Shell Oil Company

EAST BAY MARKETING DISTRICT

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

91 JAN 11 PM 12:31

January 9, 1991

County of Alameda
Department of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, California 94621

Attention: Mr. Gil Wistar

SUBJECT: SHELL SERVICE STATION
999 SAN PABLO AVENUE
ALBANY, CALIFORNIA

Dear Mr. Wistar:

Enclosed is a of copy of the January 4, 1991 Site Update report for the subject location. The report presents the results of the ground-water sampling conducted during the fourth quarter of 1990.

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 Engineer

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

GeoStrategies Inc.

SITE UPDATE

Shell Service Station
999 San Pablo Avenue
Albany, California

766601-5

January 4, 1991

GeoStrategies Inc.
2140 WEST WINTON AVENUE
HAYWARD, CALIFORNIA 94545
(415) 352-4800

January 4, 1991

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

Attn: Mr. John Werfal

Re: SITE UPDATE
Shell Service Station
999 San Pablo Avenue
Albany, California

Gentlemen:

This Site Update describes the 1990 fourth quarter ground-water sampling at the above referenced site (Plates 1 and 2). Ground-water samples were collected by Gettler-Ryan Inc. (G-R) on November 27, 1990. Ground-water sampling data are summarized and presented in Table 1. Included in this report are an updated ground-water potentiometric map and Total Petroleum Hydrocarbons calculated as Gasoline (TPH-Gasoline)/Benzene Concentration Map. Field work and laboratory analysis methods were performed in compliance with current State of California Water Resources Control Board (SWRCB) procedures for conducting environmental investigations related to leaking underground storage tanks. Quality Control (QC) procedures during ground-water sampling are summarized in the G-R Field Methods and Procedures presented in the GeoStrategies Inc. (GSI) report dated October 10, 1990.

In January 1990, three of the ten exploratory borings onsite were completed as ground-water monitoring wells (S-1 through S-3). Initial chemical analyses of ground-water detected TPH-Gasoline at concentration levels ranging from 3.1 parts per million (ppm) to 8.7 ppm. Benzene was detected at concentration levels ranging from 0.045 ppm to 1.6 ppm. As a result, a quarterly ground-water monitoring program was established.

The areal extent of the dissolved hydrocarbon plume was not adequately delineated, and in April 1990 two additional off-site ground-water monitoring wells (S-4 and S-5) were completed. Chemical analyses of ground-water samples for monitoring well S-4 was reported as none detected (ND) for TPH-Gasoline and benzene. Monitoring well S-5 contained 0.62 feet of floating product and was not sampled. Wells S-1 through S-3 contained detectable dissolved levels of both TPH-Gasoline and benzene.

In August 1990, two additional off-site ground-water monitoring wells were completed (S-6 and S-7) to further delineate the dissolved hydrocarbon plume. Ground-water samples analyzed from Well S-6 contained TPH-Gasoline concentrations of 5.7 ppm and Well S-7 was ND. Benzene concentrations of 0.58 ppm and ND were reported for Wells S-6 and S-7, respectively. Monitoring wells S-1 through S-3 contained detectable levels of both TPH-Gasoline and benzene. Well S-5 contained 3.51 feet of floating product and Well S-4 was ND for both TPH-Gasoline and benzene.

The shallow aquifer hydraulic gradient has ranged between 0.019 and 0.033 with general ground-water flow to the south for all reported quarterly samplings.

CURRENT QUARTERLY SAMPLING RESULTS

Potentiometric Data

Prior to ground-water sampling on November 27, 1990, depth to ground-water levels were measured in the monitoring wells using an electronic oil-water interface probe. Static ground-water levels were measured from the surveyed top of the well box and recorded to the nearest $\pm$0.01 foot. Groundwater was encountered between 8.37 and 10.93 feet below grade, which corresponds to an elevation range from 29.17 to 34.19 feet above Mean Sea Level (MSL). These data are presented in Table 1. The locations of the monitoring wells are presented on Plate 2.

Ground-water elevation data from this sampling have been plotted and contoured and are presented on Plate 3. Potentiometric data indicate that a ground-water mound exists on-site with shallow groundwater flowing in northwesterly to southeasterly directions. The shallow groundwater beneath the site predominantly flows to the southwest with an approximate calculated hydraulic gradient of 0.019.

Each well was monitored for the presence of separate-phase petroleum hydrocarbons (floating product) using an electronic oil-water interface probe. A clean, clear acrylic bailer was used to visually confirm interface probe results and check for the presence of a product sheen. Floating product was observed in Well S-5 (4.71 feet in measured thickness). The floating product observed in Well S-5 appears to be originating from an off-site source downgradient of the Shell Service Station. Product sheens were not observed at any of the monitoring wells.

Chemical Analytical Data

Ground-water samples were collected from the monitoring wells by G-R on November 27, 1990. The samples were analyzed for TPH-Gasoline according to EPA Method 8015 (Modified) and Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) according to EPA Method 8020. All samples were analyzed by International Technology Corporation (IT) Analytical Services, a State-certified environmental laboratory located in San Jose, California.

TPH-Gasoline was reported in monitoring wells S-1 through S-3 and S-6 at concentration levels ranging from 1.9 to 18 ppm. Benzene was reported in monitoring wells S-1 through S-3 and S-6 at concentration levels ranging from 0.0073 to 4.3 ppm. Benzene concentration levels in these wells exceed the current Regional Water Quality Control Board (RWQCB) Maximum Contaminant Level (MCL). Wells S-4 and S-7 were reported as ND for both TPH-Gasoline and benzene.

A summary of the chemical analytical data are presented in Table 1. Historical chemical data are presented in Table 2. A copy of the November 27, 1990 Gettler-Ryan Inc. Sampling Report, Chain-of-Custody forms, and IT Analytical Services certified analytical report are presented in Appendix A.

SUMMARY

A summary of activities and findings associated with this report are presented below:

- Quarterly ground-water sampling was performed on November 27, 1990.
- Depth to ground-water ranged from 8.37 to 10.93 feet below ground surface.
- Shallow groundwater flows generally to the southwest. The calculated hydraulic gradient is approximately 0.019.
- Floating product was detected in monitoring well S-5 (4.71 feet in measured thickness). Based on the observed chemical distribution, it appears that the observed floating product may be originating from an off-site source.
- TPH-Gasoline was reported in monitoring wells S-1 through S-3 and S-6 at concentration levels ranging from 1.9 to 18 ppm.
- Benzene was reported in monitoring wells S-1 through S-3 and S-6 at concentration levels ranging from 0.0073 to 4.3 ppm. Benzene concentration levels exceed the RWQCB MCL.
- Monitoring wells S-4 and S-7 were reported as ND for both TPH-Gasoline and benzene.

PLANNED SITE ACTIVITIES

The following activities will be conducted for the first quarter of 1991:

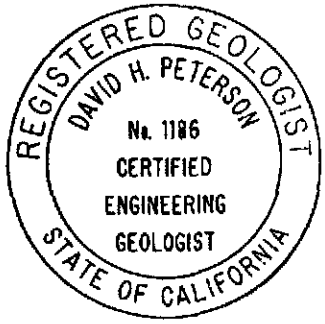
- Ground-water samples will be collected from existing site monitoring wells on a quarterly basis. Samples will be analyzed for TPH-Gasoline according to EPA Method 8015 (Modified) and BTEX according to EPA Method 8020.
- Static ground-water measurements and floating product measurements will be collected on a weekly schedule.
- Quarterly site updates will be prepared for the site.

If you have any questions, please call.

GeoStrategies Inc. by,

Timothy J. Walker
Geologist

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



TJW/DHP/kjj

Plate 1. Vicinity Map
Plate 2. Site Plan
Plate 3. Potentiometric Map
Plate 4. TPH-Gasoline/Benzene Concentration Map

Appendix A: Gettler-Ryan Inc. Groundwater Sampling Report

QC Review:

766601-5

TABLE 1

GROUND-WATER ANALYSIS DATA

WELL NO	SAMPLE DATE	ANALYSIS DATE	TPH (PPM)	BENZENE (PPM)	TOLUENE (PPM)	ETHYLBENZENE (PPM)	XYLENES (PPM)	WELL ELEV (FT)	STATIC WATER ELEV (FT)	PRODUCT THICKNESS (FT)	DEPTH TO WATER (FT)
S-1	27-Nov-90	07-Dec-90	2.2	0.011	<0.0025	0.058	0.022	42.73	34.19	----	8.54
S-2	27-Nov-90	11-Dec-90	18.	4.3	0.20	1.5	1.7	40.73	31.95	----	8.78
S-3	27-Nov-90	07-Dec-90	1.9	0.0073	0.0030	0.0093	0.0032	41.46	33.08	----	8.38
S-4	27-Nov-90	07-Dec-90	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	41.10	32.73	----	8.37
S-5	27-Nov-90	----	----	----	----	----	----	39.99	29.28	4.71	14.48
S-6	27-Nov-90	07-Dec-90	8.0	0.79	0.037	0.096	0.069	40.12	29.30	----	10.82
S-7	27-Nov-90	07-Dec-90	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	40.10	29.17	----	10.93
SD-6	27-Nov-90	11-Dec-90	11.	0.86	0.06	0.14	0.13	----	----	----	----
TB	27-Nov-90	07-Dec-90	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	----	----	----	----

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 = Total Petroleum Hydrocarbons as Gasoline
PPM = Parts Per Million
ND = None Detected

SD = Duplicate Sample
TB = Trip Blank

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

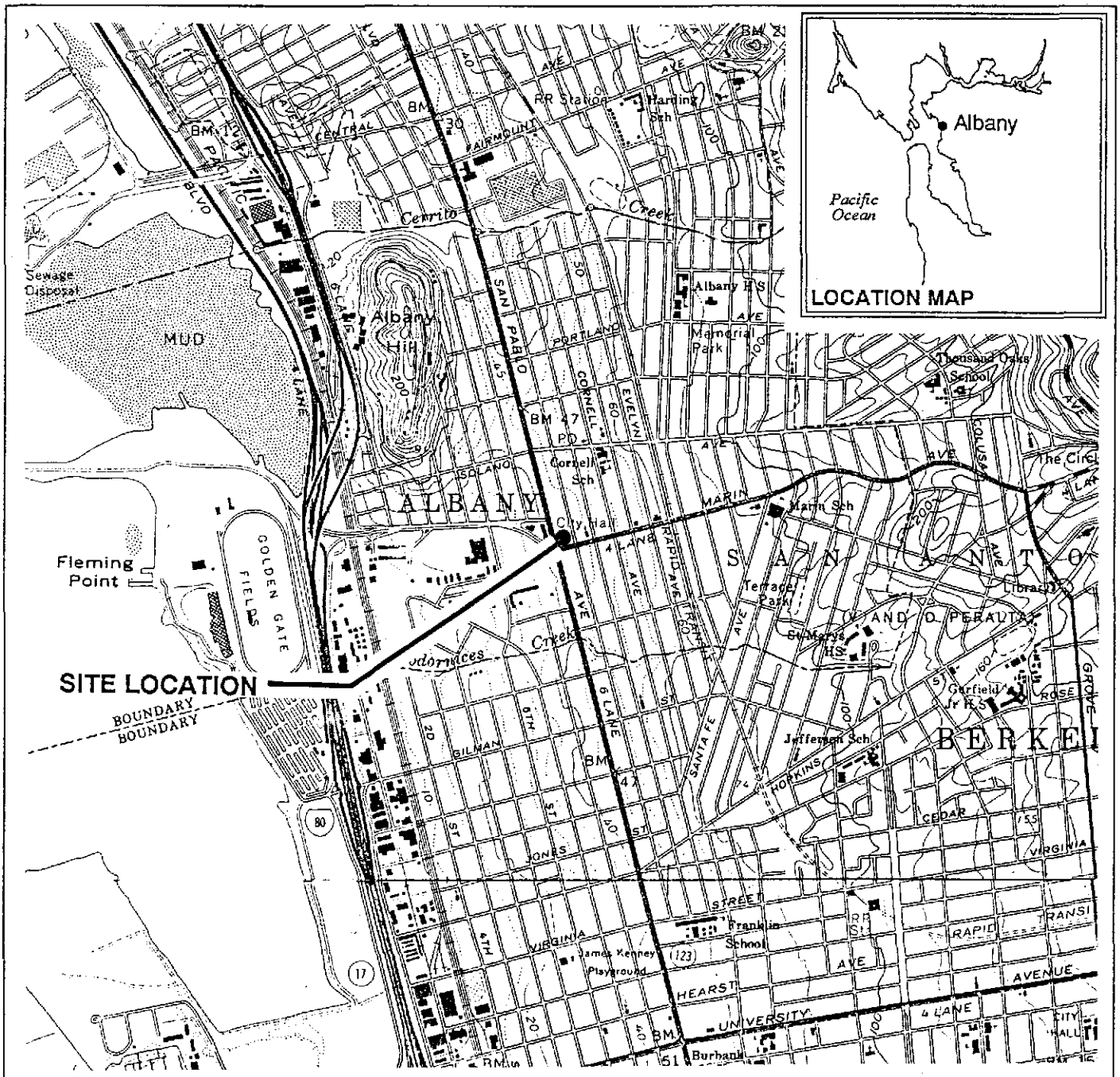
Report No. 7666-5

TABLE 2

HISTORICAL GROUNDWATER QUALITY DATABASE

SAMPLE DATE	SAMPLE POINT	TPH (PPM)	BENZENE (PPM)	TOLUENE (PPM)	E.B. (PPM)	XYLENES (PPM)
05-Feb-90	S-1	3.1	0.056	0.037	0.11	0.097
01-May-90	S-1	4.2	0.023	<0.0025	0.116	0.32
28-Aug-90	S-1	0.80	0.0081	0.001	0.075	0.054
27-Nov-90	S-1	2.2	0.011	<0.0025	0.058	0.022
05-Feb-90	S-2	8.7	1.6	0.058	0.16	1.0
01-May-90	S-2	11.	2.3	0.082	0.409	0.77
28-Aug-90	S-2	4.4	1.7	0.035	0.16	0.17
27-Nov-90	S-2	18.	4.3	0.20	1.5	1.7
05-Feb-90	S-3	5.7	0.045	0.004	0.12	0.50
01-May-90	S-3	2.0	0.018	<0.0025	0.024	0.008
28-Aug-90	S-3	0.66	0.0087	0.001	0.026	0.007
27-Nov-90	S-3	1.9	0.0073	0.0030	0.0093	0.0032
01-May-90	S-4	<0.05	<0.0005	<0.0005	<0.0005	<0.001
28-Aug-90	S-4	<0.05	<0.0005	0.0006	<0.0005	0.0010
27-Nov-90	S-4	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
28-Aug-90	S-6	5.7	0.58	0.023	0.032	0.058
27-Nov-90	S-6	8.0	0.79	0.037	0.096	0.069
28-Aug-90	S-7	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
27-Nov-90	S-7	<0.05	<0.0005	<0.0005	<0.0005	<0.0005

TPH = Total Petroleum Hydrocarbons
PPM = Parts per Million
E.B. = Ethylbenzene
NOTE: All data shown as <X are reported as ND (none detected)



Base Map: USGS Topographic Map

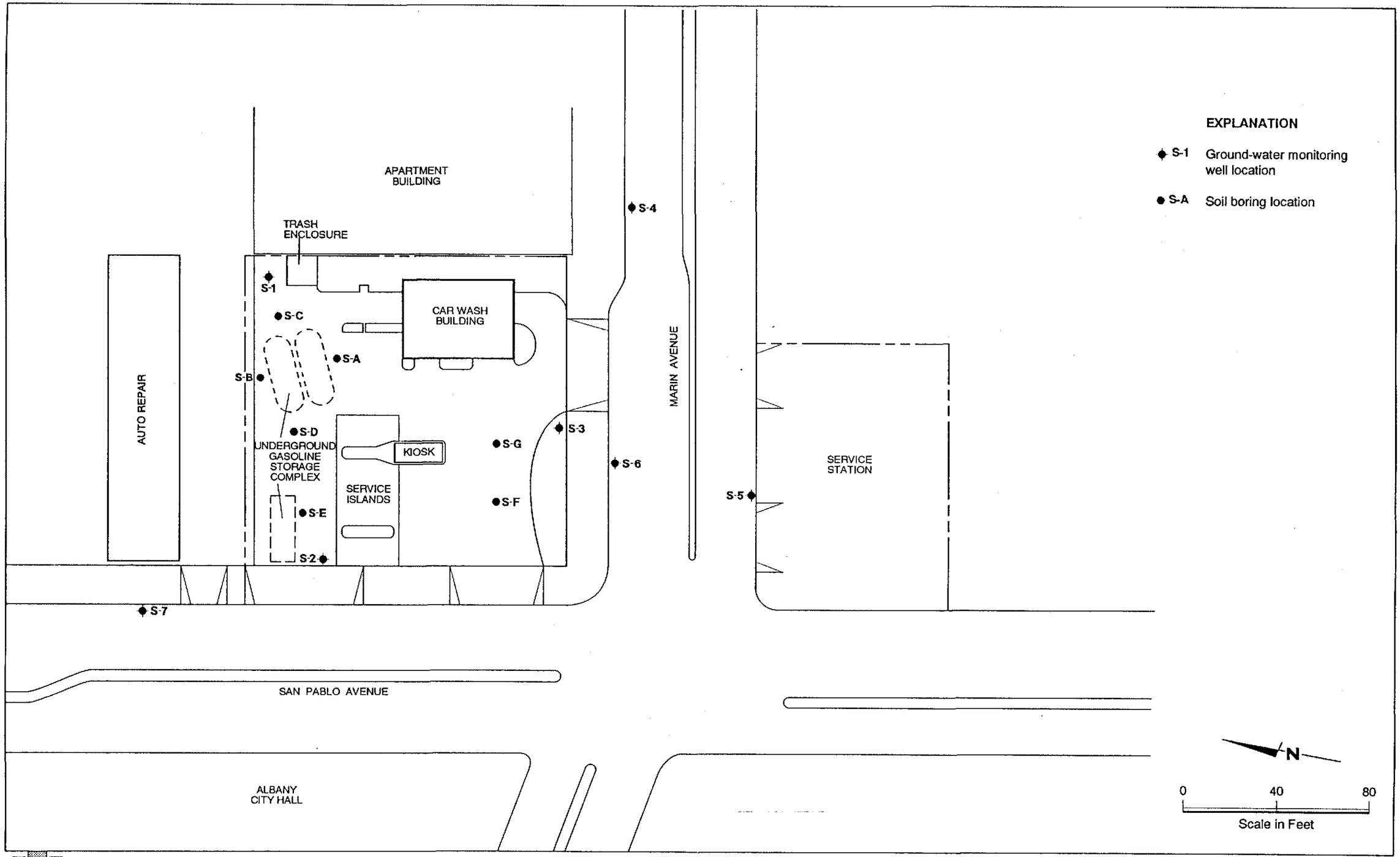
Approximate Scale : 1" = 2000'

GeoStrategies Inc.

Vicinity Map
Shell Service Station
999 San Pablo Avenue
Albany, California

PLATE **1**

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7666		1/90		

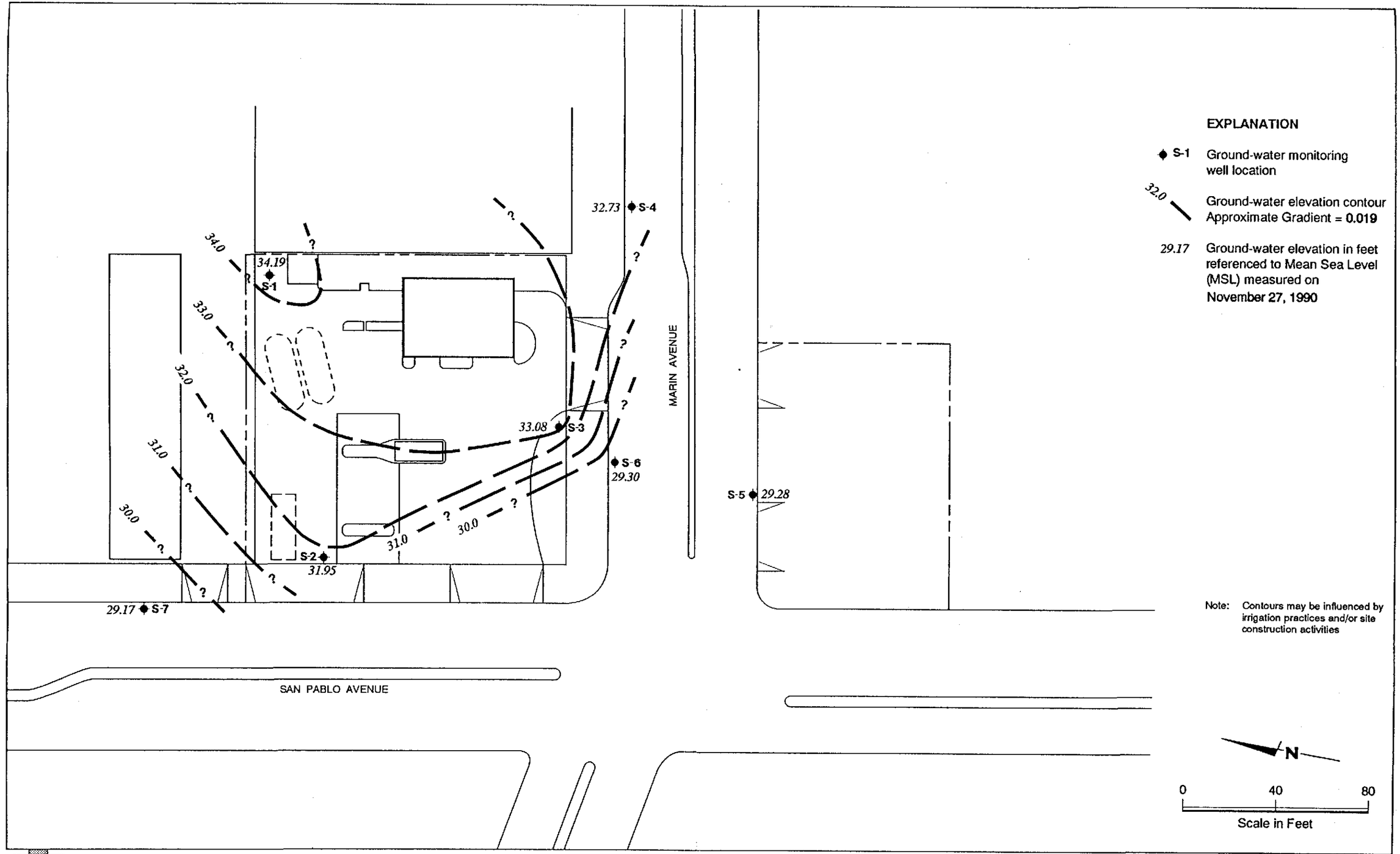


GeoStrategies Inc.

Site Plan
Shell Service Station
999 San Pablo Avenue
Albany, California

PLATE **2**

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE	REVISED DATE
7666		12/90		

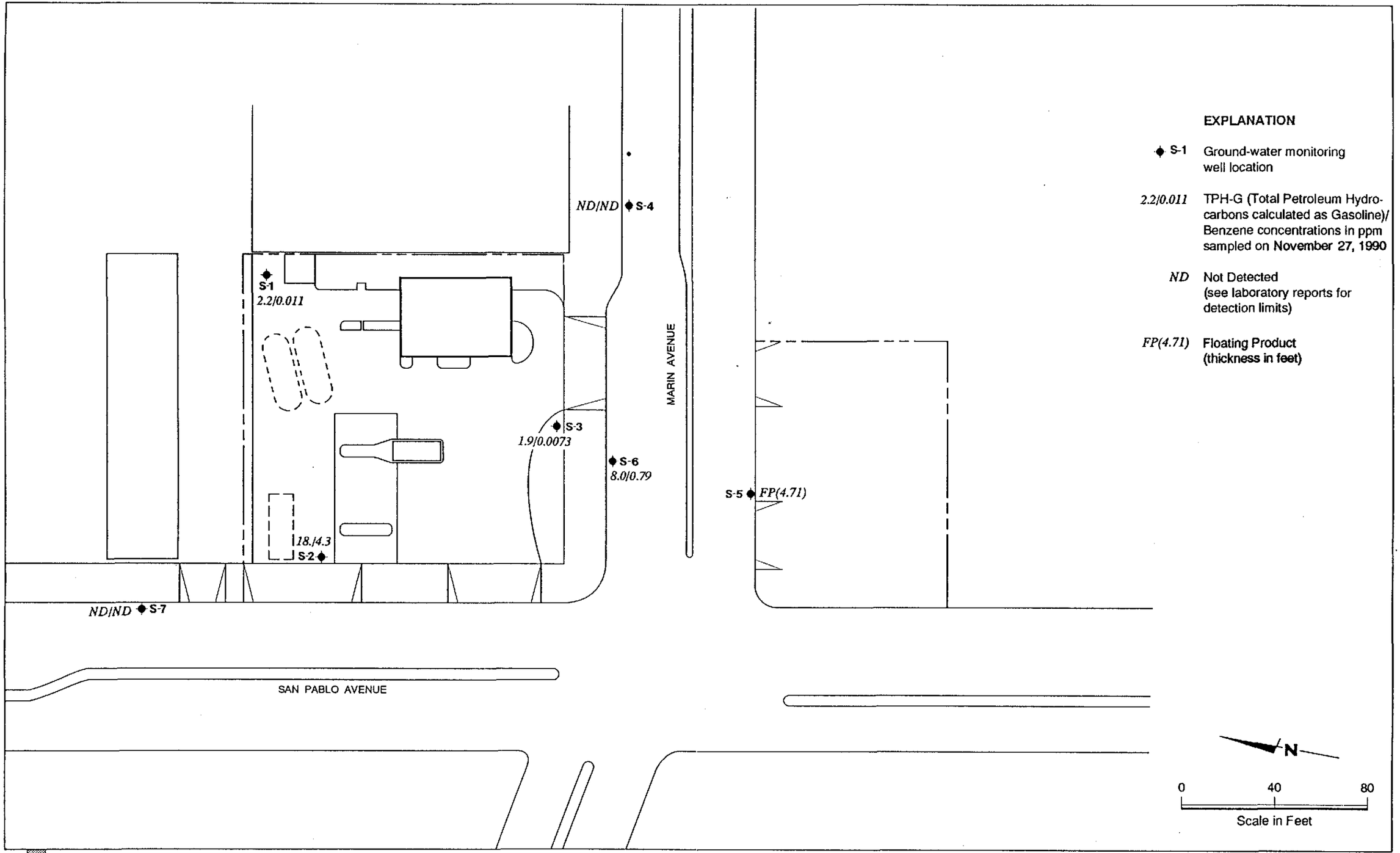


GeoStrategies Inc.

Potentiometric Map
Shell Service Station
999 San Pablo Avenue
Albany, California

PLATE **3**

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE	REVISED DATE
7666		12/90		



GeoStrategies Inc.

TPH-G/Benzene Concentration Map
Shell Service Station
999 San Pablo Avenue
Albany, California

PLATE
4

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE	REVISED DATE
7666		12/90		

gettler — ryan inc.

December 17, 1990

GROUNDWATER SAMPLING REPORT

Referenced Site: Shell Service Station
999 San Pablo Ave/Marin Ave
Albany, California

Sampling Date: November 27, 1990

This report presents the results of the quarterly groundwater sampling and analytical program conducted by Gettler-Ryan Inc. on November 27, 1990 at the referenced location. The site is occupied by an operating service station located on the northeast corner of San Pablo Avenue and Marin Avenue. The service station has underground storage tanks which contain leaded, unleaded and super unleaded gasoline products.

There are currently seven groundwater monitoring wells on or near the site at the locations shown on the attached site map. Prior to sampling, all wells were inspected for total well depth, water levels, and presence of separate phase product using an electronic interface probe. A clean acrylic bailer was used to visually confirm or detect the presence and thickness of separate phase product. Groundwater depths ranged from 8.37 to 10.93 feet below grade. Separate phase product was observed in well S-5.

Wells that did not contain separate phase product were purged and sampled. The purge water was contained in drums for proper disposal. Standard sampling procedure calls for a minimum of four case volumes to be purged from each well. Each well was purged while pH, temperature, and conductivity measurements were monitored for stability. Details of the final well purging results are presented on the attached Table of Monitoring Data. In cases where a well dewatered or less than four case volumes were purged, groundwater samples were obtained after the physical parameters had stabilized. Under such circumstances the sample may not represent actual formation water, due to low flow conditions.

Samples were collected, using Teflon bailers, in properly cleaned and laboratory prepared containers. All sampling equipment was thoroughly cleaned after each well was sampled and steam cleaned upon completion of work at the site. The samples were labeled, stored on blue ice, and transported to the laboratory for analysis. A trip blank supplied by the laboratory, was included and analyzed to assess quality control. A duplicate sample (SD-6), was submitted without well designation to assess laboratory performance. Analytical results for the blanks are included in the Certified Analytical Report (CAR's). Chain of custody records were established noting sample identification numbers, time, date, and custody signatures.

2150 west winton avenue • hayward, california 94545-1210 • (415) 783-7500

The samples were analyzed at International Technology Corporation - Santa Clara Valley Laboratory, located at 2055 Junction Avenue, San Jose, California. The laboratory is assigned a California DHS-HMTL Certification number of 137. The results are presented as a Certified Analytical Report, a copy of which is attached to this report.

Tom Paulson
Sampling Manager

attachments

TABLE OF MONITORING DATA
GROUNDWATER WELL SAMPLING REPORT

WELL I.D.	S-1	S-2	S-3	S-4	S-5	S-6 SD-6
Casing Diameter (inches)	3	3	3	3	3	3
Total Well Depth (feet)	11.8	12.1	12.2	14.1	----	15.3
Depth to Water (feet)	8.54	8.78	8.38	8.37	14.48 **	10.82
Free Product (feet)	none	none	none	none	4.71	none
Reason Not Sampled	----	----	----	----	free product	----
Calculated 4 Case Vol.(gal.)	4.9	5.0	5.8	8.7	----	6.8
Did Well Dewater?	yes	yes	yes	yes	----	yes
Volume Evacuated (gal.)	2.5	2.0	3.0	3.0	----	2.5
Purging Device	Bailer	Bailer	Bailer	Bailer	----	Bailer
Sampling Device	Bailer	Bailer	Bailer	Bailer	----	Bailer
Time	09:05	09:07	09:00	09:30	----	09:35
Temperature (F)*	64.0	66.0	67.9	66.2	----	66.8
pH*	6.82	6.96	6.76	6.85	----	6.79
Conductivity (umhos/cm)*	656	994	686	305	----	763

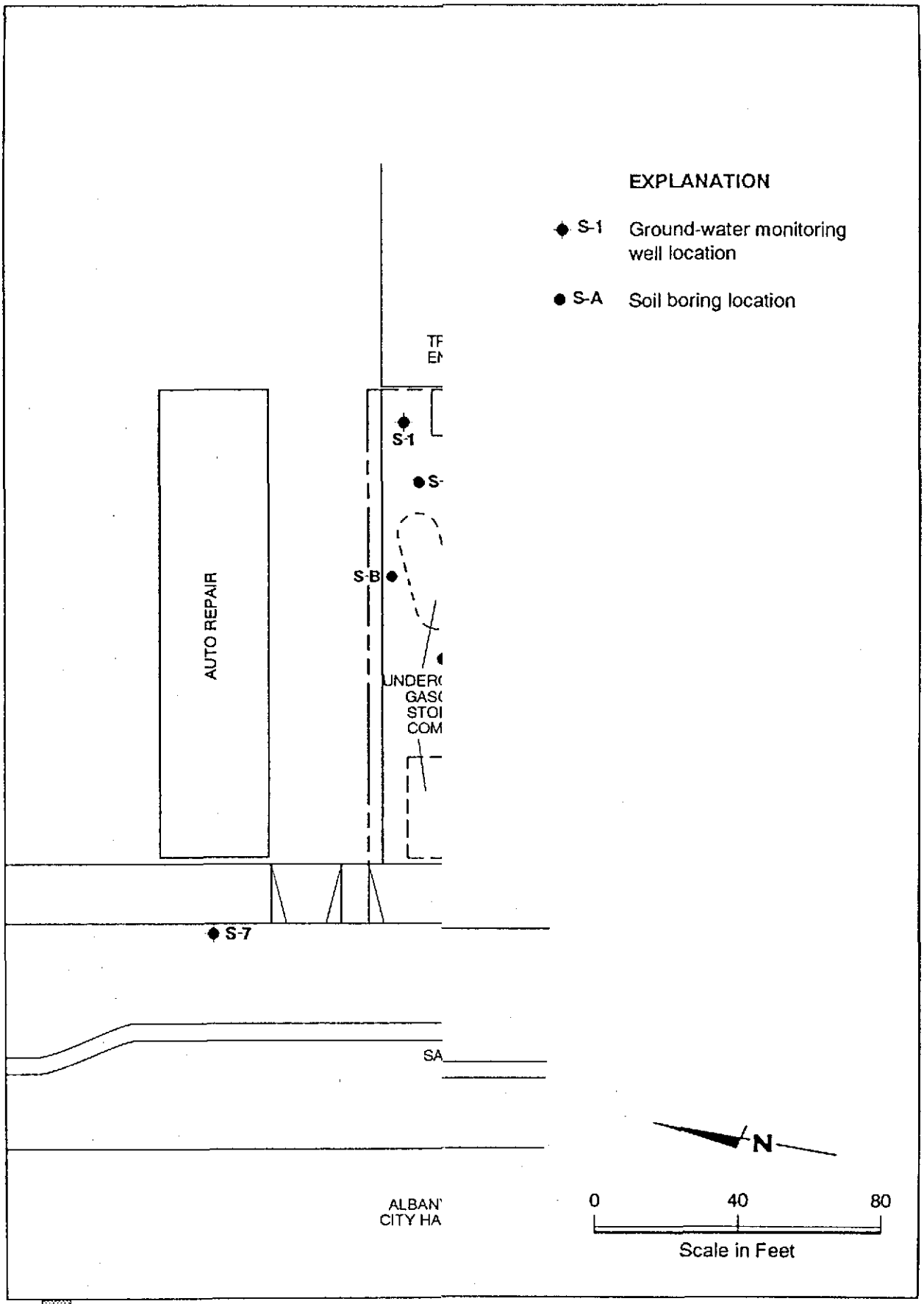
* Indicates Stabilized Value

** Not corrected for the presence of free product

TABLE OF MONITORING DATA
GROUNDWATER WELL SAMPLING REPORT

WELL I.D.	S-7
Casing Diameter (inches)	3
Total Well Depth (feet)	15.1
Depth to Water (feet)	10.93
Free Product (feet)	none
Reason Not Sampled	----
Calculated 4 Case Vol.(gal.)	6.4
Did Well Dewater?	yes
Volume Evacuated (gal.)	3.0
Purging Device	Bailer
Sampling Device	Bailer
Time	08:48
Temperature (F)*	68.2
pH*	7.15
Conductivity (umhos/cm)*	620

* Indicates Stabilized Value



GeoStrategies Inc.

Station
Avenue
nia

PLATE
2

JOB NUMBER
7666

REVIEWED BY RG/CEG

REVISED DATE

REVISED DATE

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

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

Date: 12/13/90

Work Order: TO-11-301 P.O. Number: MOH 880-021 Vendor #I0002402

This is the Certificate of Analysis for the following samples:

Client Work ID: GR3666,999 San Pablo, Albany
Date Received: 11/27/90
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: 12/13/90
Client Work ID: GR3666,999 San Pablo, Albany

Work Order: TO-11-301

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **S-1**
SAMPLE DATE: **11/27/90**
LAB SAMPLE ID: **TO11301-01**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool pH < 2**

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		12/07/90
Low Boiling Hydrocarbons	Mod.8015		12/07/90

PARAMETER	DETECTION LIMIT	DETECTED
Low Boiling Hydrocarbons calculated as Gasoline	0.25	2.2
BTEX		
Benzene	0.0025	0.011
Toluene	0.0025	None
Ethylbenzene	0.0025	0.058
Xylenes (total)	0.0025	0.022

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: Shell Oil Company
Date: 12/13/90
Client Work ID: GR3666,999 San Pablo, Albany

Work Order: T0-11-301

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **S-3**
SAMPLE DATE: **11/27/90**
LAB SAMPLE ID: **T011301-02**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool pH < 2**

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		12/07/90
Low Boiling Hydrocarbons	Mod.8015		12/07/90

PARAMETER	DETECTION LIMIT	DETECTED
Low Boiling Hydrocarbons calculated as Gasoline	0.25	1.9
BTEX		
Benzene	0.0025	0.0073
Toluene	0.0025	0.0030
Ethylbenzene	0.0025	0.0093
Xylenes (total)	0.0025	0.0032

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: Shell Oil Company
Date: 12/13/90
Client Work ID: GR3666,999 San Pablo, Albany

Work Order: TO-11-301

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **S-6**
SAMPLE DATE: **11/27/90**
LAB SAMPLE ID: **TO11301-03**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool pH < 2**

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		12/07/90
Low Boiling Hydrocarbons	Mod.8015		12/07/90

PARAMETER	DETECTION LIMIT	DETECTED
Low Boiling Hydrocarbons calculated as Gasoline	0.25	**8.0**
BTEX		
Benzene	0.0025	**0.79**
Toluene	0.0025	**0.037**
Ethylbenzene	0.0025	**0.096**
Xylenes (total)	0.0025	**0.069**

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: Shell Oil Company
Date: 12/13/90
Client Work ID: GR3666,999 San Pablo, Albany

Work Order: TO-11-301

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **SD-6**
SAMPLE DATE: **11/27/90**
LAB SAMPLE ID: **TO11301-04**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool pH < 2**

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		12/11/90
Low Boiling Hydrocarbons	Mod.8015		12/11/90

PARAMETER	DETECTION LIMIT	DETECTED
Low Boiling Hydrocarbons calculated as Gasoline	1.	11.
BTEX		
Benzene	0.01	0.86
Toluene	0.01	0.06
Ethylbenzene	0.01	0.14
Xylenes (total)	0.01	0.13

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: Shell Oil Company
Date: 12/13/90
Client Work ID: GR3666,999 San Pablo, Albany

Work Order: T0-11-301

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **S-2**
SAMPLE DATE: **11/27/90**
LAB SAMPLE ID: **T011301-05**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool pH < 2**

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		12/11/90
Low Boiling Hydrocarbons	Mod.8015		12/11/90

PARAMETER	DETECTION LIMIT	DETECTED
Low Boiling Hydrocarbons calculated as Gasoline	5.	**18.**
BTEX		
Benzene	0.05	**4.3**
Toluene	0.0005	**0.20**
Ethylbenzene	0.0005	**1.5**
Xylenes (total)	0.0005	**1.7**

IT ANALYTICAL SERVICES
SAN JOSE, CA

Company: Shell Oil Company
Date: 12/13/90
Client Work ID: GR3666,999 San Pablo, Albany

Work Order: TO-11-301

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **S-4**
SAMPLE DATE: **11/27/90**
LAB SAMPLE ID: **TO11301-06**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool pH < 2**

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		12/07/90
Low Boiling Hydrocarbons	Mod.8015		12/07/90

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: 12/13/90
Client Work ID: GR3666,999 San Pablo, Albany

Work Order: TO-11-301

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **S-7**
SAMPLE DATE: **11/27/90**
LAB SAMPLE ID: **TO11301-07**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool pH < 2**

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		12/07/90
Low Boiling Hydrocarbons	Mod.8015		12/07/90

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: 12/13/90
Client Work ID: GR3666,999 San Pablo, Albany

Work Order: T0-11-301

TEST NAME: **Petroleum Hydrocarbons**

SAMPLE ID: **Trip Blank**
SAMPLE DATE: **not spec**
LAB SAMPLE ID: **T011301-08**
SAMPLE MATRIX: **aqueous**
RECEIPT CONDITION: **Cool pH < 2**

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		12/07/90
Low Boiling Hydrocarbons	Mod.8015		12/07/90

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: 12/13/90
Client Work ID: GR3666,999 San Pablo, Albany

Work Order: TO-11-301

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

The method of analysis for low boiling hydrocarbons is taken from E.P.A. Methods 8015, 8020 and 5030. The sample is examined using the purge and trap technique. Final detection is by gas chromatograhy using a flame ionization detector as well as a photoionization detector. The result for total low boiling hydrocarbons is calculated as gasoline and includes benzene, toluene, ethylbenzene and xylenes.

7011-301

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

COMPANY Shell — JOB NO.

JOB LOCATION 999 San Pablo

CITY Albany — PHONE NO. 783-7500

AUTHORIZED Tom Paulson — DATE 11-27-90 — P.O. NO. 3666

SAMPLE ID	NO. OF CONTAINERS	SAMPLE MATRIX	DATE/TIME SAMPLED	ANALYSIS REQUIRED	SAMPLE CONDITION LAB ID
S-1	3	liquid	11-27-90 / 9:05	THC (gas) BTXE	Cool 9.2° 11/27/90
S-3			/ 9:00		
S-6			/ 9:35		
SD-6			/ —		

RELINQUISHED BY: John P. Zwierzyns 11-27-90 10:05

RECEIVED BY: 11-27-90 10:06

RELINQUISHED BY: 11-27-90 15:15

RECEIVED BY: —

RELINQUISHED BY: —

RECEIVED BY LAB: Josephine DeCarli 11/27/90 15:15

DESIGNATED LABORATORY: IT (SCV) — DHS #: 137

REMARKS: WIC # 204-0079-0109
Exp. Code 5440
Eng. Diane Lundquist
Normal TAT
11-27-90

FOREMAN John P. Zwierzyns

ORIGINAL

Gettler - Ryan Inc. — TO-11-300 — ENVIRONMENTAL DIVISION — **Chain of Custody**

COMPANY Shell Oil Co — JOB NO.

JOB LOCATION 999 San Pablo

CITY Albany — PHONE NO. 783-7500

AUTHORIZED Tom Paulson — DATE 11-27-90 — P.O. NO. 3666

SAMPLE ID	NO. OF CONTAINERS	SAMPLE MATRIX	DATE/TIME SAMPLED	ANALYSIS REQUIRED	SAMPLE CONDITION LAB ID
S-2	3	liquid	112790/0907	THC (gas) BTXE	Cool 8.D. 11/27/90
S-4	↓	↓	/0930	↓	↓
S-7	↓	↓	/0846	↓	↓
Trip Blank	1	↓	11490/ —	↓	↓

RELINQUISHED BY: [signature] 112790 1515 — RECEIVED BY:

RELINQUISHED BY: — RECEIVED BY:

RELINQUISHED BY: — RECEIVED BY LAB: Josephine DeCarli 11/27/90 15:15

DESIGNATED LABORATORY: IT (SCV) — DHS #: 137

REMARKS: Normal TAT — WIC # 204-0079-0109

Exp: 5440

Eng: Lundquist

11-27-90 — FOREMAN [signature]

ORIGINAL