Shell Oil Company

EAST BAY MARKETING DISTRICT

P.O. Box 4023
Concord, CA 94524
(415) 676-1414

March 13, 1991

Mr. Rick Mueller
City of Pleasanton
Pleasanton Fire Department
Post Office Box 520
Pleasanton, California 94566-0802

SUBJECT: SHELL SERVICE STATION
5251 HOPYARD ROAD
PLEASANTON, CALIFORNIA
WIC 204-6138-0907

Dear Mr. Mueller:

Enclosed is a copy of the March 5, 1991 Site Update report prepared for the subject location. The report documents the results of the ground-water sampling conducted during the first quarter of 1991.

If you should have any questions or comments regarding this project please do not hesitate to call me at (415) 675-6127.

Very truly yours,

Jack Brastad
Senior Environmental Engineer

enclosure

cc: Mr. Tom Callaghan, Regional Water Quality Control Board
Mr. John Werfal, Gettler-Ryan Inc.

GeoStrategies Inc.

SITE UPDATE

Shell Service Station
5251 Hopyard Road
Pleasanton, California
WIC 204-6138-0907

763301-9

March 5, 1991

GeoStrategies Inc.
2140 WEST WINTON AVENUE
HAYWARD, CALIFORNIA 94545

March 5, 1991

Gettler-Ryan Inc.
2150 West Winton Avenue
Hayward, California 94545

Attn: Mr. John Werfal

Re: SITE UPDATE
Shell Service Station
5251 Hopyard Road
Pleasanton, California

Gentlemen:

This Site Update has been prepared by GeoStrategies Inc. (GSI) and presents the results of the 1991 first 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 Shell Oil Company. 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 eight ground-water monitoring wells at the site; Wells S-1 through S-8, and three vadose zone wells; Wells V-1 through V-3 (Plate 2). These wells were installed between 1988 and 1989 by Pacific Environmental Group and GSI. The old underground storage tanks were replaced in January 1988. Wells S-1 through S-5 are on site. Wells S-6 through S-8 are off site. These wells have been installed to evaluate the vertical and horizontal extent of petroleum hydrocarbons in soils and shallow groundwater beneath the site.

Quarterly monitoring and sampling of wells began in 1988. Ground-water samples have been analyzed for Total Petroleum Hydrocarbons calculated as Gasoline (TPH-Gasoline) and Total Petroleum Hydrocarbons calculated as Diesel (TPH-Diesel) according to EPA Method 8015 (Modified), and Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) according to EPA Method 8020.

CURRENT QUARTERLY SAMPLING RESULTS

Potentiometric Data

Prior to ground-water sampling, 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 box and recorded to the nearest 0.01 foot. Elevations referenced to Mean Sea Level (MSL) are presented in Table 1. Water-level data were used to construct a quarterly potentiometric map (Plate 3). Shallow ground-water flow is to the northwest at a calculated gradient of 0.0015.

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 any of the wells this quarter.

Ground-water Analytical Data

Ground-water samples were collected on January 25, 1991. The samples were analyzed for TPH-Gasoline and TPH-Diesel according EPA Method 8015 (Modified) and BTEX according to EPA Method 8020 by International Technology (IT), a State of California certified laboratory located in San Jose, California.

TPH-Gasoline was detected in Wells S-1 and S-3 at concentrations of 2.5 and 0.87 ppm, respectively. Benzene concentrations detected in these same wells were 0.46 and 0.23 ppm, respectively. TPH-Diesel concentrations detected in these same wells were 1.5 and 0.33 ppm, respectively. These data are summarized in Table 1 and included in Appendix A. Chemical isoconcentration maps for TPH-Gasoline and benzene are presented on Plates 4 and 5. Historical chemical analytical data are presented on Table 2.

Quality Control

Quality Control (QC) samples for this quarter's sampling included a trip blank, a duplicate sample and field blank. These samples were prepared in the laboratory and field using organic-free water to evaluate laboratory and field handling procedures of samples and assess analytical precision. The results of QC sample analyses are presented in Table 1.

If you have any questions, please call.

GeoStrategies Inc. by,

Ellen C. Fostersmith
Geologist

David H. Peterson
Senior Geologist
C.E.G. 1186

REGISTERED GEOLOGIST
DAVID H. PETERSON
No. 1186
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

ECF/DHP/kjj

Plate 1. Vicinity Map
Plate 2. Site Plan
Plate 3. Potentiometric Map
Plate 4. TPH-Gasoline Isoconcentration Map
Plate 5. Benzene Isoconcentration Map

Appendix A: Analytical Laboratory Report and Chain-of-Custody

QC Review: JLP/dhp

763301-9

TABLE 1

GROUND-WATER ANALYSIS DATA

WELL NO	SAMPLE DATE	ANALYSIS DATE	TPH-G (PPM)	BENZENE (PPM)	TOLUENE (PPM)	ETHYLBENZENE (PPM)	XYLENES (PPM)	TPH-D (PPM)	WELL ELEV (FT)	STATIC WATER ELEV (FT)	PRODUCT THICKNESS (FT)	DEPTH TO WATER (FT)	pH	TEMPERATURE (C)	CONDUCTIVITY (uMHOS/CM)
S-1	25-Jan-91	08-Feb-91	2.5	0.46	<0.025	0.13	0.036	1.5 *	326.73	316.75	----	9.98	7.36	20.1	3430
S-2	25-Jan-91	02-Feb-91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	326.59	316.90	----	9.69	7.19	18.2	5060
S-3	25-Jan-91	02-Feb-91	0.87**	0.23	<0.0025	0.13	<0.0025	0.33 *	327.38	317.09	----	10.29	7.03	18.9	3650
S-4	25-Jan-91	02-Feb-91	<0.05	<0.0005	0.0015	<0.0005	0.0028	<0.05	327.38	317.20	----	10.18	7.90	18.6	1483
S-5	25-Jan-91	02-Feb-91	<0.05	<0.0005	<0.0005	<0.0005	0.0007	<0.05	327.76	316.99	----	10.77	7.18	18.4	1629
S-6	25-Jan-91	02-Feb-91	<0.05	<0.0005	0.0017	<0.0005	0.0028	<0.05	326.56	315.89	----	10.67	7.93	19.4	2070
S-7	25-Jan-91	04-Feb-91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	326.49	316.85	----	9.64	7.58	18.1	5082

CURRENT REGIONAL WATER QUALITY CONTROL BOARD MAXIMUM CONTAMINANT LEVELS
Benzene 0.001 ppm Xylenes 1.750 ppm Ethylbenzene 0.68 ppm

CURRENT DHS ACTION LEVELS
Toluene 0.100 ppm

TPH-G = Total Petroleum Hydrocarbons as Gasoline
TPH-D = Total Petroleum Hydrocarbons calculated as Diesel
PPM = Parts Per Million

SD = Duplicate Sample
SF = Field Blank
TB = Trip Blank

BTEX analyzed on 02-Feb-91 for Well S-1

* Compounds detected as diesel appear to be the less volatile constituents of gasoline
** Compounds detected as gasoline are similar to, but do not match, gasoline standards

Note: 1. For chemical parameter detection limits, refer to I.T. Laboratory reports.
2. Static Water Elevations referenced to mean sea level (MSL).
3. DHS Action Levels and MCLs are subject to change pending State review.

TABLE 1

GROUND-WATER ANALYSIS DATA

WELL NO	SAMPLE DATE	ANALYSIS DATE	TPH-G (PPM)	BENZENE (PPM)	TOLUENE (PPM)	ETHYLBENZENE (PPM)	XYLENES (PPM)	TPH-D (PPM)	WELL ELEV (FT)	STATIC WATER ELEV (FT)	PRODUCT THICKNESS (FT)	DEPTH TO WATER (FT)	pH	TEMPERATURE (C)	CONDUCTIVITY (uMHOS/CM)
S-8	25-Jan-91	02-Feb-91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	325.32	316.91	----	8.41	7.05	18.2	7330
SD-3	25-Jan-91	01-Feb-91	0.84	0.24	<0.0025	0.11	<0.0025	0.34 *	----	----	----	----	----	----	----
SF-2	25-Jan-91	01-Feb-91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	NA	----	----	----	----	----	----	----
TB	25-Jan-91	01-Feb-91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	----	----	----	----	----	----	----

TABLE 2

HISTORICAL GROUND-WATER QUALITY DATABASE

SAMPLE DATE	SAMPLE POINT	TPH-G (PPM)	BENZENE (PPM)	TOLUENE (PPM)	ETHYLBENZENE (PPM)	XYLENES (PPM)	TPH D (PPM)	OIL (PPM)
06-Jan-88	S-1	0.6	0.22	<0.005	----	<0.02	<0.05	<0.2
14-Dec-88	S-1	17.	5.1	0.04	0.57	0.20	8.	N/A
30-Mar-89	S-1	8.2	2.9	<0.02	0.33	0.16	3.6	N/A
20-Jul-89	S-1	21.	6.2	1.5	1.1	0.7	8.5	N/A
16-Oct-89	S-1	16.	3.9	0.89	1.2	0.9	11.	N/A
05-Jan-90	S-1	8.2	2.3	0.10	0.66	0.32	6.5	N/A
11-Apr-90	S-1	11.	3.0	0.12	0.83	0.52	N/A	N/A
12-Jul-90	S-1	20.	4.4	0.96	1.3	1.2	8.0	N/A
25-Oct-90	S-1	6.0	1.4	0.14	0.60	0.32	3.5	N/A
25-Jan-91	S-1	2.5	0.46	<0.025	0.13	0.036	1.5	N/A
11-May-89	S-2	<0.05	<0.0005	<0.001	<0.001	<0.003	<0.1	N/A
20-Jul-89	S-2	<0.05	<0.0005	<0.001	<0.001	<0.003	<0.1	N/A
16-Oct-89	S-2	<0.05	<0.0005	<0.001	<0.001	<0.003	<0.1	N/A
05-Jan-90	S-2	<0.050	<0.0005	<0.0005	<0.0005	<0.001	<0.1	N/A
11-Apr-90	S-2	<0.050	<0.0005	<0.0005	<0.0005	<0.001	N/A	N/A
12-Jul-90	S-2	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	N/A
25-Oct-90	S-2	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	N/A
25-Jan-91	S-2	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	N/A
11-May-89	S-3	2.6	0.33	0.014	0.22	0.20	1.4	N/A
20-Jul-89	S-3	9.7	2.3	0.03	0.88	0.16	2.2	N/A
16-Oct-89	S-3	3.4	0.70	0.008	0.36	0.06	2.8	N/A
05-Jan-90	S-3	0.86	0.14	0.0016	0.078	0.002	1.6	N/A
11-Apr-90	S-3	1.0	0.21	<0.002	0.15	0.013	N/A	N/A
12-Jul-90	S-3	2.8	0.49	0.0085	0.21	0.081	2.0	N/A
24-Oct-90	S-3	1.2	0.12	<0.0025	0.082	0.0051	0.86	N/A
25-Jan-91	S-3	0.87	0.23	<0.0025	0.13	<0.0025	0.33	N/A

TABLE 2

HISTORICAL GROUND-WATER QUALITY DATABASE

SAMPLE DATE	SAMPLE POINT	TPH-G (PPM)	BENZENE (PPM)	TOLUENE (PPM)	ETHYLBENZENE (PPM)	XYLENES (PPM)	TPH D (PPM)	OIL (PPM)
11-May-89	S-4	<0.05	<0.0005	<0.001	<0.001	<0.003	<0.1	N/A
20-Jul-89	S-4	<0.05	<0.0005	<0.001	<0.001	<0.003	<0.1	N/A
16-Oct-89	S-4	<0.05	<0.0005	<0.001	<0.001	<0.003	<0.1	N/A
05-Jan-90	S-4	<0.050	<0.0005	<0.0005	<0.0005	<0.001	<0.1	N/A
11-Apr-90	S-4	<0.050	<0.0005	<0.0005	<0.0005	<0.001	N/A	N/A
12-Jul-90	S-4	<0.05	<0.0005	0.0017	<0.0005	0.0021	<0.05	N/A
25-Oct-90	S-4	<0.05	<0.0005	<0.0005	<0.0005	0.0006	<0.05	N/A
25-Jan-91	S-4	<0.05	<0.0005	0.0015	<0.0005	0.0028	<0.05	N/A
11-May-89	S-5	0.05	<0.0005	<0.001	0.001	0.003	<0.1	N/A
20-Jul-89	S-5	<0.05	0.01	<0.001	<0.001	<0.003	<0.1	N/A
16-Oct-89	S-5	<0.05	<0.0005	<0.001	<0.001	<0.003	<0.1	N/A
05-Jan-90	S-5	<0.050	<0.0005	<0.0005	<0.0005	<0.001	<0.1	N/A
11-Apr-90	S-5	<0.050	0.0005	0.0034	0.0008	0.004	N/A	N/A
12-Jul-90	S-5	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	N/A
25-Oct-90	S-5	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	N/A
25-Jan-91	S-5	<0.05	<0.0005	<0.0005	<0.0005	0.0007	<0.05	N/A
15-Nov-89	S-6	<0.050	<0.0005	<0.0005	<0.0005	<0.001	<0.1	N/A
05-Jan-90	S-6	<0.050	<0.0005	0.0005	<0.0005	<0.001	<0.1	N/A
11-Apr-90	S-6	<0.050	<0.0005	<0.0005	<0.0005	<0.001	N/A	N/A
12-Jul-90	S-6	<0.05	<0.0005	0.0005	<0.0005	0.0006	<0.05	N/A
25-Oct-90	S-6	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	N/A
25-Jan-91	S-6	<0.05	<0.0005	0.0017	<0.0005	0.0028	<0.05	N/A
15-Nov-89	S-7	<0.050	<0.0005	<0.0005	<0.0005	<0.001	<0.1	N/A
05-Jan-90	S-7	<0.050	<0.0005	<0.0005	<0.0005	<0.001	<0.1	N/A
11-Apr-90	S-7	<0.050	<0.0005	<0.0005	<0.0005	<0.001	N/A	N/A

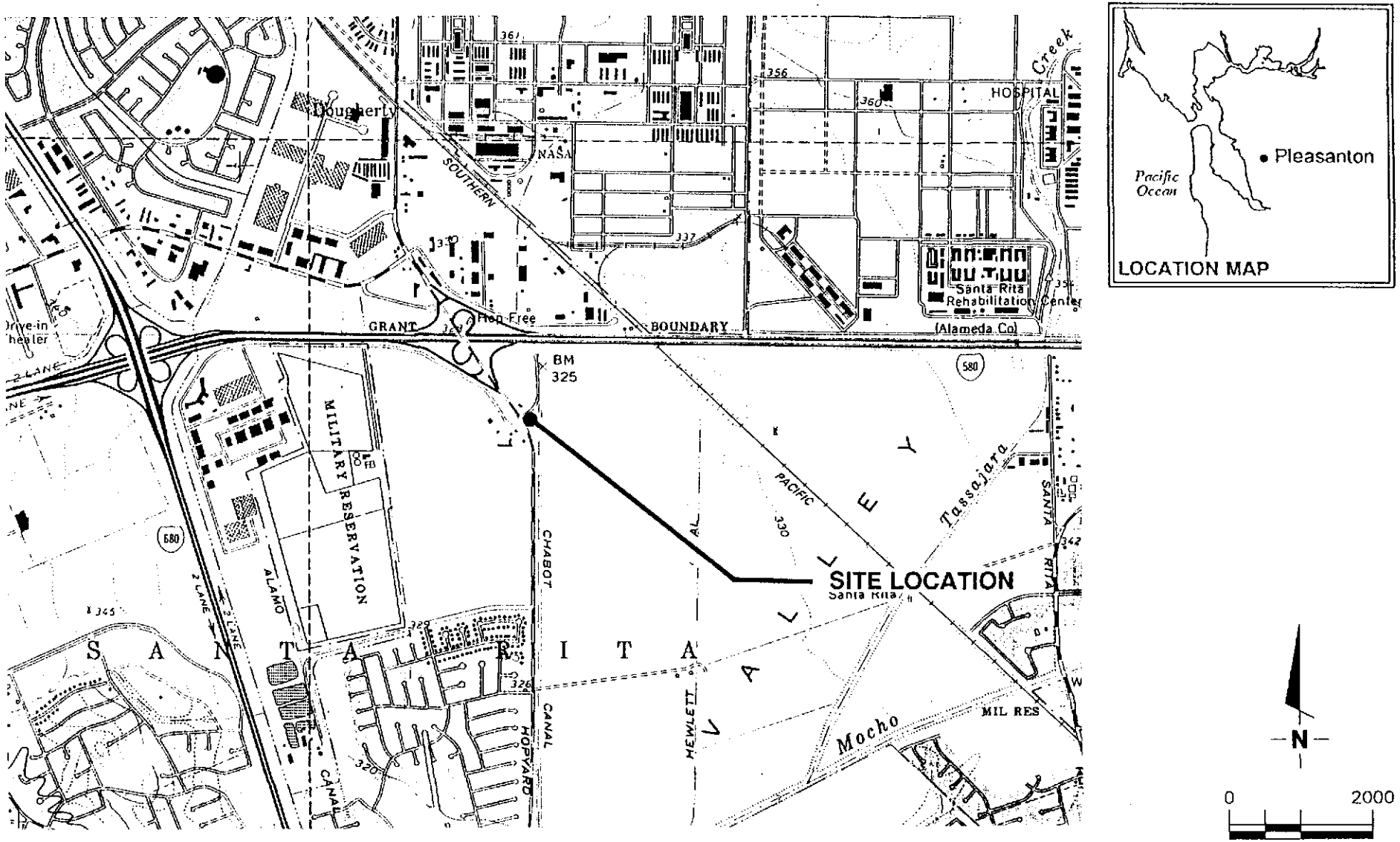
TABLE 2

HISTORICAL GROUND-WATER QUALITY DATABASE

SAMPLE DATE	SAMPLE POINT	TPH-G (PPM)	BENZENE (PPM)	TOLUENE (PPM)	ETHYLBENZENE (PPM)	XYLENES (PPM)	TPH D (PPM)	OIL (PPM)
12-Jul-90	S-7	<0.05	<0.0005	0.0006	<0.0005	0.0007	N/A	N/A
25-Oct-90	S-7	<0.05	<0.0005	0.0005	<0.0005	0.0010	<0.05	N/A
25-Jan-91	S-7	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	N/A
15-Nov-89	S-8	<0.050	<0.0005	<0.0005	<0.0005	<0.001	<0.1	N/A
05-Jan-90	S-8	<0.050	<0.0005	<0.0005	<0.0005	<0.001	<0.1	N/A
11-Apr-90	S-8	<0.050	<0.0005	<0.0005	<0.0005	<0.001	N/A	N/A
12-Jul-90	S-8	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	N/A
25-Oct-90	S-8	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	N/A
25-Jan-91	S-8	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.05	N/A
14-Dec-88	V-1	0.77	0.0064	0.021	0.009	0.087	4.5	N/A
14-Dec-88	V-2	0.16	0.0038	<0.001	<0.001	0.004	1.0	N/A
14-Dec-88	V-3	0.14	0.0087	<0.001	<0.001	0.003	0.8	N/A

TPH G = Total Petroleum Hydrocarbons as Gasoline
TPH D = Total Petroleum Hydrocarbons as Diesel
N/A = Not analyzed
E.B. = Ethylbenzene
PPM = Parts per million

NOTE
1. All data shown as <X are reported as (none detected)
2. Ethylbenzene and Xylenes were combined in January 1988 in well S-1



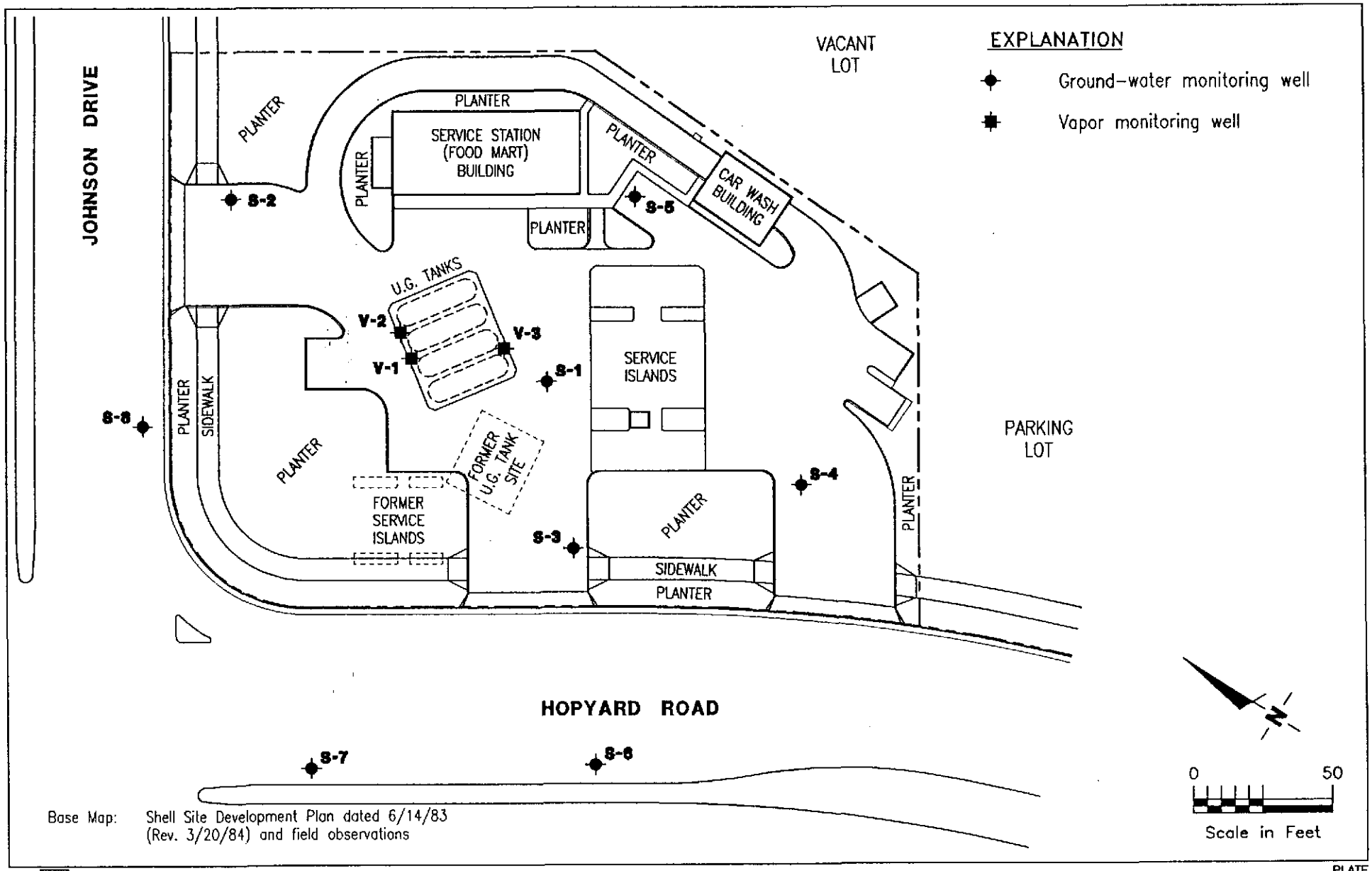
Base Map: USGS Topographic Map

GeoStrategies Inc.

VICINITY MAP
Shell Service Station
5251 Hopyard Road
Pleasanton, California

PLATE
1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
7633	RG/CEG	12/90	



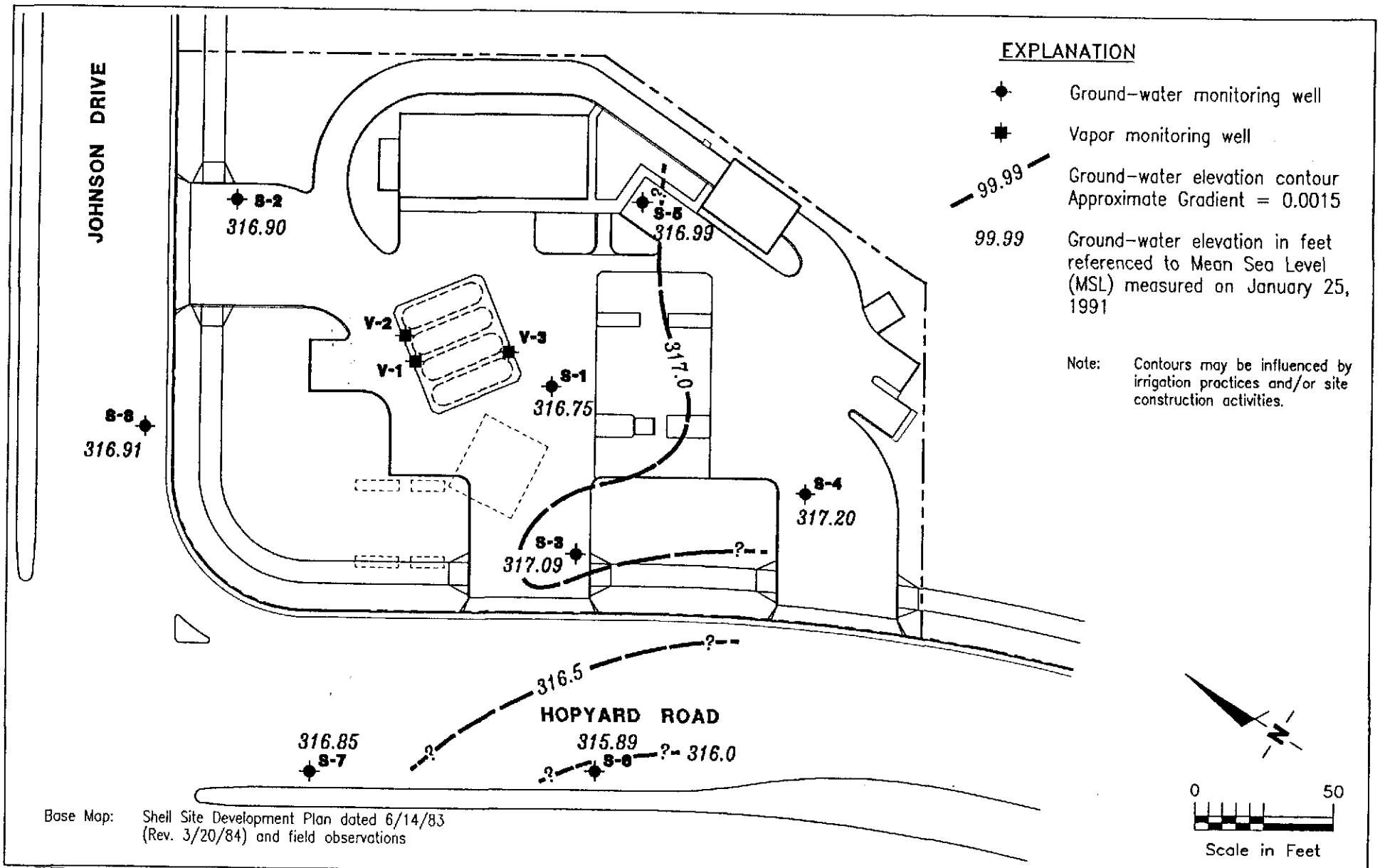
Base Map: Shell Site Development Plan dated 6/14/83 (Rev. 3/20/84) and field observations

GeoStrategies Inc.

SITE PLAN
Shell Service Station
5251 Hopyard Road
Pleasanton, California

PLATE **2**

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
763301	C.E.S.	2/91	



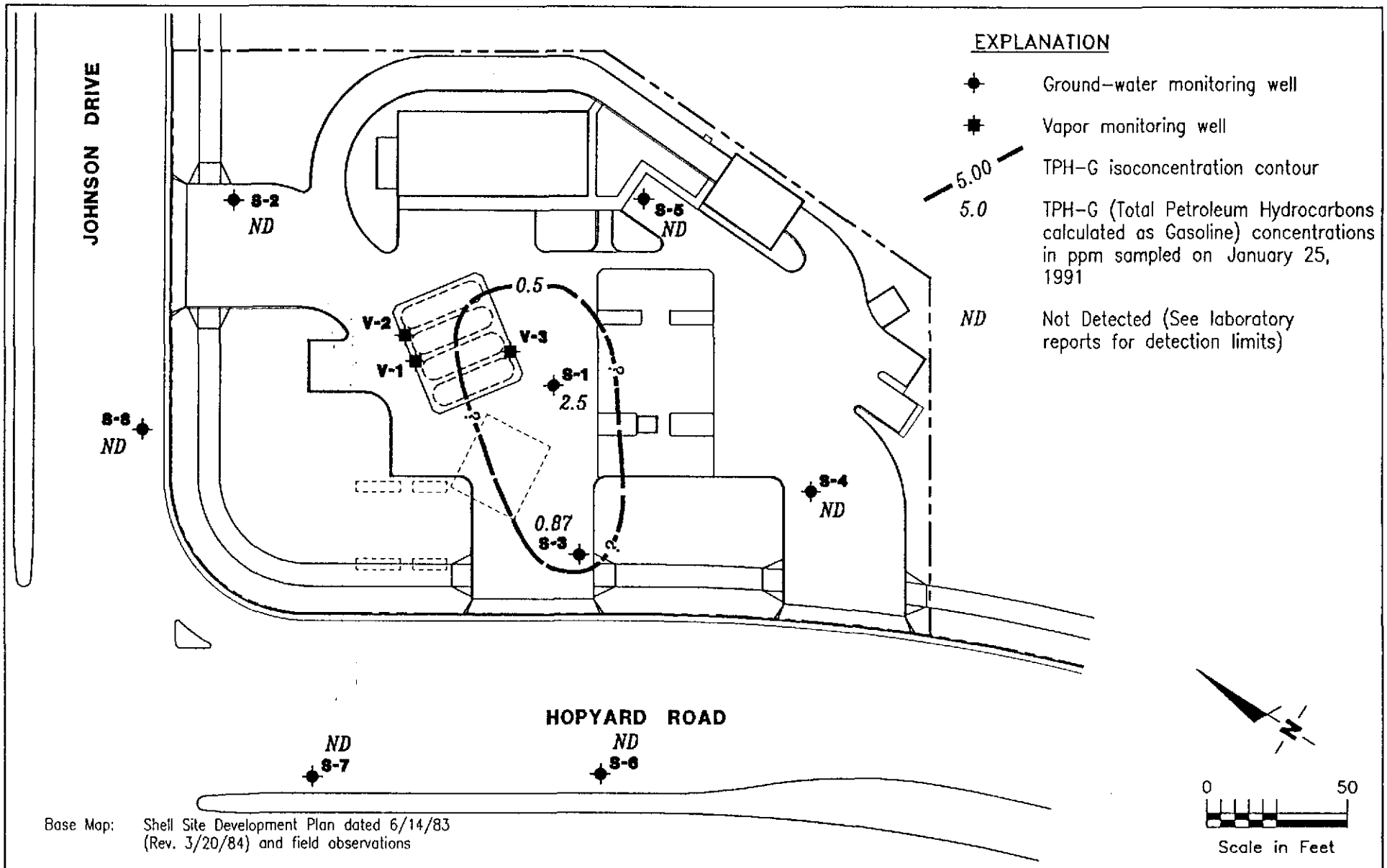
Base Map: Shell Site Development Plan dated 6/14/83 (Rev. 3/20/84) and field observations

GeoStrategies Inc.

POTENTIOMTRIC MAP
Shell Service Station
5251 Hopyard Road
Pleasanton, California

PLATE
3

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
763301	EFS.	2/91	



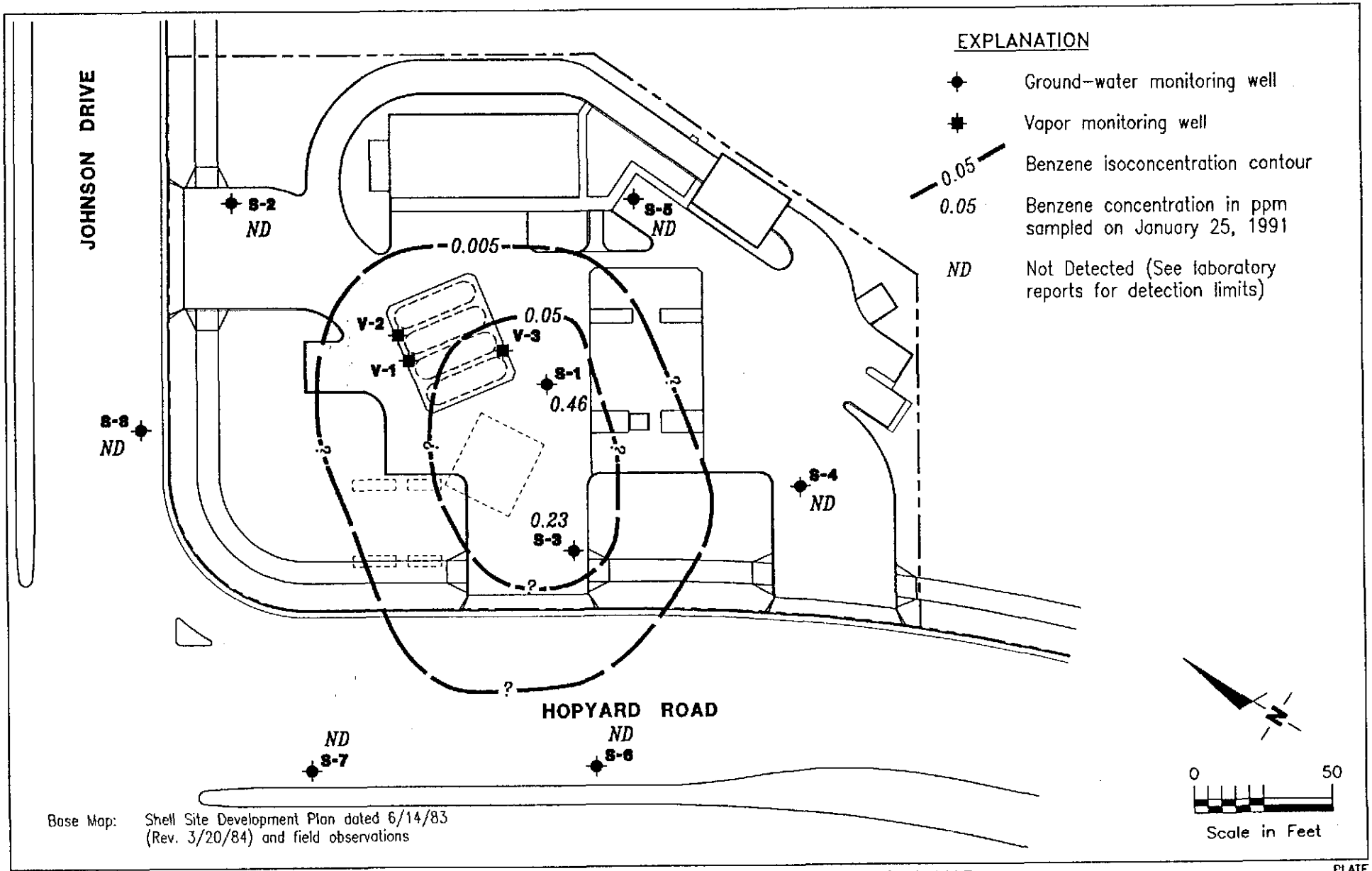
Base Map: Shell Site Development Plan dated 6/14/83 (Rev. 3/20/84) and field observations

GeoStrategies Inc.

TPH-G ISOCONCENTRATION MAP
Shell Service Station
5251 Hopyard Road
Pleasanton, California

PLATE 4

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
763301	EFS	2/91	



GeoStrategies Inc.

BENZENE ISOCONCENTRATION MAP
Shell Service Station
5251 Hopyard Road
Pleasanton, California

PLATE
5

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
763301		2/91	

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

RECEIVED

FEB 12 1991

CERTIFICATE OF ANALYSIS

GETTLER-RYAN INC.

GENERAL CONTRACTORS

Shell Oil Company
Gettler-Ryan
2150 West Winton
Hayward, CA 94545
Tom Paulson

Date: 02/12/91

Work Order: T1-01-259

P.O. Number: MOH 880-021 Vendor #I0002402

This is the Certificate of Analysis for the following samples:

Client Work ID: GR3633, 5251 Hopyard, Plsnton
Date Received: 01/25/91
Number of Samples: 8
Sample Type: aqueous

TABLE OF CONTENTS FOR ANALYTICAL RESULTS

Reviewed and Approved:

Suzanne Veaudry
Project Manager

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: Shell Oil Company
Date: 02/12/91
Client Work ID: GR3633, 5251 Hopyard, Plsnton

Work Order: T1-01-259

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **S-1**
SAMPLE DATE: **01/25/91**
LAB SAMPLE ID: **T101259-01**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool pH <2 (LBH)**
RECEIPT CONDITION: **Cool pH >2 (HBH)**

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		02/02/91
Low Boiling Hydrocarbons	Mod.8015		02/08/91
High Boiling Hydrocarbons	Mod.8015	02/05/91	02/07/91

PARAMETER	DETECTION LIMIT	DETECTED	
Low Boiling Hydrocarbons calculated as Gasoline	2.5	**2.5**	
BTEX			
Benzene	0.025	**0.46**	
Toluene	0.025	**None**	
Ethylbenzene	0.025	**0.13**	
Xylenes (total)	0.025	**0.036**	
High Boiling Hydrocarbons calculated as Diesel	0.05	**1.5**	#

Comments:
Compounds detected and calculated as diesel appear to be the less volatile constituents of gasoline.

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: Shell Oil Company
Date: 02/12/91
Client Work ID: GR3633, 5251 Hopyard, Plsnton

Work Order: T1-01-259

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **S-2**
SAMPLE DATE: **01/25/91**
LAB SAMPLE ID: **T101259-02**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool pH < 2**

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		02/02/91
Low Boiling Hydrocarbons	Mod.8015		02/02/91
High Boiling Hydrocarbons	Mod.8015	02/05/91	02/07/91

PARAMETER	DETECTION LIMIT	DETECTED
Low Boiling Hydrocarbons calculated as Gasoline	0.05	**None**
BTEX		
Benzene	0.0005	**None**
Toluene	0.0005	**None**
Ethylbenzene	0.0005	**None**
Xylenes (total)	0.0005	**None**
High Boiling Hydrocarbons calculated as Diesel	0.05	**None**

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: Shell Oil Company
Date: 02/12/91
Client Work ID: GR3633, 5251 Hopyard, Plsnton

Work Order: T1-01-259

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **S-3**
SAMPLE DATE: **01/25/91**
LAB SAMPLE ID: **T101259-03**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool pH < 2**

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		02/02/91
Low Boiling Hydrocarbons	Mod.8015		02/02/91
High Boiling Hydrocarbons	Mod.8015	02/05/91	02/07/91

PARAMETER	DETECTION LIMIT	DETECTED	
Low Boiling Hydrocarbons calculated as Gasoline	0.25	**0.87**	&
BTEX			
Benzene	0.0025	**0.23**	
Toluene	0.0025	**None**	
Ethylbenzene	0.0025	**0.13**	
Xylenes (total)	0.0025	**None**	
High Boiling Hydrocarbons calculated as Diesel	0.05	**0.33**	#

Comments:
Compounds detected and calculated as diesel appear to be the less volatile constituents of gasoline.
& Compounds detected and calculated as low boiling hydrocarbons consist of compounds eluting within the chromatographic range of gasoline, but are not characteristic of the standard gasoline standard pattern.

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: Shell Oil Company
Date: 02/12/91
Client Work ID: GR3633, 5251 Hopyard, Plsnton

Work Order: T1-01-259

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **S-4**
SAMPLE DATE: **01/25/91**
LAB SAMPLE ID: **T101259-04**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool pH < 2**

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		02/02/91
Low Boiling Hydrocarbons	Mod.8015		02/02/91
High Boiling Hydrocarbons	Mod.8015	02/05/91	02/07/91

PARAMETER	DETECTION LIMIT	DETECTED
Low Boiling Hydrocarbons calculated as Gasoline	0.05	**None**
BTEX		
Benzene	0.0005	**None**
Toluene	0.0005	**0.0015**
Ethylbenzene	0.0005	**None**
Xylenes (total)	0.0005	**0.0028**
High Boiling Hydrocarbons calculated as Diesel	0.05	**None**

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: Shell Oil Company
Date: 02/12/91
Client Work ID: GR3633, 5251 Hopyard, Plsnton

Work Order: T1-01-259

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **S-5**
SAMPLE DATE: **01/25/91**
LAB SAMPLE ID: **T101259-05**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool pH < 2**

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		02/02/91
Low Boiling Hydrocarbons	Mod.8015		02/02/91
High Boiling Hydrocarbons	Mod.8015	02/05/91	02/07/91

PARAMETER	DETECTION LIMIT	DETECTED
Low Boiling Hydrocarbons calculated as Gasoline	0.05	**None**
BTEX		
Benzene	0.0005	**None**
Toluene	0.0005	**None**
Ethylbenzene	0.0005	**None**
Xylenes (total)	0.0005	**0.0007**
High Boiling Hydrocarbons calculated as Diesel	0.05	**None**

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: Shell Oil Company
Date: 02/12/91
Client Work ID: GR3633, 5251 Hopyard, Plsnton

Work Order: T1-01-259

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **S-6**
SAMPLE DATE: **01/25/91**
LAB SAMPLE ID: **T101259-06**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool pH < 2**

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		02/02/91
Low Boiling Hydrocarbons	Mod.8015		02/02/91
High Boiling Hydrocarbons	Mod.8015	02/05/91	02/07/91

PARAMETER	DETECTION LIMIT	DETECTED
Low Boiling Hydrocarbons calculated as Gasoline	0.05	**None**
BTEX		
Benzene	0.0005	**None**
Toluene	0.0005	**0.0017**
Ethylbenzene	0.0005	**None**
Xylenes (total)	0.0005	**0.0028**
High Boiling Hydrocarbons calculated as Diesel	0.05	**None**

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: Shell Oil Company
Date: 02/12/91
Client Work ID: GR3633, 5251 Hopyard, Plsnton

Work Order: T1-01-259

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **S-7**
SAMPLE DATE: **01/25/91**
LAB SAMPLE ID: **T101259-07**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool pH < 2**

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		02/04/91
Low Boiling Hydrocarbons	Mod.8015		02/04/91
High Boiling Hydrocarbons	Mod.8015	02/05/91	02/07/91

PARAMETER	DETECTION LIMIT	DETECTED
Low Boiling Hydrocarbons calculated as Gasoline	0.05	None
BTEX		
Benzene	0.0005	None
Toluene	0.0005	None
Ethylbenzene	0.0005	None
Xylenes (total)	0.0005	None
High Boiling Hydrocarbons calculated as Diesel	0.05	None

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: Shell Oil Company
Date: 02/12/91
Client Work ID: GR3633, 5251 Hopyard, Plsnton

Work Order: T1-01-259

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **S-8**
SAMPLE DATE: **01/25/91**
LAB SAMPLE ID: **T101259-08**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool pH < 2**

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		02/02/91
Low Boiling Hydrocarbons	Mod.8015		02/02/91
High Boiling Hydrocarbons	Mod.8015	02/05/91	02/07/91

PARAMETER	DETECTION LIMIT	DETECTED
Low Boiling Hydrocarbons calculated as Gasoline	0.05	None
BTEX		
Benzene	0.0005	None
Toluene	0.0005	None
Ethylbenzene	0.0005	None
Xylenes (total)	0.0005	None
High Boiling Hydrocarbons calculated as Diesel	0.05	None

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: Shell Oil Company
Date: 02/12/91
Client Work ID: GR3633, 5251 Hopyard, Plsnton

Work Order: T1-01-259

TEST CODE **TPHN** TEST NAME **TPH High Boiling by 8015**

The method of analysis for high boiling hydrocarbons s taken from the LUFT field manual. Samples are extracted with solvent and examined by gas chromatography using a flame ionization detector. Results in soils are corrected for moisture content and are reported on a dry soil basis unless otherwise noted.

TEST CODE **TPHVB** TEST NAME **TPH Gas,BTEX by 8015/8020**

The method of analysis for low boiling hydrocarbons is taken from EPA Methods modified 8015, 8020 and 5030. The sample is examined using the purge and trap technique. Final detection is by gas chromatography using a flame ionization detector in series with a photoionization detector. The result for total low boiling hydrocarbons is calculated as gasoline. Results in soils are corrected for moisture content and are reported on a dry soil basis unless otherwise noted.

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

Shell Oil Company
Gettler-Ryan
2150 West Winton
Hayward, CA 94545
Tom Paulson

Date: 02/11/91

Work Order: T1-01-260 P.O. Number: MOH 880-021 Vendor #I0002402

This is the Certificate of Analysis for the following samples:

Client Work ID: GR3633, 5251 Hopyard, Plsnton
Date Received: 01/25/91
Number of Samples: 3
Sample Type: aqueous

TABLE OF CONTENTS FOR ANALYTICAL RESULTS

Reviewed and Approved:

Suzanne Veaudry
Project Manager

Company: Shell Oil Company
Date: 02/11/91
Client Work ID: GR3633, 5251 Hopyard, Plsnton

IT ANALYTICAL SERVICES
SAN JOSE, CA
Work Order: T1-01-260

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **SD-3**
SAMPLE DATE: **01/25/91**
LAB SAMPLE ID: **T101260-01**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool pH < 2**

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		02/01/91
Low Boiling Hydrocarbons	Mod.8015		02/01/91
High Boiling Hydrocarbons	Mod.8015	02/05/91	02/07/91

PARAMETER	DETECTION LIMIT	DETECTED	
Low Boiling Hydrocarbons calculated as Gasoline	0.25	**0.84**	
BTEX		**0.24**	
Benzene	0.0025	**None**	
Toluene	0.0025	**0.11**	
Ethylbenzene	0.0025	**None**	
Xylenes (total)	0.0025		
High Boiling Hydrocarbons calculated as Diesel	0.05	**0.34**	#

Comments:
Compounds detected and calculated as diesel appear to be the less volatile constituents of gasoline.

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: Shell Oil Company
Date: 02/11/91
Client Work ID: GR3633, 5251 Hopyard, Plsnton

Work Order: T1-01-260

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **SF-2**
SAMPLE DATE: **01/25/91**
LAB SAMPLE ID: **T101260-02**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool pH < 2**

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		02/01/91
Low Boiling Hydrocarbons	Mod.8015		02/01/91

PARAMETER	DETECTION LIMIT	DETECTED
Low Boiling Hydrocarbons calculated as Gasoline	0.05	None
BTEX		
Benzene	0.0005	None
Toluene	0.0005	None
Ethylbenzene	0.0005	None
Xylenes (total)	0.0005	None

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: Shell Oil Company
Date: 02/11/91
Client Work ID: GR3633, 5251 Hopyard, Plsnton

Work Order: T1-01-260

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **Trip Blank**
SAMPLE DATE: **not spec**
LAB SAMPLE ID: **T101260-03**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool pH < 2**

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		02/01/91
Low Boiling Hydrocarbons	Mod.8015		02/01/91
High Boiling Hydrocarbons	Mod.8015	02/05/91	02/07/91

PARAMETER	DETECTION LIMIT	DETECTED
Low Boiling Hydrocarbons calculated as Gasoline	0.05	**None**
BTEX		
Benzene	0.0005	**None**
Toluene	0.0005	**None**
Ethylbenzene	0.0005	**None**
Xylenes (total)	0.0005	**None**
High Boiling Hydrocarbons calculated as Diesel	0.05	**None**

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: Shell Oil Company
Date: 02/11/91
Client Work ID: GR3633, 5251 Hopyard, Plsnton

Work Order: T1-01-260

TEST CODE **TPHN** TEST NAME **TPH High Boiling by 8015**

The method of analysis for high boiling hydrocarbons s taken from the LUFT field manual. Samples are extracted with solvent and examined by gas chromatography using a flame ionization detector. Results in soils are corrected for moisture content and are reported on a dry soil basis unless otherwise noted.

TEST CODE **TPHVB** TEST NAME **TPH Gas,BTEX by 8015/8020**

The method of analysis for low boiling hydrocarbons is taken from EPA Methods modified 8015, 8020 and 5030. The sample is examined using the purge and trap technique. Final detection is by gas chromatography using a flame ionization detector in series with a photoionization detector. The result for total low boiling hydrocarbons is calculated as gasoline. Results in soils are corrected for moisture content and are reported on a dry soil basis unless otherwise noted.

T1-01-259 + T1-01-260

Gettler - Ryan Inc. ENVIRONMENTAL DIVISION — **Chain of Custody**

COMPANY Shell Oil Company JOB NO.

JOB LOCATION 5251 Hopyard Rd / Owen

CITY Pleasanton CA PHONE NO.

AUTHORIZED Tom Paulson DATE 1-25-91 P.O. NO. 3633.01

SAMPLE ID	NO. OF CONTAINERS	SAMPLE MATRIX	DATE/TIME SAMPLED	ANALYSIS REQUIRED	SAMPLE CONDITION LAB ID
S-1	5	Liquid	1-25-91/1426	THC(Gas) & (Diesel) BTXE	Cool
S-2	5		/12:10		
S-3	5		/13:51		
S-4	5		/13:16		
S-5	5		/12:49		
S-6	5		/10:51		
S-7	5		/10:50		
S-8	5		/11:38		
SD-3	5		/ —		
SF-1	3		/14:26	THC(Gas) BTXE	
Trip	2		—	THC(Gas) BTXE TPH Diesel	

RELINQUISHED BY: 1-25-91 16:10 RECEIVED BY:

RELINQUISHED BY: RECEIVED BY:

RELINQUISHED BY: RECEIVED BY LAB: Josephine DeCarli 1/25/91 16:35

DESIGNATED LABORATORY: IT/SCV DHS #: E 630

REMARKS: Normal (TAT)

WIC 204-6138 - 0907 EXP 5440

ENG Jack Brazil

DATE COMPLETED 1-25-91 FOREMAN

ORIGINAL