



ENVIRONMENTAL  
PROTECTION

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THIRD QUARTER GROUNDWATER MONITORING REPORT

for the

FORMER UNDERGROUND STORAGE TANK #9  
SANTA RITA PROPERTY  
Santa Rita, California

Prepared for:

COUNTY OF ALAMEDA  
GENERAL SERVICES AGENCY  
Energy & Environmental Management Department  
1401 Lakeside Drive  
Oakland, California 94612

Prepared by:

VERSAR, INC.  
1255 Harbor Bay Parkway, Suite 100  
Alameda, California 94502

Versar Project No. 2241-019

February 27, 1995




## EXECUTIVE SUMMARY

The County of Alameda General Services Agency (GSA) retained Versar, Inc. (Versar) to install one groundwater monitoring well and perform four quarters of groundwater monitoring at the former underground storage tank (UST) #9 site located in Santa Rita, California (site). The monitoring program is being performed to assess groundwater conditions and potential impact from fuel oil hydrocarbons stored in the former UST. The site location and layout is shown in Figures 1 and 2.

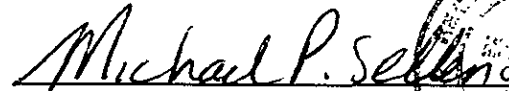
Laboratory analytical results of the third quarterly sampling event indicated that total petroleum hydrocarbons as diesel (TPH-D), and the constituents benzene, toluene, ethylbenzene and xylenes (BTEX) were not present in the groundwater sample at concentrations above the selected analytical method detections limits. Similarly, these hydrocarbon analytes were not reported present in the groundwater collected during the first quarterly sampling event. During the second quarterly groundwater sampling benzene was reported at a concentration of 0.52 micrograms per liter ( $\mu\text{g/l}$ ). This concentration however, is below the California Maximum Contaminant Level of 1.0  $\mu\text{g/l}$  (Versar, 1994).

Presently, Versar plans to conduct one further round of groundwater monitoring at the site as scheduled. If hydrocarbon constituents are not reported to be present in the final scheduled sampling of the monitoring program, Versar, on behalf of the GSA, will request to the Alameda County Health Care Services Agency that the former UST site be granted site closure. In the event that diesel range hydrocarbon or benzene, toluene, ethylbenzene and xylenes (BTEX) constituents are detected during the subsequent sampling event, Versar will compare the data to regulatory guidelines and present appropriate recommendations.

**Versar** INC.

  
Terrence J. Kinn  
Project Geologist

Approved for Release by:

  
Michael P. Sellens, R.G. 4714  
Manager, Geoscience Department

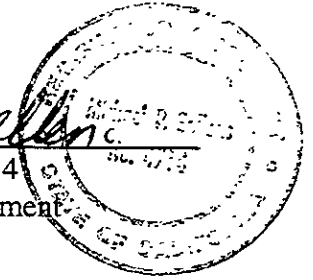




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# General Services Agency

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Darlene A. Smith, Director

March 2, 1995

Mr. Scott Seery, CHMM  
Senior Hazardous Materials Specialist  
Department of Environmental Health  
1131 Harbor Bay Parkway, 2nd Floor  
Alameda, California 94502

SUBJECT: THIRD QUARTER GROUNDWATER MONITORING REPORT FOR  
FORMER UNDERGROUND STORAGE TANK #9,  
SANTA RITA PROPERTY, SANTA RITA, CALIFORNIA

Dear Mr. Seery:

Enclosed for your review are two copies of the *February 27, 1995 Third Quarter Groundwater Monitoring Report for the Former Underground Storage Tank #9, Santa Rita Property, Santa Rita, California*. This report was prepared by Versar, Inc., environmental consultant.

The County of Alameda has demonstrated three consecutive quarters of groundwater monitoring at the UST #9 site in which the laboratory results for TPH-D and BTEX are well below the Maximum Contaminant Levels for drinking water. We plan to continue groundwater monitoring for one additional quarter. The last quarterly sampling is presently scheduled for early March. Assuming analytical results remain below the Maximum Contaminant Levels for drinking water, the County of Alameda will request site closure for the UST #9 site.

If you have any questions, please call me at (510) 208-9522.

Sincerely,

Rod Freitag, P.E.  
Environmental Project Manager

enclosure

cc: Mr. Tom Peacock, Department of Environmental Health  
Mr. Patrick Cashman, Surplus Property Authority

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File: Project #93-7058, Bldg. #2282



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## 1.0 INTRODUCTION

This report presents the results of the third quarterly groundwater sampling performed December 30, 1994 for the former underground storage tank (UST) #9 located at the Santa Rita Property, Santa Rita, California (site). The site location and layout are provided in Figures 1 and 2. The County of Alameda General Services Agency (GSA) retained Versar, Inc. (Versar) to install one groundwater monitoring well adjacent to the former UST #9 location, and perform four quarters of groundwater monitoring. This work is being performed on behalf of GSA pursuant to directives issued by the Alameda County Health Care Services Agency (ACHCSA). The ACHCSA directed GSA to implement a groundwater monitoring program to assess groundwater conditions and potential groundwater impact related to the use and storage of fuel oil hydrocarbons at the former UST location.

## 2.0 BACKGROUND

On November 20, 1990, a 1,500 gallon fuel oil storage tank was excavated and removed from the site by Certified Environmental Consultants, Inc. Laboratory results of native soil samples collected from beneath UST #9 following the removal, were reported to contain elevated concentrations of total petroleum hydrocarbons as diesel (TPH-D) (CEC, 1990). As a result, ACHCSA requested a groundwater monitoring program be conducted for a one year period.

### 3.0 GROUNDWATER SAMPLING

Prior to purging, the bailer used to purge the well was washed in Liquinox detergent solution, rinsed in a two tap-water bathes and final rinsed with deionized water. Additionally the depth to water in the well and the total well depth were measured in order to calculate the volume of groundwater in the well.

The monitoring well was purged until dry (approximately 2.5 casing volumes) of water using a three inch diameter polyvinyl chloride (PVC) bailer and dedicated nylon rope. Procedures used for well purging included the measurement of hydrologic parameters for temperature, pH, and conductivity, an average of three times per well volume. The data observed during well purging was recorded on a Monitoring Well Purge Table (Appendix A) to document stabilization of these parameters to within a relative variance of less than ten percent. Bailing of the well was terminated at approximately 11.50 gallons due to insufficient recharge. The well was allowed to recover to within 80 percent of the static water level prior to sample collection.

Collection of the groundwater sample was accomplished using a dedicated pre-cleaned polyethylene bailer and nylon rope. The groundwater sample was transferred from the bailer to the laboratory supplied containers using a bottom emptying device. Sample containers were then labeled with the appropriate identification number (SR9-2W), date and time of collection, Versar project number, and placed in an insulated chest with ice. Sample collection handling and transport to the laboratory were documented following standard Versar chain-of-custody procedures.



#### 4.0 LABORATORY ANALYTICAL PROGRAM

The groundwater sample was analyzed for TPH-D by California Department of Health Services (DHS) Method, and benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8020. The groundwater sample was submitted to Trace Analysis Laboratory, a state-certified hazardous waste laboratory for analysis.

TPH-D, and BTEX were not reported present in the sample above the laboratory's method reporting limits. A copy of the laboratory analytical report is included in Appendix B. A summary of the results from the TPH-D and BTEX analyses for the first, second and third quarter monitorings are presented in Table 1.

**TABLE 1  
SUMMARY OF QUARTERLY GROUNDWATER  
SAMPLING ANALYTICAL RESULTS<sup>1</sup>**

SAMPLE DATE	TPH-D	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES
14-JUN-94	ND <sup>2</sup>	ND	ND	ND	ND
30-SEP-94	ND	0.52	ND	ND	ND
30-DEC-94	ND	ND	ND	ND	ND
MDL <sup>3</sup>	50	0.50	0.50	0.50	1.50
MCL <sup>4</sup>	NA	1.0	100 <sup>5</sup>	680	1,750

- Notes:
1. All results reported in micrograms per liter.
  2. ND = constituent not detect at or above the analytical method detection limit.
  3. MDL = method detection limit.
  4. MCL = maximum contaminant level.
  5. California Action Level (EPA, 1994).



## 5.0 FUTURE ACTIVITIES

One remaining groundwater monitoring event is scheduled for March 1995. If no groundwater impairment is reported following the final round of sampling, case closure for this site will be requested.

## 6.0 RECOMMENDATIONS

Groundwater analytical results did not report detectable concentrations of TPH-D or BTEX. If diesel range hydrocarbons or its BTEX constituents are not detected in the groundwater sample collected during the final upcoming sampling event, Versar, on behalf of the GSA, will recommend that the former UST site be granted site closure. However, in the event that diesel range hydrocarbons or any of the BTEX constituents are to be detected in the groundwater sample during the upcoming monitoring event Versar will compare the data with applicable regulatory guidelines and present recommendations to GSA at that time.



## 7.0 REFERENCES

CEC, 1990, Certified Environmental Consulting Inc., Underground Storage Tank Removal Report, December 11, 1990.

EPA, 1994, United States Environmental Protection Agency, Region IX, Drinking Water Standards and Health Advisories, July 1994.

Versar, 1994, Second Quarter GW Monitoring Report for the Santa Rita Property, Former Underground Storage Tank #9., Santa Rita CA, November 29, 1994.

## 8.0 LIMITATIONS

The data presented and the opinions expressed in this report are qualified as follows:

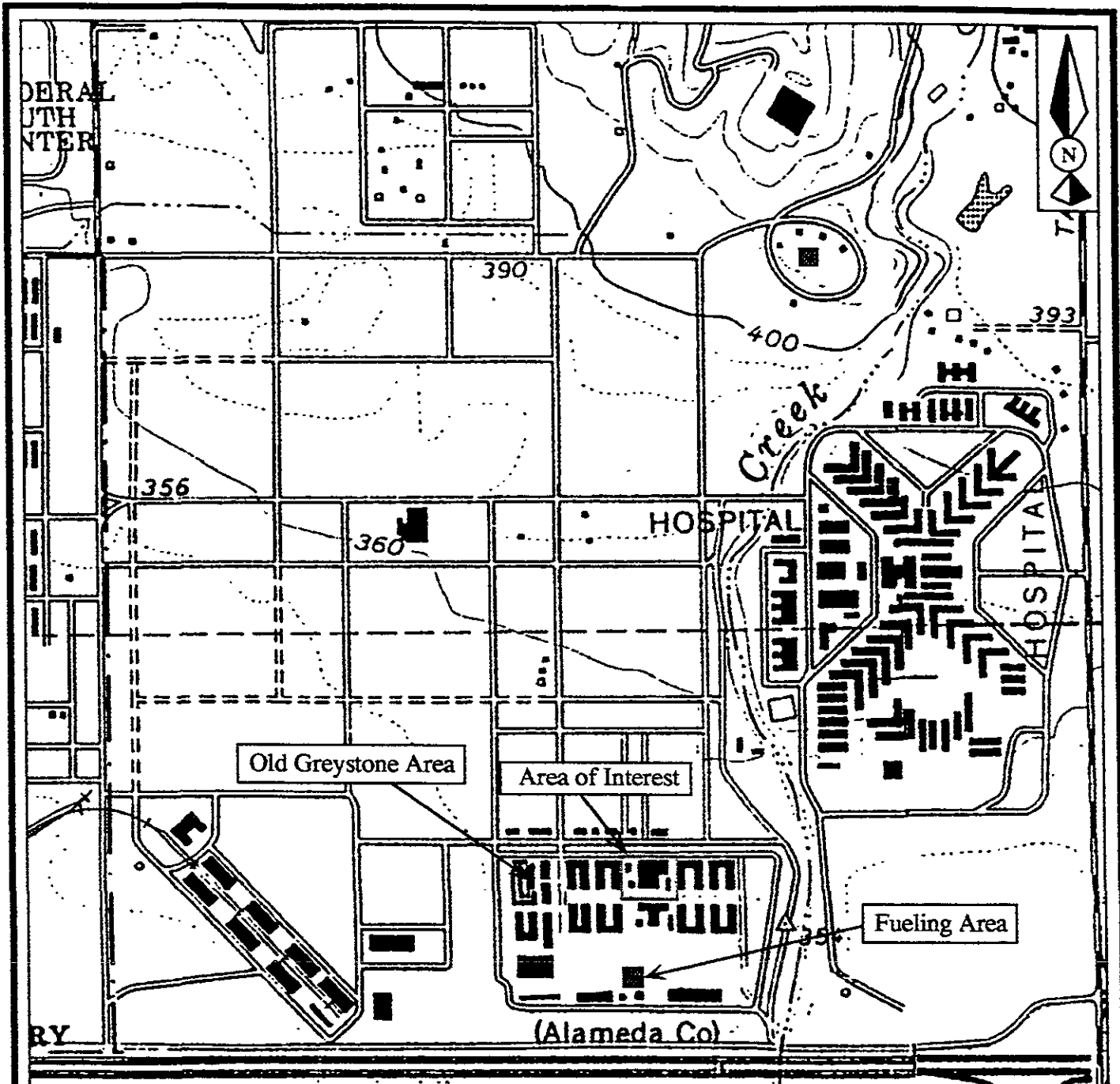
- The sole purpose of the investigation and of this report is to assess the physical characteristics of the Site with respect to the presence or absence of oil or hazardous materials and substances in the environment as defined in the applicable state and federal environmental laws and regulations and to gather information regarding current and past environmental conditions at the Site.
- Versar derived the data in this report primarily from visual inspections, examination of records in the public domain, interviews with individuals with information about the Site, and a limited number of environmental samples, as indicated by the Scope of Services for the Site. The passage of time, manifestation of latent conditions, or occurrence of future events may require further exploration at the Site, analysis of the data, and reevaluation of the findings, observations, conclusions, and recommendations expressed in the report.
- In preparing this report, Versar has relied upon and presumed accurate certain information (or the absence thereof) about the Site and adjacent properties provided by governmental officials and agencies, the Client, and others identified herein. Except as otherwise stated in the report, Versar has not attempted to verify the accuracy or completeness of such information.
- The data reported and the findings, observations, conclusions, and recommendations expressed in the report are limited by the Scope of Services, including the extent of environmental sampling and other tests. The Scope of Services was defined by the

requests of the Client, the time and budgetary constraints imposed by the Client, and the availability of access to the Site.

- Because of the limitations stated above, the findings, observations, conclusions and recommendations expressed by Versar in this report are limited to the information obtained and the surface and subsurface investigation undertaken and should not be considered an opinion concerning the compliance of any past or current owner or operator of the Site with any federal, state, or local law or regulation. No warranty or guarantee, whether express or implied, is made with respect to the data reported or findings, observations, conclusions, and recommendations expressed in this report. Further, such data, findings, observations, conclusions, and recommendations are based solely upon Site conditions in existence at the time of investigation.
- This report has been prepared on behalf of and for the exclusive use of the Client, and is subject to and issued in connection with the Agreement and the provisions thereof.

**Versar** INC.

FIGURES

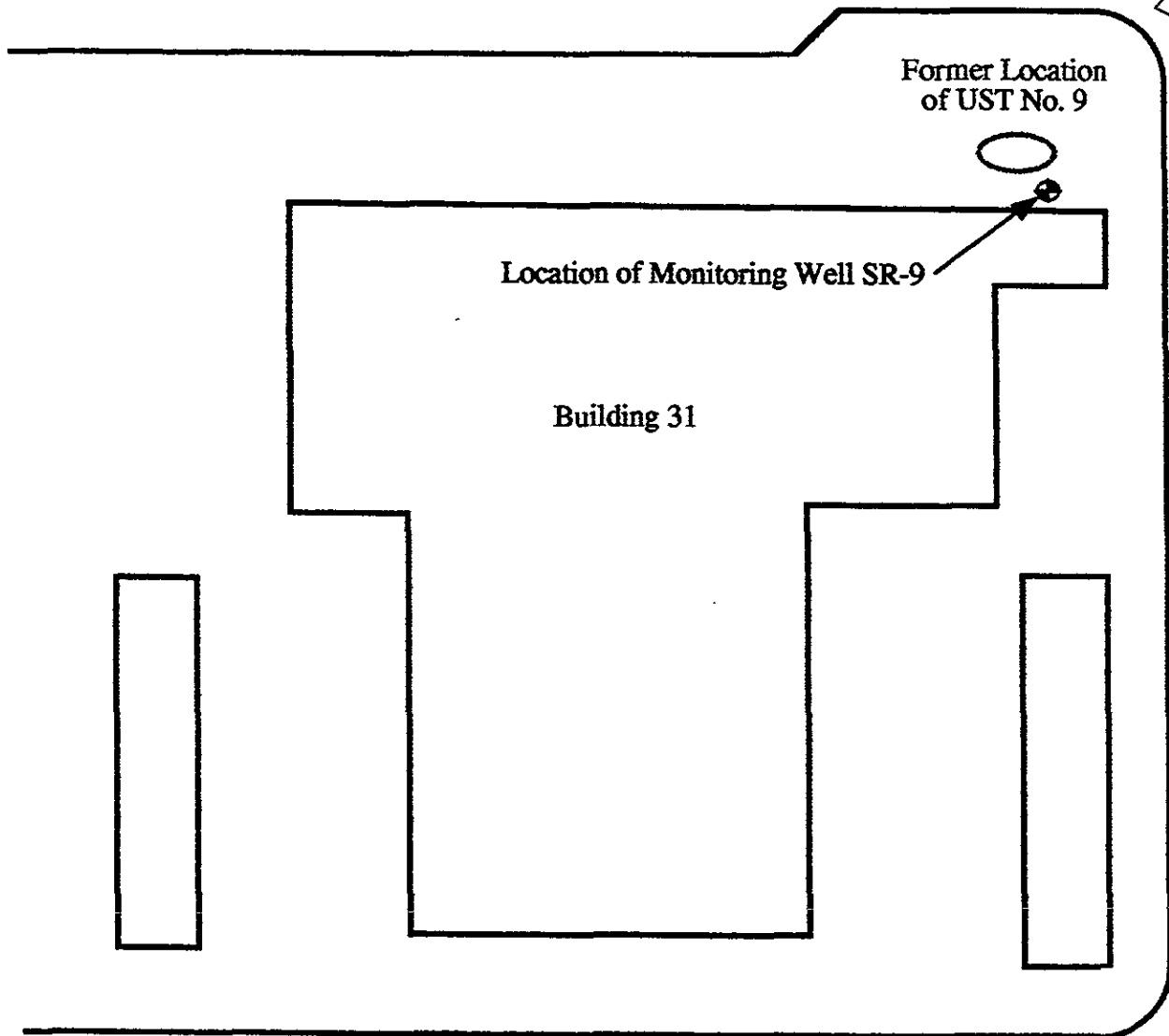


Legend

■ Excavated Tank Site

Adapted from USGS Topographic Maps, Livermore and Dublin Quads, California

Not to Scale	Site Plan	Figure 1
Project No. 2241-019	Santa Rita Property Pleasanton, California	Versar, Inc.



Former Location  
of UST No. 9

Location of Monitoring Well SR-9

Building 31

Not to Scale

Site Layout

Figure 2

Project No. 2241-019

Santa Rita Property  
Pleasanton, California

Versar, Inc.



APPENDIX A

Monitoring Well Purge Table



### MONITORING WELL PURGE TABLE

Project Number: 2241-019			Site Name: Santa Rita #9		
Well Number: SR9			Date(s) Purged: 12/30/94		
OVA - Ambient: --			Purge Method: 3-inch PVC bailer		
OVA - Vault: --			Purge Rate: 0.43 gallon/minute		
OVA - Casing: --			Date & Time Sampled: 12/30/94; 12:30		
Water Level - Initial: 29.47 feet			Purged & Sampled By: J. Harris		
Water Level - Final: 30.80 feet			Sampling Method: Polyethylene bailer		
Well Depth: 36.31			Free Product: None		
Well Diameter: 4-inches			Sheen: None		
Well Casing Volume: 4.45 gallons			Odor: None		
Time	Purge Water Removed	Temperature (degrees F)	pH	Electrical Conductivity (µs/cm)	Turbidity
10:47	0.0	66.0	7.10	2420	moderate
10:50	2.5	65.5	7.12	2370	high
10:52	3.5	65.0	7.23	2250	high
10:55	4.5	64.8	7.34	2290	high
10:58	6.0	65.0	7.47	2180	high
11:01	7.5	64.9	7.99	2230	high
11:04	9.0	65.2	8.36	2270	high
11:09	10.5	65.0	8.48	2120	high
11:14	11.5	64.8	8.52	2090	high
12:30	Sample	67.1	7.41	2510	very low
Field Notes: Well purged dry at 11.5 gallons					



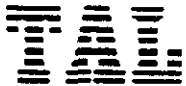
APPENDIX B

Laboratory Analytical Report

Trace Analysis Laboratory, Inc.

3423 Investment Boulevard, #8 • Hayward, California 94545

Telephone (510) 783-6960  
Facsimile (510) 783-1512



January 9, 1995

Mr. Terrence Kinn  
Versar, Inc.  
1255 Harbor Bay Parkway, Suite 100  
Alameda, CA 94501.

Dear Mr. Kinn:

Trace Analysis Laboratory received one water sample on December 30, 1995 for your Project No. 2241-019, Santa Rita (our custody log number 5058).

This sample was analyzed for Total Petroleum Hydrocarbons as Diesel, Benzene, Toluene, Ethylbenzene, and Xylenes. Our analytical report and the completed chain of custody form are enclosed for your review.

Trace Analysis Laboratory is certified under the California Environmental Laboratory Accreditation Program. Our certification number is 1199.

If you should have any questions or require additional information, please call me.

Sincerely yours,

A handwritten signature in cursive script that reads "Scott T. Ferriman".

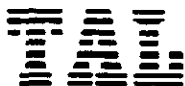
Scott T. Ferriman  
Project Specialist

Enclosures

**Trace Analysis Laboratory, Inc.**

3423 Investment Boulevard, #8 • Hayward, California 94545

Telephone (510) 783-6960  
Facsimile (510) 783-1512



LOG NUMBER: 5058  
DATE SAMPLED: 12/30/94  
DATE RECEIVED: 12/30/94  
DATE EXTRACTED: 01/03/95  
DATE ANALYZED: 01/06/95  
DATE REPORTED: 01/09/95

CUSTOMER: Versar, Inc.  
REQUESTER: Terrence Kinn  
PROJECT: No. 2241-019, Santa Rita

Sample Type: Water

<u>Method and Constituent:</u>	<u>Units</u>	<u>SR9-2W</u>		<u>Method Blank</u>	
		<u>Concen- tration</u>	<u>Reporting Limit</u>	<u>Concen- tration</u>	<u>Reporting Limit</u>
DHS Method: Total Petroleum Hydro- carbons as Diesel	ug/l	ND	50	ND	50

QC Summary:

% Recovery: 102  
% RPD: 4.9

Concentrations reported as ND were not detected at or above the reporting limit.



LOG NUMBER: 5058  
DATE SAMPLED: 12/30/94  
DATE RECEIVED: 12/30/94  
DATE ANALYZED: 01/05/95  
DATE REPORTED: 01/09/95  
PAGE: Two


Sample Type: Water

<u>Method and Constituent:</u>	<u>Units</u>	<u>SR9-2W</u>		<u>Method Blank</u>	
		<u>Concen- tration</u>	<u>Reporting Limit</u>	<u>Concen- tration</u>	<u>Reporting Limit</u>
Modified EPA Method 8020 for:					
Benzene	ug/l	ND	0.50	ND	0.50
Toluene	ug/l	ND	0.50	ND	0.50
Ethylbenzene	ug/l	ND	0.50	ND	0.50
Xylenes	ug/l	ND	1.5	ND	1.5

QC Summary:

% Recovery: 82  
% RPD: 7.8

Concentrations reported as ND were not detected at or above the reporting limit.

  
Louis W. DuPuis  
Quality Assurance/Quality Control Manager

PROJECT NO.		PROJECT NAME				PARAMETERS								INDUSTRIAL HYGIENE SAMPLE						
2241-019		SANTA RITA												Y N						
SAMPLERS: (Signature)					(Printed)					REMARKS										
<i>[Signature]</i>					NATHAN HARRIS															
FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS														
SR9-2W	12/30	1230		X	SANTA RITA #9	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Relinquished by: (Signature)			Date / Time		Received by: (Signature)			Relinquished by: (Signature)			Date / Time		Received by: (Signature)							
<i>[Signature]</i>			12/30/11:45 AM		<i>[Signature]</i>															
(Printed)					(Printed)			(Printed)					(Printed)							
NATHAN HARRIS																				
Relinquished by: (Signature)			Date / Time		Received for Laboratory by: (Signature)			Date / Time		Remarks										
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					Scott T. Ferrman															