



**Chevron U.S.A. Products Company**

2410 Camino Ramon, San Ramon, California • Phone (510) 842-9500  
Mail Address: P.O. Box 5004, San Ramon, CA 94583-0804

92 OCT 17 10 11 AM '92

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Ms. Susan Hugo  
Alameda County Health Care Services  
80 Swan Way, Room 200  
Oakland, CA 94621

Re: Former Chevron Service Station No. 9-3864  
5101 Telegraph Avenue  
Oakland, California

Dear Ms. Hugo :

Enclosed is the quarterly monitoring and sampling report dated October 6, 1992.

Briefly, monitoring wells C-1 through C-4 contained dissolved hydrocarbon in the following ranges: <50 to 7100 ppb total purgeable petroleum hydrocarbon as gasoline (TPPHG), 1.4 to 130 ppb benzene, 1.8 to 26 ppb toluene, <0.5 to 12 ppb ethylbenzene, and 1.1 to 30 ppb xylenes. During this sampling period, depth to water ranged 14.81 to 17.71 feet.

A work plan for the additional subsurface investigation is currently being prepared and will be forwarded to your office once it is completed.

If you have any questions or comments, please call me at (510) 842-8752.

Sincerely,

Chevron U.S.A. Products Co.

Kenneth Kan  
Engineer

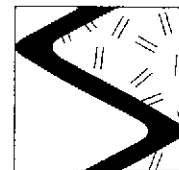
LEAN/MacFile 9-3864R7

Enclosure

cc: Mr. Eddie So  
RWQCB-San Francisco Bay Area  
2101 Webster Street, Suite 500  
Oakland, CA 94612

Ms. Bette Owen  
Chevron U.S.A. Products Co.





October 6, 1992

Kenneth Kan  
Chevron USA  
P.O. Box 5004  
San Ramon, CA 94583

Re: Former Chevron Service Station #9-3864  
5101 Telegraph Avenue  
Oakland, California  
SES Project #1-203-04

Dear Mr. Kan:

This report presents the results of the quarterly ground water sampling at Former Chevron Service Station #9-3864, located at 5101 Telegraph Avenue in Oakland, California (Figure 1, Appendix A). Ground water samples from four wells, C-1 through C-4, were collected (Figure 2, Appendix A).

On September 16, 1992, SES personnel visited the site. Free phase hydrocarbons were not present in any of the site wells. Water level data is shown in Table 1 (Appendix B) and a ground water elevation contour map is included as Figure 2 (Appendix A).

The water samples were collected on September 16, 1992 in accordance with SES Standard Operating Procedure - Ground Water Sampling (Appendix C). All analyses were performed by Superior Precision Analytical, Inc. of Martinez, California. Analytic results for ground water are presented in Table 2 (Appendix B). The chain of custody document and analytic reports are included in Appendix D. SES is not responsible for laboratory omissions or errors.

Thank you for allowing us to provide services to Chevron. Please call if you have any questions.



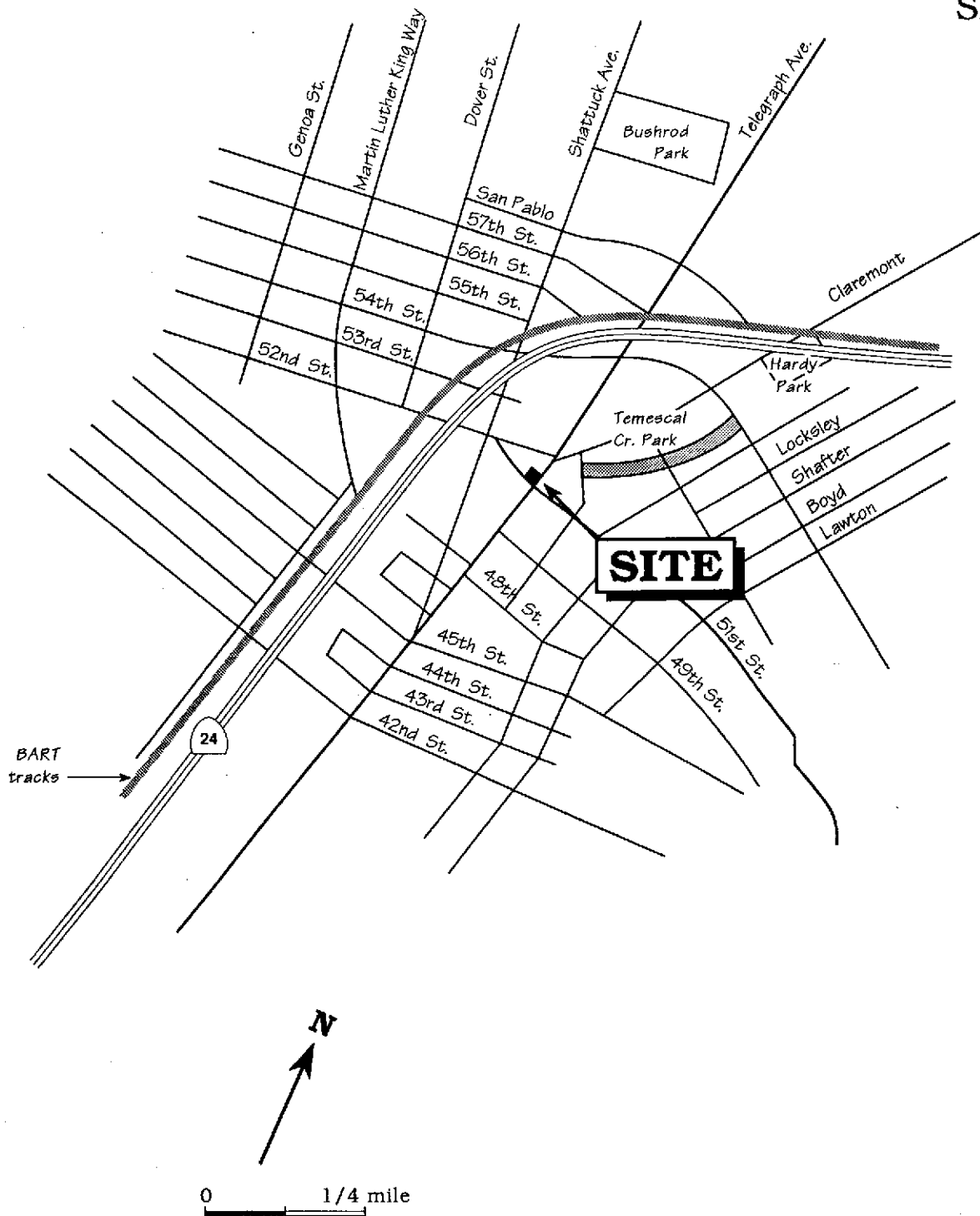
Sincerely,  
Sierra Environmental Services

Carol Eaton  
Staff Environmental Scientist

Chris J. Bramer  
Professional Engineer #C48846

CE/CJB/ly  
20304QM.SE2


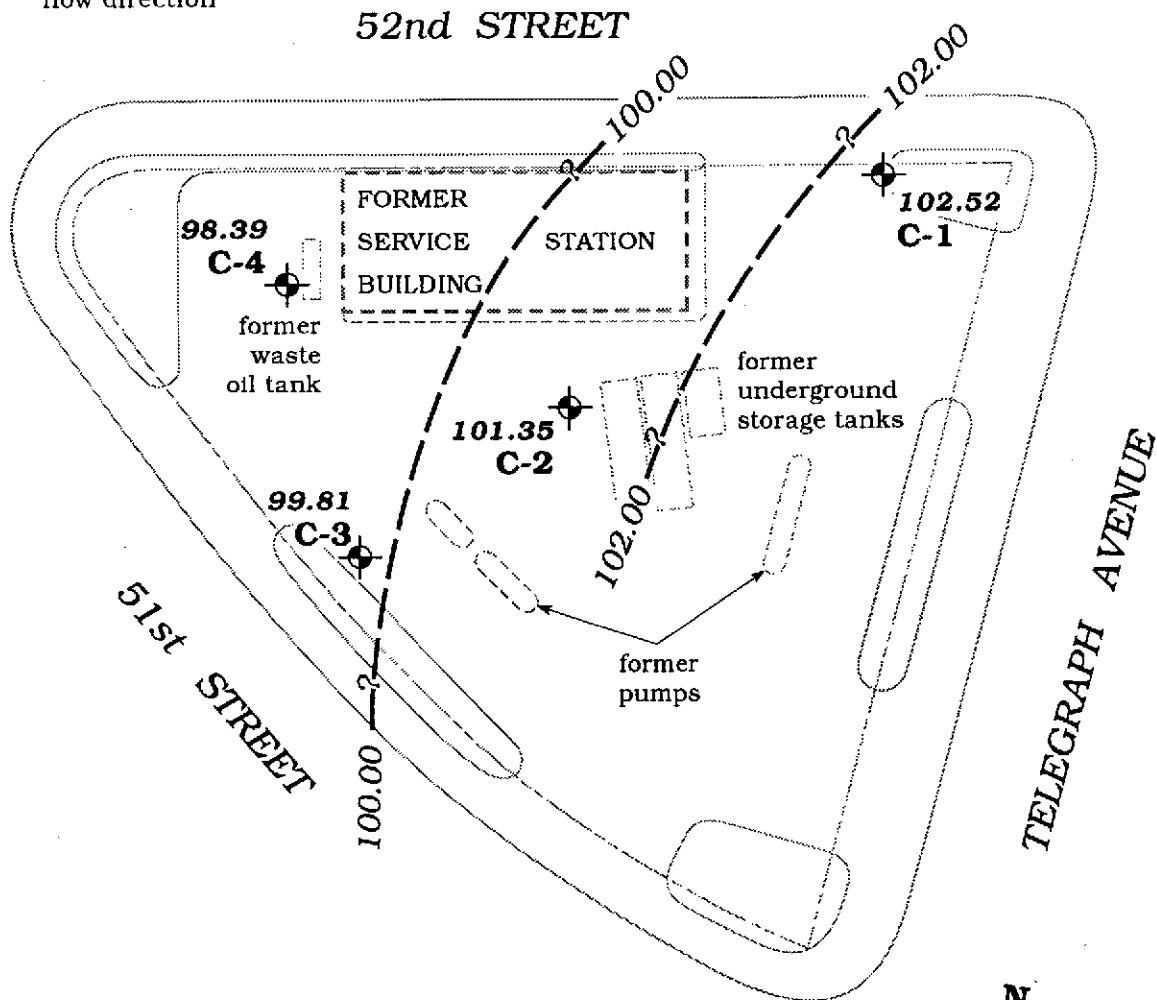
Appendices A - Figures  
B - Tables  
C - SES Standard Operating Procedure  
D - Chain of Custody Document and Laboratory Analytic Reports





Base map ref: California Automobile Association (AAA)

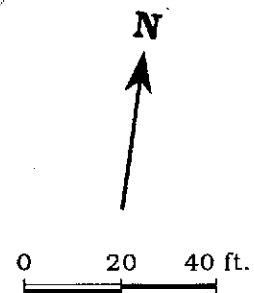
Figure 1. Site Location Map - Former Chevron Service Station #9-3864, 5101 Telegraph Avenue, Oakland, California

Approximate  
ground water  
flow direction

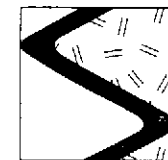
**EXPLANATION**

-  **C-4**      Monitoring well
- 98.39**      Ground water elevation, in feet
-  **102.00**      Ground water elevation contour, dashed where inferred, queried where uncertain



Base map after: GeoStrategies Inc.

Figure 2. Monitoring Well Location and Ground Water Elevation Contour Map - September 16, 1992 - Former Chevron Service Station #9-3864, 5101 Telegraph Avenue, Oakland, California



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Table 1. Water Level Data and Well Construction Details - Chevron Service Station #9-3864, 5101 Telegraph Avenue, Oakland, California

| Well ID | Date Measured  | DTW (ft)     | TOC (ft) | GWE (msl)     | Product Thickness* (ft) | Screen Interval             |        |       |
|---------|----------------|--------------|----------|---------------|-------------------------|-----------------------------|--------|-------|
|         |                |              |          |               |                         | -----feet below grade-----> |        |       |
| C-1     | 12/6/90        | 15.34        | 117.45   | 102.11        | 0                       | 10 - 29.5                   | 8 - 30 | 0 - 8 |
|         | 6/6/91         | 14.62        |          | 102.83        | 0                       |                             |        |       |
|         | 12/4/91        | 14.48        |          | 102.97        | 0                       |                             |        |       |
|         | 6/2/92         | 14.53        |          | 102.92        | 0                       |                             |        |       |
|         | <b>9/16/92</b> | <b>14.93</b> |          | <b>102.52</b> | <b>0</b>                |                             |        |       |
| C-2     | 12/6/90        | 15.34        | 116.16   | 100.82        | 0                       | 10 - 29.5                   | 8 - 30 | 0 - 8 |
|         | 6/6/91         | 14.62        |          | 101.54        | 0                       |                             |        |       |
|         | 12/4/91        | 15.43        |          | 100.73        | 0                       |                             |        |       |
|         | 6/2/92         | 14.42        |          | 101.74        | 0                       |                             |        |       |
|         | <b>9/16/92</b> | <b>14.81</b> |          | <b>101.35</b> | <b>0</b>                |                             |        |       |
| C-3     | 12/6/90        | 16.86        | 115.70   | 98.84         | 0                       | 10 - 29.5                   | 8 - 30 | 0 - 8 |
|         | 6/6/91         | 15.69        |          | 100.01        | 0                       |                             |        |       |
|         | 12/4/91        | 15.38        |          | 100.32        | 0                       |                             |        |       |
|         | 6/2/92         | 15.40        |          | 100.30        | 0                       |                             |        |       |
|         | <b>9/16/92</b> | <b>15.89</b> |          | <b>99.81</b>  | <b>0</b>                |                             |        |       |
| C-4     | 12/6/90        | 17.68        | 116.10   | 98.42         | 0                       | 10 - 29.5                   | 8 - 30 | 0 - 8 |
|         | 6/6/91         | 16.49        |          | 99.61         | 0                       |                             |        |       |
|         | 12/4/91        | 16.82        |          | 99.28         | 0                       |                             |        |       |
|         | 6/2/92         | 16.92        |          | 99.18         | 0                       |                             |        |       |
|         | <b>9/16/92</b> | <b>17.71</b> |          | <b>98.39</b>  | <b>0</b>                |                             |        |       |

EXPLANATION:

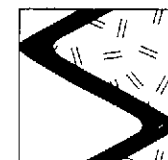
DTW = Depth to water  
 TOC = Top of casing elevation  
 GWE = Ground water elevation  
 msl = Measurements referenced relative to mean sea level

NOTES:

Depth to water measurements and top of casing elevations prior to June 6, 1991 were compiled from the January 17, 1991 Site Update Report prepared for this service station by GeoStrategies, Inc. of Hayward, California.

Well construction details were compiled from November 14 and 15, 1990 boring logs by GeoStrategies, Inc.

\* Product thickness was measured by GeoStrategies, Inc. on December 6, 1990 with an electronic oil-water interface probe. SES product thickness measurements after 12/6/90 were made with an MMC flexi-dip interface probe.



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Table 2. Analytic Results for Ground Water - Chevron Service Station #9-3864, 5101 Telegraph Avenue, Oakland, California

| Well ID    | Date Sampled          | Analytic Lab | Analytic Method | TPPH(G)         | B    | T    | E    | X    |
|------------|-----------------------|--------------|-----------------|-----------------|------|------|------|------|
|            |                       |              |                 | ←-----ppb-----> |      |      |      |      |
| C-1        | 12/6/90               | SAL          | 8015/8020       | 1,900           | 17   | 11   | 3    | 21   |
|            | 6/6/91                | SAL          | 8015/8020       | 3,400           | 21   | 15   | 11   | 18   |
|            | 12/4/91               | SPA          | 8015/8020       | 2,700           | 22   | 16   | 13   | 23   |
|            | 6/2/92                | SPA          | 8015/8020       | 1,900           | 170  | 170  | 13   | 83   |
|            | 9/16/92               | SPA          | 8015/8020       | 810             | 5.8  | 5.7  | 2.0  | 6.3  |
| C-2        | 12/6/90               | SAL          | 8015/8020       | 210             | 140  | 9    | 2    | 11   |
|            | 6/6/91                | SAL          | 8015/8020       | 4,800           | 340  | 23   | 19   | 23   |
|            | 12/4/91               | SPA          | 8015/8020       | 3,900           | 85   | 15   | 9.1  | 15   |
|            | 6/2/92                | SPA          | 8015/8020       | 3,300           | 76   | 9.2  | 14   | 15   |
|            | 9/16/92               | SPA          | 8015/8020       | 3,000           | 16   | 15   | 3.4  | 7.5  |
| C-3        | 12/6/90               | SAL          | 8015/8020       | 210             | 2    | <0.5 | <0.5 | 1    |
|            | 12/6/90 <sup>1</sup>  | SAL          | 8015/8020       | 220             | 2    | 0.6  | <0.5 | 2    |
|            | 6/6/91                | SAL          | 8015/8020       | 6,400           | 310  | 21   | 16   | 21   |
|            | 12/4/91               | SPA          | 8015/8020       | 5,100           | 120  | 18   | 17   | 20   |
|            | 6/2/92                | SPA          | 8015/8020       | 6,700           | 140  | 44   | 17   | 37   |
|            | 9/16/92               | SPA          | 8015/8020       | 7,100           | 130  | 26   | 12   | 30   |
| C-4        | 12/6/90               | SAL          | 8015/8020       | <50             | <0.5 | <0.5 | <0.5 | <0.5 |
|            | 12/18/90 <sup>2</sup> | SAL          | 8015/8020       | <50             | <0.5 | <0.5 | <0.5 | <0.5 |
|            | 6/6/91                | SAL          | 8015/8020       | <50             | 1.0  | 1.0  | <0.5 | 0.7  |
|            | 12/4/91               | SPA          | 8015/8020       | 70              | 6.5  | 9.8  | 1.7  | 8.6  |
|            | 6/2/92                | SPA          | 8015/8020       | 70              | 3.0  | 4.4  | 1.8  | 9.0  |
|            | 9/16/92               | SPA          | 8015/8020       | <50             | 1.4  | 1.8  | <0.5 | 1.1  |
| Trip Blank | 12/6/90               | SAL          | 8015/8020       | <50             | <0.5 | <0.5 | <0.5 | <0.5 |
|            | 12/18/90 <sup>3</sup> | SAL          | 8015/8020       | <50             | <0.5 | <0.5 | <0.5 | <0.5 |
| (AA)       | 6/6/91                | SAL          | 8015/8020       | <50             | <0.5 | <0.5 | <0.5 | <0.5 |
|            | 12/4/91               | SPA          | 8015/8020       | <50             | <0.5 | <0.5 | <0.5 | <0.5 |
|            | 6/2/92                | SPA          | 8015/8020       | <50             | <0.5 | <0.5 | <0.5 | <0.5 |
|            | 9/16/92               | SPA          | 8015/8020       | <50             | <0.5 | <0.5 | <0.5 | <0.5 |



Table 2. Analytic Results for Ground Water - Chevron Service Station #9-3864, 5101 Telegraph Avenue, Oakland, California (continued)

| Well ID           | Date Sampled | Analytic Lab | Analytic Method | TPPH(G)         | B    | T    | E    | X    |
|-------------------|--------------|--------------|-----------------|-----------------|------|------|------|------|
|                   |              |              |                 | ←-----ppb-----> |      |      |      |      |
| Bailer Blank (BB) | 6/6/91       | SAL          | 8015/8020       | <50             | <0.5 | <0.5 | <0.5 | <0.5 |
|                   | 12/4/91      | SPA          | 8015/8020       | <50             | <0.5 | <0.5 | <0.5 | <0.5 |
|                   | 6/2/92       | SPA          | 8015/8020       | <50             | <0.5 | <0.5 | <0.5 | <0.5 |
|                   | 9/18/92      | SPA          | 8015/8020       | <50             | <0.5 | <0.5 | <0.5 | <0.5 |

EXPLANATION:

TPPH(G) = Total Purgeable Petroleum Hydrocarbons as Gasoline  
 B = Benzene  
 T = Toluene  
 E = Ethylbenzene  
 X = Xylenes  
 ppb = Parts per billion  
 --- = Not analyzed/not applicable

ANALYTIC METHODS:

8015 = EPA Method 8015 for TPPH(G)  
 8020 = EPA Method 8020 for BTEX

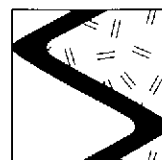
ANALYTIC LABORATORIES:

SAL = Superior Analytical Laboratory of Martinez and San Francisco, California  
 SPA = Superior Precision Analytical, Inc. of Martinez, California

NOTES:

Ground water analytic data from December 6 and 18, 1990 was compiled from the January 17, 1991 Site Update Reports prepared for this service station by GeoStrategies, Inc. of Hayward, California.

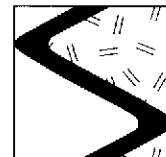
- <sup>1</sup> Duplicate sample.
- <sup>2</sup> C-4 was also analyzed for halogenated volatile organic compounds (HVOCs) by EPA Method 8010, and metals (Cd, Cr, Pb, Ni and Zn) by EPA-approved methods. Two ppb chloroform, 0.18 ppm chromium, 0.25 ppm nickel and 0.23 ppm zinc were detected. Other HVOCs, Cd and Pb were not detected.
- <sup>3</sup> The trip blank was also analyzed for HVOCs. HVOCs were not detected.



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**APPENDIX C**  
SIERRA ENVIRONMENTAL SERVICES  
STANDARD OPERATING PROCEDURES





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## **SES STANDARD OPERATING PROCEDURE GROUND WATER SAMPLING - QUARTERLY MONITORING**

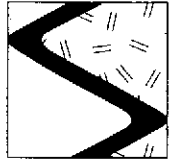
The following describes sampling procedures used by SES field personnel to collect and handle ground water samples. Before samples are collected, careful consideration is given to the type of analysis to be performed so that precautions are taken to prevent loss of volatile components or contamination of the sample, and to preserve the sample for subsequent analysis. Wells will be sampled no less than 24 hours after well development. Collection methods specific to ground water sampling are presented below.

Prior to sampling, each well is checked for the presence of free-phase hydrocarbons using an MMC flexi-dip interface probe. Product thickness (measured to the nearest 0.01 foot) is noted on the sampling form. Water level measurements are also made using either a water level meter or the interface probe. The water level measurements are also noted on the sampling form.

Prior to sampling, each well is purged of a minimum of three well casing volumes of water using a steam-cleaned PVC bailer, or a pre-cleaned pump. Temperature, pH and electrical conductivity are measured during purging. Purging is continued until these parameters have stabilized for consecutive readings.

Ground water samples are collected from the wells with steam-cleaned Teflon bailers. The water samples are decanted into the appropriate container for the analysis to be performed. Pre-preserved sample containers may be used or the analytic laboratory may add preservative to the sample upon arrival. Duplicate samples are collected from each well as a back-up sample and/or to provide quality control. The samples are labeled to include the project number, sample ID, date, preservative, and the field person's initials. The samples are placed in polyethylene bags and in an ice chest (maintained at 4°C with blue ice or ice) for transport under chain of custody to the laboratory.

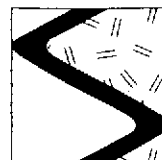
The chain of custody form includes the project number, analysis requested, sample ID, date analysis and the SES field person's name. The form is signed and dated (with the transfer time) by each person who yields or receives the samples beginning with the field personnel and ending with the laboratory personnel.



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A trip blank and bailer blank accompanies each sampling set, or 5% trip blanks and 5% bailer blanks are included for sets of greater than 20 samples. The bailer blank is prepared by pouring previously boiled water into a steam-cleaned Teflon bailer prior to sampling a well. The trip and bailer blanks are analyzed for some or all of the same compounds as the ground water samples.

CWS-QMP2.SOP



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**APPENDIX D**  
**CHAIN OF CUSTODY DOCUMENT AND**  
**LABORATORY ANALYTIC REPORTS**





# Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

Sierra Environmental  
Attn: Chris Bramer

Project 1-203-04  
Reported 09/25/92

## TOTAL PETROLEUM HYDROCARBONS

| Lab #    | Sample Identification | Sampled  | Analyzed Matrix |
|----------|-----------------------|----------|-----------------|
| 86726- 1 | TB-LB                 | 09/16/92 | 09/22/92 Water  |
| 86726- 2 | BB                    | 09/16/92 | 09/22/92 Water  |
| 86726- 3 | C-4                   | 09/16/92 | 09/22/92 Water  |
| 86726- 4 | C-1                   | 09/16/92 | 09/22/92 Water  |
| 86726- 5 | C-2                   | 09/16/92 | 09/22/92 Water  |
| 86726- 6 | C-3                   | 09/16/92 | 09/22/92 Water  |

## RESULTS OF ANALYSIS

Laboratory Number: 86726- 1 86726- 2 86726- 3 86726- 4 86726- 5

|                |        |        |        |     |      |
|----------------|--------|--------|--------|-----|------|
| Gasoline:      | ND<50  | ND<50  | ND<50  | 810 | 3000 |
| Benzene:       | ND<0.5 | ND<0.5 | 1.4    | 5.8 | 16   |
| Toluene:       | ND<0.5 | ND<0.5 | 1.8    | 5.7 | 15   |
| Ethyl Benzene: | ND<0.5 | ND<0.5 | ND<0.5 | 2.0 | 3.4  |
| Xylenes:       | ND<0.5 | ND<0.5 | 1.1    | 6.3 | 7.5  |

Concentration: ug/L ug/L ug/L ug/L ug/L

Laboratory Number: 86726- 6

|                |      |
|----------------|------|
| Gasoline:      | 7100 |
| Benzene:       | 130  |
| Toluene:       | 26   |
| Ethyl Benzene: | 12   |
| Xylenes:       | 30   |

Concentration: ug/L



# Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229 1512 / fax (510) 229 1526

## C E R T I F I C A T E   O F   A N A L Y S I S

### ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

Page 2 of 2  
QA/QC INFORMATION  
SET: 86726

NA = ANALYSIS NOT REQUESTED  
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT  
ug/L = parts per billion (ppb)

OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:  
Minimum Detection Limit in Water: 5000ug/L

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:  
Minimum Quantitation Limit for Diesel in Water: 50ug/L

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:  
Minimum Quantitation Limit for Gasoline in Water: 50ug/L

EPA SW-846 Method 8020/BTXE  
Minimum Quantitation Limit in Water: 0.5ug/L

| ANALYTE        | SPIKE LEVEL | MS/MSD RECOVERY | RPD | CONTROL LIMIT |
|----------------|-------------|-----------------|-----|---------------|
| Gasoline:      | 200 ng      | 88/92           |     | 70-130        |
| Benzene:       | 200 ng      | 101/100         |     | 70-130        |
| Toluene:       | 200 ng      | 100/99          |     | 70-130        |
| Ethyl Benzene: | 200 ng      | 104/102         |     | 70-130        |
| Xylenes:       | 200 ng      | 105/104         |     | 70-130        |

Richard Sina, Ph.D.

  
Laboratory Director