

TR013

Review to
STB 1709
1/23/01

JAN 17 2002

**REPORT FOR FOURTH QUARTER 2001
GROUNDWATER MONITORING AT**

**A&C Auto Service
186 E. Lewelling Boulevard
San Lorenzo, California**

**Prepared for
Mr. Carl Graffenstatte
Graffenstatte Property**

PROPERTY OWNER
ZNDM RP

**Prepared by
Sierra Environmental, Inc.**

**January 15, 2002
Project 01-137.04**



Sierra Environmental, Inc.
Environmental Consultants

January 15, 2002
Project 01-137.04

Mr. Carl Graffenstatte
P.O. Box 97397
Tacoma, WA 98497

Subject: Report for Fourth Quarter 2001 Groundwater Monitoring at A&C Auto Service, 186 E. Lewelling Boulevard, San Lorenzo, California

Dear Mr. Graffenstatte:

Sierra Environmental, Inc. (Sierra) is pleased to submit this report summarizing the results of the fourth quarter 2001 groundwater monitoring event which we conducted at the subject location, hereafter, referred to as Site. Site location is shown in Figure 1. This monitoring event was requested by Alameda County Health Care Services (ACHCS) in a letter dated February 23, 2001. As part of a case closure procedure, ACHCS requested that quarterly groundwater monitoring should be resumed at the Site. The purpose of the groundwater monitoring is to determine whether gasoline constituents in groundwater beneath the Site remain stable and decrease with natural attenuation.

Sierra obtained and recorded groundwater data, and collected groundwater samples from three groundwater monitoring wells (MW1 through MW3) at the Site for chemical analysis. Sierra submitted the samples to Entech Analytical Labs, Inc. (Entech) of Santa Clara, California. Entech is a State-certified analytical laboratory (# 2346).

BACKGROUND

On September 5, 1990, three underground storage tanks (USTs) were removed from the Site. The USTs consisted of two 4,000-gallon gasoline and one 350-gallon waste oil tanks. The approximate location of the USTs is shown in the enclosed Figure 2.

1670 Newhall St., Suite 212
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After removal, four soil samples were collected from beneath the gasoline tanks.

One soil sample was also collected from beneath the waste oil tank.

Up to 4,000 parts per million (ppm) total petroleum hydrocarbons as gasoline (TPHG) and 1.3 ppm benzene were detected in the soil samples collected from beneath the gasoline tanks.

On June 14 and 15, 1994, CET Environmental Services, Inc. (CET) constructed groundwater monitoring wells MW1, MW2, and MW3 to evaluate groundwater condition beneath the Site. CET performed the last groundwater monitoring event in September 11, 1995. The results "Third Quarter 1995 Groundwater Monitoring Report" indicated that groundwater depths ranged between 15.37 to 16.20 feet below top of well casings with a west/northwesterly flow direction. Analytical results showed 0.05 ppm, 39 ppm, and 49 ppm TPHG in groundwater samples collected from MW1 through MW3, respectively.

Sierra understands that CET performed a precision off-site soil and groundwater sampling as part of delineating groundwater impact at the Site on October 17, 1995. According to Plate 2 provided by CET, up to 21 ppm TPHG and 0.088 ppm benzene were detected in the groundwater samples collected off-site, near or at Lewelling Boulevard during this sampling event.

On April 16, 1999, Sierra Environmental, Inc. performed one groundwater monitoring episode at the Site. Groundwater was measured at approximately 12 to 13 feet below top of well casings with a southeast flow direction. 0.16 ppm, 50 ppm, and 16 ppm TPHG were detected in MW1 through MW3, respectively. 25 parts per billion (ppb) and 10 ppb benzene were detected in MW2 and MW3 respectively. No methyl tertiary butyl ether (MTBE) was detected in any of the groundwater samples.

On March 21, 2001, Sierra's field personnel measured the groundwater levels at MW1 through MW3 using an electronic sounder. Depth of groundwater ranged approximately 13.5 to 14.5 below top of the well casings. Groundwater flow direction remained to be toward northwest with a gradient of 0.001 ft/ft. Table I presents the groundwater measurement data.

On June 26, 2001, Sierra performed the second quarterly groundwater monitoring at the Site. The results are presented in Table I and II.

On September 18, 2001, Sierra performed the third quarterly groundwater monitoring at the Site. Depth of groundwater ranged approximately 16 to 17 below top of the well casings. Groundwater flow direction was changed toward northwest with a gradient of 0.004 ft/ft. Table I presents the groundwater measurement data.

GROUNDWATER MONITORING

On December 31, 2001, Sierra's field personnel measured the groundwater levels at MW1 through MW3 using an electronic sounder. Depth of groundwater ranged approximately 14 to 15 below top of the well casings. Groundwater flow direction was toward northwest with a gradient of 0.005 ft/ft. Table I presents the groundwater measurement data.

Sierra's field personnel purged the wells using bailers and peristaltic pump. Temperature, and conductivity of groundwater was recorded during the purging activities to affirm that groundwater in the wells have stabilized. After completion of the purging, groundwater samples MW1 through MW3 were collected from the wells. After collection, the groundwater from each well was transferred into clean volatile organic analysis (VOA) vials. The VOAs were sealed with Teflon[®]-septum screw caps, labeled, placed in a cooler, and delivered to Entech with chain-of-custody documentation.

All sampling and measurement equipment were washed with Liqui-Nox[®] (a phosphate free laboratory detergent), and rinsed with tap water at each measurement and sampling interval. Purged and wash water were stored in a 55-gallon drum at a designated location at the Site. Sierra's quality control/quality assurance (QA/QC) protocol is presented in Appendix A.

CHEMICAL ANALYSIS

The samples were analyzed for TPHG using the United States Environmental Protection Agency (EPA) modified method 8015, and for benzene, toluene, ethyl benzene, and total xylenes (BTEX) using EPA method 8020. Certified analytical results and chain-of-custody documentation are presented in Appendix B.

ANALYTICAL RESULTS

The analytical results for the water samples showed no gasoline constituents in the groundwater sample collected from MW1. No benzene was detected in the sample collected from MW2. No MTBE was detected in any of the samples.

Table II presents Summary of the analytical results.

CONCLUSION AND RECOMMENDATIONS

Nine groundwater monitoring episodes have been performed at the Site since June 1994. The analytical results for the monitoring events have shown no detectable concentration of MTBE in the groundwater beneath the Site. Benzene concentrations in the groundwater have reduced to 8.1ppb. Considering that the primary source (leaking tank system) have been removed from the site, it is reasonable to conclude that natural attenuation has reduced gasoline constituents (benzene in particular) in the groundwater to very low levels.

Based on the above information, in Sierra's professional opinion, the Site should be considered a low risk groundwater case as described in California Regional Water Quality Control Board, San Francisco Bay Region, "Supplemental Instructions to State Water Board, December 8, 1995, interim Guidance on Required Cleanup at Low Risk Fuel Sites."

After obtaining a case closure, Sierra recommends to decommission the monitoring wells in accordance with the local and state requirements at the Site.

LIMITATIONS

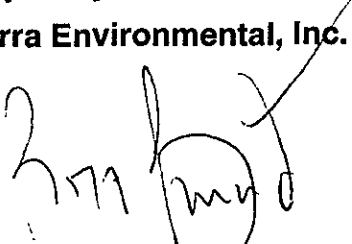
The content and conclusion provided by Sierra in this report are based on information collected during its assessment/monitoring, which include, but are not limited to field observations and analytical results for the groundwater samples collected at the Site.

Sierra assumes that the samples collected and laboratory results are reasonably representative of the whole Site, which may not be the case at unsampled areas.

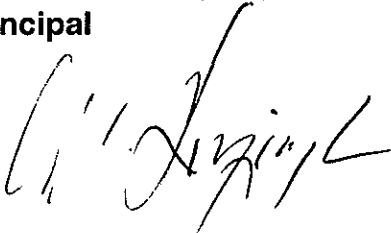
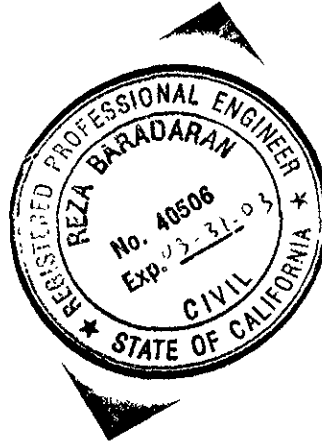
This assessment/monitoring was performed in accordance with generally accepted principles and practices of environmental engineering and assessment in Northern California at the time of the work. This report presents our professional opinion based on our findings, technical knowledge, and experience working on similar projects. No warranty, either expressed or implied, is made. The conclusions presented are based on the analytical results and current regulatory requirements. We are not responsible for the impact of any changes in environmental standards or regulations in the future.

Sierra appreciates to have the opportunity to continue serving you on this project.
Please feel welcome to call us if you have questions.

Very Truly Yours,
Sierra Environmental, Inc.



Reza Baradaran, PE, GE
Principal



Mitch Hajiaghai, REA II, CAC
Principal

Attachments:

- Table I - Groundwater Elevation Data
- Table II - Analytical Results for Groundwater Samples
- Figure 1 - Site Location Map
- Figure 2 - Site Plan
- Figure 3 - Groundwater Elevations and Gradient
- Appendix A - QA/QC Protocol
- Appendix B - Certified Analytical Results and Chain-of-Custody Documentation & Groundwater Monitoring Data Forms

cc: Mr. Amir Gholami, ACEH (1 Copy)
Mr. Craig Ellis, Esq. (1 Copy)

TABLE I
GROUNDWATER ELEVATION DATA

Well ID	Measurement Date	Well Casing Diameter (in)	Well Casing Elevation (ft)	Depth to Water ¹ (ft)	Water Table ² Elevation (ft)	Groundwater Flow Direction
MW1	6-23-94	2	44.88	17.37	27.51	NW
	3-15-95			13.47	31.41	W-SW
	6-01-95			13.35	31.53	W-NW
	9-11-95			15.37	29.51	W-NW
	4-16-99			12.05	32.83	SE
	3-21-01			13.59	31.29	NW
	6-26-01			14.72	30.16	NE
	9-18-01			15.98	28.90	NW
12-31-01	13.92	30.96	NW			
MW2	6-23-94	2	45.26	16.75	28.51	NW
	3-15-95			13.74	31.52	W-SW
	6-1-95			13.52	31.74	W-NW
	9-11-95			15.58	29.68	SE
	3-21-01			13.81	31.45	NW
	6-26-01			15.55	29.71	NE
	9-18-01			16.22	29.04	NW
	12-31-01			14.22	31.04	NW
MW3	6-23-94	2	45.81	16.55	29.26	NW
	3-15-95			14.43	31.38	W-SW
	6-1-95			14.16	31.65	W-NW
	9-11-95			16.20	29.61	SE
	3-21-01			14.44	31.37	NW
	6-26-01			14.97	30.84	NE
	9-18-01			16.82	28.99	NW
	12-31-01			14.91	30.90	NW

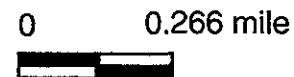
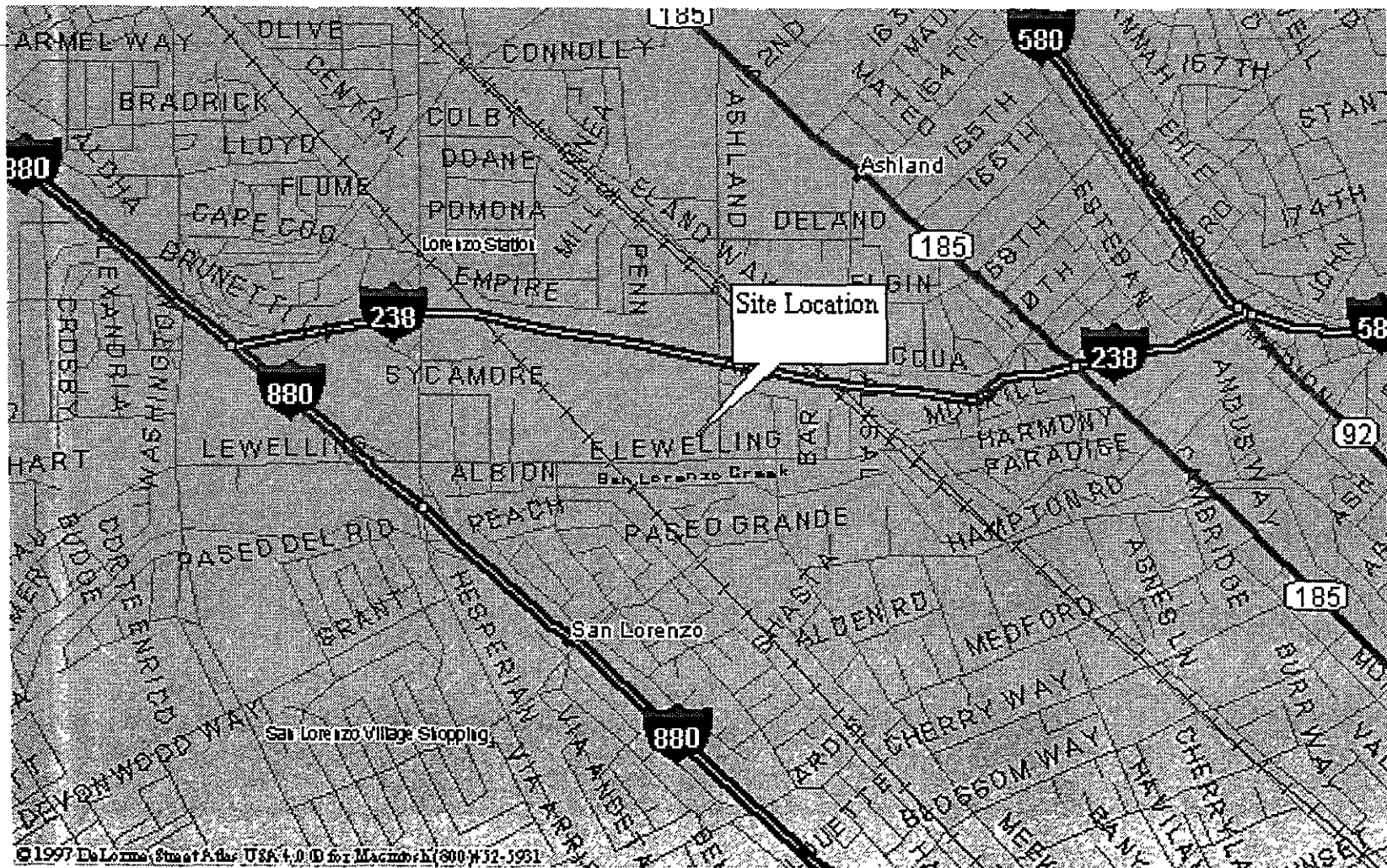
1. Depths to groundwater were measured to the top of the well casings
2. Water table elevations were measured in relation to the mean sea level (MSL)

NOTE: Top of the well casings were surveyed relative to a known benchmark referenced to mean sea level (MSL) by CET.

TABLE II
ANALYTICAL RESULTS FOR
GROUNDWATER SAMPLES

Sample ID	Sample Date	TPHG ¹ ppm ³	Benzene ppb ⁴	Toluene ppb	Ethylbenzene ppb	Xylenes ppb	MTBE ² ppb
MW1	6-23-94	3.6	<0.5	<0.5	7.2	2.6	NA ⁵
	3-15-95	<0.05	<0.5	<0.5	<0.5	<0.5	NA
	6-1-95	0.10	<0.5	<0.5	<0.5	<0.5	NA
	9-11-95	0.05	<0.5	<0.5	<0.5	<0.5	NA
	4-16-99	0.16	ND ⁶	ND	ND	ND	ND
	3-21-01	ND	ND	ND	ND	ND	ND
	6-26-01	ND	ND	ND	ND	ND	ND
	9-18-01	0.082	ND	ND	2.1	ND	ND
	12-31-01	ND	ND	ND	ND	ND	ND
MW2	6-23-94	71	310	710	2600	4600	NA
	3-15-95	35	150	1000	2100	10000	NA
	6-1-95	49	210	1300	2900	11000	NA
	9-11-95	39	150	1000	2900	13000	NA
	4-16-99	50	25	110	1900	8000	ND
	3-21-01	22	ND	52	1300	3700	ND
	6-26-01	15	ND	ND	910	2100	ND
	9-18-01	14	ND	ND	1,000	2,000	ND
	12-31-01	24	ND	ND	1,600	4,000	ND
MW3	6-23-94	93	550	130	3300	7500	NA
	3-15-95	46	330	94	3800	10000	NA
	6-1-95	42	270	230	3400	10000	NA
	9-11-95	49	190	330	4000	12000	NA
	4-16-99	16	10	ND	2300	940	ND
	3-21-01	12	ND	28	2000	ND	ND
	6-26-01	14	ND	ND	2100	ND	ND
	9-18-01	13	ND	ND	1.5	ND	ND
	12-31-01	3.9	8.1	12	640	13	ND

1. TPHG = Total Petroleum Hydrocarbons as Gasoline
2. MTBE = Methyl-tertiary-Butyl Ether
3. ppm = Parts Per Million (mg/l)
4. ppb = Parts Per Billion (µg/l)
5. NA = Not Analyzed
6. ND = Below Laboratory Detection Limit



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SIERRA ENVIRONMENTAL, INC.
Environmental Consultants
 1670 Newhall St., Suite 212, Santa Clara, CA 95050
 Phone [408]248-3700 • Fax [408] 248-4700

Site Location Map

**Fourth Quarter 2001 Groundwater Monitoring
 A & C Auto Service**

186 E. Lewelling Boulevard, San Lorenzo, California

FIGURE

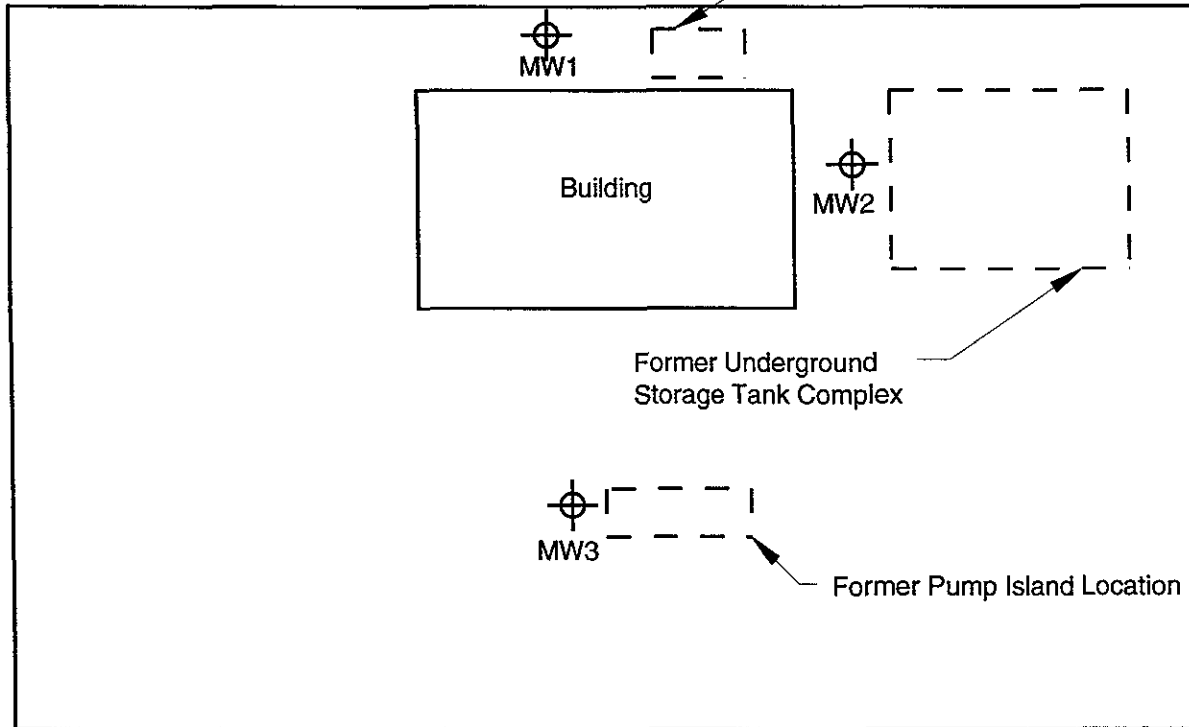
1

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LEGEND

 MW1 Goundwater Monitoring Well Location and Designation

 Former Waste Oil Tank Excavation



E. Lewelling Boulevard

Asland Avenue

Approximate Scale: 1' = 20'



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Site Plan

Fourth Quarter 2001 Groundwater Monitoring
A & C Auto Service

186 E. Lewelling Boulevard, San Lorenzo, California

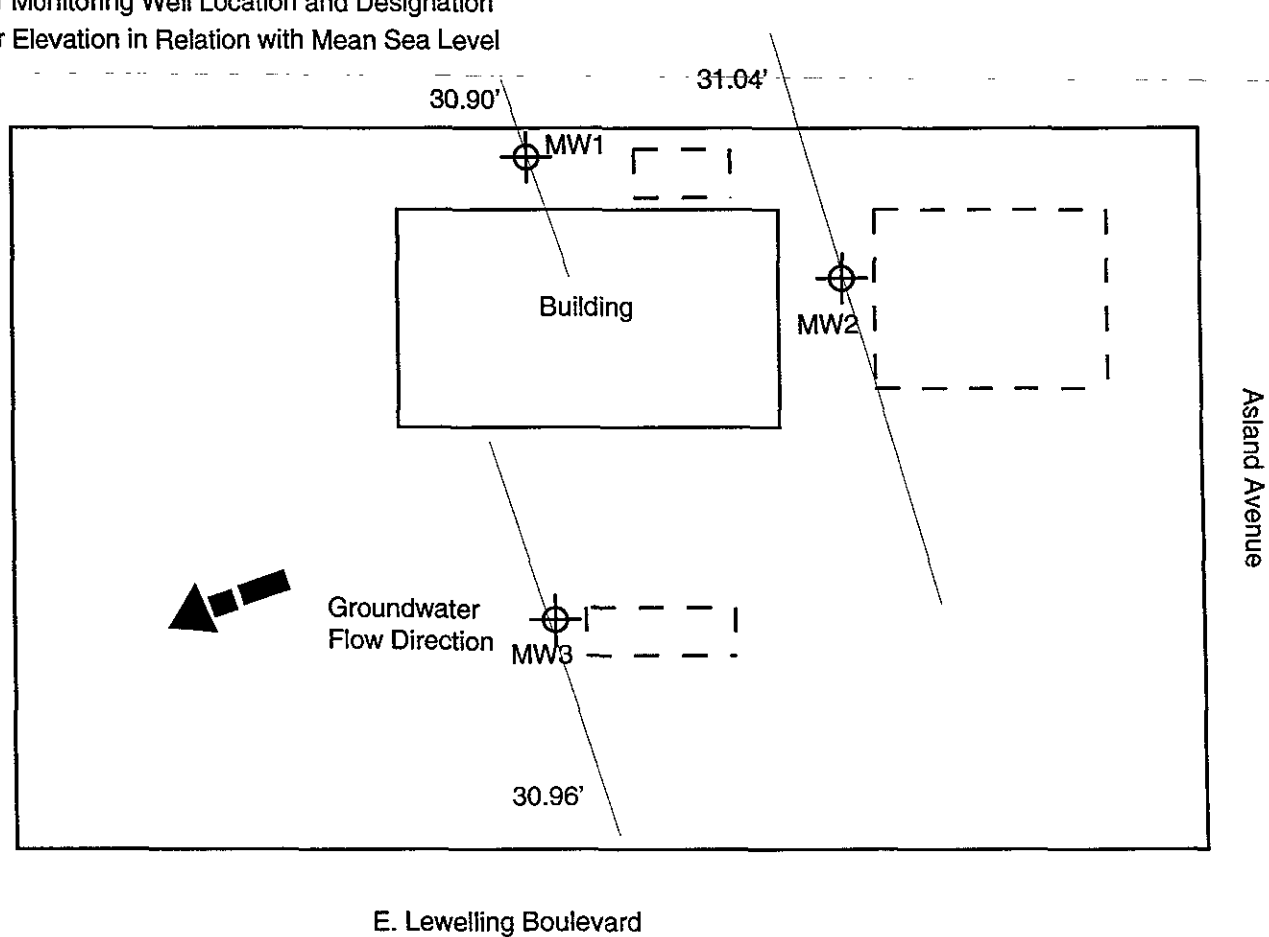
FIGURE

2

January 15, 2002
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LEGEND

- ⊕ MW1 Groundwater Monitoring Well Location and Designation
- 29.04' Groundwater Elevation in Relation with Mean Sea Level



Approximate Scale: 1' = 20'



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Groundwater Elevations and Gradient

**Fourth Quarter 2001 Groundwater Monitoring
A & C Auto Service**

186 E. Lewelling Boulevard, San Lorenzo, California

FIGURE

3

January 15, 2002
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Appendix A
QA/QC PROTOCOL

QA/QC PROTOCOL

Groundwater Level and Well Depth Measurements

Groundwater level and well depths are measured using electrical sounder. An electrical sounder consists of a reel, two-conductor cable, a water sensor, and a control panel with a buzzer. To measure groundwater level, the sensor is lowered into a well. A low current circuit is completed when the sensor makes contact with water. The current in the circuit is then amplified and activate a buzzer which produce an audible signal. Cable markings are divided at 0.05-foot increments. Well depths are measured to the nearest 0.01 foot. Groundwater levels are measured before and after sample collection to ensure data accuracy.

Well Purging

Low flow submersible electrical pumps, peristaltic pumps, or bailers are used to purge groundwater monitoring wells. Approximately 3 to 5 well casing volume of water is removed from the well as a measure to stabilize natural, and representative groundwater in each well. pH, electrical conductivity, and temperature of the purged water is measured and recorded at approximately each casing volume interval. Purge water is stabilized when pH is recorded within 0.5 unit, electrical conductivity is within 5 percent, and temperature is within 1.0 degree Celsius.

Groundwater Sampling

Groundwater samples are transferred into appropriate containers provided by certified analytical laboratories. The containers include proper preservatives, and labels with appropriate project information. Groundwater is transferred into the containers with as little agitation as possible. After collection, containers are sealed and checked to ensure that no head space or air bubbles are present in the sample.

After collection, if required, samples are kept in a cooler to be delivered to analytical laboratory with chain-of-custody documentation.

Equipment Decontamination

All sampling equipment are washed with Liqui-Nox[®] (a phosphate free laboratory detergent), and rinsed with tap water before each sampling event, and at each sampling interval. To reduce the risk of cross contamination, wells that have shown lower levels of contamination historically are purged and sampled first.

Analytical Procedures

Samples are analyzed by an accredited State-certified analytical laboratory using procedures prescribed by United State Environmental Protection Agency (EPA) and other Federal, State, and Local agencies. At minimum a field blank is analyzed with each group of samples for quality assurance measures. At minimum two qualified personnel review analytical results and compare them with historical data for consistency and accuracy.

Field Reports

All field observations are documented in field reports. A field report contain project information, climatic condition, contractor/subcontractor information, field observation, discussions and communications during each particular field activity. Field reports are stored in appropriate project files. Project managers review field reports to obtain necessary information regarding the status of each project on daily basis.

Appendix B

**CERTIFIED ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY
DOCUMENTATION & GROUNDWATER MONITORING DATA FORMS**

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

January 09, 2002

Mitch Hajiaghai
Sierra Environmental, Inc.
1670 Newhall Street, Suite 212
Santa Clara, CA 95050

Order: 28386
Project Name: A & C Auto Service
Project Number: 01-137.04
Project Notes:

Date Collected: 12/31/01
Date Received: 01/02/02
P.O. Number: 01-137.04

On January 02, 2002, samples were received under documented chain of custody. Results for the following analyses are attached:

<u>Matrix</u>	<u>Test</u>	<u>Method</u>
Liquid	Gas/BTEX/MTBE	EPA 8015 MOD. (Purgeable) EPA 8020

Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#2346). If you have any questions regarding procedures or results, please call me at 408-588-0200.

Sincerely,



Michelle L. Anderson
Laboratory Director

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Sierra Environmental, Inc.
1670 Newhall Street, Suite 212
Santa Clara, CA 95050
Attn: Mitch Hajiaghai

Date: 01/09/02
Date Received: 01/02/02
Project Name: A & C Auto Service
Project Number: 01-137.04
P.O. Number: 01-137.04
Sampled By: Mitch Hajiaghai

Certified Analytical Report

Order ID: 28386	Lab Sample ID: 28386-001	Client Sample ID: MW1								
Sample Time:	Sample Date: 12/31/01	Matrix: Liquid								
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	N/A	01/04/02	WGC22277	EPA 8020
Toluene	ND		1	0.5	0.5	µg/L	N/A	01/04/02	WGC22277	EPA 8020
Ethyl Benzene	ND		1	0.5	0.5	µg/L	N/A	01/04/02	WGC22277	EPA 8020
Xylenes, Total	ND		1	0.5	0.5	µg/L	N/A	01/04/02	WGC22277	EPA 8020
				Surrogate			Surrogate Recovery		Control Limits (%)	
				aaa-Trifluorotoluene			96		65 - 135	
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		1	5	5	µg/L	N/A	01/04/02	WGC22277	EPA 8020
				Surrogate			Surrogate Recovery		Control Limits (%)	
				aaa-Trifluorotoluene			96		65 - 135	
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	50	50	µg/L	N/A	01/04/02	WGC22277	EPA 8015 MOD. (Purgeable)
				Surrogate			Surrogate Recovery		Control Limits (%)	
				aaa-Trifluorotoluene			77		65 - 135	

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)



Michelle L. Anderson, Laboratory Director

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Sierra Environmental, Inc.
1670 Newhall Street, Suite 212
Santa Clara, CA 95050
Attn: Mitch Hajiaghai

Date: 01/09/02
Date Received: 01/02/02
Project Name: A & C Auto Service
Project Number: 01-137.04
P.O. Number: 01-137.04
Sampled By: Mitch Hajiaghai

Certified Analytical Report

Order ID: 28386	Lab Sample ID: 28386-002	Client Sample ID: MW2								
Sample Time:	Sample Date: 12/31/01	Matrix: Liquid								
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		200	0.5	100	µg/L	N/A	01/07/02	WGC42278	EPA 8020
Toluene	ND		200	0.5	100	µg/L	N/A	01/07/02	WGC42278	EPA 8020
Ethyl Benzene	1600		200	0.5	100	µg/L	N/A	01/07/02	WGC42278	EPA 8020
Xylenes, Total	4000		200	0.5	100	µg/L	N/A	01/07/02	WGC42278	EPA 8020
Surrogate						Surrogate Recovery			Control Limits (%)	
aaa-Trifluorotoluene						98			65 - 135	
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		200	5	1000	µg/L	N/A	01/07/02	WGC42278	EPA 8020
Surrogate						Surrogate Recovery			Control Limits (%)	
aaa-Trifluorotoluene						98			65 - 135	
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	24000		200	50	10000	µg/L	N/A	01/07/02	WGC42278	EPA 8015 MOD. (Purgeable)
Surrogate						Surrogate Recovery			Control Limits (%)	
aaa-Trifluorotoluene						99			65 - 135	

DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)



Michelle L. Anderson, Laboratory Director

Environmental Analysis Since 1983

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3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Sierra Environmental, Inc.
1670 Newhall Street, Suite 212
Santa Clara, CA 95050
Attn: Mitch Hajiaghai

Date: 01/09/02
Date Received: 01/02/02
Project Name: A & C Auto Service
Project Number: 01-137.04
P.O. Number: 01-137.04
Sampled By: Mitch Hajiaghai

Certified Analytical Report

Order ID: 28386	Lab Sample ID: 28386-003	Client Sample ID: MW3								
Sample Time:	Sample Date: 12/31/01	Matrix: Liquid								
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	8.1		10	0.5	5	µg/L	N/A	01/07/02	WGC42278	EPA 8020
Toluene	12		10	0.5	5	µg/L	N/A	01/07/02	WGC42278	EPA 8020
Ethyl Benzene	640		10	0.5	5	µg/L	N/A	01/07/02	WGC42278	EPA 8020
Xylenes, Total	13		10	0.5	5	µg/L	N/A	01/07/02	WGC42278	EPA 8020
Surrogate						Surrogate Recovery		Control Limits (%)		
aaa-Trifluorotoluene						51		65 - 135		
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		10	5	50	µg/L	N/A	01/07/02	WGC42278	EPA 8020
Surrogate						Surrogate Recovery		Control Limits (%)		
aaa-Trifluorotoluene						51		65 - 135		
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	3900		10	50	500	µg/L	N/A	01/07/02	WGC42278	EPA 8015 MOD. (Purgeable)
Surrogate						Surrogate Recovery		Control Limits (%)		
aaa-Trifluorotoluene						31		65 - 135		

Comment: Surrogate recoveries out of control limits due to matrix interference.


DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)


Michelle L. Anderson, Laboratory Director

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Quality Control Results Summary

QC Batch #: WGC42278

Matrix: Liquid

Units: µg/L

Date Analyzed: 1/7/02

Parameter	Method	Blank Result	Spike Sample ID	Spike Amount	Sample Result	Spike Result	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
Test: TPH as Gasoline											
TPH as Gasoline	EPA 8015	ND		561		509.82	LCS	90.9			59.2 - 111.9
Surrogate			Surrogate Recovery		Control Limits (%)						
aaa-Trifluorotoluene			99		65 - 135						
Test: BTEX											
Benzene	EPA 8020	ND		6.2		6.891	LCS	111.1			65.0 - 135.0
Ethyl Benzene	EPA 8020	ND		7.8		7.563	LCS	97.0			65.0 - 135.0
Toluene	EPA 8020	ND		35.8		32.43	LCS	90.6			65.0 - 135.0
Xylenes, total	EPA 8020	ND		43		39.329	LCS	91.5			65.0 - 135.0
Surrogate			Surrogate Recovery		Control Limits (%)						
aaa-Trifluorotoluene			104		65 - 135						
Test: MTBE by EPA 8020											
Methyl-t-butyl Ether	EPA 8020	ND		52.8		54.589	LCS	103.4			65.0 - 135.0
Surrogate			Surrogate Recovery		Control Limits (%)						
aaa-Trifluorotoluene			104		65 - 135						
Test: TPH as Gasoline											
TPH as Gasoline	EPA 8015	ND		561		486.29	LCSD	86.7	4.72	25.00	59.2 - 111.9
Surrogate			Surrogate Recovery		Control Limits (%)						
aaa-Trifluorotoluene			98		65 - 135						
Test: BTEX											
Benzene	EPA 8020	ND		6.2		6.619	LCSD	106.8	4.03	25.00	65.0 - 135.0
Ethyl Benzene	EPA 8020	ND		7.8		7.181	LCSD	92.1	5.18	25.00	65.0 - 135.0
Toluene	EPA 8020	ND		35.8		33.261	LCSD	92.9	2.53	25.00	65.0 - 135.0
Xylenes, total	EPA 8020	ND		43		38.622	LCSD	89.8	1.81	25.00	65.0 - 135.0
Surrogate			Surrogate Recovery		Control Limits (%)						
aaa-Trifluorotoluene			105		65 - 135						
Test: MTBE by EPA 8020											
Methyl-t-butyl Ether	EPA 8020	ND		52.8		48.2221	LCSD	91.3	12.39	25.00	65.0 - 135.0
Surrogate			Surrogate Recovery		Control Limits (%)						
aaa-Trifluorotoluene			103		65 - 135						

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Quality Control Results Summary

QC Batch #: WGC22277
Matrix: Liquid

Units: µg/L
Date Analyzed: 01/04/02

Parameter	Method	Blank Result	Spike Sample ID	Spike Amount	Sample Result	Spike Result	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
Test: TPH as Gasoline											
TPH as Gasoline	EPA 8015 M	ND		561		482.859	LCS	86.1			65.0 - 135.0
	Surrogate			Surrogate Recovery		Control Limits (%)					
	aaa-Trifluorotoluene			76		65 - 135					
Test: BTEX											
Benzene	EPA 8020	ND		6.2		4.838	LCS	78.0			65.0 - 135.0
Ethyl Benzene	EPA 8020	ND		7.8		7.081	LCS	90.8			65.0 - 135.0
Toluene	EPA 8020	ND		35.8		35.236	LCS	98.4			65.0 - 135.0
Xylenes, total	EPA 8020	ND		43		40.113	LCS	93.3			65.0 - 135.0
	Surrogate			Surrogate Recovery		Control Limits (%)					
	aaa-Trifluorotoluene			101		65 - 135					
Test: TPH as Gasoline											
TPH as Gasoline	EPA 8015 M	ND		561		469.428	LCSD	83.7	2.82	25.00	65.0 - 135.0
	Surrogate			Surrogate Recovery		Control Limits (%)					
	aaa-Trifluorotoluene			76		65 - 135					
Test: BTEX											
Benzene	EPA 8020	ND		6.2		4.909	LCSD	79.2	1.46	25.00	65.0 - 135.0
Ethyl Benzene	EPA 8020	ND		7.8		6.982	LCSD	89.5	1.41	25.00	65.0 - 135.0
Toluene	EPA 8020	ND		35.8		34.937	LCSD	97.6	0.85	25.00	65.0 - 135.0
Xylenes, total	EPA 8020	ND		43		39.655	LCSD	92.2	1.15	25.00	65.0 - 135.0
	Surrogate			Surrogate Recovery		Control Limits (%)					
	aaa-Trifluorotoluene			102		65 - 135					



SIERRA ENVIRONMENTAL, INC.
Environmental Consultants

CHAIN OF CUSTODY

Project Name: A & C Auto Service Project No: 01-137-04 Date: 12-31-01

Project Location: 186 E. Leveilling Rd. Client: A & C Auto Service Sampler: M. Hajjaj Shari

Sample ID	Date Sampled	Sampling Time	Matrix	Nº of Containers	Analysis Requested							Turnaround Time	
					8015/8020 TPHG BTEX, MTBE	8015 TPHD	418.1 TRPH	8010 VOCs	8270 SVOCs	BTEX 8020	Fuel Oxygenates 8260	24-hour Other	
MW1	12/31/01		Water	2	X						28386-001	24-hour Other	Normal
MW2	↓		↓	↓	↓						002	24-hour Other	Normal
MW3	↓		↓	↓	↓						003	24-hour Other	Normal
												24-hour Other	Normal
												24-hour Other	Normal
												24-hour Other	Normal
												24-hour Other	Normal

Remarks:

Relinquished by [Signature] Date 1-02-02 Time 7:45 Received by [Signature] Date 1-2-02 Time 7:45

1670 Newhall St. • Suite 212 • Santa Clara • California • 95050
Phone (408) 248-3700 • Fax (408) 248-4700

Jan. 31. 2002 3:01 PM

10:00:01 P. 10/10



GROUNDWATER MONITORING DATA FORM

Project No: 01-137.04

Date: 12/31/01

Project Name: A&C Auto Service

Well No: MW1

Field Personnel: Alicia Falk

Weather: Cloudy

Project Location: 186 E. Lewelling Blvd., San Lorenzo

PURGE WATER VOLUME CALCULATION	Total Well Depth (ft)	Depth to Water (ft)	Water Column (ft)	Multiplier Casing Diameter			Casing Volume (gal)	Purged Volume (gal)
	21.40	13.92	7.48	2"	4"	6"	1.20	3.60
				0.16	0.64	1.44		

Purge Method: Bailer Measuring Reference: Top of Well Casing

Time	1:39	1:43	1:46	1:49		
Volume Purged (gal)	0	2	3	3.60		
Temperature (° F)	66.5	66.9	66.8	66.8		
pH	not measured					
Specific Conductivity (umhos/cm)	530	490	500	510		
Turbidity/Color	Clear	→	→	→		
Odor	NONE	→	→	→		

Comments: WELL HEAD OK, NO PRODUCT, NO SHEEN
PH METER OUT OF RANGE



GROUNDWATER MONITORING DATA FORM

Project No: 01-137.04 _____ Date: 12/31/01
 Project Name: A&C Auto Service _____ Well N^o: MW2
 Field Personnel: Alicia Falk _____ Weather: Cloudy
 Project Location: 186 E. Lewelling Blvd., San Lorenzo _____

PURGE WATER VOLUME CALCULATION	Total Well Depth (ft)	Depth to Water (ft)	Water Column (ft)	Multiplier Casing Diameter			Casing Volume (gal)	Purged Volume (gal)
	22.70	14.22	8.48	2"	4"	6"	1.37	4.07
				0.16	0.64	1.44		

Purge Method: _____ Measuring Reference: Top of Well Casing _____

Time	2:00	2:06	2:09	2:11		
Volume Purged (gal)	0	2	3	4.07		
Temperature (° F)	67.7	68.6	68.3	67.6		
pH	Not measured					
Specific Conductivity (umhos/cm)	610	610	590	590		
Turbidity/Color	clear	→	→	→		
Odor	No	No	→	→		

Comments: Well head o.k., No product, no oil
PH METER OUT OF RANGE



GROUNDWATER MONITORING DATA FORM

Project No: 01-137.04

Date: 12/31/01

Project Name: A&C Auto Service

Well N°: MW3

Field Personnel: Alicia Falk

Weather: Cloudy

Project Location: 186 E. Lewelling Blvd., San Lorenzo

PURGE WATER VOLUME CALCULATION	Total Well Depth (ft)	Depth to Water (ft)	Water Column (ft)	Multiplier Casing Diameter			Casing Volume (gal)	Purged Volume (gal)
	19.60	14.91	4.69	2"	4"	6"	0.73	2.20
			0.16	0.64	1.44			

Purge Method: Barter Measuring Reference: Top of Well Casing

Time	2:25	2:27	2:29	2:30		
Volume Purged (gal)	0	1	2	2.20		
Temperature (° F)	69.8	70.9	71.4	71.3		
pH	NOT MEASURED					
Specific Conductivity (umhos/cm)	650	660	660	660		
Turbidity/Color	Clear	→	→	→		
Odor	Faint HC ODR	→	→	→		

Comments: WELL HEAD OK, NO PRODUCT, NO SHEEN
PH METER OUT OF RANGE