUISHED BY: 1		RECEIVED BY: 1		RELINQUISHED BY: 2		RECEIVED BY: 2	
PROJECT NAME: <u>Suncol</u>	TOTAL # OF CONTAINERS: <u>12</u>			SIGNATURE: <u>Kelly McCarren</u>	Date: <u>7/10/93</u>	SIGNATURE: <u>[Signature]</u>	Date: <u>7/12/93</u>	SIGNATURE:	Date:	SIGNATURE:	Date:
PROJECT NUMBER:	RECD. GOOD COND./COLD			NAME: <u>Kelly McCarren</u>	Time: <u>9:45</u>	NAME: <u>[Name]</u>	Time: <u>9:50</u>	NAME:	Time:	NAME:	Time:
INSTRUCTIONS & COMMENTS:				COMPANY: <u>BMC Lonestar</u>		COMPANY: <u>PEL</u>		COMPANY:		COMPANY:	