

# REPORTS

# 3/20/2000

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## ENVIRONMENTAL SITE ASSESSMENT

Osborn Ranch Sections 7 and 18 of Township 25 South Range 37 East Sections 12 and 13 of Township 25 South Range 35 East Lea County, New Mexico

March 20, 2000

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ENVIRONMENTAL BUREAU OIL CONSERVATION DIVISION

**Prepared for:** 

Mr. Clay Osborn P.O. 1285 Jal, New Mexico 80252

By:

Safety & Environmental Solutions, Inc. 703 E. Clinton, Suite 103 Hobbs, New Mexico 88240 (505) 397-0510

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#### 1.0 Introduction

Safety & Environmental Solutions, Inc. was retained by Mr. Clay Osborn, of Jal, New Mexico, to conduct an Environmental Site Assessment of the Osborn Ranch located in Sections 7 and 18 of Township 25 South Range 37 East and Sections 12, and 13 of Township 25 South Range 36 East in Lea County, New Mexico. (Figure 1)

## 1.1 **Purpose**

The purpose is to define the extent of any environmental damage to the subject property and estimate volume of contaminated soils.

#### 1.2 Special Terms and Conditions

This assessment was performed under the terms and conditions listed in Exhibit 10 of this report.

#### 1.3 Limitations and Exceptions of Assessment

Historical records and maps are limited for property located in Southeastern New Mexico. Assessor has made every attempt to obtain the appropriate records necessary for the completion of this assessment.

## 1.4 Limiting Conditions and Methodology Used

Soil sampling can be subdivided into surface and sub-surface samples. A surface sample may be defined as having a depth of 0-12" while a sub-surface sample has a depth of greater than 12". Surface sampling may be completed to identify areas where spills and leaks may have occurred or as part of the overall site characterization. Surface contamination may be identified visually through identification of discolored soils or areas with distressed/unusual vegetation appearance. Surface sampling of the subject sites was accomplished using a hand spade.

Sub-Surface sampling will provide an indication of the extent of sub-surface contamination and can provide a more complete characterization of a site when used in conjunction with surface sampling. Sub-surface sampling can be accomplished through the use of hand augers and split spoon samplers or a test pit or trench. An auger rig equipped with 4" continuous augers and 7" hollow stem augers was used to drill all test borings.



The volumetric estimates calculated in this report were derived from the experience of the assessor based upon the samples collected and not conclusive excavation of the sites. The samples procured in this assessment followed the protocol in Exhibit 1 of this report. The samples were preserved on ice immediately and remained cool until testing was complete. The samples were tested for Total Petroleum Hydrocarbons (TPH) using EPA Method 418.1 with a GAC Mega TPH Analyzer Serial # 01169. This analyzer was calibrated immediately before testing. The Field procedure in Exhibit 2 was followed for the analysis.

New Mexico Oil Conservation Division *Guidelines for Remediation of Leaks, Spills and Releases* (August 13, 1993) and *Unlined Surface Impoundment Closure Guidelines* (February 1993) were used to determine the appropriate remediation levels for the flowline leaks and the pit site. The levels are 100 ppm TPH. The levels are based upon the distance from the bottom of the contamination to the top of the ground water of less than 50'.

#### 2.0 Site Description

#### 2.1 Location and Legal Description

The location of the subject property is in southeastern Lea County, New Mexico approximately 1 mile north of Jal, New Mexico. (See Exhibits 1, 2, and 3)

Legal description is as follows:

Sections 7, 12, 13, and 18 of Township 25 South Range 37 East in Lea County, New Mexico.

#### 2.2 Site and Vicinity Characteristics

The site and surrounding area is undeveloped rangeland with oil and gas production throughout the area.

# 2.3 Description of Structures, Roads, Other Improvements on the Site

Subject site is improved with two (2) frame houses, a modular home, corrals, barns and outbuildings associated with the ranch. There are no paved or public roads on the property. There are five (5) water wells located on the property. Equipment associated with oil and gas production is located on the property. These items include pumping units, wellheads for production and injection wells, flow lines, injection lines, tank battery and associated equipment.

# 2.4 Current Uses of the Land

Subject property is currently undeveloped rangeland. The property is also used for the production of oil and gas. The current and past use of this property does involve the use, treatment, storage, disposal, or generation of hazardous substances or petroleum products. Large quantities of petroleum products and produced water are stored at the tank battery site and transported in the flow lines and injection lines on the property.

# 2.5 **Past Uses of the Property**

This property has been used as rangeland and for the production of oil and gas since the early fifties. Prior to oil and gas development, the land was solely used for rangeland.

# 2.6 Current and Past uses of Adjoining Properties

All adjacent property is currently being used in the same manner as the subject property with the exception of the Jal Country Club to the South. The Jal Country Club is a recreation area open to members and the public. The adjoining properties were not assessed and no opinion is expressed regarding the environmental condition or whether that condition could impact the subject property.

# 2.7 Site Rendering, Map, or Site Plan

See Figure 2.

# 3.0 Records Review

Objective - The purpose of the records review is to obtain and review records that will help identify recognized environmental conditions in connection with the property.

The only records reviewed during this assessment were files at the Oil Conservation Division in Hobbs and Santa Fe, New Mexico and filings at the New Mexico Environment Department in Hobbs and Santa Fe, New Mexico and the City of Jal, New Mexico. This review is not complete at the time of this interim report.

# 3.1 **Physical Setting Source(s)**

Review of the USDA Soil Conservation Service Soil Survey of Lea County, New Mexico issued January 1974 indicates that the subject property is located on Simona-Tonuco

association soils: nearly level and gently undulating, loamy and sandy soils that are shallow to indurated caliche. Soils are used primarily as range and wildlife habitat.

Review of the *Groundwater Map of Southern Lea County (1960)* indicates that the depth to ground water in the area of the subject property is approximately 50' and flows in a southeasterly direction.

Review of USGS 7.5 Quadrangle Map Jal NW indicates that the subject property is relatively flat at elevations between 3190 and 3070 feet above sea level. This fact is confirmed by site inspection.

# 3.3 Historical Setting Source

Review of the USDA Soil Conservation Service Soil Survey of Lea County, New Mexico issued January 1974 indicates that the subject property was largely undeveloped at the date of issue.

# 4.0 Sampling and Analytical Data

# 4.1 Introduction

1

Cornerstone Environmental Resources, Inc. (CERI) has produced four reports of environmental assessment of the area located on the Osborn Ranch on behalf of Bristol Resources Corporation. These documents are attached to this report as Exhibit 6. These reports identify four (4) sites that have been environmentally assessed to some extent. These reports also identify the depth to groundwater in the area as being 53' and provide an analysis of the water traveling in the injection lines on the property as to chloride content. All tables in this section of the report will indicate TPH or chloride level above the OCD Guidelines in red.

# 4.2 Site # 1

Site # 1 was identified by CERI in their report as the Winters Tank Battery. The report indicates that one observation trench was opened onsite and one sample taken at an undetermined depth and analyzed for TPH Gasoline Range and TPH Diesel Range and Benzene, Toluene, Ethyl Benzene and Xylene (BTEX). The results indicate 23.1 mg/kg for TPH Gasoline Range and 13,900 mg/kg TPH Diesel Range and no BTEX detected. The report does not indicate the vertical extent of contamination as defined by the OCD as 100 ppm TPH.

SESI installed eight (8) test borings to determine the vertical extent of TPH and Chloride contamination. (Exhibit 4) A summary of the findings is as follows:

and the second se	TB#1	<b>TB#2</b>	<b>TB#3</b>	<b>TB#4</b>	<b>TB#5</b>	<b>TB#6</b>	<b>TB</b> #7	<b>TB#8</b>
5'	1880	No test	No test	544	371	1470	<10	12100
10'	11600	1710	791	48.7	136	185	<10	231
15'	No test	No test	No test	No test	No test	No test	No test	No test
20'	No test	182	260	<10	2750	<10	33.6	<10
25'	2190	No test	No test					
30'	No test	No test	No test	48.7	<10	No test	No test	No test
35'	No test	No test	No test	No test	No test	No test	No test	No test
40'	No test	No test	431	431	<10	No test	No test	No test
45'	No test	No test	No test	<10	24.5	No test	No test	<10

# **TPH RESULTS PPM**

# **CHLORIDES RESULTS PPM**

	TB # 1	TB#2	TB#3	<b>TB#4</b>	TB#5	<b>TB#6</b>	<b>TB # 7</b>	<b>TB # 8</b>
5'	360	No test	No test	970	65	65	162	1374
10'	550	81	695	792	48	178	550	1277
15'	No test	No test	No test	No test	No test	No test	No test	No test
20'	No test	210	743	647	275	178	162	420
25'	302	No test	No test	No test	No test	No test	No test	No test
30'	No test	No test	620	711	145	No test	No test	1665
35'	No test	No test	No test	No test	No test	No test	No test	
40'	No test	No test	792	711	404	No test	No test	1568
45'	No test	No test	No test	792	453	No test	No test	1600

The test borings indicate TPH vertical extent to be from surface to 45' and the chloride vertical extent also is from surface to 45'.

# 4.3 Site # 2

Site # 2 is identified in the CERI reports as Abandoned Tank Battery Site. The reports indicate four observation trenches were opened and one sample taken from each trench at undetermined depths. The analysis indicate TPH Gasoline Range levels from non-detect to 1.55 Mg/Kg and Diesel Range TPH from 402 Mg/Kg to 4,440 Mg/Kg. BTEX was not detected in any samples. No indication of vertical extent of contamination is included in the reports.



SESI installed four test borings at this location to delineate the vertical extent of TPH and chloride contamination. (Exhibit 3 & 4) A summary of findings is as follows:

	<b>TB#1</b>	TB # 2	TB#3 *	TB #4
5'	104	26.3	81	295
10'	78	8	207	No test
15'	No test	No test	20.2	No test
20'	No test	No test	No test	No test
25'	No test	No test	No test	No test
30'	No test	No test	34.4	43.8

# TPH RESULTS PPM

# **CHLORIDE RESULTS PPM**

	<b>TB</b> #1	TB # 2	TB#3	<b>TB#4</b>
5'	746	1065	1775	515
10'	No test	No test	1154	560
15'	No test	No test	817	No test
20'	404	1293	740	460
25'	453	No test	600	No test
30'	No test	No test	426	195

The test borings indicate a vertical extent of TPH contamination of from surface to 10' and chloride vertical extent to be from surface to 30'.

# 4.4 Site # 3

Site # 3 is identified in the CERI reports as Abandoned Flare Pit Site. The reports indicate three (3) samples were taken from undetermined depths inside the pit area. The samples were analyzed for TPH in the Gasoline and Diesel Ranges and BTEX. Gasoline TPH Range levels were all non-detect and Diesel Range TPH levels range from non-detects to 24,300 Mg/Kg. No indication of vertical extent of contamination is included in the reports.

SESI installed three (3) test borings in this area to delineate the vertical extent of TPH and chloride contamination. (Exhibit 3 & 4) A summary of the findings is as follows:

# **TPH RESULTS PPM**

$\frac{1}{2} \sum_{i=1}^{n} \frac{1}{2} \sum_{i=1}^{n} \frac{1}$	- <b>TB # 1</b>	TB # 2.	<b>TB</b> # 3
5'	No test	No test	No test
10'	No test	No test	No test

# CHLORIDE RESULTS PPM

<	<b>TB # 1</b> /-	TB#2	TB#3
5'	81	65	388
10'	81	388	582

The test borings show the vertical extent of the TPH contamination is just below the bottom surface of the pit and the vertical extent of the chloride contamination is at least 10'.

# 4.5 Site # 4

Site visually identified, not yet delineated by assessor. However, Cornerstone Environmental Resources, Inc. did install six (6) bore hole to depths ranging from 20' to 25' in the area of the spill. The summary of Cornerstone's samples for chlorides are as follows:

Depth	😒 . TB #1 🗧	TB #2	<b>TB #3</b>	<b>TB</b> #4	<b>TB #5</b>	<b>TB'#6</b>
1'	6	2	1370	No test	No test	No test
3'	No test	No test	No test	No test	273	793
4'	No test	No test	No test	9	No test	No test
7'	No test	1	No test	No test	No test	No test
8'	No test	No test	No test	1540	No test	No test
10'	No test	No test	1490	No test	1690	1970
13'	No test	No test	No test	No test	No test	3710
14'	No test	No test	No test	2340	915	No test
19'	No test	1040	No test	1170	No test	No test
22'	No test	No test	No test	No test	1230	No test
22.5'	651	No test	1160	No test	No test	No test
25'	No test	No test	No test	No test	No test	1720

# CHLORIDE RESULTS PPM



# 11

# 4.6 Site # 5

Site visually identified, not yet delineated.

# 4.7 Site # 6

Site visually identified, not yet delineated.

# 4.8 Site # 7

Site visually identified, not yet delineated.

### 4.9 Site # 8

Site visually identified, not yet delineated.

# 4.10 Site # 9

Site # 9 was visually identified by SESI. SESI installed three (3) test borings to delineate the vertical extent of THP and chloride contamination. (Exhibit 3 & 4) A summary of the findings is as follows:

# **TPH RESULTS PPM**

	TB#1.	TB#2	TB#3
5'	142	<10	<10
10'	No test	No test	No test
15'	No test	No test	No test

# **CHLORIDES RESULTS PPM**

	. +TB # 1	- TB#2 .	<b>TB # 3</b> *
5'	No test	No test	No test
10'	2797	2021	No test
15'	2489	1697	2465

The test borings indicate minimal TPH impact to the site and the vertical extent of the chloride contamination was not determined because of auger refusal at approximately 15'. However, the concentrations at that level are far in excess of the vertical extent level of 250 PPM.

# 4.11 Site # 10

Site visually identified, not yet delineated.

# 5.0 Site Groundwater Sampling and Analytical Data

# 5.1 **CERI Groundwater Analytical Data**

CERI indicates in the report "Phase II Environmental Assessment, July, 1999 Groundwater Sampling" that a groundwater monitor well was installed at Site # 4 approximately 75' south of the leak site. No mention of the depth of the monitor well is made in the report, however, in the other cited reports from CERI the depth to groundwater in the area is approximately 53'. The groundwater from the monitor well was analyzed for chlorides and found to contain concentrations of 348 mg/l, which is in excess of the WQCC standards for chlorides. In addition, two of Mr. Clay Osborn's well were sampled and found to contain concentrations of 342 mg/l and 687 mg/l. Both concentrations are in excess of WQCC standard of 250 mg/l.(Exhibit 6)

## 5.2 SESI Groundwater Analytical Data

On December 15, 1999, SESI took samples from the five (5) water wells located in the immediate vicinity of the Clay Osborn home. The samples were taken according to industry protocol and transported under Chain-of-Custody to Cardinal Laboratories of Hobbs, New Mexico for analysis. The laboratory was asked to analyze the samples for BTEX, Major Cations and Anions and Nitrates. The results of the analysis (Exhibit ) indicate no BTEX and chloride levels from 121 mg/l to 432 mg/l. The well servicing Mr. Osborn's home exhibited the 432 mg/l concentration. This concentration is in excess of the WQCC standards.

On December 30, 1999, SESI sampled the north water well in the manner cited above and found no BTEX concentrations and chloride levels of 857 mg/l. The chloride concentration is in excess of the WQCC standards.

On January 6, 2000, SESI sampled a monitor well on the west side of the property, which was installed by Texas-New Mexico Pipeline to monitor a previous leak. The well was sampled in the same manner and analyzed as cited above. No BTEX was found in the sample and the chlorides were 210 mg/l. On the same day, the water from the commercial sales tank at the Jal Country Club was sampled and analyzed. This water comes from three wells located on the Country Club property and due south of the Osborn home. There was no BTEX found and the chloride concentration was 610 mg/l.



Seven (7) water and monitor wells were tested on the subject property and only three (3) of the seven did not exhibit chloride levels in excess of the WQCC standards. (Exhibit 5)

The groundwater investigation and hydrogeology work has been completed and is reported in the document entitled *Hydrogeology and Groundwater in the Vicinity of the Osborn Ranch, Jal, New Mexico*, Safety & Environmental Solutions, Inc. dated March 20, 2000.

# 5.3 City of Jal Groundwater Analytical Data

The City of Jal, New Mexico, as a requirement of their discharge plan, periodically monitors water wells in the area and has been doing so for a number of years. Records obtained from the City of Jal indicate widespread chloride concentrations in excess of the WQCC standard of 250 mg/l.(Exhibit 7)

The water well that services the Osborn home is designated as Well # 11 Upstream in the City of Jal records. SESI has summarized the information in graphical form with trend lines in Figure 3 of this report. The Well # 11 Upstream exhibits an increase in the chloride concentrations and Total Dissolved Solid (TDS) level two fold since 1996. The chloride level in 1996 of 172 mg/l is below the WQCC standards and in 1999 CERI, SESI and the City of Jal analysis indicates concentrations in excess of the WQCC standard. (Exhibit7)

## 6.0 Volume Estimate

The volume estimates in this section do not reflect the total volume of soils impacted with either TPH or chlorides at each site. Rather the estimates are an attempt to determine a prudent assessment of the volume of impacted soils that may need to be addressed in some fashion. This estimate is based upon the best judgment and experience of SESI personnel.

# 6.1 Site # 1

110' x 60' x 6' on one end, grading to 110' x 60' x 25' at other end. Estimated volume -3,788cy

# 6.2 Site # 2

90' x 60' x 10' Estimated volume – 2,000cy

3			
2	,	7	

# 6.3 Site # 3

50' x 50' x 5' pit area Estimated volume – 463cy

# 6.4 **Site # 4**

Site not yet delineated – estimated area - 600' x 30' x 15' Estimated volume – 10,000cy

# 6.5 Site # 5

Site not yet delineated – estimated area 30' x 35' x 10' Estimated volume – 389cy

# 6.6 Site # 6

Site not yet delineated – estimated area – 100' x 60' x 10' Estimated volume – 2,222cy

# 6.7 Site # 7

Site not yet delineated – estimated area – 40' x 40' x 10' Estimated volume – 593cy

# 6.8 Site # 8

Site not yet delineated – estimated area – 60' x 60' x 10' Estimated volume – 1,333cy

## 6.9 Site # 9

Section A (Source site) – 30' x 35' x15' Estimated volume – 583cy

Section B (Pooling area) – 100' x 60' x15' Estimated volume – 3,333cy

Section C (Run area) – 100' x 15' x15' Estimated volume – 833cy



# 6.10 Site # 10

Site not yet delineated – estimated area – 40' x 40' x 10' Estimated volume – 593cy





Figure 1 Vicinity Map

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Figure 2

Site Plan

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# Figure 3

# Groundwater Quality Graphs





Kemp Well Downstream

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Kemp Well Downstream



-∎- TDS -+-537

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Well #16 Stephenson Well

a 8.

11



Well #16 Stephenson Well

100

→ CI





08/30/96 11/21/96 02/20/97 05/27/97 08/13/97 11/05/97 02/12/98 05/11/98 08/19/98 11/30/98 02/23/99 05/17/99 08/23/99 11/22/99 Sample Date

777

Well #8 South of Clubhouse



08/30/96 11/21/96 02/20/97 05/27/97 08/13/97 11/05/97 02/12/98 05/11/98 08/19/98 11/30/98 02/23/99 05/17/99 08/23/99 11/22/99 Sample Date

➡ TDS



4.15°



587 .



Sec. 1



.e.t.

➡ TDS





Well #4 - On Site

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Well #4 - On Site



➡ TDS ➡ CI

617X





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Well #3 - On Site



Well #3 - On Site


Well #2 - On Site

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➡ TDS



Well #2 - On Site

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ບ	TDS	2,490	2,510	2,700	2,420	2,490	2,400	2,800	2,460
В	ວ	537	536	555	557	606	585	576	560
A	Date	05/23/96	11/21/96	05/27/97	11/05/97	05/11/98	11/30/98	05/17/99	11/22/99
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Э	05/23/96	470	2,382		05/23/96	549	2,584		05/23/96	550	2,472
4	08/30/96	56	2,682		08/30/96	543	2,798		08/30/96	543	2,670
S	11/21/96	470	2,370		11/21/96	514	2,190		11/21/96	523	2,270
9	02/20/97	507	2,600		02/20/97	528	2,240		02/20/97	518	2,120
7	05/27/97	578	2,360		05/27/97	572	2,480		05/27/97	559	2,500
8	08/13/97	548	3,000		08/13/97	552	2,640		08/13/97	552	2,580
6	11/05/97	557	2,730		11/05/97	553	2,340		11/05/97	549	2,390
2	02/12/98	567	2,610		02/12/98	553	2,580		02/12/98	557	2,410
Ξ	05/11/98	559	2,410		05/11/98	605	2,440		05/11/98	618	2,270
12	08/19/98	579	2,780		08/19/98	560	2,720		08/19/98	581	2,650
13	11/30/98	557	2,410		11/30/98	588	2,620		11/30/98	587	2,340
1 4	02/23/99	654	2,680		02/23/99	650	2,710		02/23/99	641	2,500
15	05/17/99	671	2,510		05/17/99	565	2,610		05/17/99	579	2,620
16	08/23/99	547	2,710		08/23/99	631	3,120		08/23/99	577	2,780
17	11/22/99	588	2,830		11/22/99	664	2,410		11/22/99	594	2,390
18											
19	Well #11 C	<b>)sborn Hou</b>	Ise Well		Well #8	S. of Club	house		Well #16	Stephenso	n Well
20	Date	CI	TDS		Date	C	TDS		Date	C	TDS
21	05/23/96	172	992		08/30/96	502	2,733		05/23/96	412	1,974
22	11/21/96	176	714		11/21/96	513	2,660		11/21/96	421	2,010
23	05/27/97	182	938		02/20/97	517	2,630		05/27/97	458	2,230
24	11/05/97	241	1,250		05/27/97	563	2,920		11/05/97	413	2,010
25	05/11/98	218	1,100		08/13/97	551	2,980		05/11/98	491	1,940
26	11/30/98	292	1,280		11/05/97	555	2,670		11/30/98	477	2,040
27	05/17/99	319	1,580		02/12/98	539	2,600		05/17/99	449	2,310
28	11/22/99	419	1,570		05/11/98	554	2,410		11/22/99	465	2,130
29					08/19/98	521	2,670				
30					11/30/98	545	2,430				
31					02/23/99	593	2,480				
32					05/17/99	525	2,580				
33					08/23/99	549	2,790				
34					11/22/99	534	2,390				
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		Wel	I #2 On Sit	c		We	II # 3 Onsit	c		Wel	ll # 4 Onsit	e
3         0	2	Date	CI	TDS		Date	C	TDS		Date	ฉ	TDS
4         08.300%6         56         2.682         08.300%6         54.3         2.500         08.300%6         54.3         2.500           7         11.211.96         507         2.500         01.20097         518         2.190         02.20097         518         2.200           7         05.20097         507         2.500         03.27097         518         2.190         02.20097         518         2.190         02.20097         518         2.190         02.20097         518         2.190         02.20097         518         2.190         02.20097         518         2.190         02.20097         518         2.190         02.20097         518         2.190         02.20097         518         2.190         02.20097         518         2.190         02.20097         518         2.100         02.100         518         2.100         02.100         518         2.100         02.100         518         2.200         02.2009         518         2.200         02.2009         518         2.200         02.2009         518         2.200         2.210         2.210         2.210         2.210         2.210         2.210         2.210         2.210         2.210         2.210         2.210         2.	Э	05/23/96	470	2,382		05/23/96	549	2,584		05/23/96	550	2,472
5         11/21/96         470         2,370         11/21/96         514         2,190         11/21/96         52.32         2,220           6         0.2020/97         588         2,600         0.0220/97         553         2,430         0.5720/97         553         2,500           8         0.8/13/97         588         2,600         0.0220/97         553         2,500         0.5720/97         553         2,500           9         0.8/11/98         557         2,100         0.11/05/97         553         2,500         0.5720/97         559         2,500           11         0.5/11/98         557         2,100         0.5/11/98         653         2,410         0.5/11/98         553         2,500         0.5/270/97         559         2,500           11         0.5/11/98         557         2,410         0.5/11/98         653         2,410         0.5/17/99         553         2,500           11         0.5/11/99         654         2,510         0.5/17/99         553         2,510         0.5/17/99         553         2,520           11         0.5/17/99         654         2,410         0.5/17/99         553         2,560         0.5/17/99         5	4	08/30/96	56	2,682		08/30/96	543	2,798		08/30/96	543	2,670
6         02.2007         507         2.600         02.20077         518         2.100           7         05/27/97         578         2,000         05/27/97         573         2,000           8         08/13/97         557         2,730         08/13/97         557         2,440         05/27/97         553         2,540         05/17/98         557         2,440         05/27/97         553         2,540         05/17/98         557         2,410         05/17/98         557         2,440         05/17/98         557         2,440         05/17/98         557         2,440         05/17/98         557         2,440         05/17/98         557         2,440         05/17/98         557         2,440         05/17/98         557         2,440         05/17/98         557         2,440         05/17/98         557         2,440         05/17/98         557         2,440         05/17/98         557         2,440         05/17/98         557         2,440         05/17/99         557         2,540         05/17/99         557         2,540         05/17/99         557         2,540         2,500         05/17/99         567         2,500         05/17/99         567         2,500         5/160	S	11/21/96	470	2,370		11/21/96	514	2,190		11/21/96	523	2,270
1 $0.527/97$ $578$ $2,360$ $0.57797$ $578$ $2,360$ $0.571/97$ $557$ $2,360$ $0.571/97$ $557$ $2,360$ $0.571/98$ $557$ $2,410$ $0.571/98$ $557$ $2,410$ $0.571/98$ $557$ $2,410$ $0.571/98$ $557$ $2,410$ $0.571/98$ $557$ $2,410$ $0.571/98$ $557$ $2,410$ $0.571/98$ $557$ $2,410$ $0.571/98$ $557$ $2,410$ $0.571/98$ $557$ $2,410$ $0.571/98$ $557$ $2,410$ $0.571/98$ $557$ $2,410$ $0.571/98$ $557$ $2,410$ $0.571/99$ $557$ $2,410$ $0.571/99$ $557$ $2,410$ $0.571/99$ $557$ $2,410$ $0.571/97$ $557$ $2,410$ $0.571/97$ $557$ $2,410$ 1         1         0         0         0         2,410         0         0.2712/98 $557$ $2,410$ 1         1         0         0         2,410         0         0.2712/97 $2,620$ </td <td>9</td> <td>02/20/97</td> <td>507</td> <td>2,600</td> <td></td> <td>02/20/97</td> <td>528</td> <td>2,240</td> <td></td> <td>02/20/97</td> <td>518</td> <td>2,120</td>	9	02/20/97	507	2,600		02/20/97	528	2,240		02/20/97	518	2,120
8         08/13/97         548         3,000         08/13/97         552         2,540         08/13/97         552         2,390           9         11/05/97         557         2,710         03/13/98         553         2,340         03/13/98         553         2,340         03/13/98         557         2,340         03/13/98         557         2,410         03/13/98         557         2,410         03/13/98         557         2,340         03/13/98         557         2,340         03/13/98         583         2,600         03/13/98         581         2,600         03/13/99         581         2,500         03/13/99         581         2,500         03/13/99         581         2,500         03/13/99         581         2,500         03/13/99         581         2,500         03/13/99         581         2,500         03/13/99         581         2,500         03/13/99         581         2,500         03/13/99         581         2,500         03/13/99         581         2,500         03/13/99         591         2,400         03/13/99         591         2,500           16         08/23/99         547         2,710         08/23/99         561         03/23/96         1,102         2,780	2	05/27/97	578	2,360		05/27/97	572	2,480		05/27/97	559	2,500
9         11/05/97         557         2,730         11/05/97         553         2,340         11/05/97         549         2,390           10         02/12/98         567         2,410         02/12/98         553         2,410         02/12/98         557         2,410           11         02/13/98         557         2,410         08/19/98         557         2,410         02/13/98         560         2,720         08/19/98         581         2,500           12         08/19/98         557         2,410         11/13/09         583         2,620         02/13/99         587         2,340           14         02/23/99         654         2,610         02/13/99         650         2,710         02/13/99         587         2,340           15         02/13/99         654         2,410         11/12/99         564         2,410         12/299         579         2,500           16         02/23/99         661         12/10         08/23/99         664         2,410         11/22/99         579         2,500           17         11/22/99         583         2,610         08/23/99         664         2,410         11/22/99         579         2,620	8	08/13/97	548	3,000		08/13/97	552	2,640		08/13/97	552	2,580
	6	11/05/97	557	2,730		11/05/97	553	2,340		11/05/97	549	2,390
11         05/11/98         559         2,410         05/11/98         605         2,440         05/11/98         618         2,270           12         08/19/98         579         2,740         08/19/98         581         2,650         08/19/98         581         2,650           14         02/23/99         654         2,410         02/13/99         654         2,410         02/33/99         641         2,300           15         05/17/99         671         2,510         05/17/99         555         2,610         02/33/99         547         2,500           16         08/23/99         547         2,510         08/17/99         553         2,610         02/17/99         577         2,500           16         08/23/99         547         2,710         08/23/99         541         1,172/99         577         2,780           16         08/23/96         172         992         08/14/81         2,610         03/17/99         577         2,780           17         11/22/96         513         2,600         11/22/99         577         2,780         2,710           21         05/23/96         172         992         08/14/9         2,510	10	02/12/98	567	2,610		02/12/98	553	2,580		02/12/98	557	2,410
12         08/19/98         579         2,780         08/19/98         560         2,720         08/19/98         581         2,650           13         11/30/98         557         2,410         11/30/98         587         2,340         2,500         02/23/99         641         2,500           15         05/17/99         671         2,510         05/17/99         557         2,410         05/17/99         547         2,500           16         08/23/99         547         2,510         05/17/99         564         2,410         01/22/99         577         2,500           16         08/23/99         547         2,730         08/23/99         547         2,390         577         2,780           17         11/22/99         588         2,830         654         2,410         08/23/99         577         2,780           18         Mell #1         Osbern House Well         Well #8.         O         08/23/96         571         2,730           21         05/23/96         172         992         08/23/97         554         412         1/74           21         05/23/96         170         0         05/23/96         412         1/94	11	05/11/98	559	2,410		05/11/98	605	2,440		05/11/98	618	2,270
13         11/30/98         557         2,410         11/30/98         587         2,340         2,340           14         02/33/99         654         2,680         02/33/99         654         2,510         02/37/99         654         2,500           16         08/37/99         671         2,510         08/37/99         654         2,610         05/17/99         579         2,600           16         08/37/99         587         2,310         08/37/99         587         2,310         05/17/99         579         2,600           16         08/37/99         588         2,830         11/12/99         664         2,410         11/22/99         579         2,500           18         I/122/99         588         2,830         11/12/96         517         2,630         05/23/96         574         2,390           18 <b>Date</b> CI <b>TDS Date</b> CI <b>TDS</b> 2,910           21         05/23/96         172         992         08/3/97         531         2,650         05/17/97         413         2,010           22         05/23/96         116         11/21/96         531         2,650	12	08/19/98	579	2,780		08/19/98	560	2,720		08/19/98	581	2,650
14         02/23/99         654         2,600         02/23/99         641         2,500           15         05/17/99         671         2,510         05/17/99         577         2,780           16         08/23/99         671         2,510         08/17/99         555         2,610         08/23/99         577         2,780           17         11/22/99         587         2,330         11/22/99         641         1,780         2,390           18         A         2,310         08/13/96         563         2,410         11/22/99         577         2,390           19         Well #11         Obborn House Well         Well #8.6         Of         11/22/99         541         11/22/99         571         2,300           20         05/23/96         172         992         08/30/96         502         2,733         05/23/96         412         1,974           21         05/23/96         1705         923         08/30/96         513         2,660         01/12/96         421         2,910           21         05/23/97         1182         102/20/97         513         2,660         01/12/96         421         2,910           25 <td>13</td> <td>11/30/98</td> <td>557</td> <td>2,410</td> <td></td> <td>11/30/98</td> <td>588</td> <td>2,620</td> <td></td> <td>11/30/98</td> <td>587</td> <td>2,340</td>	13	11/30/98	557	2,410		11/30/98	588	2,620		11/30/98	587	2,340
15         05/17/99         671         2,510         05/17/99         555         2,610         05/17/99         579         2,520           16         082/23/99         547         2,710         08/23/99         577         2,780           17         11/22/99         588         2,830         08/23/99         577         2,780           17         11/22/99         588         2,830         08/23/99         577         2,780           18         Nell #11         Osborn House Well         Well #8 S. of Clubhouse         Well #16 Stephenson Well         2,930           20         Date         C1         TDS         992         08/30/96         513         2,650         05/23/96         412         1,974           21         05/23/96         176         714         11/21/96         513         2,650         05/23/96         421         2,910           23         05/23/96         176         714         11/21/96         513         2,650         05/23/96         421         2,910           24         173/98         513         2,660         05/23/96         413         1,940           25         05/21/97         581         2,680         05/11	14	02/23/99	654	2,680		02/23/99	650	2,710		02/23/99	641	2,500
16         08/23/99         547         2,710         08/23/99         547         2,780           17         11/22/99         588         2,830         11/22/99         664         2,410         11/22/99         594         2,390           18         Noll#         Noll#         Noll#         Noll#         Noll##16         Stephenson         Noll           19         Well#11/05/07         172         992         08/30/96         513         2,630         05/23/96         412         1,974           20         05/23/96         172         992         08/30/96         513         2,630         05/23/97         412         1,974           21         05/23/97         182         938         02/20/97         517         2,630         05/27/97         438         2,910           23         05/23/96         170         11/21/96         11/05/97         551         2,930         05/27/97         438         2,910           23         05/27/97         182         938         02/20/97         551         2,980         05/17/97         412         1,940           24         11/05/97         551         2,980         05/17/99         491         1,940	15	05/17/99	671	2,510		05/17/99	565	2,610		05/17/99	579	2,620
17         11/22/99         588         2,830         11/22/99         588         2,830         11/22/99         594         2,330           18 <b>Well #11 Obbrn House Well Well #11 Stephenson Well Well #16 Stephenson Well Well #10 Stephenson Well</b> 19 <b>Well #11 Obbrn House Well Well #13 S. of Clubhouse Well #16 Stephenson Well Well #10 Stephenson Well</b> 21         05/23/96         172         992 <b>Well #8 S. of Clubhouse Well #16 Stephenson Well</b> 21         05/27/97         174         11/21/96         512         2,630         05/27/97         412         1,974           23         05/27/97         182         938         02/20/97         517         2,630         05/27/97         412         1,974           24         11/05/97         241         1,230         05/27/97         553         2,920         05/1/98         491         1,940           25         05/11/98         218         1,100         08/13/97         551         2,980         05/17/99         491         1,940           25         05/11/98         218         1,1000         08/13/97         555         2,670         05/17/99	16	08/23/99	547	2,710		08/23/99	631	3,120		08/23/99	577	2,780
18         11         0.5         Well #11 Osborn House Weil         Well #8 S. of Clubhouse         Well #16 Stephenson Well           19         Weil #11 Osborn House Weil         Weil #8 S. of Clubhouse         Well #16 Stephenson Well           20         Date         CI         TDS         Date         CI         TDS           21         05/23/96         172         992         08/30/96         513         2,560         01/22/96         412         1,974           21         05/27/97         182         938         02/20/97         513         2,650         05/27/97         431         1,974           22         11/20/97         241         1,250         05/27/97         553         2,920         01/1/98         431         2,910           25         05/11/98         218         1,100         08/12/98         553         2,670         01/1/99         449         2,910           26         05/17/99         319         1,580         02/12/98         554         2,410         05/17/99         449         2,910           27         05/17/99         319         1,580         02/12/98         554         2,410         01/1/22/99         465         2,130	17	11/22/99	588	2,830		11/22/99	664	2,410		11/22/99	594	2,390
Ip         Well #I Osborn House Weil         Well #8 S. of Clubhouse         Well #16 Stephenson Weil           20         Date         Cl         TDS         Date         Cl         TDS           21         05/23/96         172         992         08/30/96         502         2,733         05/23/96         412         1,974           22         11/21/96         176         714         11/21/96         513         2,660         11/21/96         421         2,010           23         05/27/97         182         938         02/20/97         513         2,660         11/21/96         421         2,010           24         11/05/97         218         1,100         05/27/97         553         2,920         11/05/97         438         2,300           25         05/17/99         319         1,580         05/27/97         551         2,980         05/17/99         477         2,040           26         05/17/99         319         1,580         05/17/98         551         2,680         05/17/99         455         2,130           27         05/17/99         319         1,580         05/17/98         551         2,640         05/17/99         455         <	18											
20         Date         C1         TDS         Date         C1         TDS         Date         C1         TDS $21$ $05/23/96$ $172$ $992$ $08/30/96$ $502$ $2,733$ $05/23/96$ $412$ $1,974$ $21$ $05/23/96$ $176$ $714$ $11/21/96$ $513$ $2,660$ $11/21/96$ $412$ $2,910$ $22$ $05/27/97$ $182$ $938$ $02/20/97$ $517$ $2,630$ $05/27/97$ $458$ $2,230$ $24$ $11/05/97$ $241$ $1,250$ $05/17/97$ $553$ $2,920$ $11/96/97$ $458$ $2,230$ $25$ $05/17/99$ $319$ $1,250$ $08/13/97$ $555$ $2,670$ $01/06/97$ $419$ $1,940$ $25$ $05/17/99$ $319$ $1,570$ $02/12/98$ $539$ $2,670$ $01/06/97$ $419$ $2,910$ $21/30/98$ $219$ $11/20/98$ $555$ $2,670$ $01/07/99$ $419$ $2,910$	19	Well #11 C	)sborn Hou	Ise Well		Well #8	S. of Club	house		Well #16	Stephenso	n Well
21         05/23/96         172         992         08/30/96         502         2,733         05/23/96         412         1,974           22         11/21/96         176         714         11/21/96         513         2,660         11/21/96         421         2,010           23         05/27/97         182         938         02/20/97         517         2,650         05/27/97         458         2,200           24         11/05/97         241         1,250         05/27/97         551         2,920         05/11/98         491         1,940           25         05/11/98         218         1,100         08/13/97         551         2,920         05/11/98         491         1,940           25         05/17/99         319         1,580         01/10/88         554         2,410         05/17/99         449         2,310           28         11/22/99         419         1,570         05/17/98         554         2,410         05/17/99         449         2,310           28         05/17/99         553         2,670         05/17/99         449         2,310           29         05/17/99         554         2,410         05/17/99	20	Date	ฮ	TDS		Date	CI	TDS		Date	G	TDS
22         11/21/96         714         11/21/96         714         11/21/96         421         2,010           23         05/27/97         182         938         02/20/97         517         2,650         05/27/97         458         2,230           24         11/05/97         241         1,250         05/27/97         563         2,920         01/1/98         491         1,940           25         05/11/98         218         1,100         08/13/97         551         2,980         05/11/98         491         1,940           25         05/11/98         219         1,570         08/13/97         555         2,670         01/1/30/98         471         2,010           26         11/30/98         219         1,580         02/11/98         554         2,410         05/17/99         449         2,310           27         05/17/99         319         1,570         02/11/98         554         2,410         05/17/99         449         2,310           28         11/22/99         419         1,570         08/19/98         554         2,410         01/1/22/99         445         2,130           29         05/17/99         545         2,410 <td>21</td> <td>05/23/96</td> <td>172</td> <td>992</td> <td></td> <td>08/30/96</td> <td>502</td> <td>2,733</td> <td></td> <td>05/23/96</td> <td>412</td> <td>1,974</td>	21	05/23/96	172	992		08/30/96	502	2,733		05/23/96	412	1,974
23         05/27/97         182         938         02/20/97         517         2,630         05/27/97         458         2,230           24         11/05/97         241         1,250         05/27/97         563         2,920         11/05/97         413         2,010           25         05/11/98         218         1,100         08/13/97         551         2,980         05/11/98         419         1,940           26         11/30/98         292         1,580         01/10/98         555         2,670         11/30/98         477         2,040           27         05/17/99         319         1,580         02/12/98         555         2,670         05/17/99         449         2,310           28         11/22/99         419         1,570         02/11/98         551         2,410         11/22/99         465         2,130           29         20         2,410         11/22/99         545         2,410         11/22/99         465         2,130           21         21/2/99         545         2,410         11/22/99         465         2,130           30         21/2/99         545         2,410         11/22/99         465	22	11/21/96	176	714		11/21/96	513	2,660		11/21/96	421	2,010
24         11/05/97         241         1,250         05/27/97         563         2,920         11/05/97         413         2,010           25         05/11/98         218         1,100         08/13/97         551         2,980         05/11/98         491         1,940           26         11/30/98         292         1,280         08/13/97         555         2,670         05/17/99         477         2,010           28         11/20/99         319         1,580         02/12/98         539         2,600         05/17/99         449         2,310           28         11/22/99         419         1,570         02/12/98         534         2,410         11/30/98         449         2,310           20         05/17/99         419         1,570         05/11/98         534         2,410         11/22/99         445         2,310           30         11/22/99         419         1,570         05/11/98         534         2,430         05/17/99         465         2,130           31         11/22/99         410         1,570         05/17/99         455         2,430         05/17/99         465         2,130           32         11/22/99 </td <td>23</td> <td>05/27/97</td> <td>182</td> <td>938</td> <td></td> <td>02/20/97</td> <td>517</td> <td>2,630</td> <td></td> <td>05/27/97</td> <td>458</td> <td>2,230</td>	23	05/27/97	182	938		02/20/97	517	2,630		05/27/97	458	2,230
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Well #3 - On Site

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Well #4 - On Site

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Well #8 South of Clubhouse

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Sample Date

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Well #16 Stephenson Well



➡ TDS

Kemp Well Downstream

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Sample Date

## Exhibit 1

# Soil Sampling Procedures



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### Discussion

One of the simplest methods of collecting soil samples is with a spade, spoon or scoop. A normal lawn or garden spade can be utilized to remove the top cover of soil to the required depth and then a smaller stainless steel scoop or spoon may be used to collect the sample.

### Uses

This method can be used in most soil types but is limited to sampling near the surface. Samples from depths greater than 12 inches become extremely labor intensive in most soils. Representative samples can be collected with this procedure depending o the care and precision employed by the sampler. The use of a flat shovel to cut a block of soil can be used to obtain less disturbed soil profiles. A stainless steel scoop or spoon will suffice for most other applications. Care should be exercised to avoid the use of devices plated with chrome or other plating materials, which is common in garden tools.

### **Procedures for Use**

- 1. Carefully remove the top layer of soil to the desired sample depth with a precleaned spade.
- 2. Using a pre-cleaned stainless steel scoop or trowel, remove and discard the thin layer of soil which was in contact with the shovel, and collect a representative sample. If compositing a series of grab samples, use a stainless steel mixing bowl or Teflon tray for mixing. (NOTE: If a pre-cleaned stainless steel spade was used, the removal of the thin soil layer is not necessary. Sampling directly with this type of spade is possible.)
- 3. Transfer sample into an appropriate sample bottle with a stainless steel lab spoon or equivalent.
- 4. Check that a Teflon liner is present in the cap if required. Secure the cap tightly. The chemical preservation of solids is generally not recommended, but refer to the Sampling and Analysis Plan and/or check with the laboratory. Refrigeration is usually the best approach supplemented by a minimal holding time.
- 5. Label the sample bottle with the appropriate sample tag. Be sure to label the tag carefully and clearly, addressing all the categories or parameters. Complete all chain-of-custody documents and record in the field log book.
- 6. Decontaminate equipment after use and between sample locations.

#### SUB-SURFACE SOLID: SAMPLING WITH AUGER AND THIN-WALL TUBE SAMPLER

#### Discussion

This system may consist of an auger bit, a series of drill rods, a "t" handle, and a thinwall tube corer. The auger bit is used to bore a hole to the desired sampling depth and is then withdrawn. The auger tip is then replaced with the tube corer, lowered down the borehole, and forced into the soil at the completion depth. The corer is then withdrawn and the sample is collected.

Alternatively the sample can be recovered directly from the auger. This technique does not provide an "undisturbed" sample as would be collected with a thin tube sampler. In situations where the soil is rocky, it may not be possible to force a thin tube sampler through the soil or sample recovery may be poor. Sampling directly from the auger may be the only viable method. Several auger types are available which include the bucket type and continuous flight (screw). Bucket types are good for direct sample recovery. They are fast and provide a large volume of sample. When screw augers are utilized, the sample is collected directly off the flights, however, this technique will provide a somewhat unrepresentative sample as the exact depth will not be known. The screw auger may be satisfactory when a composite of the entire soil column is desired. In soils where the borehole will not remain open when the tool is removed, a temporary casing can be used until the desired sampling depth is reached.

#### Uses.

This system can be used in a wide variety of soil conditions. It can be used to sample both from the surface by simply driving the corer without preliminary boring, or to depth in excess of 10 meters when there are no rocks present or tendencies of the borehole to collapse.

#### Procedure for Use

- 1. Clear the areas to be sampled of any surface debris. It may be advisable to remove the first 8 to 15 cm of surface soil for an area approximately 15 cm in radius around the drilling location.
- 2. Begin drilling, periodically removing accumulated soils. This prevents accidentally brushing loose material down the borehole when removing the auger or adding drill rods.
- 3. After reaching desired depth, slowly and carefully remove the auger from the boring. (Note: When sampling directly from the auger, collect the sample after the auger is removed from the boring and proceed to Step 7.)

- 4. Carefully lower corer down borehole. Gradually push corer into soil, taking care to avoid scraping the borehole sides.
- 5. Carefully remove corer from borehole.
- 6. Discard the top of the core (2.5 cm) which represents material collected by the corer before penetration of the layer being sampled. Place the remaining core into a sample container.
- 7. Check that a Teflon liner is present in the cap if required. Secure the cap tightly. The chemical preservation of solids is generally not recommended, but refer to the Sampling and Analysis Plan and/or check with the laboratory. Refrigeration is usually the best approach supplemented by a minimal holding time.
- 8. Label the sample bottle with the appropriate sample tag. Be sure to label the tag carefully and clearly, addressing all the categories or parameters. Complete all chain-of-custody documents and record in the field log book.
- 9. Decontaminate equipment after use and between sample locations.

#### SAMPLING SOIL, SEDIMENTS, OR SLUDGES WITH A HAND CORER

#### Discussion

Sampling soils with a hand coring device can be completed as the previously described auger and corer SOP or with the hand corer alone. In the case of sediment or sludge sampling, the hand corer is modified by the addition of a check valve on the top and/or a core sample catcher at the bottom to prevent washout during sample retrieval.

#### <u>Uses</u>

Hand corers have the advantage of collecting relatively undisturbed samples which can reflect profile stratification in the sample. Extension handles will allow collection of samples underlying a shallow layer of liquid or deeper sampling efforts. Most corers facilitate liners which are available in brass, polycarbonate plastic or Teflon. Care should be taken to choose a material which will not compromise the intended analytical procedures.

#### Procedures for Use

- 1. Inspect the corer for proper precleaning and core liner. Select sample location And note the location in field notes.
- 2. Push corer in with a smooth continuous motion until the sampling depth has been reached.
- 3. Twist corer and then withdraw in a single smooth motion.
- 4. Withdraw sample from corer into a stainless steel or Teflon tray. (NOTE: Depending on the sampling device used, additional or alternative steps may be needed here. For example, use of a core liner would alter this step to the following: Remove core liner from the core sampling device. Seal ends of core liner with sample end caps. Proceed to Step 6 but replace "sample bottle" with "sample core".)
- 5. Transfer sample into an appropriate sample container with a stainless steel lab spoon or equivalent.
- 6. Check that a Teflon liner is present in the cap if required. Secure the cap tightly. The chemical preservation of solids is generally not recommended, but refer to the Sampling and Analysis Plan and/or check with the laboratory. Refrigeration is usually the best approach supplemented by a minimal holding time.
- 7. Label the sample bottle with the appropriate sample tag. Be sure to label the tag carefully and clearly, addressing all the categories or parameters. Complete all chain-of-custody documents and record in the field log book.

8. Decontaminate the equipment.

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Exhibit 2 GAC Method

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GENERAL ANALYSIS CORPORATION

## Analysis of TPH in Soil:

Field Procedure Using GAC's TPH, TPH-Plus, or Mega-TPH Analyzers

- 1. Zero the instrument\* with a cuvette filled with cleaned Freon-113<sup>™</sup>. (To clean, process it through a plastic reservoir with cleaning cartridge attached as in step 7 to remove trace contaminants.) Set the zero dial(s) so that the display(s) reads zero.
- 2. Weigh 20 grams of soil into a 40 ml glass vial and record the weight to the nearest 0.1 gram.
- 3. If the sample is wet, add silica gel (60-200 mesh chromatographic grade) so that the sample, after shaking, appears dry.
- 4. Dispense precisely 20 ml of Freon-113<sup>™</sup> into the vial and cap it. (If necessary, wipe the top edge of the vial and the septum clean in order to obtain a leak-tight seal.)
- 5. Shake the sample vigorously for 5 minutes; let stand 1 minute.
- 6 Pour the liquid layer into a plastic sample reservoir (with cleaning cartridge attached) leaving as much soil as possible in the glass vial.
- 7. Close the sample reservoir with the metal pressure seal, attach the pressurizing syringe and pressurize the reservoir so that the extract is forced through the filter cartridge dropwise into an empty 10 mm quartz cuvette.
- 8. Discard approx. the first 1 ml (~ 1/3 of the cuvette volume) and collect the next 2.5 to 3 ml in the cuvette.
- 9. Place the 10 mm sample cuvette in the analyzer and read the extract concentration in mg/I TPH. (If the digital display is greater than 500 mg/l, either (a) dilute the extract or (b) take another soil sample e.g., 10 grams, extract it in the same manner as in Steps 2-9 above., and apply the correction calculation below.)

#### 9a. See page 2 at this point, if using the Mega-TPH Analyzer.

10. If other than 20 g of soil and 20 ml Freon-113 were used in Steps 2-4, apply the following correction calculation:

### solvent volume

TPH conc'n (ppm) = sample weight X digital display

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'ater Street, Box 528 • South Norwalk, Connecticut 06856-0528 • (203) 852-8999 • Fax: (203) 838-1551 • Telex: 4933096

When using the Mega-TPH Analyzer: follow Steps 1-9 on the previous page and read the TPH concentration directly on the LOW range using the 10 mm cuvette.

- a. If the concentration is greater than 1,000 mg/l on the LOW range, pipette the extract directly into the small (1 mm) cuvette. Read the concentration on the HIGH range channel, multiplying the display X 10.
- b. Then, if the display on the HIGH range is greater than 1,000 mg/l, (representing 10,000 mg/l) either of the following techniques may be used to bring the readings into range:
  - 1.) A <u>10 to 1 dilution</u> may be made by transferring 1.0 ml of the sample extract from the large 10 mm cuvette into a 10 ml glass volumetric flask.

Add Freon-113<sup>™</sup> to the 10 ml mark. Shake the flask to mix the contents.

Pipette this solution into the rinsed out small (1mm) cuvette. Place the cuvette in the spacer, then in the sample well of the instrument.

Read the concentration on the HIGH range and multipy the display X 100.

 A <u>2 to 1 dilution</u> may be made by using a new 10 gram soil sample and extracting the TPH with 20 mls of Freon-113<sup>™</sup> as previously described in Steps 1-7.

> Read the concentration on the LOW range using the 10 mm (large) cuvette and multiply the digital display by a factor of 2. (If other than 10 grams of soil and 20 mls of Freon-113<sup>™</sup> were used, do not multiply by 2, but instead apply the following correction calculation:)

> <u>solvent volume</u> TPH conc'n (ppm) = sample weight X digital display

\* Follow the directions in the Mega -TPH Instruction Manual and zero each range independently prior to analysis.

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# Exhibit 3

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Logs of Borings



		Saf	ety	& Environmental Solutions, Inc. New Mexico 88240			L	.0G (	OF B	ORIN	IG TE	3 #1-1	1 (Page	1 of 1)	
			C Sit	Dsborn Ranch re Assessment Site #1 a County , NM	Date Con Drilling M Driller Hole Diar Sampling	npleted lethod meter	: 12/9/ : H.S.A : D. W : 7.0 in d : Thin	99 hatley Wall Sam	opling Tub	æ	Company Boring Lo Logged E	y Rep. ocation 3y	: : :B./	Aldrich	-
	Depth in Feet	USCS	GRAPHIC	DESCRIPTION		Samples	Lab No.	TPH (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xylenes (mg/Kg)	Chlorides (mg/L)		
	-0	SM		SILTY SAND, Brown		1	H4525-1	n/a	n/a	n/a	n/a	n/a	178		
	5 - -	sw		SAND, Weil Graded, Brown		2	Field test	1880	n/a	n/a	n/a	n/a	360		
	10-			SANDY CLAY, Red		3	H4499-1	11600	n/a	n/a	n/a	n/a	÷ 550		
	- 15	CL													
ITECH5@SBORN@SB1-1.BOR	- 20														
01-27-2000 C:W	- 					4	H4499-2	2190	n/a	n/a	n/a	n/a	302		



		Saf	fety	& Environmental Solutions, Inc.			l	_0G (	OF B	ORIN	IG TE	3 #1-:	3	1 - 5 1)
			C Sit	Dsborn Ranch te Assessment Site #1 ea County , NM	Date Cor Drilling M Driller Hole Dia Sampling	mpleted fethod meter g Metho	I : 12/9/ : H.S.J : D. W : 7.0 ir d : Thin	99 A. hatley h. Wall Sam	pling Tub	æ	Company Boring Lo Logged E	/ Rep. ocation Sy	(Page : : : B./	Aldrich
	Depth in Feet	USCS	GRAPHIC	DESCRIPTION		Samples	Lab No.	TPH (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xylenes (mg/Kg)	Chlorides (mg/L)	
	0	FL		BLACK SLUDGE			H4525-3	n/a	n/a	n/a	n/a	n/a	1471	
	5- - - - -	sw		SAND, Well Graded, Brown		2	No test	n/a	n/a	n/a	n/a	n/a	n/a	
3		sw		SAND, Well Graded, Red		3	H4504-3	791	n/a	n/a	n/a	n/a	695	
	- - - 20-			, SAND, Well Graded, Red with	CALICHE	4	H4504-4	260	n/a	n/a	n/a	n/a	743	
		sw												
NØSB1-3. BOR	- - - 30-			SAND, Well Graded, Red with	CALICHE	5	Field test	n/a	n/a	n/a	n/a	n/a	620	
C:MTECH5ØSBOR	- 35-	sw												
01-272000	- - 40-					6	H4504-5	431	n/a	n/a	n/a	n/a	792	



		Sat	fety	& Environmental Solutions, Inc.			L	.0G	OF B	ORIN	IG TE	3 #1-	5	
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	-0 - -	sw		SAND, Well Graded, Brown										
	5-			SAND, Well Graded, Brown wi	th Caliche	1	H4517-7	371	n/a	n/a	n/a	n/a	65	
	- - 10	]sw	· · · · · · · · · · · · · · · · · · ·	SAND, Well Graded, Red		2	H4517-8	136	n/a	n/a	n/a	n/a	48	
	-	-												
	15- - -	SW												
	20- - -		· · · ·	, SAND, Well Graded, Red		3	H4517-9	2750	n/a	n/a	n/a	n/a	275	
	- 25 -	sw												
	- 30-			SAND, Red with CLAY		4	H4517-10	<10	n/a	n/a	n/a	n/a	145	
	35	sc												
C. UNIT-CITCL	40-			SAND, Red with CLAY		5	H4517-11	<10	n/a	n/a	n/a	n/a	404	
007-/7-10	45-	SC				6	H4517-12	24.5	n/a	n/a	n/a	n/a	453	

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	:	Saf	ety (	& Environmental Solutions, Inc.			L	.0G (	OF B	ORIN	IG TE	3 #1-6	<b>6</b>	1 of 1)
			C Sit	e Assessment Site #1 a County , NM	Date Cor Drilling N Driller Hole Diar Sampling	npleted lethod meter j Metho	t : 12/17 : H.S.A : D. Wi : 7.0 in : 4	/99 natley Nall San	pling Tub	æ	Company Boring Lo Logged E	r Rep. ocation By	(⊢age : : : B. A	Aldrich.
Dej ir Fe	pth n.	nscs	GRAPHIC	DESCRIPTION		Samples	Lab No.	TPH (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xylenes (mg/Kg)	Chlorides (mg/L)	
	5	SM	المحمد من من المحمد المحمد المحمد المحمد المحمد المحمد المحمد	SILTY SAND, Brown SAND, Well Graded, Brown wi	th									· · ·
1	10	sw		CALICHE			H4519-1	1470	n/a	n/a	n/a	n/a	65	
2681-8.EOR		sw				2	H4519-2	185	n/a	n/a	n/a	n/a	178	
V1-27-2000 C.:MTECH5055BOAN	20-+					3	H4519-3	<10	n/a	n/a	n/a	n/a	178	

1		Sat	fety	& Environmental Solutions, Inc.			L	_0G (	OF B	ORIN	IG TE	3 #1-	7	4 . 5 4 .	
			Si Le	Dsborn Ranch te Assessment Site #1 ea County , NM	Date Cor Drilling N Driller Hole Dia Sampling	npleted Aethod meter 3 Metho	l : 12/17 : H.S.A : D. W : 7.0 in d : Thin	//99 hatley h. Wall Sam	pling Tub	De	Company Boring Lo Logged E	y Rep. ocation 3y	(Page : : : B. /	1 of 1) Aldrich	
	Depth in Feet	USCS	GRAPHIC	DESCRIPTION		Samples	Lab No.	TPH (mg/Kg)	Benzene (mg/Kg)	Toiuene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xyienes (mgfKg)	Chlorides (mg/L)		
	0-	SM		SILTY SAND, Brown SAND, Well Graded, Brown wi CALICHE	th		H451 <del>9-4</del>	<10	n/a.	n/a.	n/a	n/a	162		
				, SAND, Well Graded, Red.		2	H4519-5	<10	n⁄a	n⁄a	n/a	n⁄a	550		
01-27-2000 C:MTECH5ØSBORNØ5B1-7.BOR	15-	sw				3	H4519-6	33.6	n/a	n/a	n/a	n/a	162		

		Sa:	fety	& Environmental Solutions, Inc.			L	_0G	OF B	ORIN	IG TE	3 #1-8	8 (Paga	1 of 1)	
			Sit	Deborn Ranch te Assessment Site #1 a County , NM	Date Cor Drilling M Driller Hole Dia Sampling	mpleted fethod meter g Metho	: 12/17 : H.S.A : D. W : 7.0 in d : Thin	//99 hatley i. Wall San	npling Tut	œ	Compan Boring Lo Logged E	y Rep. ocation Sy	: : : B. /	Aldrich.	
	Depth- in. Feet	sos	RAPHIC	DESCRIPTION	·	amples		ТРН	Benzene	Toluene	Ethyl Benzene	Total Xyienes	Chlorides		- <u>,</u> •
	0		0	SILTY SAND, Brown with CAL	ICHE	Ø	Lab No.	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/L)		
	- 5	SW		SAND, Well Graded, Brown wi CALICHE	th	1	H4524-1	12100	n/a	n/a	n/a	n/a	1374	- - - - - - -	
	- 10 -			SAND, Well Graded, Red		2	H4524-2	231	n/a	n/a	n⁄a	n⁄a	1277		
	- 15 -	sw													
i i i i i i	- 20 -		· · · · ·	, SAND, Well Graded, Red		3	H4524-3	<10	n/a	n/a	n/a	n/a	420		
	- 25 -	sw									e e				
	- - 30- -	والمستع فتستعد فتستع	· · · · ·	SAND, Red with CLAY		4	H4524-4	n/a	n/a	n/a	n/a	n/a	1665		
BORNØSB1-8.BOR	- 35	sw													
C:\MTECH5Ø\$	- - 40-			SAND, Red with CLAY		5	H4524-5	n∕a	n/a	n/a	n/a	n/a	1568		
01-27-2000	- - 45 -	sw				6	H4524-6	<10	n/a	n/a	n/a	n/a	1600		

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		Saf но	ety obbs,	& Environmental Solutions, Inc. New Mexico 88240			L	.0G (	OF B	ORIN	IG TE	3 #2-	<b>1</b> (Page	1 of 1)
			C Sit	Osborn Ranch e Assessment Site #2 a County , NM	Date Con Drilling M Driller Hole Diar Sampling	npleted ethod neter Metho	: 12/6A : H.S.A : D. W : 7.0 in d : Thin	99 <sup>.</sup> hatley Wall Sam	pling Tub	e	Company Boring Lo Logged E	y Rep. ocation By	: : : B. /	Aldrich.
	Depth in Feet	nscs	GRAPHIC	DESCRIPTION		Samples	Lab No.	TPH (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xyienes (mg/Kg)	Chlorides (mg/L)	
				ASPHALTINES.										
	2	FL												
2	3-		$\times$	CALICHE			· · · · · · · · · · · · · · · · · · ·			-				
2.1.EOR	4 			CALICHE with Brown SAND										
C:MTECH5@\$BORN@SB	6 					T	H4499-3 Field test	104	n/a N/a	n/a n/a	n/a n/a	n/a n/a	746 rvja	
01-27-2000														

÷		Saf на	ety S	& Environmental Solutions, Inc. New Mexico 88240	LOG OF BORING TB #2-1A (Page 1 of 1)									
		C Sit	Dsborn Ranch re Assessment Site #2 a County , NM	Date Cor Drilling N Driller Hole Dia Sampling	npieted Aethod meter 9 Metho	: 12/23/99 : H.S.A. : D. Whatley : 7.0 in. d : Thin Wall Sampling Tube			e	Company Boring Lo Logged E	y Rep. ocation Sy	: : : B. Aldrich		
	Depth in Feet	nscs	GRAPHIC	DESCRIPTION		Şamples	Lab No.	TPH (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xylenes (mg/Kg)	Chlorides (mg/L)	
	0	FL		ASPHALTINES CALICHE CALICHE with Brown SAND SAND, Well Graded, Red										
000 C:WTECH5263BORNØSB2-1A,BOR	20-	sw				1	H4534-7	n/a	n/a	n/a	n/a	n/a	404	
01-27-20	25-					2	H4534 <b>-8</b>	n/a	n/a	n/a	n/a	n/a	453	

_		Saf на	ety Sobbs,	& Environmental Solutions, Inc. New Mexico 88240	LOG OF BORING TB #2-2 (Page 1 of 1)									
		C Sit	Osborn Ranch te Assessment Site #2 a County , NM	Date Completed Drilling Method Driller Hole Diameter Sampling Metho		f : 12/6/99 : H.S.A. : D. Whatley : 7.0 in. od : Thin Wall Sampling Tube			Company Rep. Boring Location Logged By be			: : : B. /	: : : B. Aldrich	
	Depth in Feet	uscs	GRAPHIC	DESCRIPTION		Samples	Lab No.	TPH (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xylenes (mg/Kg)	Chlorides (mg/L)	
	0 1 1 1 2 3 3 3 4 5 4	FL		ASPHALTINES										
MTECH5ØSBORNØSB2-2.						1	H4499-4	26.3	n/a	n/a	n/a	n/a	1065	
01-27-2000 C	- - - 7-+					2	Field test	8	nja	nja	n⁄a	n/a	n/a	

		Sa	fety	& Environmental Solutions, Inc.	LOG OF BORING TB #2-2A										
		Н	lobbs,	New Mexico 88240					(Page 1 of 1)						
	Osborn Ranch Site Assessment Site #2 Lea County , NM				Date Cor Drilling N Driller Hole Dia Sampling	Jate Completed     : 12/23/99     Compa       Drilling Method     : H.S.A.     Boring       Driller     : D. Whatley     Logged       Hole Diameter     : 7.0 in.     Sampling Method				Company Boring Lo Logged E	Rep. ocation By	: B. Aldrich			
															Ph
	Depth in Feet	USCS	GRAPHIC	DESCRIPTION		Samples	Lab No.	TPH (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xylenes (mg/Kg)	Chlorid <del>es</del> (mg/L)		
	0	 	$\bigotimes$	ASPHALTINES											
	2-	FL													
	3-		X	CALICHE											
	4														
	5-			CALICHE with Brown SAND											
	6														
	7			,											
	9-														
	10-														
	11 11			SANU, well Graded, Ked											
<b>LBOR</b>	12-		· · · · · · · · · · · ·												
RNØSB2-24	13	sw	· · · ·												
TECH5ØSBC	14														
00 C:\MI	15 16					 									
01-27-20	17-					1	H4534-9	n/a	п/а	n/a	n/a	n/a	1293		

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		Saf	ety	& Environmental Solutions, Inc.	LOG OF BORING TB #2-3									
	Osborn Ranch Site Assessment Site #2 Lea County , NM					Date Completed Drilling Method Driller Hole Diameter Sampling Methor		: 12/6/99 : H.S.A. : D. Whatley : 7.0 in.		Company Rep. Boring Location Logged By			(Page : : : B. /	1 of 1) Ndrich
	Depth in Foot	scs	RAPHIC	DESCRIPTION	<u> </u>	mples		ТРН	Benzene	Toluene	Ethyl Benzene	Total Xyienes	Chlorides	
	0	FL		ASPHALTINES			Lab No.	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/L)	
	4		$\times$	CALICHE CALICHE with Brown SAND			H1100.5	81	7/0		-10	-10	1775	
	6 			, SAND, Well Graded, Red		2	Field test	78	n/a	n/a	n/a	n/a	n/a	
(\$BORNZSB2,3,BOR	10	sw				3	H4499-6	207	n/a	n/a	n/a	n/a	1154	
01-27-2000 C:MTECHISØS	14 14 16					4	H4499-7	20.2	n/a	n/a	n/a	n/a	817	

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	Saf	ēty s	& Environmental Solutions, Inc. New Mexico 88240			Ĺ	.0 <u>G</u> (	OF B	ORIN	IG TE	3 <b>#</b> 3-′	<b>1</b> (Page	1 of 1)
		C Sil	Dsborn Ranch te Assessment Site #3 ta County , NM	Date Comp Drilling Mer Driller Hole Diam Sampling M	oleted thod eter Vietho	: 12/20 : H.S.A : D. W : 7.0 in d : Thin	hatley Wall Sarr	pling Tub	e	Company Boring Lo Logged E	Rep. exation By	: : : B. /	Aldrich
epth in Feet	uscs	GRAPHIC	DESCRIPTION		Samples	Lab No.	TPH (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xylenes (mg/Kg)	Chlorides (mg4_)	
0 2 2 2 2	SM	ၯၟၯ႞ၯၯၟၮၯၯၯၯၯၯၯၯၟၛၯၟၯၯၯၯၯၯၯၯၯၯၯၯၯ ၯၟၯၟၣၜၟၟၟၟၯၟၯၟၯၟၯၟၯၟၯၟၟၯၟၯၟ	SILTY SAND, Brown										
- 4 - 4 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1		ا المراكز الم المراكز المراكز المراكز المراكز المراكز	SILTY SAND, Brown with CAL	ICHÊ [									
0° 10° - 10° - 10° - 10° - 10° - 10° - 10° - 10° - 10° - 10° - 10° - 10° - 10° - 10° - 10° - 10° - 10° - 10° - 10°		ین میں اور			1	H4534-1	n/a	n/a	n/a	n/a	n/a	81	
	Mc												
10 10 1 1 1 1		0 9/0 0 9/0 0 9/0 0 9/0	SANDY LIMESTONE - Auger I	Refusal	2	H4534-2	n/a	n/a	n/a	n/a	n/a	81	
		0 9/0 0 9/0 0 9/0			3	No test	n/a	n/a	n/a	n/a	n/a	n/a	

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	Sa н	fety	& Environmental Solutions, Inc. New Mexico 88240			L	_0G (	OF B	ORIN	IG TE	3 #3-:	2 (Page	1 of 1)
		C Sil	Osborn Ranch te Assessment Site #2 a County , NM	Date Con Drilling M Driller Hole Diar Sampling	npleted lethod meter	: 12/20 : H.S.A : D. W : 7.0 in d : Thin	1/99 A. hatley h. Wall Sam	ipling Tub		Company Boring Lo Logged E	y Rep. ocation 3y	: : : B./	Aldrich
Depth in Feet	USCS	GRAPHIC	DESCRIPTION		Samples	Lab No.	TPH (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xylenes (mg/Kg)	Chlorides (mg/L)	
0-	- - - SM	아이들 것 같은 것 같	SILTY SAND, Brown										
5-		ア マーマー シー・シー・シー・シー・シー・シーン シー・シー・シー・シー・シー・シー・シー・シー・シー・シー・シー・シー・シー・シ	SILTY SAND, Brown with CAL	ICHĒ		H4534-3	n/a	n/a	n/a	n/a	n/a	65	
10-	SM		SANDY LIMESTONE - Auger 1	Refusal	2	H4534-4	n/a	n/a	n/a	n/a	n/a	388	
15-	<u> </u>	0 + 0 + 0 + 0 + 0 + 0 + 0 + 0 + 0 + 0 +			3	No test	n/a	n/a	n/a	n/a	n/a	n/a	

		Saf	fety (	& Environmental Solutions, Inc. New Mexico 88240			L	.0G (	OF B	ORIN	IG TE	3 #3-:	<b>3</b> (Page	1 of 1)
			C Si Le	Osborn Ranch te Assessment Site #3 ea County , NM	Date Cor Drilling M Driller Hole Diar Sampling	npleted lethod meter j Metho	l : 12/20 : H.S.A : D. W : 7.0 in d : Thin	W99 N. hatley Wall Sam	ipling Tub	ė	Company Boring Lo Logged E	y Rep. ocation 3y	: : : B. /	Aldrich
	Depth in Feet	nscs	GRAPHIC	DESCRIPTION		Samples	Lab No.	TPH (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xylenes (mg/Kg)	Chiorides (mg/L)	
	-	SM	و المرتب المرتب الموجد المرتب الم والمرتب المرتب المرت والمرتب المرتب المرت	SILTY SAND, Brown										
	- - - -	SM	یا میں اور	SILTY SAND, Brown with CAL	ICHĒ		H4534-5	n/a	n/a	n/a	n/a	n/a	388	
ECH5Ø\$BORNØ\$B843.BOR				SANDY LIMESTONE - Auger	Refusal	2	H4534-6	n/a	n∕a	n/a	n/a	n/a	582	
01-27-2000' C:MT	- - 15-		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			3	No test	n/a	n/a	n/a	n/a	n/a	n/a	

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		Sat н	fety	& Environmental Solutions, Inc. New Mexico 88240			Ĺ	.0G (	OF B	ORIN	IG TE	3 #9-1	1 (Page	1 of 1)
			( Si Le	Dsborn Ranch te Assessment Site #9 za County , NM	Date Com Drilling M Driller Hole Diar Sampling	npleted ethod meter Metho	: 12/21 : H.S.A : D. W. : 7.0 in d : Thin	/99 \. hatley \. Wall Sarr	npling Tub	Æ	Company Boring Lo Logged B	/ Rep. ocation 3y	: : : B. /	Aldrich
	Depth in Feet	USCS	GRAPHIC	DESCRIPTION		Samples	Lab No.	TPH (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xylenes (mg/Kg)	Chlorides (mg/L)	
	0	SM	And a star and a star a st And And And And And And And And And And	SILTY SAND, Brown										
	יא די		and the second se Second second se	SILTY SAND, Grey										
	6	SM	الا من المراقبة المر والمراقبة المراقبة ال والمراقبة المراقبة ال				H4533-1	142	n/a	n/a	n/a	n/a	n/a	
-ISØSBORNØSB641. BOR	8 10 10	-		SANDSTONE, Red - Auger Re	fusal			ی میں بلا میں اور		بنية ويتعينه واليبية المنابع المنتخر فيستعادهم والمنابع				
1-27-2000 C:MTECH		SS				2	H4533-2 h4533-3	n/a n/a	n/a n/a	n/a n/a	n/a	n/a	2797 2489	

		Sal н	fety obbs	& Environmental Solutions, Inc. , New Mexico 88240			i	_0G (	OF B	ÓRIN	IG TE	3 #9-:	2 (Page	1 of 1)
			S	Osborn Ranch ite Assessment Site #9 ea County , NM	Date Cor Drilling N Driller Hole Dia Sampling	mpletec Aethod meter 3 Metho	4 : 12/22 : H.S.J : D. W : 7.0 ir od : Thin	2/99 A. hatley I. Wall Sam	ipling Tub	ю	Compan Boring Lo Logged I	y Rep. ocation 3y	: : : B. /	Aldrich
	Depth in Feet	nscs	GRAPHIC	DESCRIPTION		Samples	Lab No.	TPH (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xylenes (mg/Kg)	Chlorides (mg/L)	
	0 	SM	ا بر این موقع موقع مرکز از مانی مرکز از مرکز از مرکز از میکند. مرکز میکویک مرکز از مرکز از مرکز از میکند میکند. مرکز مرکز مرکز از مرکز از مرکز از مرکز از مرکز از مرکز از مرکز	SILTY SAND, Brown	· · · · · · · · · · · · · · · · · · ·									
	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		a da a serie da serie Serie da serie da ser Serie da serie da ser	SILTY SAND, Grey		1	H4533-4	<10	n/a	n/a	n/a	n∕a	n/a	
	8. ************************************	SM	┍┍┍╷┍╶╌╲╴╒╌╲╴╒╌╱╴┍╌┝╴┍╌┝╴┍╼┝╸┝╼╌╸┝╌╸╴											
5642.BOR	10 10 12 12 12			SAND, Red with CALICHE		2	H4533-5	n/a	n/a	n/a	n/a	n/a	2021	
0 C.MTECHSØSBORNØSE	┿┲┲┲┲┲┲┲┲ <mark>╴</mark>	sw								and the second				
01-27-200	16 16	ss		SANDSTONE, Red - Auger Refusal		3	H4533-6	n/a	n/a	n/a	n/a	n/a	1697	

		Sa ⊦	fety	& Environmental Solutions, Inc. New Mexico 88240			L	.OG	OF B	ORIN	IG TE	3 #9-:	3 (Page	1 of 1)
			Si Le	Osborn Rench ite Assessment Site #9 ea County , NM	Date Con Drilling M Driller Hole Diar Sampling	npieted lethod meter	: 12/22 : H.S.A : D. W : 7.0 in d : Thin	,/99 hatley Wall Sam	npling Tub	e.	Company Boring Lo Logged E	; Rep. xcation By	: : : B	Aldrich
	Depth in Feet	uscs	GRAPHIC	DESCRIPTION		Şarıples	Lab No.	TPH (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xyienes (mg/Kg)	Chiorides (mg/L)	
	2-	╎┥┥╾┙╌╵╵╾┽╶┎╵┝╾┽╶┰╵┾╾┥╌┿╴┲┑╵ S	ور محمد المحمد المحمد وحمد وحمد المحمد وحمد وحمد وحمد وحمد وحمد وحمد وحمد	SILTY SAND, Brown										
	4-	يسابح حلديو ليسباب علاي فتدياع وعنايع فحديا كمته	بلو المحمد ا المحمد المحمد المحمد المحمد المحمد المحم											
	6-	وعلعت لسبغي سفعير فسنبخ صفتح مثمعي سنافير مار	و موسع مهمم الرسم الرسم الرسمة الرسمة الوسمة الوسمة الم المحكم المحكم المحكم المحكم المحكم المحكم المحكم المحكم المحكم الأمام المحكم	SILTY SAND, Grey			H4533-7	<10	n/a	n/a	n/a	n/a	n/a	
ZSB(1.3. BOR	8-	SM	و بخر می در از مروز می و برخ بر این این این این این اور این			ی می این این این این این این این این این ای								
0 C.MTECHEØ	10- 	ss		SANDSTONE. Red - Auger Re	fusal	2    2    	H4533-8	n/a	n/æ	n/a	n/a	n/a	2465	
11-21-206	12-	)   				3	No test	n/a	n/a	n/a	n/a	n/a	n/a	



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Exhibit 4

Soil Analysis





PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: DEE WHATLEY 703 E. CLINTON, SUITE #103 HOBBS, NM 88240 FAX TO: (505) 393-4388

TPH

Receiving Date: 12/13/99 Reporting Date: 12/14/99 Project Owner: C. OSBORN Project Name: OSBORN RANCH Project Location: JAL, NM Sampling Date: 12/13/99 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: BC Analyzed By: BC/GP

CI\*

LAB NUMBEI	R SAMPLE ID	(mg/Kg)	(mg/Kg)
ANALYSIS D	ATE:	12/13/99	12/14/99
H4504-1	SITE #1 T.B #2-10'	1710	81

H4504-1	SITE #1 T.B #2-10'	1710	81
H4504-2	SITE #1 T.B #2-20'	182	210
H4504-3	SITE #1 T.B #3-10'	791	695
H4504-4	SITE #1 T.B #3-20'	260	743
H4504-5	SITE #1 T.B #3-40'	431	792
Quality Contr	ol	250	1010
True Value Q	C	240	1000
% Recovery		104	101
Relative Perc	cent Difference	0.6	2.0

METHODS: TPH-EPA 600/4-79-020 418.1; CI-Std. Methods 4500-CI'B \*Analyses performed on 1:4 w:v aqueous extracts.

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† Cardinal ca	Sampler - UPS - Bu	Relinguished By:	Cult	Sampler Rellnquishe	analyses. Al dalms including those service. In no event shall Cardinal L affiliates of successors and sing out of				4	-2-7		Hardon -	LAB I.D.	FOR LAB USE OHLY	Project Location:	Project Name: d	Project #;	Fax #: (505) 30	Phone #: (505)	city: HOBBS	Address: 703 E.	Project Manager:	Company Name: SF	ARDI	न
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hanges to 915-673-7020.	act (Initials)	W: (LAD STATI)		Y:	made in writing and realized by Cardinal will ineas interruptions, loss of use, or loss of pro r whether such claim is based upon any of the	whend in portra or lod, shall be imited in							SLUDGE OTHER: ACID: CE/COOL DTHER:	IX PRES. SAMP	Fax #:	Phone #:	State: ZI	City:	Address:	Attn:	Company: SAME	BILL TO PC		1 East Marland, Hobbs, 05) 393-2326 Fax (505)	
		<u>1</u>	REMARKS:	Phone Result C Yes	In 30 days after completion of the app Ata incurred by clent, its subsidiaries, above stated reasons of otherwise.	the amount calif by the class for the				1 7	10 00/10 0	2 2 mbn 1	TIME	LING	4	/ 8	7	**   		     		0#:		NM 88240 393-2476	CHAI
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		CHAIN-OF-(	CUSTODY AND ANALYSIS REQUES	
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Company Name: SPST			ANALYSIS REQUEST	
Project Manager:	BILLTO	PO #:		
Address: 703 E. CLINTON, #103	Company: SAV			
City: HOBBS State: NM Zip: 8824	0 Attn:			
Phone #: (505) 397-0510	Address:			
Fax #: (505) 393-4388	city:			
Project #: Project Owner:	State:	Zip:		
Project Name: Osborn Ranch	Phone #:		· · · · · · · · · · · · · · · · · · ·	
Project Location: $S_{1} t_{e} \neq 0$	Fax #:			
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PLEASE HOTE: Lightly and Damages. Cardnard a tabling and chert's exclusive remedy for any	cialm arting whether based in contract or lori, shall be Imit	ed to the amount paid by the olant for the	Tarme and Conditional leferati will be charged on all accounts more than	
unityses. Al dalime including those for motigance and any other cause whatsoever shall be dee service. In no event shall Cardinal be fable for inclidental or consequental damages, including wh affiliated successors adving out of or missied to the parformance of services hereunder by Ca	nned wabved uniess mude in writing and reseived by Cardina thous Imilation, business interruptions, loss of use, or loss o rdnal, regard ess of whether such claim is based upon any o	l withn 30 days after completion of the applosible f profits incurred by client, its subsidiaries, if the above stated reasons or otherwise.	30 days past due at the rate of 24% per annum from the original date of involve, and at costs of polections, including attorney's fees.	ł
Sampler Relinquished: $\frac{12(17)}{3}$	Received By:	Phone Result [] Yes [] Ng A Fax Result: [] Yes [] No REMARKS:	Additional Fax #:	
Relinitished RV. Date:	Received By: (Lab Staff)		•	
Set . 11/1/69	Altation			
Delivered By: (Øffcle One)	Cool Intact (Initials)			
Sampler • UPS • Bus • Other:	No No			
+ Cardinal cannot accept verbal changes. Please fi	ax written changes to 915-873-7020			



PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BOB ALLEN 703 E. CLINTON, SUITE #103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 12/17/99 Reporting Date: 12/20/99 Project Number: NOT GIVEN Project Name: OSBORN RANCH Project Location: SITE #1 Sampling Date: 12/17/99 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: GP Analyzed By: BC/AH

		TPH	Cl <sup>*</sup>
LAB NUMBER	SAMPLE ID	(mg/Kg)	(mg/Kg)
	۰ <u>۰</u>	40/47/00	40/00/00
ANALYSIS DAT	E	12/17/99	12/20/99
H4519-1	SITE #1 TB #6 5'	1470	65
H4519-2	SITE #1 TB #6 10'	185	178
H4519-3	SITE #1 TB #6 20'	<10	178
H4519-4	SITE #1 TB #7 5'	<10	162
H4519-5	SITE #1 TB #7 10'	<10	550
H4519-6	SITE #1 TB #7 20'	33.6	162
Quality Control	•	239	1041
True Value QC		240	1000
% Recovery		99.7	104
Relative Percen	t Difference	3.0	3.0

METHODS: TPH-EPA 600/4-79-020 418.1; CI-Std. Methods 4500-CI'B \*Analyses performed on 1:4 w:v aqueous extracts.

H4519.XLS



mpany Name: 52	(915) 673-7001 Fax ( シシンチ)	915) 673-7020 (505)	393-2326 rax (sus)	393-2476	ANALYS	IS REQUEST	
oject Manager: A	12		BILL TO P	0 #			
dress:			Company:				
ťy:	State: Zip	<b>9</b> .	Attn:				
one #:		•	Address:				
× #			city:				
oject #:	Project Owner		State: ZI	<b>p</b> :			
oject Name: $Os$	both RMNCA-		Phone #:				
oject Location:			Fax #:				
FOR LAB USE ONLY		MATRIX	PRES. SAM	PLING			
		C)OMP. RS TER ER			-		
LAB I.D.	Sample I.D.	(G)RAB OR (C # CONTAINER GROUNDWA WASTEWATE SOIL OIL SLUDGE	OTHER : ACID: ICE / COOL OTHER :	E TIME TPH			
4519-1 3	:tel TB6-5'	611	LI-21	4	2		
-2	TB6-10'	6 	11	e			
-3	TB6-20'			7			
-6-	siter 107-51	6	u u	< <			
5	101-10			7	с с —		
	(1) [ 1]						
EASE NOTE: Liability and Damage lyses. All claims including those for fice. In no event shall Cardinal be I	•a. Cardnat's lability and clerk's exclusive in registence and any other cause whatsos lable for incidental or consequential dama; a public for incidental or consequential dama;	<ul> <li>remedy for any claim ansing whether bas ever shall be deemed waived unless made gee, including without Initiation, business how order by Develop incompare of ubert</li> </ul>	sed in contract or tort, shall be limited s in writing and received by Cardinal w interruptions, loss of use, or loss of pr ther such claim is based incoments of the	to the amount paid by the citera in thin 30 days after completion of offis incurred by citeral, its subsider the subsider of t	the applicable 30 days pa daries, and all core	2 Conditions: interest will be charged on as: st due at the rate of 24% per annum from the is of collections, including attorney's fees.	accourts more utan 9 original date of Involce, 1
mpler Relinguished	: Date:	-179 + Received By:	ۮ	Phone Result	Yes D No Additional Fax #:		
inquished By:	Time: Date:	Con Acceived By:	(Lab Staff)	REMARKS:			
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Aelivered By: (Cir ampler - UPS - Bus	cle One) - Other:	Sample Condit Cool Intact XVes X Ye	tion CHECKED BY:		,		
t Cardin							



PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BOB ALLEN 703 E. CLINTON, SUITE #103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 12/20/99 Reporting Date: 12/22/99 Project Number: NOT GIVEN Project Name: OSBURN Project Location: OSBURN RANCH Sampling Date: 12/18/99 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: BC Analyzed By: BC/AH

LAB NUMBER	SAMPLE ID	TPH (mg/Kg)	CI (mg/Kg)
ANALYSIS DAT	E:	12/20/99	12/21/99
H4524-1	SITE #1 T.H. #8 5'	12100	1374
H4524-2	SITE #1 T.H. #8 10'	231	1277
H4524-3	SITE #1 T.H. #8 20'	<10	420
H4524-4	SITE #1 T.H. #8 30'	-	1665
H4524-5	SITE #1 T.H. #8 40'	-	1568
H4524-6	SITE #1 T.H. #8 45'	<10	1600
Quality Control		231	1041
True Value QC		240	1000
% Recovery		96.3	104
Relative Percer	t Difference	1.0	3.0

METHODS: TPH-EPA 600/4-79-020 418.1; CI-Std. Methods 4500-CI'B \* Analyses performed on 1:4 w:v aqueous extracts.

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H4524.XLS



			CHAIN-OF-C	USTODY AND ANALYSIS REQUEST
ARD	<pre>//NAL LABORATORIES, INC. 2111 Beechwood, Abilene, TX 79603 (915) 673-7001 Fax (915) 673-7020</pre>	101 East Mariand, Hobbs, (505) 393-2326 Fax (505) 3	NM 88240 393-2476	Pageof
Company Name:	FIGT			ANALYSIS REQUEST
Project Manager:		BILLIO	)#;	
Address: 703 E.	CLINTON, #103	Company: SAME		
city: HOBBS	State: NM ZIp: 88240	Attn:		
Phone#: (505)	397-0510	Address:		
Fax#: (505) 3	93-4388	City:		· · · · · · · · · · · · · · · · · · ·
Project #:	Project Owner:	State: ZIP	<i>J</i>	
Project Name:	Oshurn'	Phone #;	5.	· · · · · · · · · · · · · · · · · · ·
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† Cardinal cannot accept verbal changes. Please fax written changes to 915-873-7020.



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ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BETH ALDRICH 703 E. CLINTON, SUITE #103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 12/17/99 Reporting Date: 12/20/99 Project Number: NOT GIVEN Project Name: OSBORN RANCH Project Location: SITE #1 Sampling Date: 12/16/99 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: GP Analyzed By: BC/AH

		TPH	Cl <sup>-</sup> *
LAB NUMBER	SAMPLE ID	(mg/Kg)	(mg/Kg)
ANALYSIS DAT	E:	12/17/99	12/20/99
H4517-1	SITE #1 TB #4 5'	544	970
H4517-2	SITE #1 TB #4 10'	48.7	· 792
H4517-3	SITE #1 TB #4 20'	<10	647
H4517-4	SITE #1 TB #4 30'	47.8	711
H4517-5	SITE #1 TB #4 40'	431	711
H4517-6	SITE #1 TB #4 45'	<10	792
H4517-7	SITE #1 TB #5 5'	371	65
H4517-8	SITE #1 TB #5 10'	136	48
H4517-9	SITE #1 TB #5 20'	2750	275
H4517-10	SITE #1 TB #5 30'	<10	145
H4517-11	SITE #1 TB #5 40'	<10	404
H4517-12	SITE #1 TB #5 45'	24.5	453
Quality Control		239	1041
True Value QC		240	1000

METHODS: TPH-EPA 600/4-79-020 418.1; CI-Std. Methods 4500-CI'B \*Analyses performed on 1:4 w:v aqueous extracts.

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% Recovery

**Relative Percent Difference** 

104

3.0

99.7

3.0





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ARUIN	(915) 873-7001 F.	1 OKIES, 1 Abilene, TX 79 ax (915) 673-7	NC. 1603 101 Ea 7020 (505) <u>3</u>	st Marland, H 93-2326 Fax (	obbs, NM 88 (505) 393-247	3240 6				Pageof_	
Company Name: SE								ANALYSIS	REQUEST		
Project Manager:				BILL TO	PO #:						
Address: 703 E. (	TLINTON, #103			Company:	SAME	<u> </u>					
city: HOBBS	State: NM	1 Zlp: 88240		Attn:							
Phone #: (505) 39	97-0510			Address:							
Fax #: (505) 39	3-4388			city:							
Project #:	Project Ov	vner:		State:	Zip:				<u>.</u>		
Project Name:	burn Ran	ĥ		Phone #:			·		•		
Project Location:	5/16:#1			Fax #:		/	<u>&gt;</u>				j <del>.</del>
FOR LAB USE OHLY			MATRIX	PRES.	SAMPLING	<u> </u>	<u>es</u>				
LAB I.D.	Sample I.D.	RAB OR (C)OMP. DNTAINERS DUNDWATER	STEWATER	ier: D: I Cool ier:		TPH 41	(hlond				
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PLEASE HOTE: Usibility and Damap evaluate. At datime including those is bended, in no event what Cardnal be evaluated and and and a state of all	si, Cardnafs Jabily and Glerk's us r nedigence and any other cause w Jabi for incidental or consequental problem in the performance of sen	clushrs namedy for any di halsonner shall be deemy I damagee, including witho	aim ariaing whether based of walved uniess made in x4 Imilation, business into all recentees of whether	In contract or loct, shall b writing and received by C kruptions, loss of use, or each claim is based upon	<ul> <li>Imited to the amount p bardnat within 30 days a lose of profils incurred b hose of the above state;</li> </ul>	aid by the start for the har sompletion of the s y clant, its subsidiariat	bbioten bbioten	Terms and Cor 30 days past du and at costs of	ditione: interest will be a tithe rate of 24% per polections, including atto	anarged on all accounts arroum from the original meg/s fees.	more With date of Imroice,
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Sampler • UPS • Bus	- Other:		X Yes X Yes	· ·							
† Cardinal ca	cept verbal chan	ges, Please fax	: wrltten chang	es to 915-073-7	020.						



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ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: DEE WHATLEY 703 E. CLINTON, SUITE #103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 12/08/99 Reporting Date: 12/10/99 Project Number: NOT GIVEN Project Name: OSBURN Project Location: OSBURN RANCH

Sampling Date: 12/08/99 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: GP Analyzed By: AH/BC

LAB NUMBER	SAMPLE ID	TPH (mg/Kg)	Cl (mg/Kg)
ANALYSIS DAT	TE:	12/09/99	12/09/99
H4499-1	SITE #1 T.B. #1 10'	11600	550
H4499-2	SITE #1 T.B. #1 25'	2190	302
H4499-3	SITE #2 T.B. #1 5'	104	746
H4499-4	SITE #2 T.B. #2 5'	26.3	1065
H4499-5	SITE #2 T.B. #3 5'	81.0	1775
H4499-6	SITE #2 T.B. #3 10'	207	1154
H4499-7	SITE #2 T.B. #3 15'	20.2	817
H4499-8	SITE #2 T.B. #3A 30'	34.4	426
H4499-9	SITE #2 T.B. #4 5'	295	515
H4499-10	SITE #2 T.B. #4 30'	43.8	195
Quality Control	·····	250	978
True Value QC		240	1000
% Recovery		104	98
Relative Percer	t Difference	0.6	2.2

METHODS: TPH-EPA 600/4-79-020 418.1; CI-Std. Methods 4500-CI'B Note: CI analyes performed on 1:4 w:v aqueous extracts.

10/4

Date

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BETH ALDRICH 703 E. CLINTON, STE 103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 12/23/99 Reporting Date: 12/27/99 Project Number: NOT GIVEN Project Name: OSBORN RANCH Project Location: JAL, NM

LAB NUMBER

Analysis Date: 12/27/99 Sampling Date: 12/20/99-12/21/99 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: BC Analyzed By: AH

CL

(mg/L)

H4534-1	SITE #3 B.H. #1 5'	81
H4534-2	SITE #3 B.H. #1 10'	81
H4534-3	SITE #3 B.H. #2 5'	65
H4534-4	SITE #3 B.H. #2 10'	388
H4534-5	SITE #3 B.H. #3 5'	388
H4534-6	SITE #3 B.H. #3 10'	582
H4534-7	SITE #2 B.H. #1A 20'	404
H4534-8	SITE #2 B.H. #1A 25'	453
H4534-9	SITE #2 B.H. #2A 17'	1293
Quality Control		1041
True Value QC		1000
% Recovery		104
<b>Relative Percent</b>	Difference	3.0

SAMPLE ID

METHOD: Standard Methods 4500-CI'B Note: Analyses performed on 1:4 w:v aqueous extract.

H4534.XLS

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST	NAL LABORATORIES, INC. 2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240 (915) 673-7001 Fax (915) 673-7020 (505) 393-2328 Fax (505) 393-2476	CT ANALYSIS REQUEST	BILL [] PO#:	CELINTON, #103 Company: SAME	State: NM Zlp: 88240 Attn:	97-0510 Address:	3-4388 City:	Project Owner: Zlp:	BOEN RANCH Phone #:	74/ 74/	MATTRIX PRES. SAMPLING	San contractions of the contraction of the contract	2/1× 43 6.4. 4/ 5/ 1/ 1/ 1/2-20-59 × 1	5/15#5 R.H. 4/ 10' G 1   X   X -2099   X	it # is is # # 5 ' C   X   X   U 20 m X   X   U	1/2 # 5.11 1× 10' Q 11 X X X 2.20 m X	1/2+1/2 B.H. H. 2 C     X   2-20-69 X   X   12-20-69 X   X   X   12-20-69 X   X   X   X   X   X   X   X   X   X	$(-2\pi^2) = (-2\pi^2) = (-2\pi$	5, F <sup>2</sup> a. H. h. 25 C   X   X   2-20-99 X   X   2-20-99 X   X   2-20-99 Y   2-20-99 Y	316 H2 B.H. 2A 17' 6' [] X X 2-2497 X	an. Cardard 1 12117 and clerify and clerify and which have a clerify which have been did of the amount pair of the base of the distribution of the starting which have been from t	or so gence and any other ourse whateoever shall be deemed whived by cardhal within 30 days after completion of the applicable 30 days part data at the rate of 34 per arrum from the oright. If a feat the subdiction is not completed at the subdiction is the subdiction is the subdiction of the subdiction is the subdiction of the subdiction is the subdiction of the subdictin of the subdiction of the subdiction of the subdicti	2: Date: Received By: Phone Result D Yes D No Additional Fax #: Fax Result: D Yes D No	Time:	Date: Received By: (Lab Staff)	Clarbadi Sity & DUNGUN CHECKED BY:	s - Other:
<b>S</b>	ARDINAL LABO 2111 Beechwoo (915) 873-700	y Name: стст	danager:	: 703 E. CLINTON. #1	BBS State	: (505) 397–0510	(505) 393-4388	t: Projec	Vame: OSGORN RAN	Location: 74/		B I.D. Sample I	34-1 5/ # 3 8/ #	-2 Sitt #5 R.H. H.	-3 Site the But the	14 She K 5.11 th	-S STEPS Bit PS	(-) (-) (-) (-) (-) (-) (-) (-) (-) (-)	-C 51512 1.1 1A	· 5 Sitet 2 R.H. 2	: Usatiy and Damages, Cardnar's labily and di	tailme including those for much gence and any other of event shall Cardnal be Table for incidental or conse events action of of or shall other evaluations.	r Relinquished:		shed By:	And A Circle Anal	• UPS - Bus - Other:

+ Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.



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ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BETH ALDRICH 703 E. CLINTON, STE 103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 12/23/99 Reporting Date: 12/28/99 Project Number: NOT GIVEN Project Name: OSBORN RANCH Project Location: JAL, NM Sampling Date: 12/22/99 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: BC Analyzed By: BC/AH

		TPH	CI*
LAB NUMBER	SAMPLE ID	(mg/Kg)	(mg/Kg)
			·
ANALYSIS DAT	TE:	12/23/99	12/27/99
H4533-1	SITE #9 B.H. #1 5'	142	-
H4533-2	SITE #9 B.H. #1 10'	-	2797
H4533-3	SITE #9 B.H. #1 11.5-12'	-	2489
H4533-4	SITE #9 B.H. #2 5'	<10	-
H4533-5	SITE #9 B.H. #2 10'		2021
H4533-6	SITE #9 B.H. #2 15'		1697
H4533-7	SITE #9 B.H. #3 5'	<10	-
H4533-8	SITE #9 B.H. #3 10'	-	2465
H4533-9	SITE #9 BACKGROUND 5'	485	283
H4533-10	SITE #9 BACKGROUND 10'	<10	283
Quality Control		231	1041
True Value QC		240	1000
% Recovery		96.3	104
Relative Percer	t Difference	1.0	3.0

METHODS: TPH-EPA 600/4-79-020 418.1; CI-Std. Methods 4500-CI'B \*Analyses performed on 1:4 w:v aqueous extracts.

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# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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ビイノノ	SINAL LABORATOR	ЩÍ	S, 1	NC	ć	u U	- FA -			he MM pp												
	<ol> <li>2111 DEECINOOG, ADILEN</li> <li>(915) 673-7001 Fax (91</li> </ol>	5) 6, 1,	73-7 73-7	7020	2 Y	1 Eas	61 INI8 93-23	11811( 128 F	, поц ах (50	5) 393-2476							-	Pag	e c	7		
Company Name: c	SEST					Π			· .					A	NALY	SIS R	EQUE	ST				
Project Manager:							BH	L T	0	PO #:												
Address: 703 E.	, CLINTON, #103		·				omp	any:	SA	Ê												
city: HOBBS	State: NM Zip:	882	240				Attn:								<u> </u>							
Phone #: (505)	397-0510						Addre	ss:				<u>ک</u>									<del></del>	
Fax#: (505) 3	393-4388						;ţ					70	• • •									
Project #:	Project Owner:						state:			ZIp:												
Project Name: C	DSDORN RANCH						hone	;#			81,				<u></u>							
Project Location:	<i><i>JA</i>/</i>						ax #				77 	/									 -:	
FOR LAB USE ONLY		┝─		Σ	ATRI			PRES.	S	ONITAW	Π	) . 										
		EBS	NATER .	RER							<u> </u>	X M								<del></del>	<del></del>	
		NO BAN(0) MATNOO <b>*</b>	ROUNDY	WETEW	אר פאר	SLUDGE	VCID:			ATE TIM		##/! 	461		<u></u>				<u></u>			<u></u>
H4823-1	Site the B.H#1 5' (	-					<u> </u>	×	2	1299 8.0C	XVV											
, , ,	Site #9 R.H. 4, 10' 6				X			$\times$	12-1	1 65.2		X										
( -	Site #9 B.H. 4 1 10/12/2 6	-	_		X			×	12-	1294		. ×						_				
	Site the B.H. the S' 6	-	_		~			$\overline{\mathbf{X}}$	12	22.99	×									<u>.</u>		
N,	Sitr # B.H. #2 10' (0	$\frac{1}{1}$			$\overline{}$		_	×	12-	65.22		$\times$								_	-	
7	5,15 the B.H. the 15'				×			X	-2/	5 2.99		X										
5	Sik-49 R.H. # 5 5	-					-+	$\times$	12-71	5.4	×	-			<u> </u>							
7	Site #9 8.H. 4 10' (	<u> </u>	_		7		-+	$\times$	12-1	66.2		X									-	
5	Site the Bart yound S' 6				2			Ł	12.	62-22	×	×				-				-	-	
F	Sitt the Back ground 10' 10	-	_		$\overline{\mathbf{X}}$		_	$\overline{\prec}$	12-	1- 14-2	X	× 								_		7
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ellnquished By:	Date: 12-23-	66	ă.	scev	ed By	: [Le	b Sta	E c	2													
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ampler • UPS • B	lus - Other:			80	00 59	S of																

+ Cardinal cannot accept verbal changes. Please fax written changes to 915-873-7020.



## Exhibit 5

## Groundwater Analysis

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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BETH ALDRICH 703 E. CLINTON, SUITE #103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 12/15/99 Reporting Date: 12/17/99 Project Owner: NOT GIVEN Project Name: OSBORN RANCH Project Location; JAL, NM Sampling Date: 12/15/99 Sample Type: GROUNDWATER Sample Condition: COOL & INTACT Sample Received By: GP Analyzed By: BC

				ETHYL	TOTAL
		BENZENE	TOLUENE	BENZENE	XYLENES
LAB NO.	SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)
			· · · · · · · · · · · · · · · · · · ·		
ANALYSIS	DATE	12/16/99	12/16/99	12/16/99	12/16/99
H4514-1	WEST WATER WELL	<0.002	<0.002	<0.002	<0.006
H4514-2	HOUSE WELL	<0.002	<0.002	<0.002	<0.006
H4514-3	FRONT HOUSE WELL	<0.002	<0.002	< 0.002	<0.006
H4514-4	FR. HOUSE WINDMILL	<0.002	<0.002	< 0.002	< 0.006
H4514-5	BACK HOUSE WINDMILL	<0.002	<0.002	<0.002	<0.006
	,				
Quality Cor	ntrol	0.092	0.104	0.100	0.307
True Value	QC	0.100	0.100	0.100	0.300
% Recover	у	91.8	104	99.8	102
Relative Pe	ercent Difference	3.4	3.1	0.7	1.6

METHOD: EPA SW-846 8260



H4514A.XLS



PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BETH ALDRICH 703 E. CLINTON, SUITE #103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 12/15/99 Reporting Date: 12/17/99 Project Owner: NOT GIVEN Project Name: OSBORN RANCH Project Location: JAL, NM Sampling Date: 12/15/99 Sample Type: GROUNDWATER Sample Condition: COOL & INTACT Sample Received By: GP Analyzed By: GP

		Na	Ca	Mg	K	Conductivity	NO3-N
LAB NUMBER	SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(u mhos/cm)	(mg/L)
ANALYSIS DAT	E:	12/17/99	12/16/99	12/16/99	12/16/99	12/17/99	12/16/99
H4514-1	WEST WATER WELL	186	114	47	6,0	2328	5.08
H4514-2	HOUSE WELL	213	162	47	6.7	2508	7.47
H4514-3	FRONT HOUSE WELL	94	85	50	6.4	1570	7.14
H4514-4	FR. HOUSE WINDMILL	116	64	27	4.3	1305	2.63
H4514-5	BACK. HOUSE WINDMILL	81	73	9.3	4.4	929	1.22
					4		
<b>Quality Control</b>		NR	80	49	4.96	1392	3.19
True Value QC		NR	80	50	5.00	1413	3.00
% Accuracy		NR	100	98	99	99	106
<b>Relative</b> Percen	t Difference	NR	0	2.0	0	0.2	5.6
METHODS:		SM	3500-Ca-D	3500-Mg E	8049	120.1	353.3

		CI	SO4	CO3	HCO3	pН	TDS
		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DA	TE:	12/14/99	12/17/99	12/16/99	12/16/99	12/17/99	12/16/99
H4514-1	WEST WATER WELL	295	364	0	116	7.81	1502
H4514-2	HOUSE WELL	432	282	0	205	7.73	1782
H4514-3	FRONT HOUSE WELL	158	243	0	190	7.78	918
H4514-4	FR. HOUSE WINDMILL	125	171	0	215	7.80	780
H4514-5	BACK. HOUSE WINDMILL	121	. 83	0	176	7.68	484
Quality Contro	1	1010	48.63	NR	971	7.07	NR
True Value QC	;	1000	50.00	NR	1000	7.00	NR
% Accuracy		101	97	NR	97	101	NR
<b>Relative Perce</b>	nt Difference	2.0	2.9	NR	-	0.6	NR
METHODS:		SM4500-CI-B	375.4	310.1	310.1	150.1	160.1

Gayle A/Potter, Chemist

99 Date

H4514B.XLS

211	1 Beechwood, Abiler 915) 873-7001 Fax (9	1e, TX 79603 101 E 15) 673-7020 (505)	ast Marland, Ho 393-2326 Fax (I	obbs, NM 8824 505) 393-2476				Pageo	 
pany Name: SEST						ANAL	YSIS REQUI	ST.	
ct Manager:			BILLTO	PO #:					
ss: 703 E, CL	INTON, #103	•	Company: S	AME	15				
HOBBS	State: NM ZIp:	88240	Attn:		100				
e#: (505) 397-	-0510		Address:		:An				
: (505) 393-4	4388		city:		ξı	 			
ct #:	Project Owner:		State:	Zip:	·				
ct Name: OSto,	RM RANCH		Phone #:		ion		 :		
ct Location:	Ā /		Fax #:		Pafri				
ALAB USE ONLY		MATRIX	PRES.	SAMPLING	C.A.				
LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SUUDGE	OTHER : ACID: ICE / COOL OTHER :	DATE TIME	BTEX MAjor	NITKATE	· · · · · · · · · · · · · · · · · · ·		
1514-1 We	st WATERWEN	C Y X		2-15-99 10:11mm	XX				
-2- 10	BAR HOWE WELL		/	1 10:254	× ×				
-3 FRO	int House WEIL	C 4 X 1	X	· · ///394m	XXX				
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NOTE: Usbity and Damages, C , Al dailing including those for neg- In no event shall Cardinal be Labe	ardnara labily and clent's exclusive n pigence and any other cause whatsoew e for incidental or consequental damage	energy for any claim anising whether be ar shall be deemed wakved unless mad a, including without limitation, business	sed in contract or tort, shall be a in writing and received by Ca Interruptions, loss of use, or h	rdnal within 30 days after oc ordnal within 30 days after oc ose of profils incurred by clar	the cient for the recient of the applicable I, its subsidiaries,	Terma 30 day and al	and Conditional Interea rapest due at the rate of 2 rosts of polections, Inclu	will be charged on all accounts of the short of the origination of the second strong of the second strong s	nis more than nai date of Involve,
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ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BETH ALDRICH 703 E. CLINTON, SUITE #103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 12/17/99 Reporting Date: 12/20/99 Project Owner: NOT GIVEN Project Name: OSBORN RANCH Project Location: JAL, NM Sampling Date: 12/17/99 Sample Type: GROUNDWATER Sample Condition: COOL & INTACT Sample Received By: GP Analyzed By: AH

		Na	Ca	Mg	K Conductivity	T-Alkalinity
LAB NO.	SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L) (u mhos/cm)	(mgCaCO <sub>3</sub> /L)

ANALYSIS DATE:	12/20/99	12/20/99	12/20/99	12/20/99	12/20/99	12/20/99
H4523-1 BACK HOUSE WINDMILL	89	52	19	4.39	928	124
H4523-2 FRONT HOUSE WINDMILL	110	67	22	4.45	1306	164
Quality Control	NR	80	49	4.96	1392	NR
True Value QC	NR	80	50	5.00	1413	NR
% Accuracy	NR	100	98	99	99	NR
Relative Percent Difference	NR	0	2.0	0	0.2	NR
	····	·				
METHODS:	SM	3500-Ca-D	3500-Mg E	8049	120.1	310.1
,						
	CI_	SO₄	CO3	HCO <sub>3</sub>	pН	TDS
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DATE:	12/20/99	12/20/99	12/20/99	12/20/99	12/20/99	12/20/99
H4523-1 BACK HOUSE WINDMILL	133	92	0	151	7.51	623
H4523-2 FRONT HOUSE WINDMILL	133	146	0	200	7.60	872
Quality Control	1041	48.63	NR	971	7.07	NR
True Value QC	1000	50.00	NR	1000	7.00	NR
% Accuracy	104	97	NR	97	101	NR
Relative Percent Difference	3.0	2.9	NR	-	0	NR
				····		·····
METHODS:	SM4500-CI-B	375.4	310.1	310.1	150.1	120,1

Hill Llab Tech

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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BETH ALDRICH 703 E. CLINTON, STE 103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 12/30/99 Reporting Date: 01/03/00 Project Owner: CLAY OSBORN Project Name: OSBORN RANCH Project Location: NORTH WATER WELL Sampling Date: 12/30/99 Sample Type: GROUNDWATER Sample Condition: COOL & INTACT Sample Received By: AH Analyzed By: BC

				ETHYL	TOTAL
		BENZENE	TOLUENE	BENZENE	XYLENES
LAB NO.	SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)
	~	10/00/00		1 10 10 0 10 0	
ANALYSIST		12/30/99	12/30/99	12/30/99	12/30/99
H4547-1	N. WATER WELL	<0.002	<0.002	<0.002	<0.006
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	,				
			<u> </u>		
			· · · · · · · · · · · · · · · · · · ·		
Quality Cont	rol	0.090	0.103	0.101	0.309
True Value (	20	0.100	0.100	0.100	0.300
% Recovery		89.7	103	101	103
<b>Relative Per</b>	cent Difference	0.5	3.0	2.4	2.8

METHOD: EPA SW-846 8260

Date



H4547A.XLS



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ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BETH ALDRICH 703 E. CLINTON, STE 103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 12/30/99 Reporting Date: 01/03/00 Project Owner: CLAY OSBORN Project Name: OSBORN RANCH Project Location: NORTH WATER WELL Sampling Date: 12/30/99 Sample Type: GROUNDWATER Sample Condition: COOL & INTACT Sample Received By: AH Analyzed By: AH

1/ Conductivity

T Alkalinity

	ina	Ca	INIG	n n	Conductivity	r-Aikannity
LAB NUMBER SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(umhos/cm)	(mgCaCO <sub>3</sub> /L)
ANALYSIS DATE:	12/30/99	12/30/99	12/30/99	12/30/99	12/30/99	12/30/99
H4547-1 N. WATER WELL	396	195	67	7.64	3450	160
Quality Control	NID	70.07	48.70	4.06	1442	ND
	NR	80.00	50.00	5.00	1413	NIC
% Accuracy	NR	99	97	99	102	NR
Relative Percent Difference	NR	-	-	0	0.4	NR
METHODS:	SM	3500-Ca-D	3500-Mg E	8049	120.1	310.1
	, CI_	SO₄	CO3	HCO₃	pН	TDS
	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DATE:	12/30/99	12/30/99	12/30/99	12/30/99	12/30/99	12/31/99
H4547-1 N. WATER WELL	857	257	0	195	7.10	2300
·						
Quality Control	919	48.63	NR	971	7.03	NR
True Value QC	1000	50.00	NR	1000	7.00	NR
% Accuracy	91	97	NR	97	100	NR
Relative Percent Difference	1.3	2.9	NR	-	0	
METHODS:	SM4500-CI-B	375.4	310.1	310.1	150.1	160.1

No

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01/03/00

A HUL	NAL LABORA I OKIES, 2111 Beechwood, Abilene, TX 7 (915) 673-7001 Fax (915) 673	<i>INC</i> : 9603 101 East Marland, Hob -7020 (505) 393-2326 Fax (50	bs, NM 88240 5) 393-2476	Page /	of
ompany Name: <sub>SF</sub>	ISE			ANALYSIS REQUEST	
roject Manager:		BILL TO	PO #:		
ddress: 703 E.	CLINTON, #103	Company: SA			· · · · · · · · · · · · · · · · · · ·
ity: HOBBS	State: NM ZIp: 8824	) Attn:	 		
hone#: (505) 3	397-0510	Address:	241		
1X #: (505) 30	93-4388	City:	170		
roject #:	Project Owner:	Osby in State:			
roject Name: 💮	Soburn Raxick	Phone #:			
roject Location:	North Water Vel	/ Fax #:	2		
FOR LAB USE OHLY		MATRIX PRES. S/	MPLING		
LAB I.D.	Sample D.D. DR (C)OMP. UNERS	VATER	T E t.ons		
	(G)RAB # CONT.	GROON WASTEN SOIL OIL SLUDGE OTHER ACID: ICE / CC OTHER			
H45417-1	North Water Well 4		0.89/2:45 12/0800		
EASE NOTE: Usbiliy and Dama Nyses, Al dailme including those Kes, in no event shal Cardnai b	ages, Cardnu's Jubily and clerk's exclusive remedy for any 1 for ned gence and any obser cause whatsoewer shall be der be 1able for incidental or consequental damages, including w	olaim arisiny whether based in contract or fort, shall be limi med wathed unless made in writing and received by Cardh hout Imitation, business internutdons, loss of use, or loss s	ed to the amount paid by the clant for the al whithin 30 days after completion of the applicable of profile incurned by clant, its subsidiantes,	Terme and Conditions: Interest will be charged on at a 30 days past due at the rate of 24% per arrum from the and at costs of collections, including attorney's less.	socourts more than societnal date of involve,
ampler Relinquishe	ad a relied to the privamence of a lowest network by the	Received By:	Phone Result D Yes D No /	Additional Fax #:	
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Sellvered By; IC	Ircle Oriel	Sample Condition CHECKED B			
ampler • UPS • Bu	us • Other:	Cool Intact (initials)			
† Cardinal can	pt verbal changes. Please t	ix written changes to 915-673-7020			



PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BETH ALDRICH 703 E. CLINTON, STE 103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 01/06/00 Reporting Date: 01/10/00 Project Number: NOT GIVEN Project Name: OSBORN RANCH Project Location: JAL, NM

Sampling Date: 01/06/00 Sample Type: GROUNDWATER Sample Condition: COOL & INTACT Sample Received By: AH Analyzed By: AH

		Na	Ca	Mg	K	Conductivity	T-Alkalinity
LAB NUMBER	SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(u mhos/cm)	(mgCaCO <sub>3</sub> /L)
ANALYSIS DAT	ſE:	01/07/00	01/07/00	01/07/00	01/07/00	01/07/00	01/07/00
H4557-1	SOUTHWEST MW	125	134	54	6.93	2006	272
H4557-2	GOLF COURSE TANKS	504	218	58	8.06	4133	212
Quality Control		ND	70.07	49.70	4.06	1//2	NID
True Volue OC		NID	19.91	40.70	4.90	1443	
			100	50.00	5.00	1413	
Relative Percer	t Difforonco	NID				102	
Relative Fercer				I	0	0.4	INIX
METHODS:		SM	3500-Ca-D	3500-Mg E	8049	120.1	310.1
						· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
		CI	SO4	CO <sub>3</sub>	HCO <sub>3</sub>	рН	TDS
		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(s.u.)	(mg/L)
ANALYSIS DAT	Ē:	01/07/00	01/07/00	01/07/00	01/07/00	01/07/00	01/07/00
H4557-1	SOUTHWEST MW	210	274	0	312	7.14	1419
H4557-2	GOLF COURSE TANKS	610	786	0	259	7.23	5170
<b>Quality Control</b>		919	48.63	NR	971	7.02	NR
True Value QC		1000	50.00	NR	1000	7.00	NR
% Accuracy		91	97	NR	97	100	NR
Relative Percer	t Difference	1.3	2.9	NR	-	0	NR
			075.4	040.4	040.4	150 1	100 1
METHODS:		SM4500-CI-B	3/5.4	310.1	310.1	150.1	160.1

hemist

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BETH ALDRICH 703 E. CLINTON, STE 103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 01/06/00 Reporting Date: 01/08/00 Project Number: NOT GIVEN Project Name: OSBORN RANCH Project Location: JAL, NM Sampling Date: 01/06/00 Sample Type: GROUNDWATER Sample Condition: COOL & INTACT Sample Received By: AH Analyzed By: BC

				ETHYL	TOTAL
		BENZENE	TOLUENE	BENZENE	XYLENES
LAB NO.	SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)
	· · · · ·				
ANALYSIS	DATE	01/06/00	01/06/00	01/06/00	01/06/00
H4557-1	SOUTHWEST MW	<0.002	<0.002	<0.002	<0.006
H4557-2	GOLF COURSE TANKS	<0.002	<0.002	<0.002	<0.006
	•				
Quality Con	itrol	0.087	0.100	0.097	0.298
True Value	QC	0.100	0.100	0.100	0.300
% Recovery	¥	87.3	99.9	96.6	99.5
<b>Relative Pe</b>	rcent Difference	1.3	3.2	4.5	5.1

METHOD: EPA SW 846-8021B, 5030, 5021 Gas Chromatography

f Cooke



### H4557B.XLS

ARD	WAL LABORATO	RIE	Ś	>	<u>n</u>	•							•						CH CH	A	Z	l G	5	C,	T	l D	X	Þ	H	Þ	Z		1×	Sic	Л	Ĩ	12 L	Ē	LS L	Ι.	
ļ	2111 Beechwood, Abile (915) 873-7001 Fax (1	ane, 915)	67 X	-70	20	~ <del>-</del>	505	) 30	93-5 N	lari 232	anc 6 F	ax ,	10b (50	5) 3	NN 193	-247	824 76	ö														ס	age		0						
Company Name: SI	1St								Į		l			-	- I			$\vdash$							NA	5	SIS.	3	B	ğ	No.									$\square$	
Project Manager:									$B_{l}$	1.1	I	0		Р	<b>#</b>																										
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city: HOBBS	State: NM ZIp	 80 000	324	0				<u> </u>	httn						.			<u> </u>								<u> </u>											_				
Phone #: (505)	397-0510								dd	res	:: 							<u> </u>																				<u> </u>	_		
Fax #: (505) 30	13-4388							0	city	••																										<u> </u>	_				
Project #:	Project Owner	••						(0)	stat	e:		ŗ		Np			l	l			15																_				
Project Name:	Storm Ranch						,		ňo	ne ŧ											<u>I KOP</u>																				
Project Location:	JA/								ax	#:										• /	40																				
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LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL		SLUDGE	OTHER:			OTHER:	ā .	ATE		TIN	m	DTO	ISIEX	Calina	CATIONS			•	• · · ·							н. С		· · · ·							
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PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BOB ALLEN 703 E. CLINTON, SUITE #103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 01/12/00 Reporting Date: 01/14/00 Project Number: NOT GIVEN Project Name: OSBORN Project Location: NOT GIVEN Sampling Date: 01/12/00 Sample Type: GROUNDWATER Sample Condition: COOL & INTACT Sample Received By: GP Analyzed By: AH

	Na	Ca	Mg	K Conductivity	T-Alkalinity
LAB NUMBER SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L) ( <i>u</i> mhos/cm)	(mgCaCO <sub>3</sub> /L)

ANALYSIS DATE:	01/14/00	01/13/00	01/13/00	01/13/00	01/13/00	01/13/00
H4573-1 COUNTRY CLUB TANKS	579	180	59	10.6	3290	196
Quality Control	NR	80.0	48.7	5.00	1392	NR
True Value QC	NR	80.0	50.0	5.00	1413	NR
% Recovery	NR	100	97.4	100	98.5	NR
Relative Percent Difference	NR	0	0.6	0.8	0.2	NR
METHODS:	SM	3500-Ca-D	3500-Mg E	8049	120.1	310.1
,	CI <sup></sup> (mg/L)	SO₄ (mg/L)	CO <sub>3</sub> (mg/L)	HCO <sub>3</sub> (mg/L)	рН (s.u.)	TDS (mg/L)

ANALYSIS I	DATE:	01/13/00	01/13/00	01/13/00	01/13/00	01/13/00	01/13/00
H4573-1	COUNTRY CLUB TANKS	667	796	0	239	6.98	2260
Quality Con	itrol	1010	48.63	NR	971	7.03	NR
True Value	QC	1000	50.00	NR	1000	7.00	NR
% Recovery	1	101	97.3	NR	97.1	100	NR
Relative Per	rcent Difference	10.0	2.9	NR	3.0	0.1	
METHODS:		SM4500-CI-B	375.4	310.1	310.1	150.1	160.1

Gayle A. Potter, Chemist

01/14/2000 Date



PLEASTAST Stores and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

<u>بل</u>					CHAIN-OF-CU	STODY AND ANALYSIS	JEST
ARDI	<b>INAL LABORATORIE</b> 2111 Beechwood, Abilene, (915) 673-7001 Fax (915)	ES, INC. TX 79803 101 1 673-7020 (505	East Marland, ) 393-2326 Fa)	Hobbs, NM 8824 ¢ (505) 393-2476	0	Pageof	-
Company Name: 🤇	たいよ		, 	•	ł	NALYSIS REQUEST	
Project Manager:	4/1/42		BILLIC	) Po#:			
Address: 70 2	EPONO		Company:		374		
City: 140002	State: Zip:		Attn:		212		- - -
Phone #: 505 -	391050		Address:		ア		
FaX #:			clty:				
Project #:	Project Owner:		State:	Zlp:	r Q		
Project Name: 🕜	unad 20	-	Phone #:		<del>y</del> ı		
Project Location:			Fax #:	-	D		
FOR LAB USE ONLY		MATRIX	PRES.	SAMPLING	]-;		
LAB I.D.	Sample I.D. BARB OR (C)OMP.	F Contriners Sroundwater Soil Soil	DJHEK: CE\COOF VCD: DJHEK: DJHEK: SCIDGE	DATE TIME	ze E UM		
HU573	Constrat ( up Tonts			1-1200 314S	X		
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PLEASE NOTE: Liability and Dam tratyses. Al daims including those	ages. Cardnais lability and elert's exclusive remedy a for negigence and any other cause whitecever the	for any claim antaing whether b the deemed waived unless man	ared in contract or tort, sh de in writing and received i	af be limited to the amount peid b y Candnal within 30 days after or	t the client for the mpetion of the applicable	Terms and Conditions: Interest will be charged on at accounts more than 30 days gate at the rate of 21% per annum from the original date of in and present documents that down shown them the original date of in	Volce.
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Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.



Exhibit 6

**CERI** Reports







## NEW MEXICO ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT

CONSERVATION DIVISION DISTRICT | HOBBS PO BOX 1980, Hobbs, NM 88241 (505) 393-6161 FAX (505) 393-0720

Jennifer A. Salisbury CABINET SECRETARY

May 13, 1999

Mr. James Knipe Bristol Resources 6655 South Lewis Suite 200 Tulsa, Oaklahoma 74136

772.243-7:25 A.M. 7643 John Alderman 7643

Re: South Langley Jal Unit

Dear Mr. Knipe,

New Mexico Oil Conservation Division (NMOCD) is in receipt of Bristol Resources's Environmental Assessment dated May 1, 1999. Before any determination can be made, NMOCD hereby requests the following:

- 1. Bristol Resources demonstrate that any remaining water contaminant will not impact groundwater or enironment.
- 2. Bristol Resources shall perform Vertical and Horizontal delineation by sampling for BTEX, TPH and Chlórides analysis of the referenced location above.

Please submit to NMOCD by July 13, 1999. If you have any questions or require any further information or assistance please do not hesitate to call (505-393-6161 ext...113) or write this office.

Sincerely,

Donna Williams-Environmental Engineer

Cc: Chris Williams, Wayne Price



## NEW MEXICO ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT

Jennifer A. Salisbury CABINET SECRETARY

November 2, 1999

Mr. James Knipe Bristol Resources 6655 South Lewis Suite 200 Tulsa, Oaklahoma 74136

Re: Locations around the South Langley Jal Unit UL A, Sec 18, Ts25S, R37E UL O, Sec 18, Ts25S, R37E UL P, Sec 18, Ts25S, R37E

Dear Mr. Knipe,

New Mexico Oil Conservation Division (NMOCD) visited with Bristol's Representative Don Tyler and Bristol's consultant John Alderman with Cornerstone Environmental on July 20, 1999. During the visit it was NMOCD's understanding that Bristol was going to address the above referenced locations. It is also the understanding of the NMOCD that Cornerstone had on that same day taken several samples for analysis. At this time the NMOCD has not received any information concerning these locations. Therefore, the NMOCD hereby requests the following:

- 1. Please submit a site investigation and remediation plan for the above referenced locations.
- 2. Please notify the NMOCD at least 48 hours in advance of the scheduled activities such that the NMOCD has the opportunity to witness the events and/or split samples during OCD's normal working hours.
- 3. Please provide with the investigation and remediation plan a plot map of the samples taken and at what depth samples were collected.
- 4. Please provide with your investigation report and/or remediation plan a legal verification of locations. (UL Sec T R).

**Please submit a plan for approval to NMOCD by December 15, 1999.** If you have any questions or require any further information or assistance please do not hesitate to call (505-393-6161 ext...113) or write this office.

Sincerely,

Donna Williams-Environmental Engineer Specialist cc: Chris Williams, Roger Anderson





## NEW MEXICO ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT



Jennifer A. Salisbury CABINET SECRETARY

November 3, 1999

Mr. James Knipe Bristol Resources 6655 South Lewis Suite 200 Tulsa, Oklahoma 74136

Re: South Langley Jal Unit

Dear Mr. Knipe,

New Mexico Oil Conservation Division (NMOCD) is in receipt of Bristol Resources' Phase II Environmental Assessment dated August 23, 1999. NMOCD hereby approves recommendations presented in the Assessment by Cornerstone Environmental Resources for Bristol Resources with the following conditions:

- 1. Bristol Resources shall perform vertical extent at the source of the leak.
- 2. Bristol Resources shall notify the NMOCD at least 48 hours in advance of any scheduled activities such that the NMOCD has the opportunity to witness the events and/or split samples during OCD's normal working hours.
- 3. Bristol Resources shall submit to NMOCD an investigation and remediation plan, included with a plot map of the sample(s) taken and at what depth they were collected.
- 4. Bristol Resources shall provide with the investigation report and/or remediation plan a legal verification of location. (UL Sec T R).

Please submit to NMOCD by December 5, 1999. If you have any questions or require any further information or assistance please do not hesitate to call (505-393-6161 ext...113) or write this office.

Sincerely,

ma 11 rolian

Donna Williams Environmental Engineer Specialist

cc: Chris Williams, Wayne Price



November 19, 1999

Ms. Donna Williams Oil Conservation Division District 1 Hobbs 1625 N. French Drive Hobbs, NM 88240

Re: South Langley Jal Unit Lea Co. New Mexico

Dear Ms. Williams,

We are enclosing copies of the reports prepared by Cornerstone Environmental Resources, Inc. (CERI) on the subject facility. The four reports enclosed are:

- Phase II Environmental Assessment (January 18,1999 initial investigation)
- Phase II Environmental Assessment June, 1999 Soil Borings
- Phase II Environmental Assessment July, 1999 Groundwater Sampling
- Abandoned Tank Battery Sites results of Laboratory Analysis Taken July 20, 1999

Please contact me at 972-243-7643 and we can discuss them in more detail. I believe that they will help clarify some of the issues which are concerning you.

Sincerely, CORNERSTONE ENVIRONMENTAL RESOURCES, INC.

/John H. Alderman, P. E.

Copy to:

Bristol Resources Mr. James Knipe 6655 South Lewis Suite 200 Tulsa Oklahoma 74136







#### **Cornerstone Environmental Resources, Inc.**





Mr. Dan Abney Bristol Resources Corporation 6655 S. Lewis, Suite 200 Tulsa, OK 74136

Re: Abandoned Tank Battery Sites Results of Laboratory Analysis Taken July 20, 1999 South Langley Jal Unit Lea Co. New Mexico

Dear Mr. Abney,

I was asked by Don Tyler to go with him and Ms. Donna Williams with the New Mexico Oil & Gas Conservation Division to visit three abandoned tank battery sites in the South Langley Jal Unit. The attached Figures show the location of the South Langley Jal Unit and the approximate location of the three sites visited. On July 20, 1999 we visited the sites and Ms Williams pointed out tests she would like to see run and some locations at the abandoned facilities she would like to see tested. On July 20, 1999, Ms. Connie Smith and I took soil samples at the abandoned facilities for analysis. The purpose of this letter is to document the results of those tests.

Let 1 had two out of service storage tanks with a fence around the tanks. A sign at the facility is entified the site as the Winters E Lease Tank Battery. Figure 3 is a Site Map of the facility. A heavy tar material that looked like tank bottoms was located in a depression inside the firewall of the battery. The material appeared to be on the north and east side of battery. A backhoe was used to dig a trench on the east side as shown of Figure 1. Six inches of tar material was seen on the side of the trench closest to the tanks and 3 inches of material on the east side of the trench. The ground was soft and the backhoe created deep ruts where it crossed the material. Because the area was soft, only one trench was dug to prevent enlarging the area impacted by the hydrocarbon material. A soil sample was taken and analyzed for benzene, toluene, ethylbenzene, and xylene (BTEX). None of these materials were detected in the sample. Total petroleum hydrocarbons (TPH) were measured based on analysis of gasoline range organics and diesel range organics. The TPH in the gasoline range were 23.1 mg/kg and in the diesel range were 13,900 mg/kg. A copy of the Core Laboratory report on the analysis is attached.

Site 2 shown on Figure 4 did not have any equipment located on the site. There was a built up area present where the storage tanks would have been located. A hard pan of hydrocarbon material was present on the east side of the location. Three trenches as indicated on Figure 4 were dug with a backhoe. A hard hydrocarbon material was seen at the surface where trenches on the east side were dug. There was a hydrocarbon odor in the trench in the southeast corner. The TPH values measured are shown on Figure 4. There were no BTEX compounds measured in any of the samples. The only gasoline range organics measured was 1.55 mg/kg in the sample from the southeast corner. This was the area where an odor was detected. The diesel range organics ranged from 40.2 mg/kg in the morthwest corner.

Site 3 appeared to be a former flare pit located to the west of an abandoned tank battery site. Figure 5 is a plot plan showing the location of a pipe from the former tank battery and the location of the samples. Ms. Williams said she would like to have a sample taken from the wall of the pit opposite the pipe and from the bottom of the pit. A sample was also taken from the wall of the pit where the pipe was located. No BTEX nor TPH in the gasoline range was detected in the three samples. A TPH measurement in the heavier organics range was detected in the sample from the east wall and from the center of the pit. The concentration on the east wall was 380 mg/kg and the TPH in the center of the pit was 24,300 mg/kg.

It is our opinion that the material at Site 1 should be removed for treatment or disposal. The material is in a soft semi liquid state which could be problem with live stock when the fence and tanks are removed. We do not believe the material at the other sites offer a threat to environment. We do suggest the hard pan on the east side of Site 2 be broken up and the soil tilled to allow air to contact soil and allow natural bioremediation to occur. The material in the bottom of the pit at Site 3 should be removed from the pit prior to backfilling of the pit. There were no indications of light hydrocarbons in the pit. However bringing the material to the surface prior to backfilling the pit would allow the material to be in contact with the air and permit bioremediation to occur.

If you have any questions concerning the analysis or the recommendations please do not hesitate to call me at 972-243-7643.

Sincerely, COBNERSTONE ENVIRONMENTAL RESOURCES, INC.

11

John H. Alderman, P. E. JHA/rnj



(1) TPH 23.1 Mg/Kg Gasoline Range TPH 13,900 Mg/Kg Diesel Range BTEX Non Detected









- (6) TPH Non Detected Gasoline Range TPH Non Detected Diesel Range BTEX Non Detected
   (7) TPH Non Detected Gasoline Range TPH 380 Mg/Kg Diesel Range BTEX Non Detected
- (8) TPH Non Detected Gasoline Range TPH 24,300 Mg/Kg Diesel Range BTEX Non Detected

,





### **GULF STATES ANALYTICAL**

08/02/99

Mr. John Alderman Cornerstone Environmental 2997 LBJ Frwy., Ste. 103 Dallas, TX 75234

Reference: Project: S.Langley JAL Unit Jal, New Mexico Project No.: 99003 Date Received: 07/22/99 GSA Group: 51962 Group Report Date: 08/02/99

Dear Mr. Alderman:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

Winter 01 :270923Winter 02 :270924Winter 03 :270925Winter 04 :270926Winter 05 :270927Winter 06 :270928Winter 07 :270929Winter 08 :270930

All holding times were met for the tests performed on these samples.

Dur A2LA accreditation requires that, should this report be reproduced, it must be reproduced in total.

Enclosed please find the Quality Control Summary. All quality control results for the QC batch that are applicable to this sample(s) are acceptable except as noted in the QC batch reports.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Core Lab - Gulf States Analytical to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

Sincerely yours,

Ed Fry Project Manager



Core Laboratorles, Inc. 6310 Rothway, Houston, Texas 77040, (713) 690-4444, Fax (713) 690-5646



.

#### ANALYSIS SUMMARY REPORT

Co	rnerstone Environmental		GSA Group:	51962		
2997 LBJ Frwy., Ste. 103			Date Reported: 08/02/1999 Date Received: 07/22/1999			
Dallas, TX 75234-7606			Date Received: 07/22/1999			
At	tn: Mr. John Alderman		Purchase C	order: 99003		
Pro	oject: S.Langley JAL Unit Jal, New	v Mexico	Project No	99003		
		Results		Limit of		
Test	Analysis	as Received	Units	Quantitation		
Sample						
0530H	TPH Gagoline Pange Organics SW	23 100	ua/ka	10 000		
05112	Purgoable Aromatics BTEY Solids	23,100	<b>u</b> g/ (g	10,000		
ODITE	Bangana	ND	ua/ka	20		
	Toluene	ND	ug/kg	20		
	Thulbongono	ND	ug/kg	20		
	Yelono (total)	ND	ug/kg	£0 60		
AC 2 017	Mylene (total)		ug/kg	1 660 000		
0539H	TPH, Diesel kange organics	13,900,000	ugrky	1,000,000		
Sampl	e:270924 - 07/20/1999 - Winter 02					
0538H	TPH, Gasoline Range Organics, SW	ND	ug/kg	1,000		
0511E	Purgeable Aromatics, BTEX Solids					
	Benzene	ND	ug/kg	20		
	Toluene	ND	ug/kg	20		
Same	Ethylbenzene	ND	ug/kg	20		
	Xylene (total)	ND	ug/kg	60		
0539H	TPH, Diesel Range Organics	180,000	ug/kg	33,200		
Sampl	e:270925 - 07/20/1999 - Winter 03					
0538H	TPH. Gasoline Range Organics, SW	ND	ua/ka	1.000		
0511E	Purgeable Aromatics, BTEX Solids			_,		
	Benzene	ND	ua/ka	20		
	Toluene	ND	ug/kg	20		
	Rthulhangana	ND	ug/kg	20		
	Yvlene (total)	ND	ug/kg	60		
0539н	TPH, Diesel Range Organics	4,440,000	ug/kg	830,000		
a	- 270026 07/20/1000 Winton 04					
Sampro	$\begin{array}{c} \text{E:} 2/0926 - 0//20/1999 - \text{Winter } 04 \\ \text{TDU Gaseline Barge Organics SW} \end{array}$	1 550	ua/ka	1 000		
10000	Tra, Gasorine Range Organics, Sw	1,000	uyrky	1.000		
JUTTE	Purgeable Aromatics, BIEA Solids	ND	ug/kg	20		
		ND	ug/kg	20		
	TOLUERE	NU	ug/Kg	20		
	Etnyidenzene	NU	ug/kg	20		
	Xylene (total)	NU A 160 000	ug/kg	60		
0539H	TPH, Diesel Range Organics	4,160,000	. ug/kg	332,000		
Sampl	e:270927 - 07/20/1999 - Winter 05					
059 RH	TPH, Gasoline Range Organics, SW	ND	ug/kg	1,000		



## **GULF STATES ANALYTICAL**

2

Page

#### ANALYSIS SUMMARY REPORT

Cornerstone Environmental		GSA Group:	51962
	Results		Limit of

<u>'est</u>	Analysis	as Received	Units	Quantitation
;amp1	e:270927 - 07/20/1999 - Winter 05			
)511E	Purgeable Aromatics, BTEX Solids			
	Benzene	ND	ug/kg	20
	Toluene	ND	ug/kg	20
	Ethylbenzene	ND	ug/kg	20
	Xylene (total)	ND	ug/kg	60
•539H	TPH, Diesel Range Organics	40,200	ug/kg	8,300
:amp1	e:270928 - 07/20/1999 - Winter 06			
538H	TPH, Gasoline Range Organics, SW	ND	ug/kg	1,000
511E	Purgeable Aromatics, BTEX Solids			
	Benzene	ND	ug/kg	20
	Toluene	ND	ug/kg	20
	Ethylbenzene	ND 2	ug/kg	20
	Xylene (total)	ND	ug/kg	60
53-9-1	TPH, Diesel Range Organics	ND	ug/kg	332.000
a	e:270929 - 07/20/1999 - Winter 07			
538H	TPH, Gasoline Range Organics, SW	ND	ug/kg	1,000
511E	Purgeable Aromatics, BTEX Solids			
	Benzene	ND	ug/kg	20
	Toluene	ND	ug/kg	20
	Ethylbenzene	ND	ug/kg	20
	Xylene (total)	ND	ug/kg	60
539H	TPH, Diesel Range Organics	380,000	ug/kg	166,000
ampl	e:270930 - 07/20/1999 - Winter 08			
538H	TPH, Gasoline Range Organics, SW	ND	ug/kg	1,000
511E	Purgeable Aromatics, BTEX Solids			
	Benzene	ND	ug/kg	20
	Toluene	ND	ug/kg	20
	Ethylbenzene	ND	ug/kg	20
	Xylene (total)	ND	ug/kg	60
539H	TPH, Diesel Range Organics	24,300,000	ug/kg	16,600,000

est Method Summary:





## **GULF STATES ANALYTICAL**

ANALYSIS SUMMARY REPORT

Page 3

Cornerstone Environmental

GSA Group: 51962

'est Method Summary: )511E- SW-846 8021B

0538H- SW-846 8015A MOD

0539H- SW-846 8015A MOD

D - Compound was analyzed but not detected.

Respectfully Submitted, Reviewed and Approved by:

Ed Fry

Core Laboratories, Inc. Project Manager 6310 Rothway, Houston, Texas 77040, (713) 690-4444, Fax (713) 690-5646



1

Toluene

#### Core Lab-Gulf States Analytical Daily QC Batching Data Data Released for Reporting

08/04/99 15:17:35 Group: 51962

70.0 130.0

4.3

LIMIT

20.0

20.0

20.0

20.0

20.0

20.0

20.0

20.0

20.0

20.0

20.0

20.0

nalysis Bate	h Number: 0511E-07/26/99-12	205-1				
est tentifi	cation : 0511E-Purgeable A	Aromatics. BTEX Solids	Units: ug/kg	Sequ	ence: BTX	1710
ium to f San	ples : 52 to/Time : 07/20/00 / 10:00	25				
a Jata-Da	ite/filme : 0//29/99 / 12:06:	35				
I ANK#	ANAL YTF	CONC FOUND	)# IMTOFOU	ANTITATION		
-072799	Benzene	8 4349	20	0000		
	Toluene	5.0237	20	.0000		
	Fthvlbenzene	3.0706	20 20	0000		
	m.p-Xvlene	3 8907	·	.0000		
-072799-2	Benzene	15,0022	20	0000		
	m p-Xvlene	4 6481	- E0 60	0000		
3-072899-3	Benzene	9.0648	20	.0000		
	Toluene	5 6813	20	0000		
	Ethylbenzene	2 4049	20	0000		
	m.p-Xv]ene	3.5115	60	0000		
3-072899-4	Benzene	16 5135	20	0000		
0 012055 1	m n-Yvlene	4 5811	60	0000		
	mp Agrene	1.0011				
PIKE						OC LIMITS
AMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	X REC #	LOWER UPPER
1968-270967	Benzene	1000.0000	6.9720	907.3886	90.0	70.0 130.0
	Toluene	1000.0000	3.7988	922.4063	91.9	70.0 130.0
	Ethylbenzene	1000.0000	0.000	941.8681	94.2	70.0 130.0
	o-Xylene	1000.0000	0.000	945.3803	94.5	70.0 130.0
	m.p-Xylene	2000.0000	0.000	1830.8220	91.5	70.0 130.0
196 <u>8-2</u> 70967-	2 Benzene	1000.0000	12.7892	985.7218	97.3	70.0 130.0
19 - C	Toluene	1000.0000	0.000	993.5193	99.4	70.0 130.0
	Ethylbenzene	1000.0000	0.000	1005.8677	100.6	70.0 130.0
2	o-Xylene	1000.0000	0.000	1020.3614	102.0	70.0 130.0
	m.p-Xylene	<i>2000.0000</i>	0.000	2050.3303	102.5	70.0 130.0
2055-271392-	3 Benzene	1000.0000	10.1425	1043.3696	103.3	70.0 130.0
	Toluene	1000.0000	4.3305	1057.4746	105.3	70.0 130.0
	Ethylbenzene	1000.0000	3.3005	1042.0484	103.9	70.0 130.0
	o-Xylene	1000.0000	0.0000	1046.8812	104.7	70.0 130.0
	m.p-Xylene	2000.0000	12.6707	2051.8764	102.0	70.0 130.0
2055-271392-	4 Benzene	1000.0000	14.2107	1039.9968	102.6	70.0 130.0
	Toluene	1000.0000	31.5203	1038.8227	100.7	70.0 130.0
	Ethylbenzene	1000.0000	0.0000	1028.9471	102.9	70.0 130.0
	o-Xylene	1000.0000	0.0000	1043.3313	104.3	70.0 130.0
	m.p-Xylene	2000.0000	10.4830	2110.3551	105.0	70.0 130.0
SU MOLE#		0010 40050	0010 04451 5			QC LIMITS
MPLE#	ANALTIE		CONC SAMPLE	RESULT 2	<u>XREC2</u> #	LOWER UPPER RPD #
1900-270907	Toluono	1000.0000	0.9720	904.4729	89.8	70.0 130.0 0.2
	Ethylbonzono		3.7988	913.9816	91.0	70.0 130.0 1.0
		1000.0000	0.0000	33V.2/33	33.U 02.0	70.0 130.0 1.3
	U-Ayicine m. n. Yvlano	2000.0000	0.0000	33/.5440	93.8 00 0	
1069-270047	2 Banzana	2000.0000	0.0000	1804.4558	90.2	
1200-510201-		1000.0000	12.7092	981.4952	90.9	
	Fthulbonzono	1000.0000	0.0000	976.0152	9/.D	
		1000.0000	0.0000	5/4.0034	9/.4	
	w n.Yvlana	2000.0000	0.0000	1000 0725	100.4	70.0 130.0 1.6
20 11202	m,p-nyitik 3 Banzana	2000.0000	0.0000	1010 4656	99.4	
-0/1032.	JUCILZERE	1000.0000	10.1425	1010.4050	100.0	70.0 130.0 3.2

1000.0000

4.3305

1013.5478

100.9

m.p-Xylene

#### Core Lab-Gulf States Analytical Daily QC Batching Data Data Released for Reporting

08/04/99 15:17:35 Group: 51962

\nalysis Bate	ch Number: 0511E-07/20	6/99-1205-1								
Test Identifi	ication : 0511E-Purge nples : 52	eable Aromatics,	BTEX Solids	Units: ug/kg	J	Sequence:	BTX171Q			
la Jata-Da	ate/Time : 07/29/99 /	12:06:35								
1SD							0C	LIMITS		
SAMPLE#	ANALYTE	-	CONC ADDED	CONC SAMPLE	RESUL	T 2 XREC2	# LOWER	UPPER	RPD #	LIMIT
2055-271392	-3 Ethylbenzene		1000.0000	3.3005	1003	3167 100	$\frac{n}{2}$ <u>2011</u>	0 130.0	3.8	20 0
	o-Xvlene		1000.0000	0.0000	1011	8506 101 :	2 70	0 130 0	3 4	20.0
	m n-Xvlene		2000 0000	12 6707	1976	1411 98 :	 2 70	0 130 0	3.8	20.0
32055-271392	-4 Benzene		1000 0000	14 2107	1007	2462 99	- 70. 3 70	0 130 0	२.२ २.२	20.0
2000 27 2002	Toluene		1000 0000	31 5203	1005	4596 97	5 70. 4 70	0 130.0	3.3 3.3	20.0
	Ethvlbenzene		1000 0000	0 0000	999	0439 99	- 70. 9 70	0 130 0	3.0	20.0
	o-Xvlene		1000.0000	0 0000	1015	3283 101	5 70.	0 130 0	27	20.0
	m.p-Xylene		2000.0000	10.4830	2049.	2471 101.9	<del>7</del> 0.	0 130.0	3.0	20.0
CONTROL						OC LIMITS	5			
AMPLE#	ANALYTE		CONC FOUND	CONC KNOWN	X REC #	LOWER UPPI	ER			
3-072799	Benzene		1040.3319	1000.0000	104.0	80.0 1	20.0			
	Toluene		1044,6987	1000.0000	104.5	80.0 1	20.0			
	Ethylbenzene		1081.3339	1000.0000	108.1	80.0 1	20.0			
	o-Xvlene		1050.3276	1000.0000	105.0	80.0 1	20.0			
	m.p.Xvlene		2066.6277	2000.0000	103.3	80.0 1	20.0			
3-072799-2	Benzene		1128,1694	1000.0000	112.8	80.0 1	20.0			
	Toluene		1124,4183	1000.0000	112.4	80.0 1	20.0			
	Fthvlbenzene		1138,6882	1000.0000	113.9	80.0 12	20.0			
	o-Xvlene		1131.9344	1000.0000	113.2	80.0 1	20.0			
	m.p-Xvlene		2288,4581	2000.0000	114.4	80.0 1	20.0			
,2 199-3	Benzene		940.6866	1000.0000	94.1	80.0 1	20.0			
	Toluene		935.0686	1000 0000	93 5	80 0 1	20.0			
	Fthylbenzene		945, 7297	1000 0000	94.6	80 0 1	20.0			
	o-Xvlene		937 2726	1000 0000	93.7	80 0 1	20.0			
	m n-Xvlene		1826 1098	2000 0000	91 3	80 0 1	20.0			
2-072899-4	Renzene		992 6931	1000 0000	99.3	80 0 1	20.0			
2 012000 1	Toluene		976 4808	1000.0000	97.6	80 0 1	20.0			
	Ethylbenzene		981.5185	1000.0000	98.2	80 0 1	20.0			
	o-Xvlene		980.3867	1000 0000	98.0	80 0 1	20.0			
	m,p-Xylene		1977.3085	2000.0000	98.9	80.0 1	20.0			
					QC L	.IMITS				
CV #	ANALYTE		TRUE VALUE	BATCH READ	X REC #	LOWER UPP	ER			
-072799	Benzene		50.0000	51.0789	102.2	85.0 11	5.0			
	Toluene		50.0000	51.1487	102.3	85.0 11	5.0			
	Ethylbenzene		50.0000	50.5769	101.2	85.0 11	5.0			
	o-Xylene		50.0000	50.3221	100.6	85.0 11	5.0			
	m,p-Xylene		100.0000	99.8230	99.8	85.0 11	5.0			
-072799-2	Benzene		50.0000	52.3656	104.7	85.0 11	5.0			
	Toluene		50.0000	51.8274	103.7	85.0 11	5.0			
	Ethylbenzene		50.0000	51.2171	102.4	85.0 11	5.0			
	o-Xylene		50.0000	51.3717	102.7	85.0 11	5.0			
	m.p-Xylene		100.0000	105.1806	105.2	85.0 11	5.0			
9-072799-3	Benzene		50.0000	48.8261	97.7	85.0 11	5.0			
	Toluene		50.0000	48.3709	96.7	85.0 11	5.0			
Ser.	Ethylbenzene		50.0000	47.7825	95.6	85.0 11	5.0			
	o-Xylene	• •	50.0000	47.3996	94.8	85.0 11	5.0			

100.0000

93.0340 93.0

85.0 115.0

#### Core Lab-Gulf States Analytical Daily QC Batching Data Data Released for Reporting

08/04/99 15:17:36 Group: 51962

Analysis Batch Number: 0511E-07/26/99-1205-1 Jecondentification : 0511E-Purgeable Aromatics. BTEX Solids of Samples : 52

Data-Date/Time : 07/29/99 / 12:06:35

Units: ug/kg

Sequence: BTX171Q

1				QC	LIMITS
<u>cv #</u>	ANALYTE	TRUE_VALUE	BATCH READ	<u>X REC #</u>	LOWER UPPER
19-072799-4	Benzene	50.000	51.9466	103.9	85.0 115.0
1	Toluene	50.000	0 51.2490	102.5	85.0 115.0
	Ethylbenzene	50.000	0 50.5359	101.1	85.0 115.0
1	o-Xylene	50.000	50.5696	101.1	85.0 115.0
	m,p-Xylene	100.000	0 102.9383	102.9	85.0 115.0
21-072899-5	Benzene	50.000	49.0847	98.2	85.0 115.0
1	Toluene	50.000	48.6601	97.3	85.0 115.0
	Ethylbenzene	50.000	0 47.9167	95.8	85.0 115.0
1	o-Xylene	50.000	47.8094	95.6	85.0 115.0
1	m.p-Xylene	100.000	94.0117	94.0	85.0 115.0
21-072899-6	Benzene	50.000	51.7661	103.5	85.0 115.0
1	Toluene	50.000	0 51.1482	102.3	85.0 115.0
1	Ethylbenzene	50.000	50.2417	100.5	85.0 115.0
4	o-Xylene	50.000	0 50.6129	101.2	85.0 115.0
	m,p-Xylene	100.000	102.9864	103.0	85.0 115.0
B7-072899-7	Benzene	50.000	52.4742	104.9	85.0 115.0
1	Toluene	50.000	0 51.2300	102.5	85.0 115.0
-	Ethylbenzene	50.000	0 50.1025	100.2	85.0 115.0
1	o-Xylene	50.000	50.0844	100.2	85.0 115.0
	π.p-Xylene	100.000	98.4022	98.4	85.0 115.0
37 399-8	Benzene	50.000	0 51.5299	103.1	85.0 115.0
8.0°	Toluene	50.000	50.8117	101.6	85.0 115.0
. Cele	Ethylbenzene	50.000	49.6113	99.2	85.0 115.0
	o-Xylene	<i>.</i> 50.000	49.8436	99.7	85.0 115.0
	m,p-Xylene	100.000	101.3081	101.3	85.0 115.0
49-072899-9	Benzene	50.000	0 51.8407	103.7	85.0 115.0
	Toluene	50,000	0 51.6055	103.2	85.0 115.0
	Ethylbenzene	50.000	50.3390	100.7	85.0 115.0
	o-Xylene	50.000	50.3692	100.7	85.0 115.0
	m.p-Xylene	100.000	98.5105	98.5	85.0 115.0
49-072899-10	Benzene	50,000	0 51.5938	103.2	85.0 115.0
	Toluene	50.000	0 51.0287	102.1	85.0 115.0
	Ethylbenzene	50.000	0 51.9997	104.0	85.0 115.0
	o-Xylene	50.000	0 49.4742	98.9	85.0 115.0
	m,p-Xylene	100.000	0 101.1983	101.2	85.0 115.0
52-072999-11	Benzene	50.000	0 51.7143	103.4	85.0 115.0
	Toluene	50.000	50.8827	101.8	85.0 115.0
	Ethylbenzene	50.000	49.7645	99.5	85.0 115.0
	o-Xylene	50.000	0 50 <b>.01</b> 94	100.Ô	85.0 115.0
	m,p-Xylene	100.000	97,8686	97.9	85.0 115.0
52-072999-12	Benzene	50.000	50,9003	101.8	85.0 115.0
	Toluene	- 50.000	0 50.1475	100.3	85.0 115.0
	Ethvlbenzene	50.000	49.2196	98.4	85.0 115.0
	o-Xvlene	50,000	0 48 9914	98.0	85 0 115 0
	m.p-Xvlene	100.000	0 99 9267	99.9	85 0 115.0
5569999-13	Benzene	50.000	0 49 8246	99 A	85 0 115.0
	Toluene	50.000	10 <u>49.024</u> 0	99.6	85 0 115.0
-	Ethylbenzene	50.000	0 <b>4</b> 8 8673	97 7	85 0 115.0
	o-Xvlene	50.000	10 AR R012	97 6	85 N 115 C
			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	27.0	00.0 110.0

4

#### Core Lab-Gulf States Analytical Daily QC Batching Data Data Released for Reporting

08/04/99 15:17:36 Group: 51962

Sequence: BTX171Q

Analysis Batch Number: 0511E-07/26/99-1205-1

Text Identification : 0511E-Purgeable Aromatics, BTEX Solids Units: ug/kg of Samples : 52

Data-Date/Time : 07/29/99 / 12:06:35

1				QC I	IMITS
CV #	ANALYTE	TRUE VALUE	BATCH READ	<u>X REC #</u>	LOWER UPPER
55-072999-13	m,p-Xylene	100.0000	95.9838	96.0	85.0 115.0
55-072999-14	Benzene	50.0000	49.6394	99.3	85.0 115.0
1	Toluene	50.0000	49.2089	98.4	85.0 115.0
	Ethylbenzene	50.0000	48.2120	96.4	85.0 115.0
-	o-Xylene	50.0000	48.0998	96.2	85.0 115.0
	m.p-Xylene	100.0000	98.2457	98.2	85.0 115.0

SURG #:21-0511E-S-SU

SAMPLE#	<u></u>	<u>BFB_#_</u>
5AMPLE 51968-270967	70(G)	78
SAMPLE 51968-270967	79	83
SAMPLE 51962-270923	69(G)	73
5AMPLE 51962-270923	79	76
SAMPLE 51962-270924	65(A)	76
SAMPLE 51962-270924	73	76
GAMPLE 51962-270925	92	95
5AMPLE 51962-270925	103	107
SAMPLE 51939-270848	120	140(A)
6AMPLE 51939-270848	122	93
5AMPLE 51939-270849	87	96
SA 51939-270849	85	97
S 51939-270850	95	103
SAMELE 51939-270850	103	101
SAMPLE 51939-270851	86	94 ´
SAMPLE 51939-270851	98	98
SAMPLE 51939-270852	73	81
SAMPLE 51939-270852	82	84
SAMPLE 51939-270853	84	91
SAMPLE 51939-270853	94	<del>9</del> 6
SAMPLE 51939-270849	94	98
SAMPLE 51939-270849	105	98
SAMPLE 51939-270848	121	168(D)
SAMPLE 51939-270848	150(D)	106
SAMPLE 51996-271092	87	93
SAMPLE 51996-271092	93	93
SAMPLE 52055-271392	84	93
SAMPLE 52055-271392	83	91
SAMPLE 51962-270926	51(B1)	53(B1)
SAMPLE 51962-270926	55(A)	52(A)
SAMPLE 51962-270927	66(B1)	72
SAMPLE 51962-270927	68(A)	71
SAMPLE 51962-270928	74	86
SAMPLE 51962-270928	76	85
SAMPLE 51962-270929	82	92
SAMPLE 51962-270929	83	90
Sec. 51962-270930	97	108
S/SE 51962-270930	98	104
S. ≟ 52054-271390	73	93
SAMPLE 52054-271390	84	88

URG #:21-0511E-S-SU

#### Core Lab-Gulf States Analytical Daily QC Batching Data Data Released for Reporting

08/04/99 15:17:37 Group: 51962

Analysis Batch Number: 0511E-07/26/99-1205-1 Terredentification : 0511E-Purgeable Aromatics. BTEX Solids of Samples : 52 ... Data-Date/Time : 07/29/99 / 12:06:35

Units: ug/kg

Sequence: BTX171Q

AMPLE# BFB # TFT # SAMPLE 52054-271391 77 96 SAMPLE 52054-271391 90 82 AMPLE 51962-270926 66(B1) 75 SAMPLE 51962-270926 73 67(A) SAMPLE 52101-271648 2784(D) 0(D) AMPLE 52101-271648 0(D) 1455(D) AMPLE 52101-271648 1497(D) 70 SAMPLE 52101-271648 0(D) 1442(D) GAMPLE 52054-271390 93 105 SAMPLE 52054-271390 93 94 SAMPLE 52054-271391 91 104 SAMPLE 52054-271391 97 87 BLK 1 4-072799 89 83 95 BLK 2 4-072799 93 BLK 3 23-072899 92 100 BLK 4 23-072899 100 103 83 5PK 1 51968-270967 73 SPK 2 51968-270967 82 89 GPK 3 52055-271392 90 97 4 52055-271392 92 97 3-072799 107 103 2 3-072799 С 114 115 TL 3 22-072899 92 86 CTL 4 22-072899 93 95 CCV 1 2-072799 93 91 CCV 2 2-072799 95 93 CCV 3 19-072799 86 88 93 CCV 4 19-072799 93 CCV 5 21-072899 88 89 CV 6 21-072899 94 93 CCV 7 37-072899 88 91 CCV 8 37-072899 88 90 CCV 9 49-072899 87 89 CCV 10 49-072899 87 89 CCV 11 52-072999 89 86 CCV 12 52-072999 85 87 CV 13 55-072999 88 88 CCV 14 55-072999 87 87 MSD 1 51968-270967 83 71 ISD 2 51968-270967 79 88 MSD 3 52055-271392 86 94

94

88

MSD 4 52055-271392

#### Core Lab-Gulf States Analytical Daily QC Batching Data Data Released for Reporting

08/04/99 15:17:38 Group: 51962

Ę	alucic Patch Num		26/00 120E 1					
Ar -	alysis Datci nu		20/99-1205-1				670/1710	
	Identificatio	on : USILE-Pur	geable Aromatic:	s. BIEX Solids	Units: ug/	kg Seqi	reuce: RIX1/10	
	for of Samples	: 52						
<b>a</b>	. Data-Date/Ti	ime : 07/29/99 .	/ 12:06:35					
<b>2</b> 1	-0511E-S-SU - BT	TEX SOLIDS SURR	OGATE	QC LIM	ITS			
БR	RG ABRV = SURROGA	ATE DESCRIPTION		LOWER	UPPER			
π	T Trifluo	protoluene		70.0	130.0			
BF	B p-Brom	ofluorobenzene		70.0	130.0			
£								
1		Ri	esult Footnotes			-		
(6	a) - Marginal Out	tlier						
t/	() - Matrix Inter	ference						
	)) - Surrogate is	s diluted out						
(E	31) - Sample(s) r	erun to confir	m matrix interfe	erence.				
1	Groups & Sam	hles						
			-					
1	51939-270848	51939-270849	51939-270850	51939-270851	51939-270852	51939-270853	51962-270923	51962-270924
I	51962-270925	51962-270926	51962-270927	51962-270928	51962-270929	51962-270930	51968-270967	51996-271092
	52054-271390	52054-271391	52055-271392	52101-271648				



1





#### Core Lab-Gulf States Analytical Daily QC Batching Data Data Released for Reporting

08/04/99 15:17:39 Group: 51962

nalysis Batch Num	iber: 053	38H-07/15/9 28H-ТРН Сэ	9-1205-2 soline Pange (	Draanics SW	linits, ua/ka	Sea	uence: GR071	660		
escreencificatio	m : 053	2011 IFN, Ud	sorme kange i	organics, sw		564	uence. atori	000		
al Jata-Date/Ti	me:07/	/29/99 / 14	:27:18							
ANK# ANAI	YTF			CONC FOUND	)# LMTOFOU	ANTITATION				
27-072799 Gas	oline			286.5500	1000	.0000				
55-072899-2 Gas	oline			584.5900	1000	.0000				
53-072899-3 Gas	oline			1397.9300	)(D1) 1000	.0000				
71-072899-4 Gas	oline			654.9700	1000	.0000				
PIKE	VCTC				CONC. SANDIE		* DEC #			
AMPLE# ANAL	YIE		,	CUNC ADDED	CUNC SAMPLE	CUNC SPIKE	<u>4 KEC #</u>	TO O 120 O		
1968-270967 Gas	oline			5000.0000	545.3600	0240.5000	222 7(01)	70.0 130.0		
2055-271392-2 Gas	oline			5000.0000	1412.9500	18049.0000	332.7(UI)	70.0 130.0		
2055-271392-3 Gas	oline			5000.0000	477.9800	4005.0200	63.7	70.0 130.0		
SD								QC LIMITS		
AMPLE# ANAL	YTE			CONC ADDED	CONC SAMPLE	RESULT 2	<u> *REC2 #</u>	LOWER UPPER	<u>RPD #</u>	LIMIT
1968-270967 Gas	oline			5000.0000	545.3600	5820.0800	105.5	70.0 130.0	7.7	27.0
2055-271392-2 Gas	oline			5000.0000	1412.9500	10161.8400	175.0(D1)	70.0 130.0	62.1(D1	) 27.0
2055-271392-3 Gas	soline			5000.0000	477.9800	4584.5700	82.1	70.0 130.0	1.9	27.0
						0				
	VTE			CONC FOUND	CONC KNOWN	¥ REC # 10				
26-072799 Cas	oline			5537 9700	5000 0000	110.8	75 2 121 4			
54-072899-2 Gas	oline			5320 8200	5000.0000	106 4	75.2 121.4			
5 899-3 Gas	oline			5094 6000	5000 0000	101 9	75 2 121 4			
7' '899-4 Gas	soline			4857, 1800	5000.0000	97.1	75.2 121.4			
	1011110			1007.1000	0000000000	27.12	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
			,			QC LIMIT	S		,	
CV # ANAL	YTE			TRUE VALUE	BATCH READ	<u>x REC # LC</u>	WER UPPER			
25-072799 Gas	soline			250.0000	225.3100	90.1	85.0 115.0			
.41-072799-2 Gas	soline			250.0000	267.7500	107.1	85.0 115.0			
.44-072899-3 Gas	soline			250.0000	243.9500	97.6	85.0 115.0			
.64-072899-4 Gas	soline			250.0000	263.3000	105.3	85.0 115.0			
.69-072899-5 Gas	soline			250.0000	271.4500	108.6	85.0 115.0			
278-072999-6 Gas	soline			250.0000	244.7400	97.9	85.0 115.0			
JRG #+20-0538 -S-	.511									
SAMPLE#	50	tft #	BFB #							
AMPLE 51968-27096	 57	73								
AMPLE 51962-27093	30	110	127							
AMPLE 51962-27092	24	88	96				•			
AMPLE 51962-27092	25	105	116							
AMPLE 51962-27092	26	59(L1)	59(L1)							
AMPLE 51962-27092	27	78	86							
AMPLE 51962-27092	 28	92	100							
AMPLE 51962-27092	29	100	108							
SAMPLE 51962-27092	23	89	107							
SAMPLE 51962-27092	26	86	86							
SAMPLE 51969-27096	58	141(D)	597(D)							
51969-27096	59 59	654(D)	427(D)							
51969-27096	58	0(D)	960(D)							
SA 51969-27096	58 ·	4234(D)	4270(D)							
SAMPLE 51969-27096	59	****(D)	1637(D)							

l

#### Core Lab-Gulf States Analytical Daily QC Batching Data Data Released for Reporting

08/04/99 15:17:40 Group: 51962

	: UDJOH-IPH, . 22	, uasurme kange	e organics, SW	units: ug/	ra sed	uence: ak0/166Q	
.1 Data-Date/Time	: 07/29/99 /	/ 14:27:18					
SURG #:20-0538 -S-SU							
SAMPLE#		BFB #					
SAMPLE 52054-271390	86	137(A)					
SAMPLE 52054-271391	102	132(A)					
AMPLE 52055-271392	78	99					
SAMPLE 52055-271392	78	98					
SAMPLE 52054-271390	172(D)	184(D)					
SAMPLE 52054-271391	128	147(D)					
SAMPLE 51969-270968	0(D)	673(D)					
BLK 1 127-072799	92	109					
BLK 2 155-072899	143(M)	134(M)					
BLK 3 163-072899	96	107					
BLK 4 171-072899	<b>9</b> 9	106					
SPK 1 51968-270967	113	115					
SPK 2 52055-271392	118	103					
SPK 3 52055-271392	94	110					
CTL 1 126-072799	95	105					
CTL 2 154-072899	90	108					
CTL 3 156-072899	137(M)	123					
TL 4 170-072899	96	122					
CCV 1 125-072799	97	105					
CV 2 141-072799	100	108					
144-072899	98	105					
4 164-072899	103	106					
Cv 5 169-072899	104	103					
CV 6 1/8-0/2999	113	118					
ISD 1 51968-270967	109	120					
1SD 2 52055-271392	112	110					
150 3 52055-271392	97	106					
20-0538 -S-SU - TPH G	RO SURROGATE	S, SOIL	QC LIMI	TS			
SRG ABRV = SURROGATE	DESCRIPTION		LOWER U	PPER			
IFT Trifluorot	oluene		70.0 1	30.0			
BEB p-Bromotiu	orobenzene		70.0 1	30.0			
	Re	sult Footnotes			_		
(D1) - Carryover cont	amination fr	rom previous ru	1.				
(11) - Analytical res	ults not use	d. another run	reported				
(D) - Surrogate is di	luted out						
(A) - Matrix Interfer	ence						
(M) - QC Sample Was R	eanalyzed						
Groups & Samples							
		-	51050 070005	51000 070000			
51908-270698 51	962-270923	51962-270924	51962-270925	51962-270926	51962-270927	51962-270928	51962-27092
51908-270698 51 51962-270930 51	962-270923 968-270967	51962-270924 51969-270968	51962-270925 51969-270969	51962-270926 52054-271390	51962-270927 52054-271391	51962-270928 52055-271392	51962-27092

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#### Core Lab-Gulf States Analytical Daily QC Batching Data Data Released for Reporting

08/04/99 15:17:41 Group: 51962

nalysis Batch estimentific unicof Samp	h Number: 0539G-07/23/99-1230-4 cation : 0539G-TPH, Diesel Range ( ples : 17	Drganics U	lnits: ug/kg	Seq	uence: TPH173	30Q	
ati. Jata-Dat	te/Time : 08/03/99 / 10:54:24						
LANK#	ANALYTE	CONC FOUND #	LMT OF QU	ANTITATION			
BLK	none detected	<u>"</u>	<u>,</u>				
	·						
PIKE						QC LIMITS	
AMPLE#	ANALYTE	CONC ADDED CO	NC SAMPLE	CONC SPIKE	<u>X REC #</u>	LOWER UPPER	
1904-270670	Diesel fuel	67000.0000	0.0000	0.0000	0.0(K1)	70.0 130.0	
AMPLE#	ANALTIE Discol fuel		<u>nic sample</u>	<u>KESULI Z</u>	$\frac{4REU2}{0.0(V1)}$	70 0 120 0 0 0	26.0
1904-270070	Dieser Tuer	07000.0000	0.0000	0.0000	0.0(KI)	70.0 130.0 0.0	20.9
ONTROL				0	C LIMITS		
AMPLE#	ANALYTE	CONC FOUND C	ONC KNOWN	X REC # LO	WER UPPER		
LCS	Diesel fuel	62087.0000	67000.0000	92.7	61.2 128.1		
JRG #:26-053	9 -S-SU						
AMPLE#	<u>0-TP_</u> #						
AMPLE 51962-2	270923 2(A)						
AMPLE 51962-	2/0924 3(A)						
AMPLE 51904-2	270673 89						
AMPLE 51962-2	270925 U(A)						
AMPLE 51904-	270674 U(A)						
APR 51004	270575 0(A)						
AMDIE 51062	270075 U(A) 270027 80						
AMPLE 51902-2	270527 85 270676 79						
AMPLE 51962-3	270928 <b>4</b> (A)						
AMPLE 51904-2	270677 77						
AMPLE 51904-2	270670 4(A)						
WPLE 51904-2	270671 4(A)						
AMPLE 51904-2	270672 10(A)						
MPLE 51904-2	270678 0(A)						
MPLE 51904-2	270679 1(A)						
AMPLE 51969-2	270969 0(A)						
LK 1 BLK	73						
PK 1 51904-3	270670 4(A)						
TL 1 LCS	76						
SD 1 51904-2	270670 4(A)						
5-0539 -S-SU	- DRO SURROGATE SOIL	QC LIMITS					
$\frac{\text{KG} \text{ABKV}}{\text{TD}} = \frac{\text{SU}}{2}$	RRUGATE DESCRIPTION	LOWER UPPER					
-1P 0-	Terphenyi	70.0 130.0					
	Result Footnotes						
(1) . See co	mment for explanation						
1) - Matrix	Interference						
. 👝	Batch Notes						
Found	sample 51904-270670 had a concentr	ation of 1626600 ppb.	MS concent	ration is 206	3000 ppb. MSD	)	
centrati	on is 2108600 ppb. Spike recovery	is valid because the	sample is	> four times	the spiked an	nount.	
			•				

#### Core Lab-Gulf States Analytical Daily QC Batching Data Data Released for Reporting

08/04/99 15:17:41 Group: 51962

Analysis Batch Number: 0539G-07/23/99-1230-4 Tere Identification : 0539G-TPH. Diesel Range Organics Units: ug/kg Sequence: TPH1730Q of Samples : 17 ca. . Data-Date/Time : 08/03/99 / 10:54:24

Groups & Samples

•••••

 51904-270670
 51904-270671
 51904-270672
 51904-270673
 51904-270674
 51904-270675
 51904-270676
 51904-270677

 51904-270678
 51904-270679
 51962-270923
 51962-270924
 51962-270925
 51962-270926
 51962-270927
 51962-270928

 51969-270969
 51969-270969
 51962-270924
 51962-270925
 51962-270926
 51962-270927
 51962-270928

4	
Page	1

#### Core Lab-Gulf States Analytical Daily QC Batching Data Data Released for Reporting

08/04/99 15:17:42 Group: 51962

				Data Release	ed for Reportin	ng .			Group: 51962
Analysis Bate	ch Number:	0539G-07/23/99	-1230-2						
Jeredentifi	ication :	0539G-TPH, Die	sel Range Organ	nics	Units: ug/kg	J	Sequence: TPH1	.730Q	
Ra Data-Da	mples : ate/Time :	15	00-40						
bat , baca ba		0//20/00/11/.	00.40						
BLANK#	ANALYTE			CONC FOUND	<u>) # LMT OF QU</u>	JANTITATIO	N		
BLK	none de	tected							
SDIVE								OC LIMITS	
SAMPLE#	ANAI YTF			CONC ADDED	CONC SAMPLE	CONC SP	IKE X REC #	I OWER UPPER	
51974-271008	Diesel	fuel		67000.0000	35676.6000	99411.	6000 95.1	70.0 130.0	
1									
isd								QC LIMITS	
SAMPLE#	ANALYTE			CONC ADDED	CONC SAMPLE	RESUL	<u>T 2</u> <u>XREC2</u> <u>#</u>	LOWER UPPER	<u>RPD # LIMIT</u>
519/4-2/1009	Diesel	fuel		67000.0000	35676.6000	102105.0	0000 99.1	70.0 130.0	4.1 26.9
CONTROL							QC LIMITS		
SAMPLE#	ANALYTE			CONC FOUND	CONC KNOWN	<u>*</u> REC #	LOWER UPPER		
LCS	Diesel	fuel		67900.0000	67000.0000	101.3	61.2 128.1		
SURG #:26-053	39 -S-SU								
SAMPLE#	071005	<u> </u>							
SAMPLE 51974	-2/1005	6(A)							
SAMPLE 51974	-2/1006	5(A)							
SAMPLE 51974	-2/100/	44(A)							
SAMPLE 51974	-2/1011	104							
SAMPLE 51974	-2/1012	12(A)							
SA 51974	-2/1013	22(A) 12(A)							
SAMDLE 52004	-2/1014	13(A)							
SAMPLE 52004	-271123	13(K) 68(A)							
SAMPLE 52004	-271120	5(A)							
SAMPLE 52004	-271124	0(4)							
SAMPLE 52004	.270968	0(A)							
SAMPLE 52004	-271122	79							
SAMPLE 51962	-270929	1(A)							
SAMPLE 51962	-270930	D(A)							
RIK 1 RIK	270550	75							
SPK 1 51974	-271008	91							
CTI 1 1 CS	2.1000	94							
MSD 1 51974	-271009	40(A)							
<u>26-0539 -S-SI</u>	<u>U - DRO SU</u>	RROGATE SUIL		QC LIMITS	-				
$\frac{SRG}{2} \frac{ABRV}{TD} = \frac{SU}{2}$	URROGATE L	ESCRIPTION		LOWER UPPE	<u>-R</u>				
J-15 0	- Terpheny I			70.0 130.	.0				
		Result	Footnotes						•
(A) - Matrix	Interfere	ence							
	<b>•</b> -					-			
Groups &	Samples								
962.27	0929 519	62-270930 519	69-270968 510	974-271005	51974-271006	51974-271	007 51974-271	008 51974-271	009
	JJLJ JI	JE 270500 JE		TT LILUUJ .	JIJIA LIIVVV	51517'LI1	JIJ/4-2/1	1000 J13/4-2/1	
			-						

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#### Core Lab-Gulf States Analytical Daily QC Batching Data Data Released for Reporting

08/04/99 15:17:42 Group: 51962

Analysis Batch Number: 0539G-07/23/99-1230-2 Tempentification : 0539G-TPH, Diesel Range Organics Units: ug/kg Sequence: TPH1730Q www.of Samples : 15 3a. Data-Date/Time : 07/29/99 / 17:00:40 Groups & Samples 51974-271011 51974-271012 51974-271013 51974-271014 52004-271120 52004-271121 52004-271122 52004-271123 52004-271124

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PH OF WATE VOLATILE H PERSON CON RESOLUTION CORE / GSA 1 HNO3	R SAMPLES CHECK EAD SPACE CHECK TACTED: EMPLOYEE HCL	KED YES NO CKED YES NO AC H2SO4 NaOH	SAMPLE(S) SC SEE ATTACHE CTION TAKEN	CREENED FOR RAD ED WORKSHEET DATE: DATE: NEAT \NaH	SO4 OT/PRE.
PH OF WATE VOLATILE H PERSON CON RESOLUTION CORE / GSA 1 HNO3	R SAMPLES CHECK EAD SPACE CHECK TACTED: EMPLOYEE HCL	KED YES NO CKED YES NO AC H2SO4 NaOH (Water Only)	SAMPLE(S) SC SEE ATTACHE CTION TAKEN	CREENED FOR RAD ED WORKSHEET DATE: DATE: NEAT \ N2H	SO4 OT/PRE. # Cont. Mtrx.
DH OF WATER VOLATILE H PERSON CON RESOLUTION CORE / GSA 1 HNO3	R SAMPLES CHECK EAD SPACE CHECK TACTED: EMPLOYEE HCL	KED YES NO CKED YES NO AC H2SO4 NaOH (Water Only)	SAMPLE(S) SC SEE ATTACHE CTION TAKEN	CREENED FOR RAD ED WORKSHEET DATE: DATE: NEAT NaH	ATION YESNO SO4 OT/PRE. # Cont. Mtrx.
OH OF WATE VOLATILE H PERSON CON RESOLUTION CORE / GSA 1 HNO3	R SAMPLES CHECK EAD SPACE CHECK TACTED: EMPLOYEE HCL HCL	KED YES NO CKED YES NO AC H2SO4 NaOH (Water Only)	SAMPLE(S) SC SEE ATTACHE CTION TAKEN	CREENED FOR RAD ED WORKSHEET DATE: DATE: NEAT N2H	SO4 OT/PRE.
OH OF WATE VOLATILE H PERSON CON RESOLUTION CORE / GSA 1 HNO3	R SAMPLES CHECH EAD SPACE CHECH TACTED: EMPLOYEE HCL HCL UOA OTHER mples in Group	KED YES NO CKED YES NO AC H2SO4 NaOH (Water Only)	SAMPLE(S) SC SEE ATTACHE TTION TAKEN	CREENED FOR RAD ED WORKSHEET DATE: DATE: NEAT N2H	SO4 OT/PRE. # Cont. Mtrx.

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# South Langley Jal Unit Attachment A

#### PHASE II ENVIRONMENTAL ASSESSMENT

•.

South Langley Jal Unit Lea County, New Mexico

#### PHASE II ENVIRONMENTAL ASSESSMENT

South Langley Jal Unit Lea County, New Mexico

PREPARED FOR: Bristol Resources Corporation Mr. Dan Abney 6655 South Lewis Tulsa, Oklahoma 74136

#### PREPARED BY:

Cornerstone Environmental Resources, Inc.

2997 LBJ Freeway

Suite 103

Dallas, Texas 75234-7606

alden John H. Alderman, P.E.

President
### PHASE II ENVIRONMENTAL ASSESSMENT

South Langley Jal Unit Lea County, New Mexico

**Summary of Contents** 

Page

	·	
1.0	EXECUTIVE SUMMARY	1
2.0	INTRODUCTION AND PURPOSE	. 3
3.0	AQUIFER AND PRODUCED WATER CHARACTERIZTICS	4
	GROUND WATER	
	PRODUCED WATER	
4.0	DATA GATHERING AND SAMPLING	5
5.0	SAMPLE ANALYSES AND DISCUSSION	7
6.0	CONCLUSIONS	7
	·	
	FIGURES	

PHOTOS

APPENDICES

1.0 EXECUTIVE SUMMARY

We hope of a contraction of

Cornerstone Environmental Resources, Inc. (CERI) conducted an Environmental Assessment (EA) of the South Langley Jal Unit located in Lea County, New Mexico on January 18, 1999 at the request of and on behalf of Bristol Resources Corporation (Bristol). The property is located north of Jal as shown on the Location Map, Figure 1, and Topographic Map, Figure 2. CERI conducted this EA to evaluate the extent of a brine water spill from a leak in an injection line on the subject property. The purpose of the EA was to evaluate the impact of the spill and provide recommendations for courses of action. The scope of work included a site visit too the field for soil sample collection to assist in evaluating the vertical and horizontal extent of the salt water <sup>7</sup> leak.

The leak occurred in the top of the buried injection line where the force of the water from the pipe was upward. This upward force resulted in most of the water going upward to the grounds surface. After reaching the surface, the water appeared to flow south and form pools in three locations. A backhoe was used to dig seven trenches to obtain soil samples from a background area and from the pooled locations along the reported spill route. The locations of the trenches are shown on Figure 3. Soil samples were taken from the trenches and analyzed for chlorides (Cl).

Our interpretation, based on the results of this study, is that the majority of the water went up to the surface from the leak in the injection line and then moved down a roadbed toward Puddle Area 3 where trenches 4 through 7 are located. Very little of the water soaked into the soil until it reached Area 3. The water did accumulate in Area 3 and some has moved downward. The Cl levels of the subsurface in this area is from 3,000 to 4,000 milligrams/kilogram (mg/kg). A Cl concentration in the top one inch of soil of 14,400 mg/kg was measured. One complication in interpreting the impact of this spill is the past spills which have occurred in the area. The 14,400 mg/kg in the top one inch may be from the recent pipeline break. The deeper Cl concentrations may be from previous spills. These historical leaks would have impacted the area. The effect on our analysis by the early spills can not be evaluated with out knowing the location and amount of the previous spills.

Page 1

We do not believe that the Cl subsurface concentrations represent a threat to ground water. The surface Cl concentration in Area 3 was high at 14,400 mg/kg. However, we believe this represents a depth of less than an inch and also does not pose a threat. We believe that the action that should be taken is to prevent future leaks from occurring. This can be done by limiting the lines that are used for disposal and insuring that the lines that are used will contain the injection fluids at the pressures required for water disposal.

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Page 2

### 2.0 INTRODUCTION AND PURPOSE

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CERI conducted an EA of the South Langley Jal Unit located in Lea County, New Mexico on January 18, 1999 at the request of and on behalf of Bristol. The property is located north of Jal as shown on the Location Map, Figure 1, and Topographic Map, Figure 2. CERI conducted this EA to evaluate the extent of a brine water spill from a leak in an injection line on the subject property. The purpose of the EA was to evaluate the impact of the spill and provide recommendations for courses of action. The scope of work included a site visit to the field to obtain soil samples to assist in evaluating the vertical and horizontal extent of the salt water leak.

Mr. John H. Alderman of CERI met with Bristol's representative Mr. Don Taylor and together they conducted the evaluation of the site. Mr. Bob Bowen, a local contractor, was interviewed concerning details of the leak in the injection line. Mr. Bowen was the person who repaired the leak.

According to Mr. Taylor, the leak was discovered in January by the land owner. The leak occurred in the injection line going to injection well #13. The location of the leak was just south of well #9 as shown on the attached Figure 2. The land owner was reported to have told Bristol representatives that he saw a small stream of water flowing south from the leak area. Mr. Taylor said that the New Mexico Oil Conservation Division (OCD) was notified by Bristol and that Mr. Gary Wink with the OCD had conducted an investigation of the incident. The leak was repaired and CERI was contacted to conduct an evaluation of the extent of the spill.

Mr. Bowen was asked about historic line breaks and he said that there had been past corrosion problems and problems with the line.

Page 3

### 3.0 AQUIFER AND PRODUCED WATER CHARACTERIZTICS

### 3.01 Groundwater

The spill occurred in the NE ¼ of Section 18, R37E, T25S. Mr. Ken Frequez with the State Engineer's office was contacted concerning the depth of ground water in the area. He said there were two water wells in the area. These wells and the depth to ground water are as follows in Table 1.

### Table 1

Location	Water Depth	Surface Elevation
NW ¼ Sec 17, R37E, R25S	53 ft.	3104 ft.
SE ¼ Sec 18, R37E, R25S	53 ft.	3107 ft.

Based on water depth in these two wells, the depth of ground water in the area is 53 ft.

### 3.02 Produced Water

A sample of the injection water was taken on 2/5/99 and analyzed by Martin Water Labs., Inc. The results of the analysis is presented in Appendix A. The chloride concentration in the injection water based on this sample is 26,270 milligrams per liter (mg/L).

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Page 4

### 4.0 DATA GATHERING AND SAMPLING

Mr. Bowen reported that the leak occurred in the top of the buried injection line and that the force of the water from the pipe was upward. This upward force resulted in most of the water going upward to the ground's surface. After reaching the surface, Mr. Bowen said the water appeared to flow south and form pools in three locations. A backhoe was used to dig seven trenches to obtain soil samples from the background area and from the pooled locations along the reported spill route. The locations of the trenches are shown on Figure 3.

Photo 1 shows the northern most extent of the reported surface movement of the brine. The terrain of the area and the reported route of the water movement can be seen in Photo 2 and 3. Photo 2 was taken looking north from trench 3 toward Well #9 and the leak location. Water movement was reported to have been down the road as seen in Photo 2 and 3. The area identified as Puddle Area 3 appears the largest area of water accumulation and is shown in Photos 3 and 4. Four trenches were dug in Area 3.

Trench 1 was placed approximately 30 ft. southeast of the pipeline leak on the downgradient side of the flow path. Soil samples were taken from Trench 1 at 6 in. and at 2 ft. - duft.

Trench 2 was placed 72 ft. from the leak along the flow path in an area identified as Puddle Area 1. Trench 3 was placed 252 ft. from the leak along the flow path in an area identified as Puddle Area 2. Trenches 4 through 7 were all placed in the area identified as Puddle Area 3. Puddle Area 3 represented the southern most extent of the surface flow.

Soil samples were taken from 6 in., 2 ft, and 3 ft to 4 ft intervals in Trenches 2, 3, 4, 5, and 7. One surface sample was taken in Area 3. The soil samples were placed in 4 ounce glass jars and taken to Core Laboratories, Inc. to be analyzed for Cl. The results of the analysis are shown in Table 2 and in Appendix B.



Page 5

### Table 2

# Analysis of Soil Samples Taken 1/18/1999

## Langley Jal Unit

### Lea County, New Mexico

	Sample Number	Depth	Chlorides, mg/kg
Tronch 1			
Trench I	Sample 011800004	6 inches	· ·
	Sample 011899004	0 menes	2
	Sample 011899005	24 inches	ð
Trench 2			
	Sample 011899006	4 inches	3
	Sample 011899007	23 inches	25
	Sample 011899008	40 inches	8
Trench 3			
	Sample 011899009	6 inches	50
	Sample 011899010	27 inches	· 431
	Sample 011899011	46 inches	2270
Trench 4			
	Sample 011899012	4 inches	3090
	Sample 011899013	24 inches	4420
	Sample 011899014	45 inches	3430
Trench 5			
ironon o	Sample 011899015	8 inches	3530
	Sample 011899016	32 inches	3800
	Sample 011899017	47 inches	3710
Trench 6			
11011011 0	Trench not sampled		
Trench 7			
101011 /	Sample 011899001	2 inches*	3340
	Sample 011899002	20 inches*	4740
	Sample 011899003	40 inches*	3570
	<b>1</b>		

\*Note: Depths of trench 7 were not measured and the depths shown are the approximate locations of the soil samples.



Page 6

### 5.0 SAMPLE ANALYSES AND DISCUSSION

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The Cl level in the two samples from Trench 1 were 2 and 8 mg/kg. These samples are assumed to represent background Cl concentration.

Trench 2 was placed along the flow path in the area identified as Puddle Area 1. The Cl levels from Trench 2 which represents Puddle Area 1 were low and ranged from 3 to 25 mg/kg. The 25 mg/kg sample was taken at a depth of 23 inches and was the interface between the sand and the caliche zones. The soil sample from the bottom of the trench had a Cl level of 8 mg/kg.

Trench 3 was also placed along the flow path in area identified as Puddle Area 2. The Cl levels increased in the trench with depth. The Cl level at 6 inches was 50 mg/kg. The Cl level increased to 431 mg/kg at 27 inches and 2,270 mg/kg at 46 inches.

Trenches 4 through 7 were all from the area identified as Puddle Area 3. As was mentioned earlier, this area represented the southern most extent of the surface flow. The Cl levels from all the subsurface samples were in the 3,000 to 4,000 mg/kg range as shown in Table 2. The analysis of the surface sample indicated a Cl level of 14,400 mg/kg. This area was also the area that Mr. Bowen said previous leaks had occurred.

### 6.0 CONCLUSIONS

Our interpretation based on these results is that the majority of the water went up to the surface from the leak in the injection line and then moved down the roadbed toward Puddle Area 3 where trenches 4 through 7 are located. Very little of the water went down until it reached Area 3. The water did accumulate in Area 3 and some has moved downward. The Cl levels of the subsurface in this area is from 3,000 to 4,000 mg/kg. A Cl contamination in the top one inch of soil of 14,400 mg/kg was measured. One complication to analyzing the impact of this spill is the past spills which have occurred in this area. Both Mr. Bowen and Mr. Taylor said that there have

Page 7

been historical line leaks. The 14,400 mg/kg Cl concentrations in the top one inch may be from the recent pipeline break. The deeper Cl concentrations may be from previous spills. These historical leaks would have impacted the area. The effect on our analysis of the early spills can not be evaluated with out knowing the location and amount of the old spills.

We do not believe that the Cl subsurface concentrations represent a threat to ground water. The surface Cl concentration in Area 3 was high at 14,400 mg/kg. However, we believe this represents a depth of less than an inch and also does not pose a threat. We believe that the action that should be taken is to prevent future leaks from occurring. This can be done by limiting the lines that are used for disposal and insuring that the lines that are used will contain the injection fluids at the pressures required for water disposal.

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Page 8







Date: 02/99





PHOTO 1: Termination of surface movement of brine from the leak in the injection line and site of trench 7.

PHOTO 2: Photo taken looking north from trench 3 toward Well #9 and the site of the surface leak.





PHOTO 4: Puddle area 3 looking south from trench 5.

PHOTO 5: Puddle area 3 looking north with trench 6 in foreground.

# DRAFT

			LAB. NO.	
TO:	Bristol Reso	urces Corp.	DATE REC	2-5-99
	Tulsa, OK		RR	
COMPANY	Bristol Reso	urces Corp.	South Langlie	Jal Unit
FIELD				
SEC	BLK	SURVEY	CO.	Lea, NM
NO. 1	Injection wa	ter - taken from South Langl	ie Jal Unit. 2-5	5-99
NO. 2				
NO. 3.				
NO. 4				
REMARKS	:			
Specific Gra	wity $@ 60^{\circ}$ F.	1.0424		
pH When Sa	ampled			
pH When R	eceived	7.71		
Bicarbonate	, as HC03	1110		
Supersatu	irated, as CaC	03		
	irated, as CaC	203		
Total Hardn	ess, as CaCU <sub>2</sub>			,
Calcium, as		900		
Magnesium,	, as ivig /ar Dotoccium	2932		
	or Polassium			
		3944 26270	•	
Iron as Fe			}	
Rerium as l	Ra	· 0.05		
Turbidity	Ja			
Color				
Total Solids	. Calc.	47897	1	
Temperature	e. ⁰F.			
Carbon Dio	xide	35	7	
Oxygen				
Hydrogen S	ulfide	21.0	)	
Resistivity,	ohms/m @ 77	°F. 0.166	5	
Suspended (	Oil			
Filtrable So	lids			
Volume Filt	tered, ml			

Remarks: We are not familiar with the objective herein; but if we can be of any assistance in interpreting the significance of these results in regard to your specific objective, please contact us.

: John Alderman (972 247-0617)

RESULTS REPORTED AS MILLIGRAMS PER LITER MARTIN WATER LABS., INC.



# **GULF STATES ANALYTICAL**

### ANALYSIS SUMMARY REPORT

Cornerstone Environmental 2997 LBJ Frwy., Ste. 103 Dallas, TX 75234-7606		GSA Group: Date Repor Date Recei	45895 ted: 01/29/1999 ved: 01/20/1999
Attn: Mr. John Alderman Project: 99003		Purchase O Project No	rder: 99003 .: 99003
est Analysis	Results as Received	Units	Limit of Quantitation
<pre>imple:240354 - 01/18/1999 - 011899001 301A Anions by IC, Solid Chloride</pre>	3.340	mg/kg	100
<pre>imple:240355 - 01/18/1999 - 011899002 301A Anions by IC, Solid Chloride</pre>	4,740	mg/kg	100
<pre>imple:240356 - 01/18/1999 - 011899003 301A Anions by IC, Solid Chloride</pre>	3.570	mg/kg	100
240357 - 01/18/1999 - 011899004 Num. Anions by IC, Solid Chloride	2	mg/kg	1
mple:240358 - 01/18/1999 - 011899005 01A Anions by IC, Solid Chloride	8	mg/kg	1
mple:240359 - 01/18/1999 - 011899006 OlA Anions by IC, Solid Chloride	3	mg/kg	1
mple:240360 - 01/18/1999 - 011899007 01A Anions by IC, Solid Chloride	25	mg/kg	1
mple:240361 - 01/18/1999 - 011899008 01A Anions by IC, Solid Chloride	8	mg/kg	1
<pre>mple:240362 - 01/18/1999 - 011899009 01A Anions by IC, Solid Chloride</pre>	50	mg/kg	1
mph:240363 - 01/18/1999 - 011899010 Official Anions by IC, Solid Chloride	431	mg/kg	10



# **GULF STATES ANALYTICAL**

ANALYSIS SUMMARY REPORT

Page 2

45895

Cornerstone	Environmental ·		GSA Group:

				Results		Limit of
st	Analysis			as Received	Units	Quantitation
mplo 01A	e:240364 - Anions by Chloride	01/18/1999 IC, Solid	- 011899011	2.270	mg/kg	10
nplo 01A	e:240365 - Anicns by Chloride	01/18/1999 IC, Solid	- 011899012	3.090	mg/kg	100
npla D1A	e:240366 - Anions by Chloride	01/18/1999 IC, Solid	- 011899013	4.420	mg/kg	100
nplo JIA	e:240367 - Anions by Chloride	01/18/1999 IC, Solid	- 011899014	3.430	mg/kg	100
а <u>г</u> - )1.А	Anions by Chloride	01/18/1999 IC, Solid	- 011899015 ,	3,530	mg/kg	100
11A	e:240369 - Anions by Chloride	01/18/1999 IC, Solid	- 011899016	3,800	mg/kg	100
ф1) )1А	e:240370 - Anions by Chloride	01/18/1999 IC, Solid	- 011899017	3,710	mg/kg	100
ф1  1А	e:240371 - Anions by Chloride	01/18/1999 IC, Solid	- 011899018	14.400	mg/kg	100

t Method Summary: 1A- EPA 300 MOD

Respectfully Submitted, Reviewed and Approved by:

#### Core Lab-Gulf States Analytical Daily QC Batching Data Data Released for Reporting

l Batch Number: 0301A-01/27/99-1204-1 t Dification : 0301A-Anions by IC. Solid ber of Samples : 22 ch Data-Date/Time : 01/28/99 / 07:55:24		Units: mg/kg	sec	quence: 9A27		
KE					0C (	IMITS
PLF# ANALYTE	CONC ADDED	CONC. SAMPLE	CONC SPIKE	X RFC #	LOWER	UPPER
95-240354 Chloride	100,0000	0.000	0.000	$\frac{1}{0.0(11)}$	80.0	120.0
95-240354-2 Chloride	1000 0000	3216.8500	3858,2200	64.1(11)	80.0	120.0
95-240354-3 Chloride	10000 0000	3339 1300	13331.7000	) 99.9	80.0	120 0
95-240364-4 Chloride	100.0000	0.0000	0.000	0.0(11)	80.0	120.0
95-240364-5 Chloride	1000.0000	2267,2200	3084.9100	) 81.8	80.0	120.0
95-240364-6 Chloride	10000.0000	2188.6200	12067.3000	) 98.8	80.0	120.0
LICATE						
PLE# ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT DILU	TION	
35-240354 Chloride	0.000	0.0000	0.0	20.0 1.0	00	
35-240354-2 Chloride	3216.8500	3253.8400	1.1	20.0 10.0	00	
35-240354-3 Chloride	3339.1300	3455.9700	3.4	20.0 100.0	00	
35-240364-4 Chloride	0.0000	0.0000	0.0	20.0 1.0	00	
35-240364-5 Chloride	2267.2200	2269.9900	0.1	20.0 10.0	00	
35-240364-6 Chloride	2188.6200	2203.0100	0.7	20.0 100.0	00	
IROL			, (	C LIMITS		
<u>PLE#</u> <u>ANALYTE</u>	CONC FOUND	CONC KNOWN	$\frac{\mathbf{X} \text{ REC}}{\mathbf{EC}} \frac{\#}{\mathbf{EC}} = \frac{\mathbf{LC}}{\mathbf{EC}}$	WER UPPER		
27 Chloride	99.9622	100.0000	100.0	90.0 110.0		
			QC LIMIT	S		
# ANALYTE	IRUE VALUE	BATCH READ	$\frac{X \text{ REC}}{1} \frac{\#}{1}$	MER UPPER		
2799 Chloride	100.0000	100.2290	100.2	90.0 110.0		
2799-2 Unioride	100.0000	99.8429	99.8	90.0 110.0		
1799-3 Chioride	100.0000	100.2900	100.3	90.0 110.0		
1/99-4 Unioride	100.0000	99.7508	99.8	90.0 110.0		
2799-5 Chiorida	100.0000	90.2959	90.3 06 E	90.0 110.0		
1799-0 Chlorido	100.0000	90.4511	50.5 07 0	90.0 110.0		
2799-8 Chloride	100.0000	97.2992	97.8 97.3	90.0 110.0		
4 ANALYTE	CONC FOUND	# LMT OF OU	ANTITATION			
799 Chloride	0.7378	1	.0000			
799 Chloride	0.7463	1	.0000			
799 Chloride	0.9789	1	.0000			
799 Chloride	0.7063	1	.0000			
799 Chloride	0.8761	1	.0000			
799 Chloride	0.1066	1	.0000			
799 Chloride	0.6811	1	.0000			
799 Chloride	0.9447	1	.0000			

..... Result Footnotes .....

- Matrix spike outlier due to compound over calibration range.



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### Core Lab-Gulf States Analytical Daily QC Batching Data Data Released for Reporting

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01/29/99 10:52:06 Group: 45895

	is Batch Numb	er: 0301A-01/2	7/99-1204-1					
124	.entification	1 : 0301A-Anio	ns by IC, Solid	i	Units: mg/l	kg Seq	uence: 9A27	
mber	of Samples	: 22						
itch l	Data-Date/Tim	ю : 01/28/99 /	07:55:24					
45	895-240354	45895-240355	45895-240356	45895-240357	45895-240358	45895-240359	45895-240360	45895-240361
45	895-240362	45895-240363	45895-240364	45895-240365	45895-240366	45895-240367	45895-240368	45895-240369
45	895-240370	45895-240371						

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### PHASE II ENVIRONMENTAL ASSESSMENT JUNE 1999 SOIL BORINGS

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South Langley Jal Unit Lea County, New Mexico

# PHASE II ENVIRONMENTAL ASSESSMENT JUNE, 1999 SOIL BORINGS South Langley Jal Unit Lea County, New Mexico

PREPARED FOR: Bristol Resources Corporation Mr. Dan Abney 6655 South Lewis Tulsa, Oklahoma 74136

### PREPARED BY:

Suite 103

Dallas, Texas 75234-7606

John H. Alderman, P.E.

President

### PHASE II ENVIRONMENTAL ASSESSMENT JUNE 1999 SOIL BORINGS

### South Langley Jal Unit Lea County, New Mexico

### **Summary of Contents**

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	GROUND WATER	
	PRODUCED WATER	
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PHOTOS

APPENDICES

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### 1.0 EXECUTIVE SUMMARY

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Cornerstone Environmental Resources, Inc. (CERI) conducted an Environmental Assessment (EA) of the South Langley Jal Unit (SLJU) located in Lea County, New Mexico on January 18, 1999 at the request of and on behalf of Bristol Resources Corporation (Bristol). The property is located north of Jal as shown on the Location Map, Figure 1, and Topographic Map, Figure 2. CERI conducted this EA to evaluate the extent of a brine water spill from a leak in an injection line on the subject property. A report was prepared documenting the findings and submitted to the New Mexico Oil Conservation Division's (NMOCD) Hobbs office. Ms. Donna Williams, an environmental engineer with NMOCD, requested additional information be obtained. She requested the following:

1. Bristol Resources demonstrate that any remaining water contaminant will not impact groundwater or environment.

 Bristol Resources perform Vertical and Horizontal delineation by sampling for BTEX, TPH, and Chlorides.

The purpose of this phase of the study was to respond to Ms. Williams request and further delineate chloride contamination in the subject area. Six soil borings were advanced to depths of 20 to 25 feet to further delineate the chloride concentrations in the area. The soil borings found high chloride concentrations present in the study area at depths of 20 to 25 feet. We do not know at this time if the high chlorides are from the spill from the leak reported in January 1999 are from historical spills in the area. What in defferent How

BTEX above the detection limit of 20 ug/kg was not detected in any of the samples analyzed. There was a TPH diesel range measurement 11.1 mg/kg in the near surface sample of Well #3. There was a TPH gasoline range measurement of 1.12 mg/kg in the near surface sample in Well #6. The other measurements were below the detection limit of 1 mg/kg.

We recommend that a well be drilled to recover a ground water sample and evaluate the ground water quality in the area. We recommend a well location to the south of Well #1 or to the east of Well #2. Other water wells in this area have reported ground water depths of 53 feet and a well in this location should encounter water at approximately this depth.



Page 1

### 2.0 INTRODUCTION AND PURPOSE

CERI conducted an EA of the SLJU located in Lea County, New Mexico on January 18, 1999 at the request of and on behalf of Bristol. The property is located north of Jal as shown on the Location Map, Figure 1, and Topographic Map, Figure 2. CERI conducted this EA to evaluate the extent of a brine water spill from a leak in an injection line on the subject property. A report was prepared documenting the findings and submitted to the NMOCD Hobbs office. Ms. Donna Williams, an environmental engineer with NMOCD, requested additional information be obtained. She requested the following:

- 1. Bristol Resources demonstrate that any remaining water contaminant will not impact groundwater or environment.
- 2. Bristol Resources perform Vertical and Horizontal delineation by sampling for BTEX, TPH, and Chlorides.

The purpose of this phase of the study was to respond to Ms. Williams request and further delineate chloride contamination in the subject area. The study area is located in the NW Section 18 and the SE Section 7, T25S R37E where a salt water leak was reported between Producing Well #9 and Injection Well #13. The leak occurred in the injection line going to Injection Well #13. Figure 2 shows the two wells and the study area between them.

Trenches dug with a backhoe were used to obtain samples in the January study. A truck mounted drill rig was utilized in this phase to obtain core samples for analysis.

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Page 2

### 3.0 AQUIFER AND PRODUCED WATER CHARACTERIZTICS

### 3.01 Groundwater

The spill occurred in the NE ¼ of Section 18, R37E, T25S. Mr. Ken Frequez with the State Engineer's office was contacted concerning the depth of ground water in the area. He said there were two water wells in the area. These wells and the depth to ground water are as follows in Table 1.

### Table 1

Location	Water Depth	Surface Elevation
NW ¼ Sec 17,T25S, R37E	53 ft.	3104 ft.
SE ¼ Sec 18, T25S, R37E	53 ft.	3107 ft.

Based on water depth in these two wells, the depth of ground water in the area is 53 ft.

### 3.02 Produced Water

A sample of the injection water was taken on 2/5/99 and analyzed by Martin Water Labs., Inc. The results of the analysis is presented in Appendix A. The chloride concentration in the injection water based on this sample is 26,270 milligrams per liter (mg/L).

### 4.0 DATA GATHERING AND SAMPLING

Well bores were advanced using a 6 inch hollow-stem auger. A 5 foot split spoon sampler was used to collect cores. An attempt was made on the first well to utilize a probe with a plastic sleeve to obtain core samples. A point of refusal was reached at approximately 8 feet when a hard lime interval was encountered. The probe was abandoned in favor of the auger. A total of 6 wells were advanced in this phase of the study. The locations of the wells in this study and the trenches dug in January, 1999 are shown on Figure 3.

Photo 1 shows the location of Well #1 soil boring. This well was located south of the previously identified surface disturbed area. There was no evidence of surface disturbance at this location. The other well sites are shown in Photos 2 through 6. Well #3 was placed in the surface disturbed area and Well #2 and #6 were placed to the east and west of the area. Wells #4 and #5 were placed to the east of previously dug trenches.

The original plan was to drill all wells to 20 feet. The actual drilled depth ranged from 20 feet in Well #4 to 25 feet in Well #6. The wells were plugged with bentonite and cuttings from the well following the coring.

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Page 4

### 5.0 SAMPLE ANALYSES AND DISCUSSION

Core diagrams for each of the wells were prepared and are shown on Figure 4. The section line for Figure 4 is shown on Figure 5. The well logs show the sample number and chloride concentration on the left side of the log. The lithology is shown on the right side. A copy of the lab analysis is contained in Appendix A.

Chloride contamination was not detected in the near surface at Wells #1, #2 and #4. High chloride concentrations were detected in the near surface in Well #3 located in the surface disturbed area and in Well #6 located to the west of the surface disturbed area. Elevated chlorides were also found in Well #5.

There were sand stringers and zones of broken lime found at depths between 8 to 15 feet. Elevated chlorides were detected in all of the wells but Well #2.

A pink to red sand was found in the 20 to 25 foot interval in Wells #1, #3, and #6. A soft lime was encountered in the other wells at about 20 feet. All of the wells at this depth had high chloride concentrations in the sand and the lime.

Photo 7 shows cores 1 and 2 from Well #1. The brown sand overlying the caliche zone can be seen in this photo. The hard lime sections with broken section is shown in Photo #8 which is a photo of Core #2 from Well #3. The red sand at the 20 foot level is shown in Photo #9 which shows Core #5 from Well #5.

BTEX above the detection limit of 20 ug/kg was not detected in any of the samples analyzed. There was a TPH diesel range measurement 11.1 mg/kg in the near surface sample of Well #3. There was a TPH gasoline range measurement of 1.12 mg/kg in the near surface sample in Well #6. The other measurements were below the detection limit of 1 mg/kg.



Page 5

### 6.0 <u>CONCLUSIONS AND RECOMMENDATIONS</u>

Soil borings show that high chloride concentrations are present in this area at depths of 20 to 25 feet. We do not know at this time if the high chlorides are from the spill from the leak reported in January 1999 are from historical spills in the area.

We recommend that a well be drilled to recover a ground water sample and evaluate the ground water quality in the area. We recommend a well location to the south of Well #1 or to the east of Well #2. Other water wells in this area have reported ground water depths of 53 feet and a well in this location should encounter water at approximately this depth.

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Page 6





Interstate Route 💭 U.S. Route 🔿 State Route

SCALE: 1:24,000

CI: 10

Bristol Resources Corporation South Langley Jal Unit Lea County, New Mexico Jal NW Quadrangle

Date: 02/99



• WELL #2

7 . • WELL #1

3 • WELL #5

4

6

WELL #6 •





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WELL #9





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PHOTO 1: Well #1 location south of surface disturbed area.

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PHOTO 2: Well #2 location on the east edge of the surface disturbed area.

PHOTO 3: Well #3 location in the contaminated area.



PHOTO 4: Well #6 location on the west of the surface disturbed area.

PHOTO 5: Well #4 location west of Trench 2.

PHOTO 6: Well #5 location west of Trench 3.


PHOTO 7: Cores 1 and 2 from well #1 showing brown sand at surface overlaying caliche zone. Top of cores are at the bottom oh the photo.

PHOTO 8: Core 2 from well #3 shows hard lime with broken lime section at approximately 10 feet. Top of core is to the left.

PHOTO 9: Core 5 from well #5 shows red sand at bottom of lime section. Top of core is to the left.



## **GULF STATES ANALYTICAL**

07/01/99

Mr. John Alderman Cornerstone Environmental 2997 LBJ Frwy., Ste. 103 Dallas, TX 75234

Reference: Project: S.Langley JAL Unit Project No.: 99003 Date Received: 06/17/99 GSA Group: 50693 Group Report Date: 07/01/99

Dear Mr. Alderman:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.



9003002 A :264905 9003004 A,B,C,D :264907 9003006 A :264909 9003008 A,B,C,D :264911 9003010 A,B,C,D :264913 9003012 A :264915 9003014 A :264917 9003016 A :264919 9003018 A,B,C,D :264921 9003020 A :264923 9003022 A,B,C,D :264925

All holding times were met for the tests performed on these samples.

Our A2LA accreditation requires that, should this report be reproduced, it must be reproduced in total.

Enclosed please find the Quality Control Summary. All quality control results for the QC batch that are applicable to this sample(s) are acceptable except as noted in the QC batch reports.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Core Lab - Gulf States Analytical to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.





07/01/99

Reference: Project: S.Langley JAL Unit Project No.: 99003 Date Received: 06/17/99 GSA Group: 50693 Group Report Date: 07/01/99 Page 2

We look forward to working with you on future projects.

Sincerely yours,

Ed Fry Project Manager

Enclosure

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#### ANALYSIS SUMMARY REPORT

Cornerstone Environmental	GSA Group: 50693
2997 LBJ Frwy., Ste. 103	Date Reported: 07/01/1999
Dallas, TX 75234-7606	Date Received: 06/17/1999

Attn: Mr. John Alderman Project: S.Langley JAL Unit Purchase Order: N/A Project No.: 99003

		Results	Limit of		
Test	Analysis	as Received	Units	Quantitation	
Sampl	e:264904 - 06/15/1999 - 9003001 A.E	.C			
ICSTB	Metals by ICP, Solids, Trace		i.		
	Magnesium	4.360	mg/kg	200	
	Potassium	1,210	mg/kg	200	
1	Sodium	ND	mg/kg	200	
9056A	Anions by IC, Solid				
•	Chloride	6	mg/kg	1	
	Bromide	ND	mg/kg	1	
1	Sulfate	12	mg/kg	1	
0538H	TPH, Gasoline Range Organics, SW	ND	ug/kg	1,000	
0511E	Purgeable Aromatics, BTEX Solids				
	Benzene	ND	ug/kg	20	
	Toluene	ND	ug/kg	20	
1999 - A.	Ethylbenzene	ND	ug/kg	20	
1	Xylene (total)	ND	ug/kg	60	
0539H	TPH, Diesel Range Organics	ND	ug/kg	8.300	
Sampl	.e:264905 - 06/15/1999 - 9003002 A				
9056A	Anions by IC, Solid				
	Chloride	585	mg/kg	10	
Sampl	e:264906 - 06/15/1999 - 9003003 A				
9056A	Anions by IC, Solid				
	Chloride	338	mg/kg	10	
Sampl	.e:264907 - 06/15/1999 - 9003004 A,E	,C,D			
ICSTE	Metals by ICP, Solids, Trace				
	Magnesium	599	mg/kg	200	
	Potassium	402	mg/kg	200	
	Sodium	453	mg/kg	200	
9056A	Anions by IC, Solid				
	Chloride	651	mg/kg	10	
	Bromide	5	mg/kg	1	
	Sulfate	150	mg/kg	1	
0538E	I TPH, Gasoline Range Organics, SW	ND	ug/kg	1.000	
0511F	Purgeable Aromatics, BTEX Solids				
	Benzene	ND	ug/kg	20	

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#### ANALYSIS SUMMARY REPORT

Page 2

Cornerstone	Environmental
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GSA Group: 50693

i		Results	Limit of	
Test	Analysis	as Received	Units	Quantitation
Sampl	.e:264907 - 06/15/1999 - 9003004 A.B	,C,D		
05118	Purgeable Aromatics, BTEX Solids	/ - / -		
1	Toluene	ND	ua/ka	20
	Ethylbenzene	ND	ug/kg	20
1	Xvlene (total)	ND	ug/kg	60
05398	TPH, Diesel Range Organics	ND	ug/kg	8 300
. 03331	The preser hange organies		uging	0,000
Samp]	e:264908 - 06/15/1999 - 9003005 A			
90563	Anions by IC. Solid			
1 20201	Chloride	2	malka	1
	chioride	۲	ilig/ kg	1
6 01	$a \cdot 264909 = 06/15/1999 = 9003006 a$		,	
90563	Aniong by IC Solid			
30.30A	Chloride	1	ma/ka	1
	CHIOLIGE	T	iliy/ky	T
	$a_{2}$			
6	$\frac{1}{204910} = \frac{1}{2071371999} = \frac{1}{9003007} \text{ A}$			
3030A	Chlorido	1 040	malka	10
	chibride ,	1,040	mg/ kg	10
Campl	0.264911 = 0.6/15/1999 = 9003008  B	съ		
Pambr	$e_{1204311} - 00/13/1333 - 5003000 A, B$	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
TC21D	Metals by ICP, Solids, Hace	6 600	ma (ka	200
		0,000	mg/kg	200
	Potassium Galium	1,790	mg/kg	200
00563	Sodium	182	mg/kg	200
9050A	Chlande	1 270	ma (lea	10
		1,370	mg/kg	10
	Bromide	/	mg/kg	1
05000		558	mg/kg	10
0538H	TPH, Gasoline Range Organics, SW	ND	ug/kg	1.000
05118	Purgeable Aromatics, BTEX Solids	10		••
	Benzene	NU	ug/kg	20
	Toluene	NU	ug/kg	20
	Kthylbenzene	NU	ug/kg	20
	Xylene (total)	NU	ug/kg	60
0539B	TPH, Diesel Range Organics	11.100	ug/kg	8,300
د ۲	e:264912 = 0.6/15/1999 = 9003009			
90563	Anions by TC Solid			
20202	Chloride	1 400	ma/ka	10
	Chioride	1,730	iliy/ky	10
	A+264913 - 06/15/1999 - 9003010 3 B	C.D		
	Matala by TCD Colide Trace			
لهد د	Magnesium	6 570	malka	200
		0,070	my/Ky	200

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Page

#### ANALYSIS SUMMARY REPORT

# Cornerstone Environmental GSA Group: 50693

		Results		Limit of
lest	Analysis	as Received	Units	Quantitation
;ampl	e:264913 - 06/15/1999 - 9003010 A,B	,C,D		
CSTB	Metals by ICP, Solids, Trace	-		
	Potassium	1,780	mg/kg	200
	Sodium	781	mg/kg	200
·056A	Anions by IC, Solid			
	Chloride	1,160	mg/kg	10
	Bromide	5	mg/kg	1
	Sulfate	625	mg/kg	10
538H	TPH, Gasoline Range Organics, SW	ND	ug/kg	1.000
511E	Purgeable Aromatics, BTEX Solids			·
	Benzene	ND	ug/kg	20
+	Toluene	ND	ug/kg	20
	Ethylbenzene	ND	ug/kg	20
	Xvlene (total)	ND	ug/kg	60
539H	TPH, Diesel Range Organics	ND	ug/kg	8.300
FS				
a	a:264914 - 06/16/1999 - 9003011 A,B	,C,D		
CSTB	Metals by ICP, Solids, Trace			
	Magnesium	9,200	mg/kg	200
	Potassium	2,350	mg/kg	200
	Sodium	ND	mg/kg	200
)56A	Anions by IC, Solid			
	Chloride	9	mg/kg	1
	Bromide	ND	mg/kg	1
	Sulfate	5	mg/kg	1
338H	TPH, Gasoline Range Organics, SW	ND	ug/kg	1,000
311E	Purgeable Aromatics, BTEX Solids			
	Benzene	ND	ug/kg	20
	Toluene	ND	ug/kg	20
	Ethylbenzene	ND	ug/kg	20
	Xylene (total)	ND	ug/kg	60
39H	TPH, Diesel Range Organics	ND	ug/kg	8,300
mpl	e:264915 - 06/16/1999 - 9003012 A			
56A	Anions by IC, Solid			
	Chloride	1,540	mg/kg	10
π	1264916 - 06/16/1999 - 9003013 A			
56A	Anions by IC, Solid			
	Chloride	2,340	mg∕kg	10
_				

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#### ANALYSIS SUMMARY REPORT

				Page 4	ł
Co	rnerstone Environmental		GSA Group:	50693	
		Pagults		Limit of	
est	Analysis	as Received	Units	Quantitati	lon
ampie	e:264917 - 06/16/1999 - 9003014 A				
056A	Anions by IC, Solid	1 770	ma (ka	10	
	Chloride	1.770	ilig/ kg	10	
ample	e:264918 - 06/16/1999 - 9003015 A,B	,C,D			
CSTB	Metals by ICP, Solids, Trace				
	Magnesium	7,430	mg/kg	200	
	Potassium	1,820	mg/kg	200	
	Sodium	217	mg/kg	200	
056A	Anions by IC, Solid				
	Chloride	273	mg/kg	10	
	Bromide	ND	mg/kg	1	
	Sulfate	17	mg/kg	1	
538H	TPH, Gasoline Range Organics, SW	ND	ug/kg	1,000	
511E	Purgeable Aromatics, BTEX Solids				
E.	Benzene	ND	ug/kg	20	
$\{\lambda_{22}, i\}$	Toluene	ND	ug/kg	20	
	Ethylbenzene	ND	ug/kg	20	
	Xylene (total)	ND	ug/kg	60	
539H	TPH, Diesel Range Organics	ND	ug/kg	8,300	
ample	2:264919 - 06/16/1999 - 9003016 A				
056A	Anions by IC, Solid				
	Chloride	1.690	mg/kg	10	
ampie	3:264920 - 06/16/1999 - 900301? A				
AOCU	Chlorido	015	ma/ka	10	
	Chiolide	515	ing/ kg	10	
ample	2:264921 - 06/16/1999 - 9003018 A,B	,C,D			
CSTB	Metals by ICP, Solids, Trace				
	Magnesium	1,620	mg/kg	200	
	Potassium	1,090	mg/kg	200	
	Sodium	959	mg/kg	200	
056A	Anions by IC, Solid				
	Chloride	1,230	mg/kg	10	
	Bromide	6	mg/kg	1	
	Sulfate	367	mg/kg	10	
538H	TPH, Gasoline Range Organics, SW	ND	ug/kg	1.000	
511E	Purgeable Aromatics, BTEX Solids				
	Benzene	ND	ug/kg	20	



#### ANALYSIS SUMMARY REPORT

				Page 5
Cornerstone	Environmental		GSA Group:	50693
lest Analysis		Results	Unite	Limit of
<u>esc</u> <u>Anarysis</u>		as received		
:ample:264921 -	06/16/1999 - 9003018 A,B	,C,D		
)511E Purgeable	Aromatics, BTEX Solids			
Toluene		ND	ug/kg	20
Ethylbenz	ene	ND	ug/kg	20
Xylene (t	otal)	ND	ug/kg	60
)539H TPH, Dies	el Range Organics	ND	ug/kg	8,300
Sample:264922 -	06/16/1999 - 9003019 A,B	C,D		
CSTB Metals by	ICP, Solids, Trace			
Magnesium		5,540	mg/kg	200
Potassium		1,170	mg/kg	200
Sodium		ND	mg/kg	200
)056A Anions by	IC, Solid			
Chloride	-	793	mg/kg	10
Bromide		4	mg/kg	1
Sulfate		31	mg/kg	1
)5 TPH, Gaso	line Range Organics, SW	1,120	ug/kg	1,000
)511E Purgeable	Aromatics, BTEX Solids			
Benzene	•	ND	ug/kg	20
Toluene		ND	ug/kg	20
Ethylbenz	ene	ND	ug/kg	20
Xylene (t	otal)	ND	ug/kg	60
)539H TPH, Dies	el Range Organics	ND	ug/kg	8,300
Sample:264923 -	06/16/1999 - 9003020 A			
3056A Anions by	TC, Solid			
Chloride		1,970	mg/kg	10
5emple:264924 -	06/16/1999 - 9003021 A			
3056A Anione by	1071071999 = 9009021 R			
Chloride	lo, bolla	3,710	mg/kg	100
Sama] a. 264025				
Sample:204925 -	100/10/1999 - 9003022 A,B	, C, D		
Mamagine	TCE, BOTTUS' ITACE	1 760	malka	200
Dotagaium		1 280	mg/Kg mg/kg	200
Codium		1,200	mg/Ky mg/kg	200
90562 Aniona br	TC Solid	1,000	·····	200
Chlorida		1 720	ma/ka	10
CUTOLIGE		1.120	max ra	10



Bromide

Core Laboratories, Inc. 6310 Rothway, Houston, Texas 77040, (713) 690-4444, Fax (713) 690-5646

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mg/kg

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#### ANALYSIS SUMMARY REPORT

			Page 6
Cornerstone Environmental		GSA Group:	50693
est Analysis	Results as Received	Units	Limit of Quantitation
ample:264925 - 06/16/1999 - 9003022 A,B	,C,D		
056A Anions by IC, Solid			
Sulfate	752	mg/kg	10
538H TPH, Gasoline Range Organics, SW	ND	ug/kg	1,000
511E Purgeable Aromatics, BTEX Solids			
Benzene	ND	ug/kg	20
Toluene	ND	ug/kg	20
Ethylbenzene	ND	ug/kg	20
Xylene (total)	ND	ug/kg	60
539H TPH, Diesel Range Organics	ND	ug/kg	8,300

est Method Summary:

511E-	SW-846	8021B	0538H-	SW-846	8015A MOD
0564-	SW-846	9056 MOD	ICSTB-	SW-846	6010B

,

0539H- SW-846 8015A MOD

ND - Compound was analyzed but not detected.

.

Respectfully Submitted, Reviewed and Approved by:

Ed Fry

Core Laboratories, Inc. Project Manager 6310 Rothway, Houston, Texas 77040, (713) 690-4444, Fax (713) 690-5646 1

#### Core Lab-Gulf States Analytical Daily QC Batching Data Data Released for Reporting

Units: ug/kg

Sequence: BTX145Q

20.0 20.0

20.0

20.0

0.0

nalosis Batch Number: 0511E-06/02/99-1274-9 estimation 05115 December 051 entification : 0511E-Purgeable Aromatics, BTEX Solids

of Samples : 50

m

o-Xylene

atch Data-Date/Time : 06/22/99 / 09:59:28

_ANK#	ANALYTE	CONC FOUND #	LMT OF QUANTITATION
-061799	Benzene	14.4829	20.0000
	Toluene	14.6860	20.0000
	Ethylbenzene	17.1053	20.0000
	o-Xylene	18.5899	20.0000
	m,p-Xylene	37.9287	60.0000
-061799-2	Benzene	14.7014	20.0000
	Toluene	15.1255	20.0000
	Ethy1benzene	18.2096	20.0000
	o-Xylene	17.9982	20.0000
	m,p-Xylene	38.8248	60.0000
2-061899-3	Benzene	17.0619	20.0000
	Toluene	6.0819	20.0000
	Ethylbenzene	4.9111	20.0000
	o-Xylene	4.8968	20.0000
	m.p-Xylene	11.1480	60.0000
2-061899-4	Benzene	5.5838	20.0000
	Toluene	8.8997	20.0000
	Ethylbenzene	5.8457	20.0000
	o-Xylene	4.9779	20.0000
-	m,p-Xylene	11.8375	60.0000



PI						QC LIMITS	
AMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	<u>X REC #</u>	LOWER UPPER	
0693-264925	Benzene	1000.0000	11.6928	1038.1923	102.6	70.0 130.0	
	Toluene	1000.0000	0.000	1037.5448	103.8	70.0 130.0	
	Ethylbenzene	1000.0000	0.000	1051.1600	105.1	70.0 130.0	
	o-Xylene	1000.0000	0.0000	1095.3858	109.5	70.0 130.0	
	m.p-Xylene	2000.0000	0.0000	2317.5707	115.9	70.0 130.0	
0693-264925-	2 Benzene	1000.0000	7.0439	1042.1475	103.5	70.0 130.0	
	Toluene	1000.0000	4.7519	1061.7772	105.7	70.0 130.0	
	Ethylbenzene	1000.0000	0.0000	1066.4847	106.6	70.0 130.0	
	o-Xylene	1000.0000	0.0000	1107.4890	110.7	70.0 130.0	
	m.p-Xylene	2000.0000	3.1921	2354.9119	117.6	70.0 130.0	
0702-264968-	3 Benzene	1000.0000	10.0129	823.1896	81.3	70.0 130.0	
	Toluene	1000.0000	0.0000	835.7119	83.6	70.0 130.0	
	Ethylbenzene	1000.0000	0.0000	849.3133	84.9	70.0 130.0	
	o-Xylene	1000.0000	0.0000	893.1022	89.3	70.0 130.0	
	m,p-Xylene	2000.0000	0.0000	1871.1682	93.6	70.0 130.0	
0702-264968	4 Benzene	1000.0000	9.6450	832.8130	82.3	70.0 130.0	
	Toluene	1000.0000	0.0000	856.5824	85.7	70.0 130.0	
	Ethylbenzene	1000.0000	0.000	865.8840	86.6	70.0 130.0	
	o-Xylene	1000.0000	0.0000	913.0291	91.3	70.0 130.0	
	m.p-Xylene	2000.0000	0.0000	1914.7739	95.7	70.0 130.0	
SD						QC LIMITS	
AM	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	XREC2 #	Lower upper RPD #	LIMIT
0: 62925	Benzene	1000.0000	11.6928	1038.0258	102.6	70.0 130.0 0.0	20.
	Toluene	1000.0000	0.0000	1038.7928	103.9	70.0 130.0 0.1	20.
	Ethylbenzene	1000.0000	0.0000	1059.3042	105.9	70.0 130.0 0.8	20.

1000.0000

0.0000

1094.9726

109.5

70.0 130.0

NTROL

2

#### Core Lab-Gulf States Analytical Daily QC Batching Data Data Released for Reporting

Units: ug/kg

Sequence: BTX145Q

QC LIMITS

nalysis Batch Number: 0511E-06/02/99-1274-9

estimentification : 0511E-Purgeable Aromatics, BTEX Solids

n f Samples : 50

itci uata-Date/Time : 06/22/99 / 09:59:28

ū						QC LIMI	ITS		
MPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	XREC2 #	LOWER UP	PER	<u>RPD</u> #	LIMIT
242-262925	m.p-Xylene	2000.0000	0.0000	2329.4894	116.5	70.0 1	130.0	0.5	20.0
242-262925-	2 Benzene	1000.0000	7.0439	1033.2191	102.6	70.0 1	30.0	0.9	20.0
	Toluene	1000.0000	4.7519	1060.7599	105.6	70.0 1	130.0	0.1	20.0
	Ethylbenzene	1000.0000	0.0000	1068.5383	106.9	70.0 1	130.0	0.3	20.0
	o-Xylene	1000.0000	0.0000	1103.3445	110.3	70.0 1	130.0	0.4	20.0
	m.p-Xylene	2000.0000	3.1921	2362.1622	117.9	70.0 1	130.0	0.3	20.0
702-264968-	3 Benzene	1000.0000	10.0129	782.8960	77.3	70.0 1	30.0	5.0	20.0
	Toluene	1000.0000	0.0000	798.8724	79.9	70.0 1	130.0	4.5	20.0
	Ethylbenzene	1000.0000	0.0000	809.6762	81.0	70.0 1	30.0	4.7	20.0
	o-Xylene	1000.0000	0.0000	866.8364	86.7	70.0 1	30.0	3.0	20.0
	m.p-Xylene	2000.0000	0.0000	1792.8705	89.6	70.0 1	130.0	4.4	20.0
702-264968-	4 Benzene	1000.0000	9.6450	789.7632	78.0	70.0 1	130.0	5.4	20.0
	Toluene	1000.0000	0.0000	812.7880	81.3	70.0 1	130.0	5.3	20.0
	Ethylbenzene	1000.0000	0.0000	818.8838	81.9	70.0 1	L30.0	5.6	20.0
	o-Xylene	1000.0000	0.0000	876.0926	87.6	70.0 1	L30.0	4.1	20.0
	m.p-Xylene	2000.0000	0.0000	1814.3295	90.7	70.0 1	L30.0	5.4	20.0

HPLE# ANALYTE CONC FOUND CONC KNOWN X REC # LOWER UPPER Benzene 913.4591 1000.0000 91.3 80.0 120.0 961 Toluene 930.4897 1000.0000 93.0 80.0 120.0 Ethylbenzene 974.3666 97.4 1000.0000 80.0 120.0 o-Xylene 969.4595 1000.0000 96.9 80.0 120.0 m.p-Xylene 2100.3019 2000.0000 105.0 80.0 120.0 )61799-2 Benzene 924.4429 1000.0000 92.4 80.0 120.0 Toluene 956.0117 95.6 1000.0000 80.0 120.0 Ethylbenzene 991.8017 1000.0000 99.2 80.0 120.0 o-Xylene 982.3963 98.2 1000.0000 80.0 120.0 m.p-Xylene 2127.4121 106.4 2000.0000 80.0 120.0 061899-3 Benzene 860.5531 1000.0000 86.1 80.0 120.0 Toluene 873.1502 1000.0000 87.3 80.0 120.0 Ethylbenzene 913.7415 1000.0000 91.4 80.0 120.0 o-Xylene 904.9895 1000.0000 90.5 80.0 120.0 m.p-Xylene 98.0 1959.1982 2000.0000 80.0 120.0 061899-4 Benzene 861.7468 86.2 1000.0000 80.0 120.0 Toluene 893.4710 1000.0000 89.3 80.0 120.0 **Ethylbenzene** 927.3486 92.7 1000.0000 80.0 120.0 o-Xylene 915.3936 1000.0000 91.5 80.0 120.0 m.p-Xylene 1982.9190 2000.0000 99.1 80.0 120.0

				QC	LIMITS
#	ANALYTE	TRUE VALUE	BATCH READ	X REC #	LOWER UPPER
61899	Benzene	50.0000	46.2216	92.4	85.0 115.0
	Toluene	50.0000	48.2463	96.5	85.0 115.0
	Ethylbenzene	50.0000	<b>4</b> 8.9084	97.8	85.0 115.0
	o-Xylene	50.0000	48.9231	97.8	85.0 115.0
	<b>π.p-Xylen</b> e	100.0000	107.1553	107.2	85.0 115.0
61899-2	Benzene	50.0000	46.8273	93.7	85.0 115.0
	Toluene	50.0000	48.9987	98.0	85.0 115.0

Units: ug/kg

Sequence: BTX145Q

lysis Batch Number: 0511E-06/02/99-1274-9

t fification : 0511E-Purgeable Aromatics, BTEX Solids bx Samples : 50

ch uata-Date/Time : 06/22/99 / 09:59:28

		· ·	QC LIMITS							
#	ANALYTE	TRUE VALUE	BATCH READ	<u>X REC #</u>	LOWER UPPER					
51899-2	Ethylbenzene	50.0000	49.8329	<b>9</b> 9.7	85.0 115.0					
	o-Xylene	50.0000	49.4882	99.0	85.0 115.0					
	m.p-Xylene	100.0000	108.8931	108.9	85.0 115.0					
061899-3	Benzene	50.0000	43.5220	87.0	85.0 115.0					
	Toluene	50.0000	45.2712	90.5	85.0 115.0					
	Ethylbenzene	50.0000	46.4873	93.0	85.0 115.0					
	o-Xylene	50.0000	46.6330	93.3	85.0 115.0					
	m.p-Xylene	100.0000	101.9591	102.0	85.0 115.0					
061899-4	Benzene	50.0000	44.3958	88.8	85.0 115.0					
	Toluene	50.0000	46.4322	92.9	85.0 115.0					
	Ethylbenzene	50.0000	47.4796	95.0	85.0 115.0					
	o-Xylene	50.0000	47.2084	94.4	85.0 115.0					
	m,p-Xylene	100.0000	103.5371	103.5	85.0 115.0					
)61899-5	Benzene	50.0000	47.4837	95.0	85.0 115.0					
	Toluene	50.0000	48.9230	97.8	85.0 115.0					
	Ethylbenzene	50.0000	49.7368	99.5	85.0 115.0					
	o-Xylene	50.0000	49.5378	99.1	85.0 115.0					
	m,p-Xylene	100.0000	108.5280	108.5	85.0 115.0					
061899-6	Benzene	50.0000	47.7672	95.5	85.0 115.0					
	Toluene	50.0000	49.8155	99.6	85.0 115.0					
	Ethylbenzene	50.0000	50.6382	101.3	85.0 115.0					
4	o-Xylene	50.0000	50.3428	100.7	85.0 115.0					
	m,p-Xylene	/ 100.0000	110.3436	110.3	85.0 115.0					
061999-7	Benzene	50.0000	46.9702	93.9	85.0 115.0					
	Toluene	50.0000	48.4616	96.9	85.0 115.0					
	Ethylbenzene	50.0000	49.1138	98.2	85.0 115.0					
	o-Xylene	50.0000	49.3087	98.6	85.0 115.0					
	m.p-Xylene	100.0000	106.9031	106.9	85.0 115.0					
<b>)61999-8</b>	Benzene	50.0000	47.4697	94.9	85.0 115.0					
	Toluene	50.0000	49.4894	99.0	85.0 115.0					
	Ethylbenzene	50.0000	49.8412	99.7	85.0 115.0					
	o-Xylene	50.0000	50.0512	100.1	85.0 115.0					
	m,p-Xylene	100.0000	109.0180	109.0	85.0 115.0					

#### 3 #:21-0511E-S-SU

<u>"LE#</u>	<u></u> #	BFB_#
7LE 50693-264925	63(B1)	90
'LE 50693-264925	63(A)	92
'LE 50693-264904	62(B1)	85
'LE 50693-264904	63(A)	85
'LE 50693-264907	77	108
PLE 50693-264907	79	110
°LE 50693-264911	71	<b>9</b> 8
YLE 50693-264911	72	100
PLE_50693-264913	78	111
21.2.593-264913	79	112
기 /693-264914	82	116
JE 50693-264914	82	118
PLE 50693-264918	79	111

Page 4

#### Core Lab-Gulf States Analytical Daily QC Batching Data Data Released for Reporting

07/01/99 16:40:12 Group: 50693

e dentification :	: 0511E-Purgeal	ole Aromatics. BTEX Solids	Units: ug/kg	Sequence: BTX145Q
of Samples :	: 50			
arch Data-Date/Time :	: 06/22/99 / 09	9:59:28		
DC #-21 05115 C CU				
WOI E#	<b>TCT #</b>			
AMPLE#	<u> </u>	<u>BFB_#_</u>		
AMPLE 50093-204918	80	113		
AMPLE 50093-204921	75	109		
AMPLE 50693-264921	76	110		
AMPLE 50693-264922	76	110		
AMPLE 50693-264922	78	111		
AMPLE 50586-264369	87	94		
AMPLE 50586-264369	87	95		
AMPLE 50658-264729	87	96		
AMPLE 50658-264729	89	98		
AMPLE 50658-264730	119	94		
AMPLE 50658-264730	150(A)	144(A)		
AMPLE 50658-264722	73	77		
AMPLE 50658-264722	65(A)	84		
AMPLE 50765-265267	104	121		
AMPLE 50765-265267	101	122		
AMPLE 50765-265266	344(D)	119		
AMPLE 50765-265266	344(D)	170(D)		
AMPLE 50702-264968	69(G)	90		
AMPLE 50702-264968	71	92		
AMP 50702-264969	65(D)	83		
A* 50702-264969	63(D)	86		
Al. 🗐 🖬 50702-264970	53(B1)	74		
AMPLE 50702-264970	56(A)	76 ·		
AMPLE 50702-264971	65(D)	91		
AMPLE 50702-264971	68(D)	93		
AMPLE 50739-265135	62(B1)	76		
AMPLE 50739-265135	59(A)	82		
AMPLE 50739-265136	86	115		
AMPLE 50739-265136	87	122		
AMPLE 50768-265277	70(D)	<b>8</b> 4		
AHPLE 50768-265277	79	91		
AMPLE 50768-265278	67(D)	89		
MPLE 50768-265278	72	94		
MPLE 50739-265137	97	95		
MPLE 50739-265137	81	104		
AMPLE 50739-265138	48(D)	97		
AMPLE 50739-265138	76	120		
LK 1 3-061799	94	97		
LK 2 3-061799	98	99		
LK 3 32-061899	94	98		
LK 4 32-061899	96	100		
Ж 1 50693-264925	79	107		
PK 2 50693-264925	78	108		
PK 3 50702-264968	58(A)	77		
PK50702-264968	59(A)	79		
TL 2-061799	90	101		
TI 2-061799	92	103		
ΓL 3 31-061899	88	93		
TL 4 31-061899	89	94		

nalysis Batch Number: 0511E-06/02/99-1274-9 dentification : 0511E-Purgeable Aromatics, BTEX Solids Units: ug/kg Sequence: BTX145Q e of Samples : 50 iu atcn Data-Date/Time : 06/22/99 / 09:59:28

#### URG #:21-0511E-S-SU

AMP	LE#	TFT #	BFB #
CV	1 1-061899	93	92
CV	<b>2 1-061899</b>	96	94
CV	<b>3 16-061899</b>	90	93
CV	4 16-061899	95	95
CV	<b>5 30-0</b> 61899	97	98
:CV	<b>6</b> 30-061899	99	100
CV	7 49-061999	96	97
CV	8 49-061999	99	99
SD	1 50242-262925	82	106
SD	2 50242-262925	80	107
SD	3 50702-264968	50(A)	75
SD	4 50702-264968	52(A)	77

1	-0511E	-S-SU -	BTEX	SOLIDS	SURROGATE	
_						

$\underline{RG ABRV} =$	SURROGATE DESCRIPTION	LOWER	UPPER
FT	Trifluorotoluene	70.0	130.0
FB	p-Bromofluorobenzene	70.0	130.0

#### ------ Result Footnotes ------

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B1 Sample(s) rerun to confirm matrix interference. A Sample(s) rerun to confirm matrix interference

D) .....urrogate is diluted out

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G) - Marginal Outlier

Groups & Samples

50242-262925	50586-264369	50658-264722	50658-264729	50658-264730	50693-264904	50693-264907	50693-264911
50693-264913	50693-264914	50693-264918	50693-264921	50693-264922	50693-264925	50702-264968	50702-264969
50702-264970	50702-264971	50739-265135	50739-265136	50739-265137	50739-265138	50765-265266	50765-265267
50768-265277	50768-265278						

QC LIMITS



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IPLE 50739-265135

183(D)

104

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ysis Bato I I ifi er San	ch Number: 09 ication : 09 mples :	538H-06/09 538H-TPH, 17	9/99-1274-2 Gasoline Range C	Organics, SW	Units: ug/kg	j Se	quence: GR07	1390						
th Data-Da	ate/Time : O	5/25/99 /	16:18:00											
K#	ANAI YTE			CONC FOUND # LMT OF QUANTITATION										
61799	Gasoline			714,9900	714.9900 1000.0000									
61899-2	Gasoline			928,7200	928 7200 1000 0000									
61899-3	Gasoline			1039.3700	1039.3700(M) 1000.0000									
61899-4	Gasoline			304.3900	) 100(	0.0000								
'n								00 1 1/17	c					
ድ ህ <b>ር</b> #							* DEC #		5					
13.264025	Cacolino				E21 4500	5197 000	$\frac{4 \text{ REC}}{0 02 1}$	70 0 120						
19.265125	2 Casoline			25000.0000	A1748 0000	112078 000	0 95.1 0 294 9(A)	70.0 130	.0					
19.265135	-2 Gasoline			25000.0000	38759 0000	112632 000	0 204.3(A) 0 29.5(A)	70.0 130	0					
19.265135	-4 Gasoline			5000.0000	775 1800	5545 070	0 25.5(7)	70.0 130	.0 0					
,9 E00100	4 00501110			5000.0000	//5.1000	3343.070	0 55.4	70.0 100						
								QC LIMITS						
<u>"LE#</u>	ANALYTE			CONC ADDED	CONC SAMPLE	RESULT 2	XREC2 #	LOWER UPPER	<u></u>	LIMIT				
13-264925	Gasoline			5000.0000	531.4500	4949.630	0 88.4	70.0 130.	0 5.2	27.0				
39-265135-	-2 Gasoline			25000.0000	41748.0000	107251.000	0 262.0(A)	70.0 130.	0 8.4	27.0				
39-265135	-3 Gasoline			250000.0000	38759.0000	107746.000	0 27.6(A)	70.0 130.	0 6.7	27.0				
39-265135-	4 Gasoline			5000.0000	775.1800	5403.560	0 92.6	70.0 130.	0 3.0	27.0				
TROL						1	QC LIMITS							
PLICE	ANALYTE			CONC FOUND	CONC KNOWN	X REC # L	OWER UPPER							
)6	Gasoline			4632.4100	5000.0000	92.6	75.2 121.4							
J61059-2	Gasoline			5156.8200	5000.0000	103.1	75.2 121.4							
061899-3	Gasoline		,	5288.1800	5000.0000	105.8	75.2 121.4							
							тс							
#	ANAI YTE			TRUE VALUE	BATCH READ	YRFC # 1	NUFR HPPFR							
061899	Gasoline		······	250 0000	235 5900	94.2	85 0 115 0							
061899-2	Gasoline			250,0000	233.7400	93.5	85.0 115.0							
061899-3	Gasoline			250.0000	254.5700	101.8	85.0 115.0							
062199-4	Gasoline			250.0000	268.5300	107.4	85.0 115.0							
-062199-5	Gasoline			250.0000	240.0700	96.0	85.0 115.0							
C #. 20 AE2	00 0 01													
G #:20-053 P[F#	ю <b>-</b> 3•20	TET #	BFR #											
PLE 50693	-264904	78	<u> </u>											
PLE 50693	-264907	119	122											
PLE 50693	-264911	100	111											
PLE 50693	-264913	112	122											
PLE 50693	-264914	117	131(B1)											
PLE 50693	-264918	109	120											
PLE 50693	-264921	111	122											
PLE 50693	-264922	116	123											
IPLE 50693	-264925	97	103											
IPLE 50693	-264914	120	133(A)											
IPL	-265135	96	130											
(PI 739	·265136	90	104											
1P. J765	-265266	84	139(D)											
IPLE 50765	-265267	144(A)	87											

lysic Batch Number: 0538H-06/09/99-1274-2

t tification : 0538H-TPH. Gasoline Range Organics. SW be Samples : 17 ch Data-Date/Time : 06/25/99 / 16:18:00

Units: ug/kg

Sequence: GR07139Q

G #:20-0538 -S-SU

PLE#		<u>BFB #</u>				
PLE 50739-265136	0(D)	121				
PLE 50765-265267	0(D)	474(D)				
1 70-061799	116	120				
2 85-061899	86	102				
3 96-061899	112	118				
4 97-061899	<b>9</b> 9	117				
1 50693-264925	113	117				
2 50739-265135	100	128				
3 50739-265135	0(D)	137(D)				
4 50739-265135	81	51(D)				
1 69-061799	111	121				
2 84-061899	98	101				
. <b>3</b> 95-061899	87	100				
1 68-061899	85	97				
2 83-061899	96	98				
/ 3 93-061899	89	94				
4 94-062199	92	103				
/ 5 106-062199	81	93				
) 1 50693-264925	102	116				
739-265135	82	134(D)				
) 739-265135	0(D)	132(D)				
) 4 00739-265135	41(D)	72				

0538 -S	SU - TPH GRO SURROGATES, SOIL	QC LIMITS
ABRV =	SURROGATE DESCRIPTION	LOWER UPPER
-	Trifluorotoluene	70.0 130.0
}	p-Bromofluorobenzene	70.0 130.0

Result Footnotes

1 - QC Sample Was Reanalyzed

I - Matrix Interference

1) • Sample(s) rerun to confirm matrix interference.

) - Surrogate is diluted out

Batch Notes -----

NOTE: The matrix of the sample 50739 caused the spike and spike duplicate to be high, so a bench spike of the sample itself was analyzed and reported also.

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Groups			8			S	a	M	ρ	1	e	s														
		•	•	-	-	•	•	•	•	•	•	•	•	-	•	•	•	-	-	-	-	-	•	•	•	•

50693-264904	50693-264907	50693-264911	50693-264913	50693-264914	50693-264918	50693-264921	50693-264922
3-264925	50739-265135	50739-265136	50765-265266	50765-265267			

sis Batc	h Number:	0539G-06/22/99-123	30-1									
- I 👘 fi	cation :	0539G-TPH, Diesel	Range Organ	nics	Units: ug/kg	I	Sequ	ence: TPH16	579Q			
er Sam	ples :	39										
1 Daca-Da	te/Time :	06/29/99 / 13:46:1	15									
<#	ANAI YTF			CONC FOUND	)# LMTOFOU	IANTITATION	1					
<u>41</u>	none de	tected					-					
.2	none de	tected										
L.	none de											
-									00	2TIMT I		
: c#					CONC SAMPLE	CONC SDI		* PEC #				
<u></u>	ANALTIE	£	·······	67000 0000	63209 0000	115292 0		<u>4 ΝLC π</u> 77 6	70.0	130 0		
·-200000	Diesei	iuei fuul		67000.0000	0.0000	76610 0	0000	11/ 2	70.0	120.0		
1-200138-	Z Diesel	ruei		07000.0000	0.0000	70519.0	0000	114.2	70.0	130.0		
									00.11	2TTM		
с#					CONC SAMPLE	RESHLT	r 🤈	YREC2 #			RPD #	тинт
1 265505	Discol	fuel	•	67000 0000	63298 0000	108181 0	1000	$\frac{\pi RLO2}{67} \frac{\pi}{10}$	70.0	130 0	<u>14</u> 7	26.9
20000	2 Diocol	fuel		67000.0000	0.0000	73889 0	1000	110 3	70.0	130.0	35	26.9
J-203130-	Z Diesei	idei		0/000.0000	0.0000	70002.0	,,,,,,	110.0	10.0	100.0	0.0	20.5
201							00	I IMITS				
ς#	ΔΝΔΙ ΥΤΕ			CONC. FOUND	CONC KNOWN	<b>%</b> RFC #	IN	FR UPPFR				
<u></u>	Diesel	fuel		68736 0000	67000_0000	102.6		61 2 128 1				
-2	Diesel	fuel		75796.0000	67000.0000	113.1		61.2 128.1				
L	510501											
#:26-053	9 -S-SU											
LE#		0-TP #										
LE 2007-	265484											
E 07-	265486	92										
1£ دين 17۰	265477	4(A)										
E 50807-	265496	91	,									
LE 50807-	265478	6(A)										
LE 50807-	265500	94										
LE 50807-	265479	129										
LE 50807-	265505	109										
LE 50807-	265481	122										
LE 50807-	265482	127										
LE 50807-	265483	121										
LE 50807-	265509	<del>9</del> 9										
LE 50807-	265480	124										
LE 50807-	265511	76										
LE 50807-	265491	122										
LE 50807-	265502	92										
LE 50807-	265494	126										
LE 50807-	265504	78										
LE 50807-	265498	121										
LE 50807-	265508	48(A)										
LE 50807-	265514	123										
LE 50807-	265515	/3										
LE 50807-	265517	93										
LE 50739-	265137	22(A)										
LE 50693-	264904	99 75										
LE -0/39-	-205138	/5 0C										
93-	20490/	00 117										
L 393-	204911	10/										
TE 20023-	266044	104 77										
CC 30880-	200044	11										

07/01/99 16:40:19 Group: 50693

lysis Batch Num teantificatio	nber: 0539G-06/2 on : 0539G-TPH,	22/99-1230-1 Diesel Range (	Organics	Units: ug/N	kg Sequ	ience: TPH1679Q	
be Samples ch vata-Date/Ti	: 39 me:06/29/99/	/ 13:46:15					
G #:26-0539 -S	SU						
<u>PLE#</u>	<u> </u>						
PLE 50693-26491	.4 108						
PLE 50880-26584	6 82						
PLE 50693-26491	8 118						
PLE 50880-26584	18 75						
PLE 50693-26492	21 111						
PLE 50880-2658	50 82						
PLE 50693-26492	120						
PLE 50880-2658	52 84						
PLE 50693-26492	25 105						
1 BLK	108						
2 BLK	125						
1 50807-26550	)5 101						
2 50739-26513	88 105						
1 LCS	118						
2 LCS	74						
1 50807-26550	)5 99						
1 2 50739-26513	38 37(B)						
			00.1 747				
$\frac{0539 - 5 - 50}{00000000000000000000000000000000000$	U SURRUGATE SU			15			
I At = SURRUGA	TE DESCRIPTION			PER			
P 0-Terp	enyi		70.0 1.	30.0			
1		sult Footnotes					
- Difficult to	homogenize due	to the nature	of the sample				
- Matrix Inter	ference		or the sample				
	i en en e						
	•						
Groups & Samp	oles						
E0602 264004			F0(02 0(4012	50502 204014	50/02 204010	E0602 204021	50602 264022
50693-264904	50593-264907	50693-264911	50693-264913	50693-264914	50693-264918	50693-264921	50693-264922
50693-264925	50739-265137	50739-265138	50807-2654/7	50807-265478	50807-265479	50807-265480	50807-265481
50807-205482	50807-205483	50807-265484	50807-205480	50807-265491	50807-205494	50807-205490 E0907 200011	50807-205498
50807-200000	50807-200002	50807-265504	50807-205505	50807-200008	50807-200009	2000/-202211	50807-205514
50007-205515	50607-205517	50660-205644	20000-202040	50000-200040	50600-205650	50000-205052	
		•					
					•		
-							

07/01/99 16:40:21 Group: 50693

Analysis Batch Number: 1213 -06/02/99-1274-6 dentification : 1213 -Purgeable Aromatics, BTEX Solids of Samples : 12

Sat... Data-Date/Time : 06/22/99 / 10:02:28

Units: ug/kg

Sequence: BTX145Q

LANK#	ANALYTE	CONC FOUND #	LMT OF QUANTITATION
-061799	Benzene	14.4829	20.0000
	Toluene	14.6860	20.0000
1	Ethylbenzene	17.1053	20.0000
	o-Xylene	18.5899	20.0000
•	m.p-Xylene	37.9287	60.0000
-061799-2	Benzene	14.7014	20.0000
1	Toluene	15.1255	20.0000
Į	Ethylbenzene	18.2096	20.0000
	o-Xylene	17.9982	20.0000
	m,p-Xylene	38.8248	60.0000
2-061899-3	Benzene	17.0619	20.0000
	Toluene	6.0819	20.0000
1	Ethylbenzene	4.9111	20.0000
	o-Xylene	4.8968	20.0000
i	m.p-Xylene	11.1480	60.0000
2-061899-4	Benzene	5.5838	20.0000
1	Toluene	8.8997	20.0000
	Ethylbenzene	5.8457	20.0000
	o-Xylene	4.9779	20.0000
	m.p-Xylene	11.8375	60.0000



P .							QC LIMITS	
AN	ANALYTE		CONC ADDED	CONC SAMPLE	CONC SPIKE	<u>X REC #</u>	LOWER UPPER	
0693-264925	Benzene	,	1000:0000	11.6928	1038.1923	102.6	60.1 111.9	
	Toluene		1000.0000	0.000	1037.5448	103.8	69.1 120.8	
	o-Xylene		1000.0000	0.000	1095.3858	109.5	51.6 153.8	
	m.p-Xylene		2000.0000	0.0000	2317.5707	115.9	69.6 122.0	
	Ethylbenzene		1000.0000	0.0000	1051.1600	105.1	69.0 121.8	
0693-264925-2	2 Benzene		1000.0000	7.0439	1042.1475	103.5	60.1 111.9	
	Toluene		1000.0000	4.7519	1061.7772	105.7	69.1 120.8	
	o-Xylene		1000.0000	0.000	1107.4890	110.7	51.6 153.8	
	m,p-Xylene		2000.0000	3.1921	2354,9119	117.6	69.6 122.0	
	Ethylbenzene		1000.0000	0.0000	1066.4847	106.6	69.0 121.8	
0702-264968-3	3 Benzene		1000.0000	10.0129	823.1896	81.3	60.1 111.9	
	Toluene		1000.0000	0.0000	835.7119	83.6	69.1 120.8	
	o-Xylene		1000.0000	0.0000	893.1022	89.3	51.6 153.8	
	m.p-Xylene		2000.0000	0.0000	1871.1682	93.6	69.6 122.0	
	Ethylbenzene		1000.0000	0.0000	849.3133	84.9	69.0 121.8	
0702-264968-4	4 Benzene		1000.0000	9.6450	832.8130	82.3	60.1 111.9	
	Toluene		1000.0000	0.0000	856.5824	85.7	69.1 120.8	
	o-Xylene		1000.0000	0.0000	913.0291	91.3	51.6 153.8	
	m,p-Xylene		2000.0000	0.000	1914.7739	95.7	69.6 122.0	
	Ethylbenzene		1000.0000	0.0000	865.8840	86.6	69.0 121.8	
5D							QC LIMITS	
MPLE#	ANALYTE		CONC ADDED	CONC SAMPLE	<b>RESULT 2</b>	XREC2 #	LOWER UPPER RPD #	LIMIT
)2/2/62925	Benzene		1000.0000	11.6928	1038.0258	102.6	60.1 111.9 0.0	17.5
	Toluene		1000.0000	0.0000	1038.7928	103.9	69.1 120.8 0.1	17.3
	o-Xylene		1000.0000	0.0000	1094.9726	109.5	51.6 153.8 0.0	17.1
	m.p-Xylene		2000.0000	0.0000	2329.4894	116.5	69.6 122.0 0.5	19.7

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#### Core Lab-Gulf States Analytical Daily QC Batching Data Data Released for Reporting

Units: ug/kg

Sequence: BTX145Q

07/01/99 16:40:22 Group: 50693

Analysis Batch Number: 1213 -06/02/99-1274-6

dentification : 1213 -Purgeable Aromatics. BTEX Solids

of Samples : 12

Batch Data-Date/Time : 06/22/99 / 10:02:28

SD						QC L	IMITS		
AMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	<u> XREC2</u> <u>#</u>	LOWER	<u>UPPER</u>	<u></u>	LIMIT
50242-262925	Ethylbenzene	1000.0000	0.000	1059.3042	105.9	69.0	121.8	0.8	18.8
0242-262925-	2 Benzene	1000.0000	7.0439	1033.2191	102.6	60.1	111.9	0.9	17.5
	Toluene	1000.0000	4.7519	1060.7599	105.6	69.1	120.8	0.1	17.3
-	o-Xylene	1000.0000	0.0000	1103.3445	110.3	51.6	153.8	0.4	17.1
2	m.p-Xylene	2000.0000	3.1921	2362.1622	117.9	69.6	122.0	0.3	19.7
1	Ethylbenzene	1000.0000	0.0000	1068.5383	106.9	69.0	121.8	0.3	18.8
50702-264968-	3 Benzene	1000.0000	10.0129	782.8960	77.3	60.1	111.9	5.0	17.5
	Toluene	1000.0000	0.0000	798.8724	79.9	69.1	120.8	4.5	17.3
1	o-Xylene	1000.0000	0.0000	866.8364	86.7	51.6	153.8	3.0	17.1
ł	m.p-Xylene	2000.0000	0.0000	1792.8705	89.6	69.6	122.0	4.4	19.7
	Ethylbenzene	1000.0000	0.0000	809.6762	81.0	69.0	121.8	4.7	18.8
0702-264968-	4 Benzene	1000.0000	9.6450	789.7632	78.0	60.1	111.9	5.4	17.5
	Toluene	1000.0000	0.0000	812.7880	81.3	69.1	120.8	5.3	17.3
-	o-Xylene	1000.0000	0.0000	876.0926	87.6	51.6	153.8	4.1	17.1
	m.p-Xylene	2000.0000	0.0000	1814.3295	90.7	69.6	122.0	5.4	19.7
	Ethylbenzene	1000.0000	0.0000	818.8838	81.9	69.0	121.8	5.6	18.8
				0					
	ΔΝΔΙ ΥΤΕ	CONC. FOUND	CONC KNOWN	* RFC # 10	WFR UPPFR				
	Benzene	913.4591	1000.0000	91.3	64.4 139.6	5			
	Toluene	930.4897	1000.0000	93.0	74.4 134.6	5			
<ul> <li>Nation</li> </ul>	Ethvlbenzene	974.3666	1000.0000	97.4	74.5 139.0	)			
1	o-Xvlene	969.4595	1000.0000	96.9	70.1 143.7	7			
4	m.p-Xvlene	2100.3019	2000.0000	105.0	72.9 135.5	5			
2-061799-2	Benzene	924.4429	1000.0000	92.4	64.4 139.6	5			
1	Toluene	956.0117	1000.0000	95.6	74.4 134.6	5			
1	Ethylbenzene	991.8017	1000.0000	99.2	74.5 139.0	)			
	o-Xvlene	982.3963	1000.0000	98.2	70.1 143.7	7			
3	m.p-Xylene	2127.4121	2000.0000	106.4	72.9 135.9	5			
31-061899-3	Benzene	860.5531	1000.0000	86.1	64.4 139.6	5			
ī	Toluene	873.1502	1000.0000	87.3	74.4 134.6	5			
ł	Ethylbenzene	913.7415	1000.0000	91.4	74.5 139.0	<b>)</b> .			
	o-Xylene	904.9895	1000.0000	90.5	70.1 143.7	7			
	m,p-Xylene	1959.1982	2000.0000	98.0	72.9 135.9	5			
81-061899-4	Benzene	861.7468	1000.0000	86.2	64.4 139.0	5			
	Toluene	893.4710	1000.0000	89.3	74.4 134.0	6			
I	Ethylbenzene	927.3486	1000.0000	92.7	74.5 139.0	0			
k i	o-Xylene	915.3936	1000.0000	91.5	70.1 143.	7			
1	m.p-Xylene	1982.9190	2000.0000	99.1	72.9 135.9	5			
K.				OC LIMIT	S				
ccv #	ANALYTE	TRUE VALUE	BATCH READ	<u>× REC # LC</u>	WER UPPER				
-061899	Benzene	50.0000	46.2216	92.4	85.0 115.0				
	Toluene	<b>50.0</b> 000	48.2463	96.5	85.0 115.0				
	Ethylbenzene	<b>50.0</b> 000	48.9084	97.8	85.0 115.0				
	o-Xylene	50.0000	48.9231	97.8	85.0 115.0				
1	m.p-Xylene	100.0000	107.1553	107.2	85.0 115.0				
1-061899-2	Benzene	50.0000	46.8273	93.7	85.0 115.0				
1 A	Toluene	50.0000	48.9987	98.0	85.0 115.0				

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#### Core Lab-Gulf States Analytical Daily QC Batching Data Data Released for Reporting

07/01/99 16:40:23 Group: 50693

Inalvsis Batch Number: 1213 -06/02/99-1274-6

dentification : 1213 -Purgeable Aromatics, BTEX Solids Units: ug/kg

Sequence: BTX145Q

of Samples : 12 Batcn Data-Date/Time : 06/22/99 / 10:02:28

			QC	LIMITS
ANALYTE	TRUE VALUE	BATCH READ	<u>X REC #</u>	LOWER UPPER
Ethylbenzene	50.0000	49.8329	<b>99.7</b>	85.0 115.0
o-Xylene	50.0000	49.4882	99.0	85.0 115.0
m,p-Xylene	100.0000	108.8931	108.9	85.0 115.0
Benzene	50.0000	43.5220	87.0	85.0 115.0
Toluene	50.0000	45.2712	90.5	85.0 115.0
Ethylbenzene	50.0000	46.4873	93.0	85.0 115.0
o-Xylene	50.0000	46.6330	93.3	85.0 115.0
m,p-Xylene	100.0000	101.9591	102.0	85.0 115.0
Benzene	50.0000	44.3958	88.8	85.0 115.0
Toluene	50.0000	46.4322	92.9	85.0 115.0
Ethylbenzene	50.0000	47.4796	95.0	85.0 115.0
o-Xylene	50.0000	47.2084	94.4	85.0 115.0
m,p-Xylene	100.0000	103.5371	103.5	85.0 115.0
Benzene	50.0000	47.4837	95.0	85.0 115.0
Toluene	50.0000	48.9230	97.8	85.0 115.0
Ethylbenzene	50.0000	49.7368	99.5	85.0 115.0
o-Xylene	50.0000	49.5378	99.1	85.0 115.0
m.p-Xylene	100.0000	108.5280	108.5	85.0 115.0
Benzene	50.0000	47.7672	95.5	85.0 115.0
Toluene	50.0000	49.8155	99.6	85.0 115.0
Ethylbenzene	50.0000	50.6382	101.3	85.0 115.0
o-Xylene	50.0000	50.3428	100.7	85.0 115.0
m,p-Xylene	· 100.0000	110.3436	110.3	85.0 115.0
Benzene	50.0000	46.9702	93.9	85.0 115.0
Toluene	50.0000	48.4616	96.9	85.0 115.0
Ethylbenzene	50.0000	49.1138	98.2	85.0 115.0
o-Xylene	50.0000	49.3087	98.6	85.0 115.0
m,p-Xylene	100.0000	106.9031	106.9	85.0 115.0
Benzene	50.0000	47.4697	94.9	85.0 115.0
Toluene	50.0000	49.4894	99.0	85.0 115.0
Ethylbenzene	50.0000	49.8412	99.7	85.0 115.0
o-Xylene	50.0000	50.0512	100.1	85.0 115.0
m,p-Xylene	100.0000	109.0180	109.0	85.0 115.0
	ANALYTE Ethylbenzene o-Xylene m.p-Xylene Benzene Toluene Ethylbenzene o-Xylene m.p-Xylene Benzene Toluene Ethylbenzene o-Xylene m.p-Xylene Benzene Toluene Ethylbenzene o-Xylene m.p-Xylene Benzene Toluene Ethylbenzene o-Xylene m.p-Xylene Benzene Toluene Ethylbenzene o-Xylene m.p-Xylene Benzene Toluene Ethylbenzene o-Xylene m.p-Xylene Benzene Toluene Ethylbenzene o-Xylene m.p-Xylene Benzene Toluene Ethylbenzene o-Xylene m.p-Xylene Benzene Toluene Ethylbenzene o-Xylene m.p-Xylene Benzene Toluene Ethylbenzene o-Xylene m.p-Xylene	ANALYTE         TRUE VALUE           Ethylbenzene         50.0000           o-Xylene         50.0000           m, p-Xylene         100.0000           Benzene         50.0000           Toluene         50.0000           Toluene         50.0000           Toluene         50.0000           Toluene         50.0000           ethylbenzene         50.0000           o-Xylene         50.0000           m, p-Xylene         100.0000           Benzene         50.0000           roluene         50.0000           Toluene         50.0000           toluene         50.0000           o-Xylene         50.0000           n.p-Xylene         100.0000           Benzene         50.0000           o-Xylene         50.0000           m,p-Xylene         50.0000           Toluene         50.0000           toluene         50.0000           m,p-Xylene         100.0000           Benzene         50.0000           roluene         50.0000           m,p-Xylene         100.0000           Benzene         50.0000           roluene         50.0000	ANALYTE         TRUE VALUE         BATCH READ           Ethylbenzene         50.0000         49.8329           o-Xylene         50.0000         49.4882           m,p-Xylene         100.0000         108.8931           Benzene         50.0000         43.5220           Toluene         50.0000         45.2712           Ethylbenzene         50.0000         46.6330           n,p-Xylene         100.0000         101.9591           Benzene         50.0000         44.3958           Toluene         50.0000         46.4322           Ethylbenzene         50.0000         47.4796           o-Xylene         50.0000         47.4796           o-Xylene         50.0000         47.4837           Toluene         50.0000         47.4837           Toluene         50.0000         47.4837           Toluene         50.0000         49.7368           o-Xylene         50.0000         49.7368           o-Xylene         50.0000         49.8155           Ethylbenzene         50.0000         49.8155           Ethylbenzene         50.0000         49.8155           Ethylbenzene         50.0000         49.8155 <t< td=""><td>ANALYTE         TRUE VALUE         BATCH READ         X REC         #           Ethylbenzene         50.0000         49.8329         99.7           o-Xylene         50.0000         49.4882         99.0           m,p-Xylene         100.0000         108.8931         108.9           Benzene         50.0000         45.2712         90.5           Ethylbenzene         50.0000         46.4873         93.0           o-Xylene         50.0000         46.6330         93.3           m,p-Xylene         100.0000         101.9591         102.0           Benzene         50.0000         44.4873         93.0           o-Xylene         50.0000         44.64873         93.3           m,p-Xylene         100.0000         101.9591         102.0           Benzene         50.0000         44.3958         88.8           Toluene         50.0000         47.4796         95.0           o-Xylene         50.0000         47.4796         95.0           o-Xylene         50.0000         47.4837         95.0           o-Xylene         50.0000         47.4837         95.0           o-Xylene         50.0000         48.9230         97.8</td></t<>	ANALYTE         TRUE VALUE         BATCH READ         X REC         #           Ethylbenzene         50.0000         49.8329         99.7           o-Xylene         50.0000         49.4882         99.0           m,p-Xylene         100.0000         108.8931         108.9           Benzene         50.0000         45.2712         90.5           Ethylbenzene         50.0000         46.4873         93.0           o-Xylene         50.0000         46.6330         93.3           m,p-Xylene         100.0000         101.9591         102.0           Benzene         50.0000         44.4873         93.0           o-Xylene         50.0000         44.64873         93.3           m,p-Xylene         100.0000         101.9591         102.0           Benzene         50.0000         44.3958         88.8           Toluene         50.0000         47.4796         95.0           o-Xylene         50.0000         47.4796         95.0           o-Xylene         50.0000         47.4837         95.0           o-Xylene         50.0000         47.4837         95.0           o-Xylene         50.0000         48.9230         97.8

SURG #:21-1213 -S-SU

AMPLE#	<u></u>	BFB #
AMPLE 50639-264653	85	75
SAMPLE 50639-264653	75	80
AMPLE 50640-264654	68	82
AMPLE 50640-264654	80	185(D)
SAMPLE 50641-264655	74	86
SAMPLE 50641-264655	79	94
AMPLE 50640-264654	90	71
SAMPLE 50640-264654	78	192(D)
SANDLE 50739-265137	97	95
50739-265137	81	104
E 50739-265138	48(D)	97
SAMPLE 50739-265138	76	120
BLK 1 3-061799	94	97

07/01/99 16:40:24 Group: 50693

Ilysis Batch Number: 1213 -06/02/99-1274-6 tipitification : 1213 -Purgeable Aromatics, BTEX Solids Units: ug/kg Sequence: BTX145Q Samples : 12 ch caca-Date/Time : 06/22/99 / 10:02:28

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#### G#:21-1213 -S-SU

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PLE#	<u># 171</u>	BFB #		
2 3-061799	98	. 99		
3 32-061899	94	98		
4 32-061899	96	100		
1 50693-264925	79	107		
2 50693-264925	78	108		
3 50702-264968	58(A)	77		
4 50702-264968	59	79		
1 2-061799	90	101		
2 2-061799	92	103		
<b>3 31-061899</b>	88	93		
4 31-061899	89	94		
1 1-061899	93	92		
2 1-061899	96	94		
<b>3 16-061899</b>	90	93		
4 16-061899	95	95		
5 30-061899	97	98		
6 30-061899	<del>9</del> 9	100		
7 49-061999	96	97		
8 49-061999	99	99		
1 50242-262925	82	106		
242-262925	80	107		
/02-264968	50(A)	75		
4 50702-264968	52(A)	77		

#### 1213 - S-SU - SOLID BTEX SURROGATE

ABRV = SURROGATE DESCRIPTION	LOWER	UPPER	
Trifluorotoluene	58.4	139.7	
p-Bromofluorobenzene	37.9	158.5	

Result Footnotes

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- Surrogate is diluted out

- Matrix Interference

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		•					
50242-262925	50639-264653	50640-264654	50641-264655	50693-264925	50702-264968	50739-265137	50739-265138

QC LIMITS



Units: mg/kg

Sequence: 9F25

 Iysis Batch Number:
 9056A-06/25/99-1204-1

 toptification
 :
 9056A-Anions by IC. Solid

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 Samples
 :
 37

 ch cuca-Date/Time
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 06/28/99 / 11:49:37

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KE							QCL	IMITS
PLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPI	KE <u>X RE</u>	<u>:C #</u>	LOWER	UPPER
93-264905	Chloride	100.0000	444.0430	450.8	590 <del>(</del>	5.8(I1)	80.0	120.0
	Bromide	100.0000	3.2177	106.30	050 103	3.1	80.0	120.0
	Sulfate	100.0000	237.1230	328.5	140 91	4	80.0	120.0
93-264905-2	Chloride	1000.0000	584.9560	1624.00	000 103	5.9	80.0	120.0
	Bromide	1000.0000	88.5209	1026.40	500 93	8.8	80.0	120.0
	Sulfate	1000.0000	226.3150	1283.30	600 105	5.7	80.08	120.0
93-264916-3	Chloride	100.0000	0.0000	0.0	000 C	.0(I1)	80.08	120.0
	Bromide	100.0000	11.4711	115.73	340 104	.3	80.0	120.0
	Sulfate	100.0000	513.7200	543.63	390 29	).9(I1)	80.0	120.0
93-264916-4	Chloride	1000.0000	2342.5700	3200.4	300 85	5.8	80.0	120.0
	Bromide	1000.0000	15.7840	1041.3	200 102	2.6	80.0	120.0
	Sulfate	1000.0000	628.7310	1683.8	200 105	5.5	80.0	120.0
LICATE								
νLE#	ANALYTE	RESULT	1RESULT 2	2	LIMIT	DILUTI	ON	
3-264905	Chloride	444.0430	444.1490	0.0	20.0	1.00		
	Bromide	3.2177	2.1538	39.6(3a)	20.0	1.00	)	
	Sulfate	237.1230	237.0230	0.0	20.0	1.00	1	
3-264905-2	Chloride	584.9560	583.5600	0.2	20.0	10.00	)	
	Bromide	88.5209	0.000.0	200.0(3a)	20.0	10.00	1	
	Sulfate	226.3150	225.8850	0.2	20.0	10.00	)	
16-3ر 3	Chloride	0.0000	0.0000	0.0	20.0	1.00	I	
	Bromide	· 11.4711	11.8831	3.5	20.0	1.00	)	
	Sulfate	513.7200	512.9950	0.1	20.0	1.00	)	
13-264916-4	Chloride	2342.5700	2349.4600	0.3	20.0	10.00	l i	
	Bromide	15.7840	13.1518	18.2	20.0	10.00	)	
	Sulfate	628.7310	632.3940	0.6	20.0	10.00	)	
ROL					QC LIM	TS		
L <u>E#</u>	ANALYTE	CONC FOUND	CONC KNOWN	X REC #	LOWER UP	PPER		
599	Chloride	102.8530	100.0000	102.9	90.0	110.0		
	Bromide	104.8780	100.0000	104.9	90.0	110.0		
	Sulfate	106.3760	100.0000	106.4	90.0	110.0		
599-2	Chloride	103.0880	100.0000	103.1	90.0	110.0		
	Bromide	105.0440	100.0000	105.0	90.0	110.0		
	Sulfate	104.5200	100.0000	104.5	90.0	110.0		
		. •		QC LI	MITS			
<u>#</u>	ANALYTE	TRUE VALUE	BATCH READ	<u>X REC #</u>	LOWER U	PPER		
599	Chloride	100.0000	102.8080	102.8	<b>95.0</b> 1	LO5.0		
	Bromide	100.0000	102.6500	102.7	95.0 1	L05.0		
	Sulfate	100.0000	105.2240	105.2(G)	95.0 1	105.0		
599-2	Chloride	100.0000	102.3510	102.4	95.0 1	105.0		
	Bromide	100.0000	101.4370	101.4	95.0 1	L05.0		
-	Sulfate	100.0000	104.5030	104.5	95.0	105.0		
591	Chloride	100.0000	101.9300	101.9	95.0	105.0		
	Bromide	100.0000	101.7690	101.8	95.0 3	L05.0		
	Sulfate	100.0000	104.2730	104.3	95.0	105.0		
<b>599-4</b>	Chloride	100.0000	102.6870	102.7	95.0	105.0		

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#### Core Lab-Gulf States Analytical Daily QC Batching Data Data Released for Reporting

07/01/99 16:40:26 Group: 50693

Analysis Batch Number	:	9056A-06/25/99-1204-1
Identification	:	9056A-Anions by IC, Solid
• of Samples	:	37
Ba Data-Date/Time	:	06/28/99 / 11:49:37
1		

Units: mg/kg

Sequence: 9F25

			QC LIMITS			
CCV #	ANALYTE	TRUE_VALUE	BATCH READ X REC #	LOWER UPPER		
0-62599-4	Bromide	100.0000	102.0740 102.1	95.0 105.0		
l	Sulfate	100.0000	103.2190 103.2	95.0 105.0		
0-62599-5	Chloride	100.0000	102.9870 103.0	95.0 105.0		
	Bromide	100.0000	103.3030 103.3	95.0 105.0		
	Sulfate	100.0000	103.5990 103.6	95.0 105.0		
0-62599-6	Chloride	100.0000	104.0460 104.0	95.0 105.0		
	Bromide	100.0000	103.7820 103.8	95.0 105.0		
ľ	Sulfate	100.0000	103.8350 103.8	95.0 105.0		
CCB#	ANALYTE	CONC FOUND	LMT OF QUANTITATION			
0-62599	Chloride	ND	1.0000			
ľ	Bromide	ND	1.0000			
	Sulfate	ND	1.0000			
0-62599	Chloride	ND	1.0000			
	Bromide	ND	1.0000			
	Sulfate	ND	1.0000			
0-62599	Chloride	ND	1.0000			
	Bromide	ND	1.0000			
1	Sulfate	ND	1.0000			
0- <u>625</u> 99	Chloride	0.0039	1.0000			
	Bromide	ND	1.0000			
0	Sulfate	ND	1.0000			
p-62599	Chloride	, ND	1.0000			
1	Bromide	ND	1.0000			
	Sulfate	ND	1.0000			
0-62599	Chloride	0.1576	1.0000			
	Bromide	ND	1.0000			
	Sulfate	ND	1.0000			
1						

Result Footnotes ·····

(II) - Matrix spike outlier due to compound over calibration range.

```
(3a) - Duplicate is valid because the result is less than 5 times the LOQ
```

(G) - Marginal Outlier

Groups & San	npies	
	••••••	-
50693-264904	50693-264905	50693

50693-264904	50693-264905	50693-264906	50693-264907	50693-264908	50693-264909	50693-264910	50693-264911
50693-264912	50693-264913	50693-264914	50693-264915	50693-264916	50693-264917	50693-264918	50693-264919
50693-264920	50693-264921	50693-264922	50693-264923				



alysis Batch	n Number: 9056A-06/28/99-1250-1 cation : 9056A-Anions by IC. Solid		Units: mg/kg	S	Sequence:	9F28		
tcı, Jata-Dal	te/Time : 06/28/99 / 14:45:25							
TKF							0C (	IMITS
MPLF#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPI	E X RE	C #	LOWER	UPPER
693-264925	Chloride	100.0000	0.000	0.00	000 0	.0(I1)	80.0	120.0
	Bromide	100.0000	7.6278	109.03	370 101	.4	80.0	120.0
	Sulfate	100.0000	545.4700	553.05	500 7	.6(I1)	80.0	120.0
593-264925-2	2 Chloride	1000.0000	1718.2200	2685.56	500 96	.7	80.0	120.0
	Bromide	1000.0000	6.3906	1045.29	900 103	.9	80.0	120.0
	Sulfate	1000.0000	751.8150	1793.14	100 104	.1	80.0	120.0
PLICATE								
<u>1PLE#</u>	ANALYTE	RESULT 1	RESULT 2	<u></u> <u>#</u>	LIMIT	DILUTI	ON	
593-264924	Chloride	0.0000	0.0000	0.0	20.0	1.00		
	Bromide	16.95/3	16.8396	0.7	20.0	1.00		
	Sulfate	0.0000	0.0000	0.0	20.0	1.00		
393-264924-7	2 Chioride	3548.1400	3538.3300	0.3	20.0	10.00		
	Bromide	17.5230	13.0436	29.3(3a)	20.0	10.00		
-02 064004	Sulfate	2154.5500	2139.6100	0.7	20.0	10.00		
393-204924	3 Unioride	3707.4900	3/39.6200	0.9	20.0	100.00		
	Sulfate	2086.2900	2032.6100	2.6	20.0	100.00	)	
TROM					OC 1 TMT	TS		
(PI	ANAL YTE	CONC FOUND	CONC KNOWN	X RFC #	I OWFR UP	PFR		
	Chloride	100.8590	100.0000	100.9	90.0	110.0		
	Bromide	102.7270	100.0000	102.7	90.0	110.0		
	Sulfate	101.9970	100.0000	102.0	90.0	110.0		
				QC LI	ITS			
′ <b>#</b>	ANALYTE	TRUE VALUE	BATCH READ	<u>X REC #</u>	LOWER UP	PER		
2899	Chloride	100.0000	100.3460	100.3	95.0 1	05.0		
	Bromide	100.0000	100.4670	100.5	95.01	05.0		
	Sulfate	100.0000	101.2340	101.2	95.01	05.0		
2899-2	Chloride	100.0000	101.0060	101.0	95.0 1	05.0		
	Bromide	100.0000	100.4150	100.4	95.0 1	05.0		
	Sulfate	100.0000	100.7450	100.7	95.0 1	05.0		
<u>#</u>	ANALYTE	CONC FOUND	<u>#</u> <u>LMTOFQU</u>	ANTITATION				
2899	Chloride	ND	1	.0000				
	Bromide	ND	1	.0000				
	Sulfate	ND	1	.0000				
2899	Chloride	ND	1	.0000				
	Bromide	ND	1	.0000				
	Sulfate	ND	1	.0000				

..... Result Footnotes .....

) - Matrix spike outlier due to compound over calibration range.

ilysis Batch Number: 9056A-06/28/99-1250-1
t fication : 9056A-Anions by IC, Solid
be Samples : 5
ch caca-Date/Time : 06/28/99 / 14:45:25

Units: mg/kg

Sequence: 9F28

Groups & Samples

50693-264924 50693-264925



		0010									
(#	ANALYIE	<u>CONC_F</u>	<u>00ND</u> #	LMT OF QU	ANTITATION						
-002199	Potassium	3. 40	2000	200	.0000						
	Sodium	40. 33	7600	200	0000						
	Souram		1000	200	.0000						
:								QC	LIMITS		
.E#	ANALYTE	CONC ADD	ED CO	NC SAMPLE	CONC_SPI	KE X REC	;#	LOWER	UPPER		
1-264907	Magnesium	200.0	000	598.8000	669.00	000 35	1(B)	75.0	125.0		
	Potassium	200.0	000	402.4000	473.10	000 35.	.4(B)	75.0	125.0		
	Sodium	200.0	000	452.7000	630.30	000 88	.8	75.0	125.0		
- "		0010 455			<b>5</b> 50/4 <b>7</b>		. "	QC LI	MITS		
<u>E#</u>	ANALYTE	CONC ADL		NC SAMPLE	RESULT	$\frac{2}{2}$ $\frac{x_{REC}}{125}$	2 <u>#</u>	LOWER	UPPER	<u></u>	
-264907	Ragnesium	200.0	000	598.8000	607.0	JUU 135.	.4(B) 7	75.0	125.0	11/./(B)	1 20.0
	Sodium	200.0	000	402.4000	642 B	000 112. 000 05	./	75.0	125.0	104.4(B)	/ 20.0 20.0
	300100	200.0	000	452.7000	042.0	000 95	.0	75.0	125.0	0.7	20.0
CATE											
<u>E#</u>	ANALYTE	RESL	<u>LT 1</u>	RESULT 2	<u></u>	LIMIT	DILU	<b>TTION</b>			
-264907	Magnesium	598.8	000	478.1000	22.4(3a)	20.0	1.	00			
	Potassium	402.4	000	313.8000	24.7(3a)	20.0	1.	.00			
	Sodium	452.7	000	444.2000	1.9	20.0	1.	00			
)L —					* DEC	QC LIMI	rs Ser				
·# 062100	Magnocium			1140 0000	<u>4 REC #</u>	LUWER UP	120 1				
002199	Potassium	999.0 1070 A	000	1/30 0000	0/.0 75.5	72.1 . 65 0 <sup>-</sup>	124 2				
	Sodium	576 8	0000	632 0000	91 3	67.9	122 2				
	Jourum	570.0		052.0000	51.5	07.9					
					QC LI	YITS					
— <u> </u>	ANALYTE			AICH READ	<u>X REC #</u>	LOWER UPI	<u>2ER</u>				
	Potassium	5.U 12 G	000	5.0310	101.0	90.0 1	10.0				
	Sodium	12.0	000	11.0200	95.0	90.0 1	10.0				
	Magnesium	5.(	000	4.9520	99.0	90.0.1	10.0				
	Potassium	12.5	5000	11.8100	94.5	90.0 1	10.0				
	Sodium	12.5	000	11.9000	95.2	90.0 1	10.0				
	Magnesium	5.0	0000	5.0880	101.8	90.0 1	10.0				
	Potassium	12.5	5000	11.7400	93.9	90.0 1	10.0				
	Sodium	12.5	5000	12.1800	97.4	90.0 1	10.0				
ù <u>d</u> # AN∕	LYTE	DATE EXP BAT	ich date	DAYS/EXP							
Mag	nesium	03/31/00 07	/01/99	274							
Pot	cassium	03/31/00 07	/01/99	274							

The sample of the sample of the sample cate is valid because the result is less than 5 times the LOQ

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#### Core Lab-Gulf States Analytical Daily QC Batching Data Data Released for Reporting

alysis Batch Number: ICSTB-07/01/99-1254-1 sementification : ICSTB-Metals by ICP, Solids, Trace Sequence: Units: mg/kg f Samples : 9 πĽ tch Data-Date/Time : 07/01/99 / 14:12:26

Groups & Samples

**50693-264904 50693-264907 50693-264911 50693-264913 50693-264914 50693-264918 50693-264921 50693-264922** 50693-264925

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## PHASE II ENVIRONMENTAL ASSESSMENT JULY, 1999 GROUNDWATER SAMPLING

South Langley Jal Unit Lea County, New Mexico

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PHASE II ENVIRONMENTAL ASSESSMENT JULY, 1999 GROUNDWATER SAMPLING

> South Langley Jal Unit Lea County, New Mexico

PREPARED FOR: Bristol Resources Corporation Mr. Dan Abney 6655 South Lewis Tulsa, Oklahoma 74136

#### PREPARED BY:

Cornerstone Environmental Resources, Inc. 2997 LBJ Freeway

Suite 103

Dallas, Texas 75234-7606

John H. Alderman, P.E. President

## PHASE II ENVIRONMENTAL ASSESSMENT JUNE 1999 GROUNDWATER SAMPLING

South Langley Jal Unit Lea County, New Mexico

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#### 1.0 EXECUTIVE SUMMARY

Cornerstone Environmental Resources, Inc. (CERI) conducted an Environmental Assessment (EA) of the South Langley Jal Unit (SLJU) located in Lea County, New Mexico on January 18, 1999 at the request of and on behalf of Bristol Resources Corporation (Bristol). The property is located north of Jal as shown on the Location Map, Figure 1, and Topographic Map, Figure 2. CERI conducted the EA to evaluate the extent of a brine water spill from a leak in an injection line on the subject property. A report was prepared documenting the findings and submitted to the New Mexico Oil Conservation Division's (NMOCD) Hobbs office. Additional information was then requested by the NMOCD. They requested that Bristol:

- 1. demonstrate that any remaining water contaminant will not impact groundwater or environment.
- perform Vertical and Horizontal delineation by sampling for benzene, toluene, ethylbenzene and xylene (BTEX), total petroleum hydrocarbons (TPH), and chlorides (Cl).

Additional testing was performed in July, 1999. Six soil borings were advanced to depths of 20 to 25 feet to further delineate the Cl concentrations in the area and to test for TPH and BTEX. The soil borings found high Cl concentrations present in the study area at depths of 20 to 25 feet. The purpose of this portion of the study is to recover groundwater samples and evaluate the quality of the ground water in the project area. A monitoring well was installed south of the study area in July, 1999 to provide information to make the evaluation. A ground water sample from the well was recovered and analyzed. The location of the Monitoring Well was approximately 75 feet south of the soil boring designated as Well #1.

Samples were also taken from two water wells south of the study area. The wells were located approximately 800 feet south of the study area. One water wells was located at Mr. Clay Osborne's residence and was described by Mr. Osborne as the "good well". The other well was in the same area at an abandoned house and was described as the "poor well".



Page 1

The Cl concentration in the water recovered from the Monitoring Well and the good well were about the same. The Cl measurement in the Monitoring Well was 348 milligrams/liter (mg/l) and in the good well it was 342 mg/l. The Cl measured in the poor well was 687 mg/l. The sulfate (SO4) concentration in the poor well was also higher than the Monitoring Well and the good well. The SO4 concentration measured in the poor well was 1,440 mg/l while in the Monitoring Well and the good well and the good well the concentrations were 154 mg/l and 304 mg/l.

Published values of water quality in southern Lea County were also reviewed to assist in evaluating the water quality in the project area (Nicholson & Clebsch, 1961). The report discusses how groundwater in the county was being impacted by brine disposal pits. Chemical analysis is provided on 61 water wells in southern Lea County. The dates of the sampling ranged from 1929 to 1958. Eighteen of the wells had a Cl concentration greater than 250 mg/l. Twelve of these wells were in the Quarternary alluvium with depths ranging from 33 to 108 feet and showed Cl concentrations ranging from 320 mg/l to 1,240 mg/l. One well within the same township as the subject site (T25S R37E) showed a Cl concentration of 610 mg/l but the depth of that well was not recorded.

Based on the analysis of the soil and water samples gathered as part of this study and on the literature reviewed it is our opinion that the area impacted by brine waters is greater than what would have been impacted by the injection line spill reported in January, 1999. Further delineation or remedial actions should be based on a risk assessment which would include water quality and expected use of the water. The Monitoring Well should be tested annually while the risk is being evaluated.

Page 2

#### 2.0 INTRODUCTION AND PURPOSE

CERI conducted an EA of the SLJU located in Lea County, New Mexico on January 18, 1999 at the request of and on behalf of Bristol. The property is located north of Jal as shown on the Location Map, Figure 1, and Topographic Map, Figure 2. CERI conducted this EA to evaluate the extent of a brine water spill from a leak in an injection line on the subject property. A report was prepared documenting the findings and submitted to the NMOCD Hobbs office. Ms. Donna Williams, an environmental engineer with NMOCD, requested additional information be obtained. She requested that Bristol:

- 1. demonstrate that any remaining water contaminant will not impact groundwater or environment.
- 2. perform Vertical and Horizontal delineation by sampling for BTEX, TPH, and Cls.

Additional testing was performed in July, 1999. Six soil borings were advanced to depths of 20 to 25 feet to further delineate the chloride concentrations in the area and to test for TPH and BTEX. The soil borings found high Cl concentrations present in the study area at depths of 20 to 25 feet.

The purpose of this portion of the study is to recover groundwater samples and evaluate the quality of the ground water in the project area. A monitoring well was installed south of the study area in July, 1999 to provide information to make the evaluation. A ground water sample from the well was recovered and analyzed. The location of the Monitoring Well was approximately 75 feet south of the soil boring designated as Well #1.

Samples were also taken from two water wells south of the study area. The wells were located approximately 800 feet south of the study area. One water wells was located at Mr. Clay Osborne's residence and was described by Mr., Osborne as the "good well". The other well was in the same area at an abandoned house and was described as the "poor well".



#### **3.0 LITERATURE REVIEW**

A review of historical water quality measurements in southern Lea county New Mexico was made to assist in evaluating Cl measurements in the South Langly Jal Unit. The New Mexico State Bureau of Mines & Mineral Resources published a document in 1961 entitled <u>Geology and Ground-water</u> <u>Conditions in Southern Lea County, New Mexico</u>. This document provides chemical analyses done by the U.S. Geological Survey of 61 water wells found in southern Lea County. The sampling for this document took place during the period from 1929 to 1958.

The wells range in depth from 29 to 1,150 feet and represent aquifers of three distinct geologic sources: Quaternary, Tertiary, and Triassic lithologies. In total, eighteen wells had a Cl concentration greater than 250 mg/l. Twelve of these wells were in the Quarternary alluvium with depths ranging from 33 to 108 feet and showed Cl concentrations ranging from 320 mg/l to 1,240 mg/l. One well within the same township as the subject site (T25S R37E) showed a Cl concentration of 610 mg/l but the depth of that well was not recorded.

, special note is made within the text about the Cl concentrations found within the Quaternary alluvium waters. These values showed a bimodal distribution. Specifically, there were 24 samples representing vaters from the Quarternary alluvium and the Ogallala formation and, as stated earlier, twelve had Cl concentrations greater than 250 mg/l. The other half of results clustered in the range below 200 mg/l.

The report also discusses an earlier review of the data which concluded that brine contamination of shallow ground water was occurring. Prior to 1955, it was reported that brine disposal pits did not have water proof linings and that many of those pits did not have adequate surface areas to allow for natural evaporation of the brine discharged. There were some areas which were underlain by caliche and were therefore impermeable. It was reported that in those situations, the caliche was deliberately broken up to promote seepage from the pits which received excess brine. These observations were made in southern Lea County.

#### 4.0 WELL INSTALLATION

The Monitoring Well bore was advanced using a 7 7/8 inch hollow-stem auger. Photo 1

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shows the drilling of the Monitoring Well. Core samples were taken at 5 foot and 10 foot. Samples were taken at 10 foot intervals thereafter until total depth (TD). A sample could not be obtained at TD with equipment on site because the material was a wet unconsolidated sand. A split spoon sampler was used to collect the cores and the material would not stay in the sampler.

Four inch PVC pipe with ten feet of slotted liner on the bottom was run to TD. Silica sand was placed in the annulus between the pipe and the formation. The sand was placed from TD to 46 feet. The sand was four feet above the top of the slotted liner. The sand was then capped with 1 bag of bentonite. The completed well is shown in Photo 2.

The location of the Monitoring Well installation is shown on Figure 2

#### 5.0 <u>SAMPLING</u>

#### 5.1 Water Sampling

An electric pump was used to develop the Monitoring Well prior to sampling. Approximately 100 gallons were removed from the well during development. Water removed from the well was put into 55 gallon drums prior to disposal. The water returns toward the end of the development period appeared to be clear of formation fines. The well was sampled the following morning utilizing a bailer.

Two water wells at a residence south of the project area were sampled using bailers. A dedicated bailer was used to sample each of the water wells and the Monitoring Well. A water sample was also taken from the South Langley Jal Unit injection station.

Water samples were collected in clean one-liter glass containers or 250 milliliter (ml) plastic containers. The sample containers were labeled with a unique code for each sample. The samples were stored with ice and delivered to Core Laboratory's Midland, Texas office for shipment to Core's Houston Texas laboratory.

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Page 5
### **5.2 Soil Sampling**

Soil samples were taken were taken at 5 foot and 10 foot. Samples were taken at 10 interval thereafter until TD. The soil samples were placed in glass containers and placed in coolers with ice for shipment to Core Laboratory's Midland office and from there to their facility in Houston, Texas. A description of the cores is provided in Table 1.

### 6.0 SAMPLE ANALYSES AND DISCUSSION

### 6.1 Laboratory Analysis

The waters were analyzed for chloride (Cl), bromide (Br), sulfate (SO4), magnesium (Mg), potassium (K), and sodium (Na). The metals (Mg, K and Na) were analyzed by ICP using method SW-846 6010B. The anions (Cl, Br, and SO4) were analyzed using IC (EPA 300 for waters and EPA 300 mod for soils. The results are shown in Tables 2 and 3. The laboratory report is in Appendix A.

### 6.2 Water

The Cls in the Monitoring Well were 348 mg.l which is approximately the same value as was found in the "good" water well at Mr. Clay Osborne's house. The Cls found in the well classified as the good well was 342 mg/l. The Cls in the well classified as the "poor" well near the abandoned house was 687 mg/l.

The sulfate detected in the Monitoring Well and the good well were both lower than the sulfate detected in the poor well. The sulfate measured in the Monitoring Well was 154 mg/l and the value in the good well was 304 mg/l. The value of sulfate measured in the poor well was 1,440 mg/l.



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CORNERSTONE ENVIRONMENTAL RESOURCES, INC. 2997 LBJ Freeway \* Suite 103 \* Dallas, Texas \* 75234-7606 \* (972) 243-7643

### 6.3 Soil

Table 3 shows the results of the cores from the Monitoring Well. The highest Cl analysis was from the intervals 20.5 to 21.5 feet and 30 to 32 feet. The Cl levels measured in these intervals were 99 and 102 mg/kg. The sulfates measured in these two intervals were 160 and 159 mg/kg.

The soil borings made in June, 1999 found high Cl concentrations are present in this area at depths of 20 to 25 feet. The Cl measurements in the June borings ranged from 651 mg/kg in Well #1 to 1,720 mg/kg in well #6. Well #1 is the closest boring to the Monitoring Well.

### 7.0 <u>CONCLUSIONS AND RECOMMENDATIONS</u>

Based on the analysis of the soil and water samples gathered as part of this study and on the literature reviewed it is our opinion that the area impacted by brine waters is greater than what would have been impacted by the injection line spill reported in January, 1999. Further delineation or remedial actions should be based on a risk assessment which would include water quality and expected use of the water. The Monitoring Well should be tested annually while the risk is being evaluated.

### 8.0 <u>REFERENCES</u>

Nicholson, A. Jr.. & Alfred Clebsch, Jr.. 1961, Geology & Groundwater Conditions in Southern Lea County, New Mexico, New Mexico Bureau of Mines & Mineral Resources, New Mexico Institute of Mining & Technology Campus Station, Socorro, New Mexico.



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# TABLE 1Monitoring Well Core DescriptionSouth Langley Jal UnitLea County, New Mexico

Description	Sample # & Depth
Core #1 (5'-7") 5'0"-6'9" - Reddish tan fine sand 6'9"-7'0" - Whitish, gray caliche, powdery	072099-1 (5'-6')
Core #2 (10'-12') 10'0"-11'5" - Reddish tan fine sand 10'5"-12'0" - Reddish tan hard caliche, consolidated	072099-2 (10'-11'5")
 Core #3 (20'-22') 20'0"-21'0" - Lt. Tan v.f.g sand, consolidated, hard, cemented 21'0"-22'0" - Tan, fine grained sand, hard, consolidated	072099-3 (20'-21')
Core #4 (30'-32') 30'0"-31'4' - Yellow brown, fine grained sand, consolidated 31'4"-32'0' - Same as above & mixed with white to gray caliche	072099-4 ( 30'-31'4" )
Core #5 (40'-42') 40'0"-41'1" - Tan, f.g. sand, unconsolidated with small caliche nodules, slightly damp 41'1"-41'7" - Lt. Brown to tan f.g. sand, unconsolidated, slightly damp 41'7"-42'0" - Lt. Brown & reddish tan f.g. sand, unconsolidated, slightly damp	072099-5 ( 40'-41'1" )
Core #6 ( 50'-52' ) 50'0"-52'0" - Reddish brown, f.g. sand, unconsolidated, very wet	072099-6 ( 50'-52' )

### TABLE 2 Water Analysis South Langley Jal Unit Lea County, New Mexico

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Sample Site	CI	SO4	Br	Na	K	Mg
Monitoring Well	348	154	2.24	125	6	41
Water Well at Clay Osborn's house (good well )	342	304	2.52	122	6	61
Water Well at abandoned house (poor well)	687	1,440	5.6	405	13	135
Produced Water	27,000	4,590	172	15,700	404	3,170

Samples taken 07/21/99



# TABLE 3Soil Analysis From Monitoring WellSouth Langley Jal UnitLea County, New Mexico

Sample #	Depth Ft.	Cl	SO4	Br	Na	K	Mg
72099-1	5-6	14	63	ND	ND	1,300	3,320
72099-2	10-11.4	41	69	ND	ND	1,480	2,460
72099-3	20-21	99	160	ND	274	554	932
72099-4	30-31.3	102	159	1	282	616	969
72099-5	40-41.1	25	89	5	235	474	3,810









### **GULF STATES ANALYTICAL**

08/05/99

r. John Alderman Cornerstone Environmental 2997 LBJ Frwy., Ste. 103 Dallas, TX 75234

Reference: Project: S.Langley JAL Unit Project No.: 99003 Date Received: 07/22/99 GSA Group: 51963 Group Report Date: 08/05/99

Dear Mr. Alderman:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

072099-1 :270931	072099-2 :270932
072099-3 :270933	072099-4 :270934
072099-5 :270935	072099-6 :270936
072099-7 A,B :270937	072099-8 A,B :270938
072099-9 A,B :270939	072099-10 A,B :270940
	•



holding times were met for the tests performed on these samples.

Our A2LA accreditation requires that, should this report be reproduced, it must be reproduced in total.

Enclosed please find the Quality Control Summary. All quality control results for the QC batch that are applicable to this sample(s) are acceptable except as noted in the QC batch reports.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Core Lab - Gulf States Analytical to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

Sincerely yours,

Ed Fry Project Manager

losure



ANALYSIS SUMMARY REPORT

Cornerstone Environmental
S997 LBJ Frwy., Ste. 103
allas, TX 75234-7606

ttn: Mr. John Alderman

'roject: S.Langley JAL Unit

GSA Group: 51963 Date Reported: 08/05/1999 Date Received: 07/22/1999

Purchase Order: 99003 Project No.: 99003

	Results	Results Limit of	
Analysis	as Received	Units	Quantitation
le:270931 - 07/20/1999 - 072099-1			
B Metals by ICP, Solids, Trace			
Magnesium	3,320	mg/kg	200
Potassium	1,300	mg/kg	200
Sodium	ND	mg/kg	200
A Anions by IC, Solid			
Chloride	14	mg/kg	1
Bromide	ND	mg/kg	1
Sulfate	63	mg/kg ,	1
le:270932 - 07/20/1999 - 072099-2			
B 🞦 tals by ICP, Solids, Trace			
mesium	2,460	mg/kg	200
tassium	1,480	mg/kg	200
Sodium	ND	mg/kg	200
A Anions by IC, Solid			
Chloride	41	mg/kg	1
Bromide	ND	mg/kg	1
Sulfate	69	mg/kg	1
le:270933 - 07/20/1999 - 072099-3			
3 Metals by ICP, Solids, Trace			
Magnesium	932	mg/kg	200
Potassium	554	mg/kg	200
Sodium	274	mg/kg	200
A Anions by IC, Solid			
Chloride	99	mg/kg	1
Bromide	ND	mg/kg	1
Sulfate	160	mg/kg	1
le:270934 - 07/20/1999 - 072099-4			
3 Metals by ICP, Solids, Trace			
Magnesium	969	mg/kg	200
Potassium	616	mg/kg	200
Sodium	282	mg/kg	200
Anions by IC, Solid			
Chloride	102	mg/kg	1



### **GULF STATES ANALYTICAL**

### ANALYSIS SUMMARY REPORT

Page 2

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ornerstone Environ	mental	•	GSA Gr	oup:	51963

	Results		Limit of
Analysis	as Received	Units	Quantitation
1e:270934 - 07/20/1999 - 072099-4			
A Anions by IC. Solid			
Bromide	1	mg/kg	1
Sulfate	159	mg/kg	1
le:270935 - 07/20/1999 - 072099-5			
B Metals by ICP, Solids, Trace			
Magnesium	3,810	mg/kg	200
Potassium	474	mg/kg	200
Sodium	235	mg/kg	200
A Anions by IC, Solid			
Chloride	25	mg/kg	1
Bromide	5	mg/kg	1
Sulfate	89	mg/kg	1
1. 0936 - 07/20/1999 - 072099-6			
B als by ICP, Solids, Trace			
Magnesium	558	mg/kg	200
Potassium	328	mg/kg	200
Sodium	ND	mg/kg	200
A Anions by IC, Solid		"	· · ·
Chloride	78	mg/kg	1
Bromide	NU	mg/kg	1
Sulfate	25	mg/kg	1
$10.070027 = 07/20/1000 = 072000 - 7 \lambda$	D		
$\frac{16:270357 - 07/20/1333 - 072033-7 R}{3 Motale by TCD Trace}$	Ð		
Magnesium	61	ma/1	2
Potassium	6	mg/1	2
Sodium	122	mg/1	20
A Anions by Ion Chromatography		·	
Chloride	342	mg/l	5
Bromide	2.52	mg/1	0.15
Sulfate	304	mg/1	20
Le:270938 - 07/20/1999 - 072099-8 A	, В		
3 Metals by ICP, Trace			
Magnesium	135	mg/1	<b>2</b> .
Potassium	13	mg/1	2
Sodium	405	mg/1	100



### **GULF STATES ANALYTICAL**

### ANALYSIS SUMMARY REPORT

Page 3

51963

Cornerstone	Environmental	GSA	Group:

			Results		Limit of
t	Analysis		as Received	Units	Quantitation
pl	e:270938 -	07/20/1999 - 072099-8 A,B			
-0A	Anions by	Ion Chromatography			
	Chloride		687	mg/l	5
	Bromide		5.6	mg/1	1.5
	Sulfate		1,440	mg/l	20
φl	e:270939 -	07/21/1999 - 072099-9 A,B			
TB	Metals by	ICP, Trace			
	Magnesium		41	mg/l	2
	Potassium		6	mg/1	2
	Sodium		125	mg/l	20
10A	Anions by	Ion Chromatography			
	Chloride		348	mg/1 '	5
	Bromide		2.24	mg/1	0.15
	Sulfate		154	mg/l	2
H.	270940 -	07/21/1999 - 072099-10 A.	в		
TH	Metals by	ICP, Trace			
	Magnesium	· · · · · · · · · · · · · · · · · · ·	3,170	mg/l	200
	Potassium		404	ng/1	200
	Sodium		15,700	mg/l	2,000
OA	Anions by	Ion Chromatography		·	
	Chloride		27,000	mg/l	500
	Bromide		172	mg/l	15
	Sulfate		4,590	mg/l	200

st Method Summary: 0301A- EPA 300 MOD )0A- EPA 300 TTB- SW-846 6010B

ICSTB- SW-846 6010B

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1

- Compound was analyzed but not detected.

Respectfully Submitted, Reviewed and Approved by:

Ed Fry 6310 Rothway, Houston, Texas 77040, (713) 690-4444, Fax (713) 690-5646

	h Number: 0300A-08/04/99-1250-1 cation : 0300A-Anions by Ion Chromat ples : 1	ography l	Jnits: mg/l	Sequ	ence: 9H04A	
)ata-Da	te/Time : 08/04/99 / 18:48:25					
						00.111177
1				CONC SDIKE	* DEC #	
270940	Chloride	100000.0000	27007.6000	130482.0000	103.5	80.0 120.0
ATE						
#	ANALYTE	RESULT 1	RESULT 2	RPD #L	IMIT DILU	TION
270940	Chloride	27007.6000	27319.4000	1.1 2	0.0 10000.	00
Ł				00	ITMITS	
#	ANALYTE	CONC FOUND (	CONC KNOWN X	REC # 10W	FR UPPER	
9	Chloride	10.5141	10.0000	105.1	90.0 110.0	
				OC LIMITS		
	ANALYTE	TRUE VALUE E	BATCH READ X	REC # LOW	er upper	
9	Chloride	10.0000	10.5116 1	05.1 9	0.0 110.0	
9-2	Chloride	10.0000	10.3526 1	.03.5 9	0.0 110.0	
	ANALYTE	CONC FOUND #	LMT OF OUAN	TITATION		
9	Chloride	ND	0.0	500	,	
9	Chloride	0.0113	0.0	500		

uy Samples

.963-270931 51963-270940

Units: mg/l

Sequence: 9H02

if Batch Number: 0300A-08/02/99-1250-1
 fication : 0300A-Anions by Ion Chromatography

imples : 15

Sulfate

Data-Date/Time : 08/03/99 / 11:39:12

							QCL	IMITS.
#	ANALYTE	 CONC ADDED	CONC SAMPLE	CONC SPIKE	X RE	<u>C</u> #	LOWER	UPPER
269937	Fluoride	10.0000	0.2927	10.273	99	.8	80.0	120.0
	Chloride	10.0000	0.000	0.000	0 0	.0(I1)	80.0	120.0
	Bromide	10.0000	5.5364	16.079	95 105	.4	80.0	120.0
	Sulfate	10.0000	50.9294	56.015	50 50	.9(I1)	80.0	120.0
270937-	2 Fluoride	10.0000	1.8372	12.028	8 101	9	80.0	120.0
	Chloride	10.0000	0.0000	0.000	0 0	.0(11)	80.08	120.0
	Bromide	10.0000	2.5241	12.794	9 102	2.7	80.0	120.0
	Sulfate	10.0000	0.0000	0.000	0 0	.0(I1)	0.08	120.0
270937-	3 Fluoride	100.0000	2.1997	100.796	50 98	8.6	80.0	120.0
	Chloride	100.0000	343.0530	391.102	20 48	.0(I1)	80.C	120.0
	Bromide	100.0000	2.4837	102.657	0 100	.2	80.0	120.0
	Sulfate	100.0000	324.8210	403.406	50 78	8.6(I1)	80.0	120.0
ATE								
<u>#</u>	ANALYTE	 RESULT 1	RESULT 2	<u></u>	LIMIT	DILUTI	ON	
269937	Fluoride	0.2927	0.2988	2.1	20.0	1.00		
	Chloride	0.0000	0.0000	0.0	20.0	1.00		
	Bromide	5.5364	5.4907	8.0	20.0	1.00		
	Sulfate	50.9294	50.8992	0.1	20.0	1.00		
2	2 Fluoride	1.83/2	1.83/8	0.0	20.0	1.00		
	Chloride	0.0000	0.0000	0.0	20.0	1.00		
	Bromide	2.5241	2.5863	2.4	20.0	1.00		
070007	Sulfate	0.0000	0.0000	0.0	20.0	1.00		
2/093/-	3 Fluoride	2.1997	2.1296	3.2	20.0	10.00		•
	Chioride	343.0530	338.7280	1.3	20.0	10.00		
	Bromide	2.4837	2.8835	14.9	20.0	10.00		
	Surrate	324.8210	319.3580	1./	20.0	10.00		
L #		CONC EQUIND	CONC KNOUN	* DEC # 1	QC LIMI			
+	Fluenide			<u>4 REC # 1</u>		110 0		
9	Chloride	10.0455	10.0000	100.5	90.0	110.0		
	Bromide	9 9876	10,0000	00.9	90.0 90.0	110.0		
	Sulfato	10 2623	10.0000	102.6	00.0	110.0		
	Surrate	10.2020	10.0000	102.0	50.0	110.0		
				QC LIM	ITS			
	ANALYTE	 TRUE VALUE	BATCH READ	<u>* REC # 1</u>	<u>OWER</u> UF	PPER		
9	Fluoride	10.0000	10.2616	102.6	90.0 1			
	Chioride	10.0000	10.1082	101.1	90.01			
	Bromide	10.0000	10.3504	103.5	90.0 1	110.0		
	Sulfate	10.0000	10.3483	103.5	90.0 1			
3-Z	Fluoride	10.0000	10.0830	100.8	90.0 ]			
	unioride	10.0000	10.3522	103.5	90.0 ]	10.0		
	Bromide	10.0000	10.1009	101.0	90.0 3	10.0		
	Suitate	10.0000	10.3385	103.4	90.0 ]	10.0		
, <b>G</b>	Fluoride	10.0000	10.1245	101.2	90.01	L10.0		
	Chloride	10.0000	10.1185	101.2	90.0	110.0		
	RLOWIDE	10.0000	10.0891	100.9	90.0 ]	110.0		

10.0000

10.3381 103.4

90.0 110.0

Core Lab-Gulf States Analytical
Daily QC Batching Data
Data Released for Reporting

s Potch Number: 0300A-08/02/99-1250-1

E station	: 0300A-Anions by Ion Chromatography	Units: mg/l	Sequence: 9H02
of	: 15		

ita-uate/Time : 08/03/99 / 11:39:12

ANALYTE	CONC FOUND #	LMT OF QUANTITATION
Fluoride	ND	0.0500
Chloride	ND	0.0500
Bromide	ND	0.1500
Sulfate	ND	0.2000
Fluoride	ND	0.0500
Chloride	0.0025	0.0500
Bromide	ND	0.1500
Sulfate	ND	0.2000
Fluoride	ND	0.0500
Chloride	ND	0.0500
Bromide	ND	0.1500
Sulfate	ND	0.2000

..... Result Footnotes .....

Matrix spike outlier due to compound over calibration range.

ps & Samples

270

75

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**68-269937 51768-269938 51768-269939 51768-269940 51963-270937 51963-270938** 

51963-270939 51963-270940

Batch Number: 0300A-08/03/99-1250-3		
ation : 0300A-Anions by Ion Chromatography	Units: mg/l	Sequence: 9H03C
f les : 31		
<pre>ta-Date/Time : 08/04/99 / 11:10:37</pre>		

					(	OC LIMITS
ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	<u> * RE</u>	<u>c# LO</u>	MER UPPER
2374 Chloride	10.0000	0.000	0.000	0 OC	.0(I1) 80	0.0 120.0
Sulfate	10.0000	0.0000	0.000	0 0	.0(I1) 80	0.0 120.0
2374-2 Chloride	100.0000	413.5090	0.000	0 -413	.5(I1) 8	0.0 120.0
Sulfate	100.0000	384.4150	553.900	00 169	.5(I1) 80	0.0 120.0
LOO1-3 Chloride	10.0000	0.0000	11.23	57 112	.4 80	0.0 120.0
Sulfate	10.0000	2.0471	12.422	24 103	.8 80	0.0 120.0
1						
ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIT	DILUTION	
2374 Chloride	0.0000	0.0000	0.0	20.0	1.00	
Sulfate	0.0000	0.000	0.0	20.0	1.00	
2374-2 Chloride	413.5090	415.7470	0.5	20.0	10.00	
Sulfate	384.4150	378.9080	1.4	20.0	10.00	
LOO1-3 Chloride	0.0000	0.000	0.0	20.0	1.00	
Sulfate	2.0471	1.9745	3.6	20.0	1.00	
				QC LIMI	TS	
ANALYTE	CONC FOUND	CONC KNOWN	X REC # 1	LOWER UP	PER	
Chloride	10.3368	10.0000	103.4	90.0	110.0	
Sulfate	10.5398	10.0000	105.4	90.0	110.0	
			OC LIM	ITS		
ANALYTE	TRUE VALUE	BATCH READ	X REC # 1	OWER UP	PER	
Chloride	10.0000	10.1882	101.9	90.0 1	10.0	
Sulfate	10.0000	10.2443	102.4	90.0 1	10.0	
Chloride	10.0000	10.1900	101.9	90.0 1	10.0	
Sulfate	10.0000	10.4276	104.3	90.0 1	10.0	
Chloride	10.0000	10.1686	101.7	90.0 1	10.0	
Sulfate	10.0000	10.3624	103.6	90.01	10.0	
Chloride	10.0000	10.1712	101.7	90.0 1	10.0	
Sulfate	10.0000	10.4741	104.7	90.0 1	10.0	
Chloride	10.0000	10.3181	103.2	90.0 1	10.0	
Sulfate	10.0000	10.5534	105.5	90.01	10.0	
Chloride	10.0000	10.2666	102.7	90.0 1	.10.0	
Sulfate	10.0000	10.4355	104.4	90.01	.10.0	
ANALYTE	CONC FOUND	# LMT OF QU	ANTITATION			
Chloride	ND	0	.0500			
Sulfate	ND	Ô	.2000			
Chloride	ND	0	.0500			
Sulfate	ND	0	.2000			
Chloride	ND	0	.0500			
Sulfate	ND	0	.2000			
Chloride	ND	0	.0500			
Sulfate	ND	0	.2000			
<b>Chloride</b>	0.0495	0	.0500			
Sulfate	ND	0	.2000			
Chloride	0.0142	. 0	.0500			
Sulfate	ND	0	.2000			

Core Lab-Gulf States Analytical
Daily QC Batching Data
Data Released for Reporting

ch Number: 0300A-08/03/99-1250-3 ication : 0300A-Anions by Ion Chromatography o, Lamples : 31 Wata-Date/Time : 08/04/99 / 11:10:37

Units: mg/l

Sequence: 9H03C

Result Footnotes Matrix spike outlier due to compound over calibration range.

ups & Samples

342-270377 51842-270378 51842-270379 51842-270380 51842-270381 51842-270382 51847-270392 51847-270393 347-270394 51963-270937 51963-270939 51963-270940 51973-271001 51973-271002 51973-271003 51973-271004 266-272374 52267-272381 52267-272382

is Batch Numbe	r: 0300A-08/04/99-1250-2						
* sication	: 0300A-Anions by Ion Chromat	tography	Units: mg/l	Sec	quence: 9H04B		
c mples	: 38						
)ata-Date/Time	: 08/05/99 / 12:18:52						
	~					QC L	IMITS
ANALYI	<u>t</u>	CONC ADDED	CONC SAMPLE	CONC SPIKE	<u>X REC #</u>	LOWER	UPPER
270940 Fluor	1de	100000.0000	623.2110	103424.000	) 102.8	80.0	120.0
Chior	10e	100000.0000	2/007.6000	130482.000	103.5	80.0	120.0
Sulta	te	100000.0000	4834.8900	1124/5.000	) 107.6	80.0	120.0
2/1456-2 Fluor	1de	10.0000	3.7894	12.8859	91.0	80.0	120.0
Chior	100	10.0000	0.0000	0.000	0.0(11)	80.0	120.0
	te	10.0000	0.0000	0.000		80.0	120.0
2/1450-3 Fluor	10e	100.0000	8.1464	98.567	90.4	80.0	120.0
Chior	100	100.0000	0.0000	0.0000		80.0	120.0
Sulta	te	100.0000	541.1960	589.1790	) 48.0(11)	80.0	120.0
11F							
4 ANAL	YTE	RESULT 1	RESULT 2	RPD #	имит ринл	TON	
270940 Fluor	ide	0.0000	0.0000	0.0	20.0 10000.0	0	
Chlor	ide	27007.6000	27319.4000	1.1	20.0 10000.0	0	
Sulfa	te	4834.8900	4714.5950	2.5	20.0 10000.0	0	
271456-2 Fluor	ide	3.7894	3.7815	0.2	20.0 1.0	0	
Chlor	ride	0.0000	0.0000	0.0	20:0 1.0	0	
Sulfa	te	0.0000	0.0000	0.0	20.0 1.0	0	
271456-3 Fluor	ide	8.1464	8.0940	0.6	20.0 10.0	0	
Chlor	ride	0.0000	0.0000	0.0	20.0 10.0	0	
Sulfa	te	541.1960	540.7700	0.1	20.0 10.0	0	
		,		(	C LIMITS		
ANALYT	E	CONC FOUND	CONC KNOWN	<u>X REC # LC</u>	WER UPPER		
) Fluor	ide	10.6682	10.0000	106.7	90.0 110.0		
Chlor	ide	10.5141	10.0000	105.1	90.0 110.0		
Sulfa	te	10.7159	10.0000	107.2	90.0 110.0		
				00 1 1011	rc		
ANAI YT	F	TRUE VALUE	BATCH READ	VCLIMI	NER HEDER		
Eluor	ide	10 0000	10 4909		90 0 110 0		
Chlor	ide	10.0000	10.5116	105.1	90 0 110 0		
Sulfa	te	10 0000	10.5647	105.6	90 0 110 0		
-2 Fluor	ide	10.0000	10.3302	103.3	90.0 110.0		
Chlor	ide	10,0000	10.3526	103.5	90.0 110.0		
Sulfa	te	10.0000	10,2220	102.2	90.0 110.0		
-3 Fluor	ide	10.0000	10.3870	103.9	90.0 110.0		
Chlor	ide	10.0000	10,2638	102.6	90.0 110.0		
Sulfa	te	10,0000	10.6007	106.0	90.0 110.0		
-4 Fluor	ide	10.0000	10.3438	103.4	90.0 110.0		
Chlor	ide	10.0000	10.3435	103.4	90.0 110.0		
Sulfa	te	10.0000	10.4743	104.7	90.0 110.0		
-5 Fluor	ide	10.0000	10.3107	103.1	90.0 110.0		
Chlor	ide	10.0000	10.3531	103.5	90.0 110.0		
Sulfa	te	10.0000	10.4245	104.2	90.0 110.0		
Fluor	ide	10.0000	10.5245	105.2	90.0 110.0		
Chlor	·ide	10.0000	10.5773	105.8	90.0 110.0		
Sulfa	te	10.0000	10.7277	107.3	90.0 110.0		

Units: mg/l

Sequence: 9H04B

s Batch Number: 0300A-08/04/99-1250-2

mples : 38

ata-Date/Time : 08/05/99 / 12:18:52

	ANALYTE	CONC FOUND #	LMT OF QUANTITATION
	Fluoride	ND	0.0500
	Chloride	ND	0.0500
	Sulfate	ND	0.2000
	Fluoride	ND	0.0500
	Chloride	0.0113	0.0500
	Sulfate	ND	0.2000
•	Fluoride	ND	0.0500
	Chloride	ND	0.0500
	Sulfate	ND	0.2000
•	Fluoride	ND	0.0500
	Chloride	NC	0.0500
	Sulfate	ND	0.2000
•	Fluoride	ND	0.0500
	Chloride	0.0101	0.0500
	Sulfate	ND	0.2000
•	Fluoride	ND	0.0500
	Chloride	0.0397	0.0500
	Sulfate	ND	0.2000

..... Result Footnotes .....

High spike outlier due to compound over calibration range.

## ups & Samples

61-270491	51861-270492	51861-270493	51861-270494	51878-270557	51882-270579	51900-270661	51900-270662
00-270663	51900-270664	51900-270665	51901-270667	51930-270804	51963-270940	52039-271340	52039-271341
39-271342	52066-271456	52209-272129	52211-272133	52303-272497			

rsis Bat	ch Number: 0301A-08/04/99-1250-1 fication : 0301A-Anions by IC, Solid mples : 6		Units: mg/kg	S	Sequence:	9H04A	
1 Daca-C	ate/Time : 08/04/99 / 18:49:02						
:						00	2TIMI I
F#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIK	KE X REC	towFR	UPPFR
3-270931	-2 Chloride	100.0000	14.0431	114.99		9 80.0	120.0
	Bromide	100.0000	0.3684	101.77	790 101.	4 80.0	120.0
	Sulfate	100.0000	62.9169	164.77	730 101.	.9 80.0	120.0
CATE							
<u>_E#</u>	ANALYTE	RESULT 1	RESULT 2	<u></u>	LIMIT	DILUTION	
3-270931	-2 Chloride	14.0431	12.3065	13.2	20.0	1.00	
	Bromide	0.3684	0.0000	200.0(11)	20.0	1.00	
	Sulfate	62.9169	62.9314	0.0	20.0	1.00	
:OL					QC LIMIT	rs	
<u>_E#</u>	ANALYTE	CONC FOUND	CONC KNOWN	<u>X REC #</u>	LOWER UPP	PER	
<b>\$99</b>	Chloride	105.1410	100.0000	105.1	90.0 1	10.0	
	Bromide	107.2890	100.0000	107.3	90.0 1	10.0	
	Sulfate	107.1590	100.0000	107.2	90.0 1	110.0	
				QC LI	ITS		
<u>+</u>	ANALYTE	TRUE VALUE	BATCH READ	<u>X REC #</u>	LOWER UPP	<u>PER</u>	
199	Chloride	100.0000	105.1160	105.1	90.0 11	L0.0	
	Bromide	100.0000	104.7240	104.7	90.0 11	LO.O	
Y	Sulfate	100.0000	105.6470	105.6	90.0 11	L0.0	
<b>195</b> (201	Chloride	100.0000	103.5260	103.5	90.0 11	LO.O	
	Bromide	, 100.0000	103.4560	103.5	90.0 1	10.0	
•	Sulfate	100.0000	. 102.2200	102.2	90.0 11	10.0	
	ANALYTE	CONC FOUND	# LMT OF QU	ANTITATION			
99	Chloride	ND	1	.0000			
	Bromide	ND	1	.0000			
	Sulfate	ND	1	.0000			
.99	Chloride	0.0113	1	.0000			
	Bromide	ND	1	.0000	•		
	Sulfate	ND	1	.0000			

- Both Duplicate results are less than the LOQ.

oups & Samples

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	1963-270931	51963-270932	51963-270933	51963-270934	51963-270935	51963-270936	51963-270940
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Units: mg/kg

Sequence: X080299

LIMIT 20.0 20.0

is Batch Number: ICSTB-08/02/99-1254-1 ication : ICSTB-Metals by ICP, Solids, Trace mples : 16

Data-Date/Time : 08/02/99 / 13:05:15

	ANALYTE	CONC FOUND #	LMT OF QUANTITATION
73199	Arsenic	ND	1.0000
	Barium	ND	0.5000
	Cadmium	ND	0.5000
	Chromium	ND	1.0000
	Cobalt	ND	1.0000
	Copper	ND	1.0000
	Lead	ND	1.0000
	Nickel	ND	2.0000
	Selenium	0.1370	1.5000
	Silver	ND	0.5000
	Thallium	ND	1.0000
	Tin	2.2240	5.0000
	Vanadium	ND	0.5000
	Zinc	ND	2.0000

						QC LIMITS
#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	X REC #	LOWER UPPER
269977	Arsenic	50.0000	2.5890	49.1340	· 93.1	75.0 125.0
	Barium	200.0000	181.0850	347.9840	83.4	75.0 125.0
	Cadmium	5.0000	2.5110	7.1390	92.6	75.0 125.0
A	Chromium	20.0000	12.4450	30.2530	89.0	75.0 125.0
	Cobalt	50.0000	1.1270	50.2360	98.2	75.0 125.0
53 × 1	Copper	25.0000	20.6740	44.8260	96.6	75.0 125.0
	Lead	, 50.0000	29.4510	73.4620	88.0	75.0 125.0
	Nickel	50.0000	8.5090	55.6470	94.3	75.0 125.0
	Selenium	50.0000	0.1100	41.9940	83.8	75.0 125.0
	Silver	10.0000	0.6390	10.0910	94.5	75.0 125.0
	Thallium	50.0000	0.000	45.3730	90.7	75.0 125.0
	Tin	100.0000	2.0230	94.6440	92.6	75.0 125.0
	Vanadium	50.0000	11.3740	60.0360	97.3	75.0 125.0
	Zinc	50.0000	83.3450	123.6610	80.6	75.0 125.0
270936-3	2 Arsenic	50.0000	0.2680	45.2190	89.9	75.0 125.0
	Barium	200.0000	3.8400	184.0500	90.1	75.0 125.0
	Cadmium	5.0000	0.0000	4.3220	86.4	75.0 125.0
	Chromium	20.0000	1.3350	19.7220	91.9	75.0 125.0
	Cobalt	50.0000	0.0520	46.1160	92.1	75.0 125.0
	Copper	25.0000	0.0000	23.7880	95.2	75.0 125.0
	Lead	50.0000	0.6650	45.5560	89.8	75.0 125.0
	Nickel	50.0000	0.3720	43.8810	87.0	75.0 125.0
	Selenium	50.0000	0.0000	41.3420	82.7	75.0 125.0
	Silver	10.0000	0.0000	8.5370	85.4	75.0 125.0
	Thallium	50.0000	0.0000	43.9390	87.9	75.0 125.0
	Tin	100.0000	1.1570	90.4020	89.2	75.0 125.0
	Vanadium	50.0000	3.9780	49.9420	91.9	75.0 125.0
	Zinc	50.0000	1.3060	45.4180	88.2	75.0 125.0
			60110 e			QC LIMITS
<u>+</u>	ANALYTE	<u>CONC ADDED</u>	CUNC SAMPLE	RESULT_2	XREC2 #	LOWER UPPER RPD #
269977	Arsenic	50.0000	2.5890	47.7280	90.3	75.0 125.0 3.1
	Barium	200.0000	181.0850	347.3330	83.1	75.0 125.0 0.4

Units: mg/kg

Sequence: X080299

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s Batch Number: ICSTB-08/02/99-1254-1 k ication : ICSTB-Metals by ICP. Solids. Trace o mples : 16 hata-Date/Time : 08/02/99 / 13:05:15

						QC L	IMITS		
ŧ.	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT	2 <b>X</b> RE <b>C2</b> #	LOWER	UPPER	RPD #	LIMIT
269977	Cadmium	5.000	2.5110	6.60	60 81.9	75.0	125.0	12.3	20.0
	Chromium	20.0000	12.4450	29.24	50 84.0	75.0	125.0	5.8	20.0
	Cobalt	50.0000	1.1270	48.97	90 95.7	75.0	125.0	2.6	20.0
	Copper	25.0000	20.6740	41.54	80 83.5	75.0	125.0	14.5	20.0
	Lead	50.0000	29.4510	71.53	00 84.2	75.0	125.0	4.4	20.0
	Nickel	50.0000	8.5090	52.31	70 87.6	75.0	125.0	7.4	20.0
	Selenium	50.0000	0.1100	41.47	40 82.7	75.0	125.0	1.3	20.0
	Silver	10.0000	0.6390	8.96	90 83.3	75.0	125.0	12.6	20.0
	Thallium	50.0000	0.0000	44.94	30 89.9	75.0	125.0	0.9	20.0
	Tin	100.0000	2.0230	93.53	90 91.5	75.0	125.0	1.2	20.0
	Vanadium	50.0000	11.3740	56.49	40 90.2	75.0	125.0	7.6	20.0
	Zinc	50.0000	83.3450	99.00	20 31.30	B) 75.0	125.0	88.1(B)	20.0
270936-2	Arsenic	50.0000	0.2680	47.54	00 94.5	75.0	125.0	5.0	20.0
	Barium	200.0000	3.8400	193.99	60 95.1	75.0	125.0	5.4	20.0
	Cadmium	5.0000	0.0000	4.59	80 92.0	75.0	125.0	6.3	20.0
	Chromium	20.0000	1.3350	21.09	90 98.8	75.0	125.0	7.2	20.0
	Cobalt	50.0000	0.0520	48.06	40 ′ 96.0	75.0	125.0	4.1	20.0
	Copper	25.0000	0.0000	25.50	40 102.0	75.0	125.0	6.9	20.0
	Lead	50.0000	0.6650	48.05	40 94.8	75.0	125.0	5.4	20.0
	Nickel	50.0000	0.3720	46.32	90 91.9	75.0	125.0	5.5	20.0
	Selenium	50.0000	0.0000	43.18	80 86.4	75.0	125.0	4.4	20.0
	Silver	10.0000	0.0000	9.01	10 90.1	75.0	125.0	5.4	20.0
	Thallium	50.0000	0.0000	46.24	60 92.5	75.0	125.0	5.1	20.0
	Tin	100.0000	1.1570	95.20	70 94.1	75.0	125.0	5.3	20.0
	Vanadium	50,0000	3.9780	53.44	80 98.9	75.0	125.0	7.3	20.0
	Zinc	50.0000	1.3060	48.21	60 93.8	75.0	125.0	6.2	20.0
π		. •							ć •.
15,	ANAI VTE			, 000 #		TELETION			- 1
60077	Anconic		1 9000	20 7(2-)		1.00			
53377	Rapium	191 0950	131 9000		20.0	1.00			
	Cadmium	2 5110	2 2000	12.8	20.0	1.00			
	Chromium	12 4450	9 2520	20 A(R)	20.0	1.00			
	Cobalt	1 1270	1 1500	20.4(0)	20.0	1 00			
	Copper	20 6740	17 1690	18.5	20.0	1.00			
	Lead	29 4510	25.3120	15.1	20.0	1 00			
	Nickel	8 5090	7 8130	85	20.0	1.00			
	Selenium	0 1100	0 0000	200 0(11)	20.0	1 00			
	Silver	0.6390	0 6680	<u> </u>	20.0	1 00			
	Thallium	0,000	0 0000	0.0	20.0	1 00			
	Tin	2 0230	2 4240	18.0	20.0	1 00			
	Vanadium	11 3740	8 7010	25 6(B)	20.0	1.00			
	Zinc	83.3450	76.6110	8.4	20.0	1.00			
					-	-			
		CALC COLLIN	CONC VUOLIN	* DEC #	QC LIMITS				
	Arsonic		TA EDOD	4 KEL #	TA A 100	7			
10	Rarium	01.0020	74.0000 81 2000	32.2 112 A	76 0 100	)./ ) ()			
	Cadmium	51.0520	61 1000	03 E	76 0 122	2.1			
	w w white could	57.0500	01.1000	30.0	10.3 143	/• <b>±</b>			

Units: mg/kg

Sequence: X080299

s Batch Number: ICSTB-08/02/99-1254-1

e cation : ICSTB-Metals by ICP, Solids, Trace of ples : 16

ata-Uate/Time : 08/02/99 / 13:05:15

					QC LIMITS
	ANALYTE	CONC FOUND	CONC KNOWN	<u>X REC #</u>	LOWER UPPER
73199	Chromium	94.2580	91.1000	103.5	79.9 119.7
	Cobalt	124.3760	127.0000	97.9	79.5 120.3
	Copper	183.1300	172.0000	106.5	80.3 119.7
	Lead	156.2620	164.0000	95.3	76.2 132.4
	Nickel	72.6320	66.9000	108.6	78.3 121.7
	Selenium	62.9940	71.8000	87.7	74.1 125.8
	Silver	77.2620	73.1000	105.7	74.5 125.6
	Thallium	82.1240	60.0000	136.9	57.3 142.9
	Tin	87.6500	90.1000	97.3	65.1 135.1
	Vanadium	134.4700	122.0000	110.2	68.3 131.4
	Zinc	86.1700	90.2000	95.5	77.3 123.1

				QC	LIMITS
	ANALYTE	TRUE VALUE	BATCH READ	<u>* REC #</u>	LOWER UPPER
	Arsenic	0.5000	0.5075	101.5	90.0 110.0
	Barium	0.5000	0.5155	103.1	90.0 110.0
	Cadmium	0.5000	0.5175	103.5	90.0 110.0
	Chromium	0.5000	0.5120	102.4	90.0 110.0
	Cobalt	0.5000	0.5145	102.9	90.0 110.0
	Copper	0.5000	0.5048	101.0	90.0 110.0
1 83 <sup>1</sup> · Ma	Lead	0.5000	0.5143	102.9	90.0 110.0
. K.	Nickel	0.5000	0.5133	102.7	90.0 110.0
	Selenium	0.5000	0.5136	102.7	90.0 110.0
	Silver .	0.2500	0.2544	101.8	90.0 110.0
	Thallium	0.5000	0.5085	101.7	90.0 110.0
	Tin	0.5000	0.4888	97.8	90.0 110.0
	Vanadium	0.5000	0.5082	101.6	90.0 110.0
	Zinc	0.5000	0.5142	102.8	90.0 110.0
	Arsenic	0.5000	0.5056	101.1	90.0 110.0
	Barium	0.5000	0.5139	102.8	90.0 110.0
	Cadmium	0.5000	0.5139	102.8	90.0 110.0
	Chromium	0.5000	0.5084	101.7	90.0 110.0
	Cobalt	0.5000	0.5104	102.1	90.0 110.0
	Copper	0.5000	0.5055	101.1	90.0 110.0
	Lead	0.5000	0.5129	102.6	90.0 110.0
	Nickel	0.5000	0.5106	102.1	90.0 110.0
	Selenium	0.5000	0.5146	102.9	90.0 110.0
	Silver	0.2500	0.2555	102.2	90.0 110.0
	Thallium	0.5000	0.5101	102.0	90.0 110.0
	Tin	0.5000	0.4886	97.7	90.0 110.0
	Vanadium	0.5000	0.5074	101.5	90.0 110.0
	Zinc	0.5000	0.5101	102.0	90.0 110.0
	Arsenic	0.5000	0.5039	100.8	90.0 110.0
	Barium	0.5000	0.5100	102.0	90.0 110.0
	Cadmium	0.5000	0.5095	101.9	90.0 110.0
A State	Chromium	0.5000	0.5045	100.9	90.0 110.0
-	Cobalt	0.5000	0.5068	101.4	90.0 110.0
	Copper	0.5000	0.5023	100.5	90.0 110.0
	Lead	0.5000	0.5070	101.4	90.0 110.0

Batch Number: ICSTB-08/02/99-1254-1 ation : ICSTB-Metals by ICP, Solids, Trace les : 16

:a-Date/Time : 08/02/99 / 13:05:15

e Units: mg/kg

'kg S

Sequence: X080299

				QC	LIMITS
ANALYTE	TRU	<u>e value</u>	BATCH READ	<u>X REC #</u>	LOWER UPPER
Nickel		0.5000	0.5056	101.1	90.0 110.0
Selenium		0.5000	0.5041	100.8	90.0 110.0
Silver		0.2500	0.2524	101.0	90.0 110.0
Thallium		0.5000	0.5068	101.4	90.0 110.0
Tin		0.5000	0.4866	97.3	90.0 110.0
Vanadium		0.5000	0.5041	100.8	90.0 110.0
Zinc		0.5000	0.5052	101.0	90.0 110.0
Arsenic		0.5000	0.5053	101.1	90.0 110.0
Barium		0.5000	0.5148	103.0	90.0 110.0
Cadmium		0.5000	0.5145	102.9	90.0 110.0
Chromium		0.5000	0.5102	102.0	90.0 110.0
Cobalt		0.5000	0.5087	101.7	90.0 110.0
Copper		0.5000	0.5058	101.2	90.0 110.0
Lead		0.5000	0.5075	101.5	90.0 110.0
Nickel		0.5000	0.5083	101.7	90.0 110.0
Selenium		0.5000	0.5078	101.6	90.0 110.0
Silver		0.2500	0.2538	101.5	90.0 <sup>,</sup> 110.0
· Thallium		0.5000	0.5050	101.0	90.0 110.0
Tin		0.5000	0.4883	97.7	90.0 110.0
🔬 Vanadium		0.5000	0.5081	101.6	90.0 110.0
Zinc		0.5000	0.5094	101.9	90.0 110.0
Arsenic		0.5000	0.5005	100.1	90.0 110.0
Barium		0.5000	0.5086	101.7	90.0 110.0
Cadmium		0.5000	0.5080	101.6	90.0 110.0
Chromium		0.5000	0.5028	100.6	90.0 110.0
Cobalt		0.5000	0.5025	100.5	90.0 110.0
Copper		0.5000	0.4974	99.5	90.0 110.0
Lead		0.5000	0.4997	99.9	90.0 110.0
Nickel		0.5000	0.5013	100.3	90.0 110.0
Selenium		0.5000	0.5042	100.8	90.0 110.0
Silver		0.2500	0.2500	100.0	90.0 110.0
Thallium		0.5000	0.5007	100.1	90.0 110.0
Tin		0.5000	0.4838	96.8	90.0 110.0
Vanadium		0.5000	0.5008	100.2	90.0 110.0
Zinc		0.5000	0.5022	100.4	90.0 110.0
ANALYTE	DATE EXP	BATCH DAT	E DAYS/EXP	)	
Arsenic	03/31/00	08/02/99	242	-	
Barium	03/31/00	08/02/99	242		
Cadmium	03/31/00	08/02/99	242		
Chromium	03/31/00	08/02/99	242		
Cobalt	03/31/00	08/02/99	) 242		
Copper	03/31/00	08/02/99	242		
Lead	03/31/00	08/02/99	242		
<b>X</b> el	03/31/00	08/02/99	242		
<b>Wanium</b>	03/31/00	08/02/99	242		
- ver	03/31/00	08/02/99	242		
Thallium	03/31/00	08/02/99	242		
Tin	01/01/00	08/02/99	152		
	01/01/00	00/02/99	, 197		

Sequence: X080299

is Batch Number: ICSTB-08/02/99-1254-1
ie fication : ICSTB-Metals by ICP, Solids, Trace Units: mg/kg
of ples : 16
lat\_ate/Time : 08/02/99 / 13:05:15

<u>D#</u>	ANALYTE	 DATE EXP	BATCH DATE	DAYS/EXP
	Vanadium	03/31/00	08/02/99	242
	Zinc	-03/31/00	08/02/99	242

..... Result Footnotes ..... ifficult to homogenize due to the nature of the sample Duplicate is valid because the result is less than 5 times the LOQ Both Duplicate results are less than the LOQ.

### os & Samples

	••••••						
9-269977	51779-269978	51779-269979	51794-270053	51794-270055	51794-270056	51794-270057	51936-270936
3-270931	51963-270932	51963-270933	51963-270934	51963-270935	51963-270936	51969-270968	51969-270969



P-+C	h Number: ICSTB-08/03/99-1254-1 cation : ICSTB-Metals by ICP, Solids.	Trace	Units: mg/kg	ı S	equence: X	080399			
f ta-Da	$\frac{1}{100}$ les : 6								
ita-Da	Le/TIME . 00/03/33 / 10.13.03								
	ANALYTE	CONC_FOUND	# LMT_OF QL	ANTITATION					
199	Magnesium	1.2840	200	.0000					
	Potassium	36.3960	200	.0000					
	Sodium	67.1980	200	.0000					
						QC	LIMITS		
	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIK	E X REC	# LOWER	<u>UPPER</u>	<u>.</u>	
0936	Magnesium	200.0000	558.3590	706.86	90 74.3	(A) 75.0	) 125.0	I	
	Potassium	200.0000	327.7580	487.20	00 79.7	75.0	) 125.0	•	
	Sodium	200.0000	127.9490	337.40	90 104.7	75.0	) 125.0	1	
						QC LI	IMITS		
	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT	2 XREC2	<u># LOWER</u>	<u>UPPER</u>	<u></u>	LIMIT
0936	Magnesium	200.0000	558.3590	845.15	30 143.4	(A) 75.0	125.0	63.5(A)	20.0
	Potassium	200.0000	327.7580	569.61	90 120.9	75.0	125.0	41.1(A)	20.0
	Sodium	200.0000	127.9490	364.76	40 118.4	75.0	125.0	12.3	20.0
E									
-	ANALYTE	RESULT 1	RESULT 2	RPD #	LIMIŤ	DILUTION			
0936	Magnesium	558.3590	538.8040	3.6	20.0	1.00			
	Potassium	327.7580	294.3970	10.7	20.0	1.00			
17	Sodium	127.9490	130.4610	1.9	20.0	1.00			
- sais			0010 1/10181	* 050 //	QC LIMITS	5			
100	ANALYTE		CONC KNOWN	<u>X REC #</u>	LOWER UPPE	<u>.R</u>			
3199	Magnesium	1051.4340	979.0000	.107.4	/2.1 12	28.1			
	Potassium	2412.0900	2320.0000	104.0	65.9 13	14.3 12 2			
	500 min	1251.0000	1190.0000	100.5	07.9 13	2.0			
				QC LIM	ITS				
	ANALYTE	TRUE VALUE	BATCH READ	<u>* REC #</u>	LOWER UPPE	R			
	Magnesium	5.0000	5.2416	104.8	90.0 110	0.0			
	Potassium	12.5000	12.0880	96.7	90.0 110	).0			
	Sodium	12.5000	11.6580	93.3	90.0 110	).0			
	Ragnestum Deteccium	5.0000	5.032/	100.7	90.0 110	).U			
	roldssium	12.5000	11.9123	95.5 04 E	90.0 110	1.0			
	Vagnosium	5 0000	A 0701	94.5 00 6	00 0 110	).U			
	Potassium	12 5000	4.5751	99.0 03 5	00 0 110	).U			
	Sodium	12.5000	11 7741	93.5 Q1 2	90.0 110	).0 \ (\			
	Magnesium	5 0000	A 9826	99.2	00 0 110	).0 ) () ()			
	Potassium	12 5000	11 6476	93.2	90 0 110	).0 \ ()			
	Sodium	12 5000	12 6502	101 3	90 0 110	) ()			
	Magnesium	5 0000	5 0570	101.2	90 0 110	0.0			
	Potassium	12,5000	11.2400	(11)9.98	90.0 110	).0			
	Sodium	12.5000	15.6836	125.5(00)	90.0 110	).0			
1.1	Magnesium	5.0000	4.9740	99.5	90.0 110	).0			
State -	Potassium	12.5000	12.0648	96.5	90.0 110	)_0			
Ţ	Sodium	12.5000	13.1519	105.2	90.0 110	).0			
	Magnesium	5.0000	4.8670	97.3	90.0 110	).0			<b>.</b>
	Potassium	12.5000	12.1348	97.1	90.0 110	0.0			

is Patch Number: ICSTB-08/03/99-1254-1 ication : ICSTB-Metals by ICP, Solids, Trace mples : 6 Data-Date/Time : 08/03/99 / 18:15:05

Units: mg/kg

Sequence: X080399

				QC LI	MITS
ANALYTE	TRU	E VALUE	BATCH READ	<u>X REC #</u>	LOWER UPPER
Sodium		12.5000	13.0556	104.4	90.0 110.0
Magnesium		5.0000	4.8451	96.9	90.0 110.0
Potassium		12.5000	12.4296	99.4	90.0 110.0
Sodium		12.5000	12.5956	100.8	90.0 110.0
Magnesium		5.0000	4.8054	96.1	90.0 110.0
Potassium		12.5000	12.1454	97.2	90.0 110.0
Sodium		12.5000	12.3364	98.7	90.0 110.0
Magnesium		5.0000	4.9956	99.9	90.0 110.0
Potassium		12.5000	12.1368	97.1	90.0 110.0
Sodium		12.5000	14.1869	113.5(CC)	90.0 110.0
Magnesium		5.0000	4.8890	97.8	90.0 110.0
Potassium		12.5000	11.9632	95.7	90.0 110.0
Sodium		12.5000	13.3906	107.1	90.0 110.0
Magnesium		5.0000	4.8663	97.3	90.0 110.0
Potassium		12.5000	11.8176	94.5	90.0 110.0
Sodium		12.5000	12.5195	100.2	90.0 110.0
D# ANALYTE	DATE EXP	BATCH DAT	TE DAYS/EX	<u>P</u>	
Magnesium	03/31/00	08/03/99	9 241		
assium	03/31/00	08/03/9	9 241		

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..... Result Footnotes .....

atrix Interference

The analyte CCV was not required to bracket data reported.

os & Samples

63-270931 51963-270932 51963-270933 51963-270934 51963-270935 51963-270936

03/31/00

08/03/99

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s P-tel ar	n Number: ICWTB-08/03/99-1254-1 cation : ICWTB-Metals by ICP, Trace des : 9		U	nits: mg/l	:	Seque	ence:	<b>X0</b> 8039	9			
ita-Dai	te/Time : 08/03/99 / 18:19:46										-	
	ANALYTE	CONC FOUND	#	INT OF OU	INTITATION							
299	Magnesium	0.0101	Ξ	2	2.0000							
وور	Potassium	0.3915		2	.0000							
	Sodium	0.6819		2	.0000							
									QC	LIMITS		
	ANALYTE	CONC ADDED	<u>C0</u>	NC SAMPLE	CONC SPI	<u>(E</u>	X REC	<u>#</u>	LOWER	UPPER	2	
0937	Magnesium	2.2220		60.7635	61.79	968	46.	5(2a)	75.0	125.0	)	
	Potassium	2.2220		6.2489	9.06	551	126.	7(A)	75.0	125.0	)	
0937-7	2 Sodium	2.2220		122.16/6	112.9	/3/	-413.	8(2a)	75.0	125.0	)	
									00.11	NTTS		
	ANAI YTE	CONC ADDED	CO	NC SAMPLE	RESULT	2	#RFC2	# 1	OWER	HPPFR	RPD #	I THIT
0937	Magnesium	2,2220		60.7635	61.9	785	54	. <u>≞</u> ≌ 7(2a)	75.0	125 0	16.2	20.0
	Potassium	2.2220		6.2489	8.9	350	123.	1	75.0	125.0	2.9	20.0
0937-2	2 Magnesium	2.2220		70.4094	63.7	983	-297.	- 5(2a)	75.0	125.0	9.5	20.0
Έ												
	ANALYTE	RESULT 1		RESULT 2	RPD #	<u>L</u>	<u>IMÍT</u>	DILUT	ION			
0937	Magnesium	60.7635		62.9698	3.6	20	0.0	1.0	0			
-	Potassium	6.2489		6.4876	3.7	20	0.0	1.0	10			
1. C	Sodium	0.0000		0.0000	0.0	20	0.0	1.0	0			
09	Magnesium	70.4094		67.1818	4.7	20	0.0	10.0	10			
5 <del>4</del>	Potassium	8.2213		8.0916	1.6	20	0.0	10.0	0			
	Soatum	, 122.16/6		122.0041	0.1	20	0.0	10.0	U			
						00	ITMIT	م	•			
	ANA! YTE	CONC. FOUND	C	ONC KNOWN	X RFC #		FR IIPP	FR				
0299	Magnesium	6.0462		6.2500	<u>96.7</u>	2011	80.01	20.0				
	Potassium	5.9375		6.2500	95.0	8	80.01	20.0				
	Sodium	6.3372		6.2500	101.4	8	80.0 1	20.0				
					QC LI	IITS						
	ANALYTE	TRUE VALUE	<u></u> B/	ATCH READ	<u>X REC #</u>	LOW	<u>er upp</u>	ER				
	Magnesium	5.0000		5.2416	104.8	90	0.0 11	0.0				
	Potassium	12.5000		12.0880	96.7	90	0.0 11	0.0				
	Social Magnosium	12.5000 E 0000		11.0000 E 0227	93.3	90	0.011	0.0				
	Potacsium	12 5000		11 0125	100.7	90	0.0 11	0.0				
	Sodium	12.5000	, e	11 8153	9J.3 04 5	90	0.0 11	0.0				
	Magnesium	5.0000		4,9791	99.6	9	0 0 11	0.0				
	Potassium	12.5000		11.6865	93.5	9(	0.011	0.0				
	Sodium	12,5000		11.7741	94.2	90	0.0 11	0.0				
	Magnesium	5.0000		4.9826	99.7	90	0.0 11	0.0				
	Potassium	12.5000		11.6476	93.2	9(	0.0 11	0.0				
	Sodium	12.5000		12.6592	101.3	9(	0.0 11	0.0				
.2	Magnesium	5.0000		5.0579	101.2	90	0.0 11	0.0				
101	Potassium	12.5000		11.2400	89.9(J)	9(	0.0 11	0.0				
	Sodium	12.5000		15.6836	125.5(CC)	90	0.0 11	0.0				
	Magnesium	5.0000		4.9740	99.5	90	0.0 11	0.0				
	Potassium	12.5000		12.0648	96.5	90	0.0 11	0.0				

Units: mg/l

Sequence: X080399

B<sup>2+</sup>ch Number: ICWTB-08/03/99-1254-1 enternation : ICWTB-Metals by ICP, Trace of les : 9 sta-Date/Time : 08/03/99 / 18:19:46

				QC LI	MITS
ANALYTE	TRU	IE VALUE	BATCH READ	<u>* REC #</u>	LOWER UPPER
Sodium		12.5000	13.1519	105.2	90.0 110.0
Magnesium		5.0000	4.8670	97.3	90.0 110.0
Potassium		12.5000	12.1348	97.1	90.0 110.0
Sodium		12.5000	13.0556	104.4	90.0 110.0
Magnesium		5.0000	4.8451	96.9	90.0 110.0
Potassium		12.5000	12.4296	99.4	90.0 110.0
Sodium		12.5000	12.5956	100.8	90.0 110.0
Magnesium		5.0000	4.8054	96.1	90.0 110.0
Potassium		12.5000	12.1454	97.2	90.0 110.0
Sodium		12.5000	12.3364	98.7	90.0 110.0
Magnesium		5.0000	4.9956	99.9	90.0 110.0
Potassium		12.5000	12.1368	97.1	90.0 110.0
Sodium		12.5000	14.1869	113.5(CC)	90.0 110.0
Magnesium		5.0000	4.8890	97.8	90.0 110.0
Potassium		12.5000	11.9632	95.7	90.0 110.0
Sodium		12.5000	13.3906	107.1	90.0 110.0
Magnesium		5.0000	4.8663	97.3	90.0 110.0
Potassium		12.5000	11.8176	94.5	90.0 110.0
Sodium		12.5000	12.5195	100.2	90.0 110.0
# YTE	DATE EXP	BATCH DAT	TE DAYS/EXP	) -	
haynesium	03/31/00	08/03/99	9 241		
Potassium	03/31/0,0	08/03/99	9 241		
Sodium	03/31/00	08/03/99	9 241		

······ Result Footnotes ·····

spike Recovery is valid because the sample conc. is > four times the added spike conc.

strix Interference

thin in-house statistical limits

The analyte CCV was not required to bracket data reported.

os & Samples

3-270937 51963-270938 51963-270939 51963-270940

																							QC Package: (check one) CLP	Tier 1 D Tier 2 D OC Summary	Pink Copy Retained by Sampler	
	643						Haz. Sa	t mpke	Х би ю у у у Я 7 7 7 2 (Y/N)	XXXXXX N	オオオオオオ	NXXX XXXN	$ \lambda _X _X _X _X _V $	NXXXXX	NKXXXX	XXXXXV	NX X X X X	XXXXXXX	XXXXXX				Ő		Yellow Copy Retained by Client	•
1) 690-4 (713) 690-5646	Tele #: 972-243-74	J - 5234 Fax #: 972 - 247-06	Project #:	99003	Project Location:	Jal J New Merico	A Matrix 10 ±		Other Other Other Soil Soil Water	1) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) )	1 X X X	1 X X	10:44c, X	11:03a. X 1	11 X X X X	C X	c X	10:300X . 3	P. B. a. K 3				d Special Detection Limits		Vhile Copy to Accompany Samples to Lab	
01.0 (713	Address:	Wironmet 29976	P O #:	٢		n, thu	e) Romin Lomit		Date Date	66/0C/L	60/0e/L	7/26/99	7/20/99	1/00/00/2	20/00/2	65/0C/2 8	12/0c/r	166/16/L 8	869/16/ 8				Requested Turnaroun	GSAI Group:	151465	
arway WWM	Company:	CURNERSTONE ZN	Reports Sent To:	John Alderna	Project Name:	S. Langley Jal	Sampler(s) Name: (Signatur John H. Alduman	Courier:		1-072099-1	2.072059-2	3.072099-3	4-020000	5.072099-5	6.072099-6	7.072099-7 A	8.072059-8 A.	9.072099-9 Å	10.072099-10 A	11.	12.	13.			780-0400	
x Co	1 by: (\$	Signa Signa	ature	Sign: 2 2 2 3 3 3 4 3 4		2)	Date $7/21/4$ Date $7/21/4$ Date	'7 19	Time: 12:3 Time: 2:00 Time:	3 F		ved by ved by	y: (Sig y: (Sig y: (Sig y Lab	gnatu orato	re) - re) ry: (S	ignat	ure)		Date $p_{2}$	94	Time	:: 34 :: 51	<b>O</b> Remarks:		SOUTHERN LITHOGRAPH, INC (713)	

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	Cor	CORE LAB / GUL SAMPLE RE WI AMB	F STATES ANALY CEIPT CHECKLIS CONTACT:	TICAL T John /	Alerna_
IEC1:	177	iii Ci Jili S ta	CARRIER.		٤
E RECEIVED:	k	factor-	UNPACKE	D STAMP:	
E SHIPPED:	1	14/19	_ UNPACKEI	D BY:	
ABER OF KITS RI	ECEIVED:		GROUP#	57963_в.о.	# 10/3287
		KIT	CHECKLIST		· · ·
KIT ID	COC	CUSTOD	Y TAPE	COOLER TEMP Thermometer #	# OF SAMPLE CONTAINERS
		PRESENT?	INTACT?	274	
11 Blue	Yes	c Yes	Yes	7 4 00	
169		B ALS	Mo	AIC	
		С		_	
		B			
		C		- · · ·	
COOLER B= E	BOTTLES	В			
		INCO	NSISTENCIES		
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	<del>77_11</del>	//	· · · · · · · · · · · · · · · · · · ·		
l		<u> </u>			
OF WATER SAM	PLES CHECK	ED YES $NO_{KED}$ YES NO_	SAMPLE(S) SC	CREENED FOR RADI	ATION YESNO
SON CONTACT	ED:	AC	TION TAKEN	DATE.	- 
OLUTION					
			·····		
HNO3	HCL H	I2SO4 Land NaOH	Na2S203	INEAT INAH	SO4 L OT/PRE.
		(Water Only)			# Cont. Mtrx.
	DA THER		Ψc	OA DTHER	6 50
g Samples in	a Group		<del>1</del> -		8 WH
	<b>F</b>			-	
•	Project M	anager			Total

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## PHITARPHS



PHOTO 1: Drilling Monitoring Well in NW1/4 Section 18 T25S, R37E Lea County, New Mexico.

PHOTO 2: Monitoring Well Completion.

PHOTO 3: Bailing water sample from Monitoring Well.



### Exhibit 7

### City of Jal Reports

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Albuquerque	, NM	87196-4700	[505]-841-2500	-
	WAT	ER CHEMISTRY SECTION	[505]-841-2555	
			黨奏這點產畫面積塑重微量深深	Dist
	Д	NALYTICAL REI	PORT	$\bigcirc U_{2}$
	SLD A	Accession No. W	C-96-2809	(X) SU (X) CI

돜 돿븮뱮떹닅탒뮾르쿪륦븮븮봗윉쩺쮤렮븮빝렮맖끹꿗됕숺닅볞븮닅렮븮닅볞닅닅혦쿻

SCIENTIFIC LABORATORY DIVISION

P.O. Box 4700

ribution ser 63000 ubmitter 68 lient (x) SLD Files

Jal Water Supply System P.O. Drawer 340 Jal. NM 88252

From: Water Chemistry Section Scientific Laboratory Division 700 Camino de Salud, NE P.O. Box 4700 Albuquerque, NM 87196-4700

700 Camino de Salud, NE

## Re: A water, Nonpres/Nonfiltered sample submitted to this laboratory on May 13, 1996

User:

SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106

Submitter:

Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

DEMOGRAPHIC DATA

COLLECTION		LOCATION	
<i>On:</i> 9-May-96	$By: Dec \ldots$	WSS #: 217-13; Well 2 on Site	
- Al. 0.00 ms.	In/Iveur. Jai	Jai water Suppry System	

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units
chloride	470.00		mG/L
total diss resid	2382.00		mG/L

**Reviewed By:** Diana Suvannunt, Ph.D. 05/23/96

Supervisor, Water Chemistry Section



May 23, 1996

ID No. 119484

Request

To:

August 50, 1990		<b>Distribution</b> () User 63000
Request ID No. 011490	SLD Accession No. W(	C-96-4499 (X) Submitter 68 (X) Client (X) SLD Files
<i>To:</i> Myra Meyers ED Field Office, Suite 165 726 E. Michigan Hobbs, NM 8	From: Hobbs Avenue 8240	Water Chemistry Section Scientific Laboratory Division 700 Camino de Salud, NE P.O. Box 4700 Albuquerque, NM 87196-4700
Re: A water, Nonpre	s/Nonfiltered sample submitted to this l	aboratory on August 8, 1996
<u>User:</u>	WASTE WATED	Client:
	- WASIE WAIEK	Jal Water Supply System
Scientific Labora 700 Camino de S Albuquerque, N	Salud, NE M 87106	P.O. Drawer 340 Jal, NM 88252
Scientific Labora 700 Camino de S Albuquerque, N	Salud, NE M 87106	P.O. Drawer 340 Jal, NM 88252

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units	· ·
chloride	56.00		mG/L	
total diss resid	2682.00		mG/L	

Reviewed By: Diana Suvannunt, Ph.D. 08/28/96 Supervisor, Water Chemistry Section

P.O. Box 4700 700 Camino de Salud, NE Albuquerque, NM 87196-4700 [505]-841-2500 WATER CHEMISTRY SECTION [505]-841-2555

November 21, 1996

Request ID No. 177246

볛볛 <b>닅</b> 툹훕듵닅톎혦텯죋챓죋륟큠큠륟큠큟뺘뺘컙혦뼺뼺뭱쒭끹닅닅끹볞홵홵
ANALYTICAL REPORT
SLD Accession No. WC-96-5954
톸녟드宫칅뵭롲ᠽ西븮꺓렎쁥혇렶뮾썉省留르맘끹혇끹헋끹西留福居田쨘락쨘뱴쬨挑

Distribution User 63000 (x) Submitter 68 (X) Client (x) SLD Files

To: City of Jal Jal Water Supply System P.O. Drawer 340 Jal, NM 88252 *From:* Water Chemistry Section Scientific Laboratory Division 700 Camino de Salud, NE P.O. Box 4700 Albuquerque, NM 87196-4700

Re: A water, Nonpres/Nonfiltered sample submitted to this laboratory on November 8, 1996

User: SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106 Submitter:

Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

DEMOGRAPHIC DATA

COLLECTION		LOCATION
On: 7-Nov-96	<i>By:</i> Dec	WSS #: 217-13; Well 2 Onsite
At: 0:00 nrs.	In/ivear: Jal	Jai water Supply System

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units	
chloride	470.00		mG/L	
total diss resid	2370.00		mG/L	

**Reviewed By:** 

Diana Suvannunt, Ph.D. 11/21/96 Supervisor, Water Chemistry Section

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·		S Albuquer	CIENTIFIC LABORATOR' P.O. Box 4700 rque, NM 87196-4700 water chemistry section	Y DIVISION 700 Camino de Salud, NE [505]-841-2500 [505]-841-2555	
	Febru Requ ID N	uary 20, 1997 Test o. 1 <b>77220</b>	ANALYTICAL REP SLD Accession No. W	ORT C-97-0327	Distribution () User 63000 (x) Submitter 68 (X) Client (x) SLD Files
	To:	Jal Water Supply Syster P.O. Drawer 340 Jal, NM 88252	n	Water Chemistry Section Scientific Laboratory Divi 700 Camino de Salud, NE P.O. Box 4700 Albuquerque, NM 8719	sion 96-4700
	Re:	A water, Nonpres/Nonf <u>User:</u> SLD Fee for Ser - WAS Scientific Laboratory D 700 Camino de Salud, N Albuquerque, NM 87	Filtered sample submitted to this STE WATER ivision NE 7106	laboratory on February 12, <u>Submitter:</u> Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240	1997

DEMOGRAPHIC DATA

À	COLLECTION		LOCATION
No.	On: 10-Feb-97	<i>By:</i> Dec	WSS #: 217-13; Well 2 Onsite
23.8	At: 0:00 hrs.	In/Near: Jal	Jal Water Supply System

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units	
chloride	507.00		mG/L	
total diss resid	2600.00		mG/L	

**Reviewed By:** 

Diana Suvannunt, Ph.D. 02/20/97 Supervisor, Water Chemistry Section

	SCIENTIFIC LABORATORY DIVISION P.O. Box 4700 700 Camino de Salud, NE Albuquerque, NM 87196-4700 [505]-841-2500 WATER CHEMISTRY SECTION [505]-841-2555	
May 27, 1997 Request ID No. 177224	ANALYTICAL REPORT SLD Accession No. WC-97-1989	Distribution () User 63000 (x) Submitter 68 (A Client (x) SLD Files
To: Jal Water Sup P.O. Drawer 2 Jal, NM 88	From:Water Chemistry Sectionply SystemScientific Laboratory Division340700 Camino de Salud, NE3252P.O. Box 4700Albuquerque, NM 8715	ision 2 96-4700

*Re:* A water, Nonpres/Nonfiltered sample submitted to this laboratory on May 20, 1997

User: SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106 Submitter:

Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

DEMOGRAPHIC DATA

CC	DLLECTION	LOCATION
On: 19-May-97	<i>By</i> : Dec	WSS #: 217-13; Well 2 Onsite
At: 0:00 hrs.	In/Near: Jal	Jal Water Supply System

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units	
chloride	578.00		mG/L	
total diss resid	2360.00		mG/L	

**Reviewed By:** 

Diana Suvannunt, Ph.D. 05/27/97 Supervisor, Water Chemistry Section

W/C		SCIEN P.O Box 47 Albuquerqu	TIFIC LA 700 ue, NM 87196	ABORA	TORY D 700 Camino (505) 841-25	DIVISIC de Salud, I 00	N NE		
	•	WATER	CHEMIST	RY SECTIO	DN (505)-8	341-2555			_] 
AMPLE COLLECTION DATE: SAMPLING LOCATION: SAMPLE MATRIX: This Copy of Report for:: Fred Siefts Jal Water Supply S P.O. Drawer 340 Jal, NM 88252	: <u>8/13/97</u> : <u>Well 2 Ons</u> : <u>wnn</u> ystem	TIME	: <u>0000</u>	BY	<u>Dec</u>	SI r Dis	LD NO.: REQUEST RECEIVED A SUBM STRIBUTION T ED Field Office Jal Water Supp Water Chemist	WC= 9703369 ID No.: 174504 T SLD: 8/14/97 USER: 63000 ITTER: 68 WSS #: 21713 O: p. Hobbs (S) oly System (C) USER: C) USER: C) USER: 68 USER: 68	
Analyte	Result	Units	ANALYTI Analysis Date	Method	Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifie
Analyte Chloride TDS	Result 548 3000.	Units mG/L mG/L	ANALYTI Analysis Date 8/20/97 8/19/97	CAL RESU Method 300. 160.1	Minimum Level 5. 10.	Dilution Factor 1. 1.	Sample Det. Limit 1.58 10.	Analyst Harry Patterson Everett Taylor	Data Qualifi
Analyte Chloride TDS Laboratory Comments	Result 548:	Units mG/L mG/L	ANALYTI Analysis Date 8/20/97 8/19/97	CAL RESU Method 300. 160.1	Minimum Level 5. 10.	Dilution Factor 1. 1. Reviewe Superviso	Sample Det. Limit 1.58 10. ed by Diar r, Waler	Anaiyst Harry Patterson Everett Taylor na Suvannant, PhD Chemistry Section nted: 22-Sep-97	Data Qualifie

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STATE OF NEW M	EXICO						DEF	ARTMENT OF HE	
WXC)	P. Ai	SCIEN O Box 4700 Ibuquerque	TIFIC LA	BORA1	TORY D 700 Camino (505) 841-250	IVISIO de Salud, N )0	<b>N</b> E	W <sub>C</sub>	
		WATER	CHEMISTRY	SECTIO	N (505)-8	41-2555			
MPLE COLLECTION DATE SAMPLING LOCATION SAMPLE MATRIX	: <u>11/5/97</u> : <u>Well 2 Onsite</u> : <u>wnn</u>	TIME <u>2</u>	E: <u>0000</u>	BY:	<u>Dec</u>	SL	D NO.: REQUEST	WC- 9704991 ID No.: 59028 T SLD: 11/6/97 USER: 63000	
This Copy of Report for::							SUBM	ITTER: 68	1
Fred Seifts							v	wss #: 21713	1
Jal Water Supply S	system					DIS	STRIBUTION T	<u>0:</u>	-
P.O. Drawer 340							ED Field Office	, Hobbs {S}	
Jal, NM 88252							Jal Water Supp	ly System (C)	
							Water Chemistr	y Section - File Copy	
							Water Chemistr	y Section - File Copy	
Analyte	Result	Units	ANALYTIC Analysis Date	CAL RESU	JLTS Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualific
Analyte Chloride	Result	Units mG/L	ANALYTIC Analysis Date 11/19/97	CAL RESU Method 300.	JLTS Minimum Level 5.	Dilution Factor 1.	Sample Det. Limit	Analyst Harry Patterson	Data Qualifi
Analyte Chloride TDS	Result 557: 2730.	Units mG/L mG/L	ANALYTIC Analysis Date 11/19/97 11/13/97	CAL RESU Method 300. 160.1	JLTS Minimum Level 5. 10.	Dilution Factor 1. 1.	Sample Det. Limit 1.58 10.	Analyst Harry Patterson Staci Morris	Data Qualifi
Analyte Chloride TDS .aboratory Comments	Result 557: 2730.	Units mG/L mG/L	ANALYTIC Analysis Date 11/19/97 11/13/97	CAL RESU Method 300. 160.1	JLTS Minimum Level 5. 10.	Dilution Factor 1. 1.	Sample Det. Limit 1.58 10.	Analyst Harry Patterson Stacl Morris	Data Qualifi
Analyte Chloride TDS .aboratory Comments	Result 557: 2730.	Units mG/L mG/L	ANALYTIC Analysis Date 11/19/97 11/13/97	CAL RESU Method 300. 160.1	JLTS Minimum Level 5. 10.	Dilution Factor 1. 1. 1. Supervise	Sample Det. Limit 1.58 10. ed by Diar	Analyst Harry Patterson Staci Morris na Suvannant, Ph	Data Qualifi
Analyte Chloride TDS .aboratory Comments	Result 557: 2730.	Units mG/L mG/L	ANALYTIC Analysis Date 11/19/97 11/13/97	CAL RESU Method 300. 160.1	JLTS Minimum Level 5. 10.	Dilution Factor 1. 1. 1. <b>Review</b> Superviso	Sample Det. Limit 1.58 10. ed by Diar rr, Waler ( Date Prin	Analyst Harry Patterson Staci Morris Ma Suvannant, Ph Phemistry Section Inted: 25-Nov-97	Data Qualifi D

TYC I	ICO <b>S</b> Р.О Аlb	CIENTIFI Box 4700 uquerque, NM 8	C LABORA	TORY D 700 Camino (505) 841-25	IVISIO de Salud, N 00	DEF N IE		ALTH
		VATER CHE	AISTRY SECTION	ON (505)-8	341-2555			
SAMPLE COLLECTION DATE: 2 SAMPLING LOCATION: V SAMPLE MATRIX: V	2/12/98 Nell 2 Onsite vnn	time: <u>000</u>	<u>0</u> B1	′: <u>Sei</u>	SI	D No.: REQUEST RECEIVED /	WC- 9800591 ID No.: 59035 AT SLD: 2/17/98	
This Copy of Report for.:						SUBA	NTTER: 68	
Fred Seifts			]				wss #: 21713	
Jal Water Supply Sys	tem				DI	STRIBUTION	<u></u>	•
P.O. Drawer 340						ED Field Offic	e, Hobbs (S)	
Jal, NM 88252			1			Jal Water Sup	ply System {C}	
			Ľ					
		ANA	LYTICAL RES	ULTS				
Analyte	Result	ANA Units D	ALYTICAL RES	ULTS Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifie
Analyte Chloride	Result	Units ANA D mG/L 3/3	ALYTICAL RES Nysis Method 3/98 300.	ULTS Minimum Level 5.	Dilution Factor 1.	Sample Det. Limit 1.58	Analyst Harry Patterson	Data Qualific
Analyte Chloride TDS	Result	ANA Units D mG/L 3/3 mG/L 2/1	ALYTICAL RES Nysis Method 3/98 300. 7/98 160.1	ULTS Minimum Level 5. 10.	Dilution Factor 1. 1.	Sample Det. Limit 1.58 10.	Analyst Harry Patterson Staci Morris	Data Qualifi
Analyte Chloride TDS Laboratory Comments:	Result 567. 2610.	ANA Units D mG/L 3/: mG/L 2/1	ALYTICAL RES Ilysis Method 3/98 300. 7/98 160.1	ULTS Minimum Level 5. 10.	Dilution Factor 1. 1.	Sample Det. Limit 1.58 10.	Analyst Harry Patterson Staci Morris	Data Qualifi
Analyte Chloride TDS Laboratory Comments:	Result 567 2610	ANA Units D mG/L 3/3 mG/L 2/1	ALYTICAL RES Nysis Method 3/98 300. 7/98 160.1	ULTS Minimum Level 5. 10.	Dilution Factor 1. 1. N. Review	Sample Det. Limit 1.58 10. ed by Dia w, Waler	Analyst Harry Patterson Staci Morris na Suvannant, PhI Chemistry Section	Data Qualifia
Analyte Chloride TDS Laboratory Comments:	Result	ANA Units D mG/L 3/3 mG/L 2/1	ALYTICAL RES Ilysis Method 3/98 300. 7/98 160.1	ULTS Minimum Level 5. 10.	Dilution Factor 1. 1. Review Superviso	Sample Det. Limit 1.58 10. ed by Dia vr., Waler Date Pr	Analyst Harry Patterson Staci Morris na Suvannant, Phi Chemistry Section inted: <u>5-Mar-98</u>	Data Qualifi )

TYY_]	P.( All	O Box 4700 buquerque.	NM 87196-47		700 Camino ( (505) 841-250	de Salud, N	E	W.	
		WATER	CHEMISTR	Y SECTIO	N (505)-8	41-2555			
AMPLE COLLECTION DAT SAMPLING LOCATIO SAMPLE MATR This Copy of Report for:: Fred Seifts Jal Water Supply P.O. Drawer 340 Jal, NM 88252	re: <u>5/11/98</u> n: <u>Well 2 Onsite</u> ix: <u>wnn</u> System	TIME	:: <u>0000</u>	BY:	Dec	SI DIS	LD No.: REQUEST I RECEIVED AT SUBMI SUBMI M STRIBUTION TO ED Field Office, Jal Water Suppl Water Chemistry	WC - 9801775 D No.: 59052 r SLD: 5/14/98 USER: 63000 TTER: 68 VSS #: 21713 D: Hobbs (S) y System (C) y Section - File Copy	
			ANALYTI	CAL RESU	ILTS				
Analyte	Result	Units	Analysis Date	Method	Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifi
Chloride	559.	mG/L	7/7/98	300.	10.	1.	10.	Paul Ortega	
Laboratory Comment						<b>Review</b> Superviso	ed by Dian r, Waler C	a Suvannant, Pl hemistry bection	וD.
						<b>Review</b> Superviso	ed by Dian r, Waler C Date Prir	a Suvannant, Pl hemistry Section nted:9-Jul-98	יD 
Data Qualifier Codes U - The material was analy J - The associated value is R - The data are unusable. UJ - The material was analy	s and Definitions zed for, but was not de an estimated quantity (Note: Analyte may o zed for, but was not d	S etected abov or may not b letected. Th	ve the level of the present. The associated va	ne associated alue is an estin	value. The as mate and may	Reviewa Superviso sociated val	ed by Dian r, Waler ( Date Prin ue is the samp te or imprecise	a Suvannant, Pl homistry Section nted: <u>9-Jul-98</u> ble detection limit.	nD

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	STATE OF NEW ME.	XICO						DEP	ARTMENT OF HE	ALTH
	<b>E</b>		SCIEN P.O Box 4700 Albuquerque	TIFIC LA	BORAT	ORY D 700 Camino (505) 841-250	VISIO de Salud, N 0	<b>N</b> E	W.C	
_			WATER	CHEMISTR	Y SECTIO	N (505)-8	41-2555			
SAM	PLE COLLECTION DATE: SAMPLING LOCATION: SAMPLE MATRIX:	<u>8/19/98</u> Well 2 Ons wat	TIME ite	E: <u>0000</u>	BY:	<u>Dec</u>	SL	D No.:	WC-9803650 ID No.: 2272995 T SLD: 8/24/98 USER: 63000	
Th	is Copy of Report for .:							SUBM	ITTER: 68	
	Fred Seifts							v	vss #: 21713	
	Jal Water Supply Sy	stem		ji ji			DIS	STRIBUTION T	<u>0:</u>	8
l	P.O. Drawer 340						I	ED Field Office	Hobbs (S)	
	Jal, NM 88252			]				Jal Water Supp	ly System (C)	
								Water Chemistr	y Section - File Copy	
	Analyte	Result	Units	Analysis Date	Method	Minimum Level	Dilution Factor	Sample Det, Limit	Analyst	Data Qualifier
		A CONTRACTOR AND								
	Chloride	- 579.	mG/L	9/16/98	300.	10.	1.	10.	Paul Ortega	
	Chloride TDS	579. 2780.	mG/L mG/L	9/16/98 9/1/88	300. 160.1	10. 10.	1. 1.	10. 10.	Paul Ortega Roger Sewell	
La	Chloride TDS boratory Comments:	25793 (2780)	mG/L	9/16/98 9/1/88	300. 160.1	10. 10.	1. 1.	10. 10.	Paul Ortega Roger Sewell	
La	Chloride TDS boratory Comments:	579. 2780.	mG/L mG/L	9/16/98 9/1/88	300. 160.1	10. 10.	1. 1. Reviewe	10. 10. ed by Diar	Paul Ortega Roger Sewell na Suvannant, Phl	0
La	Chloride TDS boratory Comments:	579 2780	mG/L	9/16/98 9/1/88	300. 160.1	10. 10.	1. 1. Reviewo Euperwisor,	10. 10. ed by Diar Waler Chemicir	Paul Ortega Roger Sewell na Suvannant, Phi y biclion	)
La	Chloride TDS boratory Comments:	579 2780 9	mG/L	9/16/98 9/1/88	300. 160.1	10. 10.	1. 1. Reviewe Euperwisor,	10. 10. ed by Diar Waler Chemuin Date Prin	Paul Ortega Roger Sewell na Suvannant, Phi up bution nted: _25-Sep-98	)

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STATE OF NEW M	EXICO	SCIEN 2.0 Box 4700 Albuquerque	TIFIC LAI	BORAT	TORY D 700 Camino ( (505) 841-250	IVISIO de Salud, N 10	DEP. <b>N</b> e		ALTH
		WATER	CHEMISTRY	SECTIO	N (505)-8	41-2555			
SAMPLE COLLECTION DATE SAMPLING LOCATION SAMPLE MATRIX	: <u>11/30/98</u> : <u>Well 2 Onsi</u> : <u>wnn</u>	timi te	E: <u>0000</u>	BY:	<u>Dec</u>	SL	D No.:	WC-9805524 D No.: 2283424 I SLD: 12/3/98 JSER: 63000	
This Copy of Report for::							SUBMI	TTER: 68	
Fred Seifts							v	vss #: 21713	1
Jal Water Supply S	System					DIS	STRIBUTION TO	<u>.</u>	4
P.O. Drawer 340							ED Field Office	Hobbs {S}	
Jal, NM 88252							Jal Water Supp	y System (C)	
L							Water Chemistr	y Section - File Copy	
Analyte	Result	Units	Analysis Date	Method	Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifier
Chloride	557.	mG/L	12/23/98	300.	10.	٦.	10.	Paul Ortega	
TDS	2410.	mG/L	12/7/98	160.1	10.	1.	10.	Roger Sewell	
Laboratory Comments	:								
						Review	ed hy Paul	Ortega	
						Supposition	n. Water (	homistou Soction	
			•			Superior	Date Pri	nted: <u>6-Jan-99</u>	_
Data Qualifier Codes a U - The material was analyze J - The associated value is a R - The data are unusable. ( UJ - The material was analyze	and Definition of for, but was not in estimated quant Note: Analyte ma ed for, but was not	ns detected abo ity. y or may not t detected. T	ove the level of the be present. he associated val	e associated ue is an estir	value. The as mate and may	sociated va	lue is the sam te or imprecise	ple detection limit. e.	

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		WATER	CHEMISTR	Y SECTIO	N (505)-8	41-2555		1	
SAMPLE COLLECTION DATI SAMPLING LOCATION SAMPLE MATRI	E: <u>2/23/99</u> N: <u>Well 2 Onsit</u> X: <u>wnn</u>	Timi <u>e</u>	≣: <u>0000</u>	BY:	<u>Sei</u>	SI	D NO.:	WC-9900301 ID No.: 2283429 T SLD: 2/24/99	
This Copy of Report for::							SUBMI	USER: 63000 ITTER: 68	
Fred Seifts Jal Water Supply P.O. Drawer 340 Jal, NM 88252	System					<u>DI</u>	V ED Field Office. Jal Water Suppl Water Chemistr	VSS #: 21713 <u>C:</u> Hobbs {S} ly System {C} ly Section - File Copy	]
		Units	Analysis Date	Method	Minimum Level	Dilution Factor	Sample Det. Limit	Anaiyst	Data Qualif
Analyte	Result	· · · · · · · · · · · · · · · · · · ·							
Analyte Chloride	654.	mG/L	3/9/99	300.	10.	1.	10.	Paul Ortega	
Analyte Chloride TDS Laboratory Comment	Kesuit 654	mG/L mG/L	3/9/99 3/1/99	300. 160.1	10. 10.	1. 1.	10. 10.	Paul Ortega Roger Sewell	
Analyte Chloride TDS Laboratory Comment	654. 44 2680 <u>S</u> :	mG/L mG/L	3/9/99 3/1/99	300. 160.1	10. 10.	1. 1. Reviewe	10. 10. ed by Chri r, Waier (	Paul Ortega Roger Sewell S Dean	
Analyte Chloride TDS Laboratory Comment	654. 44. 2680. <u>S</u> :	mG/L mG/L	3/9/99 3/1/99	300. 160.1	10. 10.	1. 1.	10. 10.	Paul Ortega Roger Sewell	

		All	) Box 4700 ouquerque	) , NM 87196-47	700	(505) 841-25	de Salud, r 00			
			WATER	CHEMISTR	Y SECTIO	N (505)-84	41-2555			
SAMF	PLE COLLECTION DATE: SAMPLING LOCATION: SAMPLE MATRIX: Mis Copy of Report for:: Fred Selfts	5/17/99 Well 2 Onsite wnn	TIME	:: <u>0000</u>	87:	<u>Dec</u>	SI F	DNO.:	WC- 9901568 ID No.: 2289650 T SLD: 5/20/99 USER: 63000 ITTER: 68 WSS #: 21713	
	Jai water Subdiv Sva	atem					DI DI	STRIBUTION TO	<u>K</u>	
	P.O. Drawer 340 Jal, NM 88252			ANALYTIC	CAL RESU	LTS		ED Field Office, Jal Water Supp Water Chemistr	,Hobbs (S) ly System (C) y Section - File Copy	
	P.O. Drawer 340 Jal, NM 88252 Analyte	Result	Units	ANALYTIC Analysis Date	CAL RESU	LTS Minimum Level	Dilution Factor	Jal Water Supp Water Chemistr Sample Del. Limit	Hobbs (S) ly System (C) y Section - File Copy Analyst	Dat
	P.O. Drawer 340 Jal, NM 88252 Analyte Chloride	Result	Units mG/L	ANALYTIC Analysis Date 6/2/99	CAL RESU Method 300.	LTS Minimum Level 10.	Dilution Factor 1.	Jal Water Supp Water Chemistr Sample Det. Llmit 10.	(Flobbs {S} ly System {C} y Section - File Copy Analyst Cliff Kear	Dat Quell
	P.O. Drawer 340 Jal, NM 88252 Analyte Chloride TDS	Result 571 2510:	Units mG/L mG/L	ANALYTIC Analysis Date 6/2/99 5/21/99	2AL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Del. Limit 10. 10.	(Flobbs {S} ly System {C} y Section - File Copy Analyst Cliff Kear Roger Sewell	Dat Queil
	P.O. Drawer 340 Jal, NM 88252 Analyte Chloride TDS boratory Comments:	Result 571 2510.	Units mG/L mG/L	ANALYTIC Analysis Date 6/2/99 5/21/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Del. Limit 10. 10.	(Hobbs (S) ly System (C) y Section - File Copy Analyst Cliff Kear Roger Sewell	Dat Quall
	P.O. Drawer 340 Jal, NM 88252 Analyte Chloride TDS Iboratory Comments:	Result 571 2510	Units mG/L mG/L	ANALYTIC Analysis Date 6/2/99 5/21/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1. Reviewe	Sample Det. Limit 10. 10. 20. 20. 20. 20. 20. 20. 20. 20. 20. 2	(C) (S) (S) (C) (C) (C) (C) (C) (C) (C) (C	Dat Quall

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		Albuquerqu	e, NM 87196-47	700	(505) 841-25	00			
	Simeran	WATER	CHEMISTRY	SECTION	(505)-841	-2555			
	11/00/00	~	- 0.00			SI	D No.:	WC- 199905026	
AMPLE COLLECTION DATE	: <u>11/22/99</u>		<u></u>	BT	DUILEN		DEOUGET	DN- 1 2206025	
SAMPLING LOCATION	· <u>WELL 2 Or</u>	ISITE				-	REQUEST I	UNO.: 2290925	1
SAMPLE MATHIX	: <u>wn</u>					r	LECEIVED A	ISED: 11/29/99	
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P.O. Drawer 340							Int Mater Sup	r, noods (5)	
Jal, NM 88252			ANALYTIC	AL RESUL	TS Minimum	Dilution	Jal Water Supp Water Chemist	, noops (5) oly System (C) Iry Section - File Copy	Data
Jal, NM 88252	Result	Units	ANALYTIC Analysis Date	AL RESUL	.TS Minimum Level	Dilution Factor	Jal Water Supp Water Chemist Sample Det. Limit	, nous (S) oly System (C) try Section - File Copy Analyst	Data Quelifi
Jal, NM 88252 Analyte Chloride	Result	Units mG/L	ANALYTIC Analysis Date 12/1/99	AL RESUL Method 300.	TS Minimum Level 10.	Dilution Factor 1.	Jal Water Supp Water Chemist Sample Det. Limit 10.	Analyst Cliff Kear	Data Gualifi
Analyte TDS	Result 588 2830	Units mG/L mG/L	ANALYTIC Analysis Date 12/1/99 11/29/99	AL RESU Method 300. 160.1	TS Minimum Level 10. 10.	Dilution Factor 1. 1.	Jal Water Supp Water Chemist Sample Det, Limit 10. 10.	Analyst Cliff Kear Roger Sewell	Data Qualifi
Analyte Chloride TDS Laboratory Comments	Result 5883 2830	Units mG/L mG/L	ANALYTIC Analysis Date 12/1/99 11/29/99	AL RESUL Method 300. 160.1	TS Minimum Level 10. 10.	Dilution Factor 1. 1.	Jal Water Supp Water Chemist Sample Det, LImit 10. 10.	Analyst Cliff Kear Roger Sewell	Data Guailt
Analyte Chloride TDS Laboratory Commente	Result 5883 2830	Units mG/L mG/L	ANALYTIC Analysis Date 12/1/99 11/29/99	AL RESUL Method 300. 160.1	TS Minimum Level 10. 10.	Dilution Factor 1. 1. Review	Jal Water Supp Water Chemist Sample Det. LImit 10. 10. 10.	Analyst Cliff Kear Roger Sewell S Dean	Data Qualif <del>i</del>
Analyte Chloride TDS Laboratory Comments	Result 588 2830	Units mG/L mG/L	ANALYTIC Analysis Date 12/1/99 11/29/99	AL RESUI Method 300. 160.1	TS Minimum Level 10. 10.	Dilution Factor 1. 1. Review Supervia	Jal Water Supp Water Chemist Sample Det. Limit 10. 10. 10.	Analyst Cliff Kear Roger Sewell	Data Quellik

	Albuquerque, NM 87196-4700 [505]-841-2500	
	WATER CHEMISTRY SECTION [505]-841-2555	
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1770	ANALYTICAL REPORT	() User 63000 (x) Submitter 68
119483	SLD Accession No. WC-96-2808	(X) Submitter 08 (X) Client
117405	펹퀑잳븮쓚툳政볛멾킿먣컾멊뉁짇쿅=삜벬쾽삨르첀弟⊨낈볞둗붖껲볞봌벬볓볓띛봟 드	(x) SLD Files
	From: Water Chemistry Section	

SCIENTIFIC LABORATORY DIVISION

P.O. Box 4700

Jal Water Supply System P.O. Drawer 340 Jal, NM 88252 Water Chemistry Section Scientific Laboratory Division 700 Camino de Salud, NE P.O. Box 4700 Albuquerque, NM 87196-4700

Re: A water, Nonpres/Nonfiltered sample submitted to this laboratory on May 13, 1996

User: SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106 Submitter: Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

700 Camino de Salud, NE

**DEMOGRAPHIC DATA** 

COLLECTION		LOCATION		
<i>Pn:</i> 9-May-96	By: Dec	WSS #: 217-13; Well 3 On Site		
<i>At:</i> 0:00 hrs.	In/Near: Jal	Jal Water Supply System		

## ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units	
chloride	549.00		mG/L	
total diss resid	2584.00		mG/L	

Reviewed By:

Diana Suvannunt, Ph.D. 05/23/96 Supervisor, Water Chemistry Section



To:

1ay 23, 1996

Request ID No. 119483

Augi	ust 30, 1996			<u>Distributior</u> () User 6300
Requ ID N	uest No. 119491	cession No. W(	C-96-4500	(X) Submitter (x) Client (x) SLD Files
To:	Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240	From:	Water Chemistry S Scientific Laborato 700 Camino de Sa P.O. Box 4700 Albuquerque, NM	Section ory Division lud, NE I 87196-4700
Re:	A water, Nonpres/Nonfiltered samp	le submitted to this l	aboratory on Augus	t 8, 1996
	SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106		Jal Water Supply S P.O. Drawer 340 Jal, NM 88252	System
	]	DEMOGRAPHIC DA	ATA	
On: At:	7-Aug-96 By: Sei 0:00 hrs. In/Near: Jal	WSS #: 217- Jal V	13; Well 3 onsite Water Supply System	<u>'N</u>
	A	NALYTICAL RESU	LTS	
	<u>Analysis</u> chloride total diss resid	<u>Value</u> 543.00 2798.00	D. Lmt. Ui mG mG	nits /L /L
		Deviewed	<b>D</b>	

SCIENTIFIC LABORATOR	Y DIVISION
P.O. Box 4700	700 Camino de Salud, NE
Albuquerque, NM 87196-4700	[505]-841-2500
WATER CHEMISTRY SECTION	[505]-841-2555

November 21, 1996

Request ID No. 177245

슻잳뮾닅뎍윩혇쭏륑붱뭱햳븰떹윩뙨졠쎲꺌윩퀂잗郡쁙뭑电르뉼냘뜅쎾봒볮쒁쁥르졒횕 ㅋ
ANALYTICAL REPORT
SLD Accession No. WC-96-5955
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Distribution () User 63000 (x) Submitter 68 (X) Client (x) SLD Files

To: City of Jal Jal Water Supply System P.O. Drawer 340 Jal, NM 88252 *From:* Water Chemistry Section Scientific Laboratory Division 700 Camino de Salud, NE P.O. Box 4700 Albuquerque, NM 87196-4700

Re: A water, Nonpres/Nonfiltered sample submitted to this laboratory on November 8, 1996

User: SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106

Submitter: Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

DEMOGRAPHIC DATA

CO.	LLECTION	LOCATION
On: 7-Nov-96	By: Dec	WSS #: 217-13; Well 3 Onsite
At: 0:00 hrs.	In/Near: Jal	Jal Water Supply System

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units	
chloride	514.00		mG/L	
total diss resid	2190.00		mG/L	

Reviewed By:

Diana Suvannunt, Ph.D. 11/21/96 Supervisor, Water Chemistry Section

			A AVA TAAN A MAAJINA "VA" AAAMINA A A
	Albu	SCIENTIFIC LABORATORY P.O. Box 4700 querque, NM 87196-4700 WATER CHEMISTRY SECTION [S	<b>DIVISION</b> 700 Camino de Salud, NE [505]-841-2500 505]-841-2555
Febr	ruary 20, 1997	ANALYTICAL REP(	DRT Distribution () User 63000
Req ID N	uest No. 177221	SLD Accession No. WC	C-97-0326 (X) Submitter 68 (X) Client (X) SLD Files
To:	Jal Water Supply S P.O. Drawer 340 Jal, NM 88252	ystem	Water Chemistry Section Scientific Laboratory Division 700 Camino de Salud, NE P.O. Box 4700 Albuquerque, NM 87196-4700
Re:	A water,Nonpres/	Nonfiltered sample submitted to this la	boratory on February 12, 1997
	User:		Submitter:
	SLD Fee for Ser -	WASTE WATER	Myra Meyers
	Scientific Laborator	y Division	ED Field Office, Hobbs
	700 Camino de Sali	ud, NE	Suite 165

Albuquerque, NM 87106

DEMOGRAPHIC DATA

C	OLLECTION	LOCATION	
<i>On:</i> 10-Feb-97	$By: Dec \dots$	WSS #: 217-13; Well 3 Onsite	
At: 0:00 hrs.	In/Near: Jal	Jal Water Supply System	

ANALYTICAL RESULTS

13		50110		
Analysis	Value	D. Lmt.	Units	
chloride total diss resid	528.00 2240.00		mG/L mG/L	

**Reviewed By:** 

- P

726 E. Michigan Avenue Hobbs, NM 88240

Diana Suvannunt, Ph.D. 02/20/97 Supervisor, Water Chemistry Section

				· · · · · · · · · · · · · · · · · · ·
	SCIENTIFIC LABORATO P.O. Box 4700 Albuquerque, NM 87196-4700	RY	<b>DIVISION</b> 700 Camino de Salud, NE [505]-841-2500	
	WATER CHEMISTRY SECTION	)N [	505]-841-2555	
May 27, 1997 Request ID No. 177225	ANALYTICAL R SLD Accession No.	EP( WC	ORT C-97-1990	Distribution () User 63000 (x) Submitter 68 (X Client (x) SLD Files
To:	Fr	m:	Water Chemistry Section	

Jal Water Supply System P.O. Drawer 340 Jal, NM 88252 Water Chemistry Section Scientific Laboratory Division 700 Camino de Salud, NE P.O. Box 4700 Albuquerque, NM 87196-4700

*Re:* A water, Nonpres/Nonfiltered sample submitted to this laboratory on May 20, 1997

User: SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106 Submitter:

Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

DEMOGRAPHIC DATA

	CO	DLLECTION	LOCATION	
\$** •	On: 19-May-97	<i>By</i> : Dec	WSS #: 217-13; Well 3 Onsite	
	At: 0:00 hrs.	In/Near: Jal	Jal Water Supply System	

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units	
chloride	572.00		mG/L	
total diss resid	2480.00		mG/L	

**Reviewed By:** 

Diana Suvannunt, Ph.D. 05/27/97 Supervisor, Water Chemistry Section

		ССС Р.( АШ	CIEN D Box 47 buquerqu	TIFIC LA 00 ue, NM 87196	<b>4BORA</b>	TORY E 700 Camino (505) 841-25	DIVISIC de Salud, I 00	)N Ne		
		<u>v</u>	VATER	CHEMIST	RY SECTIC	)N (505)-8	341-2555			_)
AMPLE COLLECT SAMPLING SAMP This Copy of Rep Fred Seif	TION DATE: LOCATION: PLE MATRIX: Nort for: ts	<u>8/13/97</u> Well 3 Onsite wnn	TIME	: <u>0000</u>	BY:	<u>Dec</u>	SI	LD NO.: REQUEST RECEIVED A SUBM	WC-9703368 ID No.: 174505 T SLD: 8/14/97 USER: 63000 ITTER: 68 WSS #: 21713	
Jal Water P.O. Draw Jal, NM 8	Supply Sys ver 340 88252	stem					<u>Diş</u>	ED Field Office	<u>O:</u> ), Hobbs (S) )ly System (C)	-
<u> </u>								Water Chemist	ry Section - File Copy	
Ana	alyte	Result	Units	ANALYTI Analysis Date	CAL RESU	ILTS Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifi
Ana Chloride	alyte	Result	Units mG/L	ANALYTIC Analysis Date 8/20/97	CAL RESU Method 300.	ILTS Minimum Level 5.	Dilution Factor 1.	Sample Det. Limit 1.58	Analyst Harry Patterson	Data Qualifi
Ana Chloride TDS	alyte	Result 552 2640.	Units mG/L mG/L	ANALYTI Analysis Date 8/20/97 8/19/97	CAL RESU Method 300. 160.1	ILTS Minimum Level 5. 10.	Dilution Factor 1. 1.	Sample Det. Limit 1.58 10.	Analyst Harry Patterson Everett Taylor	Data Qualifi
Ana Chloride TDS Laboratory C	alyte omments:	Result 552: 2640	Units mG/L mG/L	ANALYTI Analysis Date 8/20/97 8/19/97	CAL RESU Method 300. 160.1	ULTS Minimum Level 5. 10.	Dilution Factor 1. 1.	Sample Det. Limit 1.58 10.	Analyst Harry Patterson Everett Taylor	Data Qualifi
Anz Chloride TDS Laboratory C	alyte comments:	Result 552 2640.	Units mG/L mG/L	ANALYTI Analysis Date 8/20/97 8/19/97	CAL RESU Method 300. 160.1	ULTS Minimum Level 5. 10.	Dilution Factor 1. 1. N. Reviewe	Sample Det. Limit 1.58 10. ed by Diar	Analyst Analyst Harry Patterson Everett Taylor na Suvannant, Phi Chemistry Section	Data Qualifi D
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		WATER	CHEMISTR	Y SECTIO	N (505)-8	841-2555		·····	
AMPLE COLLECTION DAT	E: <u>11/5/97</u> N: <u>Well 3 Onsit</u>	Time <u>e</u>	:: <u>0000</u>	BY:	<u>Dec</u>	SI	D No.: REQUEST	WC- 9704992	Cherry New York
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SAMPLE COLLECTION DATE SAMPLING LOCATION SAMPLE MATRIX	:: <u>5/11/98</u> I: <u>Well 3 Onsite</u> I: <u>wnn</u>	TIME	:: <u>0000</u>	BY:	Dec	SL	D NO.:	NC- 9801776 D No.: 59053 SLD: 5/14/98 JSER: 63000	
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Fred Seifts Jal Water Supply S P.O. Drawer 340 Jal, NM 88252	≩ystem					DIS	W STRIBUTION TO ED Field Office, Jal Water Supply Water Chemistry	/SS #: 21/13 <u>):</u> Hobbs {S} y System {C} r Section - File Copy	1
Analyte	Result	Units	ANALYTIC Analysis	CAL RESU	ILTS Minimum	Dilution	Sample	Analyst	Data
Analyte	Result	Units	ANALYTIC Analysis Date	CAL RESU	ILTS Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifie
Analyte Chloride TDS	Result 605 2440:	Units mG/L mG/L	ANALYTIC Analysis Date 7/7/98 5/28/98	Method 300.	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Paul Ortega Staci Morris	Data Qualifie
Analyte Chloride TDS Laboratory Comments	Resuft 605 2440	Units mG/L mG/L	ANALYTIC Analysis Date 7/7/98 5/28/98	Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1. N. Reviewe Superviso	Sample Det. Limit 10. 10. ed by Diana r, Waler Ci	Analyst Paul Ortega Staci Morris a Suvannant, Ph humistry Suction	Data Qualifie

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	W.C	SCIEN P.O Box 4700 Albuquerque, WATER	NM 87196-47	BORAT	TORY D 700 Camino (505) 841-250 N (505)-8	IVISIO de Salud, N 00 41-2555	N E	(WC	
	SAMPLE COLLECTION DATE: <u>8/19/98</u> SAMPLING LOCATION: <u>Well 3 Or</u> SAMPLE MATRIX: <u>wat</u> This Copy of Report for: Fred Seifts Jal Water Supply System P.O. Drawer 340 Jal, NM 88252	Time <u>nsite</u>	:: <u>0000</u>	BY:	Dec	SL 1 015	DNO.: REQUEST I RECEIVED A SUBMI V STRIBUTION TO ED Field Office, Jal Water Supp Water Chemistr	W.C 9803651 D No.: 2272996 T SLD: 8/24/98 USER: 63000 TTER: 68 VSS #: 21713 D: Hobbs (S) IV System (C) y Section - File Copy	
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	Analyte Result	Units	ANALYTI Analysis Date	CAL RESU	ILTS Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifier
	Analyte Result Chloride 560	Units mG/L	ANALYTI Analysis Date 9/16/98	CAL RESU Method 300.	ILTS Minimum Level 10.	Dilution Factor 1.	Sample Det. Limit 10.	Analyst Paul Ortega	Data Qualifier
	Analyte Result Chloride 560 TDS 2720.	Units mG/L mG/L	ANALYTI Analysis Date 9/16/98 9/1/88	CAL RESU Method 300. 160.1	ILTS Minimum Level 10. 10.	Difution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Paul Ortega Roger Sewell	Data Qualifier
D	Analyte Result Chloride 560 TDS 2720 Laboratory Comments:	Units mG/L mG/L	ANALYTI Analysis Date 9/16/98 9/1/88	CAL RESU Method 300. 160.1	ILTS Minimum Level 10. 10.	Difution Factor 1. 1. Reviewe	Sample Det. Limit 10. 10.	Analyst Paul Ortega Roger Sewell na Suvannant, Ph	Data Qualifier
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			WATER	CHEMISTR	Y SECTIO	N (505)-8	41-2555			
MP	LE COLLECTION DATE: SAMPLING LOCATION: SAMPLE MATRIX:	<u>11/30/98</u> Well 3 Onsite wnn	TiM! 2	e: <u>0000</u>	BY:	<u>Dec</u>	SI	D No.:	WC- 9805523 D No.: 2283423 I SLD: 12/3/98 USER: 63000	
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-	Analyte	Result	Units	Analysis Date	Method	Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifi
-	Analyte Chloride TDS	Result 588 2620	Units mG/L mG/L	Analysis Date 12/23/98 12/7/98	Method 300. 160.1	Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Paul Ortega Roger Sewell	Data Qualifi
	Analyte Chloride TDS poratory Comments:	Result 588 2620	Units mG/L mG/L	Analysis Date 12/23/98 12/7/98	Method 300. 160.1	Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Paul Ortega Roger Sewell	Data Qualifi
_ab	Analyte Chloride TDS poratory Comments:	Result	Units mG/L mG/L	Analysis Date 12/23/98 12/7/98	Method 300. 160.1	Minimum Level 10. 10.	Dilution Factor 1. 1. Review	Sample Det. Limit 10. 10. ed by Paul	Analyst Paul Ortega Roger Sewell Ortega	Data Qualifi
_ <u>_ab</u>	Analyte Chloride TDS poratory Comments:	Result	Units mG/L mG/L	Analysis Date 12/23/98 12/7/98	Method 300. 160.1	Minimum Level 10. 10.	Dilution Factor 1. 1. Review Supervise	Sample Det. Limit 10. 10. ed by Paul vr., Water ( Date Prin	Analyst Paul Ortega Roger Sewell Ortega hemislay Section nted: 6-Jan-99	Data Qualifi

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		V	VATER C	HEMISTR	Y SECTIO	N (505)-8	41-2555			
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Ana	3lyte	Result	Units	Analysis Date	Method	Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifier
Chloride		650.	mG/L	3/9/99	300.	10		40	Paul Ortega	
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TDS		2710.	mG/L	3/1/99	160.1	10.	1. 1.	10.	Roger Sewell	
тоs Laboratory C	<u>omments</u> :	2710.	mG/L	3/1/99	160.1	10.	1. 1.	10.	Roger Sewell	
TDS	<u>omments</u> :	2710.	mG/L	3/1/99	160.1	10.	1. 1. Review	10. 10. ed by Chri	Roger Sewell	
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		WATER	CHEMISTR	Y SECTIO	N (505)-8	41-2555			
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Fred Seifts Jal Water Supply Sy	stem	·				D	ISTRIBUTION TO	wss #: 21713	]
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P.O. Drawer 340 Jal, NM 88252			ANALYTIC	CAL RESU	LTS		ED Field Office Jal Water Supp Water Chemist	; Hobbs {S} oly System (C} ry Section - File Copy	
P.O. Drawer 340 Jal, NM 88252 Analyte	Result	Units	ANALYTIC Analysis Date	CAL RESU Method	LTS Minimum Level	Dilution Factor	ED Field Ottice Jal Water Supp Water Chemist Water Chemist Sample Det. Limit	; Hobbs {S} oly System {C} ry Section - File Copy Analyst	Data Qualifi
P.O. Drawer 340 Jal, NM 88252 Analyte Chloride	Result 565	Units mG/L	ANALYTIC Analysis Date 6/2/99	CAL RESU Method 300.	LTS Minimum Level 10.	Dilution Factor 1.	ED Field Ottice Jal Water Supp Water Chernist Sample Det. Limit 10.	, Hobbs (S) oly System (C) ny Section - File Copy Analyst Cliff Kear	Data Qualifi
P.O. Drawer 340 Jal, NM 88252 Analyte Chloride TDS	Result 565 2610	Units mG/L mG/L	ANALYTIC Analysis Date 6/2/99 5/21/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1.	ED Field Ottice Jal Water Supp Water Chernist Sample Det. LImit 10. 10.	, Hobbs (S) bly System (C) ry Section - File Copy Analyst Cliff Kear Roger Sewell	Data Qualifi
P.O. Drawer 340 Jal, NM 88252 Analyte Chloride TDS Laboratory Comments:	Result 565: 2610:	Units mG/L mG/L	ANALYTIC Analysis Date 6/2/99 5/21/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1.	ED Field Ottice Jal Water Supp Water Chemist Sample Det. Limit 10. 10.	, Hobbs (S) oly System (C) ny Section - File Copy Analyst Cliff Kear Roger Sewell	Data Qualifi
P.O. Drawer 340 Jal, NM 88252 Analyte Chloride TDS Laboratory Comments:	Result 565 2610.	Units mG/L mG/L	ANALYTIC Analysis Date 6/2/99 5/21/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1. Reviewe	ED Field Ottice Jal Water Supp Water Chernist Sample Det. LImit 10. 10. 20 by Chris	; Hobbs (S) oly System (C) ny Section - File Copy Analyst Cliff Kear Roger Sewell s Dean CG	Data Qualifi
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UJ - The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

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	<u></u>	WATER	CHEMISTR	Y SECTIO	N (505)-8	41-2555			
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Analyte	Result	Units	ANALYTI Analysis Date	CAL RESU Method	LTS Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifie
Analyte Chloride	Result	Units mG/L	ANALYTI Analysis Date 9/14/99	CAL RESU Method 300.	LTS Minimum Level 10.	Dilution Factor 1.	Sample Det. Limit 10.	Analyst Cliff Kear	Data Qualifi
Analyte Chloride TDS	Result 631 3120	Units mG/L mG/L	ANALYTI Analysis Date 9/14/99 8/26/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Cliff Kear Roger Sewell	Data Qualifi
Analyte Chloride TDS Laboratory Comments:	Result 631 3120	Units mG/L mG/L	ANALYTI Analysis Date 9/14/99 8/26/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Cliff Kear Roger Sewell	Data Qualifi
Analyte Chloride TDS Laboratory Comments:	Result 631 3120	Units mG/L mG/L	ANALYTI Analysis Date 9/14/99 8/26/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1. Review	Sample Det. Limit 10. 10. ed by Chri	Analyst Cliff Kear Roger Sewell s Dean	Data Qualifi
Analyte Chioride TDS Laboratory Comments:	Result 631 3120	Units mG/L mG/L	ANALYTI Analysis Date 9/14/99 8/26/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1. Review Supervise	Sample Det. Limit 10. 10. ed by Chri vr, Water (C Date Pr	Analyst Cliff Kear Roger Sewell s Dean hemistry Section inted: 20-Oct-99	Data Qualifik

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Jal, NM 88252	Result	Units	ANALYTIC Analysis Date	AL RESUL	TS Minimum Level	Dilution Factor	Water Chemis Sample Det. Limit	try Section - File Copy Analyst	Data Qualif
Jal, NM 88252 Analyte Chloride	Result	Units mG/L	ANALYTIC Analysis Date 12/1/99	CAL RESUL Method 300.	TS Minimum Level 10.	Dilution Factor 1.	Water Chemis Sample Det. Limit 10.	Analyst Cliff Kear	Dat: Qualif
Jal, NM 88252 Analyte Chioride TDS	Result	Units mG/L mG/L	ANALYTIC Analysis Date 12/1/99 11/29/99	CAL RESUL Method 300. 160.1	TS Minimum Level 10. 10.	Dilution Factor 1. 1.	Water Chemis Sample Det. Limit 10. 10.	Analyst Cliff Kear Roger Sewell	Dat. Qualif
Jal, NM 88252 Analyte Chloride TDS Laboratory Comments	Result 664 2410	Units mG/L mG/L	ANALYTIC Analysis Date 12/1/99 11/29/99	CAL RESUL Method 300. 160.1	TS Minimum Level 10. 10.	Dilution Factor 1. 1.	Water Chemis Sample Det. Limit 10. 10.	Analyst Cliff Kear Roger Sewell	Data Qualif
Jal, NM 88252 Analyte Chloride TDS Laboratory Comments	Result 664 2410	Units mG/L mG/L	ANALYTIC Analysis Date 12/1/99 11/29/99	CAL RESUL Method 300. 160.1	TS Minimum Level 10. 10.	Dilution Factor 1. 1. Reviewo	Water Chemis Sample Det. Limit 10. 10.	Analyst Cliff Kear Roger Sewell S Dean	Data Qualif
Jal, NM 88252 Analyte Chloride TDS Laboratory Comments	Result	Units mG/L mG/L	ANALYTIC Analysis Date 12/1/99 11/29/99	CAL RESUL Method 300. 160.1	TS Minimum Level 10. 10.	Dilution Factor 1. 1. Reviewe Supervía	Water Chemis Sample Det. Limit 10. 10. ed by Chri	Analyst Cliff Kear Roger Sewell s Dean D- Chemistry Section	Data Qualif

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Alb	P.O. Box 4700 uquerque, NM 87196-4700 WATER CHEMISTRY SECTION	<b>700 Camino de Salud, NE</b> [505]-841-2500 [505]-841-2555	
May 23, 1996 Request ID No. 119482	ANALYTICAL RE SLD Accession No. V	PORT /C-96-2807	Distribution User 63000 (x) Submitter 68 (X) Client (x) SLD Files
To: Jal Water Supply System P.O. Drawer 340 Jal, NM 88252		n: Water Chemistry Section Scientific Laboratory Divi 700 Camino de Salud, NE P.O. Box 4700 Albuquerque, NM 8719	sion 96-4700
Re: A water, Nonpres	/Nonfiltered sample submitted to this	s laboratory on May 13, 1996	

SCIENTIFIC LABORATORY DIVISION

User: SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106 Submitter: Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

DEMOGRAPHIC DATA

COLLECTION		LOCATION		
<i>n:</i> 9-May-96	By: Dec	WSS #: 217-13; Well 4 on Site		
<i>At:</i> 0:00 hrs.	In/Near: Jal	Jal Water Supply System		

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units
chloride	550.00		mG/L
total diss resid	2472.00		mG/L

Reviewed By: Diana Suvannunt, Ph.D. 05/23/96 Supervisor, Water Chemistry Section

CIENTIFIC LABORATORY DIVISION
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P.O. Box 4700 700 Camin Albuquerque, NM 87196-4700 [505] WATER CHEMISTRY SECTION (5051-841-2555

S

700 Camino de Salud, NE [505]-841-2500

August 30, 1996

Request ID No. 119492 ANALYTICAL REPORT SLD Accession No. WC-96-4501 Distribution User 63000 Submitter 68 (x) Client (x) SLD Files

To: Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240 From: Water Chemistry Section Scientific Laboratory Division 700 Camino de Salud, NE P.O. Box 4700 Albuquerque, NM 87196-4700

Re: A water, Nonpres/Nonfiltered sample submitted to this laboratory on August 8, 1996

User: SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106 Client:

Jal Water Supply System P.O. Drawer 340 Jal, NM 88252

DEMOGRAPHIC DATA

<i>C</i>	OLLECTION	LOCATION		
On: 7-Aug-96	<i>By:</i> Sei	WSS #: 217-13; Well 4 onsite		
<i>At:</i> 0:00 hrs.	<i>In/Near:</i> Jal	Jal Water Supply System		
4.9.1				

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units	·
chloride	543.00		mG/L	
total diss resid	2670.00		mG/L	

Reviewed By:

Diana Suvannunt, Ph.D. 08/28/96 Supervisor, Water Chemistry Section

SCIENTIFIC LABORATORY DIVISION				
P.O. Box 4700	700 Camino de Salud, NE			
Albuquerque, NM 87196-4700	[505]-841-2500			
WATER CHEMISTRY SECTION	[505]-841-2555			

November 21, 1996

Request ID No. 177244

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ANALYTICAL REPORT
SLD Accession No. WC 96 5956
3LD Accession No. WC-90-5956
h

Distribution () User 63000 (x) Submitter 68 (X) Client (x) SLD Files

To: City of Jal Jal Water Supply System P.O. Drawer 340 Jal, NM 88252 *From:* Water Chemistry Section Scientific Laboratory Division 700 Camino de Salud, NE P.O. Box 4700 Albuquerque, NM 87196-4700

## Re: A water, Nonpres/Nonfiltered sample submitted to this laboratory on November 8, 1996

User:	Submitter:
SLD Fee for Ser - WASTE WATER	Myra Meyers
Scientific Laboratory Division	ED Field Office, Hobbs
700 Camino de Salud, NE	Suite 165
Albuquerque, NM 87106	726 E. Michigan Avenue
	Hobbs, NM 88240

DEMOGRAPHIC DATA

COLLECTION		LOCATION
On: 7-Nov-96	<i>By:</i> Dec	WSS #: 217-13; Well 4 Onsite
1t: 0:00 hrs.	<i>In/Near:</i> Jal	Jal Water Supply System

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units
chloride	523.00		mG/L
total diss resid	2270.00		mG/L

Reviewed By:

Diana Suvannunt, Ph.D. 11/21/96 Supervisor, Water Chemistry Section

STATE (	OF NEW MEAICO			
	S Albuque	CIENTIFIC LABORATORY P.O. Box 4700 rque, NM 87196-4700 water chemistry section	Y DIVISION 700 Camino de Salud, NE [505]-841-2500 [505]-841-2555	
February	20, 1997	볋휮드븜윩쓑쾠릭볞뢌쁙뤅껆둲드림놂빝겯홂ウ汉륗궦백的 드		<b>Distribution</b>
Request ID No.	177222	ANALYTICAL REP SLD Accession No. W(	ORT C-97-0325	(_) User 63000 (x) Submitter 68 (X) Client (x) SLD Files
To: Jal P.C Jal,	Water Supply Syster D. Drawer 340 , NM 88252	m	Water Chemistry Section Scientific Laboratory Divi 700 Camino de Salud, NE P.O. Box 4700 Albuquerque, NM 8719	sion , 96-4700
Re: Av	water,Nonpres/Non	filtered sample submitted to this l	aboratory on February 12,	1997
He	or.		Submitter	

User: SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106 Submitter:

Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

DEMOGRAPHIC DATA

C	OLLECTION	LOCATION
<i>In:</i> 10-Feb-97	<i>By:</i> Dec	WSS #: 217-13; Well 4 Onsite
At: 0:00 hrs.	In/Near: Jal	Jal Water Supply System

ANALYTICAL RESULTS

Value	D. Lmt.	Units	<u></u>
518.00		mG/L	
2120.00		mG/L	
	Value 518.00 2120.00	Value         D. Lmt.           518.00	Value         D. Lmt.         Units           518.00         mG/L           2120.00         mG/L

Reviewed By:

Diana Suvannunt, Ph.D. 02/20/97 Supervisor, Water Chemistry Section

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	Albuqu	SCIENTIFIC LABORATORY P.O. Box 4700 erque, NM 87196-4700 WATER CHEMISTRY SECTION	<b>DIVISION</b> 700 Camino de Salud, NE [505]-841-2500 505]-841-2555	
Ma Re ID	ny 27, 1997 quest No. 177226	ANALYTICAL REPO SLD Accession No. WC	ORT -97-1991	Distribution () User 63000 (x) Submitter 68 (X Client (x) SLD Files
То	Jal Water Supply Syste P.O. Drawer 340 Jal, NM 88252	em	Water Chemistry Section Scientific Laboratory Div 700 Camino de Salud, NI P.O. Box 4700 Albuquerque, NM 871	ision 3 96-4700
Re	A water, Nonpres/Non <u>User:</u> SLD Fee for Ser - WA Scientific Laboratory I 700 Camino de Salud, Albuquerque, NM	nfiltered sample submitted to this la ASTE WATER Division NE 87106	boratory on May 20, 1997 <u>Submitter:</u> Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue	, 

DEMOGRAPHIC DATA

CC	DLLECTION	LOCATION
On: 19-May-97	<i>By:</i> Dec	WSS #: 217-13; Well 4 Onsite
- At: 0:00  hrs.	<i>In/Near:</i> Jal	Jal Water Supply System

ANALYTICAL RESULTS

	Analysis	Value	D. Lmt.	Units	
	chloride	559.00		mG/L	
1	total diss res	id 2500.00		mG/L	

**Reviewed By:** 

Diana Suvannunt, Ph.D. 05/27/97 Supervisor, Water Chemistry Section

726 E. Michigan Avenue Hobbs, NM 88240

<b>N</b>	P.C Alt	SCIENTI D Box 4700 Duquerque, N	IFIC LA	BORA1	ORY DI 700 Camino (505) 841-25	VISION de Salud, N 00	N	W.	
	 1	WATER CI	HEMISTRY	SECTIO	N (505)-8-	41-2555			2
AMPLE COLLECTION DATE: SAMPLING LOCATION: SAMPLE MATRIX:	<u>8/13/97</u> Well 4 Onsite wnn	TIME: <u>(</u>	0000	BY:	<u>Dec</u>	SI F	D NO.: REQUEST RECEIVED A	WC- 9703367 ID No.: 174506 IT SLD: 8/14/97 USER: 63000	
This Copy of Report for::							SUBN	WSS #: 21713	
Jai Water Supply Sys P.O. Drawer 340 Jai, NM 88252	stem					<u>D</u> :	<u>STRIBUTION 10</u> ED Field Office Jal Water Sup Water Chemis	<u>2:</u> a, Hobbs {S} ply System {C} try Section - File Copy	
	Result	Units	ANALYTIC Analysis	AL RESU	LTS Minimum	Dilution	Sample	Analyst	Data
Chloride	552.	mG/L	Date 8/20/97	300.	Level 5.	Factor 1.	Det. Limit 1.58	Harry Patterson	Qualifie
Chloride TDS Laboratory Comments:	552. 2580.	mG/L mG/L	Date 8/20/97 8/19/97	300. 160.1	Level 5. 10.	<b>Factor</b> 1. 1.	Det. Limit 1.58 10.	Harry Patterson Everett Taylor	Qualifie
Chioride TDS Laboratory Comments:	552. 2580.	mG/L mG/L	Date 8/20/97 8/19/97	300. 160.1	Level 5.	Factor 1. 1. Reviewe	Det Limit 1.58 10. ed by Diar r, Waler (	Harry Patterson Everett Taylor na Suvannant, PhD	Qualifie
Analyte Chloride TDS Laboratory Comments:	552. 2580.	mG/L mG/L	Date 8/20/97 8/19/97	300. 160.1	Level 5. 10.	Factor 1. 1. Reviewe	Det Limit 1.58 10. ed by Diar r, Waler ( Date Pr	Harry Patterson Everett Taylor na Suvannant, PhD Themistry Section inted: <u>8-Oct-97</u>	<u>Cualifi</u>
Chloride TDS Laboratory Comments: Data Qualifier Codes and U - The material was analyzed J - The data are unusable. (N UJ - The material was analyzed	552. 2580. d Definitions I for, but was not of estimated quantit lote: Analyte may d for, but was not	mG/L mG/L detected abov y. or may not be detected. Th	Date 8/20/97 8/19/97 re the level of e present. e associated	300. 160.1 the associat value is an e	Level 5. 10. ed value. The stimate and n	Factor 1. 1. Reviewe Supervisor associated hay be inacc	Det. Limit 1.58 10. 10. 10. 10. 10. 10. 10. 10.	Harry Patterson Everett Taylor a Suvannant, PhD chemistry Dection inted: <u>8-Oct-97</u> sample detection limit. recise.	Qualifie

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<b>T</b>	EXICO P. AI	O Box 4700	TIFIC LA , , NM 87196-47	BORA	FORY D 700 Camino (505) 841-250	IVISIO de Salud, N 00	DEP N E		
		WATER	CHEMISTR	Y SECTIO	N (505)-8	41-2555			
AMPLE COLLECTION DATE: SAMPLING LOCATION: SAMPLE MATRIX: This Copy of Report for:: Fred Seifts Jal Water Supply S P.O. Drawer 340 Jal, NM 88252	: <u>11/5/97</u> : <u>Well 4 Onsite</u> : <u>wnn</u> :system	TIME 2	E: <u>0000</u>	BY:	<u>Dec</u>		LD NO.: REQUEST RECEIVED A SUBM STRIBUTION T ED Field Office Jal Water Chemist	WC = 9704993 ID No.: 59030 T SLD: 11/6/97 USER: 63000 ITTER: 68 NSS #: 21713 <u>O:</u> , Hobbs (S) Ily System (C) ry Section - File Copy	
					и те				
Analyte	Result	Units	ANALYTI Analysis Date	CAL RESU	JLTS Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifier
Analyte Chloride	Result	Units mG/L	ANALYTI Analysis Date 11/19/97	CAL RESU Method 300.	JLTS Minimum Level 5.	Dilution Factor 1.	Sample Det. Limit 1.58	Analyst Harry Patterson	Data Qualifier
Analyte Chloride TDS	Result 549: 2390:	Units mG/L mG/L	ANALYTI Analysis Date 11/19/97 11/13/97	CAL RESU Method 300. 160.1	JLTS Minimum Level 5. 10.	Dilution Factor 1. 1.	Sample Det. Limit 1.58 10.	Analyst Harry Patterson Staci Morris	Data Qualifier
Analyte Chloride TDS Laboratory Comments	Result 549:	Units mG/L mG/L	ANALYTI Analysis Date 11/19/97 11/13/97	CAL RESU Method 300. 160.1	JLTS Minimum Level 5. 10.	Dilution Factor 1. 1. 8.	Sample Det. Limit 1.58 10.	Analyst Harry Patterson Staci Morris na Suvannant, Ph	Data Qualifier D
Analyte Chloride TDS Laboratory Comments	Result 549: 2390:	Units mG/L mG/L	ANALYTI Analysis Date 11/19/97 11/13/97	CAL RESU Method 300. 160.1	JLTS Minimum Level 5. 10.	Dilution Factor 1. 1. 1. Reviewe	Sample Det. Limit 1.58 10. ed by Diar r. Waler (	Analyst Harry Patterson Staci Morris na Suvannant, Ph Phemislry Bection	Data Qualifier
Analyte Chloride TDS Laboratory Comments	Result 549 2390:	Units mG/L mG/L	ANALYTI Analysis Date 11/19/97 11/13/97	CAL RESU Method 300. 160.1	JLTS Minimum Level 5. 10.	Dilution Factor 1. 1. N. Reviewe Superviso	Sample Det. Limit 1.58 10. ed by Diar N, Walen ( Date Pri	Analyst Harry Patterson Staci Morris na Suvannant, Ph Ihemistry Section Inted: 25-Nov-97	Data Qualifier D

UJ - The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

DATE: 2/12/98 CATION: Well 4 Onsi MATRIX: Wnn or:: pply System 340 52 Result	WATER TIME	E: 0000 ANALYTI	BY:	N (505)-8 <u>Sei</u>	141-2555 SL	LD NO.: REQUEST RECEIVED A SUBM STRIBUTION T ED Field Office Jal Water Supp Water Chemist	WC-9800593 ID No.: 59037 IT SLD: 2/17/98 USER: 63000 IITTER: 68 WSS #: 21713 O: e, Hobbs (S) oly System (C) try Section - File Copy	
DATE: <u>2/12/98</u> CATION: <u>Well 4 Onsi</u> MATRIX: <u>wnn</u> or:: pply System 340 52 Result	TIME	E: 0000 ANALYTI	BY:	<u>Sei</u>		LD NO.: REQUEST RECEIVED A SUBM	WC-9800593 ID No.: 59037 IT SLD: 2/17/98 USER: 63000 ITTER: 68 WSS #: 21713 O: 2. Hobbs (S) oly System (C) try Section - File Copy	
pply System 340 52 Result	Units	ANALYTI	CAL RESL	LTS	Dis	SUBM STRIBUTION T ED Field Office Jal Water Supp Water Chemist	USER: 63000 IITTER: 68 WSS #: 21713 O: e, Hobbs {S} oly System {C} Ity Section - File Copy	
pply System 340 52 Result	Units	ANALYTI	CAL RESL	LTS		STRIBUTION T ED Field Office Jal Water Supp Water Chemist	WSS #: 21713 O: a, Hobbs (S) oly System (C) try Section - File Copy	
pply System 340 52 Result	Units	ANALYTI	CAL RESL	LTS	<u>DIS</u>	STRIBUTION T ED Field Office Jal Water Supp Water Chemist	O: , Hobbs {S} Jy System {C} try Section - File Copy	
340 52 Result	Units	ANALYTI	CAL RESL	LTS		ED Field Office Jal Water Supp Water Chemist	e, Hobbs (S) oly System (C) try Section - File Copy	
52 Result	Units	ANALYTI	CAL RESL	LTS		Jal Water Supp Water Chemist	oly System (C) try Section - File Copy	
Result	Units	ANALYTI	CAL RESL	LTS		Water Chemist	try Section - File Copy	
Result	Units	ANALYTI	CAL RESL	LTS				
THE REPORT OF THE PARTY OF THE		Date	Method	Level	Factor	Sample Det. Limit	Analyst	Data Qualifie
<b>657</b>	mG/L	3/3/98	300.	5.	1.	1.58	Harry Patterson	
2410	mG/L	2/17/98	160.1	10.	1.	10.	Staci Morris	
<u>ments</u> :								
					Reviewa	ed by Diar	na Suvannant Phi	r
					Superviso	r, Waler (	Chemistry Section	
						Date Pri	nted: <u>5-Mar-98</u>	-
odes and Definition analyzed for, but was not alue is an estimated quant sable. (Note: Analyte ma sanalyzed for, but was no	ns i detected abo lity. ay or may not i it detected. Th	ove the level of t be present. The associated v	he associated alue is an estir	value. The as	sociated val	ue is the sam te or imprecis	nple detection limit. se.	
	2410 ments: odes and Definitio analyzed for, but was not alue is an estimated quan sable. (Note: Analyte ma s analyzed for, but was not	2410: mG/L ments: odes and Definitions analyzed for, but was not detected abralue is an estimated quantity. sable. (Note: Analyte may or may not s analyzed for, but was not detected. T	2410 mG/L 2/17/98 ments: odes and Definitions analyzed for, but was not detected above the level of t alue is an estimated quantity. sable. (Note: Analyte may or may not be present. s analyzed for, but was not detected. The associated v	2410       mG/L       2/17/98       160.1         ments:         odes and Definitions         analyzed for, but was not detected above the level of the associated alue is an estimated quantity.         sable. (Note: Analyte may or may not be present.         s analyzed for, but was not detected. The associated value is an estimated value	2410       mG/L       2/17/98       160.1       10.         ments:         odes and Definitions         analyzed for, but was not detected above the level of the associated value. The asalue is an estimated quantity.         sable. (Note: Analyte may or may not be present.         s analyzed for, but was not detected. The associated value is an estimate and may	2410       mG/L       2/17/98       160.1       10.       1.         ments:       Reviews         Supervise         odes and Definitions       analyzed for, but was not detected above the level of the associated value. The associated value is an estimated quantity.         sable. (Note: Analyte may or may not be present.       s analyzed for, but was not detected. The associated value is an estimate and may be inaccura	2410       mG/L       2/17/98       160.1       10.       1.       10.         ments:       Reviewed by Dial       Supervisor, Waler (         Supervisor, Waler (       Date Pri         odes and Definitions       .       .       .         analyzed for, but was not detected above the level of the associated value. The associated value is the sam       .         alue is an estimated quantity.       .       .         sable. (Note: Analyte may or may not be present.       .       .         s analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise	2410       mG/L       2/17/98       160.1       10.       1.       10.       Staci Morris         ments:       Reviewed by Diana Suvannant, Phil Supervisor, Waler Chemistry Section         Date Printed: <u>5-Mar-98</u> odes and Definitions       analyzed for, but was not detected above the level of the associated value. The associated value is the sample detection limit. alue is an estimated quantity.         sable. (Note: Analyte may or may not be present.       s analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

SAMPLE COLLECTION DATE: <u>5/11/98</u>	WATE	R CHEMISTR	Y SECTIO					- 1
SAMPLE COLLECTION DATE: <u>5/11/98</u> SAMPLING LOCATION: Well 4 O	-			N (505)-8	41-2555		L	
SAMPLE MATRIX: Wnn	<u>Dnsite</u>	ime: <u>0000</u>	BY:	<u>Dec</u>	SI	D NO.:	WC-9801777 ID No.: 59054 T SLD: 5/14/98	204 million
This Copy of Report for::						SUBM	USER: 63000 ITTER: 68	}
Fred Seifts Jal Water Supply System P.O. Drawer 340 Jal, NM 88252					DI	N STRIBUTION T ED Field Office Jal Water Supp	NSS #:         21713           O:         .           , Hobbs         {S}           Ily System         {C}           Social Characteria         Characteria	]
	· <u></u> ,	ANALYTI	CAL RESU	LTS				
Analyte Result	it Units	ANALYTI Analysis	CAL RESU	LTS Minimum	Dilution	Sample	Analyst	Data
Analyte Result Chloride 618.	lt Units	ANALYTI Analysis Date 7/7/98	CAL RESU Method 300.	LTS Minimum Level 10.	Dilution Factor 1.	Sample Det. Limit 10.	Analyst Paul Ortega	Data Qualif
Analyte Result Chloride 618. TDS 2270.	it Units mG/L mG/L	ANALYTI Analysis Date 7/7/98 5/28/98	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Paul Ortega Staci Morris	Data Qualif
Analyte Result Chloride 618. TDS 22270. Laboratory Comments:	lt Units mG/L	ANALYTI Analysis Date 7/7/98 5/28/98	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Paul Ortega Staci Morris	Datz Qualif
Analyte Result Chloride 618. TDS 2270. Laboratory Comments:	lt Units mG/L	ANALYTI Analysis Date 7/7/98 5/28/98	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1. 1. Review	Sample Det. Limit 10. 10. ed by Diar	Analyst Paul Ortega Staci Morris na Suvannant, Ph	Datz Qualif

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WZ.	, (100 Р А	SCIEN .0 Box 4700 Ibuquerque	TIFIC LA ) , NM 87196-47	BORAT	ORY D 700 Camino (505) 841-250	IVISIO de Salud, N 00	DEP/ N E		
	_	WATER	CHEMISTR	Y SECTIO	N (505)-8	41-2555		£	<u> </u>
SAMPLE COLLECTION DATE: SAMPLING LOCATION: SAMPLE MATRIX:	<u>8/19/98</u> Well 4 Onsit wat	тіме <u>е</u>	≣: <u>0068</u>	BY:	<u>Dec</u>	SL	D No.:	WC- 9803652 D No.: 2272997 I SLD: 8/24/98	
This Copy of Report for:							SUBMI	USER: 03000 TTER: 217	
Fred Seifts							v	vss # 0	
City of Jal						יום	• STRIBUTION TO	):	l
PO Drawer 340				1		01	FHO1 Torrance	Co./Estancia (S)	
Jal, NM 88252							City of Jal (C)	(-,	
							Water Chemistr	y Section - File Copy	
			Analysis		Minimum	Dilution	Samole		Data
Analyte	Result	Units	Analysis Date	Method	Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifi
Analyte Chloride TDS	Result 581. 2650.	Units mG/L mG/L	Analysis Date 9/16/98 9/1/88	Method 300. 160.1	Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Paul Ortega Roger Sewell	Data Qualifi
Analyte Chloride TDS Laboratory Comments:	Result 581. 2650.	Units mG/L mG/L	Analysis Date 9/16/98 9/1/88	Method 300. 160.1	Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Paul Ortega Roger Sewell	Data Qualifi
Analyte Chloride TDS Laboratory Comments:	Result 581 2650	Units mG/L mG/L	Analysis Date 9/16/98 9/1/88	Method 300. 160.1	Minimum Level 10. 10.	Dilution Factor 1. 1. Review	Sample Det. Limit 10. 10.	Analyst Paul Ortega Roger Sewell na Suvannant, PhI	Data Qualifi
Analyte Chloride TDS Laboratory Comments:	Result 581: 2650:	Units mG/L mG/L	Analysis Date 9/16/98 9/1/88	Method 300. 160.1	Minimum Level 10. 10.	Dilution Factor 1. 1. Reviewe	Sample Det. Limit 10. 10. ed by Dian Waler Chemish	Analyst Paul Ortega Roger Sewell na Suvannant, Phi	Data Qualific
Analyte Chloride TDS Laboratory Comments:	Result 581 2650	Units mG/L mG/L	Analysis Date 9/16/98 9/1/88	Method 300. 160.1	Minimum Level 10. 10.	Dilution Factor 1. 1. Reviewe Supervisor,	Sample Det. Limit 10. 10. ed by Dian Waler Chemish Date Prin	Analyst Paul Ortega Roger Sewell a Suvannant, Phi y كمدلنوس nted:25-Sep-98	Data Qualifi )



W <sub>C</sub>	MEXICO P A	SCIEN O Box 4700	TIFIC LA	BORA	FORY D 700 Camino (505) 841-256	IVISIO de Salud, N 00	DEP/ N		
	-	WATER	CHEMISTR	Y SECTIO	N (505)-8	41-2555			7
SAMPLE COLLECTION DA SAMPLING LOCATI SAMPLE MATI	лте: <u>11/30/98</u> оn: <u>Well 4 Onsit</u> rix: <u>wnn</u>	time <u>e</u>	E: <u>0000</u>	BY:	Dec	SI	D No.:	WC- 9805522 D No.: 2283422 T SLD: 12/3/98	
This Copy of Report for:: Fred Seifts Jal Water Supply P.O. Drawer 340	y System					DK	SUBMI W STRIBUTION TO ED Field Office,	TTER: 68 vss #: 21713	
Jai, NM 88252	<u></u>						Jal Water Suppl Water Chemistr	ly System {C} y Section - File Copy	
	D14	1 1 - 2 -	ANALYTIC Analysis		JLTS Minimum	Dilution	Sample	A 1 4	Data
Analyte	Result	Units	ANALYTIC Analysis Date	CAL RESU	JLTS Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualif
Analyte Chloride TDS	Result 587. 2340	Units mG/L mG/L	ANALYTIC Analysis Date 12/23/98 12/7/98	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Paul Ortega Roger Sewell	Dat: Qualif
Analyte Chloride TDS Laboratory Commer	Result 587 2340 <u>nts</u> :	Units mG/L mG/L	ANALYTIC Analysis Date 12/23/98 12/7/98	Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Paul Ortega Roger Sewell	Datz Qualif
Analyte Chloride TDS Laboratory Commer	Result 587 2340. <u>nts</u> :	Units mG/L mG/L	ANALYTIC Analysis Date 12/23/98 12/7/98	Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1. Review Bupervise	Sample Det. Limit 10. 10. ed by Paul r., Waler C	Analyst Paul Ortega Roger Sewell Ortega	Datz Qualif
Analyte Chloride TDS Laboratory Commer	Result 587 2340 1 <u>ts</u> :	Units mG/L mG/L	ANALYTIC Analysis Date 12/23/98 12/7/98	Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1. Neview Supervise	Sample Det. Limit 10. 10. ed by Paul rr, Waler C Date Prir	Analyst Paul Ortega Roger Sewell Ortega hemistry Section hted: 6-Jan-99	Data Qualifi

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Ţ		P. Al	O Box 4700 buquerque	0 9, NM 87196-47	00	700 Camino (505) 841-250	de Salud, N )0	E	<b>X</b> C	
			WATER	CHEMISTR	Y SECTIO	N (505)-8	41-2555			
AMPLE CO	DLLECTION DATE: MPLING LOCATION: SAMPLE MATRIX:	<u>2/23/99</u> Well 4 Onsite wnn	TIME <u>9</u>	e: <u>0000</u>	BY:	<u>Sei</u>	SI	D NO.:	WC- 9900299 ID No.: 2283427 T SLD: 2/24/99	
This Conv	of Report for:							SUDM	USER: 63000	4
Ered	1 Seifts			]				JUDIM	NSS # 21713	-
Jal V	Water Supply Sv	/stem					DI		0:	4
P.O.	Drawer 340							ED Field Office	 , Hobbs (S)	
Jal,	NM 88252							Jal Water Supp	ly System (C)	
								Water Chemistr	ry Section - File Copy	
	A - 1.4			ANALYTI Analysis	CAL RESL	JLTS Minimum	Dilution	Sample		Data
	Analyte	Result	Units	ANALYTI Analysis Date	CAL RESL Method	JLTS Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualif
Chlor	Analyte	Result 641	Units mG/L	ANALYTI Analysis Date 3/9/99	CAL RESL Method 300.	JLTS Minimum Level 10.	Dilution Factor 1.	Sample Det. Limit 10.	Analyst Paul Ortega	Dat: Qualif
Chlor TDS	Analyte	Result 641 2500	Units mG/L mG/L	ANALYTI Analysis Date 3/9/99 3/1/99	CAL RESL Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Paul Ortega Roger Sewell	Dat: Qualif
Chlor TDS Laborate	Analyte ride cory Comments:	Result 641 2500	Units mG/L mG/L	ANALYTI Analysis Date 3/9/99 3/1/99	CAL RESL Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Paul Ortega Roger Sewell	Dat: Qualif
Chlor TDS Laborate	Analyte ride cory Comments:	Result 641 2500.	Units mG/L mG/L	ANALYTI Analysis Date 3/9/99 3/1/99	CAL RESL Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1. 1. Review	Sample Det. Limit 10. 10. ed by Chri	Analyst Paul Ortega Roger Sewell is Dean O	Data Qualif
Chlor TDS Laborat	Analyte <sup>ride</sup>	<b>Result</b> 641. 2500.	Units mG/L mG/L	ANALYTI Analysis Date 3/9/99 3/1/99	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1. 1. <b>Review</b> Superwiss	Sample Det. Limit 10. 10. ed by Chri en, Walers ( Date Prin	Analyst Paul Ortega Roger Sewell is Dean Merniskry Section, nted: 18-Mar-99	Datz Qualif

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WZ)	P. Al	O Box 4700 buquerque	) 9, NM 87196-47	700	700 Camino (505) 841-25	de Salud, N 00	IE	W <sub>C</sub>	
		WATER	CHEMISTR	Y SECTIO	N (505)-84	41-2555			
AMPLE COLLECTION DAT SAMPLING LOCATIO SAMPLE MATR	E: <u>5/17/99</u> N: <u>Well 4 Onsite</u> X: <u>wnn</u>	TIME	E: <u>0000</u>	BY:	<u>Dec</u>	SI	D No.:	WC- 9901560 ID No.: 2289652 T SLD: 5/20/99	
This Copy of Report for::							SUBM	ITTER: 68	4
Fred Seifts	- ·					DI	N STRIBUTION TO	wss #: 21713	]
Jal Water Supply P.O. Drawer 340 Jal, NM 88252	System	CALIE: 1941-1444					ED Field Office Jal Water Supp Water Chemistr	, Hobbs {S} Ily System {C} ry Section - File Copy	
Jal Water Supply P.O. Drawer 340 Jal, NM 88252	System	linite	ANALYTIC	CAL RESU	LTS Minimum	Dilution	ED Field Office Jal Water Supp Water Chemistr Sample	, Hobbs {S} Ily System {C} ry Section - File Copy	Data
Jal Water Supply P.O. Drawer 340 Jal, NM 88252 Analyte	Result	Units	ANALYTIC Analysis Date	CAL RESU Method	LTS Minimum Level	Dilution Factor	ED Field Office Jal Water Supp Water Chemistr Sample Det. Limit	, Hobbs (S) Ily System (C) ry Section - File Copy Analyst	Data Qualifi
Jal Water Supply P.O. Drawer 340 Jal, NM 88252 Analyte Chloride TDS	Result 579. 2620.	Units mG/L mG/L	ANALYTIC Analysis Date 6/1/99 5/21/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1.	ED Field Office Jal Water Supp Water Chemistr Sample Det. Limit 10. 10.	, Hobbs {S} Ily System {C} ry Section - File Copy Analyst Cliff Kear Roger Sewell	Data Qualifi
Jal Water Supply P.O. Drawer 340 Jal, NM 88252 Analyte Chloride TDS Laboratory Comment	System Result 7 579. 2620: <u>s</u> :	Units mG/L mG/L	ANALYTIC Analysis Date 6/1/99 5/21/99	CAL RESU Method 300. 160.1	LTS Minimum Levei 10. 10.	Dilution Factor 1. 1.	ED Field Office Jal Water Supp Water Chemistr Sample Det. Limit 10. 10.	, Hobbs (S) Ny System (C) ny Section - File Copy Analyst Cliff Kear Roger Sewell	Data Qualifi
Jal Water Supply P.O. Drawer 340 Jal, NM 88252 Analyte Chloride TDS Laboratory Comment	Result           679           2620	Units mG/L mG/L	ANALYTIC Analysis Date 6/1/99 5/21/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1. Reviewe	ED Field Office Jal Water Supp Water Chemistr Sample Det. Limit 10. 10. 10. 20 by Chris r, Water C	, Hobbs (S) Ny System (C) ny Section - File Copy Analyst Cliff Kear Roger Sewell s Dean O hemistry Dection	Data Qualifi

R - The data are unusable. (Note: Analyte may or may not be present.
 UJ - The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

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<b>W</b> C	F A	SCIEN O Box 4700	TIFIC LA ) ), NM 87196-4	<b>BORA</b> 1	FORY D 700 Camino (505) 841-25	IVISIOI de Salud, I 00	DEP/ N		
		WATER	CHEMISTR	Y SECTIO	N (505)-8	41-2555			
SAMPLE COLLECTION DATE: SAMPLING LOCATION: SAMPLE MATRIX:	<u>8/23/99</u> Well 4 Onsite wnn	TIME 2	:: <u>0000</u>	BY:	Dec	S	LD No.: [ REQUEST I RECEIVED A	WC- 9903289 ID No.: 2293283 T SLD: 8/25/99 USER: 63000	
This Copy of Report for::	····			1			SUBMI	ITTER: 68	4
Fred Seitts	votom							wss #: 21713	l
P O Drawer 340	stem					D	STRIBUTION TO	Habba (8)	
Jal. NM 88252							Jal Water Supp	ly System (C)	
							cal mater capp	, ., ., ., ., ., ., ., ., ., ., ., ., .,	
		<u></u>				<del></del>	Water Chemistr	y Section - File Copy	
Analyte	Result	Units	ANALYTI Analysis Date	CAL RESU	LTS Minimum Level	Dilution Factor	Water Chemistr Sample Det. Limit	y Section - File Copy Analyst	Data Qualifier
Analyte	Result	Units mG/L	ANALYTI Analysis Date 9/14/99	CAL RESU Method 300.	LTS Minimum Level 10.	Dilution Factor 1.	Sample Det. Limit 10.	y Section - File Copy Analyst Cliff Kear	Data Qualifier
Analyte Chloride TDS	Result .577. 2780.	Units mGAL mGAL	ANALYTI Analysis Date 9/14/99 8/26/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Water Chemistr Sample Det. LImit 10.	y Section - File Copy Analyst Cliff Kear Roger Sewell	Data Qualifier
Analyte Chloride TDS Laboratory Comments:	Result -577 2780:	Units mGA mGA	ANALYTI Analysis Date 9/14/99 8/26/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	y Section - File Copy Analyst Cliff Kear Roger Sewell	Data Qualifier
Analyte Chloride TDS Laboratory Comments:	Result 577 2780.	Units mGA mGA	ANALYTI Analysis Date 9/14/99 8/26/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1. Reviewe	Sample Det. Limit 10. 10.	y Section - File Copy Analyst Cliff Kear Roger Sewell	Data Qualifier
Analyte Chloride TDS Laboratory Comments:	Result 	Units mGA mGA	ANALYTI Analysis Date 9/14/99 8/26/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1. Neviewe	Sample Det. Limit 10. 10. ed by Chris	y Section - File Copy Analyst Cliff Kear Roger Sewell S Dean A hemistry bection	Data Qualifier
Analyte Chloride TDS Laboratory Comments:	Result 577 2780:	Units mGA mGA	ANALYTI Analysis Date 9/14/99 8/26/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1. Neviewo Superviso	Sample Det. Limit 10. 10. ed by Chris r, Water Ci Date Pri	Analyst Cliff Kear Roger Sewell S Dean D humishay baction Inted: 20-Oct-99	Data Qualifier

COPY SENT 1/5/29

Printed 10/20/99

STATE OF NEW MEXIC	5						DEP	ARTMENT OF HE	46111
MYC)	P. Ai	O Box 4700	FIFIC LA 0 2, NM 87196-4	BORAT( 700	ORY DI 700 Camino (505) 841-25	VISION de Salud, 00	NE NE	WZ_	
		WATER	CHEMISTRY	SECTION	(505)-841	-2555			
SAMPLE COLLECTION DATE: <u>11</u> SAMPLING LOCATION: <u>W</u> SAMPLE MATRIX: WI	1 <u>/22/99</u> ELL 4 ONS	TIME <u>SITE</u>	: <u>0:00</u>	BY:	BUTLER	SL	D No.:	WC- 199905024 D No.: 2296923 T SLD: 11/29/99	
This Copy of Report for::	-						SUBMI	USER: 63000 ITTER: 68	
Fred Selfts							v	vss #: NM3521713	
Jal Water Supply Syste	m		)			D	STRIBUTION TO	2	1
P.O. Drawer 340							ED Field Office	e, Hobbs (S)	
Jal, NM 88252							Jal Water Sup	ply System (C)	
							Water Chemis	try Section - File Copy	
			ANALYTIC	AL RESUL	тѕ				
Analyte	Result	Units	ANALYTIC Analysis Date	AL RESUL	TS Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifie
Analyte Chloride	Result	Units mG/L	ANALYTIC Analysis Date 12/1/99	CAL RESUL Method 300.	TS Minimum Level 10.	Dilution Factor 1.	Sample Det. Limit 10.	Analyst Cliff Kear	Data Qualifier
Analyte Chloride TDS	Result 594 2390	Units mG/L mG/L	ANALYTIC Analysis Date 12/1/99 11/29/99	CAL RESUL Method 300. 160.1	TS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Cliff Kear Roger Sewell	Data Qualifie
Analyte Chloride TDS Laboratory Comments:	Result 594 2390	Units mG/L mG/L	ANALYTIC Analysis Date 12/1/99 11/29/99	CAL RESUL Method 300. 160.1	TS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Cliff Kear Roger Sewell	Data Qualifie
Analyte Chloride TDS Laboratory Comments:	Result 594	Units mG/L mG/L	ANALYTIC Analysis Date 12/1/99 11/29/99	CAL RESUL Method 300. 160.1	TS Minimum Level 10. 10.	Dilution Factor 1. 1. Reviewe	Sample Det. Limit 10. 10. ed by Chri	Analyst Cliff Kear Roger Sewell s Dean &	Data Qualifie
Analyte Chloride TDS Laboratory Comments:	Result 594	Units mG/L mG/L	ANALYTIC Analysis Date 12/1/99 11/29/99	CAL RESUL Method 300. 160.1	TS Minimum Level 10. 10.	Dilution Factor 1. 1. 1. Reviewe Supervie	Sample Det. Limit 10. 10. ed by Chri cor, Water of Date Pri	Analyst Cliff Kear Roger Sewell s Dean Chemistry Section Inted: <u>11-Jan-00</u>	Data Qualifie

	P.O. Box 4700 Albuquerque, NM 87196-4700 WATER CHEMISTRY SECTION	] NC	700 Camino de Salud, NE [505]-841-2500 505]-841-2555	
August 22, 1995 Request ID No. 119488	ANALYTICAL R SLD Accession No.			<u>Distribution</u> () User 63000 (x) Submitter 68 (X) Client (x) SLD Files
<i>To:</i> Jal Water Suj P.O. Drawer Jal, NM 8	pply System 340 8252	om:	Water Chemistry Section Scientific Laboratory Divi 700 Camino de Salud, NE P.O. Box 4700 Albuquerque, NM <sup>-</sup> 8719	sion 96-4700
Re: A water, Pres	s/Nonfiltered sample submitted to this l	abor	atory on August 11, 1995	

User: SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106

× .

Submitter: Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

**DEMOGRAPHIC DATA** 

C	OLLECTION	LOCATION	
On: 7-Aug-95 At: 0:00 hrs.	<i>By:</i> Sei <i>In/Near:</i> Jal	WSS #: 217-13; Well #7 Upstream Jal Water Supply System	
* de 10 de 1			

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	_ Units	
nitrate+ite as N	1.90		mG/L	
Kjeldahl N	0.10		mG/L	

Reviewed By:

Diana Suvannunt, Ph.D. 08/22/95 Supervisor, Water Chemistry Section

		AVATA IBANA IVAATI V	A OF HEALTH
	SCIENTIFIC LABORATOR P.O. Box 4700 Albuquerque, NM 87196-4700 WATER CHEMISTRY SECTION	Y DIVISION 700 Camino de Salud, NE [505]-841-2500 [505]-841-2555	
April 13, 1995 🧑	ANALYTICAL REF SLD Accession No. W	PORT C-95-0636	Distribution () User 63000 (x) Submitter 68 (X) Client (x) SLD Files
<i>To:</i> City of Jal Drawer 34 Jal, NM 8	) 8252	<ul> <li>Water Chemistry Section Scientific Laboratory Divis 700 Camino de Salud, NE P.O. Box 4700 Albuguerque, NM 8719</li> </ul>	sion 96-4700

Re: A water, Pres/Nonfiltered sample submitted to this laboratory on February 7, 1995

User:	Submitter:
SLD Fee for Ser - WASTE WATER	Myra Meye
Scientific Laboratory Division	ED Field C
700 Camino de Salud, NE	Suite 165
Albuquerque, NM 87106	726 E. Mic
	TT.11 ND

Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

DEMOGRAPHIC DATA

COLLECTION		LOCATION
On: 6-Feb-95	<i>By:</i> Sei	Well #7 Up Strem
At: 0:00 hrs.	In/Near: Jal	

ANALYTICAL RESULTS

Analysis	<u>Value</u>	<u>D. Lmt.</u>	<u>Units</u>
nitrate+ite as N	2.20		mG/L
Kjeldahl N	0.40		mG/L
5			

Reviewed By: \_

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Diana Suvannunt, Ph.D. 04/13/95 Supervisor, Water Chemistry Section

Albu	P.O. Box 4700 Iquerque, NM 87196-4700 WATER CHEMISTRY SECT	ION [	700 Camino de Salud, NE [505]-841-2500 <sup>505]-841-2555</sup>	
August 22, 1995 Request ID No. 119487				Distribution () User 63000 (x) Submitter 68 (X) Client (x) SLD Files
To: Jal Water Supply S P.O. Drawer 340 Jal, NM 88252	System F	rom:	Water Chemistry Section Scientific Laboratory Divi 700 Camino de Salud, NE P.O. Box 4700 Albuquerque, NM 8719	sion 96-4700

Re: A water, Pres/Nonfiltered sample submitted to this laboratory on August 11, 1995

User:	
SLD Fee for Ser - W	VASTE WATER
Scientific Laboratory	y Division
700 Camino de Salu	d, NE
Albuquerque, NM	87106

Submitter: Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

**DEMOGRAPHIC DATA** 

COLLECTION		LOCATION	
On: 7-Aug-95	<i>By:</i> Sei	WSS #: 217-13; Well #10 Upstream	
4 <i>t:</i> 0:00 hrs.	In/Near: Jal	Jal Water Supply System	

## ANALYTICAL RESULTS

Analysis		Value	D. Lmt.	Units	
nitrate+ite as N		2.00		mG/L	
Kjeldahl N	<	0.10		mG/L	

Reviewed By:

Diana Suvannunt, Ph.D. 08/22/95 Supervisor, Water Chemistry Section

## SCIENTIFIC LABORATORY DIVISIONP.O. Box 4700700 Camino de Salud, NEAlbuquerque, NM 87196-4700[505]-841-2500

WATER CHEMISTRY SECTION [505]-841-2555

November 30, 1994

Request ID No. 077803

To: City of Jal Drawer 340 Jal, NM 88252 ANALYTICAL REPORT SLD Accession No. WC-94-4931

Distribution User 63000 (x) Submitter 81 Client (x) SLD Files

From: Water Chemistry Section Scientific Laboratory Div. 700 Camino de Salud, N.E. P.O. Box 4700 Albuquerque, NM 87196-4700

Re: A water, Pres/Nonfiltered sample submitted to this laboratory on August 24, 1994

User: SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106 Submitter:

Glenn Saums ED - Surface Water Program ED Surface Water Bureau P.O. Box 26110 Santa Fe, NM 87502

**DEMOGRAPHIC DATA** 

COLLECTIONLOCATIONOn: 22-Aug-94By: Rag . . .Well # 10 Up StremAt: 0:00 hrs.In/Near: JalWell # 10 Up Strem

ANALYTICAL RESULTSAnalysisValueD. Lmt.Unitsnitrate+ite as N6.00mG/LKjeldahl N< 0.10</td>mG/L

**Reviewed By:** 

Chris Dean 11/30/94 Supervisor, Water Chemistry Section



P. Albuquerq	O. Box 4700 ue, NM 87196-4700 water chemistry sectio	<b>700 Camino de Salud, NE</b> [505]-841-2500 N [505]-841-2555	
May 23, 1996 Request ID No. 119480 ANALYTICA SLD Accession N		CAL REPORT n No. WC-96-2805	
To: Jal Water Supply System P.O. Drawer 340 Jal, NM 88252	Fro	<i>m:</i> Water Chemistry Section Scientific Laboratory Divis 700 Camino de Salud, NE P.O. Box 4700 Albuquerque, NM 8719	sion 96-4700

Re: A water, Nonpres/Nonfiltered sample submitted to this laboratory on May 13, 1996

User: SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106 Submitter: Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

DEMOGRAPHIC DATA

COLLECTION		LOCATION
On: 9-May-96	<i>By:</i> Dec	WSS #: 217-13; Well 11 Upstream
At: 0:00 hrs.	<i>In/Near:</i> Jal	Jal Water Supply System

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units
chloride	172.00		mG/L
total diss resid	992.00		mG/L

Reviewed By:

Diana Suvannunt, Ph.D. 05/23/96 Supervisor, Water Chemistry Section

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	S	CIENTIFIC LABORA FO P.O. Box 4700 rque, NM 87196-4700 WATER CHEMISTRY SECTIO	RY	<b>DIVISION</b> 700 Camino de Salud, NE [505]-841-2500 505]-841-2555	
Nove Requ ID N	mber 21, 1996 lest o. 177242	ANALYTICAL RI			Distribution () User 63000 (x) Submitter 68 (X) Client (x) SLD Files
To:	City of Jal Jal Water Supply Syster P.O. Drawer 340 Jal, NM 88252	m	m:	Water Chemistry Section Scientific Laboratory Divis 700 Camino de Salud, NE P.O. Box 4700 Albuquerque, NM 8719	sion 96-4700
Re:	A water, Nonpres/Non	filtered sample submitted to th	is la	boratory on November 8, 1	1996

User: SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106 Submitter: Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

**DEMOGRAPHIC DATA** 

C	OLLECTION	LOCATION
On: 7-Nov-96	By: Dec $\dots$	WSS #: 217-13; Well 11 Upstream
	Intriveur. Jai	Sal Water Supply System

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units	
chloride	176.00		mG/L	
total diss resid	714.00		mG/L	

Reviewed By: Diana Suvannunt, Ph.D. 11/21/96

Supervisor, Water Chemistry Section



	SCIENTIFIC LABORATORY DIVISION P.O. Box 4700 700 Camino de Salud, NE Albuquerque, NM 87196-4700 [505]-841-2500 WATER CHEMISTRY SECTION [505]-841-2555	
May 27, 1997 Request ID No. 177228	ANALYTICAL REPORT SLD Accession No. WC-97-1993	Distribution () User 63000 (x) Submitter 68 (X) Client (x) SLD Files
<i>To:</i> Jal Water Sup P.O. Drawer	From:Water Chemistry Sectionoply SystemScientific Laboratory Divi340700 Camino de Salud, NE	sion

Re: A water, Nonpres/Nonfiltered sample submitted to this laboratory on May 20, 1997

<u>User:</u>

Jal, NM 88252

SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106 Submitter:

P.O. Box 4700

Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

Albuquerque, NM 87196-4700

DEMOGRAPHIC DATA

	COL	LLECTION	LOCATION
C	n: 19-May-97	<i>By:</i> Dec	WSS #: 217-13; Well 11 Upstream
A A	t: 0:00 hrs.	In/Near: Jal	Jal Water Supply System

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units	
chloride	182.00		mG/L	
total diss resid	938.00		mG/L	

**Reviewed By:** 

Diana Suvannunt, Ph.D. 05/27/97 Supervisor, Water Chemistry Section

	-								Ø
		WATER	CHEMISTR	Y SECTIO	N (505)-6	341-2555			_
AMPLE COLLECTION DATE:	11/5/97	TIME	E: 0000	BY:	Dec	SI	_D No.:	WC- 9704995	
SAMPLING LOCATION:	Well 11 Ups	stream	<u></u>		<u> </u>		REQUEST	ID No.: 59032	
SAMPLE MATRIX:	wnn					I	RECEIVED A	T SLD: 11/6/97	1
	<u></u>							USER: 63000	1
This Copy of Report for::				_			SUBM	ITTER: 68	1
Fred Seifts							١	wss #: 21713	1
Jal Water Supply S	ystem					Di	STRIBUTION T	<u>O:</u>	
P.O. Drawer 340							ED Field Office	e, Hobbs (S)	
Jal, NM 88252			1				Jal Water Supp	oly System {C}	
ŧ							Water Chemist	ry Section - File Copy	
( <u></u>	<u></u>		ANALYTI	CAL RESU	ILTS		Water Chemist	ry Section - File Copy	
Analyte	Result	Units	ANALYTI Analysis Date	CAL RESL	ILTS Minimum Level	Dilution Factor	Water Chemist Sample Det. Limit	ny Section - File Copy Analyst	Data Qualifi
Analyte Chloride	Result 241:	Units mG/L	ANALYTI Analysis Date 11/19/97	CAL RESL Method 300.	ILTS Minimum Level 5.	Dilution Factor 1.	Water Chemist Sample Det. Limit 1.58	ny Section - File Copy Analyst Harry Patterson	Data Qualifi
Analyte Chloride TDS	Result 241 1250.	Units mG/L mG/L	ANALYTI Analysis Date 11/19/97 11/13/97	CAL RESL Method 300. 160.1	ILTS Minimum Level 5. 10.	Dilution Factor 1. 1.	Sample Det. Limit 1.58 10.	Analyst Harry Patterson Staci Morris	Data Qualifi
Analyte Chloride TDS Laboratory Comments:	Result 241: 1250	Units mG/L mG/L	ANALYTI Analysis Date 11/19/97 11/13/97	CAL RESL Method 300. 160.1	ILTS Minimum Level 5. 10.	Dilution Factor 1. 1.	Sample Det. Limit 1.58 10.	Analyst Harry Patterson Staci Morris	Data Qualifi
Analyte Chloride TDS Laboratory Comments:	Result 2241: 1250	Units mG/L mG/L	ANALYTI Analysis Date 11/19/97 11/13/97	CAL RESL Method 300. 160.1	ILTS Minimum Level 5. 10.	Dilution Factor 1. 1. Review	Sample Det. Limit 1.58 10. ed by Diar	Analyst Analyst Harry Patterson Staci Morris	Data Qualif
Analyte Chloride TDS Laboratory Comments:	Result 241: 1250	Units mG/L mG/L	ANALYTI Analysis Date 11/19/97 11/13/97	CAL RESL Method 300. 160.1	ILTS Minimum Level 5. 10.	Dilution Factor 1. 1. <b>Review</b> Superviso	Sample Det. Limit 1.58 10. ed by Diar	Analyst Analyst Harry Patterson Staci Morris na Suvannant, Ph Chemistry Section	Data Qualif

	SCIENTIFIC P.O Box 4700 Albuquerque, NM 8719	LABORA1	ORY D 700 Camino (505) 841-25	IVISIO de Salud, N 00	DEP N E		ALTH
	WATER CHEMIS	STRY SECTIO	N (505)-8	41-2555			
SAMPLE COLLECTION DATE: <u>5/11/98</u> SAMPLING LOCATION: <u>Well 11 L</u> SAMPLE MATRIX: <u>WNN</u>	тіме: <u>0000</u> Jpstream	BY:	<u>Dec</u>	SI	D NO.: REQUEST	WC- 9801779 ID No.: 59056 IT SLD: 5/14/98	
This Copy of Report for::					SUBM	ITTER: 68	-
Fred Seifts		]				wss #: 21713	1
Jal Water Supply System				DI	STRIBUTION T	<u>:0:</u>	-
P.O. Drawer 340					ED Field Office	e, Hobbs (S)	
Jal, NM 88252					Jal Water Supp	oly System (C)	
Analyte Result	ANAL Units Date	YTICAL RESU	LTS Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifier
Chloride 218.	mG/L 6/17/9	98 300.	10.	1.	10.	Paul Ortega	
TDS 1100	mG/L 5/28/9	98 160.1	10.	1.	10.	Staci Morris	
Laboratory Comments:							
				<b>Review</b> Superviso	ed by Dian r, Waler (	na Suvannant, Ph Chemistry Section	D
					Date Fit	Inted. <u>9-Jul-90</u>	

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WC)	ССС Р. АІ	O Box 4700	TIFIC LA , NM 87196-47	BORA1	TORY D 700 Camino (505) 841-250	IVISIO de Salud, N 0	DEP/ N E		
	_	WATER	CHEMISTR	Y SECTIO	N (505)-8	41-2555			
SAMPLE COLLECTION DATE: SAMPLING LOCATION: SAMPLE MATRIX:	<u>11/30/98</u> Well 11 Upst wnf	TIME ream	:: <u>0000</u>	BY:	<u>Dec</u>	SL	D NO.:	WC-9805520 ID No.: 2283420 T SLD: 12/3/98 USER: 63000	2.00000 X 2 22
Fred Seifts Jal Water Supply Sys P.O. Drawer 340 Jal, NM 88252	stem					DIS	SUBMI V STRIBUTION TO ED Field Office, Jal Water Suppl	VSS #: 21713 D: Hobbs {S} ly System {C}	]
			ANALYTI	CAL RESL	JLTS				
Analyte	Result	Units	ANALYTI Analysis Date	CAL RESL Method	JLTS Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualif
Analyte Chloride	Result	Units mG/L	ANALYTI Analysis Date 12/16/98	CAL RESU Method 300.	JLTS Minimum Level 10.	Dilution Factor 1.	Sample Det. Limit 10.	Analyst Paul Ortega	Dati Qualif
Analyte Chloride TDS	Result 292 1280	Units mG/L mG/L	ANALYTI Analysis Date 12/16/98 12/7/98	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Paul Ortega Roger Sewell	Dat Qualit
Analyte Chloride TDS Laboratory Comments:	Result 292. 1280.	Units mG/L mG/L	ANALYTI Analysis Date 12/16/98 12/7/98	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Paul Ortega Roger Sewell	Dat Quali
Analyte Chloride TDS Laboratory Comments:	Result 292 1280	Units mG/L mG/L	ANALYTI Analysis Date 12/16/98 12/7/98	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1. <b>Review</b> Superwiss	Sample Det. Limit 10. 10. ed by Paul	Analyst Paul Ortega Roger Sewell I Ortega	Dat Qualif
Analyte Chloride TDS Laboratory Comments:	Result 292. 1280	Units mG/L mG/L	ANALYTI Analysis Date 12/16/98 12/7/98	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1. Neviewe Superwiss	Sample Det. Limit 10. 10. ed by Paul r, Water ( Date Prin	Analyst Paul Ortega Roger Sewell I Ortega Shemistry Section Inted: 22-Dec-98	Dat: Qualif



	ICO	SCIEN P.O Box 4700 Albuquerque	TIFIC LA , NM 87196-4	<b>80RA1</b>	ORY D 700 Camino (505) 841-25	IVISIO de Salud, I 00	DEP. N NE	ARTMENT OF HEA	
		WATER	CHEMISTR	Y SECTIO	N (505)-8	41-2555			
SAMPLE COLLECTION DATE SAMPLING LOCATION SAMPLE MATRIX This Copy of Report for::	: <u>5/17/99</u> : <u>Well 11 Up</u> : <u>wnn</u>	TIME <u>stream</u>	:: <u>0000</u>	BY:	Dec	S	LD NO.: ( REQUEST RECEIVED A SUBM	WC- 9901564 ID No.: 2289654 T SLD: 5/20/99 USER: 63000 ITTER: 68	
Fred Seifts Jal Water Supply S P.O. Drawer 340 Jal, NM 88252	ystem					D	I <u>STRIBUTION TC</u> ED Field Office Jal Water Supp Water Chemisti	WSS #: 21713 <u>&gt;</u> , Hobbs (S) Jy System (C) ry Section - File Copy	J
Analyte	Result	Units	ANALYTI Analysis Date	CAL RESU Method	LTS Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifie
Analyte	Result	Units mG/L	ANALYTI Analysis Date 6/1/99	CAL RESU Method 300.	LTS Minimum Level 10.	Dilution Factor 1.	Sample Det. Limit 10.	Analyst Cliff Kear	Data Qualifie
Analyte Chloride TDS	Result 319 1580	Units mG/L mG/L	ANALYTI Analysis Date 6/1/99 5/21/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Cliff Kear Roger Sewell	Data Qualifi
Analyte Chloride TDS Laboratory Comments	Result 319 1580	Units mG/L mG/L	ANALYTI Analysis Date 6/1/99 5/21/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1. Reviewe	Sample Det. Limit 10. 10. ed by Chris	Analyst Cliff Kear Roger Sewell s Dean	Data Qualific
Analyte Chloride TDS Laboratory Comments	Result 319 1580	Units mG/L mG/L	ANALYTI Analysis Date 6/1/99 5/21/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1. Reviewe	Sample Det. Limit 10. 10. ed by Chris r, Water C Date Pri	Analyst Cliff Kear Roger Sewell s Dean C hemishry Section inted: 10-Jun-99	Data Qualifi

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		WAIER	-HEIVIISTRY	SECTION	(505)-841	-2555			
	N DATE. 11/22/00		. 0.00	DV.		SI	D No.:	WC- 199905022	
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JAMPLE						•		USEB: 63000	1
This Copy of Report f	or::						SUBM	TTER: 68	1
Fred Seifts							v	vss #: NM3521713	1
Jal Water Su	pply System					D	STRIBUTION TO	);	1
P.O. Drawer	340						ED Field Office	e, Hobbs {S}	
Jal, NM 882	252						Jal Water Sup	ply System {C}	
<u> </u>							Water Chemis	try Section - File Copy	
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				CAL RESUL	TS				
			Analysis		Minimum	Dilution	Sample	a	Da
Analyte	e Kesun	Units	Date	Method	Level	Factor	Det. Limit	Analyst	Quai
Chloride	<b>419</b>	mGA.	12/1/99	300.	10.	1.	10.	Cliff Kear	
TDS	1570.	mG/L	11/29/99	160.1	10.	1.	10.	Roger Sewell	
Laboratoria Oca									
Laboratory Con	<u>nments</u> :								
						Review	ed by Cbri	s Dean <i>49-</i>	
						Supervi	or, Water	Chemistry Section	
							Date Pri	nted: <u>11-Jan-00</u>	

Printed 1/11/00

Albuqu	erque, NM 87196-4700 WATER CHEMISTRY SECTION [	<b>[505]-841-2500</b> 505]-841-2555	
iugust 30, 1996 Request ID No. 119493	ANALYTICAL REPO SLD Accession No. WC	ORT -96-4502	Distribution () User 63000 (x) Submitter 68 (X) Client (x) SLD Files
<i>To:</i> Jal Water Supply Sys P.O. Drawer 340 Jal, NM 88252	From:	Water Chemistry Section Scientific Laboratory Div 700 Camino de Salud, N P.O. Box 4700	rision E

P.O. Box 4700

Re: A water, Nonpres/Nonfiltered sample submitted to this laboratory on August 8, 1996

User: SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106 Submitter: Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

Albuquerque, NM 87196-4700

700 Camino de Salud, NE

DEMOGRAPHIC DATA

C	OLLECTION	LOCATION
On: 7-Aug-96	<i>By:</i> Sei	WSS #: 217-13; Well 8 downstream
At: 0:00 hrs.	<i>In/Near:</i> Jal	Jal Water Supply System

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units
chloride	502.00		mG/L
total diss resid	2733.00		mG/L

Reviewed By: \_\_\_\_

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Diana Suvannunt, Ph.D. 08/28/96 Supervisor, Water Chemistry Section

		Albuquer	que, NM 87196-4700       700 Camino de Salud, NE         WATER CHEMISTRY SECTION       [505]-841-2555	
18 3 ·	Nove Requ ID N	ember 21, 1996 uest Io. 177243	ANALYTICAL REPORT SLD Accession No. WC-96-5957	Distribution () User 63000 (x) Submitter 68 (X) Client (x) SLD Files
	To:	City of Jal Jal Water Supply System P.O. Drawer 340 Jal, NM 88252	<i>From:</i> Water Chemistry Section Scientific Laboratory Divi 700 Camino de Salud, NE P.O. Box 4700 Albuquerque, NM 8719	sion 96-4700
	Re:	A water, Nonpres/Nonf	iltered sample submitted to this laboratory on November 8, 1	1996

User: SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106 Submitter: Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

**DEMOGRAPHIC DATA** 

CO	LLECTION	LOCATION	
On: 7-Nov-96	By: Dec	WSS #: 217-13; Well 8 Downstream	
At: 0:00 brs	In/Near: Ial	Ial Water Supply System	

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## ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units	
chloride	513.00		mG/L	
total diss resid	2660.00	······	mG/L	
LOLAI UISS IESIU	2000.00	<u> </u>	шс/ L	

Reviewed By: \_\_\_\_

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Diana Suvannunt, Ph.D. 11/21/96 Supervisor, Water Chemistry Section

	SCIENTIFIC LABORATORY DIVISI P.O. Box 4700 700 Cami Albuquerque, NM 87196-4700 [505] WATER CHEMISTRY SECTION [505]-841-255	<b>ON</b> no de Salud, NE 5]-841-2500 5
February 20, 19 Request ID No. 177223	ANALYTICAL REPORT SLD Accession No. WC-97-03	24 <u>Distribution</u> () User 63000 (x) Submitter 68 (X) Client (x) SLD Files
<i>To:</i> Jal Water P.O. Dra Jal, NM	From: Water C Supply System Scientifi wer 340 700 Can 88252 P.O. Bo Albuque	themistry Section c Laboratory Division nino de Salud, NE x 4700 erque, NM 87196-4700

Re: A water, Nonpres/Nonfiltered sample submitted to this laboratory on February 12, 1997

User: SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106

.

Submitter: Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

DEMOGRAPHIC DATA

LOCATION WSS #: 217-13; Well 8 Downstream Jal Water Supply System

ANALYTICAL RESULTS

Analysis	Value	_D. Lmt.	Units
chloride	517.00		mG/L
total diss resid	2630.00		mG/L

**Reviewed By:** 

Diana Suvannunt, Ph.D. 02/20/97 Supervisor, Water Chemistry Section

2.86.00	S( F Albuquer	CIENTIFIC LABORATORY DIVISION O. Box 4700 700 Camino de Salud, NE que, NM 87196-4700 [505]-841-2500 WATER CHEMISTRY SECTION [505]-841-2555	
	May 27, 1997 Request ID No. 177227	ANALYTICAL REPORT SLD Accession No. WC-97-1992	<u>Distribution</u> () User 63000 (x) Submitter 68 (X) Client (x) SLD Files
	To: Jal Water Supply System P.O. Drawer 340 Jal, NM 88252	From: Water Chemistry Section Scientific Laboratory Divis 700 Camino de Salud, NE P.O. Box 4700 Albuquerque, NM 8719	sion 16-4700

*Re:* A water, Nonpres/Nonfiltered sample submitted to this laboratory on May 20, 1997

User: SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106 Submitter: Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

DEMOGRAPHIC DATA

CC	DLLECTION	LOCATION
<i>On:</i> 19-May-97	By: Dec	WSS #: 217-13; Well 8 Downstream
<i>At:</i> 0:00 hrs.	In/Near: Jal	Jal Water Supply System

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units	-
chloride	563.00		mG/L	
total diss resid	2920.00		mG/L	

**Reviewed By:** 

Diana Suvannunt, Ph.D. 05/27/97 Supervisor, Water Chemistry Section

	STATE OF NEW MEXICO	SCIEN P.O Box 47 Albuquerqu	TIFIC LA 00 Je, NM 87196	<b>ABORA</b>	TORY E 700 Čamino (505) 841-25	DIVISIO de Salud, I 00	DEP N NE	ARTMENT OF HEA	
		WATER	GHEMIST	RY SECTIC	N (505)-8	41-2555			
S	AMPLE COLLECTION DATE: <u>8/13/97</u> SAMPLING LOCATION: <u>Well 8 Doc</u> SAMPLE MATRIX: <u>WNN</u>	тіме ownstream	: <u>0000</u>	BY:	<u>Dec</u>	SI F	D NO.: REQUEST	WC-9703366 ID No.: 174507 T SLD: 8/14/97 USER: 63000	
	This Copy of Report for .:						SUBM	ITTER: 68	
	Fred Seifts						1	wss #: 21713	
	Jal Water Supply System					DIS	TRIBUTION T	<u>O:</u>	
	P.O. Drawer 340						ED Field Office	e, Hobbs (S)	
	Jai, WW 66252						Jai water Supp Water Chemist	by System {C}	
			ANALYTI	CAL RESU	LTS				
	Analyte Result	Units	Analysis Date	Method	Minimum Level	Dilution Factor	Sample Det, Limit	Analyst	Data Qualifier
i i	Analyte Result Chloride 551	Units mG/L	Analysis Date 8/20/97	Method 300.	Minimum Level 5.	Dilution Factor 1.	Sample Det. Limit 1.58	Analyst Harry Patterson	Data Qualifier
	AnalyteResultChloride551TDS2980.	Units mG/L mG/L	Analysis Date 8/20/97 8/19/97	Method 300. 160.1	Minimum Level 5. 10.	Dilution Factor 1. 1.	Sample Det. Limit 1.58 10.	Analyst Harry Patterson Everett Taylor	Data Qualifier
	AnalyteResultChloride1551TDS2980.	Units mG/L mG/L	Analysis Date 8/20/97 8/19/97	Method 300. 160.1	Minimum Level 5. 10.	Dilution Factor 1. 1.	Sample Det. Limit 1.58 10.	Analyst Harry Patterson Everett Taylor	Data Qualifier
	AnalyteResultChloride551TDS2980.	Units mG/L mG/L	Analysis Date 8/20/97 8/19/97	Method 300. 160.1	Minimum Level 5. 10.	Dilution Factor 1. 1. <b>Reviewe</b> Superviso	Sample Det. Limit 1.58 10. ed by Diar	Analyst Harry Patterson Everett Taylor <b>ha Suvannant, PhD</b> Chemislry Seclion	Data Qualifier
	AnalyteResultChloride651TDS2980.	Units mG/L mG/L	Analysis Date 8/20/97 8/19/97	Method 300. 160.1	Minimum Leveł 5. 10.	Dilution Factor 1. 1. Reviewe Superwiso	Sample Det. Limit 1.58 10. ed by Diat r., Waler Date Pri	Analyst Harry Patterson Everett Taylor na Suvannant, PhD Chemistry Section inted: 22-Sep-97	Data Qualifie

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W.	.0 Р.0 Аг	SCIENT O Box 4700 buquerque,	<b>FIFIC LA</b> NM 87196-470	BORA	TORY D 700 Camino (505) 841-256	IVISIO de Salud, N 00	N E		
		WATER	CHEMISTR	Y SECTIO	N (505)-8	41-2555			
AMPLE COLLECTION DATE: 11, SAMPLING LOCATION: We SAMPLE MATRIX: WI This Copy of Report for:: Fred Seifts	/ <u>5/97</u> ell 8 Down: n	тіме: stream	: <u>0000</u>	BY:	Dec	SL	D NO.: REQUEST RECEIVED A SUBM	WC- 9704994 ID No.: 59031 T SLD: 11/6/97 USER: 63000 ITTER: 68 WSS #: 21713	
Jal Water Supply Syste P.O. Drawer 340 Jal, NM 88252	em					DIS	ETRIBUTION T ED Field Office Jal Water Supp Water Chemist	<u>O:</u> I, Hobbs {S} Ily System {C} ry Section - File Copy	-
Analyte	Result	Units	ANALYTIC Analysis Date	CAL RESU	ILTS Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifie
Chloride	555.	mG/L	11/19/97	300.	5.	1.	1.58	Harry Patterson	
TDS	2670.	mG/L	11/13/97	160.1	10.	1.	10.	Staci Morris	
Laboratory Comments:									
						<b>Review</b> Superviso	ed by Diar r, Water (	n <mark>a Suvannant, Phl</mark> Themistry Dection	C
							Date Pri	nted: 25-Nov-97	

WYC)	q A	SCIEN O Box 4700	TIFIC LA	BORA1	ORY D 700 Camino (505) 841-250	IVISIO de Salud, N 00	N	Wy <sub>C</sub>	
		WATER	CHEMISTR	Y SECTIO	N (505)-8	41-2555			
SAMPLE COLLECTION DATE: SAMPLING LOCATION: SAMPLE MATRIX:	<u>2/12/98</u> Well 8 Down wnn	TIME <u>nstream</u>	:: <u>0000</u>	BY:	<u>Sei</u>	SI	D NO.: REQUEST	WC-9800594 ID No.: 59038 IT SLD: 2/17/98	
This Copy of Report for::							SUBN	USER: 63000 ITTER: 68	-
Fred Seifts								wss #: 21713	1
Jal Water Supply Sy	vstem					DI	STRIBUTION T	·O:	1
P.O. Drawer 340							ED Field Office	 e, Hobbs (S)	
Jal, NM 88252							Jal Water Supp	oly System (C)	
N Contraction of the second se			1				Water Chemist	try Section - File Copy	
L			ANALYTI	CAL RESU	LTS		· _ <u> </u>		
LAnalyte	Result	Units	ANALYTI Analysis Date	CAL RESU	LTS Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Dat Quali
Analyte Chloride	Result	Units mG/L	ANALYTI Analysis Date 3/3/98	CAL RESU Method 300.	LTS Minimum Level 5.	Dilution Factor 1.	Sample Det. Limit 1.58	Analyst Harry Patterson	Dat Quali
Analyte Chloride TDS	Result 539 2600	Units mG/L mG/L	ANALYTI Analysis Date 3/3/98 2/17/98	CAL RESU Method 300. 160.1	LTS Minimum Level 5. 10.	Dilution Factor 1. 1.	Sample Det. Limit 1.58 10.	Analyst Harry Patterson Staci Morris	Dat Quali
Laboratory Comments:	Result 539 2600	Units mG/L mG/L	ANALYTI Analysis Date 3/3/98 2/17/98	CAL RESU Method 300. 160.1	LTS Minimum Level 5. 10.	Dilution Factor 1. 1.	Sample Det. Limit 1.58 10.	Analyst Harry Patterson Staci Morris	Dat Quali
Analyte Chloride TDS Laboratory Comments:	Result 539 2600	Units mG/L mG/L	ANALYTI Analysis Date 3/3/98 2/17/98	CAL RESU Method 300. 160.1	LTS Minimum Level 5. 10.	Dilution Factor 1. 1. 1. Supervise	Sample Det. Limit 1.58 10. ed by Diat	Analyst Harry Patterson Staci Morris na Suvannant, Ph Chemistry Section	Dat Quali
Analyte Chloride TDS Laboratory Comments:	Result	Units mG/L mG/L	ANALYTI Analysis Date 3/3/98 2/17/98	CAL RESU Method 300. 160.1	LTS Minimum Level 5. 10.	Dilution Factor 1. 1. 1. Superviso	Sample Det. Limit 1.58 10. ed by Dian vr, Waler ( Date Pri	Analyst Harry Patterson Staci Morris na Suvannant, Ph Chemistry Section nted: <u>5-Mar-98</u>	Dat Quali

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		SCIEN P.O Box 4700 Albuquerque	TIFIC LA ) , NM 87196-470	BORAT	TORY D 700 Camino (505) 841-25	IVISIO de Salud, N 00	N IE		
	•	WATER	CHEMISTR	Y SECTIO	N (505)-8	841-2555			
SAMPLE COLLECTION DATE: SAMPLING LOCATION: SAMPLE MATRIX: This Copy of Report for: Fred Seifts Jal Water Supply S P.O. Drawer 340 Jal, NM 88252	<u>5/11/98</u> Well 8 Dow wnn ystem	Time <u>/nstream</u>	E: <u>0000</u>	BY:	<u>Dec</u>	SI <u>DI</u>	LD NO.: REQUEST I RECEIVED AT U SUBMI V STRIBUTION TO ED Field Office, Jal Water Suppl	WC- 9801778 D No.: 59055 r SLD: 5/14/98 USER: 63000 TTER: 68 VSS #: 21713 D: Hobbs (S) y System (C)	
L		<u></u>	]				Water Chemistr	y Section - File Copy	
		·		CAL RESU	ILTS Minimum	Dilution	Water Chemistry	y Section - File Copy	Data
Analyte	Result	Units	ANALYTIC Analysis Date	CAL RESU	ILTS Minimum Level	Dilution Factor	Water Chemistr Sample Det. Limit	y Section - File Copy Analyst	Data Qualifie
Analyte Chloride	Result	Units mG/L	ANALYTIC Analysis Date 7/7/98	CAL RESU Method 300.	ILTS Minimum Level 10.	Dilution Factor 1.	Water Chemistr Sample Det. Limit 10.	y Section - File Copy Analyst Paul Ortega	Data Qualifie
Analyte Chloride TDS Laboratory Comments:	Result 554 2410	Units mG/L mG/L	ANALYTIC Analysis Date 7/7/98 5/28/98	CAL RESU Method 300. 160.1	ILTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Water Chemistr Sample Det. Limit 10. 10.	y Section - File Copy Analyst Paul Ortega Staci Morris	Data Qualifie
Analyte Chloride TDS Laboratory Comments:	Result 554 2410	Units mG/L mG/L	ANALYTIC Analysis Date 7/7/98 5/28/98	CAL RESU Method 300. 160.1	ILTS Minimum Level 10. 10.	Dilution Factor 1. 1. Review Superwise	Sample Det. Limit 10. 10. ed by Dian w, Waley C Date Prir	y Section - File Copy Analyst Paul Ortega Staci Morris a Suvannant, Ph hemistry Bection ited: 10-Jul-98	Data Qualifie





W.C		SCIEN <sup>-</sup> P.O Box 4700 Albuquerque	TIFIC LA ) , NM 87196-47(	BORA	TORY D 700 Camino (505) 841-250	IVISIO de Salud, N 90	DEP. N		
	-	WATER	CHEMISTR	Y SECTIO	N (505)-8	41-2555			
SAMPLE COLLECTION DAT SAMPLING LOCATIO SAMPLE MATR This Copy of Report for:: Fred Seifts Jal Water Supply P.O. Drawer 340 Jal, NM 88252	re: <u>11/30/98</u> אי: <u>Well 8 Dow</u> וx: <u>wnn</u> System	TIME <u>'nstream</u>	E: <u>0000</u>	BY:	<u>Dec</u>		DNO.: REQUEST RECEIVED A SUBMI SUBMI V STRIBUTION TO ED Field Office, Jal Water Supp Water Chemistr	WC- 9805521 D No.: 2283421 T SLD: 12/3/98 USER: 63000 TTER: 68 VSS #: 21713 D: Hobbs {S} ty System {C} y Section - File Copy	
Analyte	Result	Units	ANALYTIC Anaiysis Date	CAL RESU	ILTS Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifie
Chloride	545.	mG/L	12/23/98	300.	10.	1.	10.	Paul Ortega	
	2430.	mG/L	12/7/98	160.1	10.	1.	10.	Roger Sewell	
TDS	지방 이미는 김 영영은 생승.								
TDS	te:								
TDS	488874, 198984,					<b>Review</b> Superviso	ed by Paul vr, Waler ( Date Priv	Portega Themistry Section	

C	W.	P	.O Box 4700	0 e, NM 87196-47	00	700 Camino (505) 841-250	de Salud, N 00	IE	<b>X</b>	
		-	WATER	CHEMISTR	Y SECTIO	N (505)-8	841-2555	i .	I	]
SAMPLE C SA	OLLECTION DATE: MPLING LOCATION: SAMPLE MATRIX:	<u>2/23/99</u> Well 8 Dowr wnn	TIME Istream	e: <u>0000</u>	BY:	Sei	SI	D NO.:	WC- 9900298 ID No.: 2283426 T SLD: 2/24/99	
This Cop	v of Report for::							SUBM	USER: 63000	4
Fre	d Seifts			]				000	wss #: 21713	1
Jal	Water Supply S	ystem			с х		DI	STRIBUTION T	0:	1
P.0	Drawer 340							ED Field Office	, Hobbs (S)	
Jal,	NM 88252							Jal Water Supp	oly System {C}	
11								Water Chemist	ry Section - File Copy	
				ANALYTI	CAL RESI	JLTS				
	Analyte	Result	Units	ANALYTI Analysis Date	CAL RESU	JLTS Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualif
Chlo	Analyte	Result	Units mG/L	ANALYTI Analysis Date 3/9/99	CAL RESU Method 300.	JLTS Minimum Level 10.	Dilution Factor 1.	Sample Det. Limit 10.	Analyst Paul Ortega	Data Qualif
Chlo	Analyte	Result 593 2480,	Units mG/L mG/L	ANALYTI Analysis Date 3/9/99 3/1/99	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Paul Ortega Roger Sewell	Dat: Qualif
Chlo TDS Labora	Analyte pride tory Comments:	Result 593. 2480.	Units mG/L mG/L	ANALYTI Analysis Date 3/9/99 3/1/99	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Paul Ortega Roger Seweli	Datz Qualif
Chlo TDS Labora	Analyte pride tory Comments:	Result 593 2480	Units mG/L mG/L	ANALYTI Analysis Date 3/9/99 3/1/99	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1. N. Review	Sample Det. Limit 10. 10. ed by Chri	Analyst Paul Ortega Roger Sewell is Dean	Datz Qualif
Chlo TDS Labora	Analyte pride tory Comments:	Result 593 2480,	Units mG/L mG/L	ANALYTI Analysis Date 3/9/99 3/1/99	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1. 1. Review Bupphwww.	Sample Det. Limit 10. 10. ed by Chri Mute. 1 Date Pri	Analyst Paul Ortega Roger Sewell is Dean C Murnisbuy Section. nted: <u>18-Mar-99</u>	Datz Qualif

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		WATER	CHEMISTR	Y SECTIO	N (505)-8-	41-2555			
AMPLE COLLECTION DATE: SAMPLING LOCATION: SAMPLE MATRIX:	<u>5/17/99</u> Well 8 Down: wnn	TIME <u>stream</u>	:: <u>0000</u>	BY:	<u>Dec</u>	Sl	D No.:	WC- 9901567 D No: 2289653 r sLD: 5/20/99 JSER: 63000	
Fred Seifts	stem	<u></u>				DI	SUBMI V STRIBUTION TO	VSS #: 21713	
Jai water Supply Sy.			5						
Jal Water Supply Sy P.O. Drawer 340 Jal, NM 88252							ED Field Office, Jal Water Suppl Water Chemistr	Hobbs (S) y System (C) y Section - File Copy	
Analyte	Result	Units	ANALYTio Analysis Date	CAL RESU	LTS Minimum Level	Dilution Factor	Jal Water Suppl Water Chemistr Sample Det. Limit	Hobbs {S} y System {C} y Section - File Copy <b>Analyst</b>	Data Qualifie
Analyte	Result 525	Units mG/L	ANALYTI Analysis Date 6/2/99	CAL RESU Method 300.	LTS Minimum Level 10.	Dilution Factor 1.	Jal Water Suppl Water Chemistr Sample Det. Limit 10.	Hobbs (S) y System (C) y Section - File Copy Analyst Cliff Kear	Data Qualifie
Analyte TDS	Result 525 2580.	Units mGAL mGAL	ANALYTIC Analysis Date 6/2/99 5/21/99	CAL RESU Method 300. 160.1	LTS Minimum Leveł 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10.	Hobbs {S} y System {C} y Section - File Copy Analyst Cliff Kear Roger Sewell	Data Qualifie
Analyte Chloride TDS Laboratory Comments:	Result 525 2580.	Units mG/L mG/L	ANALYTIC Analysis Date 6/2/99 5/21/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10.	Hobbs {S} y System {C} y Section - File Copy Analyst Clift Kear Roger Sewell	Data Qualifie
Analyte Chloride TDS Laboratory Comments:	Resutt 5255 2580	Units mG/L mG/L	ANALYTio Analysis Date 6/2/99 5/21/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1. Reviewe	Sample Det. Limit 10. 20 by Chris r, Water C	Hobbs (S) y System (C) y Section - File Copy Analyst Cliff Kear Roger Sewell s Dean	Data Quaiifie

R - The data are unusable. (Note: Analyte may or may not be present.
 UJ - The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

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	<b>NEXICO</b>	SCIEN <sup>®</sup> P.O Box 4700 Albuquerque	TIFIC LA ) , NM 87196-47	BORA1	ORY D 700 Camino (505) 841-25	IVISIOI de Salud, I 00	DEP/ N ve		
	•	WATER	CHEMISTR	Y SECTIO	N (505)-8	41-2555			
SAMPLE COLLECTION DAT SAMPLING LOCATIO SAMPLE MATR This Copy of Report for::	re: <u>8/23/99</u> N: <u>Well 8 Dow</u> IX: <u>wnn</u>	TIME <u>nstream</u>	:: <u>0000</u>	BY:	<u>Dec</u>	S	LD No.:	WC- 9903290 D No.: 2293284 T SLD: 8/25/99 USER: 63000 TTER: 68	
Fred Seifts Jal Water Supply P.O. Drawer 340 Jal. NM 88252	System	<u></u>				D	V STRIBUTION TO ED Field Office, Jal Water Suppl Water Chemistr	VSS #: 21713 Hobbs (S) ly System (C)	]
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Analyte	Result	Units	ANALYTIC Analysis Date	CAL RESU	LTS Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifier
Analyte	Result	Units mG/L	ANALYTIC Analysis Date 9/14/99	CAL RESU Method 300.	LTS Minimum Level 10.	Dilution Factor 1.	Sample Det. Limit 10.	Analyst Cliff Kear	Data Qualifier
Analyte Chloride TDS	Result 549 2790	Units mG/L mG/L	ANALYTIC Analysis Date 9/14/99 8/26/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Cliff Kear Roger Sewell	Data Guailfier
Analyte Chloride TDS Laboratory Comment	Result 549 2790: <u>ts</u> :	Units mG/L mG/L	ANALYTIC Analysis Date 9/14/99 8/26/99	CAL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1. Reviewe	Sample Det. Limit 10. 10. ed by Chris r, Water Cl Date Prin	Analyst Cliff Kear Roger Sewell s Dean C hemisky bection nted: 20-Oct-99	Data Qualifier

Printed 10/20/99

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MPLE COLLECTION DATE: <u>11/22/99</u> TIME: <u>0:00</u> BY: <u>BUTLER</u> SLD No.: WC- 19990502 SAMPLING LOCATION: <u>WELL 8 DOWNSTREAM</u> SAMPLE MATRIX: <u>W1</u> This Copy of Report for:: Fred Seifts Jal Water Supply System P.O. Drawer 340 Jal, NM 88252 ANALYTICAL RESULTS Analytic Results	
MPLE COLLECTION DATE: <u>11/22/99</u> TIME: <u>0:00</u> BY: <u>BUTLER</u> SLD No.: <u>WC</u> <u>19990502</u> SAMPLING LOCATION: <u>WELL 8 DOWNSTREAM</u> SAMPLE MATRIX: <u>WT</u> This Copy of Report for:: Fred Seifts Jal Water Supply System P.O. Drawer 340 Jal, NM 88252	
SAMPLING LOCATION: WELL 8 DOWNSTREAM SAMPLE MATRIX: WI SAMPLE MATRIX: WI Inis Copy of Report for:: Fred Seifts Jal Water Supply System P.O. Drawer 340 Jal, NM 88252 ANALYTICAL RESULTS Analytic Result S	
SAMPLE MATRIX: W1       RECEIVED AT SLD: 11/29/9: USER: 63000         his Copy of Report for::       SUBMITTER: 68         Fred Seifts       WSS #: NM35217         Jal Water Supply System       DISTRIBUTION TO:         P.O. Drawer 340       ED Field Office, Hobbs (S)         Jal, NM 88252       Jal Water Supply System {C}         Water Chemistry Section - File Copy       Water Chemistry Section - File Copy	3
This Copy of Report for::       USER:       63000         Fred Seifts       SUBMITTER:       68         Jal Water Supply System       DISTRBUTION TO:       ED Field Office, Hobbs (S)         Jal, NM 88252       Jai Water Supply System (C)       Water Chemistry Section - File Copy	3
This Copy of Report for::       SUBMITTER:       68         Fred Seifts       WSS #:       NM35217         Jal Water Supply System       DISTRIBUTION TO:       ED Field Office, Hobbs (S)         Jal, NM 88252       Jal Water Supply System {C}       Water Chemistry Section - File Copy         ANALYTICAL RESULTS	3
Fred Seifts WSS #: NM35217 Jal Water Supply System P.O. Drawer 340 Jal, NM 88252 ED Field Office, Hobbs (S) Jal Water Supply System {C} Water Chemistry Section - File Copy ANALYTICAL RESULTS	3
Jai Water Supply System       DISIRBUTION TO:         P.O. Drawer 340       ED Field Office, Hobbs (S)         Jal, NM 88252       Jal Water Supply System {C}         Water Chemistry Section - File Copy       Water Chemistry Section - File Copy         ANALYTICAL RESULTS       Analytical RESULTS	—
ANALYTICAL RESULTS	
Chloride 534 mGL 12/1/99 300. 10, 1. 10. Cliff Kear	Guaine
TDS 2390 mG/L 11/29/99 160.1 10. 1. 10. Roger Sewell	
a natalin ad an unatalina si	
Laboratory Comments:	
Reviewed by Chris Dean ("Q	
Supervisor, Water Chemistry Sectio	~
Supervisor, Water Chemistry Section Date Printed:	)

Printed 1/11/00

•		P.O. Box 4700 Albuquerque, NM 87196-4700 WATER CHEMISTRY S	ECTION [	700 Camino de Salud, NE [505]-841-2500 <sup>505]-841-2555</sup>	
May Req ID I	9 2 <i>3, 199</i> 6 Juest No. 074069	ANALYTICA SLD Accession N	L REPO	DRT -96-2804	Distribution () User 63000 (x) Submitter 68 (X) Client (x) SLD Files
To:	Jal Water Su P.O. Drawer Jal, NM 8	pply System 340 38252	From:	Water Chemistry Section Scientific Laboratory Div 700 Camino de Salud, NE P.O. Box 4700 Albuquerque, NM 871	ision 3 96-4700
Re:	A water,Nor	npres/Nonfiltered sample submitted	to this la	boratory on May 13, 1996 Submitter:	;

SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106 Submitter: Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

DEMOGRAPHIC DATA

COLLECTIONLOCATIONOn: 9-May-96By: Dec . . .WSS #: 217-13; Well 16 DownstreamAt: 0:00 hrs.In/Near: JalJal Water Supply System

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units
chloride	412.00		mG/L
total diss resid	1974.00		mG/L

**Reviewed By:** 

Diana Suvannunt, Ph.D. 05/23/96 Supervisor, Water Chemistry Section
P.O. Box 4700 Albuquerque, NM 87196-4700 WATER CHEMISTRY SECTION [505]-841-2555

700 Camino de Salud, NE [505]-841-2500

. November 21, 1996

Request ID No. 177241 ANALYTICAL REPORT SLD Accession No. WC-96-5959 

SCIENTIFIC LABORATORY DIVISION

Distribution () User 63000 (x) Submitter 68 (X Client (x) SLD Files

City of Jal To: Jal Water Supply System P.O. Drawer 340 Jal. NM 88252

From: Water Chemistry Section Scientific Laboratory Division 700 Camino de Salud, NE P.O. Box 4700 Albuquerque, NM 87196-4700

## A water, Nonpres/Nonfiltered sample submitted to this laboratory on November 8, 1996 Re:

User: SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106

Submitter:

Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

**DEMOGRAPHIC DATA** 

<i>C</i> (	OLLECTION	LOCATION
On: 7-Nov-96	By: Dec In/Near: Ial	WSS #: 217-13; Well 16 Downstream Ial Water Supply System
<i>n</i> . 0.00 ms.	Introcur. Jui	sa water supply system

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units
chloride	421.00		mG/L
total diss resid	2010.00	<u> </u>	mG/L

**Reviewed By:** Diana Suvannunt, Ph.D. 11/21/96

Supervisor, Water Chemistry Section

AI	SCIENTIFIC LABORATOR P.O. Box 4700 buquerque, NM 87196-4700 WATER CHEMISTRY SECTION	<b>RY DIVISION</b> 700 Camino de Salud, NE [505]-841-2500 [505]-841-2555	
May 27, 1997 Request ID No. 177229	ANALYTICAL RE SLD Accession No. W	PORT /C-97-1994	Distribution (_) User 63000 (x) Submitter 68 (X) Client (x) SLD Files
To: Jal Water Supply P.O. Drawer 34	y System 0	<ul> <li>Water Chemistry Section</li> <li>Scientific Laboratory Divi</li> <li>700 Camino de Salud, NE</li> </ul>	sion

Albuquerque, NM 87196-4700 *Re:* A water, Nonpres/Nonfiltered sample submitted to this laboratory on May 20, 1997

User: SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106

Jal, NM 88252

.

## Submitter:

P.O. Box 4700

Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

DEMOGRAPHIC DATA

<i>C</i> (	OLLECTION	LOCATION	
On: 19-May-97	<i>By</i> : Dec	WSS #: 217-13; Well 16 Downstream	
<i>At:</i> 0:00 hrs.	In/Near: Jal	Jal Water Supply System	

ANALYTICAL RESULTS

 Analysis	Value	D. Lmt.	Units	
chloride	458.00		mG/L	
total diss resid	2230.00		mG/L	
total diss resid	2230.00		mG/L	

**Reviewed By:** 

Diana Suvannunt, Ph.D. 05/27/97 Supervisor, Water Chemistry Section

							DEP	ARTMENT OF HE	ALTH
<b>W</b> C		SCIEN P.O Box 4700 Albuquerque,	TIFIC LA	BORA1 º	TORY D 700 Camino (505) 841-250	IVISIO de Salud, N )0	N E	<b>WV</b> C	
		WATER	CHEMISTRY	SECTIO	N (505)-8	41-2555			
SAMPLE COLLECTION DATE: SAMPLING LOCATION: SAMPLE MATRIX: This Copy of Report for:: Fred Seifts Jal Water Supply Sy P.O. Drawer 340 Jai, NM 88252	11/5/97 Well 16 Do wnn stem	TIME	:: <u>0000</u>	BY:	Dec	SL Dis	LD NO.: REQUEST I RECEIVED AT SUBMI V STRIBUTION TO ED Field Office, Jal Water Suppl Water Chemistr	WC - 9704996 D No.: 59033 r SLD: 11/6/97 USER: 63000 TTER: 68 VSS #: 21713 D: Hobbs (S) ty System (C) y Section - File Copy	
Analyte	Result	Units	ANALYTIC Analysis Date	AL RESU	ILTS Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifier
Analyte Chloride	Result	Units mG/L	ANALYTIC Analysis Date 11/19/97	Method 300.	ILTS Minimum Level 5.	Dilution Factor 1.	Sample Det. Limit 1.58	Analyst Harry Patterson	Data Qualifier
Analyte Chloride TDS	Result 413. 2010.	Units mG/L mG/L	ANALYTIC Analysis Date 11/19/97 11/13/97	CAL RESU Method 300. 160.1	ILTS Minimum Level 5. 10.	Dilution Factor 1. 1.	Sample Det. Limit 1.58 10.	Analyst Harry Patterson Staci Moris	Data Qualifier
Analyte Chloride TDS Laboratory Comments:	Result 413 2010	Units mG/L mG/L	ANALYTIC Analysis Date 11/19/97 11/13/97	Method 300. 160.1	Minimum Level 5. 10.	Dilution Factor 1. 1.	Sample Det. Limit 1.58 10.	Analyst Harry Patterson Staci Moris	Data Qualifier
Analyte Chloride TDS Laboratory Comments:	Result	Units mG/L mG/L	ANALYTIC Analysis Date 11/19/97 11/13/97	Method 300. 160.1	Minimum Level 5. 10.	Dilution Factor 1. 1. N. Reviewe Superviso	Sample Det. Limit 1.58 10. ed by Dian r, Waler C Date Prir	Analyst Harry Patterson Staci Moris a Suvannant, Ph hemislry Section nted: 25-Nov-97	Data Qualifier

UJ - The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

			WATER	CHEMISTR	Y SECTIO	N (505)-8	41-2555			
SAMPLE	COLLECTION DATE: CAMPLING LOCATION: SAMPLE MATRIX:	<u>5/11/98</u> Well 16 Do wnn	TIME ownstream	:: <u>0000</u>	BY:	Dec	SI	D No.:	WC- 9801780 d No.: 59057 f SLD: 5/14/98	
This Co	opy of Report for::							U SUBMI	JSER: 63000 TTER: 68	-
Fr	ed Seifts							v	vss #: 21713	1
Ja	Water Supply Sy	ystem					DI	STRIBUTION TO	<u></u>	uud,
Р.	O. Drawer 340							ED Field Office,	Hobbs {S}	
Ja	I, NM 88252							Jal Water Suppl	y System {C}	
								Water Chemistr	y Section - File Copy	
<u>,</u>	Analyte	Result	Units	ANALYTI Analysis	CAL RESU	JLTS Minimum	Dilution	Sample	Analyst	Data
	Analyte	Result	Units	ANALYTI Analysis Date	CAL RESU	JLTS Minimum Levei	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifi
 Ch	Analyte	Result	Units mG/L	ANALYTI Analysis Date 7/7/98	CAL RESU Method 300.	JLTS Minimum Level 10.	Dilution Factor 1.	Sample Det. Limit 10.	Analyst Paul Ortega	Data Qualifi
Сћ	Analyte Iloride S	Result 491 1940	Units mG/L mG/L	ANALYTI Analysis Date 7/7/98 5/28/98	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Paul Ortega Staci Morris	Data Qualifi
Сн ТD Labor	Analyte Iloride S ratory Comments:	Result 491. 1940.	Units mG/L mG/L	ANALYTI Analysis Date 7/7/98 5/28/98	CAL RESU Method 300. 160.1	JLTS Minimum Levei 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Paul Ortega Staci Morris	Data Qualif
Сн Сн ТО Labor	Analyte Iloride S ratory Comments:	Result 491 1940	Units mG/L mG/L	ANALYTI Analysis Date 7/7/98 5/28/98	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1. N. Review Bupervise	Sample Det. Limit 10. 10. ed by Dian vr, Waler C	Analyst Paul Ortega Staci Morris a Suvannant, Ph	Data Qualifi
сн то Labor	Analyte Iloride S ratory Comments:	Result 491 1940	Units mG/L mG/L	ANALYTI Analysis Date 7/7/98 5/28/98	CAL RESU Method 300. 160.1	JLTS Minimum Levei 10. 10.	Dilution Factor 1. 1. N. Review Superviso	Sample Det. Limit 10. 10. ed by Dian vr., Waler C Date Prir	Analyst Paul Ortega Staci Morris a Suvannant, Ph homistry Section nted: 9-Jul-98	Data Qualifi

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		WATER	CHEWISTK	T SECTIO	N (505)-0	41-2000			_
SAMPLE COLLECTION DATE SAMPLING LOCATION SAMPLE MATRIX	: <u>11/30/98</u> : <u>Well 16 Dow</u> : <u>wnn</u>	TIME Instream	a: <u>0000</u>	BY:	Dec	SI	D No.:	WC-9805519 D No.: 2283419 T SLD: 12/3/98	
This Copy of Report for::							SUBM	TTER: 68	1
Fred Seifts							v	vss #: 21713	1
Jal Water Supply S	System					DI	STRIBUTION TO	<u>0:</u>	
P.O. Drawer 340							ED Field Office	Hobbs (S)	
Jal, NM 88252							Jal Water Supp	ly System (C)	
	······						Water Chemistr	y Section - File Copy	
			ANALYTI	CAL RESL	JLTS				
Analyte	Result	Units	ANALYTI Analysis Date	Method	JLTS Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifier
Analyte Chloride	Result	Units mG/L	ANALYTI Analysis Date 12/23/98	Method 300.	JLTS Minimum Level 10.	Dilution Factor 1.	Sample Det. Limit 10.	Analyst Paul Ortega	Data Qualifier
Analyte Chloride TDS	Result 477. 2040	Units mG/L mG/L	ANALYTI Analysis Date 12/23/98 12/7/98	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Paul Ortega Roger Sewell	Data Qualifier
Analyte Chloride TDS Laboratory Comments	Result 477 2040	Units mG/L mG/L	ANALYTI Analysis Date 12/23/98 12/7/98	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Paul Ortega Roger Sewell	Data Qualifier
Analyte Chloride TDS Laboratory Comments	Result 477. 2040	Units mG/L mG/L	ANALYTI Analysis Date 12/23/98 12/7/98	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Paul Ortega Roger Sewell	Data Qualifier
Analyte Chloride TDS Laboratory Comments	Result 477 2040	Units mG/L mG/L	ANALYTI Analysis Date 12/23/98 12/7/98	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1. N. Review Supervise	Sample Det. Limit 10. 10. ed by Pau	Analyst Paul Ortega Roger Sewell I Ortega	Data Qualifier
Analyte Chloride TDS Laboratory Comments	Result 477 2040	Units mG/L mG/L	ANALYTI Analysis Date 12/23/98 12/7/98	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1. Neview Supervise	Sample Det. Limit 10. 10. ed by Pau er, Water ( Date Prin	Analyst Paul Ortega Roger Sewell I Ortega Ihemistry Section Inted: <u>6-Jan-99</u>	Data Qualifier
Analyte Chloride TDS Laboratory Comments Data Qualifier Codes a U - The material was analyze J - The associated value is an	Result 477 2040 : : and Definition d for, but was not on n estimated quantit	Units mG/L mG/L S detected abo y.	ANALYTI Analysis Date 12/23/98 12/7/98	Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1. 1. Review Supervise	Sample Det. Limit 10. 10. ed by Paut wr., Water ( Date Prin	Analyst Paul Ortega Roger Sewell I Ortega Themistry Section Inted: 6-Jan-99	Data Qualifier
Analyte Chloride TDS Laboratory Comments Data Qualifier Codes a U - The material was analyze J - The associated value is ar R - The data are unusable. (fit	Result 477 2040: :: and Definition d for, but was not on n estimated quantit Note: Analyte may	Units mG/L mG/L S detected abo y. or may not l	ANALYTI Analysis Date 12/23/98 12/7/98 ve the level of the present.	Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1. 1. Supervise	Sample Det. Limit 10. 10. ed by Pau er, Waler ( Date Prin	Analyst Paul Ortega Roger Sewell I Ortega Themistry Section Inted: 6-Jan-99	Data Qualifier
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Analyte Chloride TDS Laboratory Comments Data Qualifier Codes a U - The material was analyze J - The associated value is ar R - The data are unusable. (fu UJ - The material was analyze	Result 477 2040	Units mG/L mG/L S detected abo y. or may not l detected. Th	ANALYTI Analysis Date 12/23/98 12/7/98	Method 300. 160.1	JLTS Minimum Level 10. 10. value. The as mate and may	Dilution Factor 1. 1. Supervise	Sample Det. Limit 10. 10. ed by Pau or, Water ( Date Prin lue is the sam	Analyst Paul Ortega Roger Sewell I Ortega Chemistry Section Inted: <u>6-Jan-99</u> ple detection limit.	Data Qualifier

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Contraction of the local division of the loc	e, NM 87196-4	700	700 Camino (505) 841-25	VISION de Salud, I 00	<b>N</b> E	WY C	
WATER	CHEMISTRY	SECTION	(505)-841	-2555			
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					SURM	USER: 63000	-
	]				JOBAN	NSS #- NM3521713	
				Di		NOS #. 1410021710	
	1			نتعا	ED Field Office	z. e Habbs (S)	
	1				Jal Water Sup	ply System (C)	
				,	Water Chemis	try Section - File Conv	
Units	Analysis Date	Method	Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualit
S mGA.	12/1/99	300.	10.	1.	10.	Cliff Kear	
mG/L	11/29/99	160.1	10.	1.	10.	Roger Sewell	
				Reviewe	ed by Chri	s Dean	
				Reviewe Supervís	ed by Chri or, Water o	s Dean () Chemistry Section	
	Units	TIME: 0:00 DOWNSTREAM ANALYTIC Units Analysis Date mGA. 12/1/99 mGA. 11/29/99	TIME: 0:00 BY: DOWNSTREAM  ANALYTICAL RESUL Units Analysis Date Method mGA. 12/1/99 300. mGAL 11/29/99 160.1	TIME: 0:00 BY: BUTLER DOWNSTREAM ANALYTICAL RESULTS Units Analysis Method Minimum Level mGA. 12/1/99 300. 10. mGA. 11/29/99 160.1 10.	TIME: 0:00 BY: BUTLER SE DOWNSTREAM R ANALYTICAL RESULTS Units Analysis Method Minimum Dilution Level Factor mGAL 12/1/99 300. 10. 1. mGAL 11/29/99 160.1 10. 1.	TIME: 0:00 BY: BUTLER REQUEST RECEIVED A SUBM V DISTRIBUTION IG ED Field Offic Jal Water Sup Water Chemis Method Minimum Dilution Sample Level Factor Det. Limit mGA 12/1/99 300. 10. 1. 10.	TIME: 0:00 BY: BUTLER BY: BUTLER BY: BUTLER BY: BUTLER BY: BUTLER SLD NO WC-193303021 REQUEST ID No.: 2296920 RECEIVED AT SLD: 11/29/99 USER: 63000 SUBMITTER: 68 WSS #: NM3521713 DISTRIBUTION TO: ED Field Office, Hobbs {S} Jal Water Supply System {C} Water Chemistry Section - File Copy Water Chemistry Section - File Copy ANALYTICAL RESULTS Units Analysis Method Minimum Dilution Sample Level Factor Det. Limit Analyst mGAL 12/1/99 300. 10. 1. 10. Cliff Kear mGAL 11/29/99 160.1 10. 1. 10. Roger Sewell



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F		(ICO	SCIEN7 P.O Box 4700		BORAT	ORY DI	VISIOI de Salud, M	DEP N IE		ALTH
		-	Albuquerque,	NM 87196-4	700	(505) 841-25	00			
			WATER		T SECTIO	N (303)-04	41-2000			
SAMPLE CO SAT	DLLECTION DATE: MPLING LOCATION: SAMPLE MATRIX:	<u>5/17/99</u> <u>Well 1G Do</u> <u>wnn</u>	TIME: <u>wnstream</u>	<u>0000</u>	BY:	<u>Dec</u>	SI	D No.:	WC- 9901563 ID No.: 2289655 IT SLD: 5/20/99	
This Cop	y of Report for::				_			SUBM	USER: 63000 ITTER: 68	-
Free Jal P.O Jal	d Seifts Water Supply Sy∉ Drawer 340 NM 88252	stem					Di	STRIBUTION TO ED Field Office	WSS #: 21713 2: e, Hobbs {S}	]
	<u></u>	<u></u>						Water Chemist	ry Section - File Copy	
				ANALYTI	CAL RESU	LTS				
	Analyte	Result	Units	Analysis Date	Method	Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualiti
Chlo	ride	449	mG/L	6/1/99	300.	10.	1.	10.	Cliff Kear	
TDS	102 BOAL).	-2310.	mGA.	5/21 <i>1</i> 99	160.1	10.	1.	10.	Roger Sewell	
<u>Labora</u>	tory Comments:									
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	<u>.</u>						Duperviso	Date Pri	inted: <u>10-Jun-99</u>	-

	Albuquerque, NM 87196-4700 WATER CHEMISTRY SECTION	[505]-841-2555
 May 23, 1996	四時調燈 型 三星型 現 D 型 型 型 型 長 三星 三 美 西 三 型 其 = 	
	ANALYTICAL RE	PORT
Request ID No. 119481	SLD Accession No. W	/C-96-2806 (X Client
	藚踼諅峾遬鼿閪剾 <b>閁刟湁</b> 鱡闣沊攱鍞目戝奊鐢鼅碯篂鼿懘冐	
To:	From	: Water Chemistry Section
Jal Water Su	apply System	Scientific Laboratory Division
P.O. Drawer	r 340	700 Camino de Salud, NE
Jal, NM 8	88252	P.O. Box 4700
		Albuquerque, NM 87196-4700
Re: A water, Nor	npres/Nonfiltered sample submitted to this	laboratory on May 13, 1996
User:		Submitter:

SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106

Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

DEMOGRAPHIC DATA

<i>C(</i>	OLLECTION	LOCATION	
On: 9-May-96	By: Dec	WSS #: 217-13; Well 18 Downstream	
At: 0:00 hrs.	In/Near: Jal	Jal Water Supply System	

## ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units	
chloride	480.00		mG/L	
total diss resid	2408.00		mG/L	

**Reviewed By:** Diana Suvannunt, Ph.D. 05/23/96 Supervisor, Water Chemistry Section

SCIENTIFIC LABORATORY DIVISION

P.O. Box 4700



700 Car

uno de Salud NE

Albu	P.O. Box 4700 querque, NM 87196-4700 WATER CHEMISTRY SECTION [:	DIVISION 700 Camino de Salud, NE [505]-841-2500 505]-841-2555
May 23, 1996 Request	ANALYTICAL REPO	DRT () User 63000 (x) Submitter 68 (X) Client
ID No. 074068		(x) SLD Files
To: Jal Water Supply S P.O. Drawer 340 Jal, NM 88252	ystem	Water Chemistry Section Scientific Laboratory Division 700 Camino de Salud, NE P.O. Box 4700 Albuquerque, NM 87196-4700
<i>Re:</i> A water, Nonpres/I	Nonfiltered sample submitted to this la	boratory on May 13, 1996
User:		Submitter:

. . .

SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106 Submitter: Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

DEMOGRAPHIC DATA

 $\begin{array}{c} \hline \hline COLL ECTION \\ \hline On: 9-May-96 & By: Dec \dots \\ At: 0:00 hrs. & In/Near: Jal \end{array}$ 

*LOCATION WSS #:* 217-13; Kemp Well Downstream Jal Water Supply System

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units
chloride	537.00		mG/L
total diss resid	2490.00		mG/L

**Reviewed By:** 

Diana Suvannunt, Ph.D. 05/23/96 Supervisor, Water Chemistry Section SCIENTIFIC LABORATORY DIVISION P.O. Box 4700

Albuquerque, NM 87196-4700

700 Camino de Salud, NE [505]-841-2500 WATER CHEMISTRY SECTION [505]-841-2555

November 21, 1996

Request ID No. 177240 ANALYTICAL REPORT SLD Accession No. WC-96-5960 ᆃ ᆒ西브레콜프프콜알프프트레프트프트프트프트프트프트웨덴ট일린크콜램레베코프트프트

Distribution () User 63000 (x) Submitter 68 (X) Client (x) SLD Files

City of Jal To: Jal Water Supply System P.O. Drawer 340 Jal, NM 88252

From: Water Chemistry Section Scientific Laboratory Division 700 Camino de Salud, NE P.O. Box 4700 Albuquerque, NM 87196-4700

A water, Nonpres/Nonfiltered sample submitted to this laboratory on November 8, 1996 Re:

User: SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106

Submitter: Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

**DEMOGRAPHIC DATA** 

COLLECTION	LOCATION
On: 7-Nov-96 By: Dec	WSS #: 217-13; Kemp Well Downstream
At: 0.00  hrs In/Near: Ial	Ial Water Supply System

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units	
chloride	536.00		mG/L	
total diss resid	2510.00	· · · · · · · · · · · · · · · · · · ·	mG/L	

**Reviewed By:** 

Diana Suvannunt, Ph.D. 11/21/96 Supervisor, Water Chemistry Section

				* ••• *******
S( ] Albuquer	CIENTIFIC LABORAT P.O. Box 4700 que, NM 87196-4700 water chemistry sect	ORY 7	DIVISION 00 Camino de Salud, NE [505]-841-2500 05]-841-2555	
May 27, 1997 Request ID No. 177230	ANALYTICAL SLD Accession No.	REPC WC	ORT -97-1995	Distribution () User 63000 (x) Submitter 68 (X) Client (x) SLD Files
<i>To:</i> Jal Water Supply System P.O. Drawer 340	F	rom:	Water Chemistry Section Scientific Laboratory Divis 700 Camino de Salud NE	sion

*Re:* A water, Nonpres/Nonfiltered sample submitted to this laboratory on May 20, 1997

<u>User:</u> SLD Fee for Ser - WASTE WATER Scientific Laboratory Division 700 Camino de Salud, NE Albuquerque, NM 87106

Jal, NM 88252

Submitter:

P.O. Box 4700

Myra Meyers ED Field Office, Hobbs Suite 165 726 E. Michigan Avenue Hobbs, NM 88240

Albuquerque, NM 87196-4700

DEMOGRAPHIC DATA

COLLECTION	LOCATION
<i>On:</i> 19-May-97 <i>By:</i> Dec <i>At:</i> 0:00 hrs. <i>In/Near:</i> Jal	WSS #: 217-13; Well Kemp Downstream Jal Water Supply System

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units	<u> </u>
chloride	555.00		mG/L	
total diss resid	2700.00		mG/L	

**Reviewed By:** 

Diana Suvannunt, Ph.D. 05/27/97 Supervisor, Water Chemistry Section

	-	hibuqueique	, 14112 07 130-41		(505) 041-250				<i>D</i>
		WATER	CHEMISTR	Y SECTIO	N (505)-8	841-2555		· · · · · · · · · · · · · · · · · · ·	
AMPLE COLLECTION DATE: SAMPLING LOCATION: SAMPLE MATRIX: This Copy of Report for:: Fred Seifts	<u>11/5/97</u> <u>Kemp Well</u> <u>wnn</u> /stem	TIME Downstrea	e: <u>0000</u> am	BY:	<u>Dec</u>	SI DI	LD NO.: REQUEST RECEIVED A SUBM	WC- 9704997 ID No.: 59034 IT SLD: 11/6/97 USER: 63000 IITTER: 68 WSS #: 21713 <u>CO</u> :	
P.O. Drawer 340 Jal, NM 88252							ED Field Office	e, Hobbs {S} ply System {C}	
P.O. Drawer 340 Jal, NM 88252	Result	Units	ANALYTI	CAL RESU	LTS Minimum	Dilution	ED Field Office Jal Water Supp Water Chemist	e, Hobbs {S} oly System {C} try Section - File Copy Analyst	Data
Analyte	Result	Units mG/L	ANALYTI Analysis Date 11/19/97	CAL RESU Method	LTS Minimum Level 5.	Dilution Factor 1.	ED Field Office Jal Water Supp Water Chemist Sample Det. Limit 1.58	e, Hobbs (S) oly System (C) try Section - File Copy Analyst Harry Patterson	Data Qualifi
Analyte Chloride TDS	Result 557. 2420.	Units mG/L mG/L	ANALYTI Analysis Date 11/19/97 11/13/97	CAL RESU Method 300. 160.1	LTS Minimum Level 5. 10.	Dilution Factor 1. 1.	ED Field Office Jal Water Supp Water Chemist Sample Det. Limit 1.58 10.	e, Hobbs {S} oly System {C} try Section - File Copy Analyst Harry Patterson Staci Morris	Data Qualifi
Analyte Chloride TDS	Result 557 2420.	Units mG/L mG/L	ANALYTI Analysis Date 11/19/97 11/13/97	CAL RESU Method 300. 160.1	LTS Minimum Level 5. 10.	Dilution Factor 1. 1.	Sample Det. Limit 1.58	e, Hobbs {S} oly System {C} Iry Section - File Copy Analyst Harry Patterson Staci Morris	Data Qualifi
Analyte Chloride TDS Laboratory Comments:	Result 557 2420	Units mG/L mG/L	ANALYTI Analysis Date 11/19/97 11/13/97	CAL RESU Method 300. 160.1	LTS Minimum Level 5. 10.	Dilution Factor 1. 1. Review	ED Field Office Jal Water Supp Water Chemist Water Chemist Det. Limit 1.58 10. ed by Diar er, Waler (	e, Hobbs (S) oly System (C) try Section - File Copy Analyst Harry Patterson Staci Morris na Suvannant, Ph Chemistry Bection	Data Qualifi D

	STATE OF NEW ME	XICO P A	SCIENT 2.0 Box 4700 Albuquerque,	TFIC LA	BORAT	ORY D 700 Camino (505) 841-250	IVISIO de Salud, N 10	DEP/ N E		
			WATER (	CHEMISTR	Y SECTIO	N (505)-8	41-2555			
SAMF	PLE COLLECTION DATE: SAMPLING LOCATION: SAMPLE MATRIX:	<u>5/11/98</u> Kemp Well [ wnn	TIME: Downstreal	: <u>0000</u> m	BY:	Dec	SL		WC- 9801781 D No.: 59058 r SLD: 5/14/98	
Thi	is Copy of Report for::							SUBMI	TTER: 68	1
	Fred Seifts			]				N	vss #: 21713	1
	Jal Water Supply Sy	stem					DIS	STRIBUTION TO	<u>);</u>	
	P.O. Drawer 340							ED Field Office,	Hobbs {S}	
	Jal, NM 88252							Jal Water Suppl	ly System (C)	
	· · · · · · · · · · · · · · · · · · ·	<u></u>						Water Chemistry	y Section - File Copy	
				ANALYTI	CAL RESU	ILTS				
	Analyte	Result	Units	ANALYTI Analysis Date	CAL RESU	ILTS Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifi
	Analyte Chloride	Result	Units mG/L	ANALYTI Analysis Date 6/22/98	CAL RESU Method 300.	ILTS Minimum Level 10.	Dilution Factor 1.	Sample Det. Limit 10.	Analyst Paul Ortega	Data Qualifi
Lat	Analyte Chioride TDS boratory Comments:	Result	Units mG/L mG/L	ANALYTI Analysis Date 6/22/98 5/27/98	CAL RESU Method 300. 160.1	ILTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Paul Ortega Staci Morris	Data Qualifi
Lat	Analyte Chloride TDS boratory Comments:	Result 606. 2490	Units mG/L mG/L	ANALYTI Analysis Date 6/22/98 5/27/98	CAL RESU Method 300. 160.1	Ninimum Level 10. 10.	Dilution Factor 1. 1. <b>Reviewe</b> Superviso	Sample Det. Limit 10. 10. ed by Dian r, Waler C	Analyst Paul Ortega Staci Morris a Suvannant, Ph	Data Qualifi D
Lat	Analyte Chloride TDS boratory Comments:	Result 606 2490	Units mG/L mG/L	ANALYTI Analysis Date 6/22/98 5/27/98	CAL RESU Method 300. 160.1	ILTS Minimum Level 10. 10.	Dilution Factor 1. 1. 1. Reviewe Superviso	Sample Det. Limit 10. 10. ed by Dian r, Waler C. Date Prin	Analyst Paul Ortega Staci Morris a Suvannant, Ph humushy Suction nted: 8-Jul-98	Data Qualifi D

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AMPLE COLLECTION DATE:	11/30/98	TIME	: 0000	BY:	Dec	SI	_D No.:	WC-9805518	
SAMPLING LOCATION:	Kemp Well	Downstrea	am				REQUEST	D No.: 2283418	1
SAMPLE MATRIX:	wnn					l	RECEIVED A	T SLD: 12/3/98	
							I	USER: 63000	
This Copy of Report for::		·····					SUBM	TTER: 68	4
Fred Seifts							v	vss #: 21713	1
Jal Water Supply Sy	stem					DI	STRIBUTION TO	<u>D:</u>	
P.O. Drawer 340							ED Field Office.	Hobbs (S)	
							Jai vvater Supp	ly System {C}	
Jdl, NW 00232	<u> </u>		]				Water Chemistr	y Section - File Copy	
	, ,			CAL RESL			Water Chemistr	y Section - File Copy	
Analyte	Result	Units	ANALYTI Analysis Date	CAL RESU	JLTS Minimum	Dilution	Water Chemistr Sample Det. Limit	y Section - File Copy Analyst	Data Qualifi
Analyte Chloride	Result	Units mG/L	ANALYTIC Analysis Date 12/23/98	CAL RESU Method 300.	JLTS Minimum Level 10.	Dilution Factor 1.	Water Chemistr Sample Det. Limit 10.	y Section - File Copy Analyst Paul Ortega	Data Qualifi
Analyte Chloride TDS	Result 585 2400:	Units mG/L mG/L	ANALYTIC Analysis Date 12/23/98 12/7/98	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10.	y Section - File Copy Analyst Paul Ortega Roger Sewell	Data Qualifi
Analyte Chloride TDS Laboratory Comments:	Result 585 2400:	Units mG/L mG/L	ANALYTIC Analysis Date 12/23/98 12/7/98	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	y Section - File Copy Analyst Paul Ortega Roger Sewell	Data Qualifi
Analyte Chloride TDS Laboratory Comments:	Result	Units mG/L mG/L	ANALYTI Analysis Date 12/23/98 12/7/98	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	y Section - File Copy Analyst Paul Ortega Roger Sewell	Data Qualifi
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Analyte Chloride TDS Laboratory Comments:	Result 585 2400:	Units mG/L mG/L	ANALYTIC Analysis Date 12/23/98 12/7/98	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1. Review Superwiss	Sample Det. Limit 10. 10. ed by Paul wr, Water (	y Section - File Copy Analyst Paul Ortega Roger Sewell I Ortega	Data Qualifi
Analyte Chloride TDS Laboratory Comments:	Result 585 2400:	Units mG/L mG/L	ANALYTIC Analysis Date 12/23/98 12/7/98	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1. Neview Superwise	Sample Det. Limit 10. 10. ed by Paul or, Water ( Date Prin	y Section - File Copy Analyst Paul Ortega Roger Sewell I Ortega Chemistry Dection Inted: 6-Jan-99	Data Qualifi
Analyte Chloride TDS Laboratory Comments:	Result 2400:	Units mG/L mG/L	ANALYTI Analysis Date 12/23/98 12/7/98	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1. Neview	Sample Det. Limit 10. 10. ed by Paul wr, Water ( Date Prin	Analyst Paul Ortega Roger Sewell I Ortega hemistry Section nted: <u>6-Jan-99</u>	Data Qualifi
Analyte Chloride TDS Laboratory Comments:	Result 585 2400:	Units mG/L mG/L	ANALYTI Analysis Date 12/23/98 12/7/98	CAL RESU Method 300. 160.1	JLTS Minimum Level 10. 10.	Dilution Factor 1. 1. Neview Superwise	Sample Det. Limit 10. 10. ed by Paul wr, Water ( Date Prin	Analyst Paul Ortega Roger Sewell I Ortega hemistry Section nted: 6-Jan-99	Data Qualifi

SAMPLE COLLECTION DATE	:: <u>5/17/99</u> ł: Kemp Well [	TIME Downstrea	:: <u>0000</u> m	BY:	<u>Dec</u>	SI		WC- 9901566	
SAMPLE MATRIX	k: <u>wnn</u>					1	RECEIVED A	T SLD: 5/20/99 USER: 63000	
Fred Seifts Jal Water Supply S	System	<u></u>				D	SUBM I STRIBUTION TO	wss #: 21713	-
P.O. Drawer 340 Jal, NM 88252							ED Field Office Jal Water Supp	Hobbs (S) bly System (C)	
			ANALYTIC	AL RESU	LTS				
Analyte	Result	Units	ANALYTIC Analysis Date 6/2/99	AL RESU Method	LTS Minimum Level 10.	Dilution Factor	Sample Det. Limit 10.	Analyst Cliff Kear	Da Qual
Analyte Chloride TDS	Result 2576 2800	Units mG/L mG/L	ANALYTIC Analysis Date 6/2/99 5/21/99	AL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det, Limit 10. 10.	Analyst Cliff Kear Roger Sewell	Da Quai
Analyte Chloride TDS Laboratory Comments	Result 576 2800	Units mG/L mG/L	ANALYTIC Analysis Date 6/2/99 5/21/99	AL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Cliff Kear Roger Sewell	Da Qua
Analyte Chloride TDS Laboratory Comments	Result 2576 28002 ≥:	Units mG/L mG/L	ANALYTIC Analysis Date 6/2/99 5/21/99	AL RESU Method 300. 160.1	LTS Minimum Level 10. 10.	Dilution Factor 1. 1. Reviewe	Sample Det. Limit 10. 10. ed by Chris	Analyst Cliff Kear Roger Sewell s Dean D hemistry Section	Da Qua

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Analyte	Result	Units	ANALYTIC Analysis Date	CAL RESUL	.TS Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifier
Analyte Chloride	Result	Units mG/L	ANALYTIC Analysis Date 12/1/99	CAL RESUL Method 300.	.TS Minimum Level 10.	Dilution Factor 1.	Sample Det. Limit 10.	Analyst Cliff Kear	Data Qualifie
Analyte Chloride TDS	Result 560 2460	Units mG/L mG/L	ANALYTIC Analysis Date 12/1/99 11/29/99	CAL RESUL Method 300. 160.1	TS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Cliff Kear Roger Sewell	Data Qualifie
Analyte Chloride TDS Laboratory Comments:	Result 560 2460	Units mG/L mG/L	ANALYTIC Analysis Date 12/1/99 11/29/99	CAL RESUL Method 300. 160.1	TS Minimum Level 10. 10.	Dilution Factor 1. 1.	Sample Det. Limit 10. 10.	Analyst Cliff Kear Roger Sewell	Data Qualifie
Analyte Chloride TDS Laboratory Comments:	Result 560 2460:	Units mG/L mG/L	ANALYTIC Analysis Date 12/1/99 11/29/99	CAL RESUL Method 300. 160.1	TS Minimum Level 10. 10.	Dilution Factor 1. 1. Reviewe	Sample Det. Limit 10. 10.	Analyst Cliff Kear Roger Sewell s Dean 29	Data Qualifie
Analyte Chloride TDS Laboratory Comments:	Result 560 2460	Units mG/L mG/L	ANALYTIC Analysis Date 12/1/99 11/29/99	CAL RESUL Method 300. 160.1	TS Minimum Level 10. 10.	Dilution Factor 1. 1. Reviewe Supervis	Sample Det. Limit 10. 10. ed by Chri or, Water of Date Pri	Analyst Cliff Kear Roger Sewell is Dean 29 Chemistry Section inted: <u>11-Jan-00</u>	Data Qualifie





## Selected Photos

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