

Reviewed 2/14/92
SOS

92 JAN 26 10 02 AM '92 (510) 352-4800



GeoStrategies Inc.
2140 WEST WINTON AVENUE
HAYWARD, CALIFORNIA 94545

January 31, 1992

Mr. Scott O. Seery
Hazardous Materials Specialist
Department of Environmental Health
Alameda County Health Agency
80 Swan Way, Room 200
Oakland, California 94621

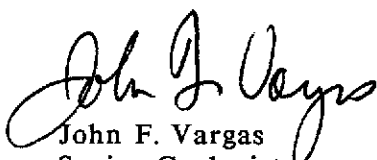
Reference: RMC Lonestar
6527 Calaveras Road
Sunol, California

Mr. Seery:

As requested by Mr. Harry Reppert of RMC Lonestar, we are forwarding a copy of the January 31, 1992 Site Update report. This report presents the results of the fourth quarter ground-water sampling conducted in December 1991.

If you have any questions, please call.

Sincerely,


John F. Vargas
Senior Geologist

enclosure

cc: Mr. Harry Reppert, RMC Lonestar

reviewed 2/14/92
GOS



GeoStrategies Inc.

SITE UPDATE

RMC Lonestar
6527 Calaveras Road
Sunol, California

700401-7

January 31, 1992



GeoStrategies Inc.

2140 WEST WINTON AVENUE
HAYWARD, CALIFORNIA 94545

(510) 352-4800

January 31, 1992

RMC Lonestar
P.O. Box 5252
Pleasanton, California 94566

Attn: Mr. Harry Reppert
Director of Environmental Affairs

Re: SITE UPDATE
RMC Lonestar
6527 Calaveras Road
Sunol, California

Gentlemen:

This site update has been prepared by GeoStrategies Inc. (GSI) and presents the results of the 1991 fourth quarter ground-water sampling performed by Gettler-Ryan Inc. (G-R) for the above referenced site (Plate 1). The scope of work presented in this document was performed at the request of RMC Lonestar. Field work and laboratory analysis methods were performed to comply with current State of California Water Resources Control Board guidelines.

SITE BACKGROUND

There are currently four ground-water monitoring wells at the site; Wells Sunol-1 and RMC-2 through RMC-4 (Plates 1 and 2). Well Sunol-1 was installed by Levine-Fricke in 1989 to assess the impact to soil and groundwater of a small, localized oil and water spill. Wells RMC-2 through RMC-4 were installed by GSI in September 1990 to assess the impact of a 2500 gallon diesel spill to the soil and groundwater beneath the site.

Quarterly monitoring and sampling of wells RMC-2 through RMC-4 began in 1990. Ground - water samples have been analyzed for Total Petroleum Hydrocarbons calculated as Diesel (TPH-Diesel) according to EPA Method 3501 and Benzene, Toluene, Ethylbenzene, and Toluene (BTEX) according to EPA Method 8020.

700401-7

GeoStrategies Inc.

RMC Lonestar
January 31, 1992
Page 2

CURRENT QUARTERLY SAMPLING RESULTS

Potentiometric Data

Prior to ground-water sampling in December 1991, depth to water-level measurements were obtained in each monitoring well using an electronic oil-water interface probe. Static ground-water levels were measured from the surveyed top of well casing and recorded to the nearest ± 0.01 foot. Corresponding elevations, referenced to the project datum, are presented in Table 1. Monthly collection of water level measurements was initiated in July, 1991. These data are included in Table 1. Water-level data were used to construct a water-level map for October and potentiometric maps for November and December 1991 (Plates 3, 4 and 5). Shallow ground-water flow beneath the site during this quarter was to the northwest and southwest at a calculated gradient ranging from 0.001 to 0.05. In October, 1991, Well RMC-4 was dry.

Floating Product Measurements

Each well was checked for the presence of floating product using an electronic oil-water interface probe. A clear acrylic bailer was used to confirm probe results. Floating product was not detected in the wells this quarter.

Ground-water Analytical Data

Ground-water samples were collected on December 16, 1991. The samples were analyzed for TPH-Diesel according to EPA Method 3510 and BTEX according to EPA Method 8020 by NET Pacific Inc. (NET), a State of California certified laboratory located in Santa Rosa, California.

TPH-Diesel and benzene were not detected in the wells this quarter. These data are summarized in Table 2. A chemical concentration map for TPH-Diesel and benzene is presented on Plate 6. The NET certified analytical reports are presented in Appendix A. Historical chemical analytical data are summarized in Table 3.

Quality Control

A Quality Control (QC) sample (Trip Blank) was included in the December 16, 1991 sampling. This sample was prepared in the laboratory using organic-free water to evaluate laboratory and field handling procedures of samples. The results of QC sample analyses are presented in Table 2.

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RMC Lonestar
January 31, 1992
Page 3

DISCUSSION

Groundwater flow direction appears to have fluctuated between west, southwest and northwest since August, 1991. These fluctuations may be due to the following activities associated with the site:

- o excavation southwest of the site
- o groundwater extraction from excavation
- o recharge from holding ponds north of the site

PLANNED SITE ACTIVITIES

GSI has reviewed the historical chemical analytical data and the Alameda County Department of Environmental Health letter to RMC Lonestar dated January 21, 1992 (appendix B) and will modify the monitoring and sampling schedule for this site. Wells RMC-2, RMC-3 and RMC-4 will be monitored on a quarterly basis. Well RMC-4 will be sampled quarterly and Wells RMC-2 and RMC-3 will be sampled semi-annually. GSI will prepare site update reports on a quarterly basis.

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RMC Lonestar
January 31, 1992
Page 4

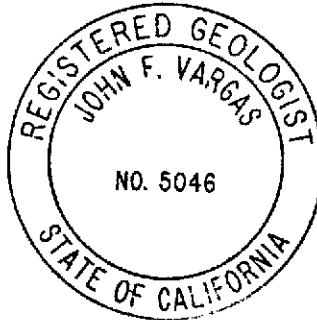
If you have any questions, please call.

GeoStrategies Inc. by.

Ellen C. Fostersmith

Ellen C. Fostersmith
Geologist

John F. Vargas
John F. Vargas
Project Geologist
R.G. 5046



ECF/JFV/dls

- Plate 1. Vicinity and Site Location Maps
- Plate 2. Site Plan
- Plate 3. Water-Level Map (October 17, 1991)
- Plate 4. Potentiometric Map (November 13, 1991)
- Plate 5. Potentiometric Map (December 16, 1991)
- Plate 6. TPH-D/Benzene Concentration Map

Appendix A: Analytical Laboratory Reports and Chains-of-Custody
Appendix B: Correspondence

QC Review: RAL

TABLE 1

FIELD MONITORING DATA

WELL NO.	MONITORING DATE	CASING DIA. (IN)	TOTAL WELL DEPTH (FT)	WELL ELEV. (FT)	DEPTH TO WATER (FT)	PRODUCT THICKNESS (FT)	STATIC WATER ELEV. (FT)	PURGED WELL VOLUMES	pH	TEMPERATURE (F)	CONDUCTIVITY (uMHOS/cm)
RMC-2	17-Oct-91	2	42.5	100.00	36.24	----	63.76	----	----	----	----
RMC-2	13-Nov-91	2	42.5	100.00	36.13	----	63.87	----	----	----	----
RMC-2	16-Dec-91	2	42.5	100.00	34.88	----	65.12	4	7.20	56.3	787
RMC-3	17-Oct-91	2	18.5	69.84	6.80	----	63.04	----	----	----	----
RMC-3	13-Nov-91	2	18.5	69.84	6.69	----	63.15	----	----	----	----
RMC-3	16-Dec-91	2	18.5	69.84	6.86	----	62.98	5	7.11	61.5	800
RMC-4	17-Oct-91	2	40.4	101.38	DRY	----	----	----	----	----	----
RMC-4	13-Nov-91	2	40.4	101.38	32.81	----	68.57	----	----	----	----
RMC-4	16-Dec-91	2	40.4	101.38	36.16	----	65.22	6	7.06	60.9	798

- Notes: 1. Static water elevations referenced to Project site datum.
2. Physical parameter measurements represent stabilized values.

TABLE 2

WELL NO	SAMPLE DATE	ANALYSIS DATE	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENES (PPB)	TPH-DIESEL (PPM)
RMC-2	16-Dec-91	27-Dec-91	<50.	<0.5	<0.5	<0.5	<0.05
RMC-3	16-Dec-91	27-Dec-91	<50.	<0.5	<0.5	<0.5	<0.05
RMC-4	16-Dec-91	27-Dec-91	<50.	<0.5	<0.5	<0.5	<0.05
TB	----	27-Dec-91	<50.	<0.5	<0.5	<0.5	<0.05

CURRENT REGIONAL WATER QUALITY CONTROL BOARD MAXIMUM CONTAMINANT LEVELS

Benzene 0.001 ppb Xylenes 1.750 ppb

Ethylbenzene 0.680 ppb

CURRENT DHS ACTION LEVELS

Toluene 0.1000

TPH-D = Total Petroleum Hydrocarbons calculated as Diesel

PPM = Parts Per Million TB = Trip Blank

Note: 1. All data shown as <x are reported as ND (none detected).

2. DHS Action Levels and MCL are subject to change pending State review.

TABLE 3

HISTORICAL GROUND-WATER QUALITY DATABASE

SAMPLE DATE	SAMPLE POINT	TPH-D (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENES (PPB)
05-Oct-90	RMC-2	<60.	----	----	----	----
19-Jan-91	RMC-2	<50.	<0.5	<0.5	<0.5	<0.5
20-Feb-91	RMC-2	<50.	<0.5	<0.5	<0.5	<0.5
18-Mar-91	RMC-2	<50.	<0.5	<0.5	<0.5	<0.5
10-Jun-91	RMC-2	<50.	<0.5	<0.5	<0.5	<0.5
17-Sep-91	RMC-2	<50.	<0.5	<0.5	<0.5	<0.5
16-Dec-91	RMC-2	<50.	<0.5	<0.5	<0.5	<0.5
05-Oct-90	RMC-3	<50.	----	----	----	----
19-Jan-91	RMC-3	<50.	<0.5	<0.5	<0.5	<0.5
20-Feb-91	RMC-3	<50.	<0.5	<0.5	<0.5	<0.5
18-Mar-91	RMC-3	<50.	<0.5	<0.5	<0.5	<0.5
10-Jun-91	RMC-3	<50.	<0.5	<0.5	<0.5	<0.5
17-Sep-91	RMC-3	<50.	<0.5	<0.5	<0.5	<0.5
16-Dec-91	RMC-3	<50.	<0.5	<0.5	<0.5	<0.5
05-Oct-90	RMC-4	<50.	----	----	----	----
19-Jan-91	RMC-4	<50.	1.0	0.8	3.1	1.2
20-Feb-91	RMC-4	<50.	<0.5	<0.5	<0.5	<0.5
18-Mar-91	RMC-4	<50.	0.83	4.4	<0.5	2.3
10-Jun-91	RMC-4	<50.	<0.5	4.1	<0.5	0.6
17-Sep-91	RMC-4	<50.	<0.5	<0.5	<0.5	<0.5
16-Dec-91	RMC-4	<50.	<0.5	<0.5	<0.5	<0.5

TABLE 3

HISTORICAL GROUND-WATER QUALITY DATABASE

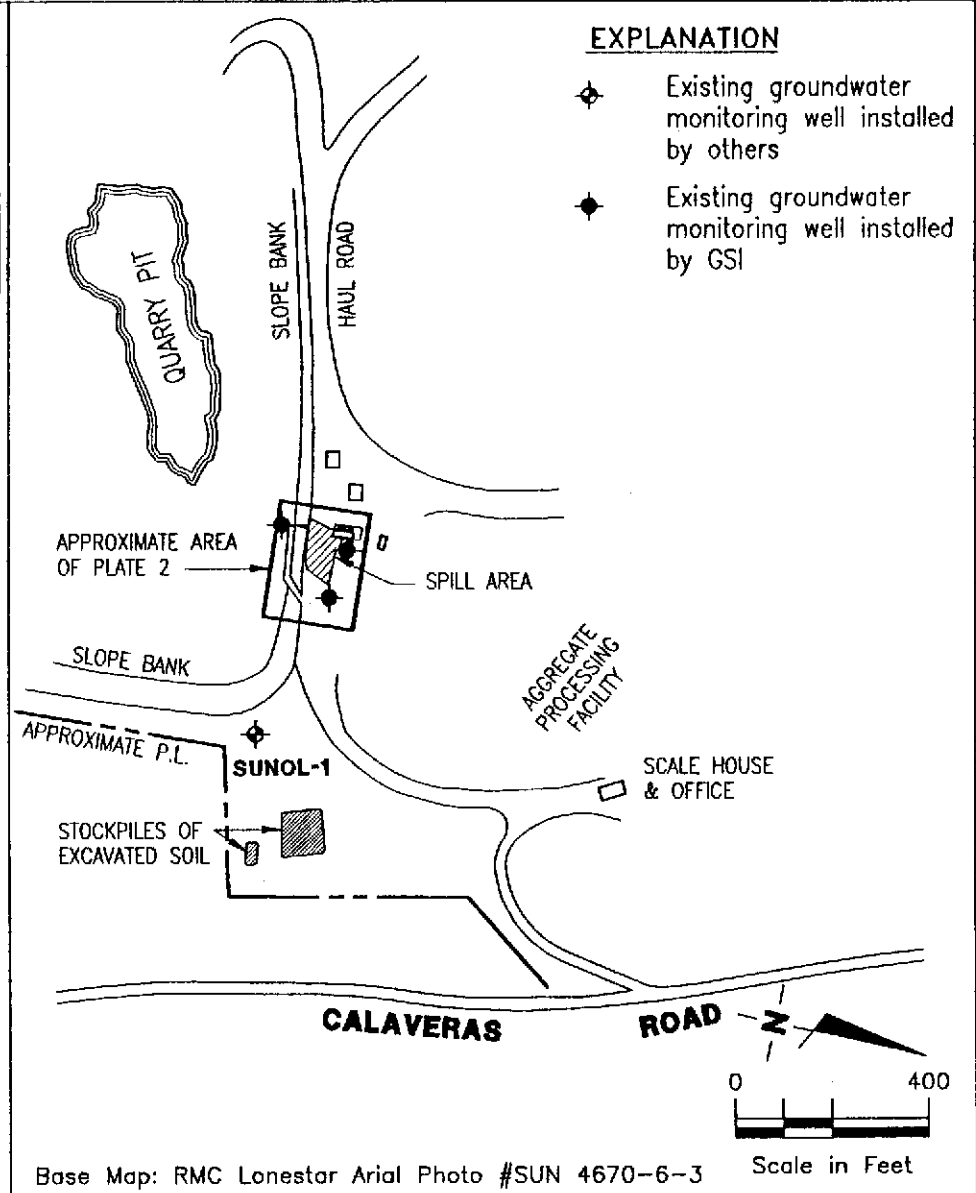
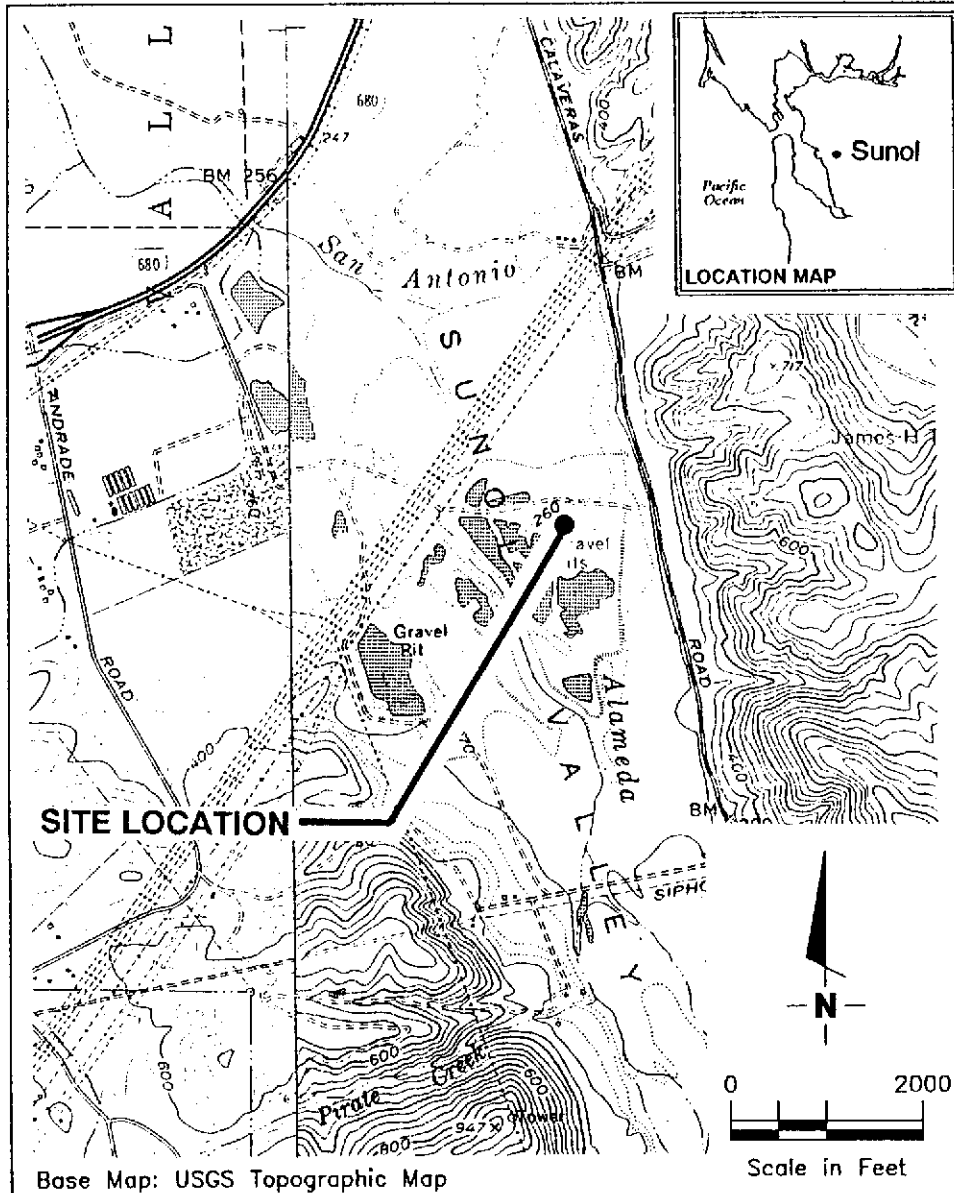
SAMPLE DATE	SAMPLE POINT	TPH-D (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENES (PPB)
----------------	-----------------	----------------	------------------	------------------	-----------------------	------------------

Current Regional Water Quality Control Board Maximum Contaminant Levels
 Benzene 1. ppb Xylenes 1750. ppb Ethylbenzene 680. ppb

Current DHS Action Levels Toluene 100.0 ppb

TPH-D = Total Petroleum Hydrocarbons calculated as Diesel
 PPB = Parts Per Billion

NOTE: 1. DHS Action levels and MCL's are subject to change pending State of California review.
 2. All data shown as <X are reported as ND (none detected).



GeoStrategies Inc.

VICINITY AND SITE LOCATION MAPS
 RMC Lonestar
 6527 Calaveras Road
 Sunol, California

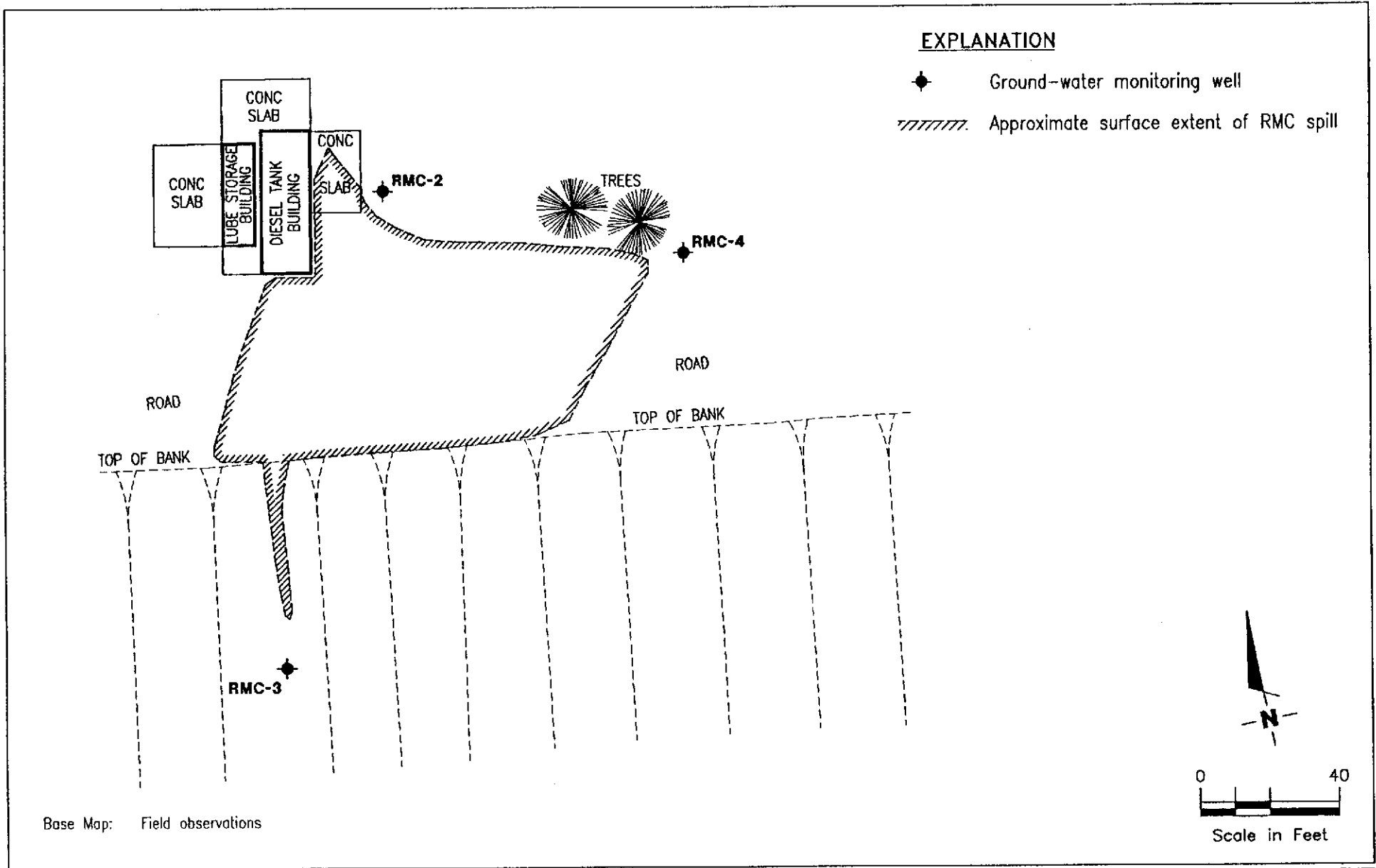
PLATE
1

JOB NUMBER
 7004

REVIEWED BY
 SIC

DATE
 9/90

REVISED DATE



GeoStrategies Inc.

SITE PLAN
 RMC Lonestar
 6527 Calaveras Road
 Sunol, California

PLATE

2

JOB NUMBER
 700401-7

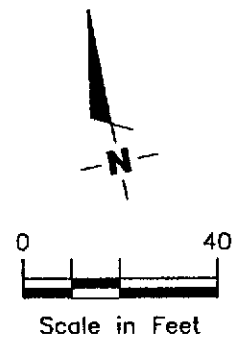
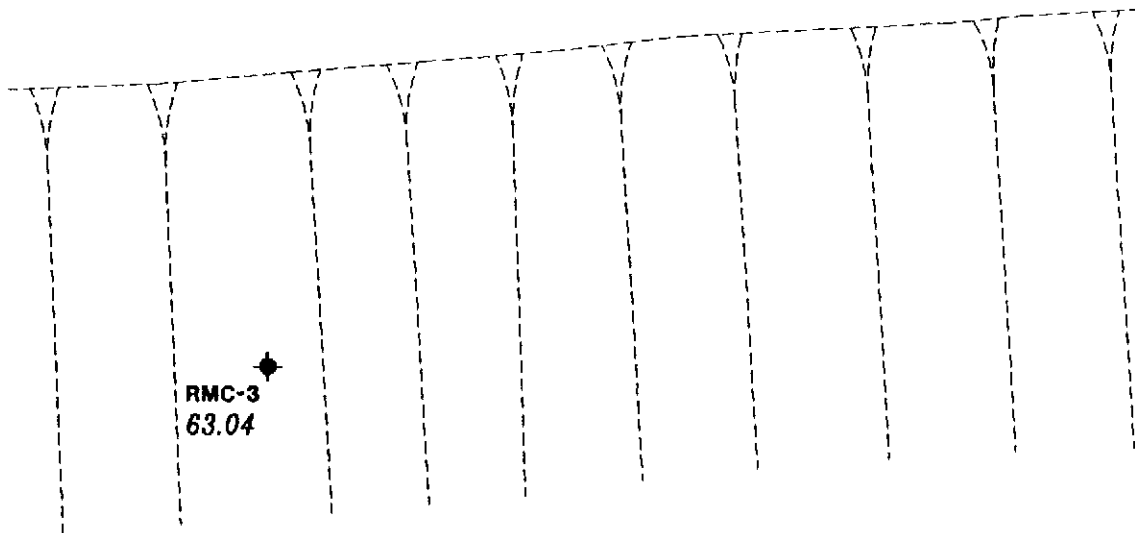
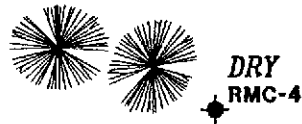
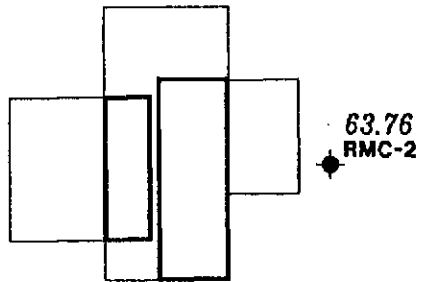
REVIEWED BY
 EFS

DATE
 1/92

REVISED DATE

EXPLANATION

- ◆ Ground-water monitoring well
- 99.99 Ground-water elevation in feet referenced to Project Datum measured on October 17, 1991



Base Map: Field observations



GeoStrategies Inc.

WATER-LEVEL MAP - OCTOBER 17, 1991
RMC Lonestar
6527 Calaveras Road
Sunol, California

PLATE

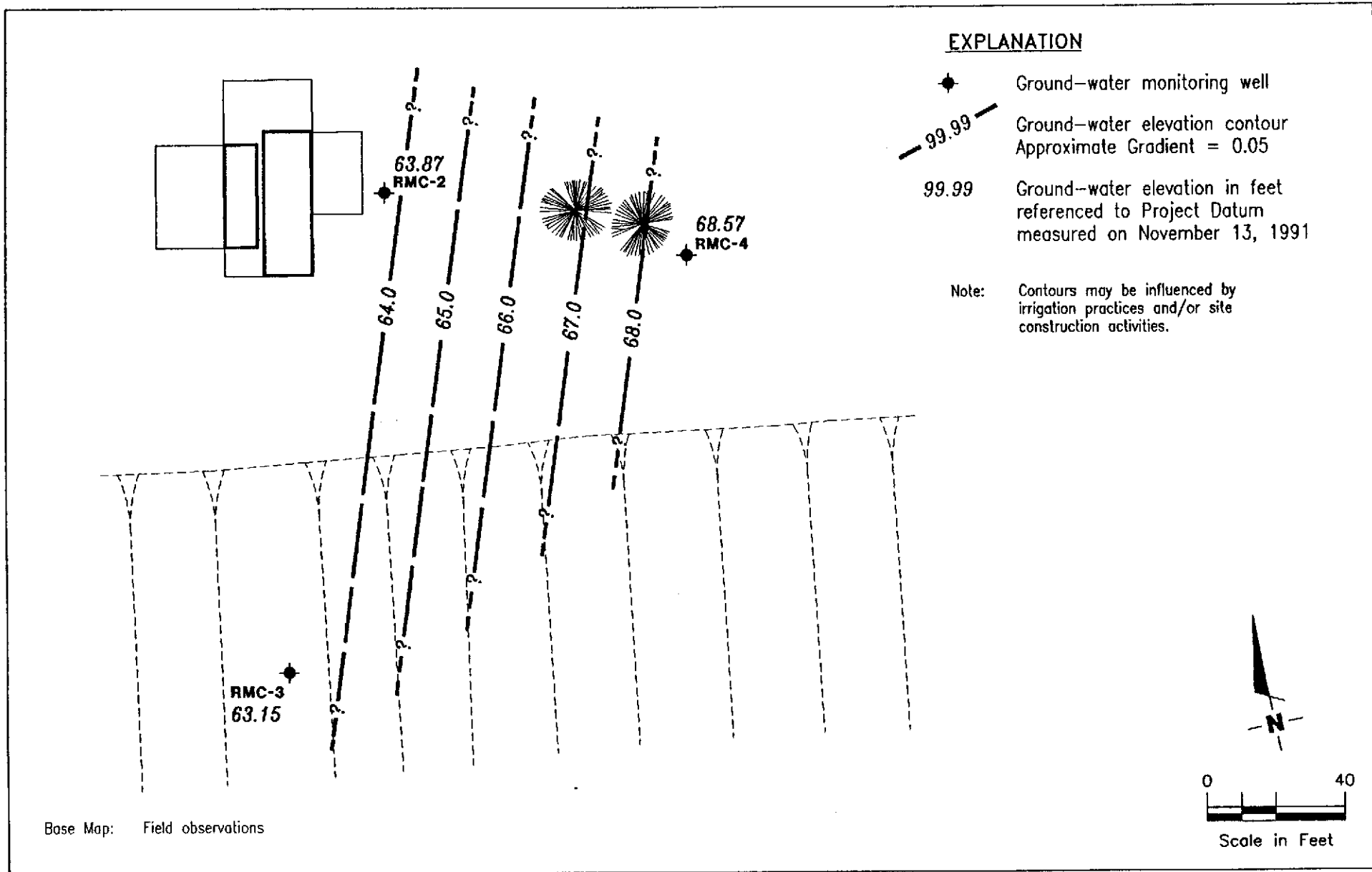
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JOB NUMBER
700401-7

REVIEWED BY
Etes

DATE
1/92

REVISED DATE



GeoStrategies Inc.

POTENTIOMETRIC MAP - NOVEMBER 13, 1991

RMC Lonestar
6527 Calaveras Road
Sunol, California

PLATE

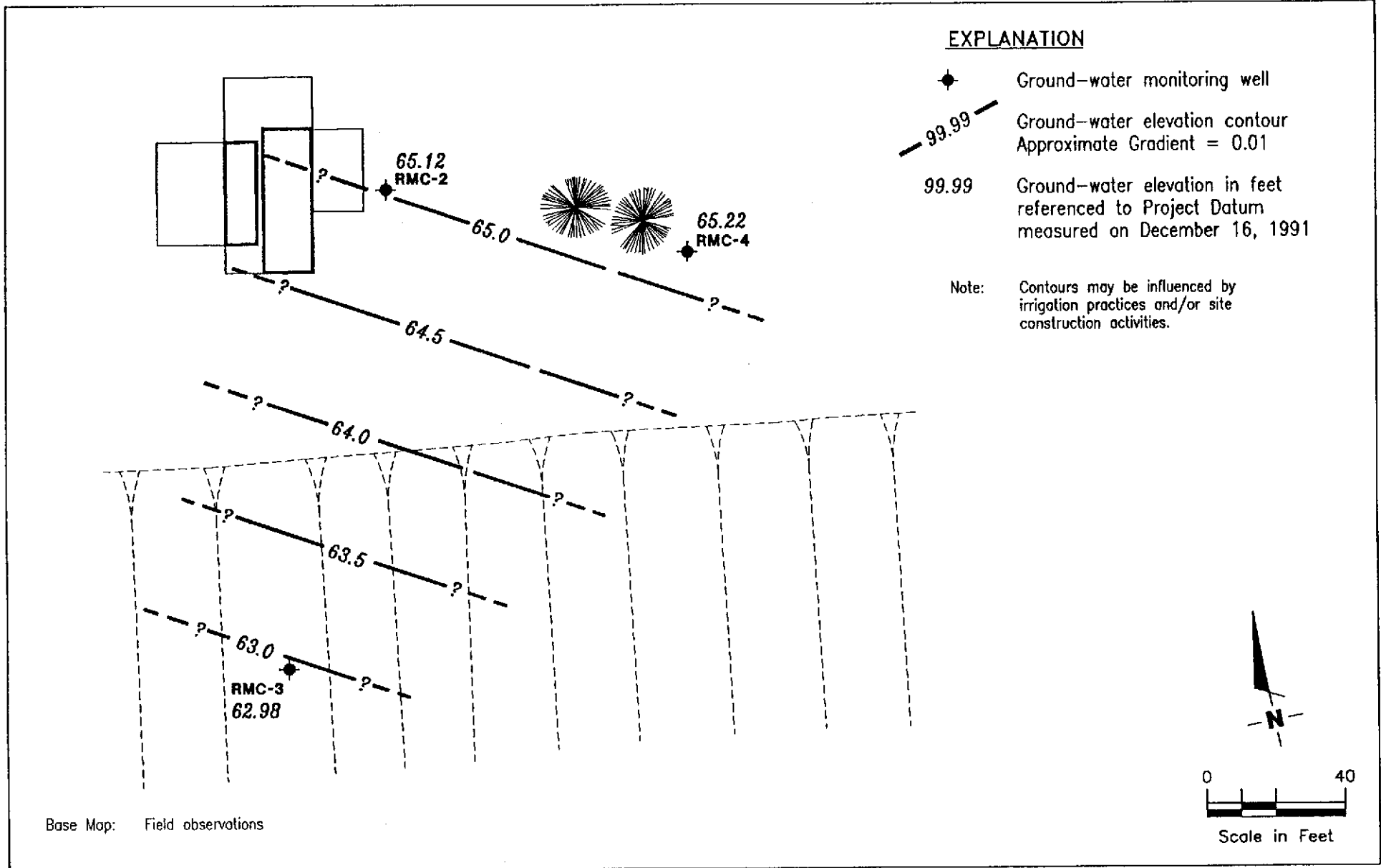
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JOB NUMBER
700401-7

REVIEWED BY
ERS

DATE
1/92

REVISED DATE



GeoStrategies Inc.

POTENTIOMETRIC MAP - DECEMBER 16, 1991

RMC Lonestar
6527 Calaveras Road
Sunol, California

PLATE

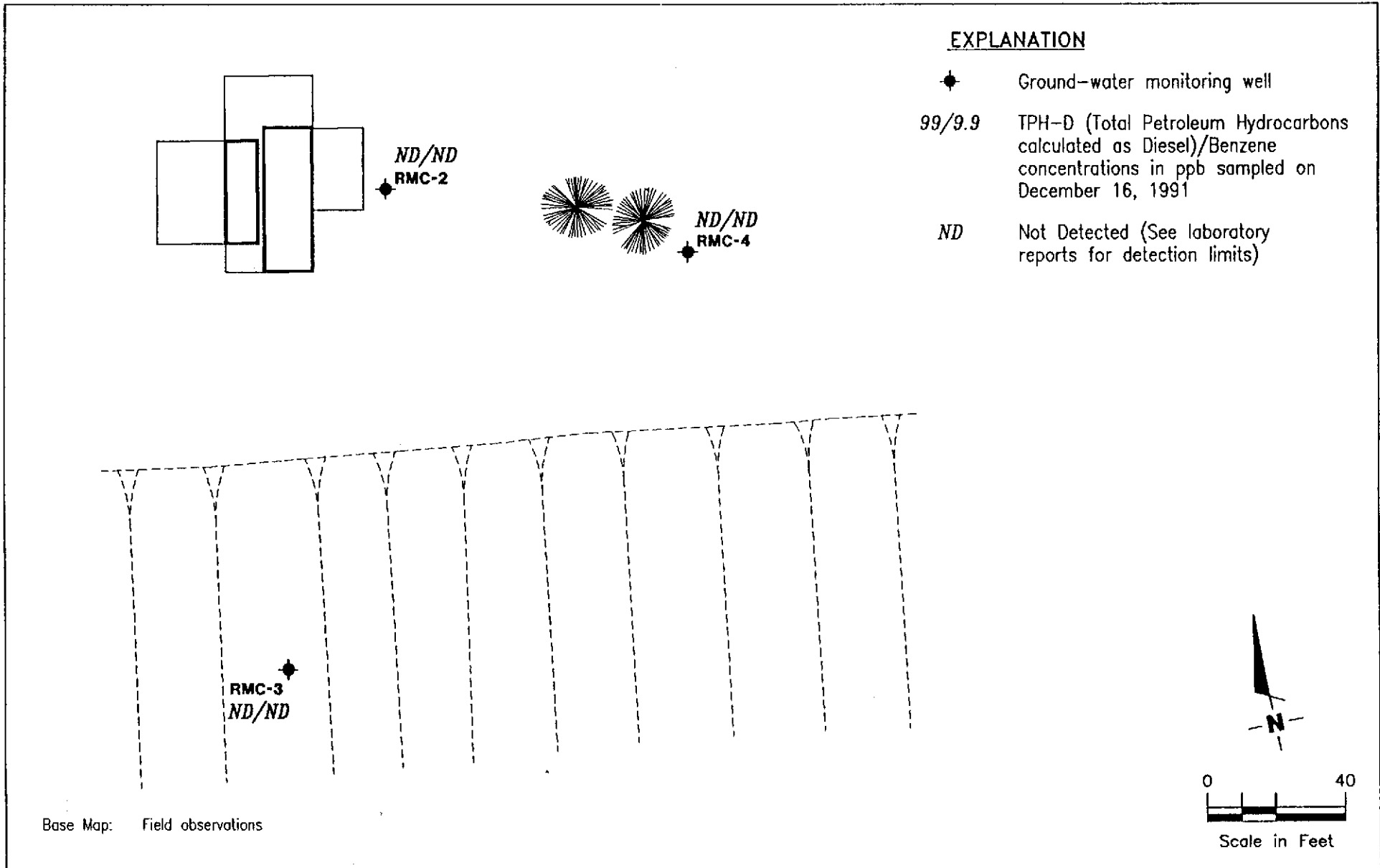
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JOB NUMBER
700401-7

REVIEWED BY
EJS

DATE
1/92

REVISED DATE



GeoStrategies Inc.

TPH-D/BENZENE CONCENTRATION MAP
RMC Lonestar
6527 Calaveras Road
Sunol, California

PLATE

6

JOB NUMBER
700401-7

REVIEWED BY
EBS

DATE
1/92

REVISED DATE

GeoStrategies Inc.

APPENDIX A
ANALYTICAL LABORATORY REPORT
AND CHAIN-OF-CUSTODY



NATIONAL
ENVIRONMENTAL
TESTING, INC.

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

RECEIVED

JAN 08 1992

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

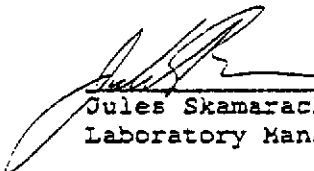
Date: 01/07/1992
NET Client Acct# 6760
NET Pacific Log No: 91.1323
Received: 12/17/1991
GETTLER-RYAN INC.
GENERAL CONTRACTORS

Client Reference Information

RMC Lonestar, 6527 Calaveras Rd., 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

cc: Tom Paulson
Gettler-Ryan
2150 W. Winton Ave.
Hayward, CA 94545

JS:rct
Enclosure(s)



NET Pacific, Inc

Client No: 67400
Client Name: RMC Lonestar
NET Log No: 91.1323

Date: 01/07/1992

Page: 2

Ref: RMC Lonestar, 6527 Calaveras Rd., Sunol

Descriptor, Lab No. and Results

Parameter	Method	Reporting Limit	RMC-2	RMC-3	Units
			12/16/1991 17:15	12/16/1991 16:41	
			108228	108229	
TPH (Gas/BTEX, Liquid)			--	--	
METHOD 8020 (GC, Liquid)					
DATE ANALYZED			12-27-91	12-27-91	
DILUTION FACTOR*			1	1	
Benzene		0.5	ND	ND	ug/L
Ethylbenzene		0.5	ND	ND	ug/L
Toluene		0.5	ND	ND	ug/L
Xylenes (Total)		0.5	ND	ND	ug/L
METHOD 3510 (GC, FID)					
DILUTION FACTOR*			1	1	
DATE EXTRACTED			12-20-91	12-20-91	
DATE ANALYZED			12-22-91	12-22-91	
as Diesel		0.05	ND	ND	mg/L



NET Pacific, Inc

Client No: 67400
Client Name: RMC Lonestar
NET Log No: 91.1323

Date: 01/07/1992

Page: 3

Ref: RMC Lonestar, 6527 Calaveras Rd., Sunol

Descriptor, Lab No. and Results

Parameter	Method	Reporting Limit	RMC-4	Trip Blank	Units
			12/16/1991 16:00	12/16/1991	
			108230	108231	
TPH (Gas/BTXE, Liquid)					
METHOD 8020 (GC, Liquid)			--	--	
DATE ANALYZED			12-27-91	12-27-91	
DILUTION FACTOR*			1	1	
Benzene		0.5	ND	ND	ug/L
Ethylbenzene		0.5	ND	ND	ug/L
Toluene		0.5	ND	ND	ug/L
Xylenes (Total)		0.5	ND	ND	ug/L
METHOD 3510 (GC, FID)					
DILUTION FACTOR*			1	1	
DATE EXTRACTED			12-20-91	12-20-91	
DATE ANALYZED			12-22-91	12-22-91	
as Diesel		0.05	ND	ND	mg/L



NET Pacific, Inc

Client No: 67400
Client Name: RMC Lonestar
NET Log No: 91.1323

Date: 01/07/1992

Page: 4

Ref: RMC Lonestar, 6527 Calaveras Rd., 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	87	ND	96	109	13
Toluene	0.5	ug/L	72	ND	98	98	<1
Diesel	0.05	mg/L	91	ND	88	84	4.3

COMMENT: Blank Results were ND on other analytes tested.



KEY TO ABBREVIATIONS and METHOD REFERENCES

NET Pacific, Inc

- < : 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, 16th Edition, APHA, 1985.

Gottler - Ryan Inc.

ENVIRONMENTAL DIVISION

1554 Chain of Custody

COMPANY

RNIC Lcrestar

JOB NO.

2724

JOB LOCATION

6327 Calaveras Road

CITY

Sunnyvale CA

PHONE NO.

AUTHORIZED

Heavy Report

DATE

12-16-91

P.O. NO.

3004.01

SAMPLE ID	NO. OF CONTAINERS	SAMPLE MATRIX	DATE/TIME SAMPLED	ANALYSIS REQUIRED	SAMPLE CONDITION LAB ID
RNIC-2	5	Liquid	12-16-91/17:15	TPH (Diesel) BxK	
RNIC-3	5	↓	↓ 11:41	↓	
RNIC-4	5	↓	↓ 11:00	↓	
Trip	43	↓	—	↓	

RELINQUISHED BY:

[Signature] 12-17-91 12:10

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY LAB:

DESIGNATED LABORATORY:

NET Pacific J. J. Jensen

DHS #:

12-17-91 P.K.

REMARKS:

Normal TAT

DATE COMPLETED

FOREMAN

[Signature]

GeoStrategies Inc.

**APPENDIX B
CORRESPONDENCE**

ALAMEDA COUNTY
HEALTH CARE SERVICES



AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, Assistant Agency Director

January 21, 1992

Mr. Harry Reppert
RMC Lonestar
6601 Koll Center Parkway
Pleasanton, CA 94566

DEPARTMENT OF ENVIRONMENTAL HEALTH
80 Swan Way, Rm. 210
Oakland, CA 94621
(415) 271-4300
RECEIVED
JAN 23 1992

GeoStrategies Inc.

RE: SUNOL QUARRY SITE GROUND WATER INVESTIGATION, 6527 CALAVERAS
ROAD, SUNOL

Dear Mr. Reppert:

This Department has completed review of the November 1, 1991 GeoStrategies, Inc. (GSI) report documenting sampling and monitoring of wells RMC-2, -3, and -4 during the 3rd quarter of 1991.

Ground water samples collected from these wells during September 1991 exhibited nondetectable concentrations of total petroleum hydrocarbons as diesel (TPH-D), and the volatile compounds benzene, toluene, ethylbenzene and xylene isomers (BTEX). During the course of this investigation, only RMC-4 has shown detectable concentrations of BTEX during past sampling events occurring January 19, March 18, and June 10, 1991. Benzene concentrations in ground water sampled from this well during January and March ranged from 1.0 to 0.83 parts per billion (ppb), respectively. The current state maximum contaminant level (MCL) for this compound is 1.0 ppb. Concentrations of TEX, albeit low, have also been detected in RMC-4 during sampling events occurring in January, March, and June.

At this time, please adhere to the following modified sampling and monitoring schedule:

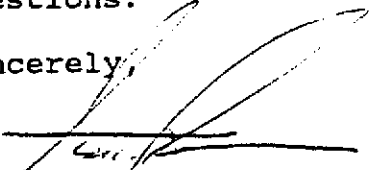
- 1) Wells RMC-2, and -3 may be sampled **semiannually** for the presence of TPH-D and BTEX. Well RMC-4 shall continue being sampled **quarterly**.
- 2) Ground water levels shall be measured **quarterly** in all wells.
- 3) Summary reports are to be submitted quarterly, according to the schedule outlined in item 3 of the November 16, 1990 correspondence from this office, until this site qualifies for final "sign off" by the RWQCB.

Please note that ground water gradient maps depicting ground water elevations during August and September 1991 show a marked shift of gradient towards the west, as compared to all prior monitoring events. As requested in the cited November 1990 correspondence, please have your consultant explain these, as well as all future, significant shifts in gradient direction.

Mr. Harry Reppert
RE: RMC Lonestar, 6527 Calaveras Road
January 21, 1992
Page 2 of 2

Please feel free to call me at 510/271-4320 should you have any questions.

Sincerely,



Scott O. Seery, CHMM
Hazardous Materials Specialist

cc: Rafat A. Shahid, Assistant Agency Director, Environmental Health
Edgar Howell, Chief, Hazardous Materials Division
Gil Jensen, Alameda County District Attorney's Office
Howard Hatayama, DTSC
Hossain Kazemi, RWQCB
John Vargas, GeoStrategies, Inc.