



Oilfield Environmental and Compliance

307 Roemer Way Suite 300, Santa Maria CA 93454
phone: (805) 922-4772 fax: (805) 925-3376

Highway 33, McKittrick CA
phone: (661) 762-9143

Company: LFT, Inc.		Project Name#: LFT001-ASSESSMENT		
Address: 320 S. Miller St. Ste. 210		Site: INVESTIGATE		
City/State/Zip: Santa Barbara, CA 93101		Analysis Requested		
Phone: 805-349-1180 Fax: 805-349-1176 E-mail: Admin@LFT.com		Special Instructions:		
Report To: Admin Help Sampler: AMH				
Send report via: FAX: <input type="checkbox"/> PDF: <input checked="" type="checkbox"/> Col/LUFT/EDF: <input type="checkbox"/> EDD: <input type="checkbox"/>				
Turnaround Time: 10 Days: <input type="checkbox"/> 5 Days: <input type="checkbox"/> 72 hr: <input type="checkbox"/> 48 hr: <input type="checkbox"/> 24 hr: <input type="checkbox"/> ASAP: <input type="checkbox"/>				
Other Client ID#	Date/Time Sampled	Matrix	# of Cont.	Client Sample ID
	3/27/09 0810 Sat.	4	35-TRIA/WFP-04-6	X
	0815	1	-04-10	
	1030	2	-05-51	
	1130	1	-05-8	
	1400	2	-06-31	
	1525	1	-07-75	
	1530	1	-07-151	
				Date: 3/30/09 Time: 0940 Comments/PO#:
				<i>John Smith</i> Date: 3/30/09 Time: 0940
Relinquished By:				Date: Time:
Received By:				Date: Time:
Relinquished By:				Date: Time:
Received By:				Date: Time:
Relinquished By:				Date: Time:
Received By:				Date: Time:



SAMPLE RECEIPT

OPEC ID #: 09100888

Temp.

Temp: 60°C
Acceptable Range: 0°C to 6°C

COCR RECEIVED 3-30-01 @ 0940
DATE/TIME:

RECEIPT LOGIN
DATE/TIME:

SAMPLE TRANSPORT, RECEIPT, CONDITION & PRESERVATION:		(*) PROBLEM CHAIN FORM NEEDED		
<input type="checkbox"/> OEC Courier/Sampler	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>	Custody Seals (circle): Present / <input checked="" type="checkbox"/> Absent
<input checked="" type="checkbox"/> Delivery(Other than OEC Courier)				Samples / Containers: Intact / <input checked="" type="checkbox"/> Broken*
<input type="checkbox"/> Samples Received Outside Temp. Range*				
<input type="checkbox"/> Samples Direct from field (Outside Temp)				
<input type="checkbox"/> After-Hours Outside Drop-off [Brought Inside] (Initials/Date/Time):				Method of Shipment & Tracking#(if applicable)
		COC document(s) received with samples Container label(s) consistent with COC Container(s) intact and in good condition Correct containers for analysis requested Proper preservation, on sample label(s) OEC preservative added (** note std ID)		

CORRECTIONS AND/OR CHANGES

RECEIPT LOGIN BY:

RECEIPT REVIEWED BY:

Page 1 of 1



1900 Powell Street, 12th Floor

Emeryville, CA 94608-1827

510.652.4500, FAX: 510.652.2246

Purchase Order # 22323

Issue Date: 3/30/09

Start Date: 3/23/2009

Finish Date: 12/31/2009

To:

Oilfield Environmental
Compliance
307 Roemer Way, Suite 300,
Santa Maria, CA 93454
805-922-4772, FAX: 805-925-3376
Attn:
LFR VENDOR ID # 201878

Bill to:

LFR Inc.
Attn: Accounting Liaison
301 South Miller Street, Suite 210
Santa Maria, CA 93454
(805) 349-7180, FAX: (805) 349-7176
P.O. # MUST APPEAR ON ALL INVOICES

LFR Project Information

Project Code: 002-08031-20

Phase Code(s): 004

PM: Timothy L. Limbers

Project Location:

Investec, 147-165 Castilian
Goleta, Ca

A current copy of your certificate of insurance is already on file.

Line	Description	Qty	UnitCost	UnitType	Pricing	Total
1	VOC's by 8260B	.16	\$85.00	sample	UP, NTE	\$1,360.00
Grand Total:						\$1,360.00
Comments:						

This PO is hereby accepted and executed by duly authorized representatives of Subcontractor and LFR.

By Subcontractor

Date

By LFR Authorized Project Manager

Date

Upon the earlier of the commencement of the Work or acceptance of this Purchase Order, Subcontractor agrees to LFR's General Terms and Conditions attached hereto by reference and made a part of this Purchase Order.

Hook, Aaron

From: Julius Carstens [jcarstens@oecusa.com]
Sent: Friday, March 20, 2009 8:48 AM
To: Hook, Aaron
Subject: RE: Renco / Regency prices.

Yes. That should be fine. And thank you for getting us paid on some old stuff.

Julius

From: Hook, Aaron [mailto:Aaron.Hook@lfr.com]
Sent: Friday, March 20, 2009 6:45 AM
To: Julius Carstens
Subject: RE: Renco / Regency prices

Julius,
I've got some soil/GW sampling coming up at Renco next week, probably on the order of 15 samples for 8260B.
Would you be able to extend the same pricing (\$85) as the quarterly monitoring?
Thanks,
Aaron

From: Julius Carstens [jcarstens@oecusa.com]
Sent: Tuesday, February 03, 2009 3:29 PM
To: Hook, Aaron
Subject: RE: Renco / Regency prices

Aaron,

I have attached a quote that matches the prices you sent. Thank you for letting us update our prices.
Let me know if you have any questions.

Thanks,
Julius

From: Hook, Aaron [mailto:Aaron.Hook@lfr.com]
Sent: Tuesday, February 03, 2009 10:00 AM
To: Julius Carstens
Subject: Renco / Regency prices

Julius,
We've been asked to look at reducing costs for our quarterly monitoring projects. I've received a bid that I'd like to give you a chance to meet or at least respond to. Take a look at these prices and give me a call if you have any questions.

VOCs	8260B	\$85
VOCs +oxys	8260B	\$85
TPHg	8015 GRO	\$35
Lactic Acid	300.0	\$100
Sulfate	300.0	\$17
TOC		\$35

Thanks,

APPENDIX C

Proposed Injection Volume Calculations

PROPOSED INJECTION VOLUME CALCULATIONS

The following calculations were used to estimate the volume of emulsified vegetable oil (EVO) necessary to effect complete treatment of the targeted zone. The first series of calculations estimate the volume of EVO theoretically required to completely satisfy the electron demand and complete the intended chemical reactions, and assumes that the EVO is distributed uniformly throughout the targeted zone. The second series of calculations recognize that, in practice, EVO tends to be retained on soil surfaces, and this retention (rather than total electron demand) often controls the required EVO-dosage needed to effect complete treatment.

C.1 Electron Demand Approach

The following section presents calculations of the theoretical minimum volume of edible oil substrate (EOS[®]) or other EVO substrate necessary to complete enhanced reductive chlorination of the chlorinated volatile organic compound (CVOC) concentrations observed at the Investec Real Estate Companies (Investec) properties located at 82 Coromar Drive and 147-165 Castilian Drive (collectively referred to as "the Investec Properties").

Calculation of the Theoretical Minimum Volume of EOS[®] Required

The minimum volume of EOS[®] required at the Investec Properties was determined from available assessment data. Representative concentrations of CVOCs including tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cDCE), trans-1,2-dichloroethene (tDCE), vinyl chloride (VC), 1,1-dichloroethene (11-DCE), and 1,1-dichloroethane (11-DCA) and geochemical parameters including dissolved oxygen (DO), nitrate, ferric iron, and sulfate were used to estimate the volume of required EOS[®]. These concentrations were based on the January 2008 groundwater sampling analytical data (LFR 2008). The values chosen were either the maximum concentration detected in groundwater on that date, or a representative high historical value detected in groundwater on the Investec Properties. These values are presented below.

Table C1. Concentration of Alternate Electron Acceptors

Species	Representative Concentration
Oxygen	2 mg/l
Nitrate	0 mg/l
Ferric Iron	0 mg/l
Sulfate	500 mg/l

Notes: mg/l = milligrams per liter

Table C2. Concentration of Chlorinated VOCs

Species	Representative Concentration
Tetrachloroethene	0.0036 mg/l
Trichloroethene	3 mg/l
cis 1,2-Dichloroethene	0.29 mg/l
trans 1,2-Dichloroethene	0.032 mg/l
Vinyl Chloride	0.37 mg/l
1,1-Dichloroethene	0.064 mg/l
1,1-Dichloroethane	0.031 mg/l

Notes: mg/l = milligrams per liter
 VOCs = volatile organic compounds

Physical parameters were used to calculate the volume of CVOC-affected groundwater beneath the Investec Properties. Based on previous subsurface investigations, the area of affected groundwater was estimated to be approximately 175,000 square feet. The depth interval of CVOC-affected groundwater varies across the property. In the upgradient portions of the property, the interval of CVOC-affected groundwater ranges from approximately 25 to 30 feet below ground surface (bgs). In the middle portions of the property and towards the south near assessment location IRA/MIP 5, the affected groundwater extends from approximately 15 to 30 feet bgs. In the vicinity of location IRA/MIP 4, the CVOC-affected zone includes soils in the vadose zone and groundwater extending to approximately 30 feet bgs. In the downgradient portion of the property to the southeast and east, the interval of CVOC-affected groundwater is approximately 24 to 29 feet bgs. Based on the depths determined for these areas, an average thickness of affected groundwater was estimated to be 10.5 feet. The volume of affected groundwater (approximately 4,056,098 gallons) was estimated from the following equation:

$$V = A * d_{avg} * \theta * 7.48 \frac{\text{gallons}}{\text{foot}^3}$$

V = Volume of affected groundwater (gallons)

A = Area of affected groundwater (175,000 square feet)

d_{avg} = Average depth interval of affected groundwater (10.5 feet)

θ = Total porosity (0.30)

The representative concentrations of CVOCs and geochemical parameters listed above were used in conjunction with the calculated volume of affected groundwater to estimate the hypothetical electron requirement of the target groundwater interval. In this process, each CVOC and inorganic constituent listed above requires a known number of electrons to reach the desired oxidation state. For example, TCE requires

six electrons to be degraded to ethene. To calculate the electron requirement for each compound, the following equation is used:

$$E_i = \frac{C_i * \varepsilon}{MW_i * 1,000} \frac{\text{gram}}{\text{milligrams}}$$

E_i = Electron requirement of each given compound i (e equivalents/liter)

C_i = Concentration of compound i (milligrams/liter)

ε = Number of electrons required to reduce compound i

MW_i = Molecular weight of compound i (grams/mole)

The sum of the electron requirement of all considered compounds was used to estimate the necessary total electron requirement per unit volume of affected zone. This sum was then multiplied by the volume of affected groundwater to determine the total electron requirement of the targeted subsurface zone. The values calculated for the Investec properties based on these assumptions are presented in the following table.

Table C3. Electron Requirement of CVOCs and Geochemical Parameters

Species	Representative Concentration	Molecular Weight	Number of Electrons Required	Max Electron Requirement (e equiv/l)
Tetrachloroethene	0.0036 mg/l	165.8 g/mol	8	1.74E-07
Trichloroethene	3 mg/l	131.4 g/mol	6	1.37E-04
cis 1,2-Dichloroethene	0.29 mg/l	96.9 g/mol	4	1.20E-05
trans 1,2-Dichloroethene	0.032 mg/l	96.9 g/mol	4	1.32E-06
Vinyl Chloride	0.37 mg/l	62.5 g/mol	2	1.18E-05
11-DCE	0.064 mg/l	96.9 g/mol	4	2.64E-06
1,1-Dichloroethane	0.031 mg/l	99.0 g/mol	4	1.25E-06
Dissolved Oxygen	2 mg/l	32.0 g/mol	2	1.25E-04
Sulfate	500 mg/l	96.1 g/mol	8	4.16E-02
Total Electron Requirement:				643,797

Notes: CVOCs = chlorinated volatile organic compounds

g/mol = grams per mole

mg/l = milligrams per liter

The theoretical amount of EOS® 598B42 needed is estimated by dividing the total electron requirement of the affected aquifer by the electron potential of EOS® 598B42 (E_{EOS}). As provided by the manufacturer, EOS® 598B42 contains 74 percent by weight

organic substrate. For the purpose of the calculation, this was considered to be entirely organic carbon. The percent by weight was converted to electron equivalents per kilogram by the following equation:

$$E_{EOS} = \frac{0.74 * 4 \frac{eequiv}{mol} * 1,000 \frac{g}{kg}}{12 \frac{g}{mol}}$$

This calculation gives a total of 247 electron equivalents per kilogram of EOS®. The minimum volume of EOS® 598B42 necessary is calculated as electron requirement of the affected groundwater divided by the electron potential of EOS® 598B42. The following table presents the minimum volume of EOS® 598B42 needed in various units:

Table C4. Minimum Volume of EOS® 598B42

Organic Content as Reported (wt %)	74
Electron Potential (e equiv/kg)	247
Mass Required (kg)	2,610
Mass Required (lb)	5,754
Volume Required (gal)	679
Volume Required (drums)	14

C.2 Oil Retention Approach

The following presents the estimated calculated volume of EVO required on the Investec Properties, based on expected retention of injected EVO onto subsurface soil particles.

Calculation of the Estimated Volume of EVO Needed to Achieve Contact with Transmissive Strata

To achieve adequate coverage of the targeted treatment area, sufficient fluid volumes must be delivered at each injection point. These fluid volumes can be estimated for each vertical foot of injection using the geometric equation below.

$$V_{inj} = \pi \times r_{inj}^2 \times h \times \theta_m \times 7.48$$

- V_{inj} = volume of injection (gallons)
- r_{inj} = desired radius of injection (feet)
- h = vertical injection interval (feet)

θ_m = porosity that will accept the injected fluid (mobile porosity)
 7.48 = conversion factor between cubic feet and gallons

Assuming a mobile porosity of 2.5 percent, approximately 92 gallons of injection solution would be required per vertical foot to achieve coverage between injection points spaced 25-feet on-center. Values for mobile porosity typically range between 1 and 10 percent (Payne et al. 2009), with the selected value of 2.5 percent being reflective of the highly interbedded lithology characteristic of the site.

Prior field experience and guidance documents (ESTCP 2006) have shown that a dilution factor of 1:15 oil to water results in successful delivery of the injection solution to the subsurface. At a total of 90 gallons of injection solution per vertical foot of transmissive strata, a 1:15 dilution results in approximately 6 gallons of EVO loading per vertical foot or 6 percent by volume of EVO. Assuming that the average 5-foot interval at the site has 75 percent transmissive strata, equivalently, 23 gallons of EVO are required per 5-foot vertical injection interval.

The primary factor that typically controls EVO loading is retention of the oil on the aquifer sediments during injection. As an oil-in-water emulsion is injected, the droplets collide with sediment surfaces and stick to the soil particles. The sediment surfaces gradually become coated with a layer of oil that then provide a carbon source for reductive dechlorination without impacting the permeability of the formation. This retention can range from 0.001 to 0.004 grams of oil per gram of soil, depending on soil characteristics. The oil retention achieved at 6 percent by volume EVO is calculated by the following:

$$R = \frac{SG_{EVO} * \rho_w * \Theta_m * \frac{\%vol}{100}}{\rho_s}$$

R = retention (grams of oil/grams of soil)
 SG_{EVO} = specific gravity of EVO (-)
 ρ_w = density of water (grams/liter)
 Θ_m = mobile porosity (-)
 %vol = percent of EVO by volume (percent)
 ρ_s = density of soil (grams/liter)

Assuming a specific gravity of EVO (SG_{EVO}) of 0.92, the density of water (ρ_w) as 1,000 grams/liter, a mobile porosity (Θ_m) of 2.5 percent, and the density of soil (ρ_s) as 1,736 grams/liter, approximately 0.001 grams of oil per gram of soil is achieved. This is within the expected range of retention of 0.001 to 0.004 grams of oil per gram of soil.

Estimated Volume of Substrate and Comparison to Minimum Electron Demand Volume

Approximately 157 injection locations are proposed for the Investec Properties. Given that these injections are being implemented within interbedded silty sediments, an estimated average of 75 percent of each 5-foot interval is assumed to be capable of accepting fluids. The vertical injection length at each location varies across the property, with a total of 304 5-foot intervals. The lowest zone contains the observed transmissive unit, which appears to serve as the most substantial and continuous migration pathway for the majority of the affected groundwater. The upper affected units are less transmissive, lacking a consistent sand lens, suggesting that the upper zones would be expected to accept less fluid than the lowest zone. Given this complex array of differing units, the injections will employ field observations to evaluate the volume of injection fluid, with the anticipated bias to emplace greater volumes into the transmissive zones, depending upon field observation. Consistent with protocols established in the RAP, based largely upon observed field deviations of pressure and injection rate in different regions of the Site, temporary well screens could be placed adjacent to, and within the anticipated radius of injection, for observation and sampling of water to assess substrate and organic compound distribution within or near the injection areas. These observations would be limited to one location on the Renco Site and as many as three locations on the Investec Properties, and would be determined in the field.

Based upon the assumptions stated above, the total volume of EVO required by this approach is approximately 7,072 gallons for the Investec Properties. Compared to the previously calculated minimum volume of oil needed to satisfy the electron demand (679 gallons), this estimated volume provides 10.4 times the estimated minimum volume, and would be expected to provide adequate coverage throughout the transmissive strata to create and maintain reducing conditions. This application is more robust than the prior successful application on the Renco Site.

References

- Environmental Security Technical Certification Program (ESTCP). 2006. Protocol for Enhanced In Situ Bioremediation Using Emulsified Edible Oil. U.S. Department of Defense. May.
- LFR Inc. 2008. Membrane Interface Probe Investigation and Groundwater Monitoring Report: Renco Encoders Property (26 Coromar Drive) and Investec Properties (82 Coromar Drive and 147 to 153 Castilian Drive), Goleta, California. April 4.
- Payne, Fred C., Joseph A. Quinnan, Scott T. Potter. 2008. *Remediation Hydraulics*. CRC Press.

Groundwater Chemistry

Concentration of Alternative Electron Acceptors

Species	Representative Concentration (mg/l)
Oxygen	2
Nitrate	0
Ferric Iron	0
Sulfate	500

Concentration of Chlorinated VOCs

Species	Representative Concentration (mg/l)
Tetrachloroethene	0.0036
Trichloroethene	3
cis-Dichloroethene	0.29
trans-Dichloroethene	0.032
Vinyl Chloride	0.37
11DCE	0.064
11DCA	0.031

Aquifer Characteristics

Parameter	Value	Units
Affected Area	175,000	sq ft
Average Vertical Depth	10.5	ft
Porosity	0.30	--
Volume Affected	4,056,098	gallons

Calculations

All of these values are calculated.

Electron Requirement of Alternative Electron Acceptors

Species	Max Electron Requirement (e equiv/l)
Oxygen	1.25E-04
Nitrate	0.00E+00
Ferric Iron	-0.00E+00
Sulfate	4.16E-02

Electron Requirements

Electron Requirement of CVOCs and Geochemical Parameters

Species	Max Electron Requirement (e equiv/l)
Tetrachloroethene	1.74E-07
Trichloroethene	1.37E-04
cis-Dichloroethene	1.20E-05
trans-Dichloroethene	1.32E-06
Vinyl Chloride	1.18E-05
11DCE	2.64E-06
11DCA	1.25E-06
DO	1.25E-04
Sulfate	6.25E-02

Electron Requirement of the Aquifer (e equiv)

1,630,456

Treatment

EOS 598B42

Electron Potential as Reported	74wt%
Electron Potential (e equiv/kg)	247
Mass Required (kg)	6,610
Mass Required (lb)	14,542
Volume Required (gal)	1,717
Volume Required (drums)	32

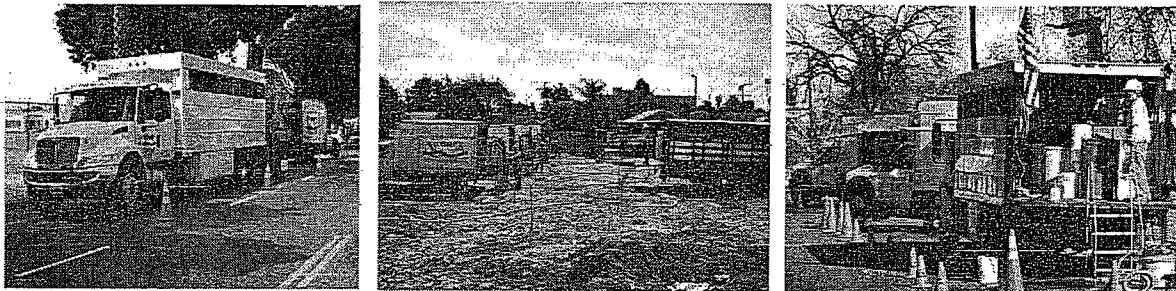
APPENDIX D

**Vironex Emulsified Oil Substrate Injection
Standard Operating Procedures**

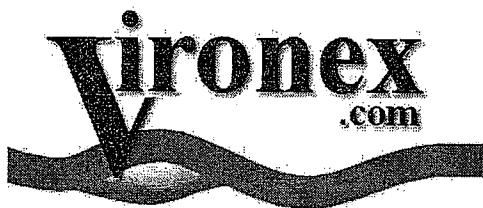
EOS Emulsified Oil Substrate

Mixing-and Injection

Standard Operating Procedures



December 2008



“Bringing Chemistry and Contaminants Together”

For the Consulting Community

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Vironex Emulsified Oil Substrate - EOS EVO Mixing and Injection - DPT

Vironex utilizes various Direct-Push Technology (DPT) Rig Platforms to advance specially designed 1.5", 1.75" and 2.125" O.D. injection tools, capable of top-down or bottom-up injection. Vironex targets one (1) to five (5) foot injection zones, this allows for proper vertical distribution of reagents throughout the target treatment interval.

Specific Rig Platform and Injection Tool selection is dependent on specific site conditions, project requirements and performance objectives.

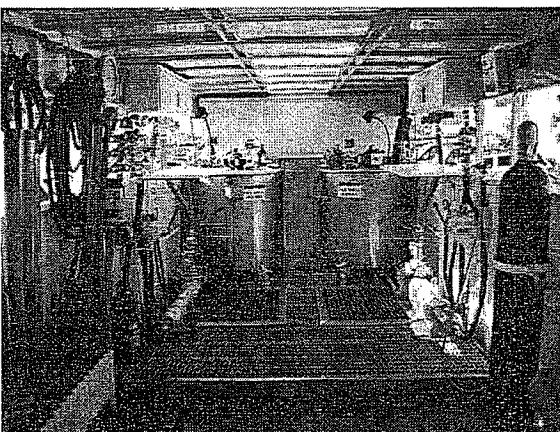
The EOS EVO concentrate is blended with water to the desired concentration typically in either batches in the onboard mix tanks, or it is dosed through the onboard metering manifold. The mixed solution is then injected using a dedicated pumping system that is capable of providing specified pressures and flow rates as well as the desired volumes based on the project design. Pressure, flow rate, and concentration can all be adjusted as needed on our self-contained injection unit.

The injection rig mixers and the metering manifold, eliminates the cost and associated logistics related to off-rig mixing tanks.

Once the first target treatment interval has been reached, desired volume of mixed solution will be injected into the formation, upon completion, the tooling will then be either advanced or retracted to the next treatment interval for injection. Upon completion of the injection, the injection tooling will be removed from the borehole. The borehole is backfilled with appropriate backfilling material and then patched at the surface to match existing surface material.



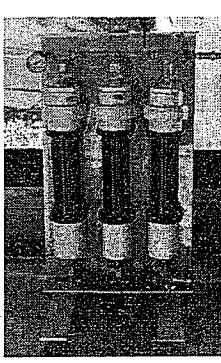
Custom Designed Injection Rigs



Injection Rig Mixing Systems



EOS EVO mixed in
onboard mix tank



KB-1 Microbial Culture
Injection Manifold



Vironex Injection Process – Injection Wells

For traditional wells, Vironex can manifold to multiple well locations and measure pressure, flow rate, and total volume at each well.

Injection into the wells can be performed through gravity feed, injection caps, or through down hole Inflatable Packers.

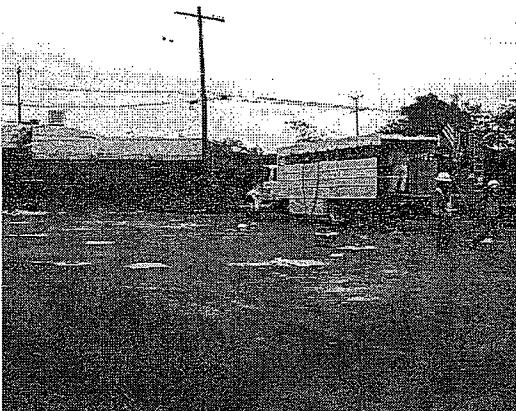
For un-cased boreholes or to isolate deep injection screens, Vironex commonly utilizes Inflatable Packers. Vironex first selects a packer to match project requirements for diameter, pressure, and construction. The Inflatable Packer is then lowered to the desired injection zone. The packer is then inflated to the rated pressure to isolate the injection zone. The mixed solution is then injected through the packer and into the injection zone below the Packer.



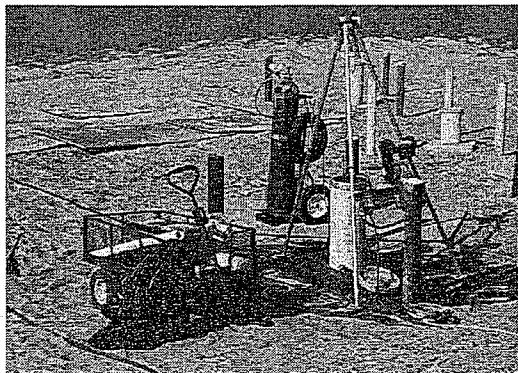
10" Packer lowered into un-cased boring
for fractured bedrock injection



Simultaneously Injecting into 10 Injection Wells



Simultaneously Injecting into 2 Infiltration Galleries



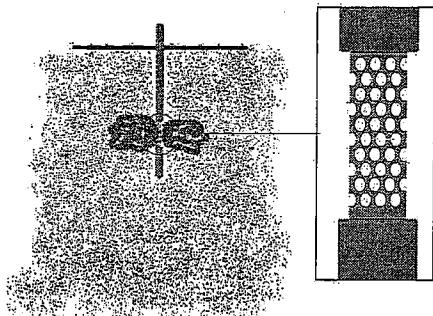
Injection Packer utilized in Well at remote location



Vironex Injection Process – Injection Tools

Vironex has developed customized injection tooling to provide for targeted distribution of reagents in the subsurface. These tools are designed for both top-down or bottom-up injection to meet the injection needs of our customers.

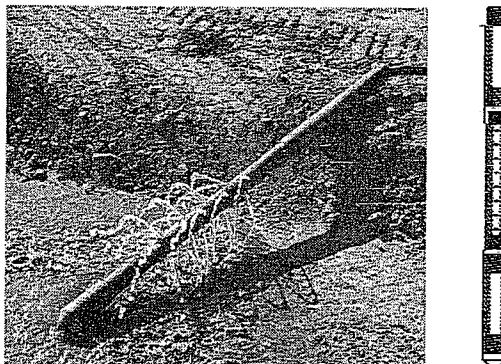
These specially designed 1.5", 1.75" and 2.125" O.D. injection tools typically target one (1) to five (5) foot injection zones, but can be modified for any length. The Injection Tools are machined from 4130 Chromium-Molybdenum Alloy Steel or Stainless Steel, depending on reagent compatibility.



Product delivery through lateral injection



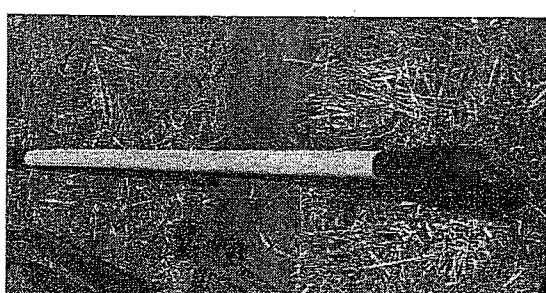
Bottom-Up Injection Tool With 1 Foot Screen



Top-Down Injection Tool With 2 Foot Screen



Jetting Tool



5-foot Injection Tool with PVC Screen Filter

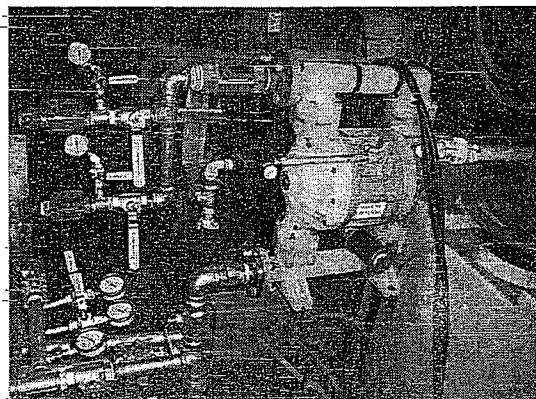


Vironex Injection Process – Pumps

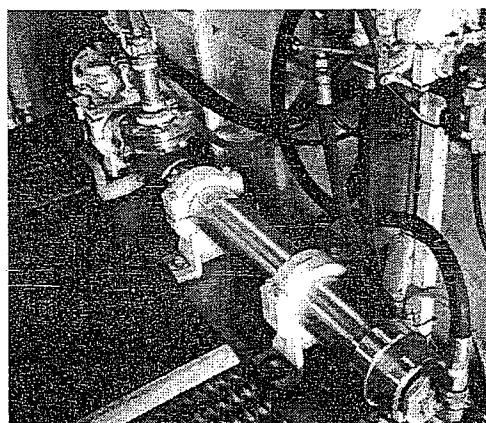
Vironex used three main pumping systems for delivery of reagents. These pumps include air diaphragm pumps for low pressure applications, progressive cavity pumps for moderate pressure applications, and piston pumps for high pressure applications.

All pumping systems are compatible with the reagents to be delivered. Vironex pumps are rated for the following injection rates and pressures:

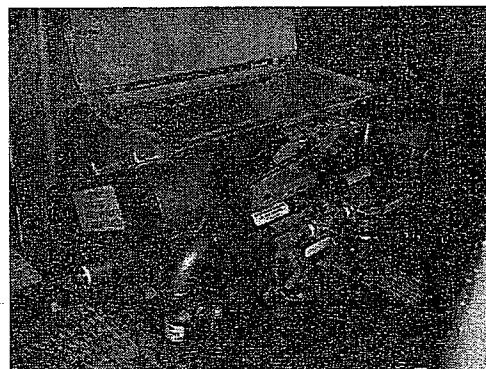
- Air Diaphragm:
 - 0-100 gpm / 0-120 psi
- Progressive Cavity:
 - 0-100 gpm / 0-400 psi
- Piston:
 - 0-9 gpm / 0-1500 psi



Air Diaphragm Pump



Progressive Cavity Pump



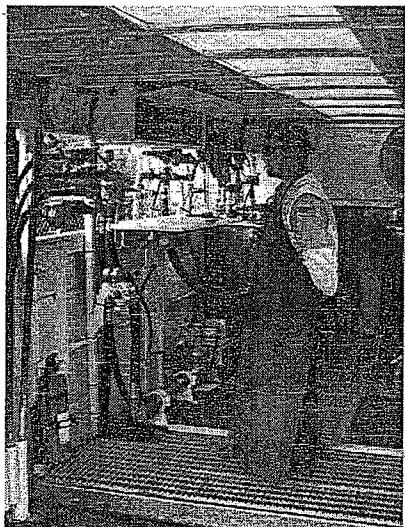
Double Piston Pump



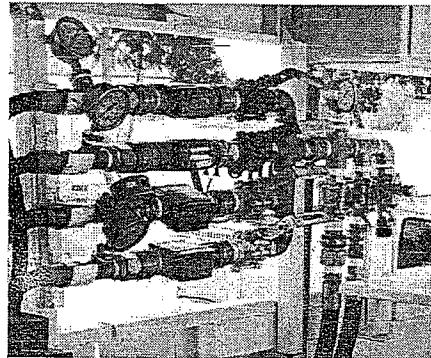
Vironex Injection Process – Monitoring

Vironex monitors injection flow rate, total flow, and injection pressure inside the injection rig and at the injection point if required. This data is recorded and included in an injection report.

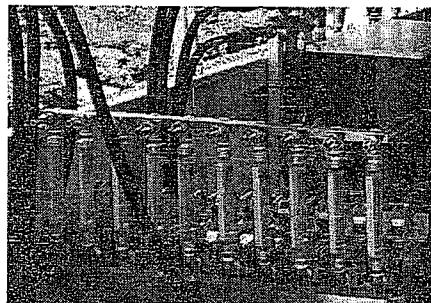
Vironex utilizes digital turbine flow meters to measure injection rates and total flow.



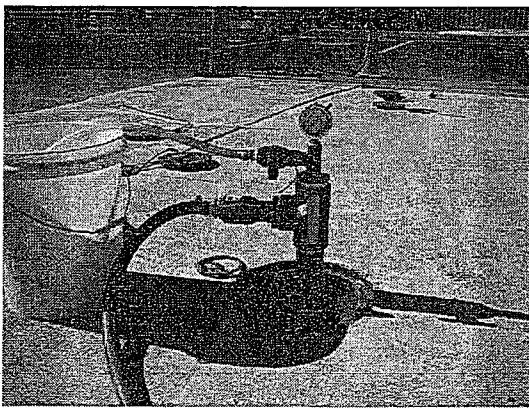
Product Flow/Pressure Monitoring



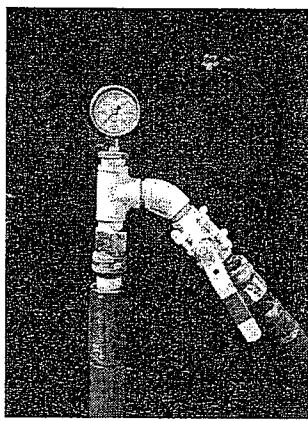
Standard 4-point Manifold with Instantaneous Flow, Volume, and Pressure Monitoring



10-point Manifold with Instantaneous Flow, Volume, and Pressure Monitoring



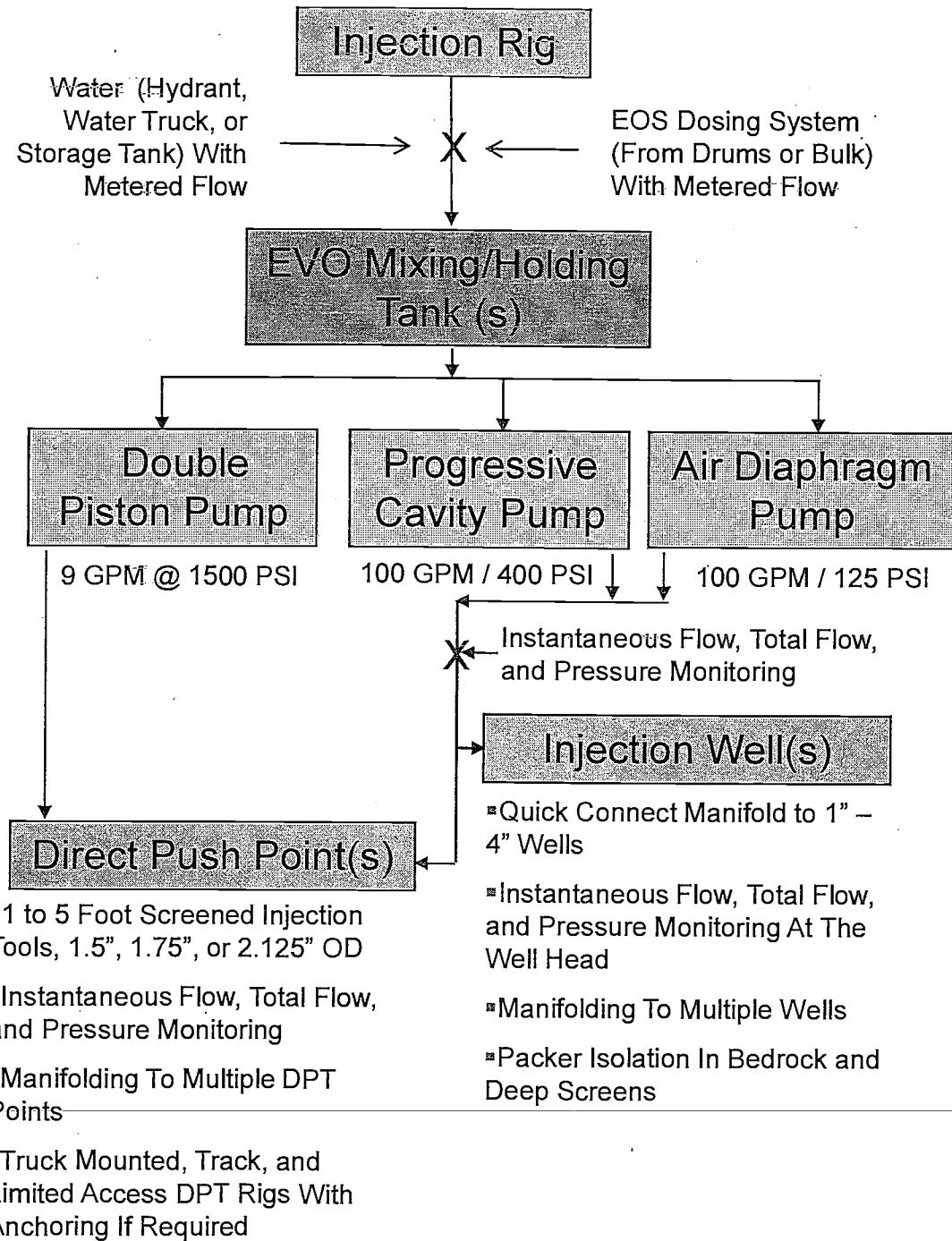
Injection Well Monitoring



Direct Push Point Monitoring



Vironex Emulsified Oil Substrate – EOS EVO Mixing and Injection Process Flow





Safety



Safety is an integral part of Vironex's philosophy and work day. We believe that safety is best achieved using a proactive approach which begins with training. All Vironex operators are required to receive and maintain certain fundamental training courses, including 40 hour OSHA training, plus annual 8 hour refresher courses. Additionally, all Vironex operators receive thorough and ongoing training on various forms of Direct Push Technology (DPT), remedial injection systems and compounds, and all equipment and tooling used by Vironex field personnel.

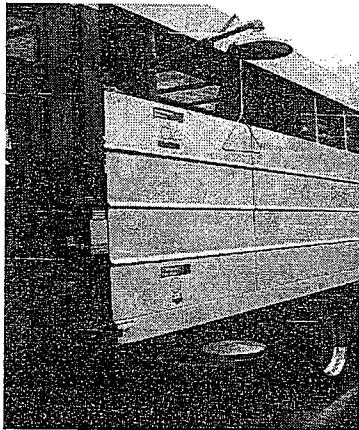
Each Vironex office conducts monthly staff and safety meetings to ensure that training and safety remain at the forefront of our corporate values. Vironex has dedicated Regional and Corporate Safety Officers to monitor and address all safety concerns on a regional as well as national level.

Remediation compounds require proper handling and can not be treated casually. The mixture and concentrations of various compounds is an evolving process, and it is imperative that the client is intimately familiar with applicable MSDS information, the characteristics of each compound and their associated risks. Such information and any concerns relative to the safety of the proposed remedial compounds should be brought to the attention of Vironex immediately.

Vironex develops a project specific Health and Safety Plan for all injection projects. Prior to initiation of injection, the Vironex Remediation Crew Chief holds a safety tailgater to discuss the Health and Safety Plan with the injection crew, our client and other project stakeholders. Prior to initiating injection each following day, a safety tailgater is held every morning with our crew and our client to discuss whether any changes in work practices or modifications to the Health and Safety plan are required.



Tailgate Safety Meeting



Safety Shower and Eye Wash



PPE and Safety Equipment

EXHIBIT E

California Regional Water Quality Control Board

Central Coast Region



Linda S. Adams
Secretary for
Environmental
Protection

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Arnold Schwarzenegger
Governor

August 27, 2008

Mr. Charles Robinson
Renco Encoders, Inc.
c/o-Levine-Fricke-Recon (LFR)
3150 Bristol Street, Suite 250
Costa Mesa, CA 92626

Mr. Bill Brace
Investec Management Corporation
200 E. Carrillo Street, Suite 200
Santa Barbara, CA 93101

Dear Mr. Robinson and Mr. Brace:

SITE CLEANUP PROGRAM: RENCO, 26 COROMAR DRIVE AND INVESTEC PROPERTIES, 82 COROMAR DRIVE AND 147-153 CASTILIAN DRIVE, GOLETA – MEMBRANE INTERFACE PROBE INVESTIGATION AND GROUNDWATER MONITORING REPORTS

Central Coast Regional Water Quality Control Board (Water Board) staff reviewed LFR's April 4, 2008 "Membrane Interface Probe Investigation and Groundwater Monitoring Report at Renco Facility (26 Coromar Drive) and Investec Properties (82 Coromar Drive and 147-153 Castilian Drive), Goleta, California" (LFR Report). LFR submitted this report in accordance with our request for additional assessment work on the two subject properties (commonly referred to as Renco and Investec Properties), and according to a workplan approved in January 2008. This work was coordinated with Investec's consultants, Padre Associates. Water Board staff also reviewed Padre's report dated March 2008 "Report of Supplemental Site Assessment Activities Investec Properties, 82 Coromar Drive and 147 through 153 Castilian Drive, Goleta, Santa Barbara County, California" (Padre Report).

Background for Renco Facility

In 1964, previous owners constructed the building located at 26 Coromar Drive as part of a larger business park. Since the building was constructed, a variety of electronics manufacturing businesses has operated at this location. The site's historical operations used and stored limited quantities of chemicals at the site. The electronics manufacturing businesses typically used chlorinated solvents during metal cleaning and plating processes and operators directed waste streams (generated during the cleaning process) through floor drains to underground sumps. These activities resulted in the

California Environmental Protection Agency



August 27, 2008

release of chlorinated solvents to soil and groundwater. The primary contaminant of concern is trichloroethylene (TCE).

Since 1991, Renco's consultants, have investigated chlorinated solvent impacts to soil and groundwater and have conducted cleanup activities at the site. In 2006, LFR implemented a large-scale onsite injection of EHC™ reagent and EOS® to enhance reductive dechlorination processes in groundwater. The remedial efforts have successfully decreased the concentration of TCE at the Renco site, and breakdown products of TCE have been detected.

Background for Investec Management Corporation Properties

In 1980, the buildings located at 147 through 165 Castilian Drive were constructed. Clenet Coachworks, Inc. (Clenet) operated an automobile manufacturing facility at 147 to 153 Castilian Drive from 1980 until 1982. Prior to development in 1980, the property was undeveloped land. In 1984, the warehouse and office buildings at 82 Coromar Drive were developed. Prior to 1984, the property existed as undeveloped land. Investec currently owns the properties located at 82 Coromar Drive and at 147 through 153 Castilian Drive.

In March 2007, Investec's consultant, Padre, conducted a soil and groundwater investigation on the Investec properties. The results of the investigation indicate that elevated concentrations of TCE are present in MW-10 and in grab groundwater samples collected in the northwestern portion of the 147 through 153 Castilian Drive property. Padre Associates, Inc. also reported elevated TCE concentrations beneath the northeastern portion of the building located at 153 Castilian Drive.

Current Assessment Results

LFR and Padre jointly conducted site assessment work in 2008 at the Renco and Investec properties, respectively. The purpose of the work was the better define the extent of groundwater and soil contamination, as well as provide a more refined conceptual site model with which to base subsequent site remedial decisions.

LFR and Padre differ in their interpretation of the resulting data. LFR states the presence of surface or near-surface VOC releases on the Investec properties is "consistent with soil, soil gas, and groundwater sampling data from the Investec properties indicating the presence of localized areas of elevated concentrations of TCE and other VOCs [volatile organic compounds] which are consistent with VOC releases and source locations on the Investec properties" (page 26, LFR report).

Padre concludes the data "suggests that groundwater impacts at both the Renco and Investec Sites, and trace TCE concentrations in soil at the Investec Site, are associated with historic releases at the Renco Site. Based on the distribution of elevated TCE, cis-1,2-dichloroethylene [DCE], and VC [vinyl chloride] in groundwater across the two sites it is apparent that the active remediation activities implemented at the Renco Site are

August 27, 2008

affecting TCE concentrations in groundwater across both properties" (page ES-1, Padre Report).

Water Board staff has reviewed the information and analysis presented in each report, as well as supplemental documents regarding Clenet Coachwork's historic operations submitted on behalf of Investec on April 1, 2008. In general, the data are consistent with the conclusion that the waste on both the Renco and Investec properties is associated with historic releases from the Renco property. Data supporting a Renco release include the following:

- 1) Soil investigations on the Investec properties revealed waste concentrations below the Environmental Screening Levels (*Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, San Francisco Regional Water Quality Control Board, November 2007) for the individual wastes. The distribution and magnitude of VOC detections in soil are generally consistent with a groundwater source, i.e., relatively lower concentrations at depths corresponding to groundwater levels. The data do not conclusively indicate a separate, unidentified source area on the Investec properties as a likely cause of the magnitude or extent of the observed groundwater contamination.
- 2) LFR suspects a separate source area located on the Investec property; however, no definitive data has been collected thus far to validate that conclusion. Therefore, at this time, the Water Board is not identifying Investec as a primary responsible party for the groundwater investigation and cleanup at the site. The Water Board expects, however, that Investec will provide LFR reasonable access to their site as it relates to investigation and cleanup activities. Should Investec prohibit or prevent LFR's reasonable access, the Water Board may identify Investec as the responsible party for the investigation and cleanup activities pursuant to Section 13267 of the Water Code.

The previous in-situ groundwater remediation performed by LFR at the Renco site has been successful in establishing a decreasing trend in VOC concentrations within groundwater, on both Renco and the northwest portion of the Investec properties. Groundwater monitoring in MW-13 (immediately downgradient of the Renco-LFR remediation area) showed a decrease from a maximum of 5,700 micrograms per liter ($\mu\text{g/L}$) TCE before remediation to 610 $\mu\text{g/L}$ TCE afterwards. MW-10 located just downgradient of MW-13 showed similar, although slightly less, decreases in TCE concentration. At the downgradient corner of the Investec property, remediation efforts do not appear to have affected MW-16 thus far.

LFR shall submit to the Water Board a corrective action plan (CAP) for the waste groundwater plume, as it extends onto the Investec Property. The CAP shall, at a minimum, provide a comparison of available remedial alternatives, discuss their feasibility, and recommend a remedial action. This plan shall also include delineation of the downgradient plume boundaries, in particular demonstrating if there is contaminant migration to the Goleta Slough or other downgradient surface water bodies. LFR shall submit the CAP to the Water Board for review and approval by November 14, 2008.

Mr. Charles Robinson
and Mr. Bill Brace

-4-

August 27, 2008

Failure to comply with these requirements will subject the discharger to enforcement action by the Water Board, including issuance of an order under Water Code Sections 13267 and/or 13304, and potential administrative civil liabilities. If you have additional questions, please contact Katie Disimone at (805) 542-4638 or Sheila Soderberg at (805) 549-3592.

Sincerely,

Sheila Soderberg

Roger W. Briggs
Executive Officer

S:\Site Cleanup Program\REGULATED SITES\Santa Barbara Co\Goleta\26 Coromar (Renco)\0808
Renco MIP Report.doc

cc:

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Renco Encoders, Inc.
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Mr. Ryan Zukor
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California Environmental Protection Agency

 Recycled Paper

EXHIBIT F

California Regional Water Quality Control Board

Central Coast Region



Linda S. Adams
Secretary for
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Arnold Schwarzenegger
Governor

July 21, 2009

Mr. Charles Robinson
Renco Encoders, Inc.
c/o-Levine-Fricke-Recon (LFR)
3150 Bristol Street, Suite 250
Costa Mesa, CA 92626

Dear Mr. Robinson:

SITE CLEANUP PROGAM: RENCO, 26 COROMAR DRIVE, GOLETA – INVESTEC PROPERTIES ASSESSMENT REPORT AND REMEDIAL ACTION PLAN AND SUBSTRATE INJECTION WORKPLAN

Central Coast Regional Water Quality Control Board (Water Board) staff reviewed LFR's June 29, 2009 "Investec Properties Assessment Report and Remedial Action Plan and Substrate Injection Workplan for the Renco Encoders Site 82 Coromar Drive and 147-165 Castilian Drive, Goleta, California" (Workplan). LFR submitted this report in accordance with our request for additional assessment and remedial work on properties downgradient of the Renco Encoders property located at 26 Coromar.

Water Board staff concurs with the scope of work included in the Workplan with the following comments:

- Staff does not agree with the paraphrasing of the Water Board's February 13, 2009 letter and other discussions regarding potential future cleanup actions. Consistent with the letter and previous discussions, decisions regarding any potential future cleanup actions and the responsible party or parties for those actions will be determined based on assessment and monitoring data. Staff has previously stated that there is insufficient evidence indicating a separate source area on the Investec property. The data presented in this Workplan does not change the Water Board's position regarding the presence of pollution in groundwater downgradient of the Renco property, i.e., the pollution is the result of downgradient migration of the Renco property's plume. Staff does not agree with language in the Workplan stating the "downgradient pollution appears to originate primarily from the Investec Properties. (page 10)"
- LFR must add MW-15 to the quarterly monitoring program as described in Section 7.0 Proposed Groundwater Monitoring Activities. Additionally, groundwater monitoring changes, either for frequency or analytes, shall be submitted to the Water Board's Executive Officer for approval in advance.

California Environmental Protection Agency

Mr. Charles Robinson

-2-

July 21, 2009

LFR shall submit to the Water Board an updated schedule for the substrate injections and an assessment report for the remaining downgradient properties by August 31, 2009.

Failure to comply with these requirements will subject the discharger to enforcement action by the Water Board, including issuance of an order under Water Code Sections 13267 and/or 13304, and potential administrative civil liabilities. If you have additional questions, please contact **Katie Disimone at (805) 542-4638** or Sheila Soderberg at (805) 549-3592.

Sincerely,



for Roger W. Briggs
Executive Officer

S:\Site Cleanup Program\REGULATED SITES\Santa Barbara Co\Goleta\26 Coromar (Renco)\0709 Substrate Injection WP approval.doc

cc:

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Mr. Bruce Tarr
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EXHIBIT G



Imagine the result

2010 Fourth Quarter Groundwater Monitoring Report

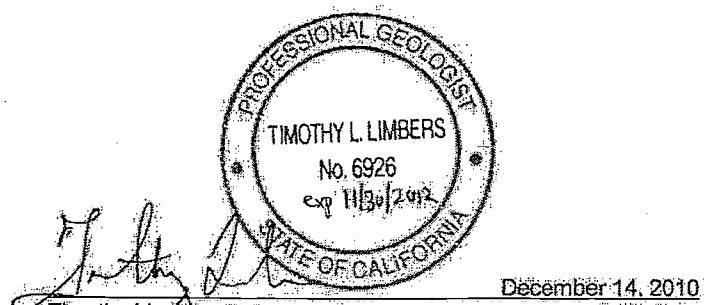
Renco Encoders Site
26 Coromar Drive
Goleta, California

December 14, 2010

ARCADIS

Certification

All hydrogeologic and geologic information, conclusions, and recommendations in this document have been prepared under the supervision of and reviewed by an ARCADIS California Professional Geologist.



Timothy Limbers, P.G.
Principal Hydrogeologist
California Professional Geologist (6926)

*A professional geologist's or engineer's certification of conditions comprises a declaration of his or her professional judgment. It does not constitute a warranty or guarantee, expressed or implied, nor does it relieve any other party of its responsibility to abide by contract documents, applicable codes, standards, regulations, and ordinances.

**2010 Fourth Quarter
Groundwater Monitoring
Report**

Renco Encoders Site, 26
Coromar Drive, Goleta,
California

Prepared for:
California Regional Water Quality Control
Board, Central Coast Region
985 Aerovista Place, Suite 101
San Luis Obispo, California, 93401

Prepared by:
ARCADIS U.S., Inc.
301 South Miller Street, Suite 210
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Our Ref.:
CM008031.0020.00007

Date:
December 14, 2010

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- 2 Summary of Groundwater Elevations and Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Pilot Study Test Wells
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- A Groundwater Monitoring Field Forms
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2010 Fourth Quarter Groundwater Monitoring Report

Renco Encoders Site
Goleta, California

1. Introduction

ARCADIS has prepared this *2010 Fourth Quarter Groundwater Monitoring Report* for the Renco Encoders site (Renco) located at 26 Coromar Drive, Goleta, California (Figure 1). The Monitoring and Reporting Program (MRP) for Renco was revised on August 16, 2010 to include, among other changes, sampling of groundwater monitoring wells located on two properties downgradient of the Renco property (RWQCB 2010). This fourth quarter 2010 groundwater monitoring event was conducted as a “quarterly sampling event” in accordance with the revised MRP.

Quarterly groundwater monitoring activities were initiated following groundwater remediation efforts conducted in late July 2006. Supplemental remedial substrate injection activities were conducted more recently in October and November 2009 (LFR 2010b). Remedial substrate injections have substantially reduced the concentrations of chlorinated volatile organic compounds (VOCs) in groundwater on the Renco property and portions of the adjacent Investec properties. The most recent monitoring results indicate that reductions in VOC concentrations are continuing on the Renco property, and VOC degradation has been accelerated on the adjacent downgradient Investec and Sares Regis properties.

2. Site Location and Background

The locations of the Renco and downgradient properties and the historical remediation activities conducted on each property are summarized below.

2.1 Site Location Information

The Renco Encoders Site is located at 26 Coromar Drive in Goleta, California (Figure 1). Groundwater monitoring wells MW-1 through MW-9 and TW-1R are located on the Renco property (Figure 2).

Downgradient of the Renco property to the southeast are properties with addresses 82 Coromar Drive and 147 – 165 Castilian Drive. These properties are collectively referred to as the “Investec” properties (Figure 1). Groundwater monitoring wells MW-10 through MW-18 are located on the Investec properties (Figure 2).

Located further downgradient and across Hollister Avenue to the south of the Investec properties is the “Sares Regis” property at 6767 Hollister Avenue. Groundwater monitoring well MW-19 is located on the Sares Regis property (Figure 2).

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Monitoring Report

Renco Encoders Site
Goleta, California

2.2 Previous Remedial Activities

Multiple remedial efforts to address VOC impacts to soil and groundwater at Renco and the Investec properties have been implemented by ARCADIS and previous consultants. A summary of these activities is presented below.

- **1992.** Hoover & Associates, Inc., excavated approximately 13 tons of soil during removal of the former pH neutralization sump on the north side of the Renco Encoders building.
- **February 2001.** On February 13, 2001, LFR submitted to the RWQCB a remedial action plan (RAP) to address soil and groundwater concerns related to a reported release of chlorinated solvents at the Renco facility. The RAP included a three-phase approach for remediation of dissolved-phase VOCs in groundwater using enhanced reductive dechlorination, and the installation and operation of a soil vapor extraction (SVE) system to remove residual chlorinated solvents from impacted soil beneath and adjacent to the current building on the Renco property. Available data at that time indicated that the groundwater plume extended onto the Investec properties and terminated on the downgradient boundary of those properties.
- **September 2001.** Following additional characterization efforts, LFR implemented the initial phase of groundwater remediation activities, which involved the subsurface injection of Hydrogen Release Compound (HRC[®]) on Renco and portions of the Investec properties. Groundwater analytical results following injection showed some reductions in VOC concentrations on the Renco and Investec properties; however, the observed reductions were less substantial than anticipated. Moderate reductions in VOC concentrations were observed on the Renco property, and lesser reductions were observed on the Investec properties. Based on this information, LFR evaluated and considered other products and application strategies for potential use in subsequent subsurface injections.
- **February 2002 – June 2004.** LFR operated a soil-vapor extraction and treatment system (SVETS) to remove VOCs from shallow soil and soil vapor beneath and immediately surrounding the Renco building, in the area of the Renco TCE release (source area). The SVETS operated continuously from February 2002 through July 2002, and in pulse mode from August 2002 through June 2004. The combined continuous and pulse-mode operation of the SVETS was effective in removing VOC mass. A total of 355 pounds of VOC mass was estimated to have been removed during the operation of the SVETS.

A soil closure investigation was conducted at the Renco site in September 2006. Results of the investigation indicated that only low concentrations of TCE remained in soil and soil gas

**2010 Fourth Quarter
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Renco Encoders Site
Goleta, California

along the northern and eastern perimeter of the Renco building, all below RAP remedial objectives. In May 2007, under the regulation of the Santa Barbara County Fire Department (FPD) and as directed by the RWQCB, LFR converted the SVE wells into a sub-slab depressurization system to mitigate soil vapor and address possible concerns associated with residual VOCs in the subsurface. FPD recommended closure for soil issues at the Site in December 2007. A deed restriction for the property was also recorded with Santa Barbara County on December 21, 2007. The Soil Management Plan (SMP) was conditionally approved by the FPD in a letter to LFR dated October 3, 2008. Modifications to the SMP were submitted on December 5, 2008. The FPD has recommended to the RWQCB closure of soil-related issues at the Renco site, and RWQCB confirmation is pending.

- **September 2002 – April 2003.** With the RWQCB's concurrence, LFR conducted a pilot study that included injection of three different enhanced in-situ bioremediation substrate products (HRC X® [a more concentrated version of HRC®], WILClear™, and LactOil), all of which furthered the RWQCB directive to remediate the groundwater plume. The purpose of the pilot study was to evaluate and compare the relative effectiveness of these products for the design of a subsequent application of substrate. Based on the results of the pilot study, LFR observed that each of the tested alternative products (food-grade materials) successfully reduced VOC concentrations through enhanced reductive dechlorination at the Site. In addition, as a result of elevated TCE concentrations on the downgradient boundary of the Investec properties, which were significantly higher than identified by the available data to devise the RAP, LFR selected the reagent HRC X® for injection as a treatment barrier fence to address VOCs flowing in groundwater. In accordance with the RAP, a 425 foot long HRC X® treatment fence was installed in January 2004 at a location on the southeast downgradient margin of the Investec properties (Figure 3).
- **July and August 2006.** LFR performed injections of EOS® and EHC™ substrates in July/August 2006 to further enhance anaerobic biodegradation of VOCs in groundwater beneath portions of the Renco site. EHC™, a more viscous and concentrated substrate which also included zero-valent iron, was injected in the source areas on the Renco site surrounding the former pH neutralization sump and surrounding the hazardous materials storage area. EOS®, a less viscous material, was injected along the northern perimeter of the building at the Renco site and in the area between monitoring wells MW 9 and MW 7. Laboratory results and chemical parameters measured after those injection events indicated that these injection activities successfully reduced VOC concentrations in groundwater beneath the Renco site and in the immediate downgradient area (LFR 2007a).

**2010 Fourth Quarter
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Renco Encoders Site
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- **October and November 2009.** As directed by the RWQCB, ARCADIS conducted additional remedial substrate injections on the Renco, Investec, and Sares Regis properties. Dilute emulsified vegetable oil (EVO) was injected into the subsurface on all three properties in areas where elevated VOC concentrations had been observed. EVO was distributed at multiple vertical intervals from a network of direct push injection points: a total of 78 intervals were completed on the Renco property, 312 intervals were completed on the Investec properties and 38 intervals were completed on the Sares Regis property. Groundwater monitoring activities were conducted in September 2009 to serve as a baseline against which data collected following the October–November 2009 injections could be compared. Those results are summarized with other historical data in Tables 2 and 3, and were discussed in a prior report describing the remedial injection event (LFR 2010b).

3. Quarterly Groundwater Monitoring Activities

A revised Monitoring and Reporting Plan (MRP) was issued for the Renco site by the RWQCB on August 16, 2010 (RWQCB 2010). The revised MRP provides details for quarterly groundwater monitoring of wells on the Renco, Investec and Sares Regis properties. The revised MRP includes three "Quarterly Sampling" events each year and a more comprehensive "Annual Sampling" event. The first "Annual Sampling" event conducted in accordance with the revised MRP was completed in September 2010 (ARCADIS 2010). The fourth quarter 2010 monitoring activities were conducted in November 2010 and marked the first event to be conducted as a "Quarterly Sampling" event in accordance with the revised MRP.

There are currently ten monitoring wells on the Renco property, designated MW-1 to MW-9 and TW-1R. Well TW-1R was installed in July 2007 (LFR 2007c); it replaced previous wells TW-1 (abandoned in October 2006) and well TW-3 (abandoned in July 2007). Monitoring wells MW-2, MW-3, MW-4 were removed from the MRP sampling protocol by the RWQCB (RWQCB 2010). ARCADIS will continue to measure groundwater elevation from these three locations until the wells are approved for abandonment. There are currently nine monitoring wells on the Investec property, designated MW-10 to MW-18 and one monitoring well is located on the Sares Regis property that is designated MW-19. Well locations are depicted on Figure 2 and well construction details for all site monitoring wells are summarized in Table 1.

The groundwater monitoring activities conducted during the fourth quarter 2010 included the following:

- Depth to groundwater measurements were collected from all 20 monitoring wells on the Renco and downgradient properties on November 19, 2010.

**2010 Fourth Quarter
Groundwater
Monitoring Report**

Renco Encoders Site
Goleta, California

- Groundwater samples were collected after purging at least three well volumes from 11 of the wells on the Renco and downgradient properties on November 19 and 22, 2010 (MW-7, MW-9, MW-11, MW-13, MW-14, MW-15, MW-16, MW-17, MW-18, MW-19, and TW-1R).
- Field measurements consisting of dissolved oxygen (DO), oxidation-reduction potential (ORP), pH, conductivity, turbidity, and temperature were collected at each of the 11 sampled wells.
- Laboratory analyses were conducted for VOCs in groundwater samples collected from each of the 11 sampled wells. The VOC analyses included a full suite of EPA Method 8260B target compounds, in addition to the eight VOCs specified by RWQCB (2005). One duplicate sample was also collected and analyzed for VOCs.
- Similar to the September 2010 sampling event, groundwater samples were collected using the Hydrasleeve no-purge sampling technique from three wells (MW-7, MW-11 and MW-14) and the water samples were analyzed for VOCs.
- Laboratory analyses of total organic carbon (TOC) in groundwater samples collected from each of the 11 sampled wells.

3.1 Groundwater Elevation Measurements

Groundwater elevation monitoring was conducted on November 19, 2010. Groundwater levels were measured in the 20 wells on the Renco and downgradient properties using an electric well sounder with an accuracy of 0.01 foot.

The November 2010 groundwater elevations on the Renco property were generally consistent with historical patterns. As in most previous events, the highest groundwater elevations occurred in the northwestern part of the property, with an apparent gradient towards the southeast (Figure 2). The downgradient properties have not been monitored historically. The groundwater elevations measured for this fourth quarter monitoring event indicate that the gradient also trends to the southeast across the downgradient properties.

The November 2010 groundwater elevations were generally lower (by approximately 0.1 to 0.5 feet) in the Renco and downgradient property wells than those measured during the event in September 2010 (ARCADIS 2010). Historical groundwater elevation monitoring results are included in Table 2. Field forms for the fourth quarter 2010 event are included in Appendix A.

**2010 Fourth Quarter
Groundwater
Monitoring Report**

Renco Encoders Site
Goleta, California

3.2 Groundwater Sampling

On November 19 and 22, 2010, groundwater samples were collected from 11 monitoring wells on the Renco and downgradient properties. The majority of the monitoring wells were purged using a submersible pump. Monitoring wells MW-11, MW-15, MW-16, MW-17 and MW-18 were purged by hand using dedicated disposable bailers for each well. The purge water was dispensed directly into a flow-through cell containing temperature, pH, DO, turbidity, electrical conductivity, and ORP probes. Following purging, all groundwater samples were collected from each monitoring well using a new disposable bailer. At least three casing volumes were purged from each well, with the exception of wells TW-1R and MW-9. Well TW-1R dewatered after approximately 1.1 casing volumes were purged; MW-9 was dewatered after approximately 1.25 casing volumes were purged. All wells were sampled after water levels had recovered to at least 80 percent of pre-purging levels with the exception of TW-1R. A sample was collected from TW-1R after a recovery period of two hours following purging during which the well had recovered to approximately 59 percent of pre-purging levels.

To support comparison of analytical data collected via both the traditional three-volume purge disposable bailer sampling and the no-purge Hydrasleeve™ sampling techniques, groundwater samples were collected from wells MW-7, MW-11 and MW-14 using both sampling techniques. Hydrasleeve™ samplers do not rely on diffusion and thus only require a minimum of 24 hours to equilibrate between initial deployment and sample collection. The Hydrasleeve™ samplers were deployed at a depth within the screened interval for each well. The Hydrasleeve™ samplers were deployed on November 19, 2010 and were left to equilibrate for approximately 72 hours before groundwater samples were collected on November 22, 2010. Immediately following collection of the Hydrasleeve™ groundwater sample, a second sample was collected from each well by the traditional method using a new disposable bailer after removal of three purge volumes from the well.

Water samples for VOC analysis were collected in laboratory-supplied, zero-headspace containers, and stored in a chilled ice chest. Separate water samples were obtained from each well for analysis of total organic carbon. These samples were also collected in laboratory-supplied containers and stored in a chilled ice chest. The samples were delivered under chain-of-custody protocol to Oilfield Environmental & Compliance (OEC), a state-certified analytical laboratory in Santa Maria, California.

3.3 Groundwater Sample Analysis

A total of 11 primary groundwater samples were collected from the Renco and downgradient properties. All of the primary samples were tested for the following analytes, as per RWQCB (2010):

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- VOCs. Volatile organic compounds by EPA Method 8260B. The VOC analyses included the full EPA Method 8260B target compound list. One duplicate sample and a trip blank sample were also analyzed for VOCs.
- Total organic carbon (TOC) by EPA Method 5310B.

The VOC and TOC analyses were conducted by OEC.

4. Quality Assurance/Quality Control Procedures

Field quality control measures conducted during this monitoring period included collection and analysis of duplicate samples and a trip blank. EPA Method 8260B compounds were detected in the trip blank from the November 2010 sampling event (Table 2). Trichloroethene (TCE) was detected at a concentration equal to the reporting limit for the compound (0.5 micrograms per liter [$\mu\text{g/L}$]) and naphthalene was detected at a concentration of 1.3 $\mu\text{g/L}$. Naphthalene was also detected in laboratory blank samples as discussed below indicating contamination is present within the laboratory. OEC indicated that the quality control issues were likely due to a buildup of spiked compounds in the trapping system of the analytical equipment. To remedy this issue in the future, OEC will adjust the GC-MS cleaning methodology (desorption and baking time) to purge the system of internal contamination following the spiked sample runs.

A duplicate sample was collected from monitoring well MW-19 during the November 2010 sampling event. The duplicate sample was analyzed for VOCs by EPA Method 8260B. Analytical results for the primary and duplicate samples are presented in Table 2. The analytical results indicate that the concentrations of analytes detected in the primary and duplicate samples were generally in close agreement for the MW-19 pair. For example, the relative percent difference (RPD) between primary and duplicate analytical results for trichloroethene (TCE) was 1 percent and the RPD between the primary and duplicate analytical results for the sum of all detected VOCs was 2 percent. The concentration of TCE in the primary sample (1,000 $\mu\text{g/L}$) was greater than the concentration of TCE in the duplicate sample (990 $\mu\text{g/L}$) while the sum of all detected VOCs measured for the primary sample (1,669 $\mu\text{g/L}$) was less than that measured for the duplicate sample (1,702 $\mu\text{g/L}$).

Laboratory quality control measures included the analysis of method blanks, laboratory split (duplicate) samples, laboratory control standards, and matrix spike samples by OEC. Analytical results for laboratory method blanks, laboratory control standards, and matrix spike samples are included with the laboratory report in Appendix B.

Verification (method) blanks are laboratory-generated samples that indicate the extent to which laboratory procedures cause false positive results. Analytical results for associated method blanks

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are normally reported by the laboratory for each lot of samples analyzed. EPA Method 8260B compounds were not detected in the method blanks associated with the September 2010 sampling event with the following exceptions. Methylene chloride was detected at a concentration of 1.04 µg/L and naphthalene was detected at a concentration of 1.39 µg/L in the Batch A011611 method blank sample that was prepared and analyzed by OEC on November 28, 2010. Methylene chloride was also detected at a concentration of 3.34 µg/L in the Batch A011613 method blank sample that was prepared and analyzed by OEC on November 29, 2010. OEC noted that methylene chloride is a common laboratory contaminant. These results were not considered a quality control concern because the analyte was not detected above laboratory reporting limits in any of the groundwater samples.

5. Field and Laboratory Analytical Results

The fourth quarter 2010 analytical results and field parameter measurements are summarized in Tables 2 and 3; historical analytical results are also included in those tables. Field forms for the fourth quarter 2010 event are included in Appendix A; the laboratory reports are included in Appendix B.

5.1 Field Parameters

In the fourth quarter 2010, the oxidation-reduction potential (ORP) values in water samples from the monitoring wells at the Renco property showed a mixture of positive (oxidizing) and negative (reducing) results. The majority of the ORP values were negative (<-30 mV) and the negative values were measured in wells which are located within or adjacent to previous substrate injection areas.

Dissolved oxygen (DO) measurements from monitoring wells at the Renco and downgradient properties can be separated into two distinct groups based on sampling technique. In wells that were purged by hand using a disposable bailer, the DO concentrations ranged from 7.94 to 9.08 milligrams per liter (mg/L). In wells that were purged by submersible pump, DO concentrations ranged from 0.0 mg/L to 1.37 mg/L. The measurements from wells purged by submersible pump are more representative of the natural groundwater and are indicative of conditions favorable for reductive dechlorination.

Other measured parameters, including pH, conductivity, and temperature, were generally consistent with previous results. Measurements for pH ranged from 6.78 to 7.23. Values for conductivity ranged between 1,070 and 2,840 microsiemens per centimeter ($\mu\text{S}/\text{cm}$). The recorded groundwater temperature range among the monitoring wells was 18.5 to 24.2 degrees Celsius.

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5.2 VOCs and Ethene in Groundwater.

The distribution of selected VOC concentrations measured in groundwater on the Renco and downgradient properties is depicted on Figure 3. A TCE isoconcentration map is depicted on Figure 4.

5.2.1 General Distribution

In November 2010, VOCs were detected in all three of the monitoring wells sampled on the Renco property: MW-7, MW-9, and TW-1R (Figure 3). Trichloroethene (TCE) was detected above laboratory reporting limits in all three wells and concentrations that ranged from 3.6 to 18 µg/L (Figure 4).

The highest concentrations of VOCs were found in monitoring wells on the Investec properties. The highest concentration of TCE were observed at well MW-16 (3,300 µg/L), located downgradient from the main Investec building (Figure 3). TCE breakdown products were also observed in wells on the Investec properties. Well MW-11 exhibited the highest concentration of cis-1,2-DCE (550 µg/L) and vinyl chloride (1,900 µg/L). End products ethene and ethane were not analyzed during the fourth quarter monitoring event.

The following VOCs were detected at multiple wells, the highest concentrations recorded for each compound were: 1,1-dichloroethene (1,1-DCE) up to 140 µg/L in well MW-16; 1,1-dichloroethane (1,1-DCA) up to 35 µg/L in well MW-16; and trans 1,2-dichloroethene (trans-1,2-DCE) up to 94/100 µg/L (primary/duplicate samples) in well MW-19. Other VOCs were detected at lower concentrations (less than 10 µg/L).

5.2.2 Changes in VOC Distribution

In general, TCE concentrations in groundwater have declined significantly since the remedial injections in October 2009. For example, on the Renco property, the November 2010 TCE value for well MW-9 was 8.4 µg/L, a reduction of more than one order of magnitude from the pre-injection concentration of 250/240 µg/L (primary/duplicate sample; September 2009) while in well TW-1R TCE concentration decreased from 720/740 µg/L (primary/duplicate sample) to 18 µg/L during the fourth quarter event.

Reductions in TCE concentrations from September 2009 to November 2010 were also observed in many other monitoring wells: MW-11, 2,400 to 750 µg/L; MW-13, 470 to 430 µg/L; MW-14, 520 to 230 µg/L; MW-16, 4,000/3,800 to 3,300 µg/L; MW-17, 1,700 to 140 µg/L; and MW-18, 78 to 3.5 µg/L. A notable result was observed for well MW-15 where TCE concentration decreased from 660

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µg/L to 140 µg/L between the third and fourth quarter sampling events. The November result (140 µg/L) for TCE is comparable to the baseline TCE concentration (170 µg/L) recorded in September 2009.

The general decrease in TCE concentrations between September 2009 and November 2010 is attributed to enhanced reductive dechlorination (ERD) resulting from the remedial substrate injections. The general decrease in TCE concentrations discussed above was accompanied by concurrent increases in TCE daughter products: cis-1,2-DCE and vinyl chloride. These results confirm that positive indication of enhanced treatment has been observed as a result of the injection activities. Given the extended in situ residence time of the EVO substrate, continued evolution of these degradation trends and additional treatment benefit is anticipated.

5.3 ERD Performance Criteria

Groundwater samples collected from the eleven selected wells during the fourth quarter 2010 sampling event were analyzed for total organic carbon (TOC) to support evaluation of ongoing ERD performance. TOC data were used to evaluate the longevity of the EVO substrate within the injection areas and to evaluate the potential for additional treatment.

TOC was detected in all eleven of the sampled wells, at concentrations ranging between 2.5 mg/L and 200 mg/L. TOC concentrations observed significantly above baseline (e.g., at wells MW-9 and MW-17) indicate that EVO from the 2009 injection event remains in the formation to facilitate continued ERD. Sampling events will be used to track these concentrations over time to evaluate the distribution of TOC (promoted by advective groundwater flow) and longevity of EVO carbon source within the subsurface.

5.4 Hydrasleeve Sampling Results

In the letter approving the revised MRP (RWQCB 2010), the RWQCB conditionally approved a comparison of the traditional method of sampling using disposable bailers after removal of three purge volumes from the well (traditional method sample) with a no-purge technique that employs Hydrasleeve™ samplers (Hydrasleeve™ sample). The test was conducted over two consecutive quarters, and included the collection of groundwater samples from the wells MW-7, MW-11 and MW-14 using both sampling techniques. The groundwater samples were analyzed for VOCs using EPA Method 8260B.

Wells MW-7, MW-11 and MW 14 were selected to represent the range of VOC concentrations at the site. Hydrasleeve™ samplers do not rely on diffusion and thus only require a minimum of 24 hours to equilibrate between initial deployment and sample collection. The Hydrasleeve™ samplers were

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deployed at a depth within the screened interval for each well. The first set of samplers were deployed on September 8, 2010 and were left to equilibrate for approximately 48 hours before groundwater samples were collected on September 10, 2010. The second set of samplers were deployed on November 19, 2010 and were left to equilibrate for approximately 72 hours before groundwater samples were collected on November 22, 2010. Immediately following collection of each Hydrasleeve™ sample, a traditional method sample was collected from each well using a new disposable bailer after removal of three purge volumes from the well.

The analytical results for the Hydrasleeve™ test sample pairs are summarized along with the analytical results for the quality control duplicate sample pairs on Table 4. The RPD between sample pairs was calculated for each analyte and for the sum of all detected VOCs as shown on Table 4. The results of the test were straightforward with the notable exception of the MW-14 sample pair from November 22, 2010. The results from MW-14 were likely affected by rain water infiltration to the well casing during the 72-hour equilibration period. The asphalt in the vicinity of MW-14 was recently refinished and the well vault lid was left slightly below grade. Approximately 1.25 inches of rain were recorded for Santa Barbara over the 72-hour period. Field observations indicated that water had filled the well vault to the top of casing and that water had likely infiltrated the casing. Further, all detected analytes were measured at lower concentrations in the Hydrasleeve™ sample than in the traditional method sample indicating that the formation water in the well casing had been diluted by rain water during the Hydrasleeve™ equilibration period. ARCADIS will take action to ensure that water cannot infiltrate the casing during the Hydrasleeve™ equilibration period. For example, the MW-14 well lid may be refinished to more effectively seal out rain water. The MW-14 sample pair is not included in the discussion below.

The analytical results for groundwater samples collected by Hydrasleeve™ technology were generally comparable to those collected by traditional methods. Among individual analytes the RPD for the Hydrasleeve™ sample pairs ranged from 2 percent to 73 percent compared to the RPD range of 0 percent to 89 percent observed for the quality control duplicate sample pairs (Table 4). The RPD for total VOCs measured among sample pairs ranged from only 1 percent to 41 percent compared to an RPD range between 1 percent and 38 percent for the quality control duplicate sample pairs. The largest RPDs for both the Hydrasleeve sample pairs and the quality control duplicate pairs were consistently observed for wells that were purged by hand. The greater variability among analytical results for those pairs may be at least partially explained by the higher level of disturbance and mixing that occurs during purging using the hand-bail method, as compared to purging with a submersible pump and the no-purge Hydrasleeve™ sampling technique. A notable result of the comparison, however, is that for both of the hand-bail technique/Hydrasleeve™ sample pairs (MW-11), the concentrations of total VOCs were greater in the Hydrasleeve sample than in the sample collected following removal of three volumes by hand bail.

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Based on the comparable analytical results between the two sampling methods, ARCADIS requests RWQCB approval for groundwater sample collection via the Hydrasieve™ technique for the future "Quarterly Sampling" events. For the "Annual Sampling" events ARCADIS will continue to collect all groundwater samples by traditional-methods following removal of three purge volumes from the well.

6. Conclusions

As discussed above, beneficial effects associated with the October 2009 EVO application event continue to be evident in groundwater underlying the Renco and downgradient properties. Further, groundwater sampling data indicate that the October 2009 remedial injections continue to reduce TCE concentrations to breakdown products. As discussed above, TOC concentrations observed within several monitoring wells indicates that adequate organic carbon concentrations exist within the treatment areas to support continued development of reducing conditions and the dechlorination process. While the November 2010 monitoring results indicate that groundwater remediation activities have enhanced the degradation of chlorinated VOCs in groundwater, based on the known longevity of the EVO carbon substrate, continued evolution of the dechlorination process is anticipated. ARCADIS will continue groundwater monitoring in the first quarter 2011 to document remedial progress.

7. Schedule

The first quarter 2011 groundwater monitoring event will be conducted as a "Quarterly Sampling" event in accordance with the revised MRP for the Renco Encoders Site (RWQCB 2010). Results for the first quarter 2011 monitoring event will be presented in the next quarterly report, to be submitted by April 30, 2011.

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Table 1
Summary of Well Construction Details

Renco Encoders

CM008031.0020

Well Number	Installation Date	Casing Diameter (inches)	Approximate Borehole Depth (feet bgs)	Approximate Screened Interval (feet bgs)	Top of Casing Elevation (feet msl)
<i>Monitoring Wells on Renco Property</i>					
MW-1	06/14/95	2	30	5 - 30	21.64
MW-2	10/26/95	2	31.5	5 - 30	21.87
MW-3	10/26/95	2	31.5	5 - 30	21.36
MW-4	10/26/95	2	30.5	5 - 30	22.26
MW-5	02/09/96	2	30	5 - 30	22.67
MW-6	02/09/96	2	30	5 - 30	19.82
MW-7	09/17/97	2	30	3 - 28	20.12
MW-8	09/17/97	2	30	5 - 29.5	21.02
MW-9	07/05/01	2	26.5	5 - 20	21.02
<i>Pilot Test Wells on Renco Property</i>					
TW-1	09/12/02	1	20	5 - 20	ABD
TW-1R	07/19/07	2	22	6 - 21	20.80
TW-2A	09/12/02	1	21	5 - 20	ABD
TW-2B	09/12/02	1	21	5 - 20	ABD
TW-2C	09/12/02	1	20.5	5 - 20	ABD
TW-3A	09/12/02	1	20.5	5 - 20	ABD
TW-3B	09/12/02	1	20.5	5 - 20	ABD
TW-3C	09/12/02	1	20.5	5 - 20	ABD
<i>Monitoring Wells on Investec Properties</i>					
MW-10	08/22/01	2	21.5	5 - 20	18.12
MW-11	08/22/01	2	26.5	5 - 25	20.04
MW-12	08/22/01	2	26.5	5 - 25	21.53
MW-13	08/22/01	2	21.5	5 - 20	17.84
MW-14	01/15/04	2	31.5	10 - 30	16.56
MW-15	01/15/04	2	31.5	10 - 30	15.60
MW-16	01/15/04	2	31.5	10 - 30	22.30
MW-17	01/15/04	2	31.5	10 - 30	18.77
MW-18	01/15/04	2	31.5	10 - 30	17.67
<i>Monitoring Wells on Sares Regis Property</i>					
MW-19	08/12/10	2	32	6.5 - 31.5	17.27

Notes:

feet bgs = feet below ground surface

feet msl = feet above mean sea level

ABD = well abandoned

Table 2
Summary of Groundwater Elevations and Concentrations of Volatile
Organic Compounds Detected in Monitoring Wells and Pilot Study Test Wells
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Well ID (Elevation)	Sample Date	Depth to Groundwater	Groundwater Elevation (well)	1,1,1-TCA (ug/L)	TCE (ug/L)	TCFM (ug/L)	1,1-DCE (ug/L)	1,1-DDA (ug/L)	PCE (ug/L)	cis-1,2 -DCE (ug/L)	-DCE (ug/L)	trans-1,2 -DCE (ug/L)	CFC-113 (ug/L)	1,1,2-TCA (ug/L)	1,2-DCA (ug/L)	Vinyl Chloride (ug/L)	Chloro benzene (ug/L)	Benzene (ug/L)	Xylenes (ug/L)	Other Chemicals Detected (ug/L)	Total VOCs (ug/L)
MW-1 (201.65) Screen = 5-30	06/16/95	-	-	610	730	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,340	
	10/11/95	-	-	450	480	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	892	
	02/15/96	-	-	570	430	ND	28	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,078	
	05/06/96	-	-	2,900	2,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,932	
	08/07/96	-	-	520	520	ND	79	180	16	27	ND	ND	ND	ND	ND	ND	ND	ND	ND	5,201	
	11/06/96	-	-	740	ND	ND	26	54	3.5	9.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,363	
	03/19/97	-	-	840	960	ND	66	110	6.5	34	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,017	
	03/23/97	-	-	650	920	ND	27	52	7.2	26	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,632	
	08/27/98	-	-	28	65	1.3	63	1.3	1.3	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	102	
	10/08/98	-	-	180	310	13	18	25	2.3	14	ND	ND	ND	ND	ND	ND	ND	ND	ND	577	
MW-1 Dup (MW-9)	03/20/99	-	-	43.1	94.3	1.89	2.43	7.26	1.14	4.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	81	
	08/09/99	-	-	7.1	22	-	1.22	J	0.82	J	0.41	J	ND	ND	ND	ND	ND	ND	ND	154	
	04/06/00	-	-	75	180	-	6.55	10	1.8	7.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	33	
	05/10/00	-	-	68	180	3.2	6.55	10	7.9	2.3	J	<2.5	ND	ND	ND	ND	ND	ND	ND	32	
	07/10/01	-	-	55	150	<5.0	<5.0	5.6	<5.0	<5.0	ND	<2.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	286	
	August/September 2001 HFC Injections	-	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	221	
	12/01/01	8.49	13.15	11	40	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	51	
	12/01/01	8.26	13.38	81	169	<5.0	<5.0	13	<5.0	8.6	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	272	
	02/28/02	8.67	12.97	40	110	<1	7	7.5	1.6	5.6	<1	<1	<1	<1	<1	<1	<1	<1	<1	172	
	05/23/02	8.65	12.79	5.4	27	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	32	
(21.64)	08/17/02	9.35	12.28	1.6	21	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	23	
	12/05/02	10.48	11.16	2.6	25	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	30	
	02/19/03	6.29	13.35	2.4	75	<1	9	9	1.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	89	
	04/25/03	8.08	13.58	2.2	38	<1	21	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	42	
	12/23/03	9.07	12.57	<1	23	<1	34	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	25	
	03/18/04	8.43	13.21	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	June 2004 Soil Vapor Extraction System terminated	-	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	07/27/04	9.34	12.30	0.7	19	<0.5	3.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	23		
	02/03/05	7.10	14.54	11	62	<0.5	46	6.2	1.1	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	86	
	07/14/05	7.69	13.65	<0.5	240	<0.5	46	6.2	1.1	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	293	
MW-1 Dup	01/18/06	7.79	13.85	3.1	21	<0.5	2.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	48		
	04/05/06	6.67	14.97	3.7	18	<0.5	2.3	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	41		
	07/05/06	7.74	13.90	2.7	15	<0.5	1.1	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	46		
	July/August 2006 EOS/HFC Injections	-	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	10/10/06	8.27	13.37	<0.5	5.6	<0.5	<0.5	<0.5	<0.5	8.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	26	
	01/04/07	8.67	12.97	<0.5	4.7	<0.5	1.3	0.9	<0.5	6.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	22	
	04/06/07	8.54	13.10	<0.5	4.5	1.7	4.3	0.6	<0.5	6.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	47	
	07/03/07	8.78	12.86	<0.5	7.0	2.3	0.5	<0.5	4.0	1.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	27	
	10/03/07	8.99	12.65	<0.5	11	<0.5	3.0	0.6	<0.5	7.4	1.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	42	
	04/29/08	8.40	13.24	<0.5	3.4	<0.5	0.45	2.6	<0.5	7.2	0.91	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	36	
MW-1 DUP	04/29/08	8.20	13.44	<0.5	1.5	<0.5	0.50	<0.5	1.8	<0.5	1.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	6	
	08/12/08	9.01	12.63	<0.5	1.8	<0.5	0.50	<0.5	1.8	<0.5	1.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	12	
	12/04/08	9.54	12.10	<0.5	1.8	<0.5	0.50	<0.5	1.8	<0.5	1.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	3	
	03/10/09	9.10	12.54	<0.5	1.8	<0.5	0.50	<0.5	1.8	<0.5	1.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	8	
	08/12/09	9.69	11.95	<0.5	1.8	<0.5	0.50	<0.5	1.8	<0.5	1.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	3	
	09/23/09	10.06	11.58	<0.5	1.8	<0.5	0.50	<0.5	1.8	<0.5	1.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1	
	09/23/09	10.11	11.53	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3	
	October 2009 Supplemental EOS Injections	-	-	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/11/09	9.87	11.97	<0.5	0.58	<0.5	0.50	<0.5	0.50	<0.5	0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1	
	09/05/10	9.66	11.98	<0.5	0.58	<0.5	0.50	<0.5	0.50	<0.5	0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2	
	11/11/10	9.37	11.67	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	

Table 2
Summary of Groundwater Elevations and Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Pilot Study Test Wells
Ranco Encoders
CW008/03/01/02/02

Well ID (Elevation)	Sample Date	Depth to Groundwater	Groundwater Elevation (ipdL)	TCE (ipdL)	TCFM (ipdL)	1,1-DGE (ipdL)	1'-DCA (ipdL)	PCE (ipdL)	cis-1,2 -DCE (ipdL)	trans-1,2 -DCE (ipdL)	CfC 113 (ipdL)	1,1,2-TCA (ipdL)	Vinyl Chloride (ipdL)	Chloro Benzene (ipdL)	Benzene (ipdL)	Xylenes (ipdL)	Other Chemicals Detected (ipdL)	Total VOCs (ipdL)
MW-2 (201.86) Screen = 5-30	10/3/05/05	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
05/15/06	02/11/06	-	-	6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6	
05/16/06	04/07/06	-	-	2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	
11/06/06	11/06/06	-	-	1.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	
03/19/07	-	-	-	3.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12	
04/27/07	-	-	-	7.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	37	
10/09/08	10/09/08	-	-	16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	
03/12/09	03/12/09	-	-	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
09/06/09	-	-	-	ND	ND	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	4	
04/05/10	-	-	-	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	ND	
05/31/10	-	-	-	1.6	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	4	
07/11/10	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	ND	
August/September 2007 HFC Injections																		
08/19/07	08.60	8.24	13.63	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	
February 2008 Soil Vapor Extraction System Initiated																		
02/28/08	8.85	13.02	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	ND	
05/23/08	8.9	12.97	<5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
09/17/08	9.43	12.44	<1	17	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	73	
12/01/08	9.36	12.91	<1	69	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	74	
02/19/09	8.45	13.42	<1	16	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	16	
04/25/09	8.29	13.58	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	ND	
12/30/09	9.16	12.71	<1	4.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	4	
03/16/04	8.56	13.31	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
June 2004 Soil Vapor Extraction System Terminated																		
07/2/04	9.42	12.45	<1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	
02/01/05	7.57	14.30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	
07/14/05	7.86	14.01	<1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	
Pre-Injection Isotopic Monitoring																		
01/18/06	8.05	13.82	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	
04/05/06	7.12	14.75	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	
07/05/06	7.95	13.92	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	
July/August 2006 EOS/HFC injections																		
10/10/06	8.40	13.47	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	20	
01/04/07	8.73	13.14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	
04/06/07	8.63	13.24	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	
07/03/07	8.82	13.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	
10/03/07	9.01	12.86	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	
01/16/08	8.55	13.32	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	
04/29/08	8.36	13.51	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	
08/17/08	9.10	12.77	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	
12/04/08	9.54	12.33	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	
03/11/09	9.20	12.67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	
08/25/09	9.68	12.19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	
08/29/09	10.07	11.80	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	
09/29/09	10.11	11.76	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
October 2009 Supplemental EOS injections																		
12/16/09	9.69	12.14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	
09/08/10	9.37	12.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
11/19/10	9.37	11.90	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	

Table 2
Summary of Groundwater Elevations and Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Pilot Study Test Wells
Ranco Encoders
CM0004C51-0020

Table 2
Summary of Groundwater Elevations and Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Pilot Study Test Wells
Farco Encoders
CM0068031-0020

Table 2
Summary of Groundwater Elevations and Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Pilot Study Test Wells
Renco Encodes CM008031.0020

Well ID (Elevation)	Sample Date	Depth to Groundwater	Groundwater Elevation (mGL)	1,1,1-TCA (ug/L)	TCE (ug/L)	TClM (ug/L)	1,1-DCE (ug/L)	1,1-DGA (ug/L)	PCE (ug/L)	cis-1,2-DCE (ug/L)	-DCE (ug/L)	trans-1,2-DCE (ug/L)	CFC-113 (ug/L)	1,1,2-TCA (ug/L)	1,2-DCA (ug/L)	Vinyl Chloride (ug/L)	Chloro benzene (ug/L)	Benzene (ug/L)	Xylenes (ug/L)	Other Chemicals Detected (ug/L)	Total VOCs (ug/L)
MW-5 (202.55) Screen = 5-30	02/1/96	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	05/06/96	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	08/07/96	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	11/06/96	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/19/97	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/23/97	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	04/27/98	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10/09/98	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	03/24/99	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	08/08/99	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
(22.57)	04/06/00	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	05/05/00	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	07/11/00	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	08/09/01	10.54	12.13	<5.0	12.61	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	12/01/01	10.06	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	02/28/02	10.56	12.11	<1	32	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	05/28/02	11.68	10.79	<5.0	58	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	08/17/02	11.43	11.24	<1	77	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	10/26/02	10.73	11.94	<1	6.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	02/19/03	9.98	12.69	<1	1.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pre-Injection Monitoring	04/25/03	9.79	12.88	<1	9.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	12/20/03	10.93	11.74	<1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	03/18/04	10.32	12.35	<1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	07/22/04	11.40	11.27	<0.5	15.24	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	02/04/05	7.43	13.03	<0.5	15.24	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/14/05	9.64	13.14	<0.5	15.90	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	01/01/06	9.53	13.08	<0.5	15.90	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	04/05/06	6.77	9.59	<0.5	15.90	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/05/06	9.59	13.08	<0.5	15.90	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	July/August 2006 EOS/EIC Injections	10.36	12.31	<0.5	11.84	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Post-Injection Monitoring	01/04/07	10.83	12.07	<0.5	11.65	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	04/06/07	10.60	11.02	<0.5	11.47	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/03/07	11.02	10.38	<0.5	12.29	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	10/03/07	11.20	10.08	<0.5	12.59	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	01/16/08	10.38	11.44	<0.5	11.23	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	04/29/08	10.95	11.72	<0.5	11.57	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	08/13/08	11.10	10.85	<0.5	10.85	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	03/06/09	11.82	12.19	<0.5	10.48	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	06/25/09	11.82	12.25	<0.5	10.42	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	09/29/09	12.12	11.57	<0.5	10.81	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
October 2009 Supplemental EOS Injections	12/16/09	11.57	11.10	<0.5	0.86	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	09/09/10	11.66	10.55	<0.5	10.55	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
11/09/10	12.12	11.57	<0.5	10.55	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	11/10/10	12.12	11.57	<0.5	10.55	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Table 2
Summary of Groundwater Elevations and Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Pilot Study Wells
Report Enclosure

Table 2
Summary of Groundwater Elevations and Concentrations of Volatile
Organic Compounds Detected in Monitoring Wells and Pilot Study Test Wells
Renco Encoders
CM/000931.00/20

Well ID (Elevation)	Sample Date	Depth to Groundwater	Groundwater Elevation (μg/L)	TCE (μg/L)	TCFM (μg/L)	1,1-DCE (μg/L)	1,1-DCA (μg/L)	PCE (μg/L)	Gs-1,2-DCE (μg/L)	Trans-1,2-DCE (μg/L)	CFC-113 (μg/L)	1,1,2-TCA (μg/L)	1,2-DCA (μg/L)	Vinyl Chloride (μg/L)	Chloro benzene (μg/L)	Xylenes (μg/L)	Other Chemicals Detected (μg/L)	Total VOCs (μg/L)
MW-7 (2007.70) Screen = 3-28	09/23/97	-	1	260	20	ND	ND	2.6	0.7	35	0.8	6	ND	ND	ND	ND	296	
04/27/98 10/09/98	-	-	ND	ND	33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20	
03/24/99 03/24/99 MW-7 DUP (MW-9)	-	-	0.72	128	0.544	3.73	3.23	0.267	11	0.43	-	ND	ND	ND	ND	ND	35	
08/09/99 04/06/00	-	-	0.645	122	0.484	3.17	3	0.218	9.93	0.378	-	ND	ND	1	ND	ND	149	
05/31/00	-	-	ND	ND	260	-	1.2	0.68 J	24	1.2 J	-	ND	ND	1.9	ND	ND	150	
07/01/01	-	-	1.3	110	ND	3.8	4.6	ND	1.63	ND	-	ND	ND	-	ND	-	309	
(20.12)	09/19/01	9.69	10.23	8.7	470	<5.0	24	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	126	
MW-7 DUP (MW-14) 01/19/02	12/11/01	9.40	10.72	8.6	476	<5.0	34	<5.0	19	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	861	
MW-7 DUP (MW-14) 01/19/02	9.34	10.78	8.5	566	<5.0	25	24	<5.0	20	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	664	
August/September 2001 HFC Injections																		
02/28/02	9.70	10.42	16	1,800	<10	34	66	<10	120	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	1,895	
MW-7 Dup	09/17/02	10.29	9.83	13	2,300	<5.0	42	<5.0	200	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	2,613	
09/17/02	10.50	9.22	<10	1,800	<10	37	54	<10	470	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	2,001	
10/04/02	-	-	<20	1,800	<20	34	54	<20	420	<20	<20	<10	<10	<10	<10	<10	2,008	
12/05/02	9.95	<10	1,200	<10	29	49	<10	380	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	1,688		
02/19/03	8.65	11.27	<10	1,200	<10	29	40	<10	360	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	938	
04/25/03	6.54	11.58	<10	600	<10	18	20	<10	300	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	776	
12/03/03	10.17	9.95	<10	1,000	<10	36	21	<10	360	21	<10	<5.0	<5.0	<5.0	<5.0	<5.0	1,492	
03/18/04	5.68	14.44	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
February 2002 Soil Vapor Extraction System Initiated																		
07/22/04	10.75	9.37	<0.5	760	<0.5	260	19	0.6	260	83	-	0.5	44	<0.5	<0.5	<0.5	1,133	
02/26/05	6.82	13.30	<0.5	260	<0.5	3.9	64	5.6	<2.5	32	11	-	<2.5	<2.5	9.3	<2.5	331	
07/14/05	8.89	11.13	<0.5	150	<0.5	3.9	7.3	<0.5	74	86	-	<0.5	<0.5	94	<0.5	<0.5	420	
Pre-Injection Baseline Monitoring																		
MW-7 Dup	01/16/05	8.69	11.43	<0.5	83	<0.5	1.1	1.0	<0.5	30	11	<0.5	<0.5	<0.5	<0.5	<0.5	122	
04/05/05	-	-	<0.5	120	<0.5	1.8	2.0	<0.5	53	20	-	<0.5	<0.5	29	<0.5	<0.5	226	
07/05/05	8.84	11.28	<0.5	150	<0.5	4.5	3.8	<0.5	70	67	-	<0.5	<0.5	51	<0.5	<0.5	346	
July/August 2006 SOE/FIC Injections																		
10/10/06	9.99	10.13	<0.5	140	<0.5	5.8	5.4	<0.5	120	110	-	<0.5	<0.5	110	<0.5	<0.5	495	
MW-7 Dup	01/16/07	9.73	<0.5	140	<0.5	9.7	7.3	<0.5	220	110	-	<0.5	<0.5	130	<0.5	<0.5	617	
01/16/07	-	-	<0.5	62	<0.5	6.4	6.2	<0.5	220	110	-	<0.5	<0.5	140	<0.5	<0.5	628	
07/03/07	10.65	9.97	<0.5	26	<0.5	4.7	5.5	<0.5	160	140	-	<0.5	<0.5	160	<0.5	<0.5	484	
10/13/07	10.65	9.24	<0.5	52	<0.5	5.0	<0.5	<0.5	89	66	-	<0.5	<0.5	190	<0.5	<0.5	525	
01/16/08	9.97	10.15	<0.5	32	<0.5	0.70	<0.50	16	12	-	<0.50	<0.50	<0.50	<0.50	<0.50	357		
04/29/08	9.32	10.80	<0.50	58	<0.50	0.58	<0.50	21	12	-	<0.50	<0.50	<0.50	<0.50	<0.50	61		
08/13/08	10.29	9.33	<0.50	17	<0.50	2.3	2.0	<0.50	42	32	-	<0.50	<0.50	34	<0.50	<0.50	73	
08/13/08	-	-	<0.50	22	<0.50	0.91	2.0	<0.50	36	26	-	<0.50	<0.50	87	<0.50	<0.50	185	
12/04/08	10.91	9.21	<0.50	17	<0.50	0.66	2.0	<0.50	26	23	-	<0.50	<0.50	46	<0.50	<0.50	176	
03/10/09	10.31	9.81	<0.50	14	<0.50	1.2	<0.50	20	14	-	<0.50	<0.50	52	<0.50	<0.50	114		
MW-7 Dup	03/10/09	10.31	<0.50	11	<0.50	1.1	<0.50	1.1	<0.50	19	13	-	<0.50	<0.50	47	<0.50	<0.50	101
08/25/09	11.01	9.11	<0.50	2	<0.50	<0.50	3.0	<0.50	32	41	-	<0.50	<0.50	110	<0.50	<0.50	91	
09/29/09	11.37	8.75	<0.50	1.5	<0.50	1.3	3.0	<0.50	30	71	-	<0.50	<0.50	150	<0.50	<0.50	185	
MW-7 Dup	11.42	8.70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
October 2009 Supplemental ECIS Injections																		
09/10/10	10.40	9.72	40.50	20	<0.50	1.6	8.4	<0.50	16	30	-	<0.50	<0.50	49	<0.50	<0.50	116	
MW-7 HS	09/10/10	10.69	9.43	<0.50	3.3	<0.50	1.8	9.4	<0.50	58	66	-	<0.50	<0.50	190	<0.50	<0.50	327
11/2/10	-	9.27	<0.50	3.6	<0.50	1.6	8.9	<0.50	57	60	-	<0.50	<0.50	170	<0.50	<0.50	319	
MW-7 HS	11/2/10	10.85	-	<0.50	7.5	<0.50	1.7	9.7	<0.50	60	78	-	<0.50	<0.50	160	<0.50	<0.50	313
MW-7 HS	11/2/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	317	

Table 2
Summary of Groundwater Elevations and Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Pilot Study Test Wells
Renco Enclosure
CIR000051; 002

Well ID (Elevation)	Sample Date	Depth to Groundwater	Groundwater Elevation (μg/L)	1,11-TCA (μg/L)	TCE (μg/L)	1,1-DCE (μg/L)	1,1-DCA (μg/L)	PCE (μg/L)	di-1,2-DCE -DCE (μg/L)	trans-1,2-DCE -DCE (μg/L)	CFC-113 1,1,2-TCA (μg/L)	1,2-DCA (μg/L)	Vinyl Chloride (μg/L)	Chloro benzene (μg/L)	Xylenes (μg/L)	Other Chemicals Detected (μg/L)	Total VOCs (μg/L)
MW-8 (201.19) Screen = 5-29.5	09/23/97 —	—	—	ND	10	ND	ND	ND	ND	ND	ND	ND	<5.0	<5.0	<5.0	ND	12
04/27/98 10/19/98	—	—	—	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	<5.0	<5.0	ND	1
05/24/99 09/08/99	—	—	—	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	<5.0	<5.0	ND	3
04/06/00 05/15/00	—	—	—	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	<5.0	<5.0	ND	ND
07/01/01 —	—	—	—	<1.0	<1.0	ND	ND	ND	ND	ND	ND	ND	<5.0	<5.0	<5.0	ND	ND
(21.02)																	
09/19/01 12/1/01	9.40 9.06	11.62 11.56	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0	<5.0 ND	ND
February 2002 Soil Vapor Extraction System Infrared																	
02/28/02 05/03/02	9.26 9.59	11.76 11.43	<1 <5.0	4.5 <5.0	<1 <1	<1 <5.0	<1 <5.0	<1 <5.0	<1 <5.0	<1 <5.0	<1 <5.0	<1 <5.0	<5.0 <5.0	<5.0 <5.0	<5.0 <5.0	<5.0 ND	5
02/07/02 12/05/02	10.12 9.56	10.90 11.46	<1 <1	8.4 4.6	<1 2.3	<1 2.3	<1 2.3	<1 2.3	<1 2.3	<1 2.3	<1 2.3	<1 2.3	<1 2.3	<1 2.3	<1 2.3	<1 2.3	6 5
02/19/03 04/25/03	8.82 8.69	12.20 12.33	<1 <1	6.6 6.6	<1 1.0	<1 1.0	<1 1.0	<1 1.0	<1 1.0	<1 1.0	<1 1.0	<1 1.0	<1 1.0	<1 1.0	<1 1.0	<1 1.0	23 7
12/01/03 03/18/04	9.40 9.11	11.62 11.51	<1.0 NS	7.9 NS	<1.0 NS	<1.0 NS	<1.0 NS	<1.0 NS	<1.0 NS	<1.0 NS	<1.0 NS	<1.0 NS	<1.0 NS	<1.0 NS	<1.0 NS	<1.0 NS	8 NS
June 2004 Soil Vapor Extraction System Terminated																	
07/22/04 02/03/05	9.98 7.58	11.04 13.44	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 ND	<0.5 ND	
07/14/05 8.57	12.45	<0.5	<2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5 ND	
Pre-Injection Baseline Monitoring																	
01/18/05 04/05/05	8.60 6.95	12.12 14.07	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 ND	ND
07/15/05 8.55	12.47	<0.5	<1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5 ND	
July/August 2005 ECSE/FC Injections																	
10/01/06 04/04/07	9.09 9.28	11.93 11.74	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 ND	5
07/03/07 9.43	11.59	<0.5	<0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 0.5	<0.5 ND	
10/16/07 9.60	11.42	<0.50	<0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.5 ND	
01/17/08 6.17	14.85	<0.50	<0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.5 ND	
04/27/08 8.95	12.07	<0.50	<0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.5 ND	
08/13/08 9.51	11.51	<0.50	<0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.5 ND	
12/04/08 9.86	11.16	<0.50	<0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.5 ND	
03/10/09 10.01	11.01	<0.50	<0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.5 ND	
06/25/09 09/23/09	11.24	9.78	<0.50	<0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.50 0.50	<0.5 ND	
09/29/09 10.46	10.54	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
October 2009 Supplemental ECSE Injections																	
12/16/09 09/09/10	10.08 9.95	10.94 11.07	<0.50 <0.50	<0.50 1.3	<0.50 NS	<0.50 NS	<0.50 NS	<0.50 NS	<0.50 NS	<0.50 NS	<0.50 NS	<0.50 NS	<0.50 NS	<0.50 NS	<0.50 NS	<0.50 ND	
11/19/10	10.11	10.91	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	

Table 2
Summary of Groundwater Elevations and Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Pilot Study Test Wells
Renco Encoders
CMG00351/0020

Well ID (Elevation)	Sample Date	Depth to Groundwater	Groundwater Elevation	1,1,1-TCA (ug/L)	TCE (ug/L)	TCFM (ug/L)	1,1-DCE (ug/L)	1,1-DCA (ug/L)	PCE (ug/L)	cis-1,2-DCE (-DCE) (ug/L)	Trans-1,2-DCE (-DCE) (ug/L)	CFC-113 (ug/L)	1,1,2-TCA (ug/L)	1,2-DCA (ug/L)	Chlorobenzene (ug/L)	Benzene (ug/L)	Xylenes (ug/L)	Other Chemicals Detected (ug/L)	Total VOCs (ug/L)
MW-9 Screen = 5-20 (21,02)	07/19/01	—	242	11.55	70	1,460	20	110	26	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	57.9	
07/19/01	9.44	12.10	84	1490	17	103	31	<5.0	20	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	1,700		
07/19/02	8.82	12.20	135	2,533	30	112	34	<5.0	31	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	1,545		
07/28/02	9.26	11.76	50	730	<10	68	21	<5.0	12	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	2,832		
MW-9 Dup	—	—	45	720	<20	61	22	<5.0	<20	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	682		
05/23/02	9.76	11.26	38	620	9.7	63	18	<5.0	9.7	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	847		
MW-9 Dup	—	—	41	540	9.9	63	19	<5.0	10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	658		
09/17/02	10.38	10.64	45	940	<20	44	27	<20	<20	<20	<20	<10	<10	<10	<10	<10	1,056		
12/05/02	9.59	11.43	15	360	4	18	11	<4	26	<4	<4	<4	<4	<4	<4	<4	430		
02/19/03	8.52	12.50	39	630	7.9	38	17	1.8	41	<1	<1	<1	<1	<1	<1	<1	676		
MW-9 Dup	—	—	38	490	18	47	16	<10	23	<10	<10	<10	<10	<10	<10	<10	632		
04/25/03	8.33	12.69	34	560	<10	52	16	<10	25	<10	<10	<10	<10	<10	<10	<10	687		
12/01/03	9.64	11.38	19	400	<10	28	<10	<10	110	<10	<10	<10	<10	<10	<10	<10	447		
03/18/04	9.05	11.97	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
07/22/04	10.26	10.74	21	350	4.7	19	5.8	1.5	3.1	<0.5	<0.5	2.6	<0.5	<0.5	<0.5	<0.5	402		
07/21/04	—	—	24	420	6.5	39	16	<2.5	41	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	492		
02/03/05	6.65	14.17	66	510	8.5	39	20	6.7	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	681		
07/14/05	8.57	12.45	42	310	18	40	8.8	2.0	6.7	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	438		
MW-9 Dup	—	—	67	360	22	42	9.1	1.9	9.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	503		
01/18/06	8.31	12.71	200	810	18	84	11	2.5	20	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1,177		
04/05/06	5.57	15.45	390	1,500	55	190	22	5.0	37	2.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2,204		
07/05/06	8.44	12.58	190	650	50	28	110	11	2.5	13	12	12	12	12	12	12	1,347		
MW-9 Dup	—	—	170	900	29	100	10	2.3	10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1,234		
10/01/06	9.30	11.72	110	420	21	70	9.1	2.4	9.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	642		
01/04/07	9.67	11.35	110	440	11	54	9.4	2.6	9.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	644		
04/06/07	9.45	11.57	52	300	7.3	28	7.1	2.6	6.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	410		
07/03/07	9.86	11.16	130	300	7.0	57	8.8	1.9	13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	549		
10/03/07	10.10	10.92	51	220	<0.50	17	5.1	31	41	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	531		
01/16/08	9.35	11.67	36	270	4.0	20	6.0	2.0	14	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	372		
04/29/08	8.89	12.13	64	490	4.3	34	7.0	2.0	21	0.56	<0.50	49	<0.50	<0.50	<0.50	<0.50	366		
MW-9 Dup	—	—	58	430	3.8	30	5.6	2.0	19	<0.50	<0.50	43	<0.50	<0.50	<0.50	<0.50	672		
08/12/08	9.80	11.22	49	280	4.9	29	4.9	2.4	10	<0.50	<0.50	33	<0.50	<0.50	<0.50	<0.50	591		
12/04/08	10.36	10.66	22	160	3.3	16	3.0	2.1	9.6	<0.50	<0.50	27	<0.50	<0.50	<0.50	<0.50	422		
MW-9 Dup	—	—	22	180	3.2	15	3.6	2.0	9.5	<0.50	<0.50	27	<0.50	<0.50	<0.50	<0.50	267		
03/10/09	9.84	11.18	24	180	1.6	10	5.2	2.1	17	<0.50	<0.50	45	<0.50	<0.50	<0.50	<0.50	303		
06/25/09	10.47	10.55	42	270	2.3	23	2.2	2.3	19	<0.50	<0.50	87	<0.50	<0.50	<0.50	<0.50	466		
MW-9 Dup	—	—	37	260	3.9	23	2.2	2.3	24	<0.50	<0.50	75	<0.50	<0.50	<0.50	<0.50	412		
09/23/09	10.87	10.15	46	240	6.6	29	7.0	2.4	24	<0.50	<0.50	110	<0.50	<0.50	<0.50	<0.50	468		
09/29/09	10.92	10.10	NS	NS	NS	NS	NS	NS	NS	<0.50	<0.50	NS	<0.50	<0.50	<0.50	<0.50	468		
October 2009 Supplemental EOS Injections																			
12/16/09	10.17	10.85	16	130	0.82	13	14	0.55	180	<0.50	<0.50	31	<0.50	<0.50	<0.50	<0.50	193		
MW-9 Dup	—	—	13	110	<0.50	13	13	<0.50	170	0.58	—	<0.50	<0.50	29	<0.50	<0.50	—	351	
Dup-1	10.33	10.69	3.4	17	<1.0	2.1	2.8	<1.0	38	<1.0	—	<1.0	77	<1.0	<1.0	<1.0	149		
09/09/10	—	—	3.8	17	<0.50	2.4	2.8	<0.50	39	0.66	—	<0.50	73	<0.50	<0.50	<0.50	146		
11/19/10	10.46	1.3	8.4	<0.50	1.5	9.9	<0.50	9.9	<0.50	51	<0.50	<0.50	51	<0.50	<0.50	<0.50	86		
January 2010 C22 Chloroethane																			
MW-9 Dup	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Dup-1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

Table 2
Summary of Groundwater Elevations and Concentrations of Volatile
Organic Compounds Detected in Monitoring Wells and Pilot Study Test Wells
CWA0803/03/02/20

Well ID (Elevation)	Sample Date	Depth to Groundwater	Groundwater Elevation	1,1,1-TCA (µg/L)	TCE (µg/L)	TCFM (µg/L)	1,1-DCE (µg/L)	1,1,1-DCA (µg/L)	PCE (µg/L)	cl-4,7'- -DCE (µg/L)	trans-3,7'- -DCE (µg/L)	CFnC 11,3 (µg/L)	1,1,2-TCA (µg/L)	1,2-DCA (µg/L)	Vinyl Chloride (µg/L)	Chloro Benzene (µg/L)	Benzene (µg/L)	Xylenes (µg/L)	Other Chemicals Detected (µg/L)	Total VOCs (µg/L)
MW-10 MW-11	08/27/01	-	August/September 2001 HxC Injections	7.7	2,427	2,427	16	55	249	7.8	-	<5.0	<5.0	17	<5.0	<5.0	<5.0	<5.0	2,392	
(18,12) Screen = 5-20	09/19/01	8.95	9.17	8.7	2,800	19	115	69	5	260	9.4	-	<5.0	<5.0	20	<5.0	<5.0	<5.0	3,296	
	12/10/01	8.64	9.28	10	2,950	16	143	62	5.5	259	8.8	-	<5.0	<5.0	10	<5.0	<5.0	<5.0	3,644	
	02/28/02	8.69	9.23	<20	3,100	<20	140	70	<20	260	270	12	<5.0	<5.0	<10	<10	<20	<20	3,582	
	05/23/02	9.40	8.72	11	4,200	20	200	78	<20	270	270	12	<5.0	<5.0	17	<5.0	<5.0	<5.0	4,008	
	09/17/02	9.92	8.20	<20	5,400	<50	180	69	<50	220	220	<50	<5.0	<25	<25	<50	<50	5,069		
	12/05/02	9.30	8.82	<20	4,100	<50	180	69	210	<60	<60	<50	<5.0	<25	<25	<50	<50	4,523		
	02/19/03	8.32	9.80	11	5,300	22	160	76	3.6	190	8	-	<5.0	<5.0	11	<1	<1	<1	5,776	
	04/24/03	7.97	10.15	<50	5,200	64	190	109	<50	230	<50	130	<50	<25	<25	<50	<100	5,744		
	12/29/03	8.65	9.21	<50	4,300	<50	130	51	<50	130	NS	NS	NS	NS	NS	NS	NS	NS	4,811	
	03/19/04	8.91	9.21	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	07/2/04	9.86	8.26	3.3	4,710	12	180	78	7.9	190	10	-	4.5	<0.5	9.6	<0.5	0.5	<2.5	5,209	
MW-04 Screen = 25 (see note)	02/04/05	6.53	11.59	<2.5	840	<2.5	22	14	141	4.2	-	<2.5	<2.5	4.4	<2.5	<2.5	<2.5	<2.5	1,026	
	01/18/06	8.33	8.59	<0.50	1,400	2.0	27	13	3.0	140	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1,032	
	01/17/06	9.53	8.59	<0.50	900	<0.50	21	8.0	3.1	82	6.3	-	<0.50	<0.50	16	<0.50	<0.50	<0.50	1,036	
	09/25/09	10.46	7.66	October 2009 Supplemental EOS Injections	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	09/09/10	9.60	8.52	<0.50	350	<0.50	14	5.3	2.6	83	7.4	-	<0.50	<0.50	17	<0.50	<0.50	<0.50	-	
	11/19/10	9.78	8.34	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	08/27/01	-	August/September 2001 HxC Injections	-	-	<5.0	738	<5.0	<5.0	102	5.9	-	<5.0	<5.0	102	<5.0	<5.0	<5.0	846	
(20,04) Screen = 25 (see note)	09/19/01	15.44	4.60	<5.0	5,200	12	333	50	<5.0	292	60	-	<5.0	<5.0	5.0	<5.0	<5.0	<5.0	6,027	
	12/11/01	15.68	4.36	<5.0	4,760	9.8	265	61	<5.0	243	61	-	<5.0	<5.0	4.0	<5.0	<5.0	<5.0	5,390	
	05/23/02	15.73	4.36	<20	3,400	<20	200	38	<20	260	260	46	<5.0	<20	<10	<10	<20	3,945		
	09/17/02	16.00	4.31	<5.0	4,000	5.4	224	38	<5.0	250	250	68	<5.0	<5.0	3.4	<5.0	<5.0	<5.0	4,671	
	12/05/02	15.83	4.04	<20	3,600	<20	140	35	<20	220	220	32	<20	<20	10	<20	<20	<20	4,027	
	02/19/03	15.18	4.21	<50	3,000	<50	100	50	<50	260	260	<50	<25	<25	<25	<25	<25	<25	3,660	
	04/25/03	15.10	4.94	<20	3,700	2.6	190	42	<20	260	260	35	<20	<20	10	<20	<20	<20	4,242	
	12/30/03	15.76	5.77	<20	3,400	<20	190	31	<20	220	220	37	<20	<20	10	<20	<20	<20	3,974	
	-	-	January 2004 HxC Injections Fence Installation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,167	
	02/17/04	16.12	3.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	719	
	03/08/04	15.77	4.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	
	07/22/04	15.98	4.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	
MW-11 MW-11 Dup	12/22/04	16.28	3.76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	
	02/04/05	14.02	6.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	
	10/12/05	15.6*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	
	01/18/06	14.99	5.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	
	04/05/06	13.61	6.23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NS	
	01/17/08	15.97	4.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,784	
	09/25/09	16.35	3.69	<0.50	2,400	<0.50	120	47	1.3	310	32	-	<0.50	<0.50	370	<0.50	<0.50	<0.50	2,159	
MW-11-HS MW-11-HS MW-12	09/10/10	15.62	4.42	<5.0	2,800	<5.0	17	30	<5.0	290	42	-	<5.0	<5.0	1,500	<5.0	<5.0	<5.0	2,152	
	11/22/10	15.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,510	
	11/22/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,510	
	08/27/01	-	August/September 2001 HxC Injections	-	-	<5.0	430	16	6.4	<5.0	691	<5.0	-	<5.0	<5.0	<5.0	<5.0	<5.0	349	
	08/19/01	16.64	4.89	295	<5.0	19	6.2	-	-	-	-	-	-	-	-	-	-	-	327	
	12/28/01	16.74	3.30	274	<5.0	14	7.4	-	-	-	-	-	-	-	-	-	-	-	311	
	05/23/02	17.78	3.75	<1	190	<1	14	5.7	<1	4.7	1.7	-	<5.0	<5.0	3.3	<5.0	<5.0	<5.0	315	
(2,5.3) Screen = 5-25	09/17/02	16.76	4.86	<5.0	220	<5.0	16	5.5	<5.0	225	225	46	<5.0	<5.0	1.0	<5.0	<5.0	<5.0	3,585	
	12/05/02	16.52	4.77	2.5	330	<1	7.1	3.2	<1	5.9	5.9	<1	<1	<1	<1	<1	<1	<1	241	
	02/19/03	16.82	4.74	<1	120	<1	6.5	2.7	<1	11	11	<1	<1	<1	<1	<1	<1	<1	349	
	04/25/03	16.64	4.89	<4	260	<4	17	7	<4	14	14	<4	<4	<4	<4	<4	<4	<4	288	
	12/20/03	16.61	4.92	<1	110	<1	13	5.4	<1	3.0	3.0	<1	<1	<1	<1	<1	<1	<1	208	
	01/17/08	17.13	4.40	<0.50	120	<0.50	8.0	5.6	<0.50	12	22	-	<0.50	<0.50	3.9	<0.50	<0.50	<0.50	135	
	09/25/09	17.36	4.17	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	11/19/10	17.75	3.81	<0.50	100	<0.50	9.4	6.0	<0.50	66	40	-	<0.50	<0.50	41	<0.50	<0.50	<0.50	228	
	11/19/10	17.75	3.78	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	-	-	October 2009 Supplemental EOS Injections	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	262	
	09/09/10	17.72	3.81	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	

Table 2
Summary of Groundwater Elevations and Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Pilat Study Test Wells

Table 2
Summary of Groundwater Elevations and Concentrations of Volatile Organic Compounds Detected in Monitoring Wells and Pilot Study Test Wells Renco Encoders

Table 2
Summary of Groundwater Elevations and Concentrations of Volatile
Organic Compounds Detected in Monitoring Wells and Pilot Study Test Wells
Reno Ecosystem
CM/06/03/1/0020

Well ID (Elevation)	Sample Date	Depth to Groundwater	Groundwater Elevation	1,1-TCA (ug/L)	TCE (ug/L)	1,1-DCE (ug/L)	1,1-HCA (ug/L)	PCE (ug/L)	cis-1,2- DCE (ug/L)	trans-1,2- DCE (ug/L)	CFC-113 (ug/L)	1,1,2-TCA (ug/L)	Vinyl Chloride (ug/L)	Chloro- benzene (ug/L)	Benzene (ug/L)	Xylenes (ug/L)	Other Chemicals Detected (ug/L)	Total VOCs (ug/L)
Equipment Blank	12/3/003	--	--	<1	17	<1	<1	<1	<1	<1	--	<1	<1	<1	<1	<1	17	
07/14/05	--	--	<1.5	6.0	-0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	6	
08/1/2008	1	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0	
03/1/09/09	1	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0	
08/2/2009	1	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0	
09/2/2009	1	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0	
08/26/09	1	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0	
12/16/09	1	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0	
08/08/10	1	--	--	<0.50	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0	
11/19/10	1	--	--	2.00	5	150	6	5	6	10	1200	0.5	70	0.5	1750	2		
California MCLs:																		

Data prior to June 2001 managed by Dames&Moore; data after June 2001 managed by ARCADIS Company.
04/06/00 data is preliminary.

(Elevation) = Top of casing elevation, feet rms

Screen Depth of screened interval, feet rms

ND = Not detected above laboratory method detection limit.

— = Not Analyzed or Not Applicable

NS = Not sampled.

MCL = Maximum Contaminant Limit

J = Available is positively identified, value is estimated

Hg = (micrograms per liter,

HS = Hydrastisieve sample

1 = Well not accessible due to flooding

2 = Casing extended approximately 2.5 feet due to construction and changes to grade. Will be surveyed at a later date.

3 = Groundwater elevation is approximate. Well not sampled due to damage.

4 = Top of casing elevation corrected on 12/21/01; well vault lid elevation was inadvertently reported in prior versions of table.

* = Sampled from disposal wastewater drum

** = Smallest increment on probe was 1'; field staff estimated depth to water to its nearest 0.1'

§ = Pilot study data (2002-2003) for wells TH4 and TH5C reported in Table 3

*** = Elevation for TW-3C casing not surveyed. Elevation for TW-1 casing is used.

QA/QC: TLL 12/21/10

TCA = Trichloroethane
TCE = Trichloroethylene
DCE = Dichloroethene
DOCA = Dichloroethane
PCE = Tetrachloroethene
TCFM = Trichlorofluoromethane (Freon 11)
DFM = Dichlorodifluoromethane
TCFFA = Trichloro trifluoroethane
BDCM = Bromodichloromethane
Chloro = Chloroform

Table 3
Summary of Interim Chemistry Results in Monitoring Wells and Pilot Study Test Wells
Reno Ercods
CHWR03/10/020

Well ID	Date	Laboratory Results											Field Measurements													
		Total Dissolved Solids	Chloride (mg/L)	Sulfate (mg/L)	Nitrate-N (mg/L)	Sulfite (mg/L)	Iron (mg/L)	Total Organic Carbon (mg/L)	Bioassay (mg/L)	Dissolved Iron (mg/L)	Manganese (mg/L)	Disolved manganese (mg/L)	Stainless Steel (mg/L)	Ethylene Diamine Tetraacetic Acid (EDTA) (mg/L)	Carbon Dioxide (mg/L)	Pyruvate (mg/L)	Lactic Acid (mg/L)	Acetic Acid (mg/L)	Propionic Acid (mg/L)	Butyric Acid (mg/L)	OHP (mg/L)	pH	Conductivity (mS/cm)	Temperature (°C)	Oxygen (mg/L)	Turbidity (NTU)
MW-5	07/10/01	1,140	120	7.3	300	134	40.10	-16	40.10	0.3	0.4	0.47	0.88	0.0007	0.19	<0.10	<0.10	<0.10	<0.10	18.49	18.49	15.6	20.8	0.0	0.0	-
GW1061	-	110	7.3	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0
C227002	1,200	70	-	50	270	1.00	1.00	-	2.3	7.2	0.3	-	-	-	-	-	-	-	-	1.0	<1.0	<1.0	<1.0	-	-	
0527302	-	40.10	-	50	400	0.20	-	-	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1205002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0218003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0425003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1225003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0712204	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0714005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0116006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0416006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0716506	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
101006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1207006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0813006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1207006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0913006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1210006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1210007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1011007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0116008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0416008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0716508	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
101008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1207008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0913008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1210008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1210009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0913009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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1210010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0716509	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1010010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1207009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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1207009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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1210009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0716509	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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1207009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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0716509	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1010009	-	-	-</																							

Table 3
Summary of General Chemistry Results in Monitoring Wells and Pilot Study Wells
Renco Encoders
CA#008031-0020

Table 3
Summary of General Chemistry Results in Monitoring Wells and Pilot Study Test Wells
Runc Enclaves
Chehalis, WA

Well ID	Date Sampled	Laboratory Results							Field Measurements																	
		Total Dissolved Solids (mg/L)	Chloride (mg/L)	pH	Alkalinity (mg/L)	Sulfate (mg/L)	Barium (mg/L)	Sulfur (mg/L)	Total Organic Carbon (TOC) (mg/L)	Dissolved Oxygen (mg/L)	Iron (mg/L)	Manganese (mg/L)	Disolved Nitrate (mg/L)	Ethylene (mg/L)	Ethane (mg/L)	Carbon Dioxide (CO ₂) (mg/L)	Hydrogen Sulfide (H ₂ S) (mg/L)	Lactic Acid (mg/L)	Acetic Acid (mg/L)	Propanoic Acid (mg/L)	Butanoic Acid (mg/L)	Chloride (mg/L)	DO (mg/L)	pH	Temperature (°C)	Conductivity (µS/cm)
MW-9	07/10/01	-	166	7.1	-	265	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12/11/01	-	166	7.1	-	265	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	01/28/02	1,478	140	7.1	77	60	<10	1.5	43.10	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	02/26/02	1,469	140	7.0	86	60	0.10	1.2	22	0.35	-0.04	1.5	-0.04	1.3	-0.035	-	0.011	0.10	0.53	1.10	-	4.63	-	-	-	
	05/23/02	1,469	<10	86	60	0.10	0.68	<2.0	-	-	-	11	0.69	-0.04	1.4	-0.035	-	0.011	0.10	0.53	1.10	-	4.63	-	-	-
	06/27/02	140	-	60	60	-	-	-	-	-	-	3.4	-0.69	-0.04	1.6	-0.035	-	0.011	0.10	0.53	1.10	-	4.63	-	-	-
	12/25/02	-	140	-	60	-	-	-	-	-	-	2.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	02/18/03	-	140	-	60	-	-	-	-	-	-	4.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	04/25/03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12/20/03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-10	07/28/04	-	166	7.0	-	265	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	02/23/05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07/14/05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07/18/05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	04/05/06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07/05/06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-11	10/16/06	-	970	7.1	-	265	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	01/16/07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	04/05/07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	07/23/07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/16/07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	04/16/08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	04/23/08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12/14/08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	02/10/09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	02/25/09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	03/23/09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-12	12/16/09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	01/16/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	01/17/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-13	12/11/01	-	144	7.2	-	265	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	01/16/02	144	131	<10	465	22	0.10	2.3	2.1	0.13	-0.04	0.34	0.35	-0.04	0.35	-0.035	0.024	0.37	-0.04	0.10	-0.04	0.10	-0.04	0.33	-	-
	05/23/02	144	<10	465	22	0.10	-	-	-	-	-	-	-	-	-	-	-0.001	-0.001	0.07	0.13	0.10	0.08	0.10	0.10	0.08	0.08
	07/23/02	144	-	465	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/16/02	144	-	465	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	04/23/03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	04/24/03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	02/16/03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12/20/03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	02/04/05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	01/17/06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	02/25/03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12/20/04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-14	12/16/09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	01/16/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	01/17/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-15	12/11/01	-	144	7.2	-	265	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	01/16/02	144	131	<10	465	22	0.10	2.3	2.1	0.13	-0.04	0.34	0.35	-0.04	0.35	-0.035	0.024	0.37	-0.04	0.10	-0.04	0.10	-0.04	0.33	-	-
	05/23/02	144	<10	465	22	0.10	-	-	-	-	-	-	-	-	-	-	-0.001	-0.001	0.07	0.13	0.10	0.08	0.10	0.10	0.08	0.08
	07/23/02	144	-	465	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/16/02	144	-	465	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	04/23/03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	04/24/03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	02/16/03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12/20/03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	02/04/05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	01/17/06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	02/25/03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12/20/04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-16	12/11/01	-	248	7.2	-	530	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	01/16/02	248	150	<10	460	44	0.10	2.3	2.1	0.13	-0.04	0.34	0.35	-0.04	0.35	-0.035	0.024	0.37	-0.04	0.10	-0.04	0.10	-0.04	0.33	-	-
	05/23/02	248	<10	460	44	0.10	-	-	-	-	-	-	-	-	-	-	-0.001	-0.001	0.07	0.13	0.10	0.08	0.10	0.10	0.08	0.08
	07/23/02	248	-	460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10/16/02	248	-	460	-</td																					

Summary of General Chemistry Results in Monitoring Wells and Pilot Study Test Wells
For Encodes
CH100803.1.0020

Table 4
Summary of Volatile Organic Compounds Detected in
Quality Control and Hydrasleeve Groundwater Sample Pairs
Renco Encoders
CIM008031.0020

Sample ID	Purge/Sampling Method	Sample Date	1,1,1-TCA (µg/L)	TCE (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	PCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	1,1,2-TCA (µg/L)	Vinyl Chloride (µg/L)	Other Chemicals Detected (µg/L)	Total VOCs (µg/L)
Hydrasleeve Sample Pairs													
MW-7	Submersible pump	09/10/10	<0.50	3.8	1.5	8.4	<0.50	58	65	<0.50	190		327
MW-7-HS	Hydrasleeve	09/10/10	<0.50	3.3	1.8	9.4	<0.50	57	77	<0.50	170		319
RPD			NA	14%	18%	11%	NA	2%	17%	NA	11%		3%
MW-11	Hand-bail	09/10/10	<5.0	280	17	30	<5.0	290	42	<5.0	1,500		2,159
MW-11-HS	Hydrasleeve	09/10/10	<0.50	130	13	36	<0.50	170	61	<0.50	2,100		2,510
RPD			NA	73%	27%	18%	NA	52%	37%	NA	33%		15%
MW-14	Submersible pump	09/10/10	<2.5	230	15	9.4	<2.5	36	6.8	<2.5	11	Chloroform: 3.0	311
MW-14-HS	Hydrasleeve	09/10/10	<0.50	220	17	11	<0.50	39	8.5	<0.50	13	Carbon Tetrachloride: 6.6; 1,1-Dichloropropane: 2.6	318
RPD			NA	4%	13%	16%	NA	8%	22%	NA	17%	NA	2%
MW-7	Submersible pump	11/22/10	<0.50	3.6	1.6	8.9	<0.50	59	80	<0.50	160		313
MW-7-HS	Hydrasleeve	11/22/10	<0.50	7.5	1.7	9.7	<0.50	60	78	<0.50	160		317
RPD			NA	70%	6%	9%	NA	2%	3%	NA	0%		1%
MW-11	Hand-bail	11/22/10	<0.50	750	30	34	0.82	550	67	0.65	1,900		3,332
MW-11-HS	Hydrasleeve	11/22/10	<0.50	860	44	39	1.0	680	68	0.77	1,900		3,553
RPD			NA	14%	38%	14%	20%	21%	1%	17%	0%		8%
MW-14	Submersible pump	11/22/10	<0.50	230	12	7.4	<0.50	27	9.2	<0.50	4.5		290
MW-14-HS*	Hydrasleeve	11/22/10	<0.50	160	8.3	4.2	<0.50	12	3.4	<0.50	2.6		191
RPD			NA	36%	36%	55%	NA	77%	92%	NA	54%	NA	41%
Quality Control (Duplicate) Sample Pairs													
MW-9	Submersible pump	09/09/10	3.4	17	2.1	2.8	<1.0	38	<1.0	77	Chloroethane: 8.2	140	
Dup-1	Submersible pump	09/09/10	3.8	17	2.4	2.8	<0.50	39	0.55	<0.50	73	Chloroethane: 7.8	139
RPD			11%	0%	13%	0%	NA	3%	NA	NA	5%		1%
MW-16	Hand-bail	09/09/10	<5.0	3,400	82	30	<5.0	290	9.1	<5.0	9.2	Chloroform 6.6	3,820
Dup-2	Hand-bail	09/09/10	<0.50	2,100	110	37	4.5	310	13	2.1	24		2,601
RPD			NA	47%	29%	21%	NA	7%	35%	NA	89%	NA	38%
MW-19	Submersible pump	11/19/10	<0.50	1,000	94	9.6	1.4	480	81	<0.50	3.3		1,669
Dup-1	Submersible pump	11/19/10	<0.50	990	100	9.8	1.3	510	85	<0.50	6.0		1,702
RPD			NA	1%	6%	2%	7%	6%	5%	NA	58%	NA	2%

Notes:

RPD = Relative percent difference
 NA = Not applicable
 µg/L = micrograms per liter

TCA = Trichloroethane
 TCE = Trichloroethene
 DCE = Dichloroethene

DCA = Dichloroethane
 PCE = Tetrachloroethene
 * = Hydrasleeve sample may have been affected by rain water infiltration during equilibration period.

CITY:(Reqd) DIV/GRUOP:(Reqd) DBI:(Reqd) LDG:(Reqd) PIC:(Reqd) PML:(Reqd) LYR:(Reqd) LYR:(Reqd)-OFF-REF
LAYOUT: 1 BW SAVEEE: 126/2010 9:18 AM ACADVER: 18.0S LMS TECH PAGESETUP: --- PLOTSTYLETABLE: KMEP.CB PLOTTED: 126/2010 9:19 AM BY: MURESAN, ELENA



MAP SOURCE: Google Earth Pro™ 2009, 34°25'52.12"N, 119°51'41.99"W

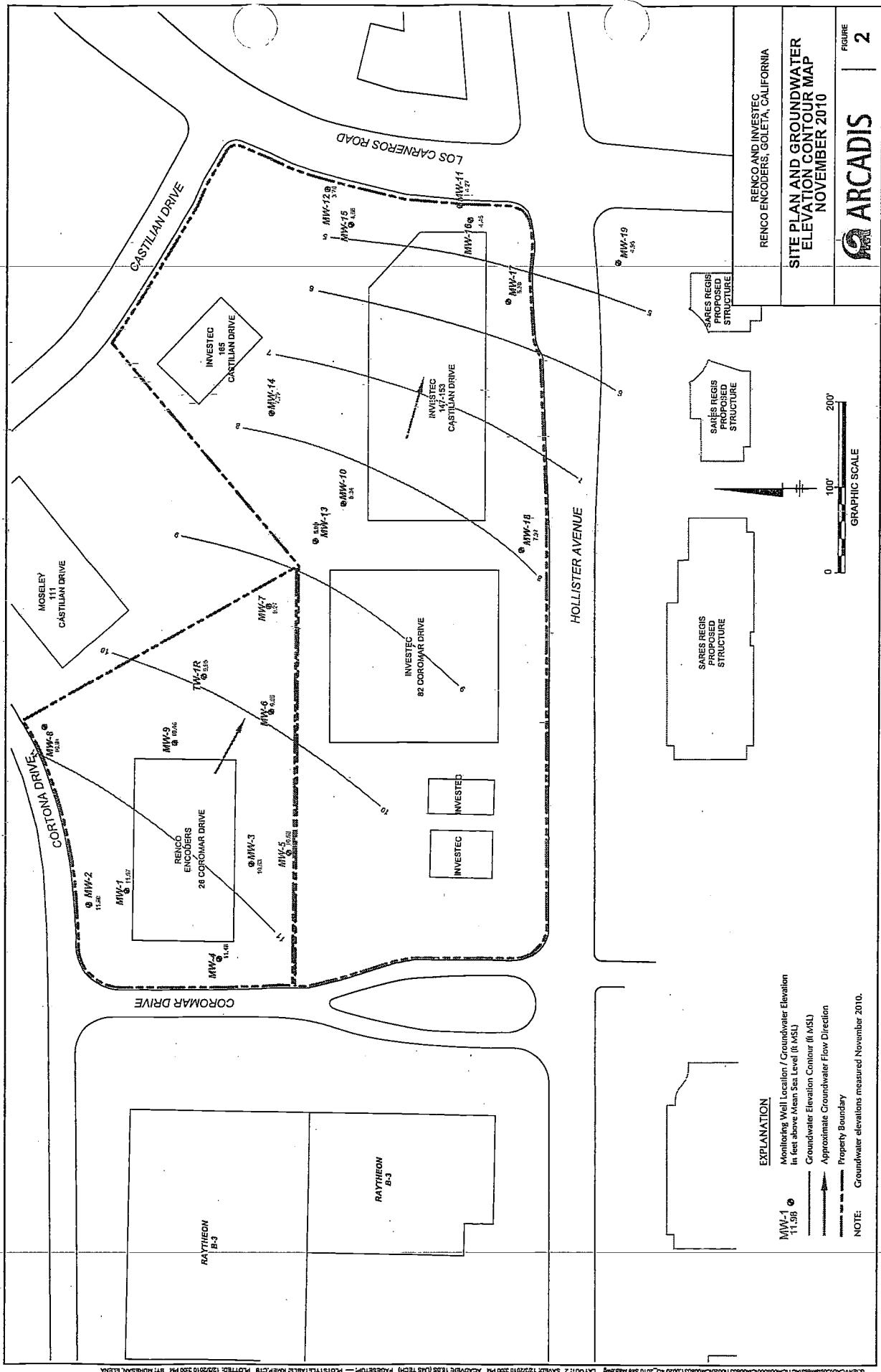


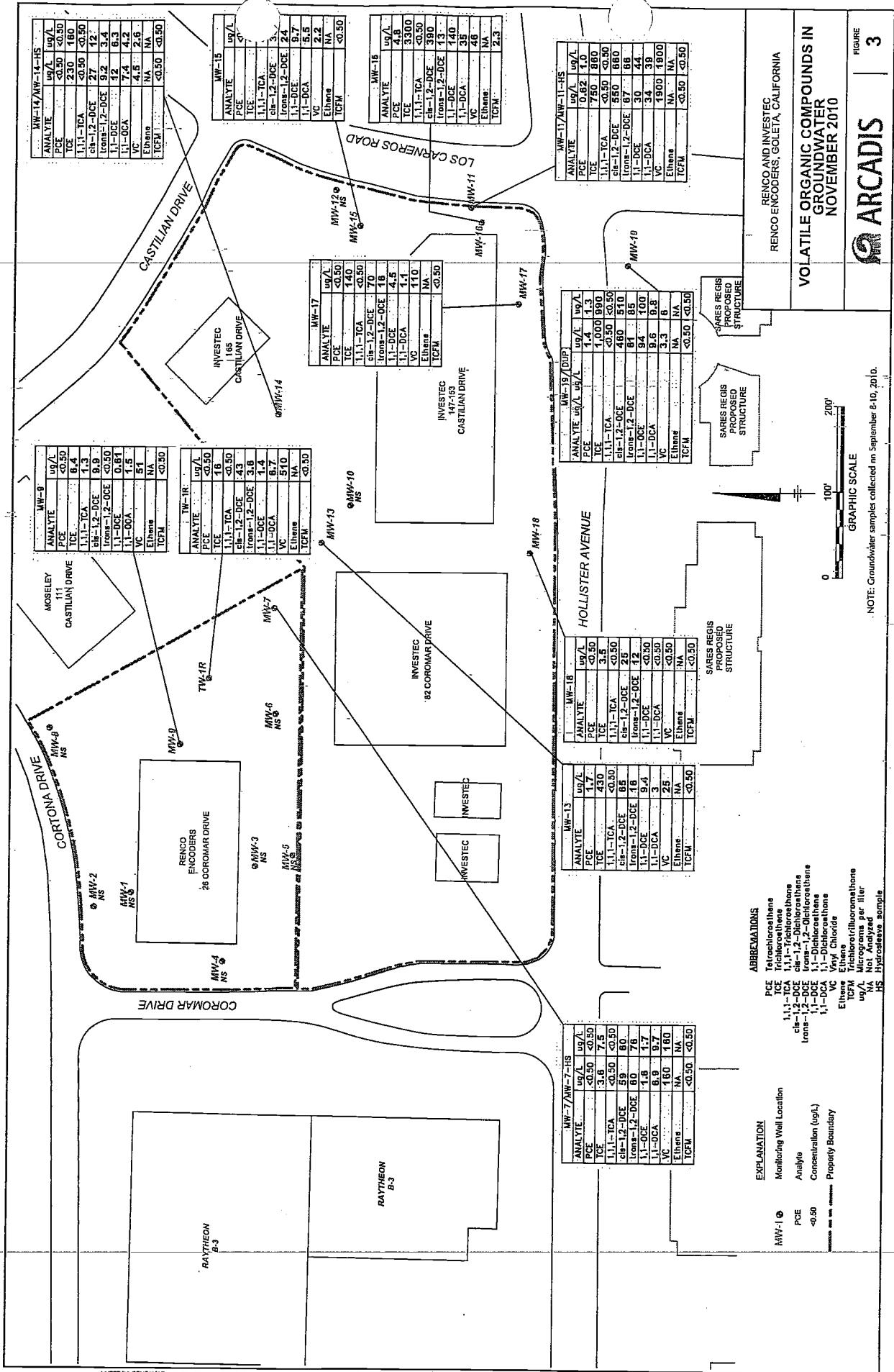
RENCO AND INVESTEC
RENCO ENCODERS, GOLETA, CALIFORNIA

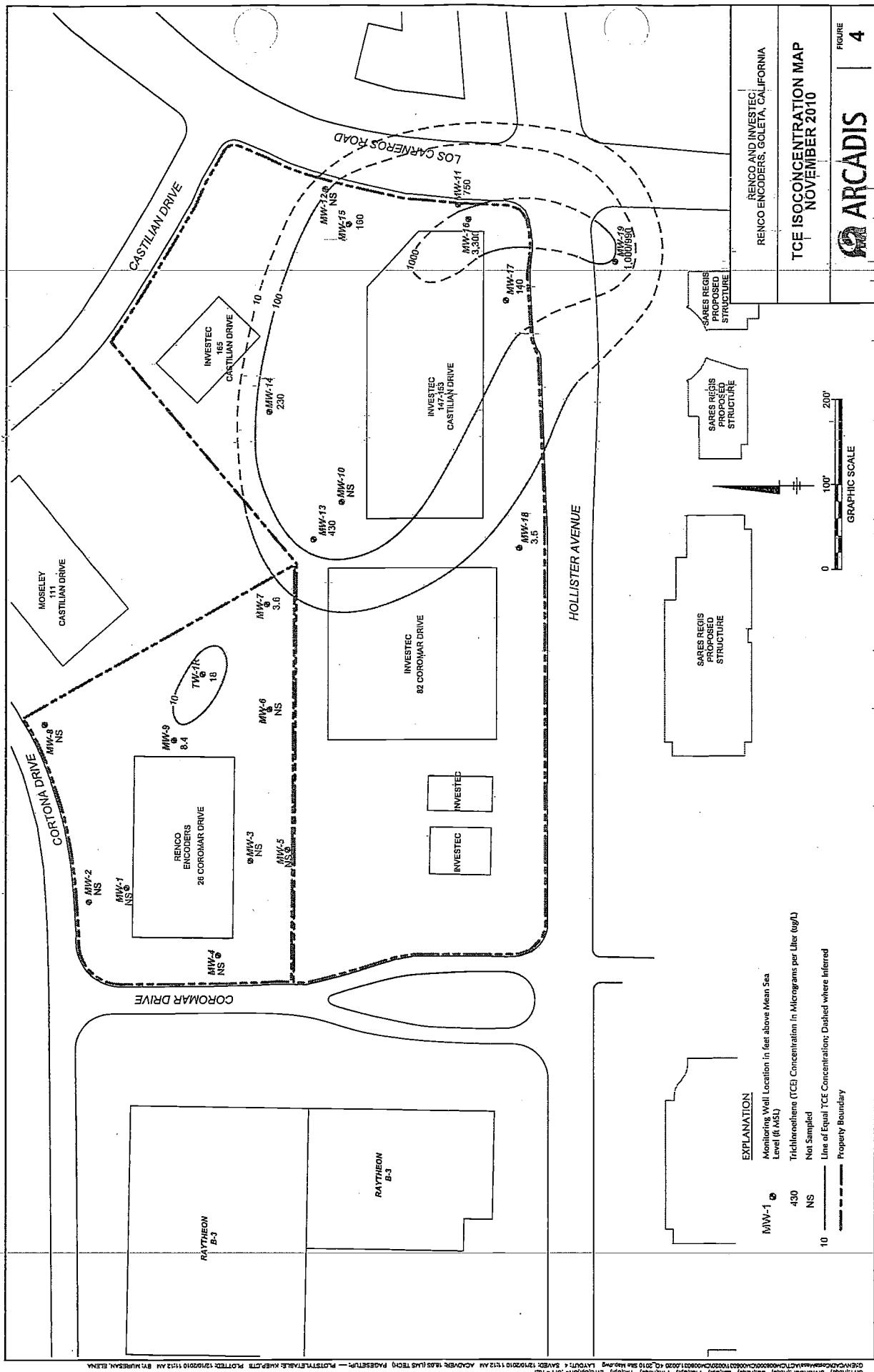
SITE VICINITY MAP

ARCADIS

FIGURE







ARCADIS

Appendix A

Groundwater Monitoring Field Forms

Water Level Measurements

LFR Inc.

Project Number: Cm008031.0020.00007

Page 1 of 1

Project Name: RENCO 4Q GWM

Date: 11/19/10

Project Location: 26 CORONAR DR., HOLSTAF, CA

Day: M T W Th F S S

Site Conditions/Weather: OVERCAST

LFR Staff: AMH

Comments: NA

Well No.	Time	Casing Depth	Depth to Water	Depth to Product	Comments
MW-1	0933	NM	9.97	NA	NM=NOT MEASURABLE
MW-2	0935	NM	9.97		-
MW-3	0942	NM	10.53		-
MW-4	0940	NM	10.78		-
MW-5	0945	NM	12.12		-
MW-6	0948	NM	9.97		-
MW-7	0951	22.50	10.85		SOLID BOTTOM
MW-8	0955	NM	10.11		-
MW-9	1006	20.30	10.56		SEMI-SOFT BOTTOM
MW-10	1014	NM	9.78		-
MW-11	1049	24.98	15.77		SOFT BOTTOM
MW-12	1040	NM	17.75		-
MW-13	1017	20.20	9.16		SEMI-SOFT BOTTOM
MW-14	0855	29.30	8.77		SOFT SILT BOTTOM
MW-15	1042	29.70	18.74		SOFT BOTTOM
MW-16	1107	28.50	17.85		SOFT BOTTOM
MW-17	1100	28.90	12.85		SEMI-SOFT BOTTOM
MW-18	1030	28.90	9.21		SOFT BOTTOM
MW-19	1129	32.30	12.45		SEMI-SOFT BOTTOM
MW-1R	10:03	21.10	10.85	↓	SOLID BOTTOM

Reviewed by: TIM LUBERS Signed: JL Date: 12/2/10

Water Quality Sampling Information

ARCADIS

Project Number: CM008031.0020 Task 00007

Page 1 of 11

Project Name: 4Q 2010 Groundwater Monitoring

Date: 11/22/10

Project Location: Renco-Encoders, Goleta, CA

Day: M T W Th F S S

Site-Conditions/Weather: Sunny / Clear Skies

LFR Staff: AMH

COMMENTS: Hand pumping sample collected at 1250.

SAMPLING METHOD

Centrifugal Pump
Submersible Pump
Hand Bail Other: _____

Disposable Bailer
Teflon Bailer

Sample No. MW7
Field Blank: TB
Duplicate: N/A

Analyses Requested

VOCs by 8260B

Number and Types of Bottles Used

(3) 40 ml VOAs w/ HCl

TOC by 5310B

(1) 250 ml amber w/ HCl

Method of Shipment

OEC

Courier
Hand Delivery

(Lab Name)

Well No.: MW-7

Well Diameter: 2"

Depth of Water: 10.85

1" (0.04 gal/ft)
 X 2" (0.16 gal/ft)

Well Depth: 22.50

3" (0.24 gal/ft)
 4" (0.65 gal/ft)

Height of Water Column: 11.65

5" (1.02 gal/ft)
 6" (1.47 gal/ft)

Volume in Well (gals.): 1.86

3 Well Volumes (gals.): 5.6

Calculations

Height of water column: 11.65

x 0.2

= 2.37

Depth to water: + 10.85

80% DTW = 13.18

Time	Depth to Water (feet)	Volume Purged (gals.)	pH	Cond. (S/m)	Turbidity (NTU)	DO (mg/l)	Temp. (°C)	ORP (mV)	Remarks
1301									START PUMP
1303	2.0	7.09	0.229	94.2	1.93	16.68	31		
1304	4.0	6.89	0.234	330.0	0.60	18.77	-2		
1305	6.0	6.79	0.233	262.0	0.13	18.76	-31		
1320	10.80								SAMPLE

Reviewed by: Tim Lumber

Signed by: TL

Date: 12/21/10

Water Quality Sampling Information

ARCADIS

Project Number: CM00803 1.0020 Task 00007

Page 2 of 11

Project Name: 4Q 2010 Groundwater Monitoring

Date: 11/19/10

Project Location: Renco Encoders, Goleta, CA

Day: M T W Th F S S

Site Conditions/Weather: OVERCAST

LFR Staff: AMH

COMMENTS: Dry after 1+ pulse volume, slow recovery

SAMPLING METHOD

Centrifugal Pump
Submersible Pump
Hand Bail

Disposable Bailer
Teflon Bailer
Other: _____

Sample No. MW-9
Field Blank: TB
Duplicate: _____

Analyses Requested

VOCs by 8260B
TOC by 5310B

Number and Types of Bottles Used

(3) 40 ml VOAs w/ HCl
(1) 250 ml amber w/ HCl

Method of Shipment

OEC
(Lab Name)

Courier
Hand Deliver

Calculations

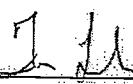
Well No.: MW-9
Depth of Water: 10.56
Well Depth: 20.30
Height of Water Column: 9.74
Volume in Well (gals.): 156
3 Well Volumes (gals.): 468

Well Diameter: 2"
 1" (0.04 gal/ft)
 2" (0.16 gal/ft)
 3" (0.32 gal/ft)
 4" (0.65 gal/ft)
 5" (1.02 gal/ft)
 6" (1.47 gal/ft)

Height of water column: 9.74
 $\times 0.2$
= 1.95
Depth to water: + 10.56
80% DTW = 12.5

Time	Depth to Water (feet)	Volume Purged (gals.)	pH	Cond. (S/m)	Turbidity (NTU)	DO (mg/l)	Temp. (°C)	ORP (mV)	Remarks
1312									STUCK PWLGS
1314	1.5	6.91	0.274	328.0	1.10	20.70	-105		
1315	2.0	6.83	0.284	346.0	0.66	20.38	-115		
1445	12.50								SAMPLE

Reviewed by: Tim Lumbars

Signed by: 

Date: 12/2/10

Water Quality Sampling Information

ARCADIS

Project Number: CM008031.0020 Task 00007

Page 3 of 11

Project Name: 4Q 2010 Groundwater Monitoring

Date: 11/22/10

Project Location: Renco Encoders, Goleta, CA

Day: M T W Th F S S

Site Conditions/Weather: SUNNY / CLEAR SKIES

LFR Staff: AMH

COMMENTS: HYDRAULIC SAMPLE COLLECTED @ 1620

SAMPLING METHOD

Centrifugal Pump
Submersible Pump
Hand Bail Others: _____

Disposable Bailer
Teflon Bailer

Sample No. MWII
Field Blank: TB
Duplicate: N/A

Analyses Requested

VOCs by 8260B

TOC by 5310B

Number and Types of Bottles Used

(3) 40 ml VOAs w/ HCl

(1) 250 mL amber w/ HCl

Method of Shipment

OEC

Courier
Hand Deliver

(Lab Name)

Well No.: MWII

Well Diameter: 2"

Depth of Water: 15.77

1" (0.04 gal/ft)

Well Depth: 24.90

X 2" (0.16 gal/ft)

Height of Water Column: 9.13

4" (0.65 gal/ft)

Volume in Well (gals.): 1.46

5" (1.02 gal/ft)

3 Well Volumes (gals.): 4.3

6" (1.47 gal/ft)

Height of water column: 9.13

x 0.2

= 1.83

Depth to water: + 15.77

80% DTW = 17.60

Calculations

Time	Depth to Water (feet)	Volume Purged (gals.)	pH	Cond. (S/m)	Turbidity (NTU)	DO (mg/l)	Temp. (°C)	ORP (mV)	Remarks
1630									STUCK PUMP
1635	1.5	6.99	0.176	AVT	3.33	18.07	-62		
1639	3.0	7.07	0.180	AVT	3.10	18.20	-115	-100 AMU	
1642	4.5	7.08	0.183	AVT	3.95	18.64	-111		
1650	17.60								SAMPLE

Reviewed by: Tim Limbers

Signed by: Tim Limbers

Date: 11/22/10

Water Quality Sampling Information

ARCADIS

Project Number: CM008031.0020 Task 00007

Page: 4 of 11

Project Name: 4Q 2010 Groundwater Monitoring

Date: 11/22/10

Project Location: Renco Encoders, Goleta, CA

Day: M T W Th F S S

Site Conditions/Weather: Sunny/Clear Skies

LFR Staff: AMH

Comments: None

SAMPLING METHOD

Centrifugal Pump
Submersible Pump
Hand Bail

Disposable Bailer
Teflon Bailer
Other: _____

Sample No. MW13
Field Blank: TB
Duplicate: N/A

Analyses Requested

VOCs by 8260B
TOC by 5310B

Number and Types of Bottles Used

(3) 40 ml VOAs w/ HCl
(1) 250 ml amber w/ HCl

Method of Shipment

OEC
(Lab Name)

Courier
Hand Deliver

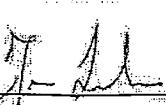
Well No.: MW-13
Depth of Water: 9.16
Well Depth: 20.20
Height of Water Column: 11.04
Volume in Well (gals.): 1.76
3 Well Volumes (gals.): 5.3

Well Diameter: 2"
 1" (0.04 gal/ft)
 2" (0.16 gal/ft)
 4" (0.65 gal/ft)
 5" (1.02 gal/ft)
 6" (1.47 gal/ft)

Calculations	
Height of water column:	11.04
	x 0.2
	= 2.21
Depth to water:	+ 9.16
	80% DTW = 11.37

Time	Depth to Water (feet)	Volume Purged (gals.)	pH	Cond. (S/m)	Turbidity (NTU)	DO (mg/l)	Temp. (°C)	ORP (mV)	Remarks
1206									START PWRGS
1209	1.75	7.25	0.186	217.0	1.72	21.53	142		
1208	3.5	7.02	0.196	191.0	0.49	21.73	122		
1210	5.5	6.87	0.197	211.0	0.04	21.75	102		
1220	9.55	—							SAMPLE

Reviewed by: Tim Luehrs

Signed by: 

Date: 12/2/10

Water Quality Sampling Information

ARCADIS

Project Number: CM008031.0020 Task 00007

Page 5 of 11

Project Name: 4Q 2010 Groundwater Monitoring

Date: 11/24/10

Project Location: Renco Encoders, Goleta, CA

Day: M T W Th F S S

Site Conditions/Weather: Sunny-CLEAR

LFR Staff: AMH

COMMENTS: HYDROSENG SAMPLE COLLECTED @ 1105; POSSIBLE RUNOFF IN WELL/HIGH
SAMPLE

SAMPLING METHOD

Centrifugal Pump
Submersible Pump
Hand Bail

Disposable Bailer
Teflon Bailer
Other: _____

Sample No. MW14
Field Blank: TB
Duplicate: N/A

Analyses Requested

VOCs by 8260B
TOC by 5310B

Number and Types of Bottles Used

(3) 40 ml VOAs w/ HCl
(1) 250 ml amber w/ HCl

Method of Shipment

OEC
(Lab Name)

Courier
Hand Deliver

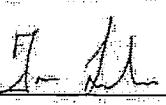
Well No.: MW-14
Depth of Water: 8.97
Well Depth: 29.30
Height of Water Column: 20.53
Volume in Well (gals.): 3.28
3 Well Volumes (gals.): 9.85

Well Diameter: 2"
 1" (0.04 gal/ft)
 2" (0.16 gal/ft)
 3" (0.32 gal/ft)
 4" (0.65 gal/ft)
 5" (1.02 gal/ft)
 6" (1.47 gal/ft)

Calculations	
Height of water column:	20.53
x 0.2	= 4.10
Depth to water:	+ 8.97
80% DTW =	12.87

Time	Depth to Water (feet)	Volume Purged (gals.)	pH	Cond. (S/m)	Turbidity (NTU)	DO (mg/l)	Temp. (°C)	ORP (mV)	Remarks
1124									START PUMP
1126	3.5	6.63	97.9	#VT	1.32	23.29	131		
1128	7.0	6.77	0.045	307	2.52	24.18	131		
1130	10.0	6.73	0.107	290	1.37	24.18	123		
1140	9.10	~							SAMPLE

Reviewed by: Tim Luber

Signed by: 

Date: 12/2/10

Water Quality Sampling Information

ARCADIS

Project Number: CM008031.0020 Task 00007

Page 6 of 11

Project Name: 4Q 2010 Groundwater Monitoring

Date: 11/22/10

Project Location: Renco Encoders, Goleta, CA

Day: M T W Th F S S

Site Conditions/Weather: SUNNY / CLEAR SKIES

LFR Staff: AMH

COMMENTS: NONE

SAMPLING METHOD

Centrifugal Pump
Submersible Pump
Hand Bail Other: _____

Disposable Bailer
Teflon Bailer

Sample No. MW15
Field Blank: TB
Duplicate: NA

Analyses Requested

VOCs by 8260B
TOC by 5310B

Number and Types of Bottles Used

(3) 40 ml VOAs w/ HCl
(1) 250 ml amber w/ HCl

Method of Shipment

OEC
(Lab Name)

Courier
Hand Deliver X

Calculations

Well No. MW15
Depth of Water: 10.74
Well Depth: 29.70
Height of Water Column: 18.96
Volume in Well (gals): 3103
3 Well Volumes (gals): 9.3

Well Diameter: 2"
 1" (0.04 gal/ft)
 2" (0.16 gal/ft)
 3" (0.65 gal/ft)
 4" (1.02 gal/ft)
 5" (1.47 gal/ft)

Height of water column: 18.96
 $\times 0.2$,
= 3.79
Depth to water: + 10.74
 $80\% \text{ DTW} = 14.53$

Time	Depth to Water (feet)	Volume Purged' (gals.)	pH	Cond. (S/m)	Turbidity (NTU)	DO (mg/l)	Temp. (°C)	ORP (mV)	Remarks
1530									START PUMPING
1531	3.0	8.68	0.179	9.5T	8.70	18.63	95		
1541	6.0	7.53	0.176	9.5T	8.24	19.17	87		
1545	9.1	7.23	0.165	9.5T	8.17	19.03	87		
1555	10.95								SAMPLE

Reviewed by: Tim Limburg

Signed by: JL

Date: 11/22/10

Water Quality Sampling Information

ARCADIS

Project Number: CM008031.0020 Task 00007
 Project Name: 4Q 2010 Groundwater Monitoring
 Project Location: Renco Encoders, Goleta, CA
 Site Conditions/Weather: Sunny / Clear Skies
 COMMENTS: Note

Page 7 of 11
 Date: 11-22-10

Day: M T W TH F S S
 LFR Staff: AMH

SAMPLING METHOD

Centrifugal Pump
 Submersible Pump
 Hand Bait Other: _____

Disposable Baiter
 Teflon Baiter

Sample No. MW-16
 Field Blank: TB
 Duplicate: N/A

Analyses Requested

VOCs by 8260B
 TOC by 5310B

Number and Types of Bottles Used

(3) 40 ml VOAs w/ HCl
 (1) 250 ml amber w/ HCl

Method of Shipment

OEC
 (Lab Name)

Courier
 Hand Deliver

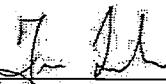
Well No.: MW-16
 Depth of Water: 17.85
 Well Depth: 26.50
 Height of Water Column: 10.65
 Volume in Well (gals.): 1.70
 3 Well Volumes (gals.): 5.11

Well Diameter: 2"
 1" (0.04 gal/ft)
 2" (0.16 gal/ft)
 3" (0.32 gal/ft)
 4" (0.65 gal/ft)
 5" (1.02 gal/ft)
 6" (1.47 gal/ft)

Calculations	
Height of water column:	10.65
x 0.2	
= 2.13	
Depth to water:	+ 17.85
80% DTW =	19.98

Time	Depth to Water (feet)	Volume Purged (gals.)	pH	Cond. (S/m)	Turbidity (NTU)	DO (mg/l)	Temp. (°C)	ORP (mV)	Remarks
17:05									Stagnant
17:11	1.70	7.10	0.148	918	8.35	17.20	-65		
17:14	2.40	7.07	0.149	*51	7.85	18.53	-67		
17:17	5.20	7.08	0.151	*51	7.94	18.49	-73		
17:20	8.40								SAMPLE

Reviewed by: Tim Limbers

Signed by: 

Date: 12/2/10

Water Quality Sampling Information

ARCADIS

Project Number: CM008031.0020 Task 00007

Page 8 of 11

Project Name: 4Q 2010 Groundwater Monitoring

Date: 11/22/10

Project Location: Renco Encoders, Goleta, CA

Day: M T W Th F S S

Site Conditions/Weather: SUNNY/CLEAR SKIES

LFR Staff: AMH

COMMENTS: SLOW RECOVERY ON LAST PUMP VOLUME, DID NOT FLOW STEADY AFTER 10 HOURS

SAMPLING METHOD

Centrifugal Pump
Submersible Pump
Hand Bail Other: _____

Disposable Bailer
Teflon Bailer

Sample No. MNW-17
Field Blank: TB
Duplicate: N/A

Analyses Requested

VOCs by 8260B

Number and Types of Bottles Used

(3) 40 ml VOAs w/ HCl

TOC by 5310B

(1) 250 ml amber w/ HCl

Method of Shipment

OEC

Courier
Hand Deliver

(Lab Name)

Well No.: MNW-17

Well Diameter: 2"

Depth of Water: 12.45

1" (0.04 gal/ft)

Well Depth: 26.90

2" (0.16 gal/ft)

Height of Water Column: 16.05

4" (0.65 gal/ft)

Volume in Well (gals.): 2.56

5" (1.02 gal/ft)

3 Well Volumes (gals.): 7.70

6" (1.47 gal/ft)

Calculations

Height of water column: 16.05

x 0.2

= 3.21

Depth to water: + 12.45

80% DTW = 16.06

Time	Depth to Water (feet)	Volume Purged (gals.)	pH	Cond. (S/m)	Turbidity (NTU)	DO (mg/l)	Temp. (°C)	ORP (mV)	Remarks
1440									START PUMP
1445	2.5	6.83	0.240	*VT*	8.95	20.06	-124		
1450	5.0	6.84	0.246	*VT*	8.96	19.83	-142		
1500	8.0	6.91	0.239	*VT*	9.08	19.56	-166		
1700	14.81								SA1 sample

Reviewed by: Tim Limbers

Signed by: J. M.

Date: 12/2/10

Water Quality Sampling Information

ARCADIS

Project Number: CM008031.0020 Task 00007

Page 9 of 11

Project Name: 4Q 2010 Groundwater Monitoring

Date: 12/2/10

Project Location: Renco Encoders, Goleta, CA

Day: M T W Th F S S

Site Conditions/Weather: SUNNY/CLEAR SKIES

LFR Staff: AMH

COMMENTS: N/A

SAMPLING METHOD

Centrifugal Pump
Submersible Pump
Hand Bail Other: _____

Disposable Bailer
Teflon Bailer

Sample No. MW18
Field Blank: TB
Duplicate: N/A

Analyses Requested

VOCs by 8260B

Number and Types of Bottles Used

TOC by 5310B

(3) 40 ml VOAs w/ HCl

(1) 250 mL amber w/ HCl

Method of Shipment

OEC

Courier
Hand Deliver

(Lab Name)

Well No. MW-18

Well Diameter: 2"

Depth of Water: 9.21

1" (0.04 gal/ft)

Well Depth: 28.70

X 2" (0.16 gal/ft)

Height of Water Column: 19.69

4" (0.65 gal/ft)

Volume in Well (gals.): 3.15

5" (1.02 gal/ft)

3 Well Volumes (gals.): 9.5

6" (1.47 gal/ft)

Height of water column: 19.69

x 0.2

= 3.94

+ 9.21

80% DTW = 13.15

Calculations

Time	Depth to Water (feet)	Volume Purged (gals.)	pH	Cond. (S/m)	Turbidity (NTU)	DO (mg/l)	Temp. (°C)	ORP (mV)	Remarks
1358									SPAN RANGE
1403	3.25	6.94	0.200	482.0	8.90	18.52	-7		
1407	6.5	6.75	0.209	*ST	8.77	18.56	-30		
1415	7.5	6.73	0.209	*ST	8.89	18.67	-38		
1420	9.35								SAMPLE

Reviewed by: Tim Lumbres

Signed by: *T. Lumbres*

Date: 12/2/11

Water Quality Sampling Information

ARCADIS

Project Number: CM008031.0020 Task 00007

Page 10 of 11

Project Name: 4Q 2010 Groundwater Monitoring

Date: 11/19/10

Project Location: Renco Encoders, Goleta, CA

Day: M T W Th F S S

Site Conditions/Weather: OVERCAST

LFR Staff: AMH

COMMENTS: (4Q2010 FAIRLY CLEAN) pH = 3.7 Cond = 0.881 ppm turb = 0.0 NTU DO = 9.02
OK TO PROCEED TO FAIRLY CAL

SAMPLING METHOD

Centrifugal Pump
Submersible Pump
Hand Bail

Disposable Bailer
Teflon Bailer
Other: _____

Sample No. MW19
Field Blank: TB
Duplicate: DUP-1 153

Analyses Requested

VOCs by 8260B
TOC by 5310B

Number and Types of Bottles Used

(3) 40 ml VOAs w/ HCl
(1) 250 ml amber w/ HCl

Method of Shipment

OEC
(Lab Name)

Courier
Hand Deliver

Calculations

Well No.: MW-19
Depth of Water: 12.45
Well Depth: 32.30
Height of Water Column: 19.85
Volume in Well (gals.): 3.18
3 Well Volumes (gals.): 9.53

Well Diameter: 2"
1" (0.04 gal/ft)
X 2" (0.16 gal/ft)
3" (0.32 gal/ft)
4" (0.65 gal/ft)
5" (1.02 gal/ft)
6" (1.47 gal/ft)

Height of water column: 19.85
x 0.2
= 3.97
Depth to water: +12.45
80% DTW = 16.42

Time	Depth to Water (feet)	Volume Purged (gals.)	pH	Cond. (S/m)	Turbidity (NTU)	DO (mg/l)	Temp. (°C)	ORP (mV)	Remarks
1206									START PUMP
1208	3.25	6.49	0.229	9.68	0.25	10.21	-195		
1210	6.5	6.72	0.229	5.7	0.00	10.28	-204	*ST	
1212	9.75	6.82	0.230	6.16	0.02	10.22	-215	*ST	
1225	12.95								SAMPLES

Reviewed by: Tim Lubas

Signed by: J. A.

Date: 12/2/10

Water Quality Sampling Information

ARCADIS

Project Number: CM008031.0020 Task 00007
 Project Name: 4Q 2010 Groundwater Monitoring
 Project Location: Renco Encoders, Goleta, CA
 Site Conditions/Weather: OVERCAST
 COMMENTS: DRY AFTER 1+ PULSE VOLUMES

Page 11 of 11

Date: 11/19/10

Day: M T W Th F S S

LFR Staff: AMH

SAMPLING METHOD

Centrifugal Pump
 Submersible Pump
 Hand Bail

Disposable Bailer
 Teflon Bailer
 Other: _____

Sample No. TW-12
 Field Blank: TB
 Duplicate: NA

Analyses Requested

VOCs by 8260B
 TOC by 5310B

Number and Types of Bottles Used

(3) 40 ml VOAs w/ HCl
 (1) 250 ml amber w/ HCl

Method of Shipment

OEC

Courier
 Hand Delivery

(Lab Name)

Well No.: TW-12

Depth of Water: 10.85

Well Depth: 21.10

Height of Water Column: 10.25

Volume in Well (gals.): 1.64

3 Well Volumes (gals.): 4.92

Well Diameter: 2"

1"	(0.04 gal/ft)
X	2" (0.16 gal/ft)
	4" (0.65 gal/ft)
	5" (1.02 gal/ft)
	6" (1.47 gal/ft)

Height of water column: 10.25

x 0.2

= 2.05

Depth to water: + 10.85

80% DTW = 12.90

Time	Depth to Water (feet)	Volume Purged (gals.)	pH	Cond. (S/m)	Turbidity (NTU)	DO (mg/l)	Temp. (°C)	ORP (mV)	Remarks
1250									START PWSGS
1251	1.0	6.96	0.222	410	1.95	20.90	-80		
1252	1.75	6.82	0.220	255	1.32	20.91	-82		
1500	15.10								SAMPLE

Reviewed by: Tim Lumber

Signed by: 

Date: 12/2/10

ARCADIS

Appendix B

Laboratory Reports

Oilfield Environmental and Compliance,-INC.



Aaron Hook
Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch, CO 80129

30 November 2010

RE: Renco Encoders

Work Order: 1004623

Dear Client:

Enclosed is an analytical report for the above referenced project. The samples included in this report were received on 19-Nov-10 16:50 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in black ink, appearing to read "Lisa Race".

Lisa Race

Laboratory Manager



Oilfield Environmental and Compliance, iNC.

Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010/CM008031.0020.00007
Project Manager: Aaron Hook

Reported:
30-Nov-10 11:56

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID.	Matrix	Date Sampled	Date Received
MW-19	1004623-01	Water	19-Nov-10 12:25	19-Nov-10 16:50
MW-9	1004623-02	Water	19-Nov-10 14:45	19-Nov-10 16:50
TW1R	1004623-03	Water	19-Nov-10 15:00	19-Nov-10 16:50
DUP-1	1004623-04	Water	19-Nov-10 15:30	19-Nov-10 16:50
TB	1004623-05	Water	19-Nov-10 00:00	19-Nov-10 16:50

Oilfield Environmental and Compliance

307 Roemer Way, Suite 300, Santa Maria, CA 93454

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

www.oecusa.com

TEL: (805) 922-4772
FAX: (805) 925-3376



Oilfield Environmental and Compliance, INC.

Arcadis-U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010/CM008031.0020.00007
Project Manager: Aaron Hook

Reported:
30-Nov-10 11:56

MW-19
1004623-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Wet Chemistry by EPA or APHA Standard Methods

Total Organic Carbon	5.8	0.50	mg/L	1	A011529	22-Nov-10	23-Nov-10	SM 5310B	
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Volatile Organic Compounds by EPA Method 8260B

Benzene	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B	"
Bromobenzene	ND	0.50	"	"	"	"	"	"	"
Bromochloromethane	ND	0.50	"	"	"	"	"	"	"
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	"
Bromoform	ND	0.50	"	"	"	"	"	"	"
Bromomethane	ND	0.50	"	"	"	"	"	"	"
n-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	"
Chlorobenzene	ND	0.50	"	"	"	"	"	"	"
Chloroethane	ND	0.50	"	"	"	"	"	"	"
Chloroform	ND	0.50	"	"	"	"	"	"	"
Chloromethane	ND	0.50	"	"	"	"	"	"	"
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.50	"	"	"	"	"	"	"
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	"
Dibromomethane	ND	0.50	"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethane	9.6	0.50	"	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethene	94	25	"	50	A011611	28-Nov-10	28-Nov-10	"	"
cis-1,2-Dichloroethene	480	25	"	"	"	"	"	"	"
trans-1,2-Dichloroethene	81	25	"	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.50	"	1	A011566	23-Nov-10	23-Nov-10	"	"
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	"

Oilfield Environmental and Compliance

307 Roemer Way, Suite 300, Santa Maria, CA 93454

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Oilfield Environmental and Compliance, INC.

Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010/CM008031.0020.00007
Project Manager: Aaron Hook

Reported:
30-Nov-10 11:56

MW-19
1004623-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by EPA Method 8260B

1,1-Dichloropropene	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B	"
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	"
Hexachlorobutadiene	ND	0.50	"	"	"	"	"	"	"
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	"
4-Isopropyl Toluene	ND	0.50	"	"	"	"	"	"	"
Methylene chloride	ND	1.0	"	"	"	"	"	"	"
Naphthalene	ND	0.50	"	"	"	"	"	"	"
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	"
Styrene	ND	0.50	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
Tetrachloroethene (PCE)	1.4	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
Trichloroethene (TCE)	1000	25	"	50	A011611	28-Nov-10	28-Nov-10	"	"
Trichlorofluoromethane	ND	0.50	"	1	A011566	23-Nov-10	23-Nov-10	"	"
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
Vinyl chloride	3.3	0.50	"	"	"	"	"	"	"
Xylenes (total)	ND	0.50	"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		100 %	70-130		"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		98.0 %	70-130		"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %	70-130		"	"	"	"	"



Oilfield Environmental and Compliance, INC.

Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010/CM008031.0020.00007
Project Manager: Aaron Hook

Reported:
30-Nov-10 11:56

MW-9
1004623-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Wet Chemistry by EPA or APHA Standard Methods

Total Organic Carbon	200	25	mg/L	50-	A011529	22-Nov-10	23-Nov-10	SM-5310B	
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Volatile Organic Compounds by EPA Method 8260B

Benzene	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B	"
Bromobenzene	ND	0.50	"	"	"	"	"	"	"
Bromochloromethane	ND	0.50	"	"	"	"	"	"	"
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	"
Bromoform	ND	0.50	"	"	"	"	"	"	"
Bromomethane	ND	0.50	"	"	"	"	"	"	"
n-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	"
Chlorobenzene	ND	0.50	"	"	"	"	"	"	"
Chloroethane	15	0.50	"	"	"	"	"	"	"
Chloroform	ND	0.50	"	"	"	"	"	"	"
Chloromethane	ND	0.50	"	"	"	"	"	"	"
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.50	"	"	"	"	"	"	"
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	"
Dibromomethane	ND	0.50	"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethane	1.5	0.50	"	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethene	0.81	0.50	"	"	"	"	"	"	"
cis-1,2-Dichloroethene	9.9	0.50	"	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	0.50	"	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"	"

Oilfield Environmental and Compliance

307 Roemer Way, Suite 300, Santa Maria, CA 93454

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Oilfield Environmental and Compliance, INC.

Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010/CM008031:0020.00007
Project Manager: Aaron Hook

Reported:
30-Nov-10 11:56

MW-9
1004623-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by EPA Method-8260B

1,2-Dibromoethane (EDB)	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	-EPA-8260B	
Hexachlorobutadiene	ND	0.50	"	"	"	"	"	"	"
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	"
4-Isopropyl Toluene	ND	0.50	"	"	"	"	"	"	"
Methylene chloride	ND	1.0	"	"	"	"	"	"	"
Naphthalene	ND	0.50	"	"	"	"	"	"	"
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	"
Styrene	ND	0.50	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
Tetrachloroethene (PCE)	ND	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,1,1-Trichloroethane	1.3	0.50	"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
Trichloroethene (TCE)	8.4	0.50	"	"	"	"	"	"	"
Trichlorofluoromethane	ND	0.50	"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
Vinyl chloride	51	1.0	"	2	A011611	28-Nov-10	28-Nov-10	"	
Xylenes (total)	ND	0.50	"	1	A011566	23-Nov-10	23-Nov-10	"	
<i>Surrogate: Dibromofluoromethane</i>	<i>103 %</i>	<i>70-130</i>			"	"	"	"	
<i>Surrogate: Toluene-d8</i>	<i>98.5 %</i>	<i>70-130</i>			"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>105 %</i>	<i>70-130</i>			"	"	"	"	

Oilfield Environmental and Compliance

307 Roemer Way, Suite 300, Santa Maria, CA 93454

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Oilfield Environmental and Compliance, INC.

Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010/CM008031.0020.00007
Project Manager: Aaron Hook

Reported:
30-Nov-10 11:56

TW1R
1004623-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Wet Chemistry by EPA or APHA Standard Methods

Total Organic Carbon	8.1	0.50	mg/L	1	A011529	22-Nov-10	23-Nov-10	SM 5310B	
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Volatile Organic Compounds by EPA Method 8260B

Benzene	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B	"
Bromobenzene	ND	0.50	"	"	"	"	"	"	"
Bromochloromethane	ND	0.50	"	"	"	"	"	"	"
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	"
Bromoform	ND	0.50	"	"	"	"	"	"	"
Bromomethane	ND	0.50	"	"	"	"	"	"	"
n-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	"
Chlorobenzene	ND	0.50	"	"	"	"	"	"	"
Chloroethane	ND	0.50	"	"	"	"	"	"	"
Chloroform	1.2	0.50	"	"	"	"	"	"	"
Chloromethane	ND	0.50	"	"	"	"	"	"	"
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.50	"	"	"	"	"	"	"
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	"
Dibromomethane	ND	0.50	"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethane	6.7	0.50	"	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethene	1.4	0.50	"	"	"	"	"	"	"
cis-1,2-Dichloroethene	43	0.50	"	"	"	"	"	"	"
trans-1,2-Dichloroethene	3.6	0.50	"	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"	"

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Oilfield Environmental and Compliance, INC.

Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010/CM008031.0020.00007
Project Manager: Aaron Hook

Reported:
30-Nov-10 11:56

TW1R
1004623-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by EPA Method 8260B

1,2-Dibromoethane (EDB)	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B	"
Hexachlorobutadiene	ND	0.50	"	"	"	"	"	"	"
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	"
4-Isopropyl Toluene	ND	0.50	"	"	"	"	"	"	"
Methylene chloride	ND	1.0	"	"	"	"	"	"	"
Naphthalene	ND	0.50	"	"	"	"	"	"	"
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	"
Styrene	ND	0.50	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
Tetrachloroethene (PCE)	ND	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
Trichloroethene (TCE)	18	0.50	"	"	"	"	"	"	"
Trichlorofluoromethane	ND	0.50	"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
Vinyl chloride	510	10	"	20	A011613	29-Nov-10	29-Nov-10	"	"
Xylenes (total)	ND	0.50	"	1	A011566	23-Nov-10	23-Nov-10	"	"
<i>Surrogate: Dibromofluoromethane</i>		109 %	70-130		"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		101 %	70-130		"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %	70-130		"	"	"	"	"

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Highlands Ranch CO, 80129-

Project: Renco Encoders
Project Number: 4Q2010/CM008031.0020.00007
Project Manager: Aaron Hook

Reported:
30-Nov-10 11:56

DUP-1
1004623-04 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by EPA Method 8260B

Benzene	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B	
Bromobenzene	ND	0.50	"	"	"	"	"	"	"
Bromochloromethane	ND	0.50	"	"	"	"	"	"	"
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	"
Bromoform	ND	0.50	"	"	"	"	"	"	"
Bromomethane	ND	0.50	"	"	"	"	"	"	"
n-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	"
Chlorobenzene	ND	0.50	"	"	"	"	"	"	"
Chloroethane	ND	0.50	"	"	"	"	"	"	"
Chloroform	ND	0.50	"	"	"	"	"	"	"
Chloromethane	ND	0.50	"	"	"	"	"	"	"
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.50	"	"	"	"	"	"	"
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	"
Dibromomethane	ND	0.50	"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethane	9.8	0.50	"	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethene	100	25	"	50	A011611	28-Nov-10	28-Nov-10	"	
cis-1,2-Dichloroethene	510	25	"	"	"	"	"	"	"
trans-1,2-Dichloroethene	85	25	"	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.50	"	1	A011566	23-Nov-10	23-Nov-10	"	
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	"
Hexachlorobutadiene	ND	0.50	"	"	"	"	"	"	"
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	"

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Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010/CM008031.0020.00007
Project Manager: Aaron Hook

Reported:
30-Nov-10 11:56

DUP-1
1004623-04 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by EPA Method 8260B

4-Isopropyl Toluene	ND	0.50	-ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B	"
Methylene chloride	ND	1.0	"	"	"	"	"	"	"
Naphthalene	ND	0.50	"	"	"	"	"	"	"
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	"
Styrene	ND	0.50	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
Tetrachloroethene (PCE)	1.3	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
Trichloroethene (TCE)	990	25	"	50	A011611	28-Nov-10	28-Nov-10	"	"
Trichlorofluoromethane	ND	0.50	"	1	A011566	23-Nov-10	23-Nov-10	"	"
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
Vinyl chloride	6.0	0.50	"	"	"	"	"	"	"
Xylenes (total)	ND	0.50	"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		106 %	70-130		"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		99.2 %	70-130		"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %	70-130		"	"	"	"	"

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Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010/CM008031.0020.00007
Project Manager: Aaron Hook

Reported:
30-Nov-10 11:56

TB
1004623-05 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by EPA Method 8260B

Benzene	ND	0.50	ug/L	1	A011611	28-Nov-10	28-Nov-10	EPA 8260B	"
Bromobenzene	ND	0.50	"	"	"	"	"	"	"
Bromochloromethane	ND	0.50	"	"	"	"	"	"	"
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	"
Bromoform	ND	0.50	"	"	"	"	"	"	"
Bromomethane	ND	0.50	"	"	"	"	"	"	"
n-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	"
Chlorobenzene	ND	0.50	"	"	"	"	"	"	"
Chloroethane	ND	0.50	"	"	"	"	"	"	"
Chloroform	ND	0.50	"	"	"	"	"	"	"
Chloromethane	ND	0.50	"	"	"	"	"	"	"
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.50	"	"	"	"	"	"	"
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	"
Dibromomethane	ND	0.50	"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethane	ND	0.50	"	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethene	ND	0.50	"	"	"	"	"	"	"
cis-1,2-Dichloroethene	ND	0.50	"	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	0.50	"	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	"
Hexachlorobutadiene	ND	0.50	"	"	"	"	"	"	"
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	"

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Arcadis U.S. - Santa Maria

Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders

Project Number: 4Q2010/CM008031.0020.00007
Project Manager: Aaron Hook

Reported:
30-Nov-10-11:56

TB
1004623-05 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by EPA Method 8260B

4-Isopropyl Toiune	ND	0.50	ug/L	1	A011611	28-Nov-10	28-Nov-10	EPA 8260B	
Methylene chloride	ND	1.0	"	"	"	"	"	"	
Naphthalene	1.3	0.50	"	"	"	"	"	"	B-06
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	
Styrene	ND	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	
Trichloroethene (TCE)	0.50	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.50	"	"	"	"	"	"	
1,2,3-Trichlorepropane	ND	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>	<i>90.1 %</i>	<i>70-130</i>		"	"	"	"	"	
<i>Surrogate: Toluene-d8</i>	<i>94.4 %</i>	<i>70-130</i>		"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>102 %</i>	<i>70-130</i>		"	"	"	"	"	

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Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010/CM008031.0020:00007
Project Manager: Aaron Hook

Reported:
30-Nov-10 11:56

Wet Chemistry by EPA or APHA Standard Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A011529 - NONE										
Blank (A011529-BLK1)										
Total Organic Carbon	ND	0.50	mg/L							
LCS (A011529-BS1)										
Total Organic Carbon	5.28	0.50	mg/L	5.00		106	80-120			
LCS Dup (A011529-BSD1)										
Total Organic Carbon	5.48	0.50	mg/L	5.00		110	80-120	3.64	20	
Duplicate (A011529-DUP1)										
Total Organic Carbon	2.97	0.50	mg/L		1.46			68.4	20	QR-04
Matrix Spike (A011529-MS1)										
Total Organic Carbon	5.14	0.50	mg/L	5.00	1.46	73.5	75-125			QM-08
Matrix Spike Dup (A011529-MSD1)										
Total Organic Carbon	5.80	0.50	mg/L	5.00	1.46	86.8	75-125	16.5	20	

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Oilfield Environmental and Compliance, INC.

Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco-Encoders
Project Number: 4Q2010/CM008031.0020.00007
Project Manager: Aaron Hook

Reported:
30-Nov-10 11:56

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A011566 - EPA 5030B VOCGCMS										
Blank (A011566-BLK1)										
					Prepared-& Analyzed: 23-Nov-10					
Benzene	ND	0.50	ug/L							
Bromobenzene	ND	0.50	"							
Bromoform	ND	0.50	"							
Bromochloromethane	ND	0.50	"							
Bromodichloromethane	ND	0.50	"							
Bromoform	ND	0.50	"							
Bromomethane	ND	0.50	"							
n-Butylbenzene	ND	0.50	"							
sec-Butylbenzene	ND	0.50	"							
tert-Butylbenzene	ND	0.50	"							
Carbon tetrachloride	ND	0.50	"							
Chlorobenzene	ND	0.50	"							
Chloroethane	ND	0.50	"							
Chloroform	ND	0.50	"							
Chloromethane	ND	0.50	"							
2-Chlorotoluene	ND	0.50	"							
4-Chlorotoluene	ND	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.50	"							
Dibromochloromethane	ND	0.50	"							
Dibromomethane	ND	0.50	"							
1,2-Dichlorobenzene	ND	0.50	"							
1,3-Dichlorobenzene	ND	0.50	"							
1,4-Dichlorobenzene	ND	0.50	"							
Dichlorodifluoromethane	ND	0.50	"							
1,1-Dichloroethane	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	"							
1,1-Dichloroethene	ND	0.50	"							
cis-1,2-Dichloroethene	ND	0.50	"							
trans-1,2-Dichloroethene	ND	0.50	"							
1,2-Dichloropropane	ND	0.50	"							
1,3-Dichloropropane	ND	0.50	"							
2,2-Dichloropropane	ND	0.50	"							
1,1-Dichloropropene	ND	0.50	"							
cis-1,3-Dichloropropene	ND	0.50	"							
trans-1,3-Dichloropropene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.50	"							
Hexachlorobutadiene	ND	0.50	"							
Isopropylbenzene	ND	0.50	"							
4-Isopropyl Toluene	ND	0.50	"							
Methylene chloride	ND	1.0	"							

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Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010/CM008031.0020.00007
Project Manager: Aaron Hook

Reported:
30-Nov-10 11:56

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A011566 - EPA 5030B VOCGCMS

Blank (A011566-BLK1)	Prepared & Analyzed: 23-Nov-10					
Naphthalene	ND	0.50	ug/L			
n-Propylbenzene	ND	0.50	"			
Styrene	ND	0.50	"			
1,1,1,2-Tetrachloroethane	ND	0.50	"			
1,1,2,2-Tetrachloroethane	ND	0.50	"			
Tetrachloroethene (PCE)	ND	0.50	"			
Toluene	ND	0.50	"			
1,2,3-Trichlorobenzene	ND	0.50	"			
1,2,4-Trichlorobenzene	ND	0.50	"			
1,1,1-Trichloroethane	ND	0.50	"			
1,1,2-Trichloroethane	ND	0.50	"			
Trichloroethene (TCE)	ND	0.50	"			
Trichlorofluoromethane	ND	0.50	"			
1,2,3-Trichloropropane	ND	0.50	"			
1,2,4-Trimethylbenzene	ND	0.50	"			
1,3,5-Trimethylbenzene	ND	0.50	"			
Vinyl chloride	ND	0.50	"			
Xylenes (total)	ND	0.50	"			
<i>Surrogate: Dibromofluoromethane</i>	24.1		"	25.0	96.5	70-130
<i>Surrogate: Toluene-d8</i>	24.5		"	25.0	98.2	70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	22.1		"	25.0	88.4	70-130

LCS (A011566-BS1)	Prepared & Analyzed: 23-Nov-10					
Benzene	25.6	0.50	ug/L	25.0	103	70-130
Chlorobenzene	26.8	0.50	"	25.0	107	70-130
1,1-Dichloroethene	26.8	0.50	"	25.0	107	70-130
Toluene	26.6	0.50	"	25.0	107	70-130
Trichloroethene (TCE)	28.3	0.50	"	25.0	113	70-130
<i>Surrogate: Dibromofluoromethane</i>	22.6		"	25.0	90.5	70-130
<i>Surrogate: Toluene-d8</i>	24.3		"	25.0	97.2	70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	17.7		"	25.0	70.7	70-130

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Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010/CM008031.0020.00007
Project Manager: Aaron Hook

Reported:
30-Nov-10 11:56

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
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Batch A011566 - EPA 5030B VOCGCMS

LCS Dup (A011566-BSD1)

Benzene	25.4	0.50	ug/L	25.0	101	70-130	1.18	20
Chlorobenzene	26.2	0.50	"	25.0	105	70-130	2.34	20
1,1-Dichloroethene	26.6	0.50	"	25.0	106	70-130	0.750	20
Toluene	26.4	0.50	"	25.0	106	70-130	0.867	20
Trichloroethene (TCE)	27.4	0.50	"	25.0	110	70-130	3.19	20
<i>Surrogate: Dibromoform</i>	24.6		"	25.0	98.4	70-130		
<i>Surrogate: Toluene-d8</i>	25.1		"	25.0	100	70-130		
<i>Surrogate: 4-Bromofluorobenzene</i>	23.3		"	25.0	93.3	70-130		

Batch A011611 - EPA 5030B VOCGCMS

Blank (A011611-BLK1)

Benzene	ND	0.50	ug/L
Bromobenzene	ND	0.50	"
Bromochloromethane	ND	0.50	"
Bromodichloromethane	ND	0.50	"
Bromoform	ND	0.50	"
Bromomethane	ND	0.50	"
n-Butylbenzene	ND	0.50	"
sec-Butylbenzene	ND	0.50	"
tert-Butylbenzene	ND	0.50	"
Carbon tetrachloride	ND	0.50	"
Chlorobenzene	ND	0.50	"
Chloroethane	ND	0.50	"
Chloroform	ND	0.50	"
Chloromethane	ND	0.50	"
2-Chlorotoluene	ND	0.50	"
4-Chlorotoluene	ND	0.50	"
1,2-Dibromo-3-chloropropane	ND	0.50	"
Dibromochloromethane	ND	0.50	"
Dibromomethane	ND	0.50	"
1,2-Dichlorobenzene	ND	0.50	"
1,3-Dichlorobenzene	ND	0.50	"
1,4-Dichlorobenzene	ND	0.50	"
Dichlorodifluoromethane	ND	0.50	"
1,1-Dichloroethane	ND	0.50	"
1,2-Dichloroethane	ND	0.50	"
1,1-Dichloroethene	ND	0.50	"
cis-1,2-Dichloroethene	ND	0.50	"
trans-1,2-Dichloroethene	ND	0.50	"
1,2-Dichloropropane	ND	0.50	"

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Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010/CM008031.0020.00007
Project Manager: Aaron Hook

Reported:
30-Nov-10 11:56

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A011611 - EPA 5030B VOC GCMS

Blank (A011611-BLK1)	Prepared & Analyzed: 28-Nov-10						
1,3-Dichloropropane	ND	0.50	ug/L				
2,2-Dichloropropane	ND	0.50	"				
1,1-Dichloropropene	ND	0.50	"				
cis-1,3-Dichloropropene	ND	0.50	"				
trans-1,3-Dichloropropene	ND	0.50	"				
Ethylbenzene	ND	0.50	"				
1,2-Dibromoethane (EDB)	ND	0.50	"				
Hexachlorobutadiene	ND	0.50	"				
Isopropylbenzene	ND	0.50	"				
4-Isopropyl Toluene	ND	0.50	"				
Methylene chloride	1.04	1.0	"				O-01
Naphthalene	1.39	0.50	"				B-06
n-Propylbenzene	ND	0.50	"				
Styrene	ND	0.50	"				
1,1,1,2-Tetrachloroethane	ND	0.50	"				
1,1,2,2-Tetrachloroethane	ND	0.50	"				
Tetrachloroethene (PCE)	ND	0.50	"				
Toluene	ND	0.50	"				
1,2,3-Trichlorobenzene	ND	0.50	"				
1,2,4-Trichlorobenzene	ND	0.50	"				
1,1,1-Trichloroethane	ND	0.50	"				
1,1,2-Trichloroethane	ND	0.50	"				
Trichloroethene (TCE)	ND	0.50	"				
Trichlorofluoromethane	ND	0.50	"				
1,2,3-Trichloropropane	ND	0.50	"				
1,2,4-Trimethylbenzene	ND	0.50	"				
1,3,5-Trimethylbenzene	ND	0.50	"				
Vinyl chloride	ND	0.50	"				
Xylenes (total)	ND	0.50	"				
<i>Surrogate: Dibromofluoromethane</i>	22.6	"	25.0		90.3	70-130	
<i>Surrogate: Toluene-d8</i>	23.6	"	25.0		94.3	70-130	
<i>Surrogate: 4-Bromo fluoro benzene</i>	25.8	"	25.0		103	70-130	

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Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010/CM008031.0020.00007
Project Manager: Aaron Hook

Reported:
30-Nov-10 11:56

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch=A011611 - EPA 5030B VOCGCMS										
LCS (A011611-BS1)										
Benzene	25.8	0.50	ug/L	25.0	103	70-130				
Chlorobenzene	28.4	0.50	"	25.0	114	70-130				
1,1-Dichloroethene	28.0	0.50	"	25.0	112	70-130				
Toluene	26.8	0.50	"	25.0	107	70-130				
Trichloroethylene (TCE)	27.9	0.50	"	25.0	111	70-130				
<i>Surrogate: Dibromoform</i>	20.7		"	25.0	82.9	70-130				
<i>Surrogate: Toluene-d8</i>	24.1		"	25.0	96.6	70-130				
<i>Surrogate: 4-Bromofluorobenzene</i>	25.6		"	25.0	102	70-130				
LCS Dup (A011611-BS1D)										
Benzene	25.7	0.50	ug/L	25.0	103	70-130	0.311	20		
Chlorobenzene	27.4	0.50	"	25.0	110	70-130	3.47	20		
1,1-Dichloroethene	26.6	0.50	"	25.0	106	70-130	5.10	20		
Toluene	27.6	0.50	"	25.0	110	70-130	2.76	20		
Trichloroethylene (TCE)	30.2	0.50	"	25.0	121	70-130	7.99	20		
<i>Surrogate: Dibromoform</i>	21.6		"	25.0	86.4	70-130				
<i>Surrogate: Toluene-d8</i>	25.1		"	25.0	101	70-130				
<i>Surrogate: 4-Bromofluorobenzene</i>	24.7		"	25.0	98.7	70-130				
Duplicate (A011611-DUP1)										
					Source: 1004621-18RE1	Prepared & Analyzed: 28-Nov-10				
Benzene	ND	0.50	ug/L		ND					20
Bromobenzene	ND	0.50	"		ND					20
Bromochloromethane	ND	0.50	"		ND					20
Bromodichloromethane	ND	0.50	"		ND					20
Bromoform	ND	0.50	"		ND					20
Bromomethane	ND	0.50	"		ND					20
n-Butylbenzene	ND	0.50	"		ND					20
sec-Butylbenzene	ND	0.50	"		ND					20
tert-Butylbenzene	ND	0.50	"		ND					20
Carbon tetrachloride	ND	0.50	"		ND					20
Chlorobenzene	ND	0.50	"		ND					20
Chloroethane	ND	0.50	"		ND					20
Chloroform	ND	0.50	"		ND					20
Chloromethane	ND	0.50	"		ND					20
2-Chlorotoluene	ND	0.50	"		ND					20
4-Chlorotoluene	ND	0.50	"		ND					20
1,2-Dibromo-3-chloropropane	ND	0.50	"		ND					20
Dibromochloromethane	ND	0.50	"		ND					20
Dibromomethane	ND	0.50	"		ND					20
1,2-Dichlorobenzene	ND	0.50	"		ND					20
1,3-Dichlorobenzene	ND	0.50	"		ND					20

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Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010/CM008031.0020.00007
Project Manager: Aaron Hook

Reported:
30-Nov-10 11:56

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A011611 - EPA 5030B-VOCGCMS

Duplicate (A011611-DUP1) Source: 1004621-18RE1 Prepared & Analyzed: 28-Nov-10

1,4-Dichlorobenzene	ND	0.50	ug/L		ND				20	
Dichlorodifluoromethane	ND	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.50	"		ND				20	
1,2-Dichloroethane	ND	0.50	"		ND				20	
1,1-Dichloroethene	ND	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.50	"		ND				20	
1,3-Dichloropropane	ND	0.50	"		ND				20	
2,2-Dichloropropane	ND	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.50	"		ND				20	
Ethylbenzene	ND	0.50	"		ND				20	
1,2-Dibromoethane (EDB)	ND	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.50	"		ND				20	
Isopropylbenzene	ND	0.50	"		ND				20	
4-Isopropyl Toluene	ND	0.50	"		ND				20	
Methylene chloride	ND	1.0	"		ND				20	
Naphthalene	ND	0.50	"		ND				20	
n-Propylbenzene	ND	0.50	"		ND				20	
Styrene	ND	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.50	"		ND				20	
Toluene	ND	0.50	"		0.150				20	
1,2,3-Trichlorobenzene	ND	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.50	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.50	"		ND				20	
Vinyl chloride	ND	0.50	"		ND				20	
Xylenes (total)	ND	0.50	"		ND				20	
<i>Surrogate: Dibromofluoromethane</i>	22.6		"	25.0		90.3	70-130			
<i>Surrogate: Toluene-d8</i>	23.2		"	25.0		92.7	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	25.2		"	25.0		101	70-130			

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Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010/CM008031.0020.00007
Project Manager: Aaron Hook

Reported:
30-Nov-10 11:56

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A011611 - EPA 5030B VOCGCMS

Matrix Spike (A011611-MS1)	Source: 1004621-18RE1	Prepared & Analyzed: 28-Nov-10					
Benzene	27.5	0.50	ug/L	25.0	ND	110	70-130
Chlorobenzene	26.9	0.50	"	25.0	ND	108	70-130
1,1-Dichloroethene	29.6	0.50	"	25.0	ND	118	70-130
Toluene	27.4	0.50	"	25.0	0.150	109	70-130
Trichloroethene (TCE)	28.8	0.50	"	25.0	ND	115	70-130
<i>Surrogate: Dibromoform</i>	23.0		"	25.0		91.9	70-130
<i>Surrogate: Toluene-d8</i>	24.6		"	25.0		98.3	70-130
<i>Surrogate: 4-Bromoform</i>	25.8		"	25.0		103	70-130

Batch A011613 - EPA 5030B VOCGCMS

Blank (A011613-BLK1)	Prepared & Analyzed: 29-Nov-10					
Benzene	ND	0.50	ug/L			
Bromobenzene	ND	0.50	"			
Bromochloromethane	ND	0.50	"			
Bromodichloromethane	ND	0.50	"			
Bromoform	ND	0.50	"			
Bromomethane	ND	0.50	"			
n-Butylbenzene	ND	0.50	"			
sec-Butylbenzene	ND	0.50	"			
tert-Butylbenzene	ND	0.50	"			
Carbon tetrachloride	ND	0.50	"			
Chlorobenzene	ND	0.50	"			
Chloroethane	ND	0.50	"			
Chloroform	ND	0.50	"			
Chloromethane	ND	0.50	"			
2-Chlorotoluene	ND	0.50	"			
4-Chlorotoluene	ND	0.50	"			
1,2-Dibromo-3-chloropropane	ND	0.50	"			
Dibromochloromethane	ND	0.50	"			
Dibromomethane	ND	0.50	"			
1,2-Dichlorobenzene	ND	0.50	"			
1,3-Dichlorobenzene	ND	0.50	"			
1,4-Dichlorobenzene	ND	0.50	"			
Dichlorodifluoromethane	ND	0.50	"			
1,1-Dichloroethane	ND	0.50	"			
1,2-Dichloroethane	ND	0.50	"			
1,1-Dichloroethene	ND	0.50	"			
cis-1,2-Dichloroethene	ND	0.50	"			
trans-1,2-Dichloroethene	ND	0.50	"			
1,2-Dichloropropane	ND	0.50	"			

Oilfield Environmental and Compliance

307 Roemer Way, Suite 300, Santa Maria, CA 93454

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FAX: (805) 925-3376



Oilfield Environmental and Compliance, INC.

Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010/CM008031.0020.00007
Project Manager: Aaron Hook

Reported:
30-Nov-10 11:56

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A011613 - EPA 5030B VOCGCMS										
Blank (A011613-BLK1)										
					Prepared & Analyzed: 29-Nov-10					
1,3-Dichloropropane	ND	0.50	ug/L							
2,2-Dichloropropane	ND	0.50	"							
1,1-Dichloropropene	ND	0.50	"							
cis-1,3-Dichloropropene	ND	0.50	"							
trans-1,3-Dichloropropene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.50	"							
Hexachlorobutadiene	ND	0.50	"							
Isopropylbenzene	ND	0.50	"							
4-Isopropyl Toluene	ND	0.50	"							
Methylene chloride	3.34	1.0	"							O-01
Naphthalene	ND	0.50	"							
n-Propylbenzene	ND	0.50	"							
Styrene	ND	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.50	"							
Tetrachloroethene (PCE)	ND	0.50	"							
Toluene	ND	0.50	"							
1,2,3-Trichlorobenzene	ND	0.50	"							
1,2,4-Trichlorobenzene	ND	0.50	"							
1,1,1-Trichloroethane	ND	0.50	"							
1,1,2-Trichloroethane	ND	0.50	"							
Trichloroethene (TCE)	ND	0.50	"							
Trichlorofluoromethane	ND	0.50	"							
1,2,3-Trichloropropane	ND	0.50	"							
1,2,4-Trimethylbenzene	ND	0.50	"							
1,3,5-Trimethylbenzene	ND	0.50	"							
Vinyl chloride	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
<i>Surrogate: Dibromoformmethane</i>	22.8	"	25.0		91.1	70-130				
<i>Surrogate: Toluene-d8</i>	25.2	"	25.0		101	70-130				
<i>Surrogate: 4-Bromofluorobenzene</i>	22.9	"	25.0		91.7	70-130				

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Oilfield Environmental and Compliance, INC.

Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010/CM008031-0020:00007
Project Manager: Aaron Hook

Reported:
30-Nov-10 11:56

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A011613 - EPA 5030B VOCGCMs										
LCS (A011613-BS1)										
Benzene	22.9	0.50	ug/L	25.0	91.7	70-130				
Chlorobenzene	22.7	0.50	"	25.0	90.6	70-130				
1,1-Dichloroethene	22.1	0.50	"	25.0	88.5	70-130				
Toluene	23.2	0.50	"	25.0	92.9	70-130				
Trichloroethene (TCE)	23.5	0.50	"	25.0	94.2	70-130				
<i>Surrogate: Dibromoform</i>	22.6		"	25.0	90.2	70-130				
<i>Surrogate: Toluene-d8</i>	24.9		"	25.0	99.5	70-130				
<i>Surrogate: 4-Bromofluorobenzene</i>	22.6		"	25.0	90.6	70-130				
LCS Dup (A011613-BSD1)										
Benzene	25.5	0.50	ug/L	25.0	102	70-130	10.8	20		
Chlorobenzene	22.8	0.50	"	25.0	91.4	70-130	0.791	20		
1,1-Dichloroethene	25.6	0.50	"	25.0	102	70-130	14.6	20		
Toluene	24.6	0.50	"	25.0	98.6	70-130	5.93	20		
Trichloroethene (TCE)	23.9	0.50	"	25.0	95.5	70-130	1.39	20		
<i>Surrogate: Dibromoform</i>	24.6		"	25.0	98.6	70-130				
<i>Surrogate: Toluene-d8</i>	26.0		"	25.0	104	70-130				
<i>Surrogate: 4-Bromofluorobenzene</i>	22.9		"	25.0	91.6	70-130				
Duplicate (A011613-DUP1)										
Benzene	ND	0.50	ug/L		ND			20		
Bromobenzene	ND	0.50	"		ND			20		
Bromochloromethane	ND	0.50	"		ND			20		
Bromodichloromethane	ND	0.50	"		ND			20		
Bromoform	ND	0.50	"		ND			20		
Bromomethane	ND	0.50	"		ND			20		
n-Butylbenzene	ND	0.50	"		ND			20		
sec-Butylbenzene	ND	0.50	"		ND			20		
tert-Butylbenzene	ND	0.50	"		ND			20		
Carbon tetrachloride	ND	0.50	"		ND			20		
Chlorobenzene	ND	0.50	"		ND			20		
Chloroethane	ND	0.50	"		ND			20		
Chloroform	ND	0.50	"		ND			20		
Chloromethane	ND	0.50	"		ND			20		
2-Chlorotoluene	ND	0.50	"		ND			20		
4-Chlorotoluene	ND	0.50	"		ND			20		
1,2-Dibromo-3-chloropropane	ND	0.50	"		ND			20		
Dibromochloromethane	ND	0.50	"		ND			20		
Dibromomethane	ND	0.50	"		ND			20		
1,2-Dichlorobenzene	ND	0.50	"		ND			20		
1,3-Dichlorobenzene	ND	0.50	"		ND			20		

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Oilfield Environmental and Compliance, INC.

Arcadis U.S. - Santa Maria

Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders

Project Number: 4Q2010/CM008031.0020.00007
Project Manager: Aaron Hook

Reported:
30-Nov-10 11:56

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A011613 - EPA 5030B VOCGCMS										
Duplicate (A011613-DUP1)										
					Source: 1004621-21REI	Prepared: 29-Nov-10	Analyzed: 30-Nov-10			
1,4-Dichlorobenzene	ND	0.50	ug/L	"	ND			20		
Dichlorodifluoromethane	ND	0.50	"	"	ND			20		
1,1-Dichloroethane	ND	0.50	"	"	ND			20		
1,2-Dichloroethane	ND	0.50	"	"	ND			20		
1,1-Dichloroethene	ND	0.50	"	"	ND			20		
cis-1,2-Dichloroethene	ND	0.50	"	"	ND			20		
trans-1,2-Dichloroethene	ND	0.50	"	"	ND			20		
1,2-Dichloropropane	ND	0.50	"	"	ND			20		
1,3-Dichloropropane	ND	0.50	"	"	ND			20		
2,2-Dichloropropane	ND	0.50	"	"	ND			20		
1,1-Dichloropropene	ND	0.50	"	"	ND			20		
cis-1,3-Dichloropropene	ND	0.50	"	"	ND			20		
trans-1,3-Dichloropropene	ND	0.50	"	"	ND			20		
Ethylbenzene	ND	0.50	"	"	ND			20		
1,2-Dibromoethane (EDB)	ND	0.50	"	"	ND			20		
Hexachlorobutadiene	ND	0.50	"	"	ND			20		
Isopropylbenzene	ND	0.50	"	"	ND			20		
4-Isopropyl Toluene	ND	0.50	"	"	ND			20		
Methylene chloride	ND	1.0	"	"	ND			20		
Naphthalene	ND	0.50	"	"	ND			20		
n-Propylbenzene	ND	0.50	"	"	ND			20		
Styrene	ND	0.50	"	"	ND			20		
1,1,1,2-Tetrachloroethane	ND	0.50	"	"	ND			20		
1,1,2,2-Tetrachloroethane	ND	0.50	"	"	ND			20		
Tetrachloroethene (PCE)	ND	0.50	"	"	ND			20		
Toluene	ND	0.50	"	"	ND			20		
1,2,3-Trichlorobenzene	ND	0.50	"	"	ND			20		
1,2,4-Trichlorobenzene	ND	0.50	"	"	ND			20		
1,1,1-Trichloroethane	ND	0.50	"	"	ND			20		
1,1,2-Trichloroethane	ND	0.50	"	"	ND			20		
Trichloroethene (TCE)	ND	0.50	"	"	ND			20		
Trichlorofluoromethane	ND	0.50	"	"	ND			20		
1,2,3-Trichloropropane	ND	0.50	"	"	ND			20		
1,2,4-Trimethylbenzene	ND	0.50	"	"	ND			20		
1,3,5-Trimethylbenzene	ND	0.50	"	"	ND			20		
Vinyl chloride	ND	0.50	"	"	ND			20		
Xylenes (total)	ND	0.50	"	"	ND			20		
<i>Surrogate: Dibromofluoromethane</i>	23.4	"	25.0		93.4	70-130				
<i>Surrogate: Toluene-d8</i>	24.6	"	25.0		98.4	70-130				
<i>Surrogate: 4-Bromofluorobenzene</i>	22.1	"	25.0		88.4	70-130				

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Oilfield Environmental and Compliance, INC.

Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO-80129

Project: Renco Encoders
Project Number: 4Q2010/CM00803I.0020.00007
Project Manager: Aaron Hook

Reported:
30-Nov-10 11:56

Notes and Definitions

- QR-04 The RPD exceeded the QC control limits.
- QM-08 The spike recovery was outside acceptance limits for the MS and/or MSD. The QC Batch was accepted based on LCS/LCSD percent recoveries and RPD values.
- O-01 This compound is a common laboratory contaminant.
- B-06 The method blank contains analyte at a concentration above the RL/PQL.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry-weight basis
- RPD Relative Percent Difference



Oilfield Environmental and Compliance

3307 Roemer Way Suite 300, Santa Maria CA 93454
phone: (805) 922-4772 fax: (805) 925-3376 web:

CHAIN OF CUSTODY

Highway 33, McKittrick CA
phone: (661) 762-9143

phone: (805) 922-4772 fax: (805) 925-3375 www.oecusa.com

Company: ARCADIS U.S. INC.	Project Name/ #: PERCO 4Q 2010 / CM008031,0026,000007
Address: 301 S. WILMER ST. STE 210	Site: PERCO Enclosures
City/State/ZIP: SANTA MARIA, CA 93454	Analysis Requested
Phone: (405) 349-7120	Report To: Afford Hook (AmH) Sampler: AmH
Fax: (405) 349-7176	E-mail: Amerson.Hook@arcadis.us.
Send report via: FAX- <input type="checkbox"/>	PDF- <input checked="" type="checkbox"/> Col/LUFT EDF- <input checked="" type="checkbox"/> EDD- <input type="checkbox"/>
Turnaround Time: 10 Days- <input type="checkbox"/>	5 Days- <input type="checkbox"/> 72 hr- <input type="checkbox"/> 48 hr- <input type="checkbox"/> 24 hr- <input type="checkbox"/> ASAP- <input type="checkbox"/>
Comments: 80928 501	Client Sample ID: RESULTS DUE BY 12/11/10
Specimen ID: 111910	Date/Time Sampled: 12/25 Matrix: H2O # of Cont: 4 Client Sample ID: MW19
Specimen ID: 1445	Date/Time Sampled: 1/1/10 Matrix: H2O # of Cont: 4 Client Sample ID: MW9
Specimen ID: 1500	Date/Time Sampled: 1/1/10 Matrix: H2O # of Cont: 4 Client Sample ID: TWIR
Specimen ID: 1530	Date/Time Sampled: 1/1/10 Matrix: H2O # of Cont: 3 Client Sample ID: DWF-1
Specimen ID: -/-	Date/Time Sampled: 1/1/10 Matrix: H2O # of Cont: 2 Client Sample ID: TB
Comments/PO#:	
Received By: J. M. H.	Date: 1/1/10 Time: 16:50
Relinquished By: J. M. H.	Date: 1/1/10 Time: 16:50
Received By: J. M. H.	Date: 1/1/10 Time: 16:50
Relinquished By: J. M. H.	Date: 1/1/10 Time: 16:50
Received By: J. M. H.	Date: 1/1/10 Time: 16:50
Relinquished By: J. M. H.	Date: 1/1/10 Time: 16:50

Oilfield Environmental and Compliance, INC.



Aaron Hook
Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch, CO 80129

30 November 2010

RE: Renco Encoders

Work Order: 1004645

Dear Client:

Enclosed is an analytical report for the above referenced project. The samples included in this report were received on 23-Nov-10 09:30 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in black ink, appearing to read "Lisa Race".

Lisa Race

Laboratory Manager



Oilfield Environmental and Compliance, INC.

Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-14	1004645-01	Water	22-Nov-10 11:40	23-Nov-10 09:30
MW-13	1004645-02	Water	22-Nov-10 12:20	23-Nov-10 09:30
MW-7	1004645-03	Water	22-Nov-10 13:20	23-Nov-10 09:30
MW-18	1004645-04	Water	22-Nov-10 14:20	23-Nov-10 09:30
MW-15	1004645-05	Water	22-Nov-10 15:55	23-Nov-10 09:30
MW-11	1004645-06	Water	22-Nov-10 16:50	23-Nov-10 09:30
MW-17	1004645-07	Water	22-Nov-10 17:00	23-Nov-10 09:30
MW-16	1004645-08	Water	22-Nov-10 17:20	23-Nov-10 09:30
MW7-HS	1004645-09	Water	22-Nov-10 12:50	23-Nov-10 09:30
MW11-HS	1004645-10	Water	22-Nov-10 16:20	23-Nov-10 09:30
MW14-HS	1004645-11	Water	22-Nov-10 11:05	23-Nov-10 09:30



Oilfield Environmental and Compliance, INC.

Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49—

MW-14—

1004645-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Wet Chemistry by EPA or APHA Standard Methods

Total Organic Carbon	9.4	0.50	mg/L	1	A011567	23-Nov-10	23-Nov-10	SM_5310B	
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Volatile Organic Compounds by EPA Method 8260B

Benzene	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B	"
Bromobenzene	ND	0.50	"	"	"	"	"	"	"
Bromochloromethane	ND	0.50	"	"	"	"	"	"	"
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	"
Bromoform	ND	0.50	"	"	"	"	"	"	"
Bromomethane	ND	0.50	"	"	"	"	"	"	"
n-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	"
Chlorobenzene	ND	0.50	"	"	"	"	"	"	"
Chloroethane	ND	0.50	"	"	"	"	"	"	"
Chloroform	ND	0.50	"	"	"	"	"	"	"
Chloromethane	ND	0.50	"	"	"	"	"	"	"
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.50	"	"	"	"	"	"	"
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	"
Dibromomethane	ND	0.50	"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethane	7.4	0.50	"	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethene	12	0.50	"	"	"	"	"	"	"
cis-1,2-Dichloroethene	27	0.50	"	"	"	"	"	"	"
trans-1,2-Dichloroethene	9.2	0.50	"	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	"

Oilfield Environmental and Compliance

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Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

MW-14
1004645-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by EPA Method 8260B

1,1-Dichloropropene	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B	"
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	"
Hexachlorobutadiene	ND	0.50	"	"	"	"	"	"	"
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	"
4-Isopropyl Toluene	ND	0.50	"	"	"	"	"	"	"
Methylene chloride	ND	1.0	"	"	"	"	"	"	"
Naphthalene	ND	0.50	"	"	"	"	"	"	"
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	"
Styrene	ND	0.50	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
Tetrachloroethene (PCE)	ND	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
Trichloroethene (TCE)	230	5.0	"	10	A011611	28-Nov-10	28-Nov-10	"	"
Trichlorofluoromethane	ND	0.50	"	1	A011566	23-Nov-10	23-Nov-10	"	"
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
Vinyl chloride	4.5	0.50	"	"	"	"	"	"	"
Xylenes (total)	ND	0.50	"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>	96.9 %		70-130	"	"	"	"	"	"
<i>Surrogate: Toluene-d8</i>	96.4 %		70-130	"	"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>	78.6 %		70-130	"	"	"	"	"	"

Oilfield Environmental and Compliance

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Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook-

Reported:
30-Nov-10 13:49

MW-13
1004645-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Wet Chemistry by EPA or APHA Standard Methods

Total Organic Carbon	5.5	0.50	mg/L	1	A011567	23-Nov-10	23-Nov-10	SM 5310B	
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Volatile Organic Compounds by EPA Method 8260B

Benzene	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B	"
Bromobenzene	ND	0.50	"	"	"	"	"	"	"
Bromochloromethane	ND	0.50	"	"	"	"	"	"	"
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	"
Bromoform	ND	0.50	"	"	"	"	"	"	"
Bromomethane	ND	0.50	"	"	"	"	"	"	"
n-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	"
Chlorobenzene	ND	0.50	"	"	"	"	"	"	"
Chloroethane	ND	0.50	"	"	"	"	"	"	"
Chloroform	ND	0.50	"	"	"	"	"	"	"
Chloromethane	ND	0.50	"	"	"	"	"	"	"
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.50	"	"	"	"	"	"	"
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	"
Dibromomethane	ND	0.50	"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethane	3.0	0.50	"	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethene	9.4	0.50	"	"	"	"	"	"	"
cis-1,2-Dichloroethene	65	10	"	20	A011611	28-Nov-10	28-Nov-10	"	"
trans-1,2-Dichloroethene	16	0.50	"	1	A011566	23-Nov-10	23-Nov-10	"	"
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"	"

Oilfield Environmental and Compliance

307 Roemer Way, Suite 300, Santa Maria, CA 93454

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Oilfield Environmental and Compliance, INC.

Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

MW-13
1004645-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by EPA Method 8260B

1,2-Dibromoethane (EDB)	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA-8260B	
Hexachlorobutadiene	ND	0.50	"	"	"	"	"	"	"
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	"
4-Isopropyl Toluene	ND	0.50	"	"	"	"	"	"	"
Methylene chloride	ND	1.0	"	"	"	"	"	"	"
Naphthalene	ND	0.50	"	"	"	"	"	"	"
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	"
Styrene	ND	0.50	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
Tetrachloroethene (PCE)	1.7	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
Trichloroethene (TCE)	430	10	"	20	A011611	28-Nov-10	28-Nov-10	"	
Trichlorofluoromethane	ND	0.50	"	1	A011566	23-Nov-10	23-Nov-10	"	
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
Vinyl chloride	25	0.50	"	"	"	"	"	"	"
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		99.5 %	70-130		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		96.6 %	70-130		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		64.3 %	70-130		"	"	"	"	S-GC

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Highlands Ranch CO, 80129-

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

MW-7
1004645-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Wet Chemistry by EPA or APHA Standard Methods

Total Organic Carbon	5.2	0.50	mg/L	1	A011567	23-Nov-10	23-Nov-10	SM 5310B	
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Volatile Organic Compounds by EPA Method 8260B

Benzene	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B	"
Bromobenzene	ND	0.50	"	"	"	"	"	"	"
Bromochloromethane	ND	0.50	"	"	"	"	"	"	"
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	"
Bromoform	ND	0.50	"	"	"	"	"	"	"
Bromomethane	ND	0.50	"	"	"	"	"	"	"
n-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	"
Chlorobenzene	ND	0.50	"	"	"	"	"	"	"
Chloroethane	ND	0.50	"	"	"	"	"	"	"
Chloroform	ND	0.50	"	"	"	"	"	"	"
Chloromethane	ND	0.50	"	"	"	"	"	"	"
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.50	"	"	"	"	"	"	"
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	"
Dibromomethane	ND	0.50	"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethane	8.9	0.50	"	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethene	1.6	0.50	"	"	"	"	"	"	"
cis-1,2-Dichloroethene	59	5.0	"	10	A011611	28-Nov-10	28-Nov-10	"	"
trans-1,2-Dichloroethene	80	5.0	"	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.50	"	1	A011566	23-Nov-10	23-Nov-10	"	"
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"	"

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MW-7

1004645-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA Method 8260B									
1,2-Dibromoethane (EDB)	ND	0.50	ug/L	1	A01-1566	23-Nov-10	23-Nov-10	EPA 8260B	"
Hexachlorobutadiene	ND	0.50	"	"	"	"	"	"	"
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	"
4-Isopropyl Toluene	ND	0.50	"	"	"	"	"	"	"
Methylene chloride	ND	1.0	"	"	"	"	"	"	"
Naphthalene	ND	0.50	"	"	"	"	"	"	"
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	"
Styrene	ND	0.50	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
Tetrachloroethene (PCE)	ND	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
Trichloroethene (TCE)	3.6	0.50	"	"	"	"	"	"	"
Trichlorofluoromethane	ND	0.50	"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
Vinyl chloride	160	5.0	"	10	A011611	28-Nov-10	28-Nov-10	"	"
Xylenes (total)	ND	0.50	"	1	A011566	23-Nov-10	23-Nov-10	"	"
<i>Surrogate: Dibromofluoromethane</i>		101 %	70-130		"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		98.5 %	70-130		"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		83.6 %	70-130		"	"	"	"	"

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Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

MW-18
1004645-04 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Wet Chemistry by EPA or APHA Standard Methods

Total Organic Carbon	5.2	0.50	mg/L	1	A011567	23-Nov-10	23-Nov-10	SM 5310B
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Volatile Organic Compounds by EPA Method 8260B

Benzene	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B
Bromobenzene	ND	0.50	"	"	"	"	"	"
Bromo-chloromethane	ND	0.50	"	"	"	"	"	"
Bromo-dichloromethane	ND	0.50	"	"	"	"	"	"
Bromoform	ND	0.50	"	"	"	"	"	"
Bromomethane	ND	0.50	"	"	"	"	"	"
n-Butylbenzene	ND	0.50	"	"	"	"	"	"
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"
Chlorobenzene	ND	0.50	"	"	"	"	"	"
Chloroethane	ND	0.50	"	"	"	"	"	"
Chloroform	ND	0.50	"	"	"	"	"	"
Chloromethane	ND	0.50	"	"	"	"	"	"
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.50	"	"	"	"	"	"
Dibromo-chloromethane	ND	0.50	"	"	"	"	"	"
Dibromomethane	ND	0.50	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"
1,1-Dichloroethane	ND	0.50	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"
1,1-Dichloroethene	ND	0.50	"	"	"	"	"	"
cis-1,2-Dichloroethene	25	0.50	"	"	"	"	"	"
trans-1,2-Dichloroethene	12	0.50	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"

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Arcadis U.S. - Santa Maria

Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands-Ranch CO, 80129

Project: Renco Encoders

Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

MW-18
1004645-04 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by EPA Method 8260B

1,2-Dibromoethane (EDB)	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B	"
Hexachlorobutadiene	ND	0.50	"	"	"	"	"	"	"
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	"
4-Isopropyl Toluene	ND	0.50	"	"	"	"	"	"	"
Methylene chloride	ND	1.0	"	"	"	"	"	"	"
Naphthalene	ND	0.50	"	"	"	"	"	"	"
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	"
Styrene	ND	0.50	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
Tetrachloroethene (PCE)	ND	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
Trichloroethene (TCE)	3.5	0.50	"	"	"	"	"	"	"
Trichlorofluoromethane	ND	0.50	"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
Vinyl chloride	ND	0.50	"	"	"	"	"	"	"
Xylenes (total)	ND	0.50	"	"	"	"	"	"	"
<i>Surrogate: Dibromoformmethane</i>		104 %	70-130	"	"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		98.8 %	70-130	"	"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %	70-130	"	"	"	"	"	"

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Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

MW-15
1004645-05 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Wet Chemistry by EPA or APHA Standard Methods

Total Organic Carbon	5.1	0.50	mg/L	1	A011567	23-Nov-10	23-Nov-10	SM 5310B	
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Volatile Organic Compounds by EPA Method 8260B

Benzene	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B	"
Bromobenzene	ND	0.50	"	"	"	"	"	"	"
Bromo(chloromethane)	ND	0.50	"	"	"	"	"	"	"
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	"
Bromoform	ND	0.50	"	"	"	"	"	"	"
Bromomethane	ND	0.50	"	"	"	"	"	"	"
n-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	"
Chlorobenzene	ND	0.50	"	"	"	"	"	"	"
Chloroethane	ND	0.50	"	"	"	"	"	"	"
Chloroform	ND	0.50	"	"	"	"	"	"	"
Chloromethane	ND	0.50	"	"	"	"	"	"	"
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.50	"	"	"	"	"	"	"
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	"
Dibromomethane	ND	0.50	"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethane	5.5	0.50	"	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethene	9.7	0.50	"	"	"	"	"	"	"
cis-1,2-Dichloroethene	38	0.50	"	"	"	"	"	"	"
trans-1,2-Dichloroethene	24	0.50	"	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"	"

Oilfield Environmental and Compliance

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Oilfield Environmental and Compliance, INC.

Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

MW-15
1004645-05 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by EPA Method 8260B

1,2-Dibromoethane (EDB)	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B	"
Hexachlorobutadiene	ND	0.50	"	"	"	"	"	"	"
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	"
4-Isopropyl Toluene	ND	0.50	"	"	"	"	"	"	"
Methylene chloride	ND	1.0	"	"	"	"	"	"	"
Naphthalene	ND	0.50	"	"	"	"	"	"	"
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	"
Styrene	ND	0.50	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
Tetrachloroethene (PCE)	ND	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
Trichloroethene (TCE)	160	5.0	"	10	A011611	28-Nov-10	28-Nov-10	"	"
Trichlorofluoromethane	ND	0.50	"	1	A011566	23-Nov-10	23-Nov-10	"	"
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
Vinyl chloride	2.2	0.50	"	"	"	"	"	"	"
Xylenes (total)	ND	0.50	"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		106 %	70-130	"	"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		98.2 %	70-130	"	"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		76.2 %	70-130	"	"	"	"	"	"



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Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

MW-11
1004645-06 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Wet Chemistry by EPA or APHA Standard Methods

Total Organic Carbon	21	2.5	mg/L	5	A011567	23-Nov-10	23-Nov-10	SM 5310B
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Volatile Organic Compounds by EPA Method 8260B

Benzene	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B
Bromobenzene	ND	0.50	"	"	"	"	"	"
Bromochloromethane	ND	0.50	"	"	"	"	"	"
Bromodichloromethane	ND	0.50	"	"	"	"	"	"
Bromoform	ND	0.50	"	"	"	"	"	"
Bromomethane	ND	0.50	"	"	"	"	"	"
n-Butylbenzene	ND	0.50	"	"	"	"	"	"
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"
Chlorobenzene	ND	0.50	"	"	"	"	"	"
Chloroethane	ND	0.50	"	"	"	"	"	"
Chloroform	ND	0.50	"	"	"	"	"	"
Chloromethane	ND	0.50	"	"	"	"	"	"
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.50	"	"	"	"	"	"
Dibromochloromethane	ND	0.50	"	"	"	"	"	"
Dibromomethane	ND	0.50	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"
1,1-Dichloroethane	34	0.50	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"
1,1-Dichloroethene	30	0.50	"	"	"	"	"	"
cis-1,2-Dichloroethene	550	25	"	50	A011611	28-Nov-10	28-Nov-10	"
trans-1,2-Dichloroethene	67	25	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.50	"	1	A011566	23-Nov-10	23-Nov-10	"
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"

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Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

MW-11
1004645-06 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by EPA Method 8260B

1,2-Dibromoethane (EDB)	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B	"
Hexachlorobutadiene	ND	0.50	"	"	"	"	"	"	"
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	"
4-Isopropyl Toluene	ND	0.50	"	"	"	"	"	"	"
Methylene chloride	ND	1.0	"	"	"	"	"	"	"
Naphthalene	ND	0.50	"	"	"	"	"	"	"
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	"
Styrene	ND	0.50	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
Tetrachloroethene (PCE)	0.82	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2-Trichloroethane	0.65	0.50	"	"	"	"	"	"	"
Trichloroethene (TCE)	750	25	"	50	A011611	28-Nov-10	28-Nov-10	"	"
Trichlorofluoromethane	ND	0.50	"	1	A011566	23-Nov-10	23-Nov-10	"	"
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
Vinyl chloride	1900	25	"	50	A011611	28-Nov-10	28-Nov-10	"	"
Xylenes (total)	ND	0.50	"	1	A011566	23-Nov-10	23-Nov-10	"	"
<i>Surrogate: Dibromofluoromethane</i>		102 %	70-130		"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		97.0 %	70-130		"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		66.0 %	70-130		"	"	"	"	S-GC



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Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

MW-17
1004645-07 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Wet Chemistry by EPA or APHA Standard Methods

Total Organic Carbon	54	5.0	mg/L	10 ⁻¹	A011567	23-Nov-10	23-Nov-10	SM 5310B
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Volatile Organic Compounds by EPA Method 8260B

Benzene	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B
Bromobenzene	ND	0.50	"	"	"	"	"	"
Bromochloromethane	ND	0.50	"	"	"	"	"	"
Bromodichloromethane	ND	0.50	"	"	"	"	"	"
Bromoform	ND	0.50	"	"	"	"	"	"
Bromomethane	ND	0.50	"	"	"	"	"	"
n-Butylbenzene	ND	0.50	"	"	"	"	"	"
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"
Chlorobenzene	ND	0.50	"	"	"	"	"	"
Chloroethane	ND	0.50	"	"	"	"	"	"
Chloroform	ND	0.50	"	"	"	"	"	"
Chloromethane	ND	0.50	"	"	"	"	"	"
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.50	"	"	"	"	"	"
Dibromochloromethane	ND	0.50	"	"	"	"	"	"
Dibromomethane	ND	0.50	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"
1,1-Dichloroethane	1.1	0.50	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"
1,1-Dichloroethene	4.5	0.50	"	"	"	"	"	"
cis-1,2-Dichloroethene	70	2.5	"	5	A011611	28-Nov-10	28-Nov-10	"
trans-1,2-Dichloroethene	16	0.50	"	1	A011566	23-Nov-10	23-Nov-10	"
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"

Oilfield Environmental and Compliance

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Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
—30-Nov-10 13:49

MW-17
1004645-07 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by EPA Method 8260B-

1,2-Dibromoethane (EDB)-	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B	
Hexachlorobutadiene	ND	0.50	"	"	"	"	"	"	"
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	"
4-Isopropyl Toluene	ND	0.50	"	"	"	"	"	"	"
Methylene chloride	ND	1.0	"	"	"	"	"	"	"
Naphthalene	ND	0.50	"	"	"	"	"	"	"
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	"
Styrene	ND	0.50	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
Tetrachloroethene (PCE)	ND	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
Trichloroethene (TCE)	140	2.5	"	5	A011611	28-Nov-10	28-Nov-10	"	"
Trichlorofluoromethane	ND	0.50	"	1	A011566	23-Nov-10	23-Nov-10	"	"
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
Vinyl chloride	110	2.5	"	5	A011611	28-Nov-10	28-Nov-10	"	"
Xylenes (total)	ND	0.50	"	1	A011566	23-Nov-10	23-Nov-10	"	"
<i>Surrogate: Dibromofluoromethane</i>		104 %	70-130		"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		96.7 %	70-130		"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		85.4 %	70-130		"	"	"	"	"

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Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

MW-16
1004645-08 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Wet Chemistry by EPA or APHA Standard Methods

Total Organic Carbon	4.6	0.50	mg/L	1	A011567	23-Nov-10	23-Nov-10	SM 5310B
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Volatile Organic Compounds by EPA Method 8260B

Benzene	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B
Bromobenzene	ND	0.50	"	"	"	"	"	"
Bromochloromethane	ND	0.50	"	"	"	"	"	"
Bromodichloromethane	ND	0.50	"	"	"	"	"	"
Bromoform	ND	0.50	"	"	"	"	"	"
Bromomethane	ND	0.50	"	"	"	"	"	"
n-Butylbenzene	ND	0.50	"	"	"	"	"	"
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"
Chlorobenzene	ND	0.50	"	"	"	"	"	"
Chloroethane	ND	0.50	"	"	"	"	"	"
Chloroform	ND	0.50	"	"	"	"	"	"
Chloromethane	ND	0.50	"	"	"	"	"	"
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.50	"	"	"	"	"	"
Dibromochloromethane	ND	0.50	"	"	"	"	"	"
Dibromomethane	ND	0.50	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"
1,1-Dichloroethane	35	0.50	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"
1,1-Dichloroethene	140	25	"	50	A011611	28-Nov-10	28-Nov-10	"
cis-1,2-Dichloroethene	390	25	"	"	"	"	"	"
trans-1,2-Dichloroethene	13	0.50	"	1	A011566	23-Nov-10	23-Nov-10	"
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"

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Arcadis U.S. - Santa Maria

Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129-

Project: Renco Encoders

Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

MW-16
1004645-08 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by EPA Method 8260B

1,2-Dibromoethane (EDB)	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B	
Hexachlorobutadiene	ND	0.50	"	"	"	"	"	"	"
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	"
4-Isopropyl Toluene	ND	0.50	"	"	"	"	"	"	"
Methylene chloride	ND	1.0	"	"	"	"	"	"	"
Naphthalene	ND	0.50	"	"	"	"	"	"	"
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	"
Styrene	ND	0.50	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
Tetrachloroethene (PCE)	4.8	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2-Trichloroethane	2.0	0.50	"	"	"	"	"	"	"
Trichloroethene (TCE)	3300	100	"	200	A011613	29-Nov-10	29-Nov-10	"	
Trichlorofluoromethane	2.3	0.50	"	1	A011566	23-Nov-10	23-Nov-10	"	
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
Vinyl chloride	46	0.50	"	"	"	"	"	"	"
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		105 %	70-130		"	"	"	"	
Surrogate: Toluene-d8		96.7 %	70-130		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		68.7 %	70-130		"	"	"	"	S-GC

Oilfield Environmental and Compliance

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Oilfield Environmental and Compliance, INC.

Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

MW7-HS
1004645-09 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by EPA Method 8260B

Benzene	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B	"
Bromobenzene	ND	0.50	"	"	"	"	"	"	"
Bromoform	ND	0.50	"	"	"	"	"	"	"
Bromomethane	ND	0.50	"	"	"	"	"	"	"
n-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	"
Chlorobenzene	ND	0.50	"	"	"	"	"	"	"
Chloroethane	ND	0.50	"	"	"	"	"	"	"
Chloroform	ND	0.50	"	"	"	"	"	"	"
Chloromethane	ND	0.50	"	"	"	"	"	"	"
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.50	"	"	"	"	"	"	"
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	"
Dibromomethane	ND	0.50	"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethane	9.7	0.50	"	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethene	1.7	0.50	"	"	"	"	"	"	"
cis-1,2-Dichloroethene	60	2.5	"	5	A011611	28-Nov-10	28-Nov-10	"	"
trans-1,2-Dichloroethene	78	2.5	"	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.50	"	1	A011566	23-Nov-10	23-Nov-10	"	"
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	"
Hexachlorobutadiene	ND	0.50	"	"	"	"	"	"	"
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	"

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Oilfield Environmental and Compliance, INC.

Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

MW7-HS
1004645-09 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA Method 8260B									
4-Isopropyl Toluene	ND	0.50	ug/L	1	A011566	23-Nov-10	23-Nov-10	EPA 8260B	"
Methylene chloride	ND	1.0	"	"	"	"	"	"	"
Naphthalene	ND	0.50	"	"	"	"	"	"	"
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	"
Styrene	ND	0.50	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
Tetrachloroethene (PCE)	ND	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
Trichloroethene (TCE)	7.5	0.50	"	"	"	"	"	"	"
Trichlorofluoromethane	ND	0.50	"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
Vinyl chloride	160	2.5	"	5	A011611	28-Nov-10	28-Nov-10	"	"
Xylenes (total)	ND	0.50	"	1	A011566	23-Nov-10	23-Nov-10	"	"
<i>Surrogate: Dibromoformmethane</i>		107 %	70-130		"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		98.2 %	70-130		"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		82.6 %	70-130		"	"	"	"	"



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Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

MW11-HS
1004645-10 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by EPA Method 8260B

Benzene	ND	0.50	ug/L	1	A011613	29-Nov-10	29-Nov-10	EPA 8260B	"
Bromobenzene	ND	0.50	"	"	"	"	"	"	"
Bromochloromethane	ND	0.50	"	"	"	"	"	"	"
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	"
Bromoform	ND	0.50	"	"	"	"	"	"	"
Bromomethane	ND	0.50	"	"	"	"	"	"	"
n-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	"
Chlorobenzene	ND	0.50	"	"	"	"	"	"	"
Chloroethane	ND	0.50	"	"	"	"	"	"	"
Chloroform	ND	0.50	"	"	"	"	"	"	"
Chloromethane	ND	0.50	"	"	"	"	"	"	"
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.50	"	"	"	"	"	"	"
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	"
Dibromomethane	ND	0.50	"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethane	39	0.50	"	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethene	44	0.50	"	"	"	"	"	"	"
cis-1,2-Dichloroethene	680	25	"	50	A011611	28-Nov-10	28-Nov-10	"	"
trans-1,2-Dichloroethene	68	25	"	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.50	"	1	A011613	29-Nov-10	29-Nov-10	"	"
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	"
Hexachlorobutadiene	ND	0.50	"	"	"	"	"	"	"
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	"

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Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

MW11-HS
1004645-10 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch-	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by EPA Method 8260B

4-Isopropyl Toluene	ND	0.50	ug/L	1	A011613	29-Nov-10	29-Nov-10	EPA 8260B	"
Methylene chloride	ND	1.0	"	"	"	"	"	"	"
Naphthalene	ND	0.50	"	"	"	"	"	"	"
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	"
Styrene	ND	0.50	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
Tetrachloroethene (PCE)	1.0	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2-Trichloroethane	0.77	0.50	"	"	"	"	"	"	"
Trichloroethene (TCE)	860	25	"	50	A011611	28-Nov-10	28-Nov-10	"	"
Trichlorofluoromethane	ND	0.50	"	1	A011613	29-Nov-10	29-Nov-10	"	"
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
Vinyl chloride	1900	25	"	50	A011611	28-Nov-10	28-Nov-10	"	"
Xylenes (total)	ND	0.50	"	1	A011613	29-Nov-10	29-Nov-10	"	"
<i>Surrogate: Dibromofluoromethane</i>		95.4 %	70-130		"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		89.8 %	70-130		"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		87.6 %	70-130		"	"	"	"	"

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Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco-Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

MW14-HS
1004645-11 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by EPA Method 8260B

Benzene	ND	0.50	ug/L	.1	A011613	29-Nov-10	29-Nov-10	EPA 8260B	"
Bromobenzene	ND	0.50	"	"	"	"	"	"	"
Bromochloromethane	ND	0.50	"	"	"	"	"	"	"
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	"
Bromoform	ND	0.50	"	"	"	"	"	"	"
Bromomethane	ND	0.50	"	"	"	"	"	"	"
n-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	"
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	"
Chlorobenzene	ND	0.50	"	"	"	"	"	"	"
Chloroethane	ND	0.50	"	"	"	"	"	"	"
Chloroform	ND	0.50	"	"	"	"	"	"	"
Chloromethane	ND	0.50	"	"	"	"	"	"	"
2-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
4-Chlorotoluene	ND	0.50	"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	0.50	"	"	"	"	"	"	"
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	"
Dibromomethane	ND	0.50	"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethane	4.2	0.50	"	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloroethene	8.3	0.50	"	"	"	"	"	"	"
cis-1,2-Dichloroethene	12	0.50	"	"	"	"	"	"	"
trans-1,2-Dichloroethene	3.4	0.50	"	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	"
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	"
Ethylbenzene	ND	0.50	"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	"
Hexachlorobutadiene	ND	0.50	"	"	"	"	"	"	"
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	"

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Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

MW14-HS
1004645-11 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Volatile Organic Compounds by EPA Method 8260B

4-Isopropyl Toluene	ND	0.50	ug/L	1	A011613	29-Nov-10	29-Nov-10	EPA 8260B	"
Methylene chloride	ND	1.0	"	"	"	"	"	"	"
Naphthalene	ND	0.50	"	"	"	"	"	"	"
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	"
Styrene	ND	0.50	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	"
Tetrachloroethene (PCE)	ND	0.50	"	"	"	"	"	"	"
Toluene	ND	0.50	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	"
Trichloroethene (TCE)	160	5.0	"	10	A011611	28-Nov-10	28-Nov-10	"	"
Trichlorofluoromethane	ND	0.50	"	1	A011613	29-Nov-10	29-Nov-10	"	"
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	"
Vinyl chloride	2.6	0.50	"	"	"	"	"	"	"
Xylenes (total)	ND	0.50	"	"	"	"	"	"	"
<i>Surrogate: Dibromoformmethane</i>		100 %	70-130		"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		98.9 %	70-130		"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		89.4 %	70-130		"	"	"	"	"



Oilfield Environmental and Compliance, INC.

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Highlands Ranch, CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

Wet Chemistry by EPA or APHA Standard Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A011567 - NONE										
Blank (A011567-BLK1)										
Total Organic Carbon	ND	0.50	mg/L							
LCS (A011567-BS1)										
Total Organic Carbon	5.53	0.50	mg/L	5.00		111	80-120			
LCS Dup (A011567-BSD1)										
Total Organic Carbon	4.42	0.50	mg/L	5.00		88.4	80-120	22.3	20	QR-02
Duplicate (A011567-DUP1)										
Total Organic Carbon	4.76	0.50	mg/L		5.12			7.21	20	
Matrix Spike (A011567-MS1)										
Total Organic Carbon	8.85	0.50	mg/L	5.00	5.12	74.6	75-125			QM-08
Matrix Spike Dup (A011567-MSD1)										
Total Organic Carbon	8.55	0.50	mg/L	5.00	5.12	68.7	75-125	8.23	20	QM-08

Oilfield Environmental and Compliance

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Oilfield Environmental and Compliance, INC.

Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A011566 - EPA 5030B VOC GCMS

-Blank-(A011566-BLK1)	Prepared & Analyzed: 23-Nov-10									
Benzene	ND	0.50	ug/L							
Bromobenzene	ND	0.50	"							
Bromochloromethane	ND	0.50	"							
Bromodichloromethane	ND	0.50	"							
Bromoform	ND	0.50	"							
Bromomethane	ND	0.50	"							
n-Butylbenzene	ND	0.50	"							
sec-Butylbenzene	ND	0.50	"							
tert-Butylbenzene	ND	0.50	"							
Carbon tetrachloride	ND	0.50	"							
Chlorobenzene	ND	0.50	"							
Chloroethane	ND	0.50	"							
Chloroform	ND	0.50	"							
Chloromethane	ND	0.50	"							
2-Chlorotoluene	ND	0.50	"							
4-Chlorotoluene	ND	0.50	"							
1,2-Dibromo-3-chloropropane	ND	0.50	"							
Dibromochloromethane	ND	0.50	"							
Dibromomethane	ND	0.50	"							
1,2-Dichlorobenzene	ND	0.50	"							
1,3-Dichlorobenzene	ND	0.50	"							
1,4-Dichlorobenzene	ND	0.50	"							
Dichlorodifluoromethane	ND	0.50	"							
1,1-Dichloroethane	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	"							
1,1-Dichloroethene	ND	0.50	"							
cis-1,2-Dichloroethene	ND	0.50	"							
trans-1,2-Dichloroethene	ND	0.50	"							
1,2-Dichloropropane	ND	0.50	"							
1,3-Dichloropropane	ND	0.50	"							
2,2-Dichloropropane	ND	0.50	"							
1,1-Dichloropropene	ND	0.50	"							
cis-1,3-Dichloropropene	ND	0.50	"							
trans-1,3-Dichloropropene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.50	"							
Hexachlorobutadiene	ND	0.50	"							
Isopropylbenzene	ND	0.50	"							
4-Isopropyl Toluene	ND	0.50	"							
Methylene chloride	ND	1.0	"							

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Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10-13:49

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A011566 - EPA 5030B VOCGCMS

Blank (A011566-BLK1) Prepared & Analyzed: 23-Nov-10

Naphthalene	ND	0.50	ug/L							
n-Propylbenzene	ND	0.50	"							
Styrene	ND	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.50	"							
Tetrachloroethene (PCE)	ND	0.50	"							
Toluene	ND	0.50	"							
1,2,3-Trichlorobenzene	ND	0.50	"							
1,2,4-Trichlorobenzene	ND	0.50	"							
1,1,1-Trichloroethane	ND	0.50	"							
1,1,2-Trichloroethane	ND	0.50	"							
Trichloroethene (TCE)	ND	0.50	"							
Trichlorofluoromethane	ND	0.50	"							
1,2,3-Trichloropropane	ND	0.50	"							
1,2,4-Trimethylbenzene	ND	0.50	"							
1,3,5-Trimethylbenzene	ND	0.50	"							
Vinyl chloride	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
<i>Surrogate: Dibromoformmethane</i>	24.1	"	25.0		96.5	70-130				
<i>Surrogate: Toluene-d8</i>	24.5	"	25.0		98.2	70-130				
<i>Surrogate: 4-Bromofluorobenzene</i>	22.1	"	25.0		88.4	70-130				

LCS (A011566-BS1) Prepared & Analyzed: 23-Nov-10

Benzene	25.6	0.50	ug/L	25.0	103	70-130
Chlorobenzene	26.8	0.50	"	25.0	107	70-130
1,1-Dichloroethene	26.8	0.50	"	25.0	107	70-130
Toluene	26.6	0.50	"	25.0	107	70-130
Trichloroethene (TCE)	28.3	0.50	"	25.0	113	70-130
<i>Surrogate: Dibromoformmethane</i>	22.6	"	25.0		90.5	70-130
<i>Surrogate: Toluene-d8</i>	24.3	"	25.0		97.2	70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	17.7	"	25.0		70.7	70-130

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Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A011566 - EPA 5030B VOCGCMS

LCS Dup (A011566-BSD1)		Prepared & Analyzed: 23-Nov-10							
Benzene	25.4	0.50	ug/L	25.0	101	.70-130	1.18	20	
Chlorobenzene	26.2	0.50	"	25.0	105	.70-130	2.34	20	
1,1-Dichloroethene	26.6	0.50	"	25.0	106	.70-130	0.750	20	
Toluene	26.4	0.50	"	25.0	106	.70-130	0.867	20	
Trichloroethene (TCE)	27.4	0.50	"	25.0	110	.70-130	3.19	20	
Surrogate: Dibromoform	24.6		"	25.0	98.4	.70-130			
Surrogate: Toluene-d8	25.1		"	25.0	100	.70-130			
Surrogate: 4-Bromoform	23.3		"	25.0	93.3	.70-130			

Batch A011611 - EPA 5030B VOCGCMS

Blank (A011611-BLK1)		Prepared & Analyzed: 28-Nov-10							
Benzene	ND	0.50	ug/L						
Bromobenzene	ND	0.50	"						
Bromochloromethane	ND	0.50	"						
Bromodichloromethane	ND	0.50	"						
Bromoform	ND	0.50	"						
Bromomethane	ND	0.50	"						
n-Butylbenzene	ND	0.50	"						
sec-Butylbenzene	ND	0.50	"						
tert-Butylbenzene	ND	0.50	"						
Carbon tetrachloride	ND	0.50	"						
Chlorobenzene	ND	0.50	"						
Chloroethane	ND	0.50	"						
Chloroform	ND	0.50	"						
Chloromethane	ND	0.50	"						
2-Chlorotoluene	ND	0.50	"						
4-Chlorotoluene	ND	0.50	"						
1,2-Dibromo-3-chloropropane	ND	0.50	"						
Dibromochloromethane	ND	0.50	"						
Dibromomethane	ND	0.50	"						
1,2-Dichlorobenzene	ND	0.50	"						
1,3-Dichlorobenzene	ND	0.50	"						
1,4-Dichlorobenzene	ND	0.50	"						
Dichlorodifluoromethane	ND	0.50	"						
1,1-Dichloroethane	ND	0.50	"						
1,2-Dichloroethane	ND	0.50	"						
1,1-Dichloroethene	ND	0.50	"						
cis-1,2-Dichloroethene	ND	0.50	"						
trans-1,2-Dichloroethene	ND	0.50	"						
1,2-Dichloropropane	ND	0.50	"						

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Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A011611 - EPA 5030B VOCGCMS

Blank (A011611-BLK1)					Prepared & Analyzed: 28-Nov-10					
1,3-Dichloropropane	ND	0.50	ug/L							
2,2-Dichloropropane	ND	0.50	"							
1,1-Dichloropropene	ND	0.50	"							
cis-1,3-Dichloropropene	ND	0.50	"							
trans-1,3-Dichloropropene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.50	"							
Hexachlorobutadiene	ND	0.50	"							
Isopropylbenzene	ND	0.50	"							
4-Isopropyl Toluene	ND	0.50	"							
Methylene chloride	1.04	1.0	"							O-01
Naphthalene	1.39	0.50	"							B-06
n-Propylbenzene	ND	0.50	"							
Styrene	ND	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.50	"							
Tetrachloroethene (PCE)	ND	0.50	"							
Toluene	ND	0.50	"							
1,2,3-Trichlorobenzene	ND	0.50	"							
1,2,4-Trichlorobenzene	ND	0.50	"							
1,1,1-Trichloroethane	ND	0.50	"							
1,1,2-Trichloroethane	ND	0.50	"							
Trichloroethene (TCE)	ND	0.50	"							
Trichlorofluoromethane	ND	0.50	"							
1,2,3-Trichloropropane	ND	0.50	"							
1,2,4-Trimethylbenzene	ND	0.50	"							
1,3,5-Trimethylbenzene	ND	0.50	"							
Vinyl chloride	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
<i>Surrogate: Dibromofluoromethane</i>	22.6	"	25.0		90.3	70-130				
<i>Surrogate: Toluene-d8</i>	23.6	"	25.0		94.3	70-130				
<i>Surrogate: 4-Bromofluorobenzene</i>	25.8	"	25.0		103	70-130				

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Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A011611 - EPA 5030B VOCGCMS

LCS (A011611-BS1)	Prepared & Analyzed: 28-Nov-10								
Benzene	25.8	0.50	ug/L	25.0	103	70-130			
Chlorobenzene	28.4	0.50	"	25.0	114	70-130			
1,1-Dichloroethene	28.0	0.50	"	25.0	112	70-130			
Toluene	26.8	0.50	"	25.0	107	70-130			
Trichloroethene (TCE)	27.9	0.50	"	25.0	111	70-130			
<i>Surrogate: Dibromoformmethane</i>	20.7		"	25.0	82.9	70-130			
<i>Surrogate: Toluene-d8</i>	24.1		"	25.0	96.6	70-130			
<i>Surrogate: 4-Bromoformbenzene</i>	25.6		"	25.0	102	70-130			

LCS Dup (A011611-BSD1)	Prepared & Analyzed: 28-Nov-10								
Benzene	25.7	0.50	ug/L	25.0	103	70-130	0.311	20	
Chlorobenzene	27.4	0.50	"	25.0	110	70-130	3.47	20	
1,1-Dichloroethene	26.6	0.50	"	25.0	106	70-130	5.10	20	
Toluene	27.6	0.50	"	25.0	110	70-130	2.76	20	
Trichloroethene (TCE)	30.2	0.50	"	25.0	121	70-130	7.99	20	
<i>Surrogate: Dibromoformmethane</i>	21.6		"	25.0	86.4	70-130			
<i>Surrogate: Toluene-d8</i>	25.1		"	25.0	101	70-130			
<i>Surrogate: 4-Bromoformbenzene</i>	24.7		"	25.0	98.7	70-130			

Duplicate (A011611-DUP1)	Source: 1004621-18RE1 Prepared & Analyzed: 28-Nov-10							
Benzene	ND	0.50	ug/L	ND			20	
Bromobenzene	ND	0.50	"	ND			20	
Bromoformmethane	ND	0.50	"	ND			20	
Bromodichloromethane	ND	0.50	"	ND			20	
Bromoform	ND	0.50	"	ND			20	
Bromomethane	ND	0.50	"	ND			20	
n-Butylbenzene	ND	0.50	"	ND			20	
sec-Butylbenzene	ND	0.50	"	ND			20	
tert-Butylbenzene	ND	0.50	"	ND			20	
Carbon tetrachloride	ND	0.50	"	ND			20	
Chlorobenzene	ND	0.50	"	ND			20	
Chloroethane	ND	0.50	"	ND			20	
Chloroform	ND	0.50	"	ND			20	
Chloromethane	ND	0.50	"	ND			20	
2-Chlorotoluene	ND	0.50	"	ND			20	
4-Chlorotoluene	ND	0.50	"	ND			20	
1,2-Dibromo-3-chloropropane	ND	0.50	"	ND			20	
Dibromochloromethane	ND	0.50	"	ND			20	
Dibromomethane	ND	0.50	"	ND			20	
1,2-Dichlorobenzene	ND	0.50	"	ND			20	
1,3-Dichlorobenzene	ND	0.50	"	ND			20	

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Oilfield Environmental and Compliance, INC.

Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source-Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
Batch A011611 - EPA 5030B VOCGCMS										
Duplicate (A011611-DUP1) Source: 1004621-18RE1 Prepared & Analyzed: 28-Nov-10										
1,4-Dichlorobenzene	ND	0.50	ug/L		ND				20	
Dichlorodifluoromethane	ND	0.50	"		ND				20	
1,1-Dichloroethane	ND	0.50	"		ND				20	
1,2-Dichloroethane	ND	0.50	"		ND				20	
1,1-Dichloroethene	ND	0.50	"		ND				20	
cis-1,2-Dichloroethene	ND	0.50	"		ND				20	
trans-1,2-Dichloroethene	ND	0.50	"		ND				20	
1,2-Dichloropropane	ND	0.50	"		ND				20	
1,3-Dichloropropane	ND	0.50	"		ND				20	
2,2-Dichloropropane	ND	0.50	"		ND				20	
1,1-Dichloropropene	ND	0.50	"		ND				20	
cis-1,3-Dichloropropene	ND	0.50	"		ND				20	
trans-1,3-Dichloropropene	ND	0.50	"		ND				20	
Ethylbenzene	ND	0.50	"		ND				20	
1,2-Dibromoethane (EDB)	ND	0.50	"		ND				20	
Hexachlorobutadiene	ND	0.50	"		ND				20	
Isopropylbenzene	ND	0.50	"		ND				20	
4-Isopropyl Toluene	ND	0.50	"		ND				20	
Methylene chloride	ND	1.0	"		ND				20	
Naphthalene	ND	0.50	"		ND				20	
n-Propylbenzene	ND	0.50	"		ND				20	
Styrene	ND	0.50	"		ND				20	
1,1,1,2-Tetrachloroethane	ND	0.50	"		ND				20	
1,1,2,2-Tetrachloroethane	ND	0.50	"		ND				20	
Tetrachloroethene (PCE)	ND	0.50	"		ND				20	
Toluene	ND	0.50	"	0.150					20	
1,2,3-Trichlorobenzene	ND	0.50	"		ND				20	
1,2,4-Trichlorobenzene	ND	0.50	"		ND				20	
1,1,1-Trichloroethane	ND	0.50	"		ND				20	
1,1,2-Trichloroethane	ND	0.50	"		ND				20	
Trichloroethene (TCE)	ND	0.50	"		ND				20	
Trichlorofluoromethane	ND	0.50	"		ND				20	
1,2,3-Trichloropropane	ND	0.50	"		ND				20	
1,2,4-Trimethylbenzene	ND	0.50	"		ND				20	
1,3,5-Trimethylbenzene	ND	0.50	"		ND				20	
Vinyl chloride	ND	0.50	"		ND				20	
Xylenes (total)	ND	0.50	"		ND				20	
<i>Surrogate: Dibromofluoromethane</i>	22.6	"	25.0		90.3	70-130				
<i>Surrogate: Toluene-d8</i>	23.2	"	25.0		92.7	70-130				
<i>Surrogate: 4-Bromofluorobenzene</i>	25.2	"	25.0		101	70-130				

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Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	-RPD-	RPD Limit	Notes
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Batch A011611 - EPA 5030B VOCGCMS

Matrix-Spike (A011611-MS1)	Source: 1004621-18RE1 - Prepared & Analyzed: 28-Nov-10						
Benzene	27.5	0.50	ug/L	25.0	ND	110	70-130
Chlorobenzene	26.9	0.50	"	25.0	ND	108	70-130
1,1-Dichloroethene	29.6	0.50	"	25.0	ND	118	70-130
Toluene	27.4	0.50	"	25.0	0.150	109	70-130
Trichloroethene (TCE)	28.8	0.50	"	25.0	ND	115	70-130
<i>Surrogate: Dibromoformmethane</i>	23.0		"	25.0	91.9	70-130	
<i>Surrogate: Toluene-d8</i>	24.6		"	25.0	98.3	70-130	
<i>Surrogate: 4-Bromofluorobenzene</i>	25.8		"	25.0	103	70-130	

Batch A011613 - EPA 5030B VOCGCMS

Blank (A011613-BLK1)	Prepared & Analyzed: 29-Nov-10					
Benzene	ND	0.50	ug/L			
Bromobenzene	ND	0.50	"			
Bromochloromethane	ND	0.50	"			
Bromodichloromethane	ND	0.50	"			
Bromoform	ND	0.50	"			
Bromomethane	ND	0.50	"			
n-Butylbenzene	ND	0.50	"			
sec-Butylbenzene	ND	0.50	"			
tert-Butylbenzene	ND	0.50	"			
Carbon tetrachloride	ND	0.50	"			
Chlorobenzene	ND	0.50	"			
Chloroethane	ND	0.50	"			
Chloroform	ND	0.50	"			
Chloromethane	ND	0.50	"			
2-Chlorotoluene	ND	0.50	"			
4-Chlorotoluene	ND	0.50	"			
1,2-Dibromo-3-chloropropane	ND	0.50	"			
Dibromochloromethane	ND	0.50	"			
Dibromomethane	ND	0.50	"			
1,2-Dichlorobenzene	ND	0.50	"			
1,3-Dichlorobenzene	ND	0.50	"			
1,4-Dichlorobenzene	ND	0.50	"			
Dichlorodifluoromethane	ND	0.50	"			
1,1-Dichloroethane	ND	0.50	"			
1,2-Dichloroethane	ND	0.50	"			
1,1-Dichloroethene	ND	0.50	"			
cis-1,2-Dichloroethene	ND	0.50	"			
trans-1,2-Dichloroethene	ND	0.50	"			
1,2-Dichloropropane	ND	0.50	"			

Oilfield Environmental and Compliance

307 Roemer Way, Suite 300, Santa Maria, CA 93454

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TEL: (805) 922-4772
FAX: (805) 925-3376



Oilfield Environmental and Compliance, INC.

Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A011613 - EPA 5030B-VOCGCMS

Blank (A011613-BLK1)	Prepared & Analyzed: 29-Nov-10						
1,3-Dichloropropane	ND	0.50	ug/L				
2,2-Dichloropropane	ND	0.50	"				
1,1-Dichloropropene	ND	0.50	"				
cis-1,3-Dichloropropene	ND	0.50	"				
trans-1,3-Dichloropropene	ND	0.50	"				
Ethylbenzene	ND	0.50	"				
1,2-Dibromoethane (EDB)	ND	0.50	"				
Hexachlorobutadiene	ND	0.50	"				
Isopropylbenzene	ND	0.50	"				
4-Isopropyl Toluene	ND	0.50	"				
Methylene chloride	3.34	1.0	"				O-01
Naphthalene	ND	0.50	"				
n-Propylbenzene	ND	0.50	"				
Styrene	ND	0.50	"				
1,1,1,2-Tetrachloroethane	ND	0.50	"				
1,1,2,2-Tetrachloroethane	ND	0.50	"				
Tetrachloroethene (PCE)	ND	0.50	"				
Toluene	ND	0.50	"				
1,2,3-Trichlorobenzene	ND	0.50	"				
1,2,4-Trichlorobenzene	ND	0.50	"				
1,1,1-Trichloroethane	ND	0.50	"				
1,1,2-Trichloroethane	ND	0.50	"				
Trichloroethene (TCE)	ND	0.50	"				
Trichlorofluoromethane	ND	0.50	"				
1,2,3-Trichloropropane	ND	0.50	"				
1,2,4-Trimethylbenzene	ND	0.50	"				
1,3,5-Trimethylbenzene	ND	0.50	"				
Vinyl chloride	ND	0.50	"				
Xylenes (total)	ND	0.50	"				
<i>Surrogate: Dibromofluoromethane</i>	22.8	"	25.0		91.1	70-130	
<i>Surrogate: Toluene-d8</i>	25.2	"	25.0		101	70-130	
<i>Surrogate: 4-Bromofluorobenzene</i>	22.9	"	25.0		91.7	70-130	

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Arcadis U.S.- Santa Maria

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Highlands Ranch CO, 80129

Project: Renco Encoders

Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	-Notes
Batch A011613 -EPA 5030B VOCGCMS										
LCS (A011613-BS1)										
Prepared & Analyzed: 29-Nov-10										
Benzene	22.9	0.50	ug/L	25.0	91.7	70-130				
Chlorobenzene	22.7	0.50	"	25.0	90.6	70-130				
1,1-Dichloroethene	22.1	0.50	"	25.0	88.5	70-130				
Toluene	23.2	0.50	"	25.0	92.9	70-130				
Trichloroethene (TCE)	23.5	0.50	"	25.0	94.2	70-130				
<i>Surrogate: Dibromoform</i>	22.6		"	25.0	90.2	70-130				
<i>Surrogate: Toluene-d8</i>	24.9		"	25.0	99.5	70-130				
<i>Surrogate: 4-Bromoform</i>	22.6		"	25.0	90.6	70-130				
LCS Dup (A011613-BSD1)										
Prepared & Analyzed: 29-Nov-10										
Benzene	25.5	0.50	ug/L	25.0	102	70-130	10.8	20		
Chlorobenzene	22.8	0.50	"	25.0	91.4	70-130	0.791	20		
1,1-Dichloroethene	25.6	0.50	"	25.0	102	70-130	14.6	20		
Toluene	24.6	0.50	"	25.0	98.6	70-130	5.93	20		
Trichloroethene (TCE)	23.9	0.50	"	25.0	95.5	70-130	1.39	20		
<i>Surrogate: Dibromoform</i>	24.6		"	25.0	98.6	70-130				
<i>Surrogate: Toluene-d8</i>	26.0		"	25.0	104	70-130				
<i>Surrogate: 4-Bromoform</i>	22.9		"	25.0	91.6	70-130				
Duplicate (A011613-DUP1)										
Source: 1004621-21RE1 Prepared: 29-Nov-10 Analyzed: 30-Nov-10										
Benzene	ND	0.50	ug/L		ND			20		
Bromobenzene	ND	0.50	"		ND			20		
Bromochloromethane	ND	0.50	"		ND			20		
Bromodichloromethane	ND	0.50	"		ND			20		
Bromoform	ND	0.50	"		ND			20		
Bromomethane	ND	0.50	"		ND			20		
n-Butylbenzene	ND	0.50	"		ND			20		
sec-Butylbenzene	ND	0.50	"		ND			20		
tert-Butylbenzene	ND	0.50	"		ND			20		
Carbon tetrachloride	ND	0.50	"		ND			20		
Chlorobenzene	ND	0.50	"		ND			20		
Chloroethane	ND	0.50	"		ND			20		
Chloroform	ND	0.50	"		ND			20		
Chloromethane	ND	0.50	"		ND			20		
2-Chlorotoluene	ND	0.50	"		ND			20		
4-Chlorotoluene	ND	0.50	"		ND			20		
1,2-Dibromo-3-chloropropane	ND	0.50	"		ND			20		
Dibromochloromethane	ND	0.50	"		ND			20		
Dibromomethane	ND	0.50	"		ND			20		
1,2-Dichlorobenzene	ND	0.50	"		ND			20		
1,3-Dichlorobenzene	ND	0.50	"		ND			20		

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Oilfield Environmental and Compliance, INC.

Arcadis U.S. - Santa Maria
Attn: Accounts Payable, 630 Plaza Dr., Ste. 600
Highlands Ranch CO, 80129

Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

Volatile Organic Compounds by EPA Method 8260B -- Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD-Limit	Notes
Batch A011613 - EPA 5030B VOCGCMS									
Duplicate (A011613-DUP1)									
					Source: 1004621-21RE1	Prepared: 29-Nov-10	Analyzed: 30-Nov-10		
1,4-Dichlorobenzene	ND	0.50	ug/L		ND			20	
Dichlorodifluoromethane	ND	0.50	"		ND			20	
1,1-Dichloroethane	ND	0.50	"		ND			20	
1,2-Dichloroethane	ND	0.50	"		ND			20	
1,1-Dichloroethene	ND	0.50	"		ND			20	
cis-1,2-Dichloroethene	ND	0.50	"		ND			20	
trans-1,2-Dichloroethene	ND	0.50	"		ND			20	
1,2-Dichloropropane	ND	0.50	"		ND			20	
1,3-Dichloropropane	ND	0.50	"		ND			20	
2,2-Dichloropropane	ND	0.50	"		ND			20	
1,1-Dichloropropene	ND	0.50	"		ND			20	
cis-1,3-Dichloropropene	ND	0.50	"		ND			20	
trans-1,3-Dichloropropene	ND	0.50	"		ND			20	
Ethylbenzene	ND	0.50	"		ND			20	
1,2-Dibromoethane (EDB)	ND	0.50	"		ND			20	
Hexachlorobutadiene	ND	0.50	"		ND			20	
Isopropylbenzene	ND	0.50	"		ND			20	
4-Isopropyl Toluene	ND	0.50	"		ND			20	
Methylene chloride	ND	1.0	"		ND			20	
Naphthalene	ND	0.50	"		ND			20	
n-Propylbenzene	ND	0.50	"		ND			20	
Styrene	ND	0.50	"		ND			20	
1,1,1,2-Tetrachloroethane	ND	0.50	"		ND			20	
1,1,2,2-Tetrachloroethane	ND	0.50	"		ND			20	
Tetrachloroethene (PCE)	ND	0.50	"		ND			20	
Toluene	ND	0.50	"		ND			20	
1,2,3-Trichlorobenzene	ND	0.50	"		ND			20	
1,2,4-Trichlorobenzene	ND	0.50	"		ND			20	
1,1,1-Trichloroethane	ND	0.50	"		ND			20	
1,1,2-Trichloroethane	ND	0.50	"		ND			20	
Trichloroethene (TCE)	ND	0.50	"		ND			20	
Trichlorofluoromethane	ND	0.50	"		ND			20	
1,2,3-Trichloropropane	ND	0.50	"		ND			20	
1,2,4-Trimethylbenzene	ND	0.50	"		ND			20	
1,3,5-Trimethylbenzene	ND	0.50	"		ND			20	
Vinyl chloride	ND	0.50	"		ND			20	
Xylenes (total)	ND	0.50	"		ND			20	
<i>Surrogate: Dibromofluoromethane</i>	23.4		"		25.0	93.4	70-130		
<i>Surrogate: Toluene-d8</i>	24.6		"		25.0	98.4	70-130		
<i>Surrogate: 4-Bromofluorobenzene</i>	22.1		"		25.0	88.4	70-130		

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Project: Renco Encoders
Project Number: 4Q2010GWM/CM008031,0020
Project Manager: Aaron Hook

Reported:
30-Nov-10 13:49

Notes and Definitions

- S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogates.
- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- QM-08 The spike recovery was outside acceptance limits for the MS and/or MSD. The QC Batch was accepted based on LCS/LCSD percent recoveries and RPD values.
- O-01 This compound is a common laboratory contaminant.
- B-06 The method blank contains analyte at a concentration above the RL/PQL.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

PROOF OF SERVICE

I am employed in the County of Los Angeles, State of California. I am over the age of eighteen (18) and am not a party to this action. My business address is 515 South Figueroa Street, Ninth Floor, Los Angeles, California 90071-3309.

4 On June 10, 2011, I served the within document(s) described as:

PETITION CHALLENGING MAY 13, 2011 REGIONAL WATER QUALITY CONTROL BOARD, CENTRAL COAST REGION APPROVAL OF REVISIONS TO MONITORING AND REPORTING PROGRAM NO. R3-2005-0143 AND ENDORSEMENT OF MONITORED ATTENUATION

on the interested parties in this action as stated on the attached mailing list:

- BY OVERNIGHT DELIVERY:** I deposited in a box or other facility regularly maintained by FedEx, or delivered to a courier or driver authorized by said express service carrier to receive documents, a true copy of the foregoing document(s) in sealed envelopes or packages designated by the express service carrier, addressed as indicated in the attached Service List on the above-mentioned date, with fees for overnight delivery paid or provided for.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on June 10, 2011, at Los Angeles, California.

Lorrie Anderson
(Type or print name)

Lorrie Anderson
(Signature of Declarant)

1
2 SERVICE LIST
3
4

3 *Levon Investments, LLC v. RWQCB, Renco Encoders, Inc. and Arcadis U.S., Inc.*
4

5 State Water Resources Control Board
6

Office of Chief Counsel
Jeannette L. Bashaw, Legal Analyst
1001 I Street
Sacramento, CA 95814

California Regional Water Quality Control Board, Central Coast Region
Attn. Harvey Packard, Katie Disimone
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401-7906

Renco Encoders, Inc.
c/o Michael E. Gallagher, Esq.
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Arcadis U.S., Inc.
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320 Commerce Street, Suite 200
Irvine, CA 92602

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