

**1R-474**

**PROPOSAL**

**DATE:**  
**JAN 2008**

**Table 1**

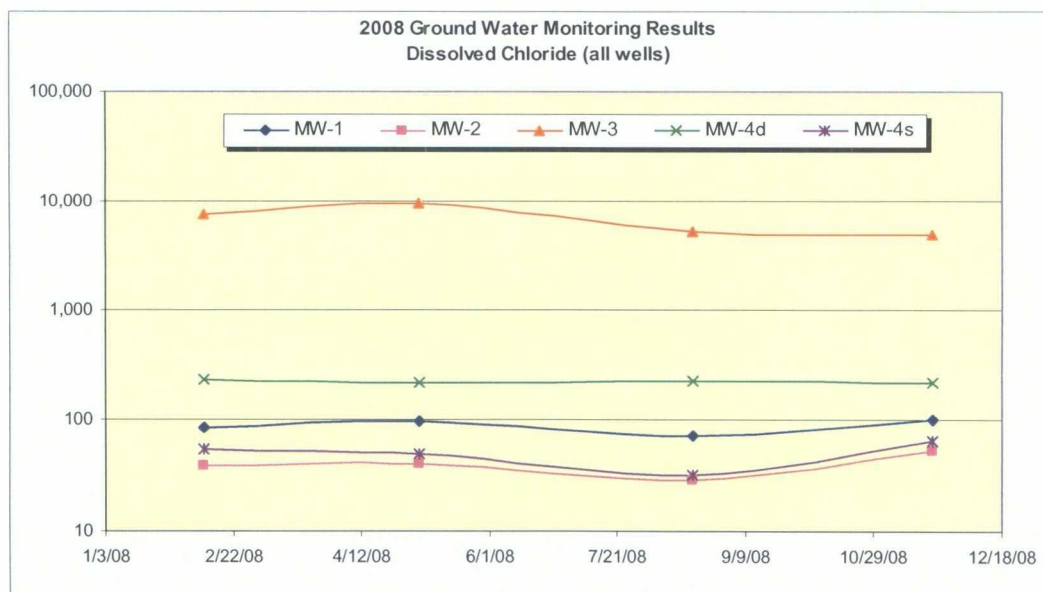
Vadose Zone Measurement Date	ET Cover Monitoring Port			Background Cluster Monitoring Port		
	No. 1 West 2.4-foot	No.2 Center 5-foot	No. 3 East 8-foot	No. 1 West 13.9-foot	No.2 Center 9.8-foot	No. 3 East 6.5-foot
4/17/07	0	1	1	15	29	18
5/21/07	0	1	1	15	30	20
6/21/07	1	1	1	16	31	22
7/18/07	0	1	1	16	34	22
8/22/07	0	1	1	17	36	23
9/28/07	0	0	1	17	37	22
10/24/07	0	0	1	17	37	21
2/11/08	0	0	0	16	32	17
5/5/08	0	0	1	16	31	18
8/20/08	0	0	1	17	32	18
11/21/08	0	0	0	--	29	16

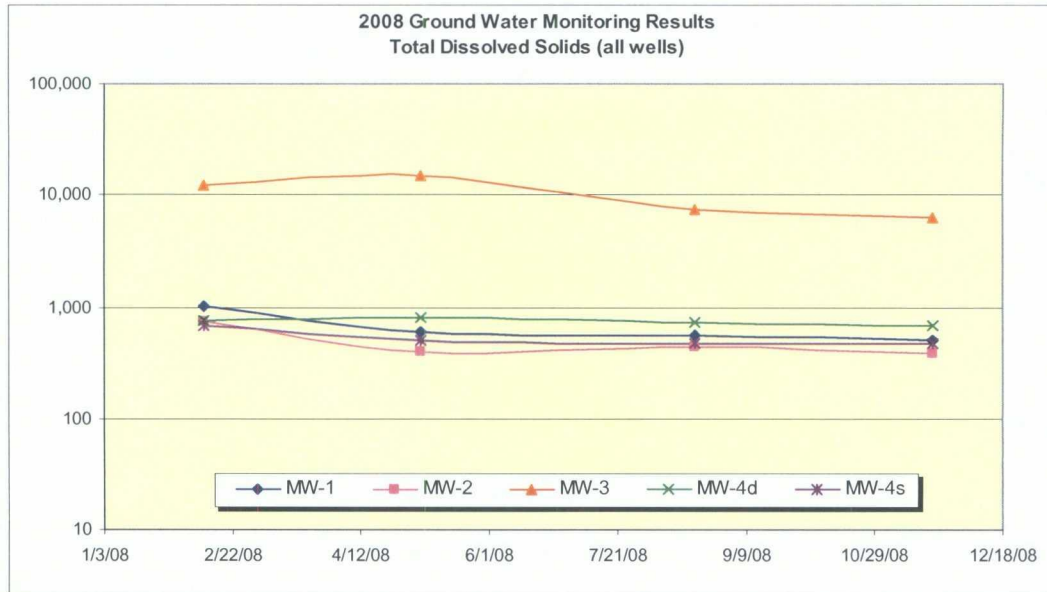
### Ground Water Flow Direction is Constant

Plates 1A through 1D are ground water gradient maps prepared using the gauging data from each monitoring event. They indicate a generally consistent gradient direction to the southeast at approximately 0.005 to 0.007 ft/ft.

### Chloride and TDS Concentrations are Decreasing

The results of the ground water monitoring performed to date are provided on Table 2. All of the 2008 laboratory reports and chain of custody documentations is provided in Attachment A. Graphs that depict the historic chloride and TDS levels are included in Attachment B. Plate 2 is a map that shows the chloride and TDS laboratory results from the 2008 monitoring and the following graphs summarize the last four quarterly monitoring events.





### Recommendations

RT Hicks and Samson recommend ground water monitoring continue to be performed on a quarterly basis for at least one more year to verify the plume stability. An annual monitoring report will be provided in December of 2009.

Sincerely,  
R.T. Hicks Consultants, Ltd.

*Dale T. Littlejohn*

Dale T Littlejohn  
Project Manager

Copy:

Samson Resources, Scott Rose  
New Mexico State Land Office

RT Hicks Consultant Ltd

**Table 2**  
**Laboratory Results Summary - Groundwater Samples**

Monitor Well TOC Elev.	Sample Date	Water Depth	Water Elevation	pH (unitless)	Cond. (uS/cm)	Chloride (mg/L)	TDS (mg/L)	% Cl of TDS
MW-1 4,233.23	5/11/06	41.18	4,192.05	7.41	1.17	--	--	
	5/12/06	41.24	4,191.99	7.15	0.88	131	838	16%
	8/2/06	41.22	4,192.01	7.07	0.99	115	648	18%
	10/17/06	41.14	4,192.09					
	12/12/06	41.09	4,192.14					
	1/9/07	41.07	4,192.16			97		
	2/6/07	41.32	4,191.91					
	2/6/07	41.25	4,191.98					
	2/16/07	41.37	4,191.86		0.985			
	3/8/07	41.39	4,191.84			83	620	13%
	3/13/07	41.36	4,191.87		1.025			
	4/17/07	41.13	4,192.10	7.41	0.82	89.6	674	13%
	5/21/07	40.99	4,192.24	7.96	0.79	83.8	630	13%
	6/21/07	41.02	4,192.21	7.52	0.74	76.5	632	12%
	7/18/07	41.05	4,192.18	7.50	0.80	102	650	16%
	8/22/07	40.96	4,192.27	7.26	0.86	88.0	672	13%
	9/28/07	40.94	4,192.29	7.62	0.94	122	606	20%
	10/24/07	41.00	4,192.23	7.75	0.93	117	710	16%
	2/11/08	41.01	4,192.22	7.60	1.00	84.7	1020	8%
	3/13/08	41.01	4,192.22	--	--	--	--	--
	5/5/08	41.03	4,192.20	7.26	1.22	96.3	596	16%
	8/20/08	41.10	4,192.13	7.19	0.96	72.3	568	13%
	11/21/08	41.11	4,192.12	7.14	1.01	101	498	20%
MW-2 4,233.87	5/11/06	41.85	4,192.02	7.80	0.81			
	5/12/06	41.88	4,191.99	7.50	0.60	44.5	530	8%
	8/2/06	41.88	4,191.99	7.38	0.67	42.2	444	10%
	10/17/06	41.82	4,192.05					
	12/12/06	41.77	4,192.10					
	1/9/07	41.75	4,192.12			46.0		
	2/6/07	41.93	4,191.94					
	2/6/07	41.88	4,191.99					
	2/16/07	41.97	4,191.90		0.924			
	3/8/07	42.03	4,191.84			45	510	9%
	3/13/07	41.99	4,191.88		0.663			
	4/17/07	41.81	4,192.06	7.93	0.65	41.5	436	10%
	5/21/07	41.73	4,192.14	8.31	0.63	38.6	452	9%
	6/21/07	41.73	4,192.14	7.72	0.57	39.7	516	8%
	7/18/07	41.72	4,192.15	8.16	0.56	41.7	388	11%
	8/22/07	41.66	4,192.21	7.60	0.68	40.9	550	7%
	9/28/07	41.65	4,192.22	7.82	0.66	74.4	452	16%
	10/24/07	41.67	4,192.20	7.64	0.73	74.4	430	17%
	2/11/08	41.68	4,192.19	7.56	0.78	39.8	744	5%
	3/13/08	41.68	4,192.19	--	--	--	--	--
	5/5/08	41.68	4,192.19	7.37	0.77	40.1	406	10%

RT Hicks Consultant Ltd

**Table 2**  
**Laboratory Results Summary - Groundwater Samples**

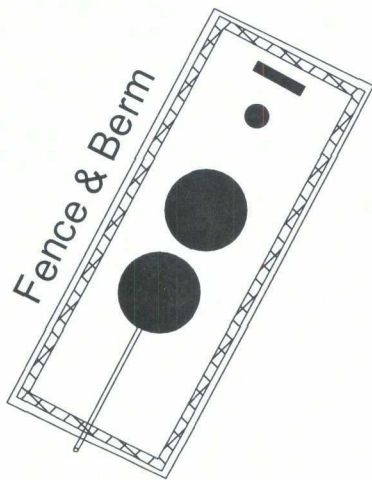
Monitor Well TOC Elev.	Sample Date	Water Depth	Water Elevation	pH (unitless)	Cond. (uS/cm)	Chloride (mg/L)	TDS (mg/L)	% Cl of TDS
MW-2 (con't)	8/20/08	41.75	4,192.12	7.51	0.71	28.7	440	7%
	11/21/08	41.78	4,192.09	7.40	0.77	53.2	388	14%
MW-3 (Deep) 4,224.52	12/18/06	--	--		0.87	2,000	3,700	54%
	3/8/07	--	--		10.28	3,500	6,200	56%
	3/13/07	42.41	4,182.11		10.06			
MW-3 (RW) 4,224.52	12/12/06	32.81	4,191.71					
	12/18/06	32.82	4,191.70			3,900	5,800	67%
	1/9/07	32.27	4,192.25					
	2/6/07	32.7	4,191.82					
	Pump On							
	2/6/07	44.47	4,180.05			2,500	4,400	57%
	2/16/07	44.45	4,180.07		8.71			
	3/8/07	40.12	4,184.40		10.31	3,400	6,200	55%
	3/13/07	42.41	4,182.11		10.27			
	4/17/07	42	4,182.52	8.08	7.45	2,730	4,520	60%
	5/21/07	41	4,183.52	8.20	8.67	3,340	6,430	52%
	6/21/07	42	4,182.52	7.78	10.24	4,750	7,960	60%
	Pump Off							
	7/18/07	32.48	4,192.04	7.45	10.24	5,730	8,730	66%
	8/22/07	32.22	4,192.30	--	--	--	--	--
	9/28/07	32.24	4,192.28	--	--	--	--	--
	10/24/07	32.35	4,192.17	--	--	--	--	--
	2/11/08	32.42	4,192.10	--	--	--	--	--
	3/13/08	32.45	4,192.07	--	--	7,730	12,400	62%
	5/5/08	32.50	4,192.02	6.60	19.70	9,680	15,200	64%
	8/20/08	32.42	4,192.10	7.14	12.76	5,300	7,550	70%
	11/21/08	32.42	4,192.10	7.21	10.30	4,892	6,330	77%
MW-4(D) 4,233.38	1/9/07	--	--			100		
	2/6/07	41.61	4,191.77					
	2/6/07	41.53	4,191.85					
	2/16/07	41.64	4,191.74		0.95			
	3/8/07	41.65	4,191.73			52.0	550	9%
	3/13/07	41.63	4,191.75		0.78			
	4/17/07	41.42	4,191.96	7.87	0.70	45.7	562	8%
	5/21/07	41.32	4,192.06	8.33	0.69	44.8	458	10%
	6/21/07	41.33	4,192.05	7.72	0.61	42.4	610	7%
	7/18/07	41.34	4,192.04	7.93	0.62	48.2	508	9%
	8/22/07	41.26	4,192.12	7.53	0.74	50.4	494	10%
	9/28/07	41.24	4,192.14	7.79	0.75	79.8	474	17%
	10/24/07	41.29	4,192.09	7.94	0.87	95.7	690	14%
	2/11/08	41.30	4,192.08	7.42	1.31	231	764	30%
	3/13/08	41.32	4,192.06	--	--	--	--	--
	5/5/08	41.32	4,192.06	7.26	1.22	217	804	27%
	8/20/08	41.39	4,191.99	7.33	1.16	225	736	31%
	11/21/08	41.41	4,191.97	7.22	1.25	213	682	31%

RT Hicks Consultant Ltd

**Table 2**  
**Laboratory Results Summary - Groundwater Samples**

Monitor Well TOC Elev.	Sample Date	Water Depth	Water Elevation	pH (unitless)	Cond. (uS/cm)	Chloride (mg/L)	TDS (mg/L)	% Cl of TDS
MW-4(S) 4,233.52	1/9/07	--	--			180		
	2/6/07	41.73	4,191.79					
	2/6/07	41.80	4,191.72					
	2/16/07	41.84	4,191.68		0.98			
	3/8/07	41.85	4,191.67			120	680	18%
	3/13/07	41.82	4,191.70		0.99			
MW-4(S) (con't)	4/17/07	41.61	4,191.91	7.78	0.79	84.8	598	14%
	5/21/07	41.50	4,192.02	8.16	0.73	65.7	442	15%
	6/21/07	41.51	4,192.01	7.79	0.65	65.8	618	11%
	7/18/07	41.54	4,191.98	7.81	0.68	67.5	514	13%
	8/22/07	41.44	4,192.08	7.46	0.78	64.0	960	7%
	9/28/07	41.43	4,192.09	7.89	0.77	95.7	640	15%
	10/24/07	41.48	4,192.04	7.97	0.84	85.1	786	11%
	2/11/08	41.50	4,192.02	7.44	0.90	55.2	688	8%
	3/13/08	41.50	4,192.02	--	--	--	--	--
	5/5/08	41.51	4,192.01	7.35	0.86	49.5	514	10%
	8/20/08	41.58	4,191.94	7.35	0.77	32.5	476	7%
	11/21/08	41.60	4,191.92	7.23	0.83	63.8	478	13%

c:\Samson\State BD-4\BD #4 Project Data



Regional Ground  
Water Gradient

Background  
Moisture Ports

Excavation  
Moisture Ports

Original Reserve  
Pit Location

1A

Fluid Level  
Depressed  
due to High  
TDS Conc.

MW-3  
4192.10

MW-2  
4192.19

MW-4d

MW-4s  
4192.02

4191.6

1

MW-1  
4192.22

4192.0

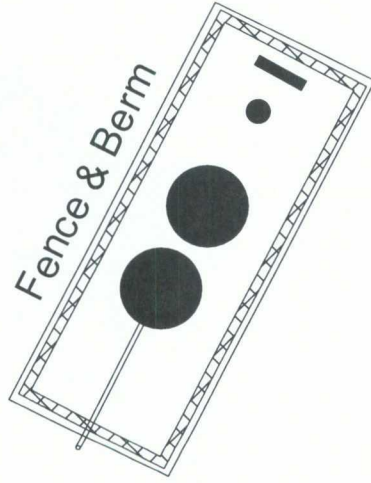
4192.4

Plate 1A  
GROUND WATER  
GRADIENT  
February 11, 2008

Samson Resources  
State BD #4 Lease  
T-12-S R-33-E Sec 2 (H)



Feet



Regional Ground  
Water Gradient

Background  
Moisture Ports

Excavation  
Moisture Ports

Original Reserve  
Pit Location

1A

Fluid Level  
Depressed  
due to High  
TDS Conc.

MW-3  
4192.02

MW-2  
4192.19

MW-4d

MW-4s  
4192.01

MW-1  
4192.20

4191.6

4192.4

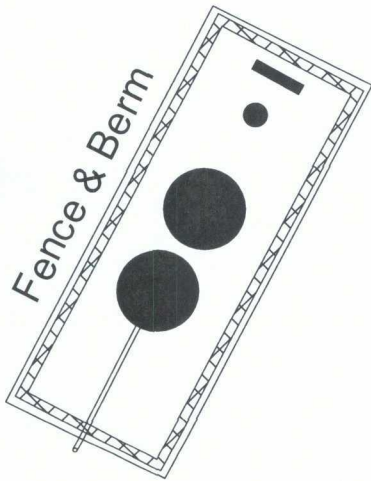
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Plate 1B  
GROUND WATER  
GRADIENT  
May 5, 2008

Samson Resources  
State BD #4 Lease  
T-12-S R-33-E Sec 2 (H)



Feet



Regional Ground  
Water Gradient

Background  
Moisture Ports

Excavation  
Moisture Ports

Original Reserve  
Pit Location

1A

Fluid Level  
Depressed  
due to High  
TDS Conc.

MW-3  
⊕ 4192.10

⊕ MW-2  
4192.12

MW-4d

⊕ ⊕ 4191.94

MW-4s

4191.6

⊕ MW-1

4192.13

1

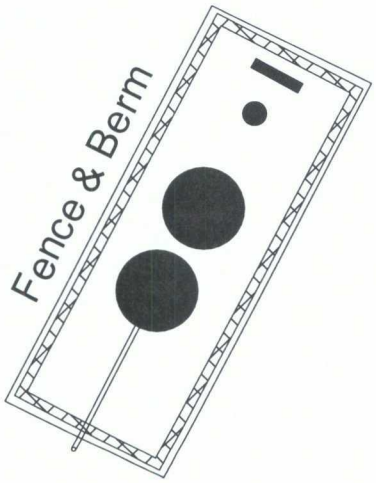
Plate 1C  
GROUND WATER  
GRADIENT

August 20, 2008

Samson Resources  
State BD #4 Lease  
T-12-S R-33-E Sec 2 (H)



Feet



Regional Ground  
Water Gradient

Background  
Moisture Ports

Excavation  
Moisture Ports

Original Reserve  
Pit Location

1A

Fluid Level  
Depressed  
due to High  
TDS Conc.

MW-3  
4192.10

MW-2  
4192.09

MW-4d

MW-4s  
4191.92

MW-1  
4192.12

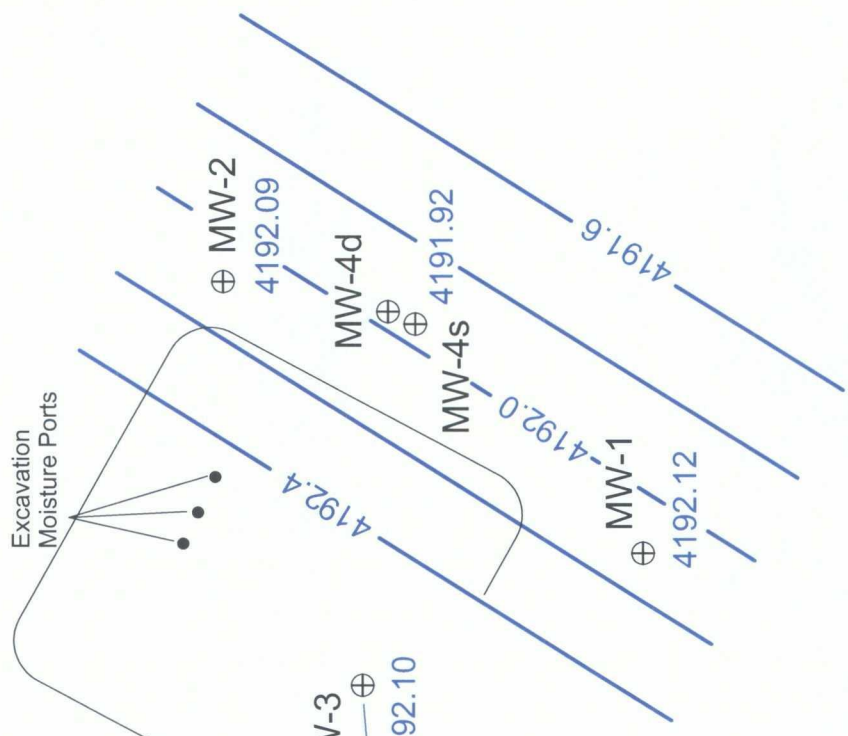
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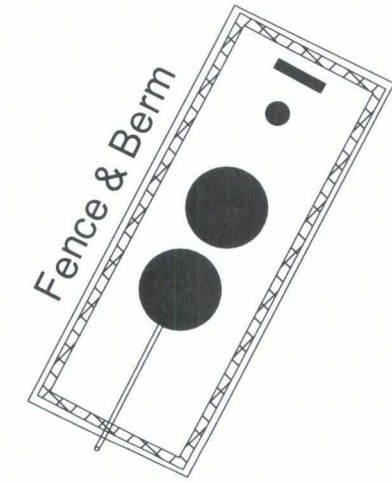
Plate 1D  
GROUND WATER  
GRADIENT  
November 21, 2008

Samson Resources  
State BD #4 Lease  
T-12-S R-33-E Sec 2 (H)



Feet





Regional Ground  
Water Gradient

Red contours  
indicate current  
surface conditions

● Background  
Moisture Ports

Excavation  
Moisture Ports

MW-2 (2008)		
Sample Date	Chloride (mg/L)	TDS (mg/L)
2-11-08	40	744
5-5-08	40	406
8-20-08	29	440
11-21-08	53	388

⊕ MW-2

MW-4(D) (2008)		
Sample Date	Chloride (mg/L)	TDS (mg/L)
2-11-08	231	764
5-5-08	217	804
8-20-08	225	736
11-21-08	213	682

⊕ MW-4d

⊕ MW-4s

⊕ MW-1

MW-1 (2008)		
Sample Date	Chloride (mg/L)	TDS (mg/L)
2-11-08	85	1,020
5-5-08	96	596
8-20-08	72	568
11-21-08	101	498

MW-4(S) (2008)		
Sample Date	Chloride (mg/L)	TDS (mg/L)
2-11-08	55	688
5-5-08	50	514
8-20-08	33	476
11-21-08	64	478

MW-3 (2008)		
Sample Date	Chloride (mg/L)	TDS (mg/L)
3-13-08	7,730	12,400
5-5-08	9,680	15,200
8-20-08	5,300	7,550
11-21-08	4,892	6,330

⊕ MW-3

1A ●

1 ●

Plate 2  
Ground Water Chloride  
and TDS Concentrations  
for 2008  
Samson Resources  
State BD #4 Lease  
T-12-S R-33-E Sec 2 (H)



Feet

**ATTACHMENT A**  
**Laboratory Reports and Chain-of-Custody Documentation**

# **Analytical Report 297500**

**for**

**RT Hicks Consultants Ltd. (Midland)**

**Project Manager: Dale Littlejohn**

**Samson State BD No.4**

**L-126-0208**

**19-FEB-08**



**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



19-FEB-08

Project Manager: **Dale Littlejohn**  
**RT Hicks Consultants Ltd. (Midland)**  
P.O. Box 7624

Midland, TX 79708

Reference: XENCO Report No: **297500**  
**Samson State BD No.4**  
Project Address: Lea Co., NM

**Dale Littlejohn:**

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 297500. 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. 297500 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

*Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.*

*Certified and approved by numerous States and Agencies.*

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



## Sample Cross Reference 297500



**RT Hicks Consultants Ltd. (Midland), Midland, TX**

Samson State BD No.4

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	Feb-11-08 11:35		297500-001
MW-2	W	Feb-11-08 10:10		297500-002
MW-4 (S)	W	Feb-11-08 10:57		297500-003
MW-4 (D)	W	Feb-11-08 10:40		297500-004



**Project Manager:** Brent Barron, II

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



## Flagging Criteria

- 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  
5332 Blackberry Drive, Suite 104, San Antonio, TX 78238  
2505 N. Falkenburg Rd., Tampa, FL 33619  
5757 NW 158th St, Miami Lakes, FL 33014  
6017 Financial Dr., Norcross, GA 30071

Phone	Fax
(281) 589-0692	(281) 589-0695
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(770) 449-8800	(770) 449-5477



## Blank Spike Recovery



**Project Name: Samson State BD No.4**

**Work Order #: 297500**

**Project ID:**

**L-126-0208**

**Lab Batch #: 714975**

**Sample: 714975-1-BKS**

**Matrix: Water**

**Date Analyzed: 02/18/2008**

**Date Prepared: 02/18/2008**

**Analyst: IRO**

**Reporting Units: mg/L**

**Batch #: 1**

### BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	5.00	8.83	177	85-115	H

Blank Spike Recovery [D] =  $100 \times [C] / [B]$

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



## Form 3 - MS Recoveries

Project Name: Samson State BD No.4



Work Order #: 297500

Lab Batch #: 714975

Date Analyzed: 02/18/2008

Date Prepared: 02/18/2008

Project ID: L-126-0208

Analyst: IRO

QC- Sample ID: 297654-001 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	274000	50000	240000	0	85-115	X

Matrix Spike Percent Recovery [D] =  $100 \times (C-A)/B$   
Relative Percent Difference [E] =  $200 \times (C-A)/(C+B)$   
All Results are based on MDL and Validated for QC Purposes



## Sample Duplicate Recovery



Project Name: Samson State BD No.4

Work Order #: 297500

Lab Batch #: 714975

Date Analyzed: 02/18/2008

QC- Sample ID: 297654-001 D

Reporting Units: mg/L

Project ID: L-126-0208

Analyst: IRO

Batch #: 1

Matrix: Water

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Inorganic Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	274000	270000	1	20	

Lab Batch #: 714634

Date Analyzed: 02/12/2008

QC- Sample ID: 297480-001 D

Reporting Units: mg/L

Date Prepared: 02/12/2008

Analyst: RBA

Batch #: 1

Matrix: Water

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Residue, Filterable (TDS) by EPA 160.1	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	7300	7330	0	30	

Spike Relative Difference RPD  $200 * |(B-A)/(B+A)|$

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

12600 West I-20 East  
Odessa, Texas 79765

Phone: 432-563-1800  
Fax: 432-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

**Project Manager:** Dale Littlejohn

Project Name: Samson State BD No. 4

Company Name RT Hicks Consultants Ltd

**Project #:** L-126-0208

Company Address: P.O. Box 7624

Project Loc: Lea Co., NM

City/State/Zip: Midland, Texas 79708

90\*

Telephone No: (432) 528-3878

**Fax No: (432) 689-4578 (Fax)**

**Sampler Signature:**

Bill (Attorney)

[illegible]

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

Client: RT Hicks  
Date/ Time: 2-12-08 9:52  
Lab ID #: 297500  
Initials: AL

**Sample Receipt Checklist**

				Client Initials	
#1	Temperature of container/ cooler?	<u>Yes</u>	No	<u>4.5</u> °C	
#2	Shipping container in good condition?	<u>Yes</u>	No		
#3	Custody Seals intact on shipping container/ cooler?	<u>Yes</u>	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	<u>Yes</u>	No	<del>Not Present</del>	
#5	Chain of Custody present?	<u>Yes</u>	No		
#6	Sample instructions complete of Chain of Custody?	<u>Yes</u>	No		
#7	Chain of Custody signed when relinquished/ received?	<u>Yes</u>	No		
#8	Chain of Custody agrees with sample label(s)?	<u>Yes</u>	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	<u>Yes</u>	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	<u>Yes</u>	No		
#11	Containers supplied by ELDT?	<u>Yes</u>	No		
#12	Samples in proper container/ bottle?	<u>Yes</u>	No	See Below	
#13	Samples properly preserved?	<u>Yes</u>	No	See Below	
#14	Sample bottles intact?	<u>Yes</u>	No		
#15	Preservations documented on Chain of Custody?	<u>Yes</u>	No		
#16	Containers documented on Chain of Custody?	<u>Yes</u>	No		
#17	Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No	See Below	
#18	All samples received within sufficient hold time?	<u>Yes</u>	No	See Below	
#19	Subcontract of sample(s)?	<u>Yes</u>	No	<del>Not Applicable</del>	
#20	VOC samples have zero headspace?	<u>Yes</u>	No	<del>Not Applicable</del>	

**Variance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/ Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

- Check all that Apply:
- ☐ See attached e-mail/ fax
  - ☐ Client understands and would like to proceed with analysis
  - ☐ Cooling process had begun shortly after sampling event

# **Analytical Report 299610**

**for**

**R.T. Hicks Consultants, LTD**

**Project Manager: Dale Littlejohn**

**Samson State BD No. 4**

**L-126-0308**

**20-MAR-08**



**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

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Midland - Corpus Christi - Atlanta



20-MAR-08

Project Manager: **Dale Littlejohn**  
**R.T. Hicks Consultants, LTD**  
901 Rio Grande Blvd. NW, Suite F-142  
Albuquerque, NM 87104

Reference: XENCO Report No: **299610**  
**Samson State BD No. 4**  
Project Address: Lea Co., NM

**Dale Littlejohn:**

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 299610. 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. 299610 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 299610



**R.T. Hicks Consultants, LTD, Albuquerque, NM**

Samson State BD No. 4

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-3	W	Mar-13-08 09:25		299610-001



# Certificate of Analysis Summary 299610

R.T. Hicks Consultants, LTD, Albuquerque, NM

Project Id: L-126-0308      Date Received in Lab: Fri Mar-14-08 09:56 am  
Contact: Dale Littlejohn      Report Date: 20-MAR-08  
Project Location: Lea Co., NM      Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	299610-001				
	Field Id:	MW-3				
	Depth:					
	Matrix:	WATER				
	Sampled:	Mar-13-08 09:25				
Anions by EPA 300/300.1	Extracted:					
	Analyzed:	Mar-14-08 14:45				
	Units/RL:	mg/L      RL				
Chloride		7730      100				
TDS by SM2540C	Extracted:					
	Analyzed:	Mar-14-08 16:00				
	Units/RL:	mg/L      RL				
Total dissolved solids		12400      5.00				

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.

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Brent Barron  
Odessa Laboratory Director



## Flagging Criteria

- 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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5332 Blackberry Drive, Suite 104, San Antonio, TX 78238  
2505 N. Falkenburg Rd., Tampa, FL 33619  
5757 NW 158th St, Miami Lakes, FL 33014  
6017 Financial Dr., Norcross, GA 30071

Phone	Fax
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(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(770) 449-8800	(770) 449-5477



## Blank Spike Recovery



Project Name: Samson State BD No. 4

Work Order #: 299610

Project ID:

L-126-0308

Lab Batch #: 717587

Sample: 717587-1-BKS

Matrix: Water

Date Analyzed: 03/14/2008

Date Prepared: 03/14/2008

Analyst: IRO

Reporting Units: mg/L

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Anions by EPA 300/300.1 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.52	95	85-115	

Blank Spike Recovery [D] =  $100 * [C] / [B]$

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



## Form 3 - MS Recoveries

Project Name: Samson State BD No. 4



Work Order #: 299610

Lab Batch #: 717587

Date Analyzed: 03/14/2008

Date Prepared: 03/14/2008

Project ID: L-126-0308

Analyst: IRO

QC- Sample ID: 299637-001 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	82.1	100	193	111	85-115	

Matrix Spike Percent Recovery [D] =  $100 \cdot (C-A)/B$   
Relative Percent Difference [E] =  $200 \cdot (C-A)/(C+B)$   
All Results are based on MDL and Validated for QC Purposes



## Sample Duplicate Recovery



Project Name: Samson State BD No. 4

Work Order #: 299610

Lab Batch #: 717587

Project ID: L-126-0308

Date Analyzed: 03/14/2008

Date Prepared: 03/14/2008

Analyst: IRO

QC- Sample ID: 299637-001 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Anions by EPA 300/300.1	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	82.1	84.4	3	20	

Lab Batch #: 717285

Date Analyzed: 03/14/2008

Date Prepared: 03/14/2008

Analyst: RBA

QC- Sample ID: 299611-001 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY					
TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	43900	48900	11	30	

Spike Relative Difference RPD  $200 * |(B-A)/(B+A)|$

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

12600 West I-20 East  
Odessa, Texas 79765

RT Hicks Consultants Ltd

Company Address: P.O. Box 7624

City/State/Zip: Midland, Texas 79708

Telephone No: (432) 528-3878

**Sampler Signature:**

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: Samson State BD No. 4

Project #: L-126-0308

Project Loc: Lea Co., NM

PO#:

**Fax No: (432) 689-4578 (Fax)**

Sampler Signature: Val 7 Hottel

[illegible]

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

Client: P.T. Hicks  
Date/ Time: 3-14-08 9:56  
Lab ID #: 291610  
Initials: AL

**Sample Receipt Checklist**

#1	Temperature of container/ cooler?	Yes	No	-2.0 °C	Not FROZEN Client Initials
#2	Shipping 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 Custody present?	Yes	No		
#6	Sample instructions complete of Chain of Custody?	Yes	No		
#7	Chain of Custody signed when relinquished/ received?	Yes	No		
#8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	Yes	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	Yes	No		
#11	Containers supplied by ELOT?	Yes	No		
#12	Samples in proper container/ bottle?	Yes	No	See Below	
#13	Samples properly preserved?	Yes	No	See Below	
#14	Sample bottles intact?	Yes	No		
#15	Preservations documented on Chain of Custody?	Yes	No		
#16	Containers documented on Chain of Custody?	Yes	No		
#17	Sufficient sample amount for indicated test(s)?	Yes	No	See Below	
#18	All samples received within sufficient hold time?	Yes	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	Not Applicable	
#20	VOC samples have zero headspace?	Yes	No	Not Applicable	

**Variance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/ Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken:

- Check all that Apply:
- ☐ See attached e-mail/ fax
  - ☐ Client understands and would like to proceed with analysis
  - ☐ Cooling process had begun shortly after sampling event

# **Analytical Report 303249**

**for**

**R.T. Hicks Consultants, LTD**

**Project Manager: Dale Littlejohn**

**Samson State BD No. 4**

**L-126-0508**

**09-MAY-08**



**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

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09-MAY-08

Project Manager: **Dale Littlejohn**  
**R.T. Hicks Consultants, LTD**  
901 Rio Grande Blvd. NW, Suite F-142  
Albuquerque, NM 87104

Reference: XENCO Report No: **303249**  
**Samson State BD No. 4**  
Project Address: Lea Co., NM

**Dale Littlejohn:**

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 303249. 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. 303249 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 303249



**R.T. Hicks Consultants, LTD, Albuquerque, NM**  
Samson State BD No. 4

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	May-05-08 18:40		303249-001
MW-2	W	May-05-08 17:45		303249-002
MW-3	W	May-05-08 18:52		303249-003
MW-4 (D)	W	May-05-08 18:08		303249-004
MW-4 (S)	W	May-05-08 18:20		303249-005



# Certificate of Analysis Summary 303249

## R.T. Hicks Consultants, LTD, Albuquerque, NM

Project Id: L-126-0508  
Contact: Dale Littlejohn  
Project Location: Lea Co., NM

Project Name: Samson State BD No. 4

Date Received in Lab: Tue May-06-08 04:05 pm  
Report Date: 09-MAY-08

Project Manager: Brent Barron, II

<b>Analysis Requested</b>	<b>Lab Id:</b>	303249-001	303249-002	303249-003	303249-004	303249-005
	<b>Field Id:</b>	MW-1	MW-2	MW-3	MW-4 (D)	MW-4 (S)
	<b>Depth:</b>					
	<b>Matrix:</b>	WATER	WATER	WATER	WATER	WATER
	<b>Sampled:</b>	May-05-08 18:40	May-05-08 17:45	May-05-08 18:52	May-05-08 18:08	May-05-08 18:20
<b>Inorganic Anions by EPA 300</b>	<b>Extracted:</b>					
	<b>Analyzed:</b>	May-07-08 11:33	May-07-08 11:33	May-07-08 11:33	May-07-08 11:33	May-07-08 11:33
	<b>Units/RL:</b>	mg/L RL 96.3 5.00	mg/L RL 40.1 5.00	mg/L RL 9680 250	mg/L RL 217 5.00	mg/L RL 49.5 5.00
<b>TDS by SM2540C</b>	<b>Extracted:</b>					
	<b>Analyzed:</b>	May-07-08 16:40	May-07-08 16:40	May-07-08 16:40	May-07-08 16:40	May-07-08 16:40
	<b>Units/RL:</b>	mg/L RL 596 5.00	mg/L RL 406 5.00	mg/L RL 15200 5.00	mg/L RL 804 5.00	mg/L RL 514 5.00
Total dissolved solids						

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 to the end user of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Since 1990 Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi

  
Brent Barron  
Odessa Laboratory Director



## Flagging Criteria

- 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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5757 NW 158th St, Miami Lakes, FL 33014  
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(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(770) 449-8800	(770) 449-5477



## Blank Spike Recovery



**Project Name: Samson State BD No. 4**

**Work Order #: 303249**

**Project ID:**

**L-126-0508**

**Lab Batch #: 722039**

**Sample: 722039-1-BKS**

**Matrix: Water**

**Date Analyzed: 05/07/2008**

**Date Prepared: 05/07/2008**

**Analyst: LATCOR**

**Reporting Units: mg/L**

**Batch #: 1**

### BLANK /BLANK SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.75	98	85-115	

Blank Spike Recovery [D] =  $100 * [C] / [B]$

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



## Form 3 - MS Recoveries

Project Name: Samson State BD No. 4



Work Order #: 303249

Lab Batch #: 722039

Date Analyzed: 05/07/2008

Date Prepared: 05/07/2008

Project ID: L-126-0508

Analyst: LATCOR

QC- Sample ID: 303249-001 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	96.3	100	272	176	85-115	X

Matrix Spike Percent Recovery [D] =  $100 \times (C-A)/B$   
Relative Percent Difference [E] =  $200 \times (C-A)/(C+B)$   
All Results are based on MDL and Validated for QC Purposes



## Sample Duplicate Recovery



Project Name: Samson State BD No. 4

Work Order #: 303249

Lab Batch #: 722039

Date Analyzed: 05/07/2008

QC- Sample ID: 303249-001 D

Reporting Units: mg/L

Date Prepared: 05/07/2008

Batch #: 1

Project ID: L-126-0508

Analyst: LATCOR

Matrix: Water

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Inorganic Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	96.3	94.9	1	20	

Lab Batch #: 722069

Date Analyzed: 05/07/2008

QC- Sample ID: 303249-001 D

Reporting Units: mg/L

Date Prepared: 05/07/2008

Batch #: 1

Analyst: WRU

Matrix: Water

SAMPLE / SAMPLE DUPLICATE RECOVERY					
TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	596	602	1	30	

Spike Relative Difference  $RPD = 200 * |(B-A)/(B+A)|$

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



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

Client: R.T. Hicks  
Date/ Time: 5-16-08 16:05  
Lab ID #: 305249  
Initials: CL

**Sample Receipt Checklist**

				Client Initials	
#1	Temperature of container/ cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<u>2.0</u>	*C
#2	Shipping container in good condition?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#3	Custody Seals intact on shipping container/ cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<u>Not Present</u>	
#4	Custody Seals intact on sample bottles/ container?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<u>Not Present</u>	
#5	Chain of Custody present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#6	Sample instructions complete of Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#7	Chain of Custody signed when relinquished/ received?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#8	Chain of Custody agrees with sample label(s)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<u>Not written on Cont./ Lid</u>	
#9	Container label(s) legible and intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<u>Not Applicable</u>	
#10	Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#11	Containers supplied by ELOT?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#12	Samples in proper container/ bottle?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<u>See Below</u>	
#13	Samples properly preserved?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<u>See Below</u>	
#14	Sample bottles intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#15	Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#16	Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
#17	Sufficient sample amount for indicated test(s)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<u>See Below</u>	
#18	All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<u>See Below</u>	
#19	Subcontract of sample(s)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<u>Not Applicable</u>	
#20	VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<u>Not Applicable</u>	

**Variance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/ Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken:

- Check all that Apply:
- ☐ See attached e-mail/ fax
  - ☐ Client understands and would like to proceed with analysis
  - ☐ Cooling process had begun shortly after sampling event

# **Analytical Report 310636**

**for**

**R.T. Hicks Consultants, LTD**

**Project Manager: Dale Littlejohn**

**Samson State BD No. 4**

**L-126-0808**

**25-AUG-08**



**E84880**

**12600 West I-20 East Odessa, Texas 79765**

Texas certification numbers:

Houston, TX T104704215 - Odessa/Midland, TX T104704215-08-TX

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-AUG-08

Project Manager: **Dale Littlejohn**  
**R.T. Hicks Consultants, LTD**  
901 Rio Grande Blvd. NW, Suite F-142  
Albuquerque, NM 87104

Reference: XENCO Report No: **310636**  
**Samson State BD No. 4**  
Project Address: Lea Co., NM

**Dale Littlejohn:**

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 310636. 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. 310636 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 310636



**R.T. Hicks Consultants, LTD, Albuquerque, NM**

Samson State BD No. 4

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	Aug-20-08 11:20		310636-001
MW-2	W	Aug-20-08 10:13		310636-002
MW-3	W	Aug-20-08 11:55		310636-003
MW-4 (D)	W	Aug-20-08 10:57		310636-004
MW-4 (S)	W	Aug-20-08 10:54		310636-005



# Certificate of Analysis Summary 310636

## R.T. Hicks Consultants, LTD, Albuquerque, NM



Project Id: L-126-0808  
Contact: Dale Littlejohn  
Project Location: Lea Co., NM

Project Name: Samson State BD No. 4

Date Received in Lab: Wed Aug-20-08 03:50 pm


Report Date: 25-AUG-08

Project Manager: Brent Barron, II

<i>Analysis Requested</i>	<i>Lab Id:</i>	310636-001	<i>Field Id:</i>	310636-002	<i>Depth:</i>	310636-003	<i>Matrix:</i>	310636-004	<i>Sampled:</i>	310636-005
	MW-1	MW-2	MW-3	MW-4 (D)	MW-4 (S)					
	WATER	WATER	WATER	WATER	WATER					
	Aug-20-08 11:20	Aug-20-08 10:13	Aug-20-08 11:55	Aug-20-08 10:57	Aug-20-08 10:54					
Anions by EPA 300/300.1	<i>Extracted:</i>		<i>Analyzed:</i>		<i>Units/RL:</i>		<i>Extracted:</i>		<i>Analyzed:</i>	
		mg/L	mg/L	mg/L	mg/L	mg/L		mg/L	mg/L	mg/L
		72.3	28.7	5300	225	32.5		476		
TDS by SM2540C	<i>Extracted:</i>		<i>Analyzed:</i>		<i>Units/RL:</i>		<i>Extracted:</i>		<i>Analyzed:</i>	
		mg/L	mg/L	mg/L	mg/L	mg/L		mg/L	mg/L	mg/L
		568	440	7550	736	5.00		5.00		
Total dissolved solids										

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.

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Brent Barron  
Odessa Laboratory Director



## Flagging Criteria

- 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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5332 Blackberry Drive, Suite 104, San Antonio, TX 78238  
2505 N. Falkenburg Rd., Tampa, FL 33619  
5757 NW 158th St, Miami Lakes, FL 33014  
6017 Financial Dr., Norcross, GA 30071

Phone	Fax
(281) 589-0692	(281) 589-0695
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(770) 449-8800	(770) 449-5477



## Blank Spike Recovery



Project Name: Samson State BD No. 4

Work Order #: 310636

Project ID:

L-126-0808

Lab Batch #: 731968

Sample: 731968-1-BKS

Matrix: Water

Date Analyzed: 08/21/2008

Date Prepared: 08/21/2008

Analyst: LATCOR

Reporting Units: mg/L

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Anions by EPA 300/300.1  Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.66	97	80-120	

Blank Spike Recovery [D] =  $100 * [C] / [B]$

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



## Form 3 - MS Recoveries

Project Name: Samson State BD No. 4



Work Order #: 310636

Lab Batch #: 731968

Date Analyzed: 08/21/2008

Date Prepared: 08/21/2008

Project ID: L-126-0808

Analyst: LATCOR

QC- Sample ID: 310635-001 S

Batch #: 1

Matrix: Water

Reporting Units: mg/L

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	470	200	717	124	80-120	X

Matrix Spike Percent Recovery [D] =  $100 * (C - A) / B$

Relative Percent Difference [E] =  $200 * (C - A) / (C + B)$

All Results are based on MDL and Validated for QC Purposes



## Sample Duplicate Recovery



Project Name: Samson State BD No. 4

Work Order #: 310636

Lab Batch #: 731968

Project ID: L-126-0808

Date Analyzed: 08/21/2008

Date Prepared: 08/21/2008

Analyst: LATCOR

QC- Sample ID: 310635-001 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Anions by EPA 300/300.1	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	470	473	1	20	

Lab Batch #: 731985

Date Analyzed: 08/21/2008

Date Prepared: 08/21/2008

Analyst: WRU

QC- Sample ID: 310635-001 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY					
TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	1150	1180	3	30	

Spike Relative Difference RPD  $200 * |(B-A)/(B+A)|$

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

2600 West I-20 East  
Odessa, Texas 79765

2600 West I-20 East  
Odessa, Texas 79765

**Company Name** RT Hicks Consultants Ltd

**Company Address:** P.O. Box 7624

city/State/Zip: Midland, Texas 79708

Telephone No: (432) 528-3878

**Sampler Signature:**

Fax No: (432) 689-4578 (Fax)

**Project Name: Samson State BD No. 4**

Project #: L-126-0808

Project Loc: Lea Co., NM

PO #:

### CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

[illegible]

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

Client: R.T. Hicks  
Date/ Time: 8-20-08 3:50  
Lab ID #: 310634  
Initials: AL

**Sample Receipt Checklist**

				Client Initials
#1 Temperature of container/ cooler?	<u>Yes</u>	No	<u>1.5 °C</u>	
#2 Shipping container in good condition?	<u>Yes</u>	No		
#3 Custody Seals intact on shipping container/ cooler?	<u>Yes</u>	No	<u>Not Present</u>	
#4 Custody Seals intact on sample bottles/ container?	<u>Yes</u>	No	<u>Not Present</u>	
#5 Chain of Custody present?	<u>Yes</u>	No		
#6 Sample instructions complete of Chain of Custody?	<u>Yes</u>	No		
#7 Chain of Custody signed when relinquished/ received?	<u>Yes</u>	No		
#8 Chain of Custody agrees with sample label(s)?	<u>Yes</u>	No	ID written on Cont./ Lid	
#9 Container label(s) legible and intact?	<u>Yes</u>	No	Not Applicable	
#10 Sample matrix/ properties agree with Chain of Custody?	<u>Yes</u>	No		
#11 Containers supplied by ELOT?	<u>Yes</u>	No		
#12 Samples in proper container/ bottle?	<u>Yes</u>	No	See Below	
#13 Samples properly preserved?	<u>Yes</u>	No	See Below	
#14 Sample bottles intact?	<u>Yes</u>	No		
#15 Preservations documented on Chain of Custody?	<u>Yes</u>	No		
#16 Containers documented on Chain of Custody?	<u>Yes</u>	No		
#17 Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No	See Below	
#18 All samples received within sufficient hold time?	<u>Yes</u>	No	See Below	
#19 Subcontract of sample(s)?	<u>Yes</u>	No	<u>Not Applicable</u>	
#20 VOC samples have zero headspace?	<u>Yes</u>	No	<u>Not Applicable</u>	

**Variance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/ Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

- Check all that Apply:
- ☐ See attached e-mail/ fax
  - ☐ Client understands and would like to proceed with analysis
  - ☐ Cooling process had begun shortly after sampling event

# **Analytical Report 318492**

**for**

**R.T. Hicks Consultants, LTD**

**Project Manager: Dale Littlejohn**

**Samson State BD No. 4**

**L-126-1108**

**26-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



26-NOV-08

Project Manager: **Dale Littlejohn**  
**R.T. Hicks Consultants, LTD**  
901 Rio Grande Blvd. NW, Suite F-142  
Albuquerque, NM 87104

Reference: XENCO Report No: **318492**  
**Samson State BD No. 4**  
Project Address: Lea Co., NM

**Dale Littlejohn:**

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 318492. 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. 318492 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 318492



**R.T. Hicks Consultants, LTD, Albuquerque, NM**

Samson State BD No. 4

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1	W	Nov-21-08 10:37		318492-001
MW-2	W	Nov-21-08 09:30		318492-002
MW-3	W	Nov-21-08 10:52		318492-003
MW-4 (D)	W	Nov-21-08 10:01		318492-004
MW-4 (S)	W	Nov-21-08 10:11		318492-005



Certificate of Analysis Summary 318492  
R.T. Hicks Consultants, LTD, Albuquerque, NM



Project Id: L-126-1108  
Contact: Dale Littlejohn  
Project Location: Lea Co., NM

Date Received in Lab: Fri Nov-21-08 02:37 pm  
Report Date: 26-NOV-08

Project Name: Samson State BD No. 4

Project Manager: Brent Barron, II

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	318492-001	318492-002	318492-003	318492-004	318492-005
	Field Id:	Depth:	Matrix:	Sampled:	Sampled:	Nov-21-08 10:37	Nov-21-08 09:30	Nov-21-08 10:52	Nov-21-08 10:01	Nov-21-08 10:11
Chloride by SM4500-CI- B	Extracted:	Nov-24-08 09:35	mg/L	RL	5.000	101.3	53.18	4892	212.7	63.81
	Analyzed:	Nov-24-08 09:35	mg/L	RL	5.000	5.000	5.000	5.000	5.000	5.000
	Units/RL:	Nov-24-08 09:35	mg/L	RL	5.000	5.000	5.000	5.000	5.000	5.000
TDS by SM2540C	Extracted:	Nov-24-08 16:25	mg/L	RL	5.00	498	388	6330	682	478
	Analyzed:	Nov-24-08 16:25	mg/L	RL	5.00	5.00	5.00	5.00	5.00	5.00
	Units/RL:	Nov-24-08 16:25	mg/L	RL	5.00	5.00	5.00	5.00	5.00	5.00
Total dissolved solids										

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.

Since 1990 Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America - Atlanta - Corpus Christi

  
Brent Barron  
Odessa Laboratory Director



## Flagging Criteria



- 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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2505 North Falkenburg Rd, Tampa, FL 33619  
5757 NW 158th St, Miami Lakes, FL 33014  
12600 West I-20 East, Odessa, TX 79765  
842 Cantwell Lane, Corpus Christi, TX 78408

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555
(432) 563-1800	(432) 563-1713
(361) 884-0371	(361) 884-9116



## Blank Spike Recovery



Project Name: Samson State BD No. 4

Work Order #: 318492

Project ID:

L-126-1108

Lab Batch #: 741319

Sample: 741319-1-BKS

Matrix: Water

Date Analyzed: 11/24/2008

Date Prepared: 11/24/2008

Analyst: LATCOR

Reporting Units: mg/L

Batch #: 1

### BLANK /BLANK SPIKE RECOVERY STUDY

Chloride by SM4500-CI- B  Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	100.0	91.46	91	70-125	

Blank Spike Recovery  $[D] = 100 * [C] / [B]$

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



## Form 3 - MS / MSD Recoveries

Project Name: Samson State BD No. 4



Work Order #: 318492

Lab Batch ID: 741319

Date Analyzed: 11/24/2008

Reporting Units: mg/L

Project ID: L-126-1108

QC-Sample ID: 318492-004 S Batch #: 1 Matrix: Water

Date Prepared: 11/24/2008 Analyst: LATCOR

Chloride by SM4500-Cl-B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY							
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %
Chloride	212.7	1000	1234	102	1000	1234	102	0
								70-125
								25

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  $[G] = 100 * (F - A) / E$



## Sample Duplicate Recovery



Project Name: Samson State BD No. 4

Work Order #: 318492

Lab Batch #: 741373

Project ID: L-126-1108

Date Analyzed: 11/24/2008

Date Prepared: 11/24/2008

Analyst: WRU

QC- Sample ID: 318487-001 D

Batch #: 1

Matrix: Water

Reporting Units: mg/L

SAMPLE / SAMPLE DUPLICATE RECOVERY					
TDS by SM2540C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Total dissolved solids	1450	1410	3	30	

Spike Relative Difference RPD  $200 * |(B-A)/(B+A)|$

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

**12600 West I-20 East**  
**Odessa, Texas 79765**  
**Phone: 432-563-1800**  
**Fax: 432-563-1713**

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: Samson State BD No. 4  
Project #: L-126-1108  
Project Loc: Lea Co., NM  
PO #:

Project Manager: Dele Littlejohn  
Company Name: RT Hicks Consultants Ltd  
Company Address: P.O. Box 7624  
City/State/Zip: Midland, Texas 79708  
Telephone No: (432) 528-3878  
Fax No: (432) 689-4578 (Fax)  
Sample Signature: Dele Littlejohn

[illegible]

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

Client: R.T. Hicks  
Date/ Time: 11-21-08 14:37  
Lab ID #: 318492  
Initials: AL

**Sample Receipt Checklist**

			not frozen	Client Initials
#1 Temperature of container/ cooler?	Yes	No	-1.0 °C	
#2 Shipping 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 Custody present?	Yes	No		
#6 Sample instructions complete of Chain of Custody?	Yes	No		
#7 Chain of Custody signed when relinquished/ received?	Yes	No		
#8 Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid	
#9 Container label(s) legible and intact?	Yes	No	Not Applicable	
#10 Sample matrix/ properties agree with Chain of Custody?	Yes	No		
#11 Containers supplied by ELOT?	Yes	No		
#12 Samples in proper container/ bottle?	Yes	No	See Below	
#13 Samples properly preserved?	Yes	No	See Below	
#14 Sample bottles intact?	Yes	No		
#15 Preservations documented on Chain of Custody?	Yes	No		
#16 Containers documented on Chain of Custody?	Yes	No		
#17 Sufficient sample amount for indicated test(s)?	Yes	No	See Below	
#18 All samples received within sufficient hold time?	Yes	No	See Below	
#19 Subcontract of sample(s)?	Yes	No	Not Applicable	
#20 VOC samples have zero headspace?	Yes	No	Not Applicable	

**Variance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/ Time: \_\_\_\_\_

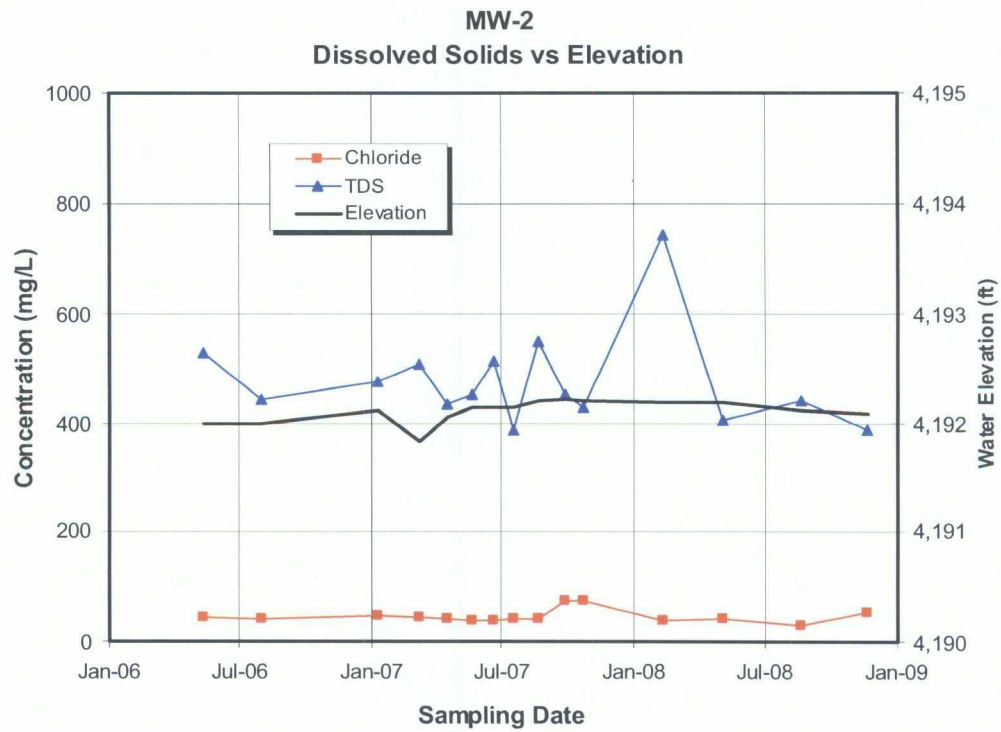
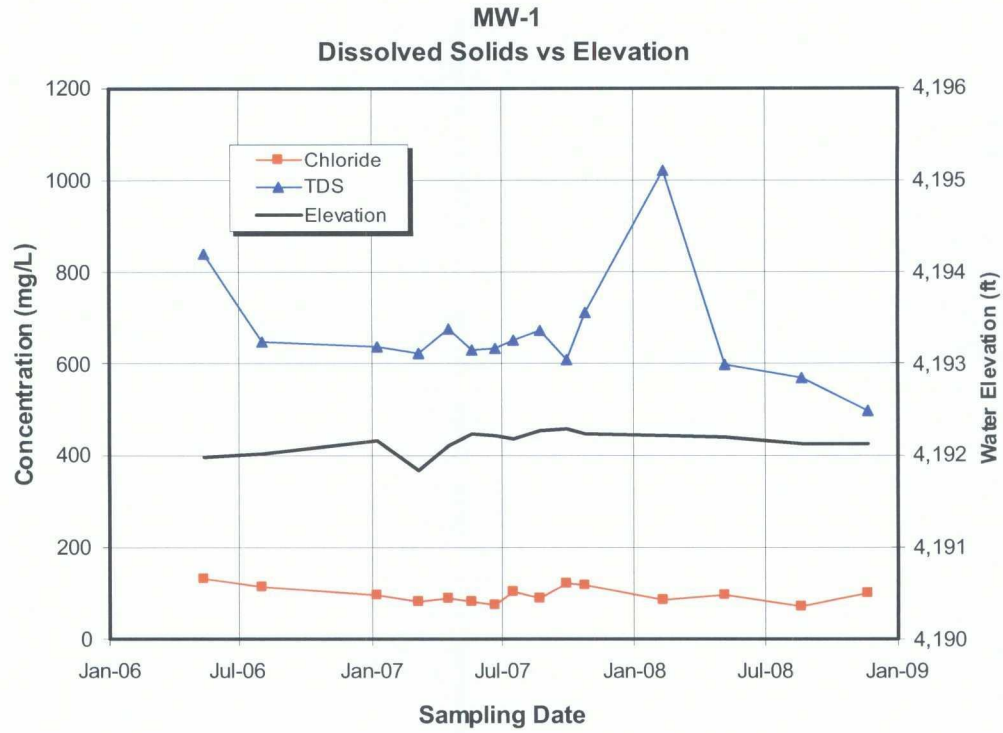
Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

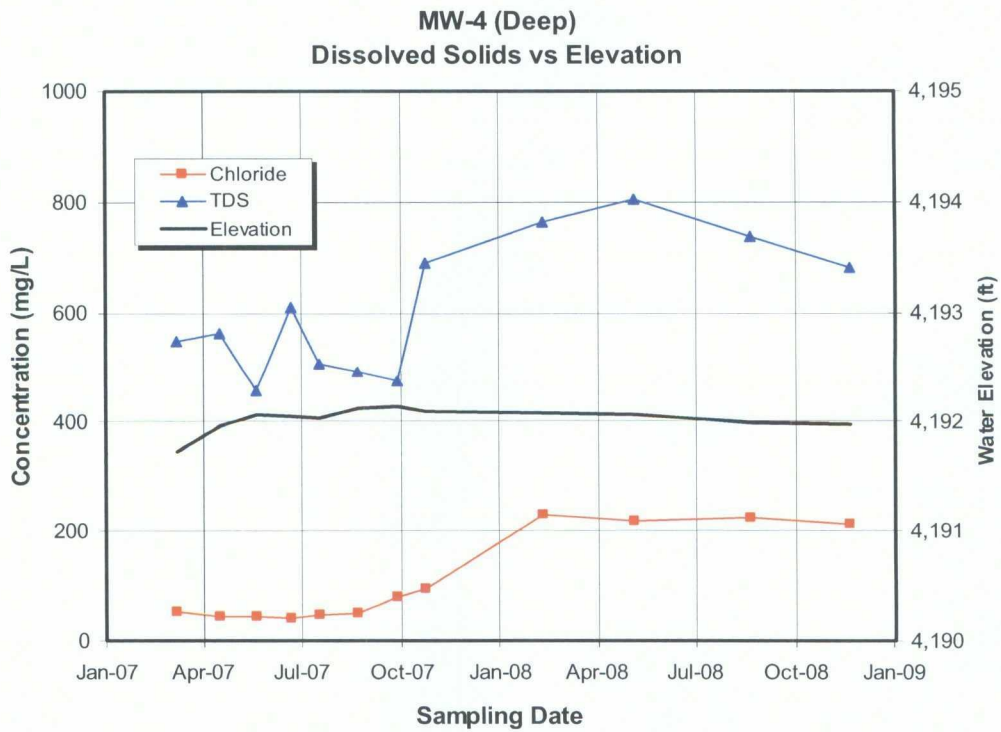
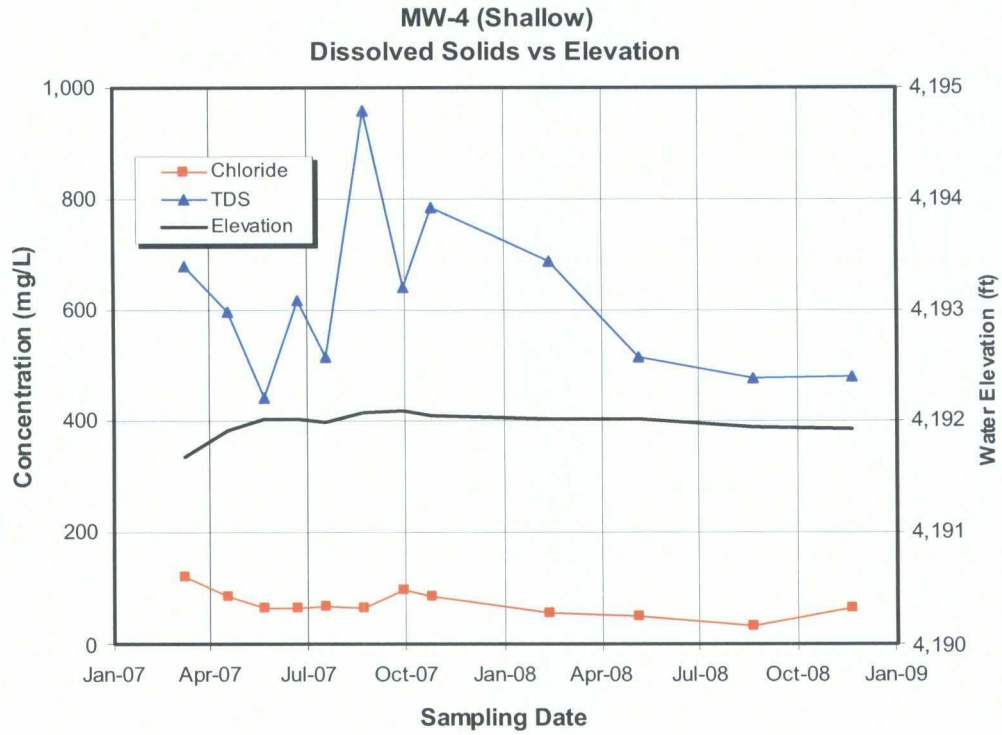
- Check all that Apply:
- ☐ See attached e-mail/ fax
  - ☐ Client understands and would like to proceed with analysis
  - ☐ Cooling process had begun shortly after sampling event

**ATTACHMENT B**  
**Historic Ground Water Quality Graphs**

**Samson State BD-4 Reserve Pit  
Appendix B – Historic Well Graphs**



Samson State BD-4 Reserve Pit  
Appendix B – Historic Well Graphs



Samson State BD-4 Reserve Pit  
Appendix B – Historic Well Graphs

