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Alameda County  
Environmental Health

**FIRST QUARTER – 2008 GROUNDWATER  
MONITORING REPORT FOR**

**OLSON URBAN HOUSING, LLC.**

**Former Impulse Motors**

**1210 Bockman Road**

**San Lorenzo, CA**

**Geotracker Global ID#: T06019771179**

**ACHCS Case #: RO0002737**

**March 30, 2008**

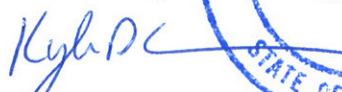
**Project Number 04OT.29215.69**

**Prepared by:**



**Jason Adelaars  
Staff Scientist**

**Reviewed by:**



**Kyle D. Emerson, CEG-1271  
Senior Vice President**



Date: March 30, 2008

**QUARTERLY GROUNDWATER MONITORING REPORT**

Address: 1210 Bockman Road (Figure 1)  
 Consulting Co./Contact Person: SECOR/ Jason Adelaars and Kyle D. Emerson  
 SECOR Project No.: 04OT.29215.69  
 Primary Agency/Regulatory ID No.: ACHCS / Case No. RO0002737

**WORK PERFORMED THIS QUARTER [First - 2008]:**

1. Located, uncovered, extended, and reset three groundwater monitoring wells (MW-01, MW-02, MW-03).
2. Performed First Quarter 2008 groundwater monitoring and sampling.

**WORK PROPOSED FOR NEXT QUARTER [Second - 2008]:**

1. Perform Second Quarter 2008 groundwater monitoring, sampling, and reporting.
2. Submit First Quarter 2008 Report.

<b>Current Phase of Project:</b>	<b>Monitoring</b>	<b>(Unit)</b>
Frequency of Sampling:	<u>Quarterly</u>	(Quarterly, etc.)
Frequency of Monitoring:	<u>Quarterly</u>	(Monthly, etc.)
Are Liquid Phase Hydrocarbons Present	<u>No</u>	(Yes/No)
Bulk Soil Removed to Date:	<u>500</u>	(cubic yards)
Bulk Soil Removed This Quarter:	<u>0</u>	(cubic yards)
Approximate Depth to Groundwater	<u>7.65 to 8.67</u>	(Measured Feet)
Groundwater Gradient	<u>Northwest</u>	(Direction)
	<u>0.005</u>	(Magnitude)

**DISCUSSION:**

On March 17, 2008, SECOR personnel gauged groundwater monitoring wells at the site (Figure 2). The depth to water ranged between 7.65 feet in MW-02 to 8.67 feet in MW-03, as presented in Table 1. Groundwater elevations ranged between 11.91 feet to 12.06 feet above mean sea level (AMSL). Groundwater flows to the north by northwest at a hydraulic gradient of approximately 0.005 (Figure 3). Groundwater samples were collected from the wells in accordance with the attached purging and sampling procedures. Groundwater samples were collected and analyzed for Total Petroleum Hydrocarbons as gasoline (TPHg), Total Petroleum Hydrocarbons as diesel (TPHd), and Volatile Organic Compounds (VOCs) including the fuel oxygenates methyl tert-butyl ether (MTBE), tert-Butyl Alcohol (TBA), Ethyl tert-Butyl Ether (ETBE), Di-isopropyl Ether (DIPE), and tert-amyl methyl ether (TAME). Analytical results are reported in Tables 2 and 3.

**CONCLUSIONS & RECOMMENDATIONS:**

Groundwater collected from the three groundwater monitoring wells located down-gradient of the former fuel dispensers contained concentrations of contaminants of concern at levels ranging from non-detect to below regulatory screening levels. Based on this information, the accuracy of the original assumption that the remaining impacted groundwater is localized to the area immediately down gradient of the former dispenser islands and currently beneath the parking and driveway areas of the Site development currently under construction, as indicated on Figure 2, has been confirmed. As a result, SECOR considers the limits of the impacted groundwater adequately assessed.

**Therefore, based on the exceedingly small extent of impact and the completed source removal actions, which were performed along with the overlying land use (driveway and parking), SECOR recommends no further assessment or remedial action.**

**AGENCY DIRECTIVE REQUIREMENTS:** Continue quarterly groundwater monitoring.

**ATTACHED:**

- Site Location Map (Figure 1)
- Site Plan (Figure 2)
- Groundwater Gradient Map, March 17, 2008 (Figure 3)
- Summary of Groundwater Elevation Data (Table 1)
- Summary of Groundwater Analytical Results (Table 2 through Table 3)
- Monitoring Well Purging and Sampling Procedures
- Well Purging/Sampling Logs
- Laboratory Report and Chain-of-Custody Documentation

## **STANDARD PROCEDURES FOR GROUNDWATER SAMPLING**

Groundwater sampling activities involve several activities including groundwater depth measurements, well purging, sample collection, waste water disposal, etc. The procedures for conducting these activities are described below.

### **DEPTH TO GROUNDWATER**

Prior to purging each of the wells, the depth to groundwater within each well casing is measured to the nearest 0.01 foot using either an electronic water level indicator. The wells were measured from the top of each casing. The tops of the well casings were later surveyed to provide an accurate elevation.

### **GROUNDWATER MONITORING WELL PURGING**

Purging is conducted prior to sampling wells, a dedicated 3.5 inch by 36 inch Polyethylene Bailor was used to purge the wells. Purge water was contained on-site in 55-gallon DOT-approved drums. To assure that the collected samples were representative of fresh formation water, the conductivity, temperature, and pH of the delivered effluent are monitored and recorded using a Hanna Hydac meter during purge operations. In addition, the turbidity of the removed water is visually monitored and recorded. Purge operations are determined to be sufficient once successive measurements of pH, conductivity, and temperature stabilize to within +/- 10 percent.

During purging a minimum of three (3) well volumes, measured as the annular space of the well casing below the groundwater surface, are removed from each well. However, in the case of very slow recharging wells, purging is deemed sufficient if the well contents are completely evacuated during purge operations. Unless recharge takes more than a couple of hours, wells are sampled once the well is recharged to within in 90 percent of pre-purge groundwater elevation. For very slow recharging wells (wells pumped dry during purging), samples may be collected after 2 hours of recharge.

### **GROUNDWATER SAMPLE ACQUISITION AND HANDLING**

Following purging operations, groundwater samples are collected from each of the wells at the air-water interface, using precleaned, single-sample polyethylene disposable bailers. The groundwater sample is discharged from the bailer to the sample container through a bottom emptying flow control valve to minimize volatilization.

Collected water samples are discharged directly into laboratory provided, precleaned, 40 milliliter (ml) glass vials or one liter amber bottles and sealed with Teflon-lined septum, screw-on lids. Labels documenting sample number, well identification, collection date and time, type of sample and type of preservative (if applicable) are affixed to each sample. The samples are then placed into an ice-filled cooler for delivery under chain-of-custody to a laboratory certified to perform the specified tests by the State of California Department of Health Services Environmental Laboratory Accreditation Program.

**CONTAINMENT AND DISPOSAL OF GENERATED WATER**

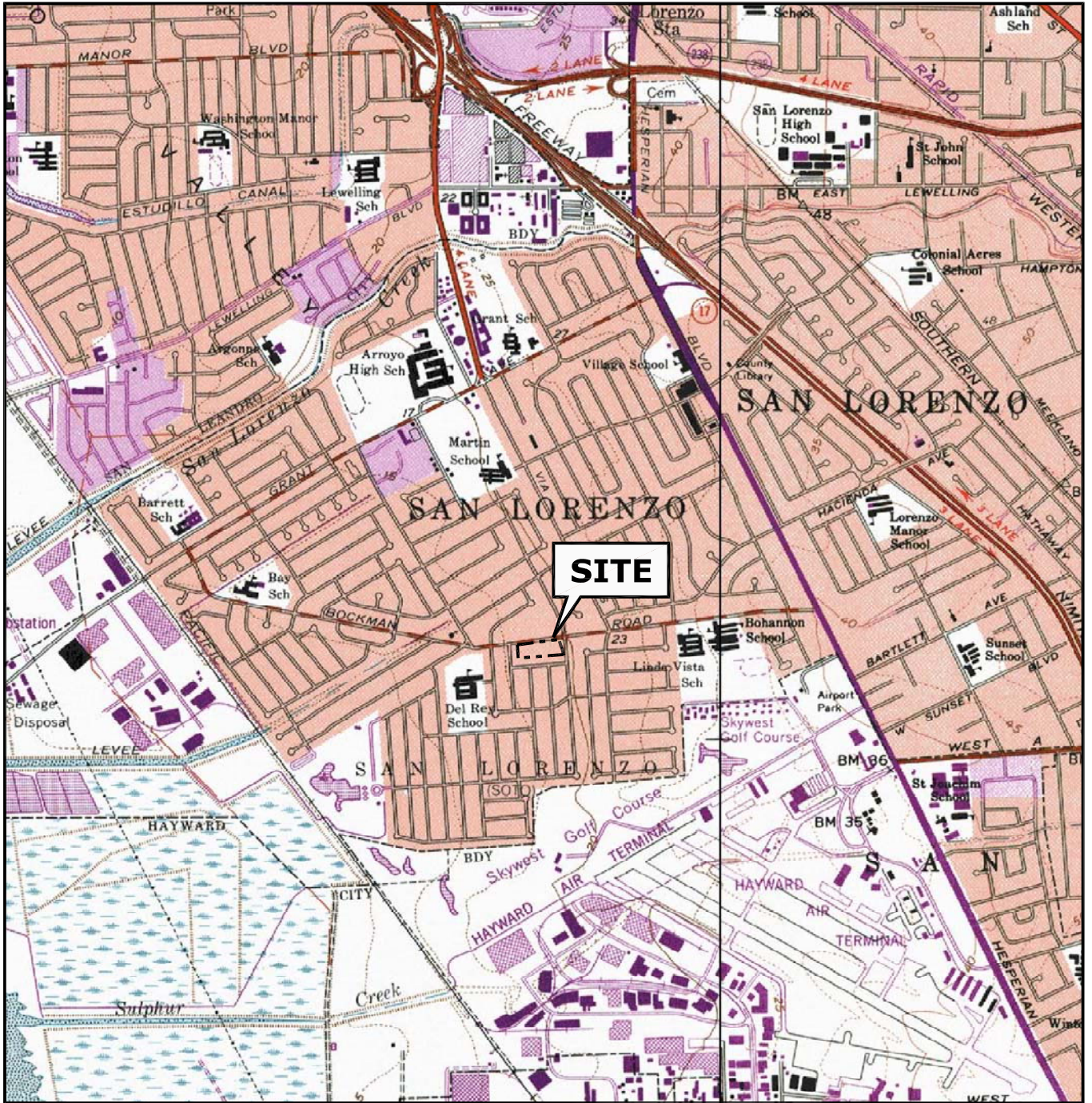
All wastewater and purge water generated during the field activities are retained on-site in appropriate containers (i.e. DOT approved drums) for future disposal. All wastewater is delivered under appropriate manifest to a facility certified and licensed to receive such waste streams.

**SURVEYING**

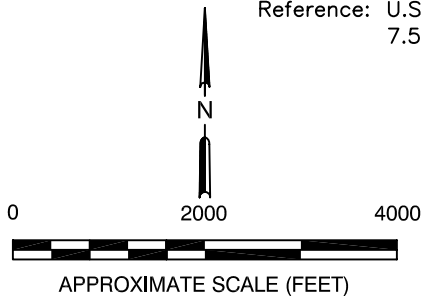
SECOR was provided the elevations of the three groundwater monitoring wells in feet above mean sea level by a licensed surveyor. A Northerly and Easterly reading will be provided to SECOR shortly and will be uploaded on the Regional Water Quality Control Board's Geotracker website.

**FIGURES**






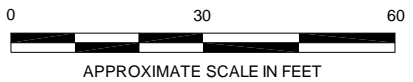
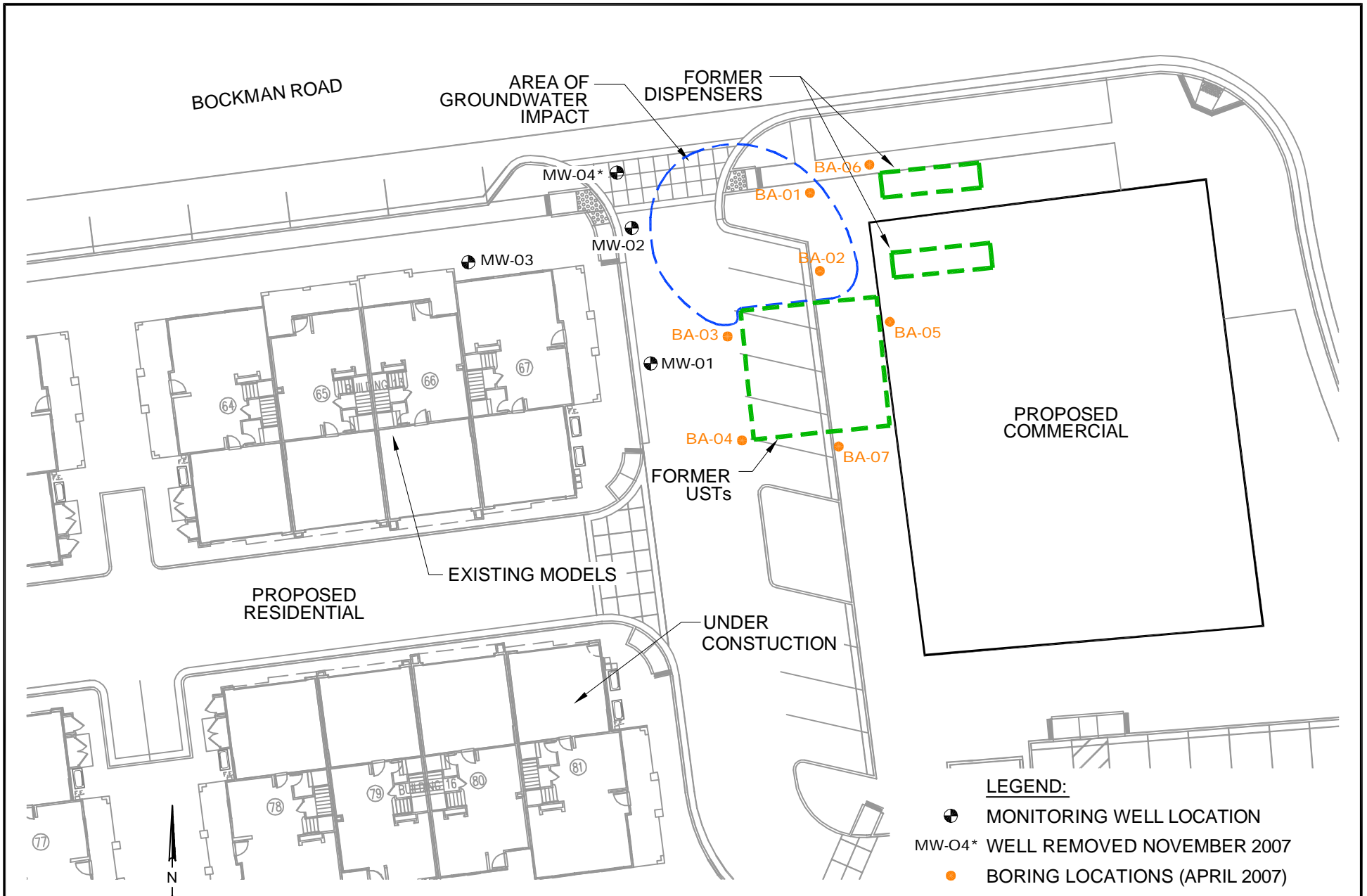
Reference: U.S.G.S., 1959, San Leandro Quadrangle California – Alameda County, 7.5' Series (Topographic). Photorevised 1980.



QUADRANGLE LOCATION

 <b>SECOR</b> 25864-F BUSINESS CENTER DRIVE REDLANDS, CALIFORNIA 92374 PH: (909) 335-6116 / FAX: (909) 335-6120	PREPARED FOR: <b>THE OLSON COMPANY</b>		<b>SITE LOCATION MAP</b>		FIGURE: <b>1</b>	
	1210-1366 BOCKMAN ROAD SAN LORENZO, CALIFORNIA		JOB NUMBER: 04OT.29215.62	DRAWN BY: JMH	CHECKED BY: JH	APPROVED BY: JH





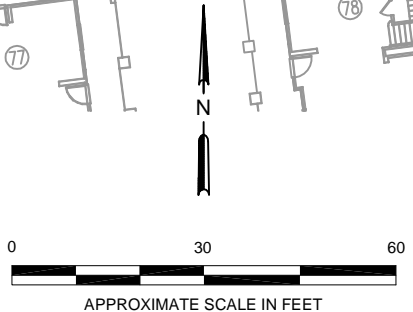
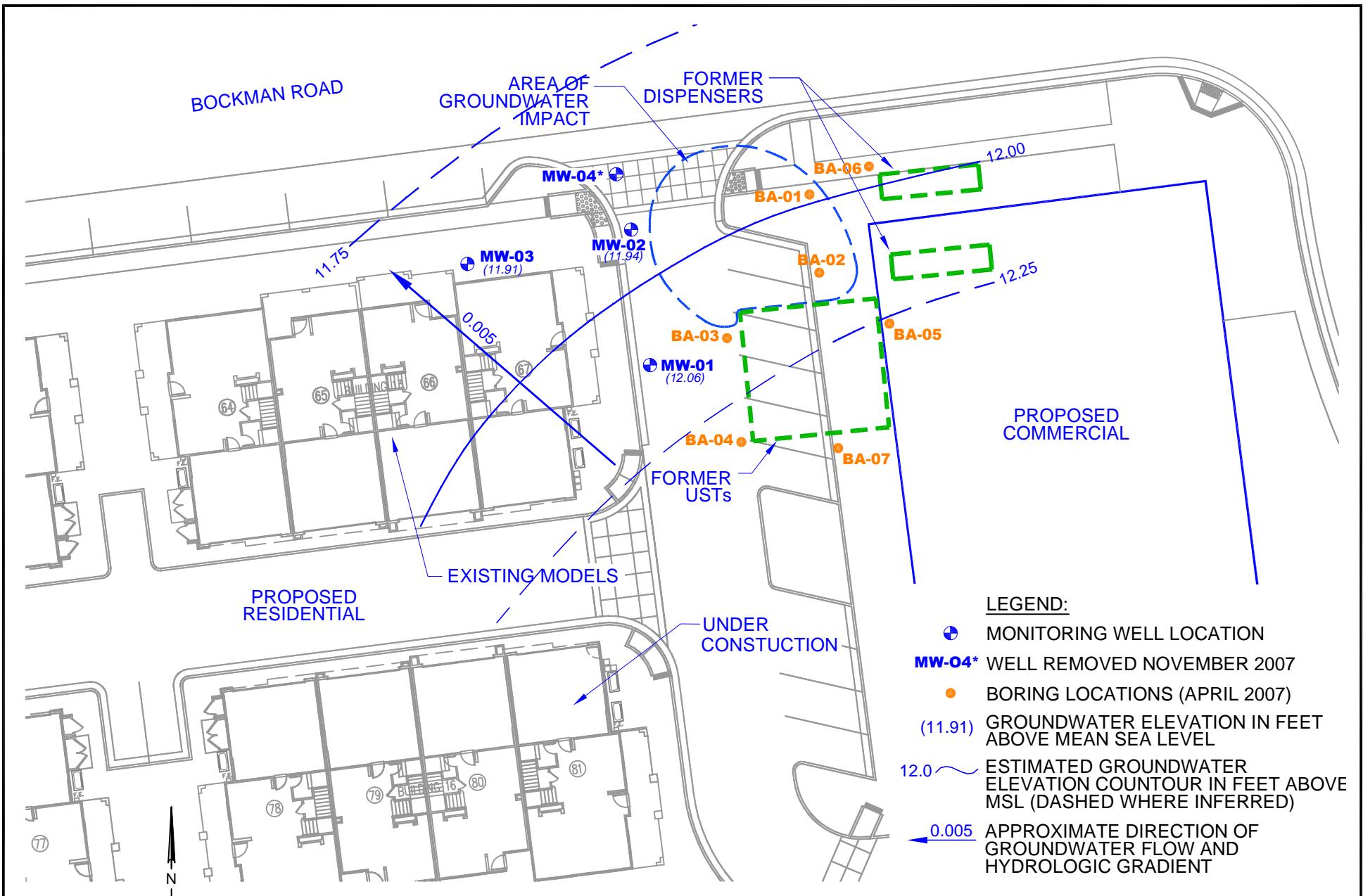
  
**SECOR**  
 25864-F BUSINESS CENTER DRIVE  
 REDLANDS, CA 92374  
 PHONE: (909) 335-6116 FAX: (909) 335-6120


FOR:	
VILLAGE WALK 1210 BOCKMAN ROAD SAN LORENZO, CA	
JOB NUMBER:	DRAWN BY:
04OT.29215.69	GH/JBL

SITE PLAN WITH WELL LOCATIONS	
CHECKED BY:	APPROVED BY:
JA	JA

FIGURE:
2
DATE:
11/01/07





 <b>SECOR</b> 25864-F BUSINESS CENTER DRIVE REDLANDS, CA 92374 PHONE: (909) 335-6116 FAX: (909) 335-6120	FOR:	VILLAGE WALK 1210 BOCKMAN ROAD SAN LORENZO, CA		FIGURE:	<b>3</b>
	JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	
	04OT.29215.69	GH/JBL	JA		3/26/08

**TABLES**

**Table 1**

*Summary of Groundwater Elevation Data  
Olson - San Lorenzo  
1210 Bockman Road  
San Lorenzo, California  
SECOR Job No.: 04OT.29215.69*

Well ID/Surveyed Elevation <sup>(1)</sup>	Date	Depth to Static Water (feet bgs)	Groundwater Elevation <sup>(2)</sup> (feet AMSL)
MW-01 20.3	3/17/2008	8.24	12.06
MW-02 19.59	3/17/2008	7.65	11.94
MW-03 20.58	3/17/2008	8.67	11.91

**NOTES:**

- (1) Elevations are measured in feet above mean sea level (AMSL), site surveyed on March 24, 2008  
(2) Groundwater Elevation in feet AMSL = Surveyed Well Elevation subtracted by Depth to Water

## Table 2

Summary of Groundwater Analytical Results  
TPH by modified EPA 8015B ( $\mu\text{g/L}$ )  
Olson - San Lorenzo  
1210 Bockman Road  
San Lorenzo, California  
SECOR Job No.: 04OT.29215.69

Sample ID	Sampling Date	TPH <sup>(2)</sup> (8015) <sup>(3)</sup>	
		C4-C12 <sup>(4)</sup>	C12-C22 <sup>(5)</sup>
RWQCB ESLs ( $\mu\text{g/L}$ )		100	100
MW-01-W	3/17/2008	<0.1	<0.4
MW-02-W	3/17/2008	<b>0.41</b>	<0.4
MW-03-W	3/17/2008	<0.1	<0.4
MW-04-W <sup>(6)</sup>	11/7/2007	<0.5	<0.4

### NOTES:

- (1) Sample depth is reported as feet below ground surface
  - (2) Concentrations reported in micrograms per liter ( $\mu\text{g/L}$ )
  - (3) EPA Test Method
  - (4) Characteristic carbon chain of Gasoline
  - (5) Characteristic carbon chain of Diesel
  - (6) MW-04 was removed due to conflict with construction activities
- < - Indicates the concentration was not detected above the laboratory method detection limit.

### ABBREVIATIONS:

- TPH - Total Petroleum Hydrocarbons  
RWQCB ESLs - Environmental Screening Levels for Potential Source of Drinking Water established by the San Francisco Bay Regional Water Quality Control Board (February 2005)

**Table 3**

Summary of Groundwater Analytical Results  
 VOCs by EPA 8260B ( $\mu\text{g/L}$ )  
 Olson - San Lorenzo  
 1210 Bockman Road  
 San Lorenzo, California  
 SECOR Job No.: 04OT.29215.69

Sample ID	Sampling Date	VOCs <sup>(2)</sup> (8260) <sup>(3)</sup>													
		Methyl-tert-butyl ether (MtBE)	tert-Amyl Methyl Ether (TAME)	Diisopropyl Ether (DIPE)	Ethyl tert-Butyl Ether (EtBE)	tert-Butanol (TBA)	Benzene	Ethylene Dibromide	1,2 Dichloroethane (DCA)	Ethylbenzene	Toluene	Total Xylenes	n-Butylbenzene	n-Propylbenzene	Isopropylbenzene
CA MCLs ( $\mu\text{g/L}$ )		13	NR	NR	NR	NR	1	NR	0.5	300	150	1750	NR	NR	NR
Fedral MCLs ( $\mu\text{g/L}$ )		NR	NR	NR	NR	NR	5	NR	5	700	1000	10000	NR	NR	NR
RWQCB ESLs ( $\mu\text{g/L}$ )		5	NR	NR	NR	12	1	0.05	0.5	30	40	20	NR	NR	NR
<b>Samples</b>															
MW-01-W	3/17/2008	<1.0	<1.0	<1.0	<1.0	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<0.5
MW-02-W	3/17/2008	<1.0	<1.0	<1.0	<1.0	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<b>3.4</b>	<b>2.2</b>	<b>1.0</b>
MW-03-W	3/17/2008	<1.0	<1.0	<1.0	<1.0	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<0.5
MW-04-W <sup>(4)</sup>	11/7/2007	<1.0	<1.0	<1.0	<1.0	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<0.5

**NOTES:**

(1) Sample depth is reported as feet below ground surface

(2) Concentrations reported in micrograms per liter ( $\mu\text{g/L}$ )

(3) EPA Test Method

(4) MW-04 was removed due to conflict with construction activities

&lt; - Indicates the concentration was not detected above the laboratory method detection limit.

**ABBREVIATIONS:**

VOCs - Volatile Organic Compounds

CA MCLs - Maximum Contaminant Levels established by the State of California

Federal MCLs - Maximum Contaminant Levels established by the Federal Environmental Protection Agency

RWQCB ESLs - Environmental Screening Levels for Potential Source of Drinking Water established by the San Francisco Bay Regional Water Quality Control Board (February 2005)

NR - Not Reported



**APPENDIX A  
WATER SAMPLE FIELD DATA SHEETS**

SECOR

WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 040T.29215.69  
PURGED BY: JASON ADELAARS  
SAMPLED BY: JASON ADELAARS

WELL ID: MW-01  
SAMPLE ID: MW-01-W  
CLIENT NAME: THE OLSON COMPANY  
LOCATION: SAN LORENZO

TYPE: GROUNDWATER  OTHER \_\_\_\_\_

CASING DIAMETER (inches) 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_  4.5 \_\_\_\_\_ 6 \_\_\_\_\_ Other \_\_\_\_\_

GALLONS/LINEAR FOOT: 2"=0.163 3"=0.367 4"=0.653 4.5"=0.826 6"=1.469

DEPTH TO PRODUCT (feet): \_\_\_\_\_ VOLUME IN CASING (gal.): 3.01  
DEPTH TO WATER (feet): 8.24 CALCULATED PURGE (gal.): 9.03  
PRODUCT THICKNESS (feet): \_\_\_\_\_ ACTUAL PURGE VOL. (gal.): 10  
DEPTH OF WELL (feet): 12.85

DATE PURGED: 3/17/08 Start (2400hr) 1510 End (2400hr) 1530  
DATE SAMPLED: 3/17/08 Start (2400hr) 1530 End (2400hr) 1530

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): \_\_\_\_\_

TIME (2400 HR)	VOLUME (GALLONS)	pH (UNITS)	E.C. (µmhos/cm @ 25°C) ms/cm	TEMPERATURE (F°)	COLOR (VISUAL)	TURBIDITY (NTU)
<u>1513</u>	<u>1</u>	<u>9.64</u>	<u>0.90</u>	<u>65.0</u>	<u>CLEAR</u>	
<u>1518</u>	<u>3</u>	<u>8.54</u>	<u>0.90</u>	<u>60.5</u>	<u>LIGHT BROWN</u>	
<u>1523</u>	<u>5</u>	<u>8.18</u>	<u>0.94</u>	<u>60.7</u>	<u>LIGHT BROWN</u>	
<u>1527</u>	<u>8</u>	<u>8.21</u>	<u>0.94</u>	<u>60.6</u>	<u>LIGHT BROWN</u>	
<u>1530</u>	<u>10</u>	<u>7.98</u>	<u>0.93</u>	<u>60.0</u>	<u>LIGHT BROWN</u>	

PURGING EQUIPMENT

\_\_\_\_ DEDICATED PUMP  
\_\_\_\_ GRUNDFOS/REDIFLOW  
\_\_\_\_ VAC-TRUCK  
\_\_\_\_ DEVELOPMENT RIG  
 BAILER/TYPE: 3.5" POLYETHYLENE  
\_\_\_\_ OTHER: \_\_\_\_\_

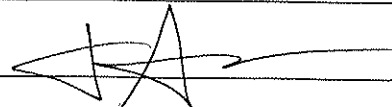
SAMPLING EQUIPMENT

\_\_\_\_ DEDICATED PUMP  
\_\_\_\_ GRUNDFOS/REDIFLOW  
\_\_\_\_ VAC-TRUCK  
\_\_\_\_ DEVELOPMENT RIG  
 BAILER/TYPE: 1.6" POLYETHYLENE  
\_\_\_\_ OTHER: \_\_\_\_\_

WELL INTEGRITY: GOOD

REMARKS: WELL CASING EXTENDED + WELLBOX RESET AT SURFACE GRADE. MEASUREMENTS AND SAMPLING CONDUCTED AFTER EXTENSION OF CASING.

SIGNATURE: \_\_\_\_\_



SECOR

WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 040T.29215.69  
PURGED BY: JASON ADELAARS  
SAMPLED BY: JASON ADELAARS

WELL ID: MW-02  
SAMPLE ID: MW-02-W  
CLIENT NAME: THE OLSON COMPANY  
LOCATION: SAN LORENZO

TYPE: GROUNDWATER  OTHER

CASING DIAMETER (inches) 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_  4.5 \_\_\_\_\_ 6 \_\_\_\_\_ Other \_\_\_\_\_

GALLONS/LINEAR FOOT: 2"=0.163 3"=0.367 4"=0.653 4.5"=0.826 6"=1.469

DEPTH TO PRODUCT (feet): \_\_\_\_\_ VOLUME IN CASING (gal.): 3.03  
DEPTH TO WATER (feet): 7.65 CALCULATED PURGE (gal.): 9.09  
PRODUCT THICKNESS (feet): \_\_\_\_\_ ACTUAL PURGE VOL. (gal.): 11.0  
DEPTH OF WELL (feet): 12.3

DATE PURGED: 3/17/08 Start (2400hr) 1720 End (2400hr) 1735  
DATE SAMPLED: 3/17/08 Start (2400hr) 1740 End (2400hr) 1740

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): \_\_\_\_\_

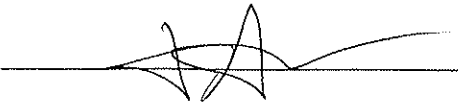
TIME (2400 HR)	VOLUME (GALLONS)	pH (UNITS)	E.C. (umhos/cm @25°C) MS/cm	TEMPERATURE (F°)	COLOR (VISUAL)	TURBIDITY (NTU)
1723	1.5	7.96	0.84	59.1	BROWN	
1727	4.0	7.84	0.86	59.4	BROWN	
1730	7.5	7.76	0.90	59.5	BROWN	
1733	11.0	7.71	0.91	58.5	BROWN	

PURGING EQUIPMENT  
\_\_\_\_ DEDICATED PUMP  
\_\_\_\_ GRUNDFOS/REDIFLOW  
\_\_\_\_ VAC-TRUCK  
\_\_\_\_ DEVELOPMENT RIG  
 BAILER/TYPE: 3.5" POLYETHYLENE  
\_\_\_\_ OTHER: \_\_\_\_\_

SAMPLING EQUIPMENT  
\_\_\_\_ DEDICATED PUMP  
\_\_\_\_ GRUNDFOS/REDIFLOW  
\_\_\_\_ VAC-TRUCK  
\_\_\_\_ DEVELOPMENT RIG  
 BAILER/TYPE: 1.6" POLYETHYLENE  
\_\_\_\_ OTHER: \_\_\_\_\_

WELL INTEGRITY: GOOD

REMARKS: WELL CASING EXTENDED + WELL BOX RESET AT SURFACE GRADE. MEASUREMENTS, PURGING, AND SAMPLING CONDUCTED AFTER CASING EXTENSION OF CASING.  
NO SLIP CAP ON WELL.

SIGNATURE:  Page 1 of 1

SECOR

WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 040T.29215.69  
PURGED BY: JASON ADELAARS  
SAMPLED BY: JASON ADELAARS

WELL ID: MW-03  
SAMPLE ID: MW-03-W  
CLIENT NAME: THE OLSON COMPANY  
LOCATION: SAN LORENZO

TYPE: GROUNDWATER  OTHER \_\_\_\_\_

CASING DIAMETER (inches) 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_  4.5 \_\_\_\_\_ 6 \_\_\_\_\_ Other \_\_\_\_\_

GALLONS/LINEAR FOOT: 2"=0.163 3"=0.367 4"=0.653 4.5"=0.826 6"=1.469

DEPTH TO PRODUCT (feet): \_\_\_\_\_ VOLUME IN CASING (gal.): 2.7  
DEPTH TO WATER (feet): 8.67 CALCULATED PURGE (gal.): 8.09  
PRODUCT THICKNESS (feet): \_\_\_\_\_ ACTUAL PURGE VOL. (gal.): 10.0  
DEPTH OF WELL (feet): 12.8

DATE PURGED: 3/17/08 Start (2400hr) 1600 End (2400hr) 1620  
DATE SAMPLED: 3/17/08 Start (2400hr) 1625 End (2400hr) 1625

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): \_\_\_\_\_

TIME (2400 HR)	VOLUME (GALLONS)	pH (UNITS)	E.C. ( $\mu\text{mhos/cm @ 25}^\circ\text{C}$ )	TEMPERATURE (F $^\circ$ )	COLOR (VISUAL)	TURBIDITY (NTU)
<u>1605</u>	<u>1</u>	<u>8.43</u>	<u>0.94</u>	<u>60.1</u>	<u>CLEAR</u>	
<u>1610</u>	<u>3</u>	<u>8.00</u>	<u>0.93</u>	<u>60.7</u>	<u>LIGHT BROWN</u>	
<u>1615</u>	<u>5</u>	<u>7.97</u>	<u>0.98</u>	<u>59.7</u>	<u>BROWN</u>	
<u>1620</u>	<u>8</u>	<u>7.70</u>	<u>0.93</u>	<u>60.8</u>	<u>BROWN</u>	
<u>1622</u>	<u>10</u>	<u>7.60</u>	<u>0.93</u>	<u>60.8</u>	<u>BROWN</u>	

PURGING EQUIPMENT

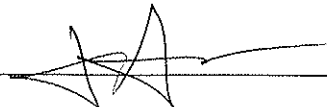
\_\_\_\_ DEDICATED PUMP  
\_\_\_\_ GRUNDFOS/REDIFLOW  
\_\_\_\_ VAC-TRUCK  
\_\_\_\_ DEVELOPMENT RIG  
 BAILER/TYPE: 3.5" POLYETHYLENE  
\_\_\_\_ OTHER: \_\_\_\_\_

SAMPLING EQUIPMENT

\_\_\_\_ DEDICATED PUMP  
\_\_\_\_ GRUNDFOS/REDIFLOW  
\_\_\_\_ VAC-TRUCK  
\_\_\_\_ DEVELOPMENT RIG  
 BAILER/TYPE: 1.6" POLYETHYLENE  
\_\_\_\_ OTHER: \_\_\_\_\_

WELL INTEGRITY: GOOD

REMARKS: WELL CASING EXTENDED + WELL BOX RESET AT SURFACE GRADE. MEASUREMENTS, PURGING, + SAMPLING CONDUCTED AFTER EXTENSION OF WELL CASING.

SIGNATURE:  Page 1 of 1

**APPENDIX B  
CHAIN OF CUSTODY RECORDS,  
LAB DATA SHEETS, AND  
QA/QC RESULTS**



Client: SECOR  
25864-F Business Center Dr.  
Redlands, CA 92374-4515

Date Sampled: 03/17/08  
Date Received: 03/18/08  
Job Number: 31021

Project: Olson - San Lorenzo

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### CASE NARRATIVE

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The following information applies to samples which were received on 03/18/08:

The samples were received at the laboratory chilled and sample containers were intact.

Unless otherwise noted below, the Quality Control acceptance criteria were met for all samples for every analysis requested. The date of issue for this report is 03/19/08.

Report approved by:

Robert R. Clark, PhD  
Technical Director

ELAP Lab# 2419, 2479, 2527, 2373, 2562, 2122

RL: Reporting Limit -- The lowest level at which the compound can be reliably detected under normal laboratory conditions.  
ND: Not Detected -- The compound was analyzed for, but was not found to be present at or above the Reporting Limit.  
NA: Not Analyzed -- This compound was not on the list of compounds requested for analysis.



**QC Sample Report - Extractable Hydrocarbons as Diesel by mod. EPA 8015B**

Matrix: Water

Batch number: 8015DW4288

**Batch Accuracy Results**

Spike Sample ID: Laboratory Control Sample

Analytical Notes:

Compound	Spike Concentration (mg/L)	Spike Sample % Recovery	% Recovery Acceptance Limits	Pass/Fail
Diesel	3.2	85	70 - 130	Pass

**Batch Precision Results**

MS/MSD Sample ID: Laboratory Control Sample

Analytical Notes:

Compound	MS Sample Result (mg/L)	MSD Sample Result (mg/L)	Relative Percent Difference (RPD)	RPD Acceptance Limit	Pass/Fail
Diesel	2.72	2.91	7%	25%	Pass

MS: Matrix Spike

LCS: Laboratory Control Sample

MSD: Matrix Spike Duplicate

LCSD: Laboratory Control Sample Duplicate



## QC Sample Report - Volatile Hydrocarbons as Gasoline by GCMS

Matrix: Water

Batch Number: MS2TPHGW1188

### Batch Accuracy Results

Spike Sample ID: Laboratory Control Sample

Compound	Spike Concentration (mg/L)	Spike Sample % Recovery	% Recovery Acceptance Limits	Pass/Fail
Gasoline	2.0	96	70 - 130	Pass

Analytical Notes:

### Batch Precision Results

MS/MSD Sample ID: Laboratory Control Sample

Compound	MS Sample Result (mg/L)	MSD Sample Result (mg/L)	Relative Percent Difference (RPD)	RPD Acceptance Limit	Pass/Fail
Gasoline	1.93	1.84	5%	25%	Pass

Analytical Notes:

MS: Matrix Spike

MSD: Matrix Spike Duplicate

LCS: Laboratory Control Sample

LCSD: Laboratory Control Sample Duplicate



**Volatile Organic Compounds by EPA 8260B**

Client: SECOR  
 Project: Olson - San Lorenzo  
 Job No.: 31021  
 Matrix: Water  
 Analyst: CMR

Date Sampled: 03/17/08  
 Date Received: 03/18/08  
 Date Analyzed: 03/18/08  
 Batch Number: MS28260W1188

Compounds	Sample ID:	Blank	MW-01-W	MW-02-W	MW-03-W
	RL	µg/L	µg/L	µg/L	µg/L
Acetone	50	ND	ND	ND	ND
tert-Amyl Methyl Ether (TAME)	1.0	ND	ND	ND	ND
Benzene	0.5	ND	ND	ND	ND
Bromobenzene	1.0	ND	ND	ND	ND
Bromochloromethane	1.0	ND	ND	ND	ND
Bromodichloromethane	0.5	ND	ND	ND	ND
Bromoform	0.5	ND	ND	ND	ND
Bromomethane	2.0	ND	ND	ND	ND
tert-Butanol (TBA)	10	ND	ND	ND	ND
2-Butanone (MEK)	10	ND	ND	ND	ND
n-Butylbenzene	1.0	ND	ND	3.4	ND
sec-Butylbenzene	0.5	ND	ND	ND	ND
tert-Butylbenzene	0.5	ND	ND	ND	ND
Carbon disulfide	10	ND	ND	ND	ND
Carbon tetrachloride	0.5	ND	ND	ND	ND
Chlorobenzene	0.5	ND	ND	ND	ND
Chloroethane	0.5	ND	ND	ND	ND
Chloroform	0.5	ND	ND	ND	ND
Chloromethane	2.0	ND	ND	ND	ND
2-Chlorotoluene	0.5	ND	ND	ND	ND
4-Chlorotoluene	0.5	ND	ND	ND	ND
Dibromochloromethane	0.5	ND	ND	ND	ND
1,2-Dibromoethane	0.5	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	10	ND	ND	ND	ND
Dibromomethane	0.5	ND	ND	ND	ND
1,2-Dichlorobenzene	0.5	ND	ND	ND	ND
1,3-Dichlorobenzene	0.5	ND	ND	ND	ND
1,4-Dichlorobenzene	0.5	ND	ND	ND	ND
Dichlorodifluoromethane	0.5	ND	ND	ND	ND
1,1-Dichloroethane	0.5	ND	ND	ND	ND
1,2-Dichloroethane	0.5	ND	ND	ND	ND
1,1-Dichloroethene	0.5	ND	ND	ND	ND
cis-1,2-Dichloroethene	0.5	ND	ND	ND	ND
trans-1,2-Dichloroethene	0.5	ND	ND	ND	ND
1,2-Dichloropropane	0.5	ND	ND	ND	ND
1,3-Dichloropropane	0.5	ND	ND	ND	ND
2,2-Dichloropropane	0.5	ND	ND	ND	ND
1,1-Dichloropropene	0.5	ND	ND	ND	ND

**Volatile Organic Compounds by EPA 8260B**

Client: SECOR  
 Project: Olson - San Lorenzo  
 Job No.: 31021  
 Matrix: Water  
 Analyst: CMR

Date Sampled: 03/17/08  
 Date Received: 03/18/08  
 Date Analyzed: 03/18/08  
 Batch Number: MS28260W1188

Sample ID:	Blank	MW-01-W	MW-02-W	MW-03-W
Compounds	RL	µg/L	µg/L	µg/L
cis-1,3-Dichloropropene	0.5	ND	ND	ND
trans-1,3-Dichloropropene	0.5	ND	ND	ND
Diisopropyl Ether (DIPE)	1.0	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND
Ethyl tert-Butyl Ether (EtBE)	1.0	ND	ND	ND
Hexachlorobutadiene	0.5	ND	ND	ND
2-Hexanone	10	ND	ND	ND
Isopropylbenzene	0.5	ND	ND	1.0
p-Isopropyltoluene	0.5	ND	ND	ND
Methylene chloride	50	ND	ND	ND
4-Methyl-2-pentanone	5.0	ND	ND	ND
Methyl-tert-butyl ether (MtBE)	1.0	ND	ND	ND
Naphthalene	0.5	ND	ND	ND
n-Propylbenzene	0.5	ND	ND	2.2
Styrene	0.5	ND	ND	ND
1,1,1,2-Tetrachloroethane	0.5	ND	ND	ND
1,1,2,2-Tetrachloroethane	1.0	ND	ND	ND
Tetrachloroethene	0.5	ND	ND	ND
Toluene	0.5	ND	ND	ND
1,2,3-Trichlorobenzene	0.5	ND	ND	ND
1,2,4-Trichlorobenzene	0.5	ND	ND	ND
1,1,1-Trichloroethane	0.5	ND	ND	ND
1,1,2-Trichloroethane	0.5	ND	ND	ND
Trichloroethene	0.5	ND	ND	ND
1,2,3-Trichloropropane	0.5	ND	ND	ND
Trichlorofluoromethane	0.5	ND	ND	ND
Trichlorotrifluoroethane	5.0	ND	ND	ND
1,2,4-Trimethylbenzene	0.5	ND	ND	ND
1,3,5-Trimethylbenzene	0.5	ND	ND	ND
Vinyl chloride	0.5	ND	ND	ND
Xylenes, m-,p-	1.0	ND	ND	ND
Xylene, o-	0.5	ND	ND	ND

**Surrogates in % Recovery** (Acceptance Limits: 70 - 130%)

Sample ID:	Blank	MW-01-W	MW-02-W	MW-03-W
Dibromofluoromethane	121	115	117	125
Toluene-d8	84	89	86	85
Bromofluorobenzene	114	112	109	112

**QC Sample Report - Volatile Organic Compounds by EPA 8260B**

Matrix: Water

Batch Number: MS28260W1188

**Batch Accuracy Results**

Spike Sample ID: Laboratory Control Sample

Compound	Spike Concentration (µg/L)	Spike Sample % Recovery	% Recovery Acceptance Limits	Pass/Fail
1,1-Dichloroethene	50	<b>99</b>	70 - 130	<b>Pass</b>
Benzene	50	<b>96</b>	70 - 130	<b>Pass</b>
Trichloroethene	50	<b>90</b>	70 - 130	<b>Pass</b>
Toluene	50	<b>89</b>	70 - 130	<b>Pass</b>
Chlorobenzene	50	<b>96</b>	70 - 130	<b>Pass</b>

Analytical Notes:

**Batch Precision Results**

MS/MSD Sample ID: Laboratory Control Sample

Compound	MS Sample Result (µg/L)	MSD Sample Result (µg/L)	Relative Percent Difference (RPD)	RPD Acceptance Limit	Pass/Fail
1,1-Dichloroethene	49.26	53.85	<b>9%</b>	25%	<b>Pass</b>
Benzene	47.77	49.57	<b>4%</b>	25%	<b>Pass</b>
Trichloroethene	44.86	49.19	<b>9%</b>	25%	<b>Pass</b>
Toluene	44.59	45.20	<b>1%</b>	25%	<b>Pass</b>
Chlorobenzene	47.93	49.94	<b>4%</b>	25%	<b>Pass</b>

Analytical Notes:

MS: Matrix Spike

MSD: Matrix Spike Duplicate

LCS: Laboratory Control Sample

LCSD: Laboratory Control Sample Duplicate



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**RUSH**

Please Circle Analyses Requested

Project No:		Project Name: <b>OLSON - SAN LORENZO</b>		Turn-Around Time see note *																	
Project Manager: <b>JASON ADELAARS</b>		Phone: Fax:		<input checked="" type="checkbox"/> 24 Hr. RUSH * <input type="checkbox"/> 48 Hr. RUSH * <input type="checkbox"/> Normal TAT <input type="checkbox"/> Other _____ * Requires PRIOR approval, additional charges apply Requested due date: _____																	
Client Name: (Report and Billing) <b>SECOR</b>		Address: (Report and Billing) <b>25864-F BUSINESSCTR REDLANDS, CA 92874</b>		Note: Reports and Invoice will be sent here Remarks/Special Instructions																	
Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	LUFT Diesel, or EPA 8015B DRO	LUFT Gas, or EPA 8015B GRO	Fuel ID (TVH, TEH), Carbon Chain (specify ranges)	8021B: BTEX/MIBE Only	VOCs: 8260B, or 624	VOCs: BTEX/Oxygenates Only	SVOCs: 8270C, or 625	8081A/8082: Pesticides, or PCBs, or PestuPCB	Metals: Title 22 (CAM), or RCRA, or PP	Metals: TCLP, STLC	pH, TDS, TSS	418.1 (TRPH), or 413.2, or 1664			
1	MW-01-W	3/17	1530	H <sub>2</sub> O	SAN LORENZO	3VDA+1AMB	X	X			X										
2	MW-02-W	↓	1740	↓	↓	↓	X	X			X										
3	MW-03-W	↓	1625	↓	↓	↓	X	X			X										
1) Relinquished by: (Sampler's Signature) 		Date: 3/17	Time: 630	3) Relinquished by:		Date:	Time:	To be completed by Laboratory personnel:										Sample Disposal			
2) Received by:		Date:	Time:	4) Received by:		Date:	Time:	Chilled? <input checked="" type="checkbox"/> Yes Temp ___ C <input type="checkbox"/> From Field Custody seals? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No All sample containers intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Courier <input checked="" type="checkbox"/> UPS Fed Ex <input type="checkbox"/> Hand carried										<input type="checkbox"/> Client will pick up <input type="checkbox"/> Return to client <input checked="" type="checkbox"/> Lab disposal Sample Locator Number: <b>4/NOA</b>			
The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.						5) Relinquished by: <b>FEDEX</b>		Date:	Time:												
						6) Received for Laboratory by: 		Date: 3/17/08	Time: 915am												
Laboratory Notes:						Report Formats: Check all applicable <input checked="" type="checkbox"/> Paper report <input checked="" type="checkbox"/> PDF report (include email address) <input type="checkbox"/> LARWQCB <input type="checkbox"/> EDF (include global ID) <input type="checkbox"/> EDD (GISKEY) <input type="checkbox"/> EDD (Other) * <small>* with prior approval only</small>															