1R-299

# **Annual Monitoring Report**

# DATE: 2008



30 March 2009

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RECEIVED

Mr. Glen Von Gonten, Senior Hydrologist New Mexico Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

### Re: 2008 Annual Groundwater Monitoring Report Shell Oil Products US - Penrose 'A' (Winnie Kennan Ranch) Case Number: 1R299

Dear Mr. Von Gonten:

The attached report documents the annual groundwater monitoring activities conducted at the above-referenced site. Analytical and field results for semi-annual monitoring activities indicate the absence of benzene, toluene, ethylbenzene and/or total xylenes (BTEX constituents) in samples collected from groundwater monitoring wells MW-2, MW-3, MW-4 and MW-5. Due to this, URS, on behalf of Shell, is recommending discontinuing sampling of these wells and continuing free-product recovery activities associated with groundwater monitoring well MW-1.

Should you have any questions or concerns, please feel free to contact me at (602) 648-2402 or via e-mail at <u>iain\_olness@urscorp.com</u>. All official correspondence should be submitted to Mr. Ken Springer with Shell Oil Products US at the following address:

Mr. Ken Springer, Staff Project Manager Shell Oil Products US P. O. Box 1087 Huffman, TX 77336 (281) 324-5921 Kenneth.Springer@shell.com

Sincerely,

**URS** Corporation

Iain Olness, P.G. Senior Geologist

Attachments: 2008 Annual Groundwater Monitoring Report

cc: Ken Springer, SOPUS – Houston Larry Johnson, NMOCD – Hobbs Leo Sims, Property Owner Representative - Hobbs

URS Corporation 7720 North 16th Street, Suite 100 Phoenix, AZ 85020 Tel: 602.371.1100 Fax: 602.371.1615

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2008 ANNUAL GROUNDWATER MONITORING REPORT

PENROSE 'A' LEASE (WINNIE KENNAN RANCH) CASE NUMBER: 1R299 INCIDENT NUMBER: 300108

SW¼ SE¼, SEC. 3, T23S, R37E LEA COUNTY, NEW MEXICO

Prepared for: SHELL OIL PRODUCTS US

URS Job No. 49194413 27 March 2009

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### 1.0 INTRODUCTION

This *Annual Report* has been prepared to document the results of groundwater monitoring, sampling and remediation activities conducted during 2008 at the Penrose 'A' Lease (Winnie Kennan Ranch) located approximately seven (7) miles southeast of Eunice, New Mexico, off New Mexico State Highway 18, in Lea County, New Mexico (reference Figures 1 and 2). The subject-property is located in the SW¼ of the SE¼ of Section 3, T23S, R37E. A review of the New Mexico Office of the State Engineer website in 2007 and the United States Geological Survey (USGS) database revealed the presence of ten (10) water supply wells within a one-mile radius of the point of release (reference Figure 2 and Table 1). No wells were found to be located within a 1,000-foot radius of the point of release, with the nearest wells being located approximately 1,800 feet northeast (i.e., upgradient) of the point of release.

This report complies with the New Mexico Oil Conservation Division (NMOCD) requirements and addresses all activities performed during the annual period of 2008. Semi-annual groundwater monitoring and sampling events were performed to further evaluate the nature and extent of petroleum hydrocarbon constituents benzene, toluene, ethylbenzene, and total xylenes (BTEX) in groundwater. The sampling events were performed on March 14, and November 17, 2008 by H<sub>2</sub>A Environmental, Ltd., under the direction of URS Corporation. In addition, maintenance of the onsite remediation and light non-aqueous phase liquid (LNAPL) abatement activities were performed monthly throughout 2008.

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### 2.0 <u>CHRONOLOGY OF EVENTS</u>

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A summary of significant events and activities performed at the site is presented below.

March 2000	Shell and Enercon perform a site walk of the property in an area of historic crude oil releases of an unknown amount.
October to November 2000	Enercon was onsite to excavate approximately 10,800 cubic yards of soil, which were transported and landfarmed offsite. The site was excavated to a depth of 40 feet below ground surface (bgs) with TPH exceeding NMOCD standards at that depth. The NMOCD agreed with Shell that for safety purposes further excavation should be halted.
May 2001	Enercon submits the excavation report to the NMOCD.
November 2001	NMOCD requests installation of a soil boring/monitor well in center of excavation to determine amount of remaining hydrocarbon impacts to the soils/groundwater.
January 2002	Enercon is onsite to advance one soil boring within the open excavation from a depth of 40 feet bgs to groundwater located at approximately 75 feet bgs. The soil boring was converted to temporary monitor well TMW-1. Soils exceeded NMOCD standards of 1,000 milligrams per kilogram (mg/Kg) TPH. LNAPL in the form of crude oil was measured in TMW-1.
April 2002	Enercon submits <i>Workplan for Soil Remediation and Monitor Well Installation</i> to NMOCD. Workplan includes installation of clay liner over remaining hydrocarbon impacted soils.
May 2002	Enercon submits Report Detailing the Installation of Temporary Monitor Well TMW-1 to NMOCD.
April 2004	NMOCD agrees to work plan design and installation of additional monitor wells to delineate site groundwater impacts.
June 2004	Enercon places a 4-foot clay liner above remaining hydrocarbon impacted soils and backfills excavation with soils from surrounding sand dunes. Temporary monitor well TMW-1 is converted to monitor well MW-1.
July 2004	Enercon advances four soil borings to approximately 80-feet bgs and converts soil borings to monitor wells (MW-2 through MW-5). Monthly LNAPL recovery from MW-1 initiated.
November 2004	Enercon submits <i>Phase II Backfilling Activities with Site Groundwater/Soil Characterization</i> to NMOCD.
January 2005	Continued monthly LNAPL recovery from MW-1.
March 2005	Enercon submits 2004 Annual Groundwater Monitoring Report to the NMOCD.
September 2005	Enercon installs one Clean Environments CEE <sup>©</sup> Product Only Pump in monitor well MW-1.

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January 2006	Site maintenance and environmental management of property transitioned from Enercon to Conestoga-Rovers and Associates (CRA). Continued monthly LNAPL recovery from MW-1.
April 2006	CRA submits 2005 Annual Groundwater Monitoring Report to Shell Oil Products US (SOPUS) and the NMOCD.
October 10, 2006	Site maintenance and environmental management of property transitioned from CRA to URS Corporation.
January 2007	Continued monthly LNAPL recovery from MW-1.
March 2007	URS Corporation submits 2006 Annual Groundwater Monitoring Report to SOPUS and the NMOCD, recommending the sampling schedule be reduced from quarterly to semi-annual.
March 23, 2007	H <sub>2</sub> A conducts semi-annual sampling activities.
November 2, 2007	H <sub>2</sub> A conducts semi-annual sampling activities.
January 2008	Continued monthly LNAPL recovery from MW-1.
March 2008	URS submits 2007 Annual Groundwater Monitoring Report to SOPUS and the NMOCD.
March 14, 2008	H <sub>2</sub> A conducts semi-annual sampling activities.
November 17, 2008	H <sub>2</sub> A conducts semi-annual sampling activities.
January 2009	Continued monthly LNAPL recovery from MW-1.
March 2009	URS submits 2008 Annual Groundwater Monitoring Report to SOPUS and the NMOCD.

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### 3.0 2008 GROUNDWATER MONITORING AND SAMPLING ACTIVITIES

### 3.1 FIELD PROCEDURES

Groundwater sampling events were performed on March 14 and November 17, 2008. Groundwater monitoring well locations and site details are illustrated in Figure 3. Prior to sampling, fluid levels were measured in each well. Wells that did not contain measurable light non-aqueous phase liquids (LNAPL) (less than 0.01 feet) were purged of approximately three (3) well volumes of groundwater or to dryness. After purging, samples were collected from each well with a new disposable Teflon® bailer. The samples were transferred directly from the bailer into laboratory supplied containers. The samples were then placed into coolers and chilled with ice. Purged water collected during each event was stored in several 55-gallon drums located on site.

### 3.2 **GROUNDWATER GAUGING DATA**

During 2008, depth to groundwater across the site ranged from 70.38 feet to 73.24 feet below the top of the casing, with an average groundwater gradient of approximately 0.0054ft/ft to the southwest. Groundwater gauging data are summarized in Table 2 and illustrated in Figure 4. These observations are consistent with historical data collected at the site. Average groundwater elevations at the site, adjusted for LNAPL, during the March and November 2008 sampling events were 3,226.50 feet, and 3,226.41 feet above mean sea level, respectively. These data indicate the average groundwater elevation at the site decreased approximately 0.10 feet between November 2, 2007 and November 17, 2008. Groundwater gradient maps for the March and November 2008 sampling events are illustrated on Figures 5 and 7, respectively.

### 3.3 <u>ANALYTICAL RESULTS</u>

Groundwater samples were submitted to Xenco Laboratories (Xenco), of Midland, Texas for quantification of benzene, toluene, ethylbenzene and total xylenes (BTEX) concentrations via Environmental Protection Agency (EPA) Method SW846-8260B. Groundwater samples were not collected from groundwater monitoring well MW-1 due to the presence of LNAPL on the water column.

During the 2008 reporting period, dissolved-phase concentrations of BTEX were reported as nondetectable (ND) at or above the laboratory SQLs and/or reporting limits (RLs) in all samples.

BTEX analytical results are summarized in Table 3 and on Figures 6 and 8 through 12. Copies of the certified laboratory reports and chain-of-custody documentation are included as Appendix A.

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### 4.0 LNAPL RECOVERY ACTIVITIES

During the 2008 monitoring period, measurable LNAPL in the form of crude oil was present in monitor well MW-1 with an average thickness of 0.11 feet (reference Table 2). Historically, from July 2004 through October 2007, the LNAPL thickness averaged 1.45 feet in MW-1. LNAPL thicknesses during 2007 averaged 0.26 feet. Based on these averages, this is a decrease in average LNAPL thicknesses of 0.16 feet for 2008. During 2008, LNAPL abatement activities were performed by utilizing a Clean Environments CEE<sup>®</sup> Product Only Pump installed in groundwater monitoring well MW-1 in September 2005 and operated through early November 2008. The product only pump, which is operated by a carbon dioxide cylinder, was shut down in early October 2006 and remained off the rest of 2006 due to transference of the site from CRA to URS Corporation. LNAPL recovery from the onsite remediation system is summarized on Table 2. As of December 31, 2008, an approximate total of 37.5 gallons of LNAPL have been recovered at the site. Of this, approximately 11.5 gallons of LNAPL have been recovered by hand bailing, and 26 gallons by the onsite remediation system. Recovered LNAPL is stored in a 55-gallon steel drum within a fiberglass secondary containment adjacent to monitor well MW-1, situated within a poly lined earthen berm.

### 5.0 SUMMARY OF FINDINGS

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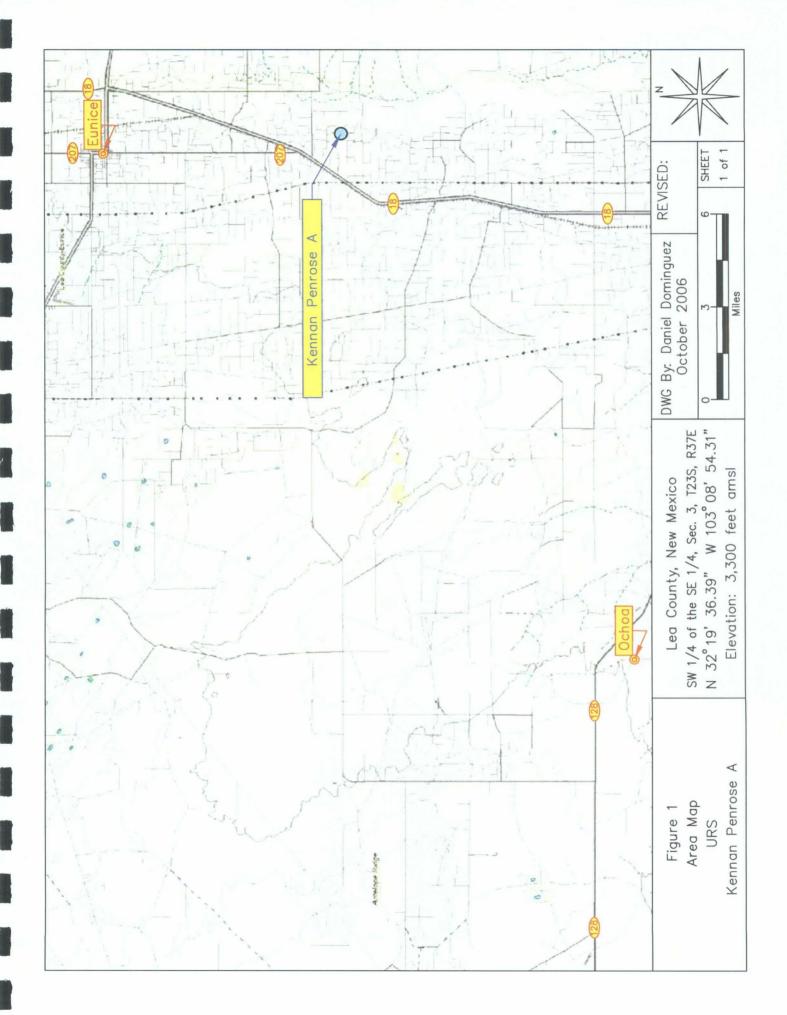
Key findings based on the assessment/remediation activities conducted during 2008 are presented below:

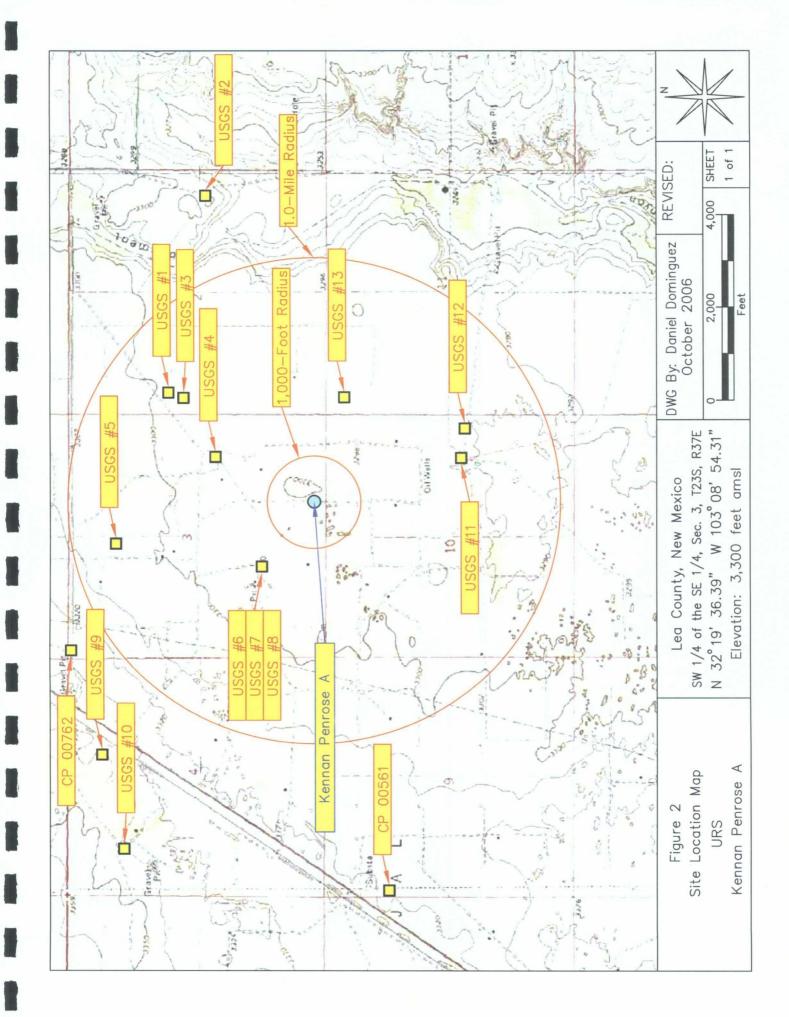
- The groundwater gradient remains relatively constant at approximately 0.0054 ft/ft to the southwest.
- LNAPL was present throughout the year in monitor well MW-1 with an average thickness of 0.11 feet.
- A CEE<sup>©</sup> Product Only Pump was installed in monitor well MW-1 in September 2005 to enhance recovery of LNAPL and has recovered approximately 26 gallons since installation.
- BTEX constituents were reported as non-detectable in samples collected from all groundwater monitoring wells during 2008.

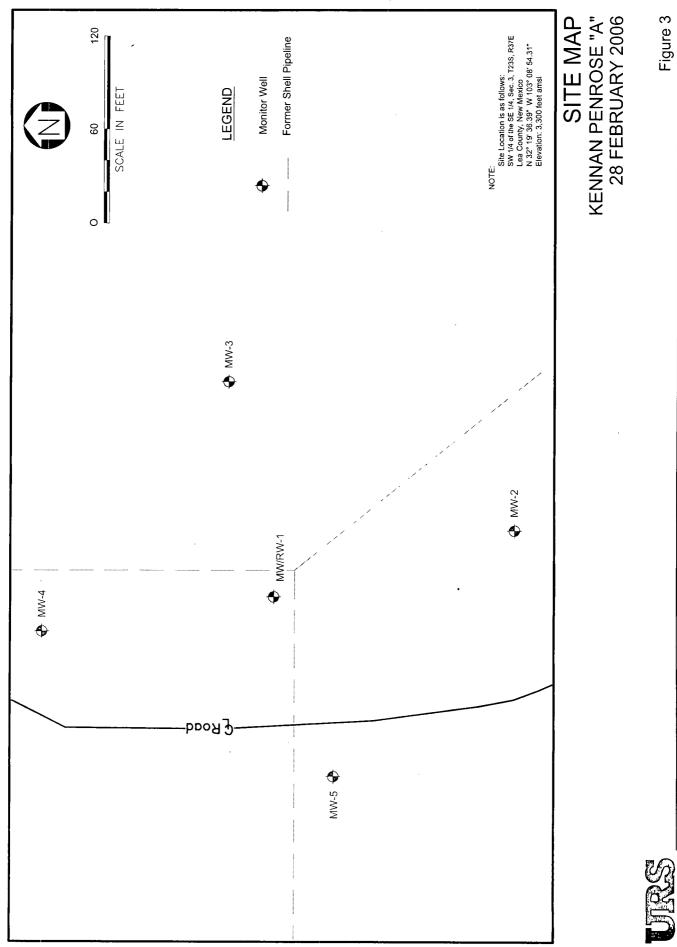
### 6.0 **RECOMMENDATIONS**

Based on field and analytical data for samples collected during the past year and analytical results for samples collected previously from the groundwater monitoring well network the following recommendations are made:

- Based on analytical results collected during 2008 and recommendations included in the 2007 Annual Groundwater Monitoring Report, it is recommended that groundwater monitoring wells MW-2 through MW-5 be plugged and abandoned. If the wells can not be plugged and abandoned, it is recommended that the sampling schedule be terminated until such time that free-phase liquid hydrocarbons are no longer present in groundwater monitoring well MW-1. At this time, groundwater samples will be collected from the entire groundwater monitoring well network to ascertain the possibility of closure.
- 2) Continue monitoring the free-product recovery system to ensure the system is operating efficiently and effectively.
- 3) Submit the results of the Annual Sampling Program to the New Mexico Oil Conservation Division by April 1, 2010.



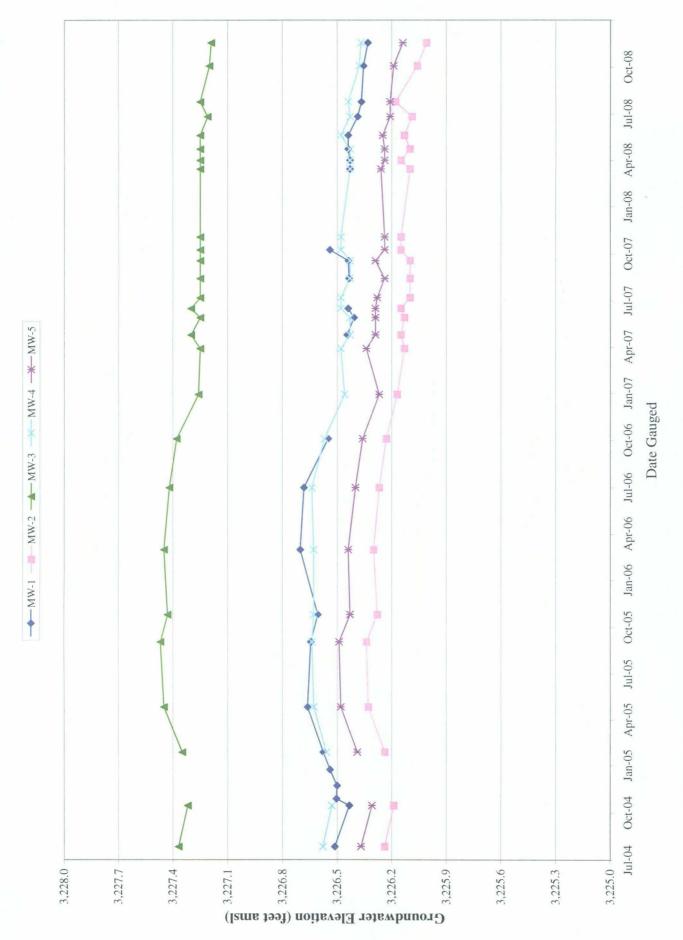




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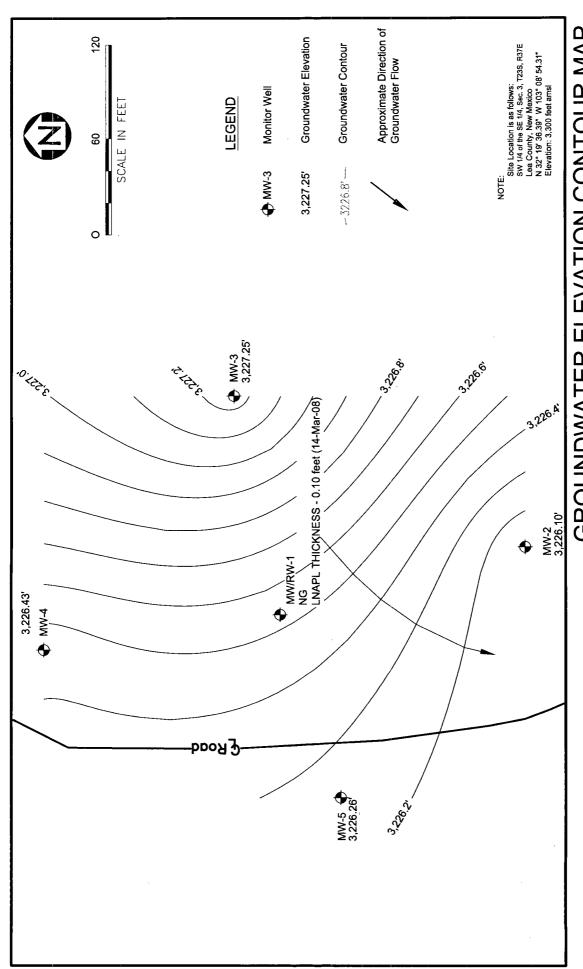
Hydrograph for Groundwater Monitoring Wells MW-1 through MW-5, Shell Oil Products US Kennan Penrose "A" Lease, Lea County, New Mexico, from 07-26-04 through 12-31-07.

Figure 4:



Figure 5

# KENNAN PENROSE "A" 14 MARCH 2008 **GROUNDWATER ELEVATION CONTOUR MAP**



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60 120 Scale in Feet	LEGEND	Monitor Well Not Sampled	Not Analyzed	Not Gauged	Micrograms per Liter	Polynuclear Aromatic Hydrocarbons		14 MARCH 2008
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, ,		<1.0 ug/L <1.0 ug/L <3.0 ug/L NA					AH ANA	
	€ MW-3 Berzene						<ul> <li>&lt;1.0 ug/L</li> <li>&lt;1.0 ug/L</li> <li>&lt;1.0 ug/L</li> <li>&lt;1.0 ug/L</li> <li>AA</li> <li>AA</li> </ul>	
<1.0 ug/L <1.0 ug/L <1.0 ug/L <3.0 ug/L NA		MW/RW-1 NS	o - 0.10 leet (14-Mar-06)				MW-2 Benzene Toluene Ethyl Benzene Total Xylenes PAH WATER BT	
MW-4 Benzene Toluene Ethyl Benzene Total Xylenes PAH		MW/RW-1 NS					GROUNDV	
				<1.0 4g/L	<3.0 µg/L NA			
	ხიიя ე		₩₩ <del>.</del> 5	Benzene Toluene Ethyl Benzene	Total Xylenes PAH			

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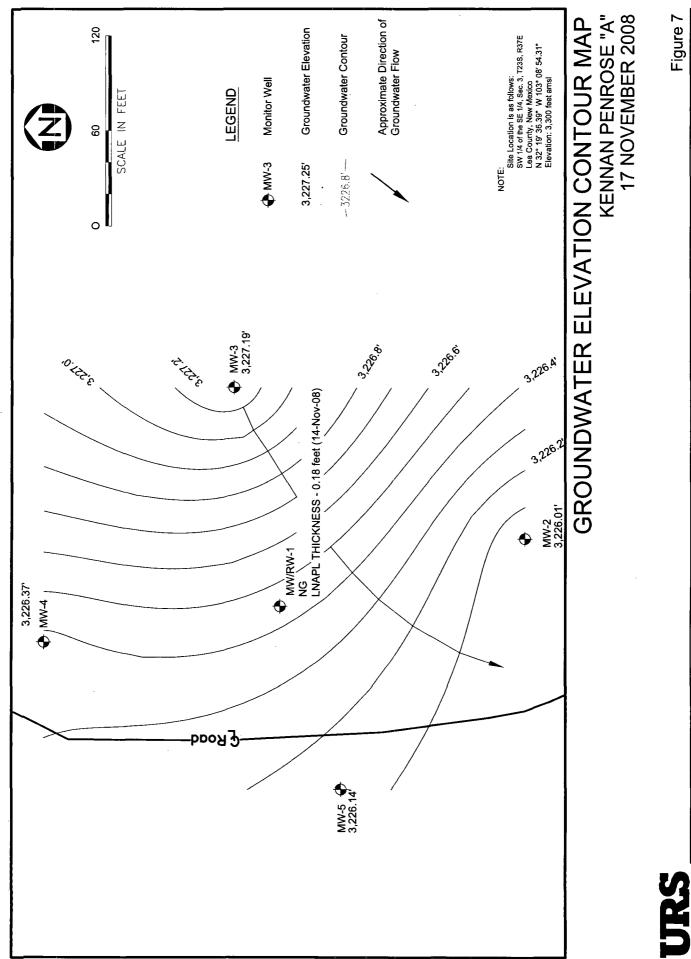
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Figure 6



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And     And	60 120 SCALE IN FEET	LEGEND	Monitor Well	Not Sampled	Not Analyzed	Not Gauged	Micrograms per Liter	H Polynuclear Aromatic Hydrocarbons	NOTE: Site Location is as follows: SW 1/4 of the SE 1/4, Sec. 3, T23S, R37E Lea County, New Mexico. N 32* 19* 36.39* W 103* 08* 54.31* Elevation: 3,300 feet amsl	YTICAL RESULTS KENNAN PENROSE "A" 17 NOVEMBER 2008	Figure 8
MW-5 MW-5 Benzene Toluene Toluene Toluene Toluene Total Xylenes PAH NA NA	0		<1.0 4g/L <1.0 4g/L	<1.0 ug/L <3.0 ug/L NA	AA	NG	ríð/L	PAH	Oz	ND PAH ANALYTI KEN	
MW-5 MW-5 Benzene Toluene Toluene Toluene Toluene Total Xylenes PAH NA NA	<ul> <li>&lt;1.0 ug/L</li> <li>&lt;1.0 ug/L</li> <li>&lt;1.0 ug/L</li> <li>&lt;1.0 ug/L</li> <li>&lt;3.0 ug/L</li> <li>NA</li> </ul>	•	MW-3 Benzene Toluene		- U.18 feet (1/-Nov-U8)				Benzene Toluene Ethyl Benzene Total Xylenes PAH	/ATER BTEX AN	-17 Analytical.dwg
MW-5 MW-5 Benzene Ethyl Benzene Total Xylenes PAH PAH MAKOO SITESNEW MEXICO SITESSNEW			6	MW/RW-1 NS	LNAPL I HICKNESS	<1.0 ug/L <1.0 ug/L <1.0 ug/L	<ul><li><li><li><li><li><li><li><li><li><l< td=""><td></td><td>Σ ·</td><td>GROUNDV</td><td>KENNAN-PENROSE A- LEA WINK ALTJFIGURES/2008-11</td></l<></li></li></li></li></li></li></li></li></li></ul>		Σ ·	GROUNDV	KENNAN-PENROSE A- LEA WINK ALTJFIGURES/2008-11
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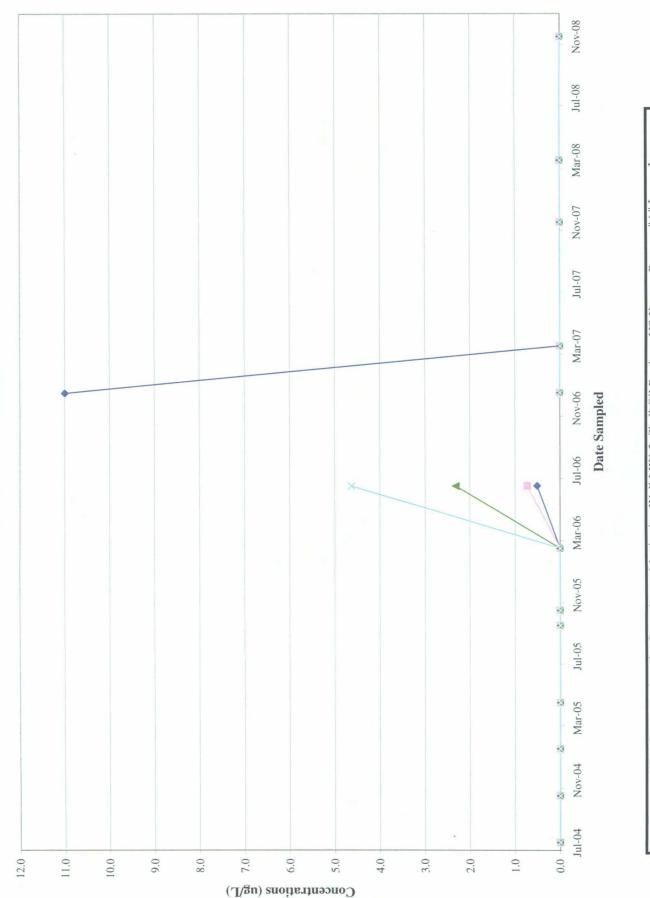
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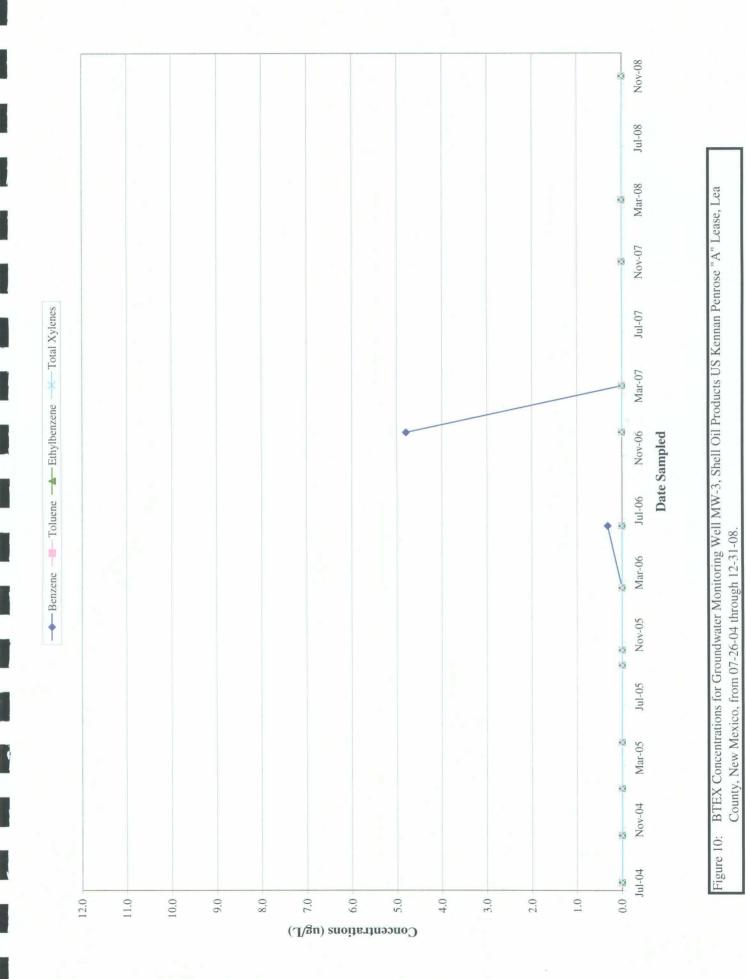
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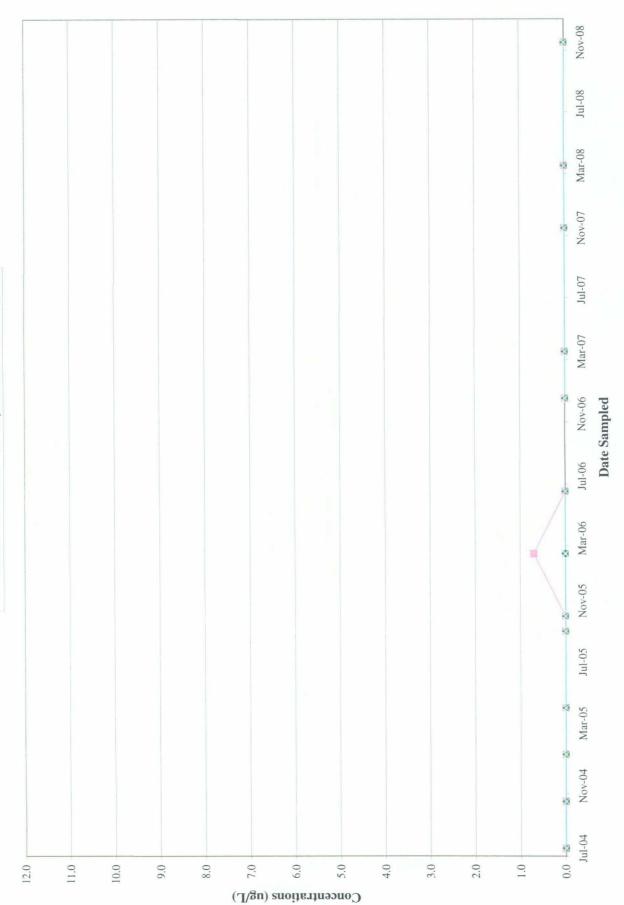
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BTEX Concentrations for Groundwater Monitoring Well MW-2, Shell Oil Products US Kennan Penrose "A" Lease, Lea County, New Mexico, from 07-26-04 through 12-31-08. Figure 9:

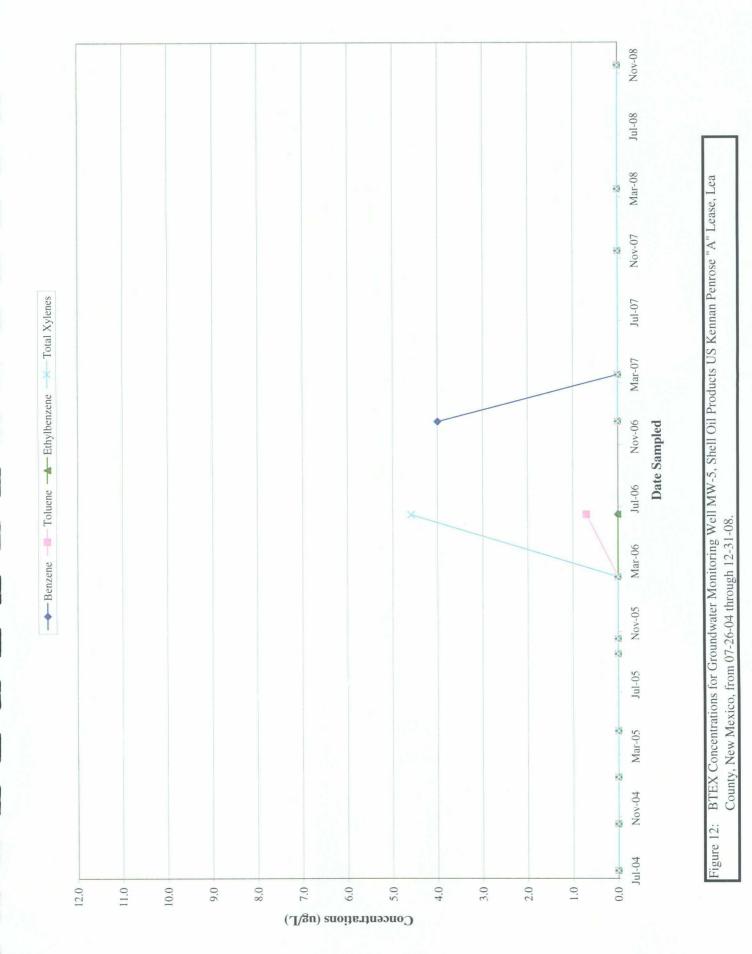


Non-detectable concentrations are illustrated as zero concentrations.





BTEX Concentrations for Groundwater Monitoring Well MW-4, Shell Oil Products US Kennan Penrose "A" Lease, Lea County, New Mexico, from 07-26-04 through 12-31-08. Figure 11:



Non-detectable concentrations are illustrated as zero concentrations.

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# Well Data

# URS - Kennan Penrose A (EPI Ref. #350001)

Well Number	Diversion <sup>A</sup>	Owner	Use	Twsp	Rng Sec q q q	q q Latitude	Longitude	Date Measured	Surface Elevation <sup>B</sup>	Depth to Water
										(ft bgs)
CP 00762	0	TEXACO	PRO	23S 3	37E 09 1 1	N32° 19' 20.79"	W103° 10' 33.43"	09-May-91	3,319	100
CP 00561	3	DELLA M. FERGUSON	STK	22S 3	37E 34 33	3 N32° 20' 27.50"	W103° 09' 31.85"	29-Dec-76	3,325	60
USGS #1				23S 3	37E 2 13	3		18-Dec-70	3,299	71.18R
USGS #2				23S 3	37E 2 422	2		29-Feb-96	3,300	63.09
USGS #3				23S 3	37E 2 133			19-Mar-81	3,298	64.34
USGS #4				23S	37E 3 4 2 1			16-Jan-76	3,296	70.56
USGS #5				23S	37E 3 124			21-Feb-96	3,305	69.85
USGS #6				23S 3	37E 3 323			19-Mar-81	3,297	107.85
USGS #7				23S	37E 3 34			27-Oct-65	3,297	66.20
USGS #8				23S 3	37E 3 342	2		16-May-91	3,297	70.52
USGS #9				23S 3	37E 4 211			20-Mar-86	3,340	78.90
USGS #10				23S 3	37E 4 114	5		19-Mar-86	3,340	83.25
USGS #11				23S	37E 10 42			21-Feb-96	3,291	65.93
USGS #12				23S 3	37E 10 42			21-Mar-86	3,291	68.74
USGS #13				23S 3	37E 11 11			21-Feb-96	3,298	68.55
USGS #14				22S	37E 33 223	3		14-Feb-96		72.97
USGS #15				22S	37E 34 411			19-Mar-81		5)1001 (S
USGS #16				22S	37E 34 121			26-Apr-91		48:47
USGS #17				22S	37E 35 144	4		05-Mar-86		54.49
USGS #18				22S	37E 35 142	2		19-Mar-81		57.43
USGS:#19				22S	37E 35 232	2		25-Apr-91		48.28

\* = Data obtained from the New Mexico Office of the State Engineer Website ( http://iwaters.ose.state.nnn.us:7001/iWATERS/wr\_RegisServlet1 ) and USGS Database.

 $^{A}$  = in acre feet per annum

 $^{\rm B}$  = Elevation interpolated from USGS topographical map based on referenced location. PRO = 72-12-1 Prospecting or development of natural resource

STK = 72-12-1 Livestock watering

quarters are 1=NW, 2=NE, 3=SW, 4=SE; quarters are biggest to smallest Shaded area indicates wells not shown in Figure 2

Well information data provided by EPI Consultants in December 2006

### SUMMARY OF GROUNDWATER ELEVATION DATA SHELL OIL PRODUCTS US PENROSE "A" LEASE (WINNIE KENNAN RANCH) LEA COUNTY, NEW MEXICO

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Well ID TOC <sup>1</sup> Elevation	Date	Casing Diameter (in)	Depth to LNAPL <sup>2</sup> (ft TOC <sup>1</sup> )	Depth to Groundwater (ft TOC <sup>1</sup> )	Groundwater Elevation <sup>3</sup> (ft)	LNAPL <sup>2</sup> Thickness (ft)	LNAPL <sup>2</sup> Recovery (gallons)	LNAPL <sup>2</sup> Cumulative Recovery (gallons)	Type of Recovery
MW-1	26-Jul-04	2	69.94	72.90	3,226.51	2.96	0.50	0.50	Hand Bail
3,296.75	14-Oct-04		70.10	72.26	3,226.43	2.16	0.00	0.50	Hand Bail
	27-Oct-04		69.99	72.54	3,226.51	2.55	2.00	2.50	Hand Bail
	21-Nov-04		69.98	72.67	3,226.50	2.69	1.50	4.00	Hand Bail
	22-Dec-04		70.01	72.01	3,226.54	2.00	1.50	5.50	Hand Bail
	25-Jan-05		69.89	72.72	3,226.58	2.83	2.00	· 7.50	Hand Bail
	25-Apr-05		69.91	71.68	3,226.66	1.77	2.00	9.50	Hand Bail
	01-Sep-05		69.91	71.85	3,226.65	1.94	2.00	11.50	System installed
	25-Oct-05		70.08	70.71	3,226.61	0.63	7.00	18.50	Adjusted pump
	28-Feb-06		69.83	72.00	3,226.70	2.17	NR <sup>4</sup>		Skimmer Pump
	30-Jun-06		69.88	71.75	3,226.68	1.87	NR <sup>4</sup>		Skimmer Pump
	03-Oct-06		70.11	71.01	3,226.55	0.90	0.83	19.33	Skimmer Pump
	28-Dec-06			NOT C	GAUGED		NO <sup>5</sup>	~	.None
	28-Mar-07				GAUGED		NR <sup>4</sup>		Skimmer Pump
	24-Apr-07		70.20	71.25	3,226.45	1.05	NR <sup>4</sup>		Skimmer Pump
	28-May-07		70.33	70.45	3,226.41	0.12	2.68	22.01	Skimmer Pump
	15-Jun-07		70.30	70.40	3,226.44	0.10	1.03	23.05	Skimmer Pump
	06-Jul-07			T GAUGED - B			0.41	23.46	Skimmer Pump
	13-Aug-07		70.30	70.45	3,226.44	0.15	5.16	28.62	Skimmer Pump
	17-Sep-07		70.30	70.41	3,226.44	0.10	2.06	30.68	Skimmer Pump
	08-Oct-07		70.20	70.30	3,226.54	0.10	1.03	31.71	Skimmer Pump
	02-Nov-07				GAUGED	0.10	0.62	32.33	Skimmer Pump
	14-Mar-08	· · · · · · · · · · · · · · · · · · ·	70.31	70.41	.3,226.43	0.10	2.06	34.40	Skimmer Pump
	31-Mar-08	· · · ·	70.30	70.50	3,226.43	0.20	1.03	35.43	Skimmer Pump
	22-Apr-08		70.30	70.40	3,226.44	: 0.10	0.62	36.05	Skimmer Pump
	19-May-08		70.30	70.40	3;226.44	0.10	0.00	36.05	Skimmer Pump
	25-Jun-08		70.36	70.38	3,226.39	0.02	0.41	36.46	Skimmer Pump
	24-Jul-08		70.38	70.41	3,226.37	0.03	1.03	37.49	Skimmer Pump
	03-Oct-08	· · · · ·	70.38	70.52	3,226.36	0.14	-0:83	36.67	Skimmer Pump
	17-Nov-08		70.40	70.58	3,226.33	0.18	0.00	36.67	Skimmer Pump
MW-2	26-Jul-04	4		73.01	3,226.24	0.00			
3,299.25	14-Oct-04	1		73.06	3,226.19	0.00			
	27-Oct-04			1		NOT GAL	JGED		l
	21-Nov-04					NOT GAL			
	22-Dec-04					NOT GAL			
	25-Jan-05			73.01	3,226.24	0.00			
	25-Apr-05	1		72.92	3,226.33	0.00			
	01-Sep-05	1		72.91	3,226.34	0.00			
	25-Oct-05			72.97	3,226.28	0.00			
	28-Feb-06	1		72.95	3,226.30	0.00			
	30-Jun-06	1		72.98	3,226.27	0.00			
	03-Oct-06	1		73.02	3,226.23	0.00			
	28-Dec-06	1		73.08	3,226.17	0.00			
	28-Mar-07	1		73.12	3,226.13	0.00			
	24-Apr-07	1		73.10	3,226.15	0.00			
	28-May-07	1		73.12	3,226.13	0.00			
	15-Jun-07	1		73.10	3,226.15	0.00			

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### SUMMARY OF GROUNDWATER ELEVATION DATA SHELL OIL PRODUCTS US PENROSE "A" LEASE (WINNIE KENNAN RANCH) LEA COUNTY, NEW MEXICO

Well ID TOC <sup>1</sup> Elevation	Date	Casing Diameter (in)	Depth to LNAPL <sup>2</sup> (ft TOC <sup>1</sup> )	Depth to Groundwater (ft TOC <sup>1</sup> )	Groundwater Elevation <sup>3</sup> (ft)	LNAPL <sup>2</sup> Thickness (ft)	LNAPL <sup>2</sup> Recovery (gallons)	LNAPL <sup>2</sup> Cumulative Recovery (gallons)	Type of Recovery
MW-2	06-Jul-07	4		73.15	3,226.10	. 0.00			
(cont.)	13-Aug-07			73.15	3,226.10	0.00			
3,299.25	17-Sep-07			73.15	3,226.10	0.00			
	08-Oct-07			73.10	3,226.15	0.00			
	02-Nov-07			73.10	3,226.15	0.00			
	14-Mar-08	5		73.15	3,226.10	0.00			
	31-Mar-08			73.10	3,226.15	0.00			
	22-Apr-08			73.15	3;226.10	0.00			
	19-May-08			73.12	3,226.13	0.00	10 <u></u> 1 - 2 1	·	
	25-Jun-08		,	73.16	3,226.09	0.00		·	
	24-Jul-08		<u></u>	73.07	3,226.18	0.00	<u>-</u>		· · · · · · · · · · · · · · · · · · ·
	03-Oct-08			73.19	3,226:06	0.00	: <sup>1</sup>		
	17-Nov-08			73.24	3,226.01	0.00			
MW-3	26-Jul-04	4		71.88	3,227.37	0.00			
3,299.25	14-Oct-04	_		71.93	3,227.32	0.00			
-,	27-Oct-04				,	NOT GAU	JGED	•	
8	21-Nov-04					NOT GAL			
	22-Dec-04				· · · · · · · · · · · · · · · · · · ·	NOT GAL			
	25-Jan-05			71.90	3,227.35	0.00			
	25-Apr-05			71.80	3,227.45	0.00			
	01-Sep-05	1		71.78	3,227.47	0.00			;
	25-Oct-05			71.82	3,227.43	0.00			
	28-Feb-06			71.80	3,227.45	0.00			
	30-Jun-06			71.83	3,227.42	0.00			
	03-Oct-06	1		71.87	3,227.38	0.00			
	28-Dec-06	1		71.99	3,227.26	0.00			
	28-Mar-07	1		72.00	3,227.25	0.00			
	24-Apr-07	1		71.95	3,227.30	0.00			
	28-May-07	1		72.00	3,227.25	0.00			
	15-Jun-07	1		71.95	3,227.30	0.00			
	06-Jul-07	1		72.00	3,227.25	0.00			
	13-Aug-07	1		72.00	3,227.25	0.00			
#	17-Sep-07	1		72.00	3,227.25	0.00			
	08-Oct-07	1		72.00	3,227.25	0.00			-÷
	· 02-Nov-07	1 <sup>`</sup>		72.00	3,227.25	0.00			
	14-Mar-08			72.00	3,227.25	0.00	· · · · · · · · · · · · · · · · · · ·		
	31-Mar-08			72.00	3,227.25	0.00			
	22-Apr-08			72.00	3,227.25	0.00	(	<u> </u>	· · · · ·
	19-May-08			72.00	3,227.25	0.00		· · · · · · · · ·	
	25-Jun-08			72.04	3,227.21	0.00			
	24-Jul-08			72.00	3,227.25	0.00		<u> </u>	
	03-Oct-08		• • • • • • • • • •	72.05	3;227.20	0.00	i de la composición d		
	17-Nóv-08	ديون <sup>ي</sup> اير ب		72.06	3,227.19	0.00			
MW-4	26-Jul-04	4		70.85	3,226.58	0.00			
3,297.43	14-Oct-04			70.85	-3,226.53	0.00		· · · · · ·	
5,257.43	27-Oct-04	-	<u> </u>	1 70.00	0,220.00	NOT GAU	I	L	L,
		1				NOT GAU			,,
L	21-Nov-04	<u> </u>	L						

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### SUMMARY OF GROUNDWATER ELEVATION DATA SHELL OIL PRODUCTS US PENROSE "A" LEASE (WINNIE KENNAN RANCH) LEA COUNTY, NEW MEXICO

Well ID TOC <sup>1</sup> Elevation	Date	Casing Diameter (in)	Depth to LNAPL <sup>2</sup> (ft TOC <sup>1</sup> )	Depth to Groundwater (ft TOC <sup>1</sup> )	Groundwater Elevation <sup>3</sup> (ft)	LNAPL <sup>2</sup> Thickness (ft)	LNAPL <sup>2</sup> Recovery (gallons)	LNAPL <sup>2</sup> Cumulative Recovery (gallons)	Type of Recovery
MW-4	22-Dec-04	4				NOT GAU	IGED	•	
(cont.)	25-Jan-05			70.87	3,226.56	0.00			
3,297.43	25-Apr-05			70.80	3,226.63	0.00			
	01-Sep-05			70.79	3,226.64	0.00			
	25-Oct-05			70.80	3,226.63	0.00			
	28-Feb-06			70.80	3,226.63	0.00			
	30-Jun-06			70.79	3,226.64	0.00			
	03-Oct-06			70.86	3,226.57	0.00			
	28-Dec-06	1		70.97	3,226.46	0.00			
	28-Mar-07			70.95	3,226.48	0.00			
	24-Apr-07			71.00	3,226.43	0.00			
	28-May-07			71.00	3,226.43	0.00			
	15-Jun-07			70.95	3,226.48	0.00	·		
	06-Jul-07			70.95	3,226.48	0.00			
	13-Aug-07	1		71.00	3,226.43	0.00			
	17-Sep-07	1		71.00	3,226.43	0.00			
	08-Oct-07			70.95	3,226.48	0.00			
	02-Nov-07	1		70.95	3,226.48	0.00			
ļ	14-Mar-08	· · ·		71.00	3,226.43	0.00		·	
	31-Mar-08	• · ·		71.00	3,226.43	0.00	;		
	22-Apr-08		``.,	71.00	3,226.43	0.00	· · · ·		
	19-May-08	·		70.95	3,226.48	0.00			
	01-Jun-08			71.00	3,226.43	0.00			
	24-Jul-09	1	· · · · · · · · · · · · · · · · · · ·	70.99	3,226.44	0.00			
	03-Oct-08			71.05	3,226.38	0.00			
	17-Nov-08			71.06	3,226.37	0.00	<u></u>		
MW-5	26-Jul-04	4		72.97	3,226.37	0.00			
3,299.34	14-Oct-04	1		73.03	3,226.31	0.00			
	27-Oct-04	1				NOT GAU	JGED		
	21-Nov-04					NOT GAU	JGED		
	22-Dec-04					NOT GAU	JGED		
	25-Jan-05	]		72.95	3,226.39	0.00			
	25-Apr-05			72.86	3,226.48	0.00			
	01-Sep-05			72.85	3,226.49	0.00			
	25-Oct-05	].		72.91	3,226.43	0.00		'	
	28-Feb-06			72.90	3,226.44	0.00			
	30-Jun-06			72.94	3,226.40	0.00			
	03-Oct-06	1		72.98	3,226.36	0.00			
	2.8-Dec-06	]		73.07	3,226.27	0.00			
	28-Mar-07	1		73.00	3,226.34	0.00			
	24-Apr-07	1		73.05	3,226.29	0.00			
	28-May-07	4		73.05	3,226.29	0.00			
	15-Jun-07	1		73.05	3,226.29	0.00			
	06-Jul-07	4		73.06	3,226.28	0.00			
	13-Aug-07	1		73.10	3,226.24	0.00			
	17-Sep-07	1		73.05	3,226.29	0.00			
<u> </u>	08-Oct-07	<u>l.                                    </u>		73.10	3,226.24	0.00			

### SUMMARY OF GROUNDWATER ELEVATION DATA SHELL OIL PRODUCTS US PENROSE "A" LEASE (WINNIE KENNAN RANCH) LEA COUNTY, NEW MEXICO

Well ID TOC <sup>1</sup> Elevation	Date	Casing Diameter (in)	Depth to LNAPL <sup>2</sup> (ft TOC <sup>1</sup> )	Depth to Groundwater (ft TOC <sup>1</sup> )	Groundwater Elevation <sup>3</sup> (ft)	LNAPL <sup>2</sup> Thickness (ft)	LNAPL <sup>2</sup> Recovery (gallons)	LNAPL <sup>2</sup> Cumulative Recovery (gallons)	Type of Recovery
MW-5	02-Nov-07			73.10	3,226.24	0.00			
(cont.)	14-Mar-08		4.)	73.08	s 3,226.26	<b>0:00</b>		الان المراجع ا المراجع المراجع المراجع المراجع المراجع	
3,299.34	31-Mar-08			73.10	3,226.24	70.00			
	22-Apr-08			73:10	3,226.24	0.00			Contraction of the second s
	19-May-08.			73:09	3,226.25	- 0:00		ر میں اور	ان المراجعة المراجعة المراجعة المراجعة الم
(	25-Jun-08*			73:13	3,226.21	0.00			A
	: 24-Jul-08			73 13	3,226.21	÷0.00		hand a start from proved	
)	-03-Oct-08			. 73.15	3,226.19	0.00			
	17-Nov-08			73.20	3,226.14	0.00 +		1. 1. 1. <u>1. 1. 1.</u> 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	
<u></u>						Total Re	covered LNAPL is	32.33	gallons

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Notes:

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1. TOC-Top of Casing.

2. LNAPL - Light non-aqueous phase liquid.

3. Corrected groundwater elevations were calculated using an LNAPL specific gravity of 0.90 per previously reported data.

4. NR - Not Recorded

5. NO - Not Operating

6. Shaded cells include data for reporting period.

### SUMMARY OF GROUNDWATER ANALYTICAL RESULTS-BTEX SHELL OIL PRODUCTS US PENROSE "A" LEASE LEA COUNTY, NEW MEXICO

Sample ID	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX		
	r	<u> </u>		MWQCC Standard	3102.A,B.			
		10.01	750 <sup>1</sup>	750 <sup>1</sup>	6201			
		(µg/L)	_(µg/L)	$(\mu g/L)$	(µg/L)	(µg/L)		
MW-1	26-Jul-04			LNAPL Presen	t			
	14-Oct-04			LNAPL Presen	t			
	25-Jan-05			LNAPL Presen	t			
	25-Apr-05			LNAPL Presen	t			
	01-Sep-05			LNAPL Presen	t			
	25-Oct-05			LNAPL Presen	t			
	28-Feb-06			LNAPL Presen	t			
	30-Jun-06			LNAPL Presen	t			
	03-Oct-06			LNAPL Presen				
`	28-Dec-06			LNAPL Presen				
	28-Mar-07			LNAPL Presen				
	02-Nov-07			LNAPL Presen				
	14-Mar-08	······································		LNAPL Presen				
	14-Ivial-08 17-Nov-08	· · · · · · · · · · · · · · · · · · ·	•	LNAPL Presen				
NAME O		1.0	10	and the second		-1.0		
MW-2	26-Jul-04	<1.0	<1.0	<1.0	<1.0	<1.0 <5.0		
	14-Oct-04	<5.0	<5.0 <1.0	<5.0 <1.0	<5.0	<5.0		
	25-Jan-05 25-Apr-05	<1.0	<1.0	<1.0	<1.0	<1.0		
	01-Sep-05	<1.0	<1.0	<1.0	<1.0	<1.0		
	25-Oct-05	<1.0	<1.0	<1.0	<1.0	<1.0		
	28-Feb-06	<0.440	<0.540	<0.410	<1.23	<2.62		
	30-Jun-06	0.510	0.730	2.32	4.63	8.19		
	03-Oct-06	0.510 0.730 2.32 4.63 NOT ANALYZED						
	28-Dec-06	11	<2.0	<2.0	<3.0	<18		
	28-Mar-07	<1.0	<2.0	<2.0	<3.0	<8.0		
	02-Nov-07	<1.0	<2.0	<2.0	<3.0	<8.0		
	14-Mar-08	<1.0	<1.0	<1.0	<3.0	<6.0		
	17-Nov-08	<1.0	<1.0	<1.0	<3.0	<6.0		
MW-3	26-Jul-04	<1.0	<1.0	<1.0	<1.0	<1.0		
	14-Oct-04	<5.0	<5.0	<5.0	<5.0	<5.0		
	25-Jan-05	<1.0	<1.0	<1.0	<1.0	<1.0		
	25-Apr-05	<1.0	<1.0	<1.0	<1.0	<1.0		
	01-Sep-05	<1.0	<1.0	<1.0	<1.0	<1.0		
	25-Oct-05	<1.0	<1.0	<1.0	<1.0	<1.0		
	28-Feb-06	<0.440	< 0.540	<0.410	<1.23	<2.62		
	30-Jun-06	0.320	<0.280	<0.340	<0.820	0.320		
	03-Oct-06	4.0		NOT ANALYZE	· · · · · · · · · · · · · · · · · · ·	4.0		
	28-Dec-06 28-Mar-07	4.8 <1.0	<2.0 <2.0	<2.0 <2.0	<3.0	4.8		

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### SUMMARY OF GROUNDWATER ANALYTICAL RESULTS-BTEX SHELL OIL PRODUCTS US PENROSE "A" LEASE LEA COUNTY, NEW MEXICO

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Sample ID	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX
			NM	IWQCC Standard	3102.A <i>,</i> B.	
	-	10.0 <sup>1</sup>	7:50 <sup>1</sup>	750 <sup>1</sup>	620 <sup>1</sup>	
	·	(µg/L)	$(\mu g/L)^2$	(µg/L)	' (µg/L)	(µg/L)
MW-3	02-Nov-07	<1.0	<2.0	<2.0	<3.0	<8.0
(cont.)	14-Mar-08	<1.0	<1.0	<1.0	<3:0	~<6.0
	17-Nov-08	<1.0	<1.0	<1.0	. <3.0	<6.0
MW-4	26-Jul-04	<1.0	<1.0	<1.0	<1.0	<1.0
	14-Oct-04	<5.0	<5.0	<5.0	<5.0	<5.0
	25-Jan-05	<1.0	<1.0	<1.0	<1.0	<1.0
	25-Apr-05	<1.0	<1.0	<1.0	<1.0	<1.0
	01-Sep-05	<1.0	<1.0	<1.0	<1.0	<1.0
	25-Oct-05	<1.0	<1.0	<1.0	<1.0	<1.0
	28-Feb-06	< 0.440	0.710	<0.410	<1.23	<2.79
	30-Jun-06	< 0.290	< 0.280	< 0.340	<0.820	<1.73
	03-Oct-06					
28-Dec-06		<1.0	<2.0	<2.0	<3.0	<8.0
	28-Mar-07	<1.0	<2.0	<2.0	<3.0	<8.0
	02-Nov-07	<1.0	<2.0	<2.0	<3.0	<8.0
	14-Mar-08	<1.0	<1.0	<1:0	<3.0	<6.0
	17-Nov-08	<1.0	<1.0	<1.0	<3.0	<6.0
MW-5	26-Jul-04	<1.0	<1.0	<1.0	<1.0	<1.0
	14-Oct-04	<5.0	<5.0	<5.0	<5.0	<5.0
	25-Jan-05	<1.0	<1.0	<1.0	<1.0	<1.0
	25-Apr-05	<1.0	<1.0	<1.0	<1.0	<1.0
	01-Sep-05	<1.0	<1.0	<1.0	<1.0	<1.0
	25-Oct-05	<1.0	<1.0	<1.0	<1.0	<1.0
	28-Feb-06	< 0.440	< 0.540	<0.410	<1.23	<2.62
	30-Jun-06	<0.290	0.710	< 0.340	4.59	4.59
	03-Oct-06		NOT A	ANALYZED.	<b>1</b>	5.300
	28-Dec-06	4.0	<2.0	<2.0	<3.0	4.0
	28-Mar-07	<1.0	<2.0	<2.0	<3.0	<8.0
	02-Nov-07	<1.0	<2.0	<2.0	<3.0	<8.0
	14-Mar-08	<1.0	<1.0	<1.0	<3.0	<6.0
	17-Nov-08	<1.0		<1.0	<3.0	<6.0

Notes:

1. New Mexico Water Quality Control Commission Standard 3103.A,B.

2. BTEX analysis by EPA Method 8021B.

3. LNAPL - Light non-aqeous phase liquids.

4. Data prior to Jan 06 collected by Enercon Services.

5. Shaded cells include data for reporting period.

# **APPENDIX A**

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## **CERTIFIED LABORATORY REPORTS**

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# **CHAIN-OF-CUSTODY DOCUMENTATION**

# **Analytical Report 317908**

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for

**URS** Corporation

**Project Manager: Iain Olness** 

Kennan Penrose "A"

### 21-NOV-08





12600 West I-20 East Odessa, Texas 79765

Texas certification numbers: Houston, TX T104704215-08B - Odessa/Midland, TX T104704400-08

Florida certification numbers: Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675 Norcross(Atlanta), GA E87429

> South Carolina certification numbers: Norcross(Atlanta), GA 98015

> North Carolina certification numbers: Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Tampa - Miami - Latin America Midland - Corpus Christi - Atlanta



21-NOV-08

Project Manager: Iain Olness URS Corporation 7720 N. 16th St. Suite100 Phoenix, AZ 85020

Reference: XENCO Report No: 317908 Kennan Penrose "A" Project Address:

### Iain Olness:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 317908. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 317908 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

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# Sample Cross Reference 317908



## URS Corporation, Phoenix, AZ

Kennan Penrose "A"

	Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
and and	MW-2	W	Nov-17-08 08:45		317908-001
	MW-3	W	Nov-17-08 09:17		317908-002
	MW-4	W	Nov-17-08 09:54		317908-003
15. 19. 19.	MW-5	W	Nov-17-08 08:06		317908-004
	Trip Blank	W	Nov-17-08 00:00		317908-005



# Certificate of Analysis Summary 317908 URS Corporation, Phoenix, AZ



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### Project Name: Kennan Penrose "A"

Project Id:			
Contact:	Iain Olness		
<b>Project Location:</b>			
		Lah Id:	

Project Location:					Project I	Manager:	Brent Ba	rron, II	
I	Lab Id:	317908-001		317908-002		317908-003		317908-004	
Analysis Requested	Field Id:	MW-2		MW-3		MW-4		MW-5	
	Depth:								
	Matrix:			WATER		WATER			
	Sampled:			09:17	Nov-17-08 09:54		Nov-17-08 08:06		
BTEX by SW 8260B	Extracted:	Nov-20-08 11:10		Nov-20-08 11:15		Nov-20-08 11:20		Nov-20-08 11:25	
DIEA by SW 0200D	Analyzed:	Nov-20-08 17:19		Nov-20-08 17:37		Nov-20-08 17:55		Nov-20-08 18:13	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Benzene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010
Toluene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010
Ethylbenzene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010
m,p-Xylene		ND	0.0020	ND	0.0020	ND	0.0020	ND	+ 0.0020
o-Xylene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010
Total Xylenes		ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030
Total BTEX		ND	0.0060	ND	0.0060	ND	0.0060	ND	0.0060

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Brent Barron

Odessa Laboratory Director

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### Certificate of Analysis Summary 317908 URS Corporation, Phoenix, AZ



### Project Name: Kennan Penrose "A"

Project Id: Contact: Iain Olness Date Received in Lab: Nov-17-08 01:27 pm Report Date: 21-NOV-08 Project Manager: Brent Barron II

Project Location:				<b>Project Manager:</b>	Brent Barron, II
······································	Lab Id:	317908-0	05		
Analysis Requested	Field Id:	Trip Blan	ık		
	Depth:				
	Matrix:	WATE	ર		
	Sampled:	Nov-17-08 (	00:00		
BTEX by SW 8260B	Extracted:	Nov-20-08	11:30		
DILIK BY SW SZUUD	Analyzed:	Nov-20-08	18:31		
	Units/RL:	mg/L	RL		
3enzene		ND	0.0010		
Foluene		ND	0.0010		
Ethylbenzene		ND	0.0010		
n,p-Xylene		ND	0.0020		
p-Xylene		ND	0.0010		
Fotal Xylenes		ND	0.0030		
Fotal BTEX		ND	0.0060		
	Analysis Requested BTEX by SW 8260B Benzene Foluene Ethylbenzene n,p-Xylene Fotal Xylenes	Analysis Requested       Lab Id:         Analysis Requested       Field Id:         Depth:       Matrix:         Sampled:       Sampled:         BTEX by SW 8260B       Extracted:         Analyzed:       Units/RL:         Benzene       Vinits/RL:         Genzene       Senzene         Foluene       Vinits/RL:         Sthylbenzene       Senzene         Schylbenzene       Senzene	Lab Id: $317908-0$ Analysis RequestedField Id:Trip BlarDepth:Matrix:WATEIMatrix:Sampled:Nov-17-08BTEX by SW 8260BExtracted:Nov-20-08BTEX by SW 8260BExtracted:Nov-20-08BanzeneNDNov-20-08GolueneNDEthylbenzeneNDColueneNDEthylbenzeneNDColueneNDColueneNDColueneNDColueneNDColueneNDColueneNDColueneNDColueneNDStryleneNDNDNDColueneNDNDNDStryleneNDNDNDStryleneNDNDNDStryleneND	Lab Id: $317908-005$ Analysis RequestedField Id:Trip BlankDepth: $Matrix:WATERMatrix:Sampled:Nov-17-08 00:00BTEX by SW 8260BExtracted:Nov-20-08 11:30BTEX by SW 8260BExtracted:Nov-20-08 18:31Units/RL:mg/LRLBenzeneND0.0010FolueneND0.0010ColueneND0.0010EtylbenzeneND0.0010Total XylenesND0.0030$	Lab Id:       317908-005         Analysis Requested       Field Id:       Trip Blank         Depth:       Matrix:       WATER         Matrix:       WATER       Nov-17-08 00:00         BTEX by SW 8260B       Extracted:       Nov-20-08 11:30         Analyzed:       Nov-20-08 18:31       Units/RL:         Units/RL:       mg/L       RL         Benzene       ND       0.0010         Coluene       ND       0.0010         Senzene       ND       0.0010         Foluene       ND       0.0010         Coluene       ND       0.0020         Coluene       ND       0.0010         Coluene       ND       0.0010         Coluene       ND       0.0020         Coluene       ND       0.0030

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Brent Barron

Odessa Laboratory Director

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- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- **E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- **F** RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.

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4143 Greenbriar Dr. Stafford, Tx 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd, Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St. Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

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	<u></u>	<u>~</u>	السطاة		

Project Name: Kennan Penrose "A"

ork Orders : 317908,		Project I			
Lab Batch #: 741037 Sample: 317672-			ix: Water		
Units: mg/L	SU	RROGATE R	ECOVERY	STUDY	
BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
Analytes			[D]		
4-Bromofluorobenzene	0.0497	0.0500	99	70-130	
Dibromofluoromethane	0.0504	0.0500	101	70-130	
1,2-Dichloroethane-D4	0.0518	0.0500	104	70-130	
Toluene-D8	0.0486	0.0500	97	70-130	
Lab Batch #: 741037 Sample: 317672-	005 SD / MSD Bat	tch: 1 Matr	ix: Water		
Units: mg/L	SU	RROGATE R	ECOVERY	STUDY	
BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
4-Bromofluorobenzene	0.0495	0.0500	99	70-130	
Dibromofluoromethane	0.0483	0.0500	97	70-130	
1,2-Dichloroethane-D4	0.0499 ,	0.0500	100	70-130	
Toluene-D8	0.0484	0.0500	97	70-130	
Lab Batch #: 741037 Sample: 317908-	001 / SMP Bat	tch: 1 Matr	ix: Water	·	
Units: mg/L		RROGATE R		STUDY	
BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
BTEX by SW 8260B Analytes	Found	Amount		Limits	Flag
-	Found	Amount	%R	Limits	Flag
Analytes	Found [A]	Amount [B]	%R [D]	Limits %R	Flag
Analytes 4-Bromofluorobenzene	Found [A] 0.0519	Amount [B] 0.0500	%R [D] 104	Limits %R 70-130	Flaş
Analytes 4-Bromofluorobenzene Dibromofluoromethane	Found [A] 0.0519 0.0512	Amount [B] 0.0500 0.0500	%R [D] 104 102	Limits %R 70-130 70-130	Flag
Analytes 4-Bromofluorobenzene Dibromofluoromethane 1,2-Dichloroethane-D4	Found [A]           0.0519           0.0512           0.0502           0.0495	Amount [B] 0.0500 0.0500 0.0500 0.0500	%R [D] 104 102 100	Limits %R 70-130 70-130 70-130	Flag
Analytes 4-Bromofluorobenzene Dibromofluoromethane 1,2-Dichloroethane-D4 Toluene-D8	Found [A]           0.0519           0.0512           0.0502           0.0495           002 / SMP           Bat	Amount [B] 0.0500 0.0500 0.0500 0.0500	%R [D] 104 102 100 99 ix: Water	Limits %R 70-130 70-130 70-130 70-130	Flaş
Analytes 4-Bromofluorobenzene Dibromofluoromethane 1,2-Dichloroethane-D4 Toluene-D8 Lab Batch #: 741037 Sample: 317908- Units: mg/L BTEX by SW 8260B	Found [A]           0.0519           0.0512           0.0502           0.0495           002 / SMP           Bat	Amount [B] 0.0500 0.0500 0.0500 0.0500 cch: 1 Matr	%R [D] 104 102 100 99 ix: Water ECOVERY S Recovery %R	Limits %R 70-130 70-130 70-130 70-130	
Analytes         4-Bromofluorobenzene         Dibromofluoromethane         1,2-Dichloroethane-D4         Toluene-D8         Lab Batch #: 741037       Sample: 317908-Units: mg/L	Found [A] 0.0519 0.0512 0.0502 0.0495 002 / SMP Bat SU Amount Found	Amount [B] 0.0500 0.0500 0.0500 0.0500 cch: 1 Matr RROGATE R True Amount	%R [D] 104 102 100 99 ix: Water ECOVERY S Recovery	Limits %R 70-130 70-130 70-130 70-130 STUDY Control Limits	
Analytes 4-Bromofluorobenzene Dibromofluoromethane 1,2-Dichloroethane-D4 Toluene-D8 Lab Batch #: 741037 Sample: 317908- Units: mg/L BTEX by SW 8260B	Found [A] 0.0519 0.0512 0.0502 0.0495 002 / SMP Bat SU Amount Found	Amount [B] 0.0500 0.0500 0.0500 0.0500 cch: 1 Matr RROGATE R True Amount	%R [D] 104 102 100 99 ix: Water ECOVERY S Recovery %R	Limits %R 70-130 70-130 70-130 70-130 STUDY Control Limits	
Analytes 4-Bromofluorobenzene Dibromofluoromethane 1,2-Dichloroethane-D4 Toluene-D8 Lab Batch #: 741037 Sample: 317908- Units: mg/L BTEX by SW 8260B Analytes	Found [A]           0.0519           0.0512           0.0502           0.0495           002 / SMP           Bat           SU           Amount           Found           [A]	Amount [B] 0.0500 0.0500 0.0500 cch: 1 Matr RROGATE R True Amount [B]	%R [D] 104 102 100 99 ix: Water ECOVERY S Recovery %R [D]	Limits %R 70-130 70-130 70-130 70-130 STUDY Control Limits %R	Flag
Analytes 4-Bromofluorobenzene Dibromofluoromethane 1,2-Dichloroethane-D4 Toluene-D8 Lab Batch #: 741037 Sample: 317908- Units: mg/L BTEX by SW 8260B Analytes 4-Bromofluorobenzene	Found [A]           0.0519           0.0512           0.0502           0.0495           002 / SMP           Bat           SU           Amount Found [A]           0.0515	Amount [B] 0.0500 0.0500 0.0500 ch: 1 Matr RROGATE R True Amount [B] 0.0500	%R [D] 104 102 100 99 ix: Water ECOVERY S Recovery %R [D] 103	Limits %R 70-130 70-130 70-130 70-130 STUDY Control Limits %R 70-130	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

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Surrogate Recovery [D] = 100 \* A / B All results are based on MDL and validated for QC purposes.



Project Name: Kennan Penrose "A"

ork Orders : 317908,		<b>Project</b> ]			
Lab Batch #: 741037 Sample:			rix: Water		
Units: mg/L	S	URROGATE R	RECOVERY	STUDY	
BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0518	0.0500	104	70-130	
Dibromofluoromethane	0.0491	0.0500	98	70-130	
1,2-Dichloroethane-D4	0.0472	0.0500	94	70-130	
Toluene-D8	0.0510	0.0500	102	70-130	
Lab Batch #: 741037 Sample:	317908-004 / SMP E	 Batch: 1 Mat	rix: Water	<u> </u>	
Units: mg/L		URROGATE R		STUDY	
BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0512	0.0500	102	70-130	
Dibromofluoromethane	0.0487	0.0500	97	70-130	
1,2-Dichloroethane-D4	0.0468	0.0500	94	70-130	
Toluene-D8	0.0506	0.0500	101	70-130	
Lab Batch #: 741037 Sample:	317908-005 / SMP	Batch: 1 Mat	rix: Water	·	
Units: mg/L		URROGATE R	RECOVERY	STUDY	
BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0518	0.0500	104	70-130	
Dibromofluoromethane	0.0487	0.0500	97	70-130	
1,2-Dichloroethane-D4	0.0473	0.0500	95	70-130	
Toluene-D8	0.0506	0.0500	101	70-130	
Lab Batch #: 741037 Sample:	519723-1-BKS / BKS	Batch: <sup>1</sup> Mat	rix: Water	·	
-	S	URROGATE R	ECOVERY	STUDY	· ·
Units: mg/L	<b>↓</b> ·			Control	Flags
BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R	Limits %R	
	Found [A]	Amount [B]	· ·		
BTEX by SW 8260B Analytes 4-Bromofluorobenzene	Found	Amount	%R		
BTEX by SW 8260B Analytes 4-Bromofluorobenzene	Found [A]	Amount [B]	%R [D]	%R	
BTEX by SW 8260B	Found [A] 0.0498	Amount [B] 0.0500	%R [D] 100	%R 70-130	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

All results are based on MDL and validated for QC purposes.

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Project Name: Kennan Penrose "A"

### . . . . . . Work Orders : 317908,

Lab Batch #: 741037

**Project ID:** 1 Matrix: Water **Batch**:

Lab Batch #: 741037 Sample: 519 Units: mg/L		tch: <sup>1</sup> Mati	rix: Water	STUDY	
BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0505	0.0500	101	70-130	
Dibromofluoromethane	0.0530	0.0500	106	70-130	
1,2-Dichloroethane-D4	0.0531	0.0500	106	70-130	
Toluene-D8	0.0488	0.0500	98	70-130	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis \*\*\* Poor recoveries due to dilution Surrogate Recovery [D] = 100 \* A / B All results are based on MDL and validated for QC purposes.

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### Project Name: Kennan Penrose "A"

Work Order #: 317908

### **Project ID:**

Lab Batch #: 741037 Date Analyzed: 11/20/2008 Reporting Units: mg/L	Sample: 519723 Date Prepared: 11/20/2 Batch #: 1	008		ix: Water st: JEA KE REC	OVERY	STUDY
BTEX by SW 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	ND	0.1000	0.0815	82	66-142	
Toluene	ND	0.1000	0.0833	83	59-139	
Ethylbenzene	ND	0.1000	0.0864	86	75-125	
m,p-Xylene	ND	0.2000	0.1772	89	75-125	•
o-Xylene	ND	0.1000	0.0950	95	75-125	

Blank Spike Recovery [D] = 100\*[C]/[B] All results are based on MDL and validated for QC purposes.





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Lab Batch ID: 741037

Date Analyzed: 11/20/2008 Renorting Units: mo/1

Project ID:

QC- Sample ID: 317672-005 S Date Prepared: 11/20/2008

Batch #: 1 Matrix: Water Analyst: JEA

Keporting Units: mg/L		M	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	C / MATI	AIX SPIF	<b>(E DUPLICA)</b>	re reco	VERY S	TUDY		
BTEX by SW 8260B	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	Kesuit [A]	Added [B]	<u>5</u>	D]	Added [E]	Result [F]	%K [G]	%	%K	%KPD	
Benzene	ND	0.1000	0.0807	81	0.1000	0.0798	80	1	66-142	20	
Toluene	ND	0.1000	0.0840	84	0.1000	0.0846	85	1	59-139	20	
Ethylbenzene	ND	0.1000	0.0872	87	0.1000	0.0873	87	0	75-125	20	
m,p-Xylene	ND	0.2000	0.1786	89	0.2000	0.1815	91	2	75-125	20	
o-Xylenc	ND	0.1000	0.0934	93	0.1000	0.0930	93	0	75-125	20	

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B Relative Percent Difference \_RPD = 200\*((C-F)/(C+F)) ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

Page 11 of 13

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 istody Record	NCIDENT # (ENV SERVICES)	SAP 3				CONSULTARY PROJECT NO.			REQUESTED ANALYSIS						······································									11-17-08	Date	11-17-08			
Shell Oil Products Chain Of Custody Record	Prin Bui To Contact Name.	ketreu oprige – Pols		SITE ADDRESS ISSUEL OLY and States	Kentisn Pennse "A"	CONSULTARI PROJECT CONTACT GARRAGE RE GRINT OFTOESS	ur an	John Savoje																	MANANANAN MANANANAN TANAN TANAN MANANANANANANANANANANANANANANANANAN				
	abe Check Appropriate Box: K							tain olness@urscorp.com	DAYS 24 HOURS CREADED	L) OTHER (SPECIFY)	Cooler #3	LEI SHELL CONTRACT RATE APPLIES		<ul> <li>PROVIDE LEDO DEX</li> </ul>	KG PRESERVATIVE	XATRX	45 WATER X 33 XX	WATER		WATER X	WATER X				teremone by (Burnatory)	Unshes dam		「「「「「「「」」」である。「「」」では、「」」である。	
a(LOCATION)		Arterica (			URS Corporation	7720 N. 16th Street, Suite 100	Phoenix, AZ 66020	(602) 371-1	TURINARIAN THAR (CALENDAR DAYS): STANDARD (14 DAY)	CIEVEL GLEVEL	TEMPERATURE ON RECEIPT C' COOR #1 4.0 CONFERT	SPECIAL NSTRUCTIONS OR NOTES :	willabely no series		SAMPLING	Field Sample Identification	4 1 1 1 1 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3	1/1/28	80/1/1/08	t(nrios	LANK 8/21/08			asi say in the second se	uf K. (Southare)		Reuterset of Contraction and the second s		
	200			CONSULTAN			2	1ELEPHONE	TURNUR CIMUD	DELIVERABLES	TENPOWI	speci				38		50	03						Robertahoo		Reinguistred		e to she year

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# Environmental Lab of Texas Variance/ Corrective Action Report- Sample Log-In

	Valiance/ Conective Ac	nou Kehou- 2
cilent:	URS	
Pate/ Time:	11.17.08	
eb ID # :	317908	
tials:	<u> </u>	

Sample Receipt Checklist

	Client Initia
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Applicable	
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### lance Documentation

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Regarding:				
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Corrective Action Tak	ken:		· · · ·	•
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# **Analytical Report 299644**

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for

**URS** Corporation

**Project Manager: Kenneth Springer** 

Kennan Penrose "A"

### 25-MAR-08

E NVIRONMENTAL LAB OF

12600 West I-20 East Odessa, Texas 79765

Texas certification numbers: Houston, TX T104704215

Florida certification numbers: Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675 Norcross(Atlanta), GA E87429

> South Carolina certification numbers: Norcross(Atlanta), GA 98015

> North Carolina certification numbers: Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America Midland - Corpus Christi - Atlanta



25-MAR-08

\* netao

Project Manager: Kenneth Springer URS Corporation 7720 N. 16th St. Suite100 Phoenix, AZ 85020

Reference: XENCO Report No: 299644 Kennan Penrose "A" Project Address:

### Kenneth Springer:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 299644. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 299644 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

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# Sample Cross Reference 299644



## URS Corporation, Phoenix, AZ

Kennan Penrose "A"

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-2	W	Mar-14-08 08:49		299644-001
MW-3	W	Mar-14-08 08:00		299644-002
MW-4	W	Mar-14-08 07:18		299644-003
MW-5	W	Mar-14-08 09:31		299644-004
Trip Blank	W	Mar-14-08 00:00		299644-005

ENVIRONMENTAL LAB OF

### Certificate of Analysis Summary 299644 URS Corporation, Phoenix, AZ

### Project Name: Kennan Penrose "A"

Project Id:				Dat	e Receiv	ed in Lab:	Mar-14-0	08 01:13 pm	
Contact: Kenneth Springer					Rep	port Date:	25-MAR	-08	
Project Location:					<b>Project</b>	Manager:	Brent Ba	rron, II	
· · · · · · · · · · · · · · · · · · ·	Lab Id:	299644-(	001	299644-(	002	299644-	003	299644-	-004
Analysis Requested	Field Id:	MW-2		MW-3		MW-4	1	MW-	5
	Depth:								
	Matrix:	WATE	R	WATE	R	WATE	R	WATH	ER
	Sampled:	Mar-14-08	08:49	Mar-14-08	08:00	Mar-14-08	07:18	Mar-14-08	09:31
BTEX by SW 8260B	Extracted:	Mar-19-08	16:18	Mar-20-08	15:36	Mar-20-08	15:38	Mar-20-08	15:40
	Analyzed:	Mar-19-08	21:31	Mar-20-08	19:06	Mar-20-08	19:28	Mar-20-08	19:49
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Benzene		ND	0.0010	ND	0.0010	ND	0.0010	ND	, 0.0010
Toluene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010
Ethylbenzene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010
m,p-Xylene		ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020
o-Xylene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010
Total Xylenes		ND		ND		ND		ND	
Total BTEX		ND		ND		ND		ND	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Brent Barron

Odessa Laboratory Director

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### Certificate of Analysis Summary 299644 URS Corporation, Phoenix, AZ

### Project Name: Kennan Penrose "A"

Project Id: Contact: Kenneth Springer Project Location:				Date Received in L Report Da Project Manag	te: 25-MAR-08	•
Analysis Requested	Lab Id: Field Id:	299644-00 Trip Blank				
Anutysis Kequesteu	Depth:	The Diank				
	Matrix: Sampled:	WATER Mar-14-08 00				
BTEX by SW 8260B	Extracted:	Mar-20-08 15	5:42			
	Analyzed:	Mar-20-08 20				
Benzene	Units/RL:	ND	RL 0.0010			
Foluene		0.0011	0.0010			
Ethylbenzene		ND	0.0010			
n,p-Xylene		ND	0.0020			
p-Xylene		ND	0.0010			
Total Xylenes		ND				
Total BTEX		0.0011				

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Brent Barron

Odessa Laboratory Director

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- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- **E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- **F** RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL(PQL) and above the SQL(MDL).
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.

\* Outside XENCO'S scope of NELAC Accreditation

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9701 Harry Hines Blvd, Dallas, TX 75220	(214) 902 0300	(214) 351-9139
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2505 N. Falkenburg Rd., Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
6017 Financial Dr., Norcross, GA 30071	(770) 449-8800	(770) 449-5477





Project Name: Kennan Penrose "A"

Lab Batch #: 717831 Sample: 29964			rix: Water		
Units: mg/L	SU	RROGATE R	ECOVERY :	STUDY	
BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla
Analytes					
4-Bromofluorobenzene	0.0477	0.0500	95	86-115	
Dibromofluoromethane	0.0561	0.0500	112	86-118	
1,2-Dichloroethane-D4	0.0601	0.0500	120	80-120	
Toluene-D8	0.0468	0.0500	94	88-110	
Lab Batch #: 717831 Sample: 29964			rix: Water		
Units: mg/L	SU	RROGATE R	ECOVERY S	STUDY	
BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fla
4-Bromofluorobenzene	0.0493	0.0500	99	86-115	
Dibromofluoromethane	0.0565	0.0500	113	86-118	
1,2-Dichloroethane-D4	0.0610	0.0500	122	80-120	**
Toluene-D8	0.0479	0.0500	96	88-110	
Lab Batch #: 717831 Sample: 29964	44-004 / SMP Bat	ch: 1 Mati	rix: Water		
Units: mg/L	SU	RROGATE R	ECOVERY S	STUDY	
BTEX by SW 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
Analytes					
4-Bromofluorobenzene	0.0510	0.0500	102	86-115	
Dibromofluoromethane	0.0541	0.0500	108	86-118	
1,2-Dichloroethane-D4	0.0564	0.0500	113	80-120	
Toluene-D8	0.0470	0.0500	94	88-110	
Lab Batch #: 717831 Sample: 29964	······································		rix: Water		
Units: mg/L	SU.	RROGATE R	ECOVERY S	STUDY	
BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
4-Bromofluorobenzene	0.0476	0.0500	95	86-115	
Dibromofluoromethane	0.0552	0.0500	110	86-118	
1,2-Dichloroethane-D4	0.0599	0.0500	120	80-120	
Toluene-D8	0.0472	0.0500	94	88-110	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B All results are based on MDL and validated for QC purposes.





Project Name: Kennan Penrose "A"

ork Order #: 299644 Lab Batch #: 717831 Sample:	299701-002 S / MS Ba	tch: 1 Matr	ix: Water		
Units: mg/L		RROGATE R	ECOVERY S	STUDY	
BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0498	0.0500	100	86-115	
Dibromofluoromethane	0.0575	0.0500	115	86-118	
1,2-Dichloroethane-D4	0.0592	0.0500	118	80-120	
Toluene-D8	0.0441	0.0500	88	88-110	
Lab Batch #: 717831 Sample:	299701-002 SD / MSD Ba	itch: 1 Matr	ix: Water		
Units: mg/L	su	<b>IRROGATE R</b>	ECOVERY S	STUDY	
BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0495	0.0500	99	86-115	
Dibromofluoromethane	0.0565	0.0500	113	86-118	
1,2-Dichloroethane-D4	0.0564	0.0500	113	80-120	
Toluene-D8	0.0451	0.0500	90	88-110	
Lab Batch #: 717831 Sample:	506197-1-BKS / BKS Ba	itch: 1 Mati	rix: Water		
Units: mg/L	SU	RROGATE R	ECOVERY S	STUDY	
BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0497	0.0500	99	86-115	
Dibromofluoromethane	0.0479	+ 0.0500	96	86-118	
1,2-Dichloroethane-D4	0.0495	0.0500	99	80-120	
Toluene-D8	0.0486	0.0500	97	88-110	-
			rix: Water		
Units: mg/L	SU	JRROGATE R	ECOVERY S	STUDY	
BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0500	0.0500	100	86-115	÷
Dibromofluoromethane	0.0477	0.0500	95	86-118	
Dibioinonuoromeniane		0.0500	104	80-120	
1,2-Dichloroethane-D4	0.0518	0.0500			

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

All results are based on MDL and validated for QC purposes.





Project Name: Kennan Penrose "A"

Units: mg/L		SU	<b>RROGATE</b> R	ECOVERY	STUDY	
BTEX by SV Analyt		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	FI
4-Bromofluorobenzene		0.0460	0.0500	92	86-115	
Dibromofluoromethane		0.0570	0.0500	114	86-118	
1,2-Dichloroethane-D4		0.0558	0.0500	112	80-120	-
Toluene-D8		0.0488	0.0500	98	88-110	
Lab Batch #: 717833	Sample: 299219-	001 SD / MSD Ba	tch: <sup>1</sup> Mati	rix: Water	<u></u>	
Units: mg/L		SU	RROGATE R	ECOVERY	STUDY	
BTEX by SV Analyt		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	FI
4-Bromofluorobenzene		0.0492	0.0500	98	86-115	
Dibromofluoromethane		0.0554	0.0500	111	86-118	
1,2-Dichloroethane-D4		0.0574	0.0500	115	80-120	
Toluene-D8		0.0454	0.0500	91	88-110	
Lab Batch #: 717833	Sample: 299644-	001 / SMP Ba	tch: 1 Mati	rix: Water	· · · · · · · · · · · · · · · · · · ·	
Units: mg/L		SU	RROGATE R	ECOVERY	STUDY	
BTEX by SV		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fl
Analyt	es		0.0000			
4-Bromofluorobenzene		0.0501	0.0500	100	86-115	
Dibromofluoromethane		0.0583	0.0500	117	86-118	
Toluene-D8		0.0592	0.0500	92	80-120 88-110	
Lab Batch #: 717833	Sample: 506198-	· · · · · · · · · · · · · · · · · · ·		ix: Water	00110	
Units: mg/L			RROGATE R	ECOVERYS	STUDY	
BTEX by SV Analyt		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Fl
4-Bromofluorobenzene		0.0488	0.0500	98	86-115	
Dibromofluoromethane		0.0468	0.0500	94	86-118	
1,2-Dichloroethane-D4		0.0466	0.0500	93	80-120	
Toluene-D8		0.0478	0.0500	96	88-110	

Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / BAll results are based on MDL and validated for QC purposes.

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# Project Name: Kennan Penrose "A"

Work Order #: 299644	
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**Project ID:** 

Lab Batch #: 717833 Sample: 50619	8-1-BLK / BLK Ba	tch: <sup>1</sup> Matu	rix: Water		
Units: mg/L	SU	RROGATE R	ECOVERY	STUDY	
BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	. 0.0488	0.0500	98	86-115	
Dibromofluoromethane	0.0484	0.0500	97	86-118	·
1,2-Dichloroethane-D4	0.0492	0.0500	98	80-120	
Toluene-D8	0.0487	0.0500	97	88-110	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

.

All results are based on MDL and validated for QC purposes.





# Project Name: Kennan Penrose "A"

. Work Order #: 299644		Pr	oject ID:			
Lab Batch #: 717831	Sample: 506197	-1-BKS	Matri	ix: Water		
Date Analyzed: 03/20/2008	Date Prepared: 03/20/2	2008	Analy	st: ZHO		
Reporting Units: mg/L	Batch #: 1	BLANK /I	BLANK SPI	KE REC	COVERY S	TUDY
BTEX by SW 8260B	Blank Result [A]	Spike Added (B)	Blank Spike Result	Blank Spike %R	Control Limits %R	Flags
Analytes	[ <sup>2</sup> ×]		[C]	[D]		
Benzene	ND	0.1000	0.1150	115	66-142	
Toluene	ND	0.1000	0.1068	107	59-139	
Ethylbenzene	ND	0.1000	0.1118	112	75-125	
m,p-Xylene	ND	0.2000	0.2212	111	75-125	
o-Xylene	ND	0.1000	0.1096	110	75-125	
Lab Batch #: 717833	Sample: 506198	8-1-BKS	Matri	ix: Water		
Date Analyzed: 03/19/2008	Date Prepared: 03/19/2	2008	Analy	st: ZHO		
Reporting Units: mg/L	Batch #: 1	BLANK /	BLANK SPI	KE REC	COVERY S	TUDY
BTEX by SW 8260B	Blank Result	Spike Added	Blank Spike	Blank Spike	Control Limits	Flags
Analytes	[A]	[B]	Result [C]	%R [D]	%R	
Benzene	ND	0.1000	0.1035	104	66-142	
Toluene	ND	0.1000	0.0942	94	59-139	
Toluene Ethylbenzene	ND	0.1000	0.1002	100	75-125	
m,p-Xylene	ND	0.2000	0.1999	100	75-125	
o-Xylene	ND	0.1000	0.0998	100	75-125	

Blank Spike Recovery [D] = 100\*[C]/[B] All results are based on MDL and validated for QC purposes.

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Form 3 - MS / MSD Recoveries



Project Name: Kennan Penrose "A"

Date Analyzed: 03/20/2008 Work Order #: 299644 Lab Batch ID: 717831 U/vuu uting Hnite. Danc

Project ID:

299701-002 S	03/20/2008
<b>2C-</b> Sample ID:	Date Prepared:

Matrix: Water ZHO -Analyst: Batch #:

Reporting Units: mg/L		M	ATRIX SPIK	E / MAT	RIX SPII	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	re reco	OVERY S	STUDY		
BTEX by SW 8260B	Parent Sample Result	Spike	Spiked Sample Spiked Result Sample	Spiked Sample	Spike	Duplicate Spiked Sample Bosuit (E)	Spiked Dup. %B	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[V]	[B]	Σ		[E]			2			
Benzene	QN	0.1000	0.1250	125	0.1000	0.0980	98	24	66-142	20	Ъ
Toluene	QN	0.1000	0.1052	105	0.1000	0.0845	85	21	59-139	20	ц
Ethylbenzene	ŊŊ	0.1000	0.1124	112	0.1000	0.0900	06	22	75-125	20	F
m,p-Xylene	ND	0.2000	0.2238	112	0.2000	0.1780	89	23	75-125	20	F
o-Xylene	QN .	0.1000	0.1143	114	114 0.1000	0.0914	91	22	75-125	20	ц
Lab Batch ID: 717833 C	QC-Sample ID: 299219-001 S	299219-	001 S	Ba	Batch #:	1 Matrix	Matrix: Water				

717833	03/19/2008
Lab Batch ID:	Date Analyzed:

QC- Sample ID: 299219-001 S Date Prepared: 03/19/2008

ZHO -Batch #: Analyst:

Reporting Units: mg/L		M	ATRIX SPIKI	E / MAT	RIX SPH	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	re reco	VERY S	STUDY		1
BTEX by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Spiked Result Sample [C] %R	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	0.0639	0.1000	0.1574	94	0.1000	0.1789	115	20	66-142	20 ·	
Toluene	0.0051	0.1000	0.0970	92	0.1000	0.1061	101	6	59-139	20	
Ethylbenzene	0.0034	0.1000	0.0973	94	0.1000	0.1089	106	12	75-125	20	
m,p-Xylene	0.0084	0.2000	0.1934	93	0.2000	0.2247	108	15	75-125	20	

20

75-125

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108

0.1107

0.1000

100

0.1031

0.1000

0.0031

o-Xylene

Matrix Spike Percent Recovery [D] = 100\*(C-A)/BRelative Percent Difference RPD = 200\*(D-G)/(D+G)

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

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ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

|\_ | Container PID Readings or Laboratory Notes INCIDENT # (ENV SERVICES) ъ 1313 HHOLDOL HH Ę - 00 ç v ч ç 13.13 <u>,</u> DATE: 3/14/08 05/2/08 Revision PAGE: 11 Ē 0 5 3 3 5 ONSULTANT PROJECT ND .: 3-14-08 3 0 0 1 0 8 5-14-02 SAP # REQUESTED ANALYSIS Shell Oil Products Chain Of Custody Record ij Deter Ë -~ Print Bill To Contact Name: # 0d Kennan Penrose "A" consultant Protect contact (freed to): tain Oiness SITE ADORESS (Street, City and Stees) WHALER NAME(B) (PHM): John Savoie Kenreth Springer 0928 X318 × × × × × NO. OF CONT. ዋ Please Check Appropriate Box: ø e 3 C RESULTS NEEDED ON WEEKEND HNOS H2SO4 NONE OTHER 🖂 STATE REIMBURSEMENT RATE APPLIES SHELL CONTRACT RATE APPLIES PRESERVATIVE lain olness@urscorp.com tudres ٢ 🗌 MOTIVA RETAIL PROVIDE LEDO DISK Cooler #3 D OTHER eceived by: (Signature) 妵 × × × COTHER (SPECIFY) × × Z4 HOURS WATER WATER Received by, (Sk 3/14/08 O &UD WATER WATER WATER MATRIX 7720 N. 16th Street, Sulte 100 MOTTVA SD&CM SHELL PIPELNE D ENV. SERVICES 3/14/08 0849 3/14/08 0718 3/14/08 Of 31 Phoenix, AZ 85020 THME URS Corporation SAMPLING DELIVERABLES: CLEVEL 1 CLEVEL 2 CLEVEL 3 CLEVEL 4 Cooler #2 DATE (602) 371-1615 TEMPERATURE ON RECEIPT C' COOLER #1 21 5 Field Sample Identification TRIP BLANK SPECIAL INSTRUCTIONS OR NOTES : TURNAROUND TIME (CALENDAR DAYS): STANDARD (14 DAY) MW-3 MW-4 **MW-5 MW-2** LAB (LOCATION) (602) 648-2402 w/laha15 Reinquished by. (Signature Reangulatined by: (Signature telenquinted by: (Signatur TIET AMERICA ( ם מהבמבותב ר CONFULTANT COMPANY . ] % 0 0 0 0 0 0 0 0 0 0 0 0 0 0 D XBKO TELEPHONE ADDRESS: 338 1 . are See È

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# Environmental Lab of Texas

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The Profile

6.2 M.P.

/ariance	/ Corrective	Action	Report-	Sample	Log-In
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Client:	IRS COVP.
Date/ Time:	3 14 08 13 13
Lab ID # :	279644
Initials:	al

### Sample Receipt Checklist

					ient Initials
and the second	ature of container/ cooler?	Yes)	No	4.5 °C	1
	container in good condition?	Yes	No		
#3 Custody	Seals intact on shipping container/ cooler?	Yes	No	. Not Present	
#4 Custody	Seals intact on sample bottles/ container?	Yes	No	Not Present	
#5 Chain of	f Custody present?	Yes	No		
#6 Sample	instructions complete of Chain of Custody?	Yes>	No		2 
#7 Chain of	f Custody signed when relinquished/ received?	Yes	No		
#8 Chain of	f Custody agrees with sample label(s)?	Yes'	No	ID written on Cont./ Lid	
#9 Contain	er label(s) legible and intact?	Ves	No	Not Applicable	
#10 Sample	matrix/ properties agree with Chain of Custody?	Yes	No		
#11 Contair	ners supplied by ELOT?	Yes	No	J .	1
#12 Sample	es in proper container/ bottle?	Yes	No	See Below	
#13 Sample	es properly preserved?	Yes)	No	See Below	
#14 Sample	e bottles intact?	Yes	No		•
#15 Preser	vations documented on Chain of Custody?	Xés	No		
#16 Contain	ners documented on Chain of Custody?	Yes	No		
#17 Sufficie	ent sample amount for indicated test(s)?	Yes	No	See Below	1
#18 All sam	ples received within sufficient hold time?	Yes	No	See Below	E.
#19 Subco	ntract of sample(s)?	Yes	No	Not Applicable	
#20 VOC s	amples have zero headspace?	Yes	No	Not Applicable	l.
	Variance Docu	mentation			• • •
Contact:	Contacted by:		<b>-</b> '	Date/ Time:	:
Regarding:					
Corrective A	Action Taken:	······································			
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Check all th	at Apply:  See attached e-mail/ fax Client understands and wot	uld like to pro	ceed wit	h analysis	