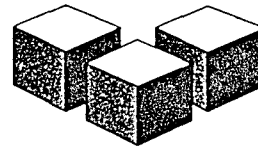


AP - 018

REPORTS

11/19/1999

Cornerstone Environmental Resources, Inc.



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

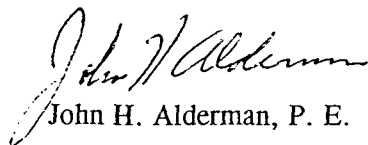
Dear Ms. Williams,

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

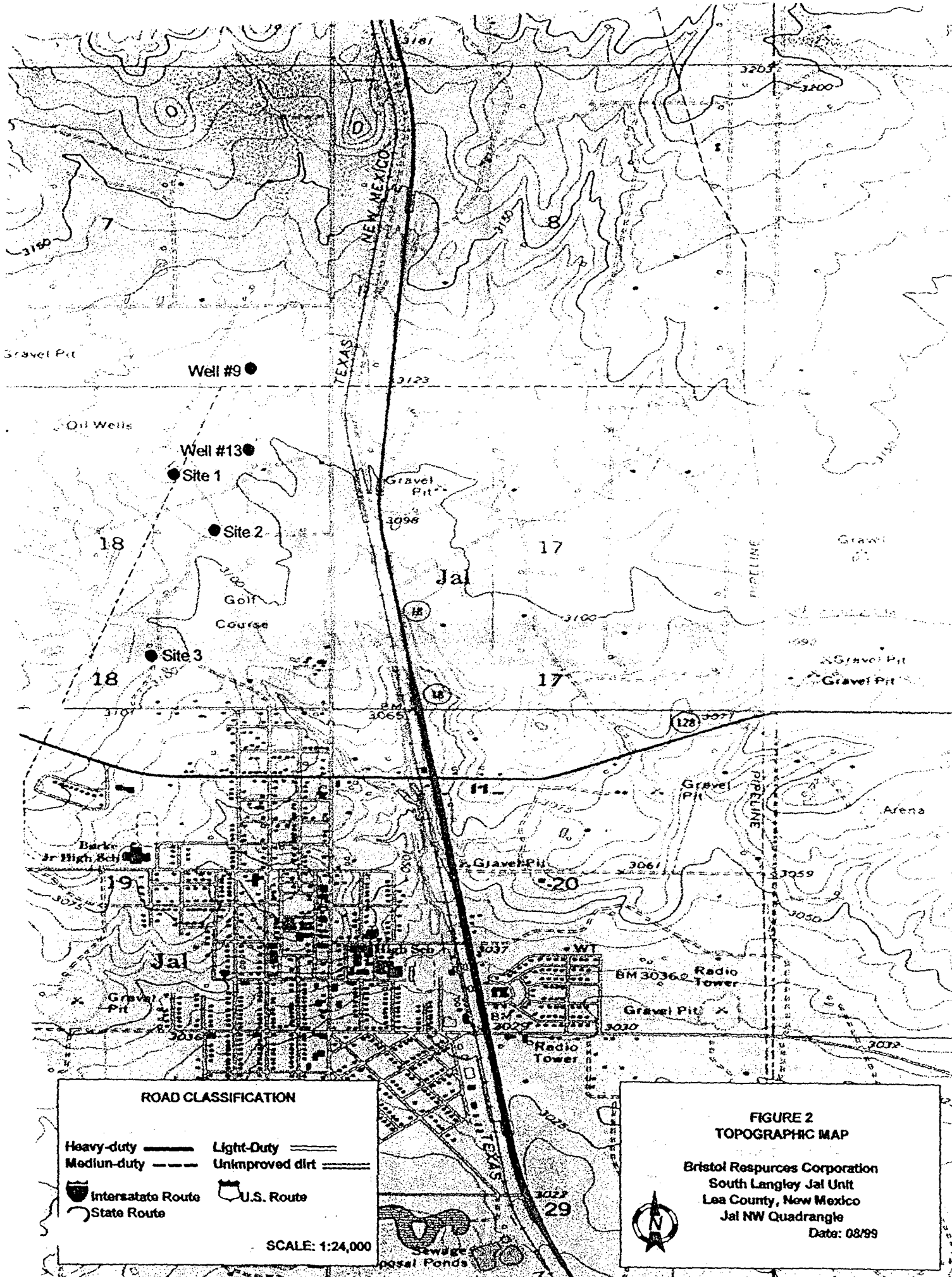
- Phase II Environmental Assessment (January 18, 1999 initial investigation)
- Phase II Environmental Assessment June, 1999 Soil Borings
- Phase II Environmental Assessment July, 1999 Groundwater Sampling
- Abandoned Tank Battery Sites - results of Laboratory Analysis Taken July 20, 1999

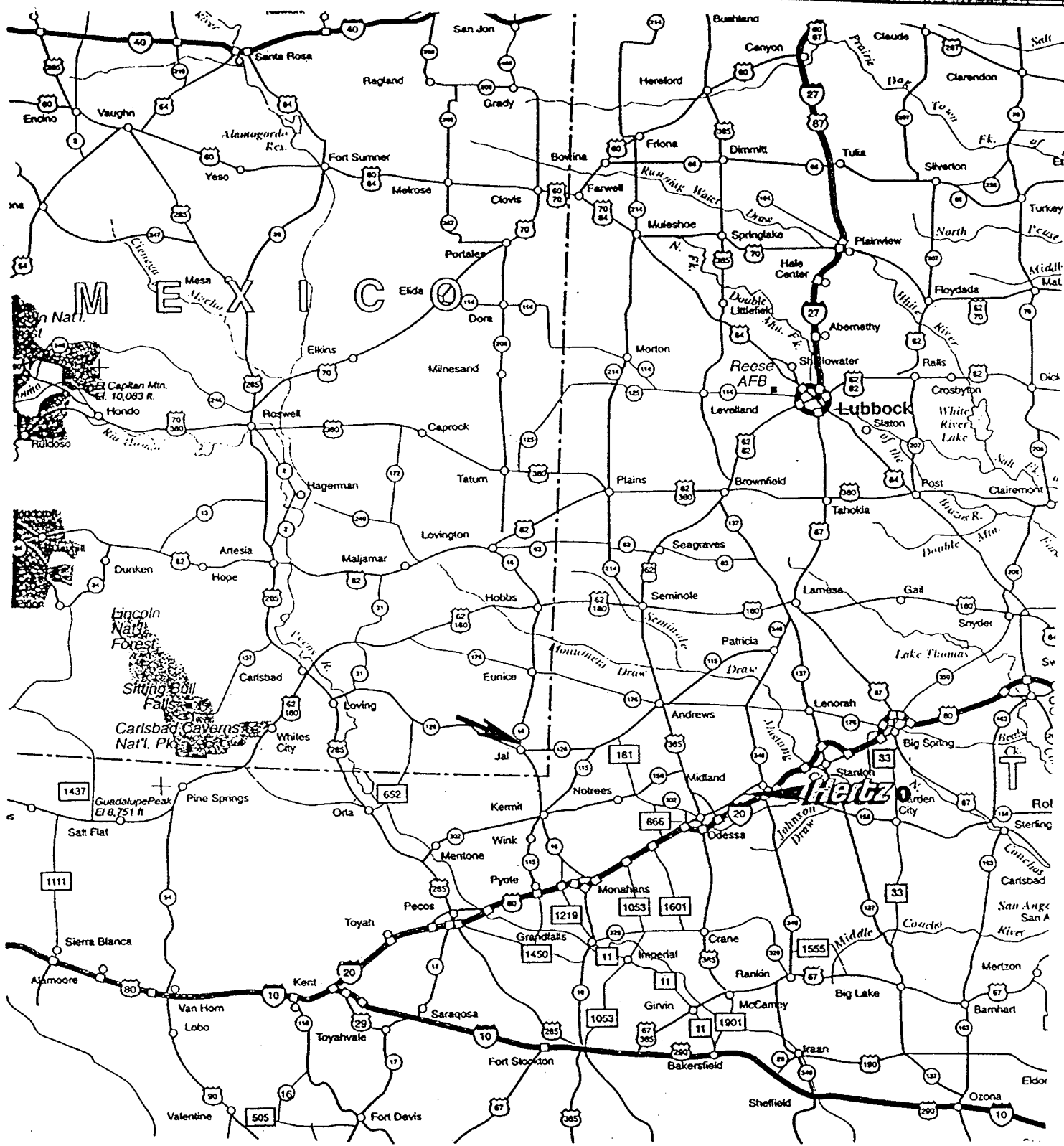
Please contact me at 972-243-7643 and we can discuss them in more detail. I believe that they will help clarify some of the issues which are concerning you.

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





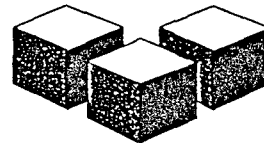
**FIGURE 1
LOCATION MAP**

**Bristol Resources Corporation
South Langley Jail Unit
Lea County, New Mexico**

Scale: NONE

Date: 02/99

Cornerstone Environmental Resources, Inc.



August 18, 1999

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.

Site 1 had two out of service storage tanks with a fence around the tanks. A sign at the facility identified 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.

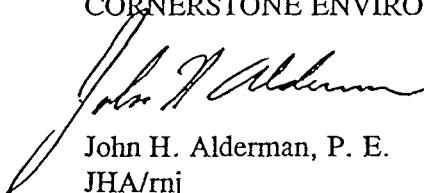
Site 2 shown on Figure 4 did not have any equipment located on the site. There was a built up area present where the storage tanks would have been located. A hard pan of hydrocarbon material was present on the east side of the location. Three trenches as indicated on Figure 4 were dug with a backhoe. 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 southwest corner to 4,440 mg/kg in the northwest 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.

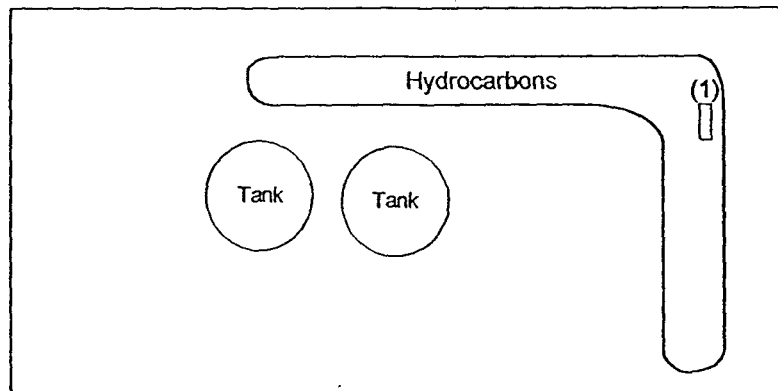
It is our opinion that the material at Site 1 should be removed for treatment or disposal. The material is in a soft semi liquid state which could be problem with live stock when the fence and tanks are removed. We do not believe the material at the other sites offer a threat to environment. We do suggest 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.

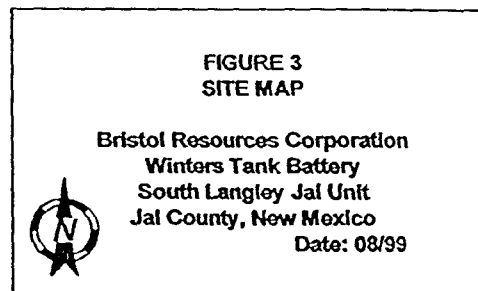
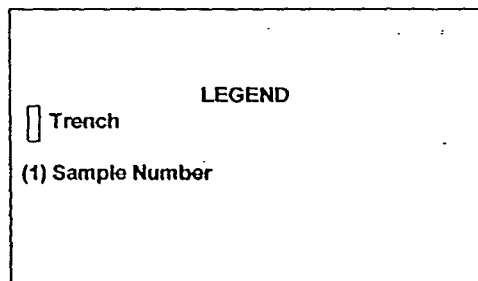
Sincerely,
CORNERSTONE ENVIRONMENTAL RESOURCES, INC.

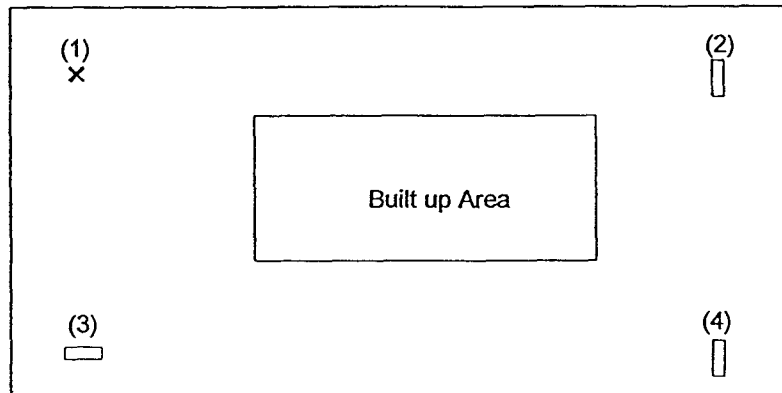


John H. Alderman, P. E.
JHA/rnj

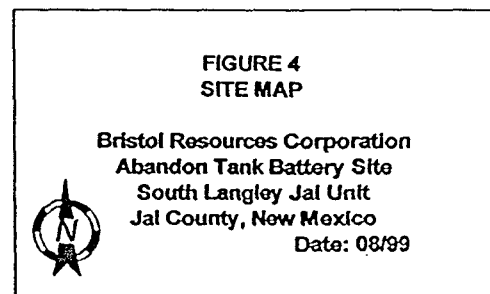
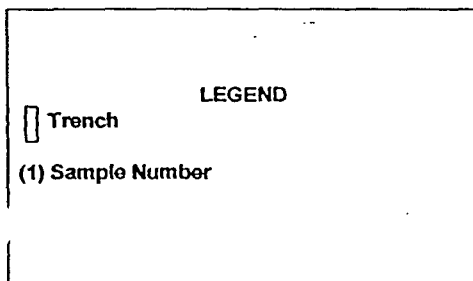


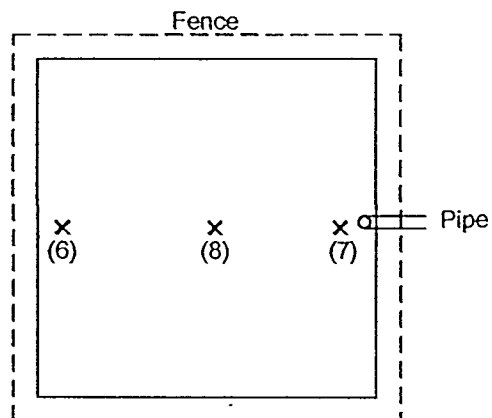
(1) TPH 23.1 Mg/Kg Gasoline Range
 TPH 13,900 Mg/Kg Diesel Range
 BTEX Non Detected





- | | |
|---|--|
| (1) TPH non Detected Gasoline Range
TPH 180 Mg/Kg Diesel Range
BTEX Non Detected | (2) TPH Non Detected Gasoline Range
TPH 4,440 Mg/Kg Diesel Range
BTEX Non Detected |
| (3) TPH Non Detected Gasoline Range
TPH 40.2 Mg/Kg Diesel Range
BTEX Non Detected | (4) TPH 1.55 Mg/Kg Gasoline Range
TPH 4,160 Mg/Kg Diesel Range
BTEX Non Detected |





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

**FIGURE 5
SITE MAP**

**Bristol Resources Corporation
 Abandon Flare Pit Site
 South Langley Jal Unit
 Jal County, New Mexico
 Date: 08/99**





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

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.

We look forward to working with you on future projects.

Sincerely yours,

Ed Fry
Project Manager

Enclosure



GULF STATES ANALYTICAL

ANALYSIS SUMMARY REPORT

Cornerstone Environmental
2997 LBJ Frwy., Ste. 103
Dallas, TX 75234-7606

GSA Group: 51962
Date Reported: 08/02/1999
Date Received: 07/22/1999

Attn: Mr. John Alderman
Project: S.Langley JAL Unit Jal, New Mexico

Purchase Order: 99003
Project No.: 99003

<u>Test</u>	<u>Analysis</u>	<u>Results as Received</u>	<u>Units</u>	<u>Limit of Quantitation</u>
Sample:270923 - 07/20/1999 - Winter 01				
0538H	TPH, Gasoline Range Organics, SW	23,100	ug/kg	10,000
0511E	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
0539H	TPH, Diesel Range Organics	13,900,000	ug/kg	1,660,000
Sample: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
	Ethylbenzene	ND	ug/kg	20
	Xylene (total)	ND	ug/kg	60
0539H	TPH, Diesel Range Organics	180,000	ug/kg	33,200
Sample:270925 - 07/20/1999 - Winter 03				
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
	Ethylbenzene	ND	ug/kg	20
	Xylene (total)	ND	ug/kg	60
0539H	TPH, Diesel Range Organics	4,440,000	ug/kg	830,000
Sample:270926 - 07/20/1999 - Winter 04				
0538H	TPH, Gasoline Range Organics, SW	1,550	ug/kg	1,000
0511E	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
0539H	TPH, Diesel Range Organics	4,160,000	ug/kg	332,000
Sample:270927 - 07/20/1999 - Winter 05				
0538H	TPH, Gasoline Range Organics, SW	ND	ug/kg	1,000

Core Laboratories, Inc.

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



GULF STATES ANALYTICAL

ANALYSIS SUMMARY REPORT

Page 2

Cornerstone Environmental

GSA Group: 51962

<u>Test Analysis</u>	<u>Results as Received</u>	<u>Units</u>	<u>Limit of Quantitation</u>
Sample: 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
Sample: 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	ug/kg	20
Xylene (total)	ND	ug/kg	60
539H TPH, Diesel Range Organics	ND	ug/kg	332,000
Sample: 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
Sample: 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

Test Method Summary:



GULF STATES ANALYTICAL

ANALYSIS SUMMARY REPORT

Page 3

Cornerstone Environmental

GSA Group: 51962

Test Method Summary:

0511E- SW-846 8021B

0538H- SW-846 8015A MOD

0539H- SW-846 8015A MOD

ID - Compound was analyzed but not detected.

Respectfully Submitted,
Reviewed and Approved by:


Ed Fry
Project Manager

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

Test Identification : 0511E-Purgeable Aromatics, BTEX Solids

Units: ug/kg

Sequence: BTX171Q

Number of Samples : 52

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

LAB#	ANALYTE	CONC FOUND #	LMT OF QUANTITATION
-072799	Benzene	8.4349	20.0000
	Toluene	5.0237	20.0000
	Ethylbenzene	3.0706	20.0000
	m,p-Xylene	3.8907	60.0000
-072799-2	Benzene	15.0022	20.0000
	m,p-Xylene	4.6481	60.0000
3-072899-3	Benzene	9.0648	20.0000
	Toluene	5.6813	20.0000
	Ethylbenzene	2.4049	20.0000
	m,p-Xylene	3.5115	60.0000
3-072899-4	Benzene	16.5135	20.0000
	m,p-Xylene	4.5811	60.0000

SPIKE						QC LIMITS	
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% 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	0.0000	941.8681	94.2	70.0	130.0
	o-Xylene	1000.0000	0.0000	945.3803	94.5	70.0	130.0
	m,p-Xylene	2000.0000	0.0000	1830.8220	91.5	70.0	130.0
1968-270967-2	Benzene	1000.0000	12.7892	985.7218	97.3	70.0	130.0
	Toluene	1000.0000	0.0000	993.5193	99.4	70.0	130.0
	Ethylbenzene	1000.0000	0.0000	1005.8677	100.6	70.0	130.0
	o-Xylene	1000.0000	0.0000	1020.3614	102.0	70.0	130.0
	m,p-Xylene	2000.0000	0.0000	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

3D						QC LIMITS			
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	LOWER	UPPER	RPD #	LIMIT
1968-270967	Benzene	1000.0000	6.9720	904.4729	89.8	70.0	130.0	0.2	20.0
	Toluene	1000.0000	3.7988	913.9816	91.0	70.0	130.0	1.0	20.0
	Ethylbenzene	1000.0000	0.0000	930.2753	93.0	70.0	130.0	1.3	20.0
	o-Xylene	1000.0000	0.0000	937.5446	93.8	70.0	130.0	0.7	20.0
	m,p-Xylene	2000.0000	0.0000	1804.4558	90.2	70.0	130.0	1.4	20.0
1968-270967-2	Benzene	1000.0000	12.7892	981.4952	96.9	70.0	130.0	0.4	20.0
	Toluene	1000.0000	0.0000	976.0152	97.6	70.0	130.0	1.8	20.0
	Ethylbenzene	1000.0000	0.0000	974.0634	97.4	70.0	130.0	3.2	20.0
	o-Xylene	1000.0000	0.0000	1003.9410	100.4	70.0	130.0	1.6	20.0
	m,p-Xylene	2000.0000	0.0000	1988.8735	99.4	70.0	130.0	3.1	20.0
2055-271392-3	Benzene	1000.0000	10.1425	1010.4656	100.0	70.0	130.0	3.2	20.0
	Toluene	1000.0000	4.3305	1013.5478	100.9	70.0	130.0	4.3	20.0

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

Test Identification : 0511E-Purgeable Aromatics, BTEX Solids Units: ug/kg

Sequence: BTX171Q

Number of Samples : 52

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

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC #	QC LIMITS		RPD #	LIMIT
						LOWER	UPPER		
2055-271392-3	Ethylbenzene	1000.0000	3.3005	1003.3167	100.0	70.0	130.0	3.8	20.0
	o-Xylene	1000.0000	0.0000	1011.8506	101.2	70.0	130.0	3.4	20.0
	m,p-Xylene	2000.0000	12.6707	1976.1411	98.2	70.0	130.0	3.8	20.0
2055-271392-4	Benzene	1000.0000	14.2107	1007.2462	99.3	70.0	130.0	3.3	20.0
	Toluene	1000.0000	31.5203	1005.4596	97.4	70.0	130.0	3.3	20.0
	Ethylbenzene	1000.0000	0.0000	999.0439	99.9	70.0	130.0	3.0	20.0
	o-Xylene	1000.0000	0.0000	1015.3283	101.5	70.0	130.0	2.7	20.0
	m,p-Xylene	2000.0000	10.4830	2049.2471	101.9	70.0	130.0	3.0	20.0

CONTROL SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS	
					LOWER	UPPER
3-072799	Benzene	1040.3319	1000.0000	104.0	80.0	120.0
	Toluene	1044.6987	1000.0000	104.5	80.0	120.0
	Ethylbenzene	1081.3339	1000.0000	108.1	80.0	120.0
	o-Xylene	1050.3276	1000.0000	105.0	80.0	120.0
	m,p-Xylene	2066.6277	2000.0000	103.3	80.0	120.0
3-072799-2	Benzene	1128.1694	1000.0000	112.8	80.0	120.0
	Toluene	1124.4183	1000.0000	112.4	80.0	120.0
	Ethylbenzene	1138.6882	1000.0000	113.9	80.0	120.0
	o-Xylene	1131.9344	1000.0000	113.2	80.0	120.0
	m,p-Xylene	2288.4581	2000.0000	114.4	80.0	120.0
22-072899-3	Benzene	940.6866	1000.0000	94.1	80.0	120.0
	Toluene	935.0686	1000.0000	93.5	80.0	120.0
	Ethylbenzene	945.7297	1000.0000	94.6	80.0	120.0
	o-Xylene	937.2726	1000.0000	93.7	80.0	120.0
	m,p-Xylene	1826.1098	2000.0000	91.3	80.0	120.0
22-072899-4	Benzene	992.6931	1000.0000	99.3	80.0	120.0
	Toluene	976.4808	1000.0000	97.6	80.0	120.0
	Ethylbenzene	981.5185	1000.0000	98.2	80.0	120.0
	o-Xylene	980.3867	1000.0000	98.0	80.0	120.0
	m,p-Xylene	1977.3085	2000.0000	98.9	80.0	120.0

CV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #	QC LIMITS	
					LOWER	UPPER
2-072799	Benzene	50.0000	51.0789	102.2	85.0	115.0
	Toluene	50.0000	51.1487	102.3	85.0	115.0
	Ethylbenzene	50.0000	50.5769	101.2	85.0	115.0
	o-Xylene	50.0000	50.3221	100.6	85.0	115.0
	m,p-Xylene	100.0000	99.8230	99.8	85.0	115.0
2-072799-2	Benzene	50.0000	52.3656	104.7	85.0	115.0
	Toluene	50.0000	51.8274	103.7	85.0	115.0
	Ethylbenzene	50.0000	51.2171	102.4	85.0	115.0
	o-Xylene	50.0000	51.3717	102.7	85.0	115.0
	m,p-Xylene	100.0000	105.1806	105.2	85.0	115.0
19-072799-3	Benzene	50.0000	48.8261	97.7	85.0	115.0
	Toluene	50.0000	48.3709	96.7	85.0	115.0
	Ethylbenzene	50.0000	47.7825	95.6	85.0	115.0
	o-Xylene	50.0000	47.3996	94.8	85.0	115.0
	m,p-Xylene	100.0000	93.0340	93.0	85.0	115.0

Core Lab-Gulf States Analytical
Daily QC Batching Data
Data Released for Reporting08/04/99
15:17:36
Group: 51962

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

Test Identification : 0511E-Purgeable Aromatics, BTEX Solids

Units: ug/kg

Sequence: BTX171Q

Number of Samples : 52

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

CV #	ANALYTE	TRUE VALUE	BATCH READ	QC LIMITS		
				% REC #	LOWER	UPPER
19-072799-4	Benzene	50.0000	51.9466	103.9	85.0	115.0
	Toluene	50.0000	51.2490	102.5	85.0	115.0
	Ethylbenzene	50.0000	50.5359	101.1	85.0	115.0
	o-Xylene	50.0000	50.5696	101.1	85.0	115.0
	m,p-Xylene	100.0000	102.9383	102.9	85.0	115.0
21-072899-5	Benzene	50.0000	49.0847	98.2	85.0	115.0
	Toluene	50.0000	48.6601	97.3	85.0	115.0
	Ethylbenzene	50.0000	47.9167	95.8	85.0	115.0
	o-Xylene	50.0000	47.8094	95.6	85.0	115.0
	m,p-Xylene	100.0000	94.0117	94.0	85.0	115.0
21-072899-6	Benzene	50.0000	51.7661	103.5	85.0	115.0
	Toluene	50.0000	51.1482	102.3	85.0	115.0
	Ethylbenzene	50.0000	50.2417	100.5	85.0	115.0
	o-Xylene	50.0000	50.6129	101.2	85.0	115.0
	m,p-Xylene	100.0000	102.9864	103.0	85.0	115.0
37-072899-7	Benzene	50.0000	52.4742	104.9	85.0	115.0
	Toluene	50.0000	51.2300	102.5	85.0	115.0
	Ethylbenzene	50.0000	50.1025	100.2	85.0	115.0
	o-Xylene	50.0000	50.0844	100.2	85.0	115.0
	m,p-Xylene	100.0000	98.4022	98.4	85.0	115.0
37-072899-8	Benzene	50.0000	51.5299	103.1	85.0	115.0
	Toluene	50.0000	50.8117	101.6	85.0	115.0
	Ethylbenzene	50.0000	49.6113	99.2	85.0	115.0
	o-Xylene	50.0000	49.8436	99.7	85.0	115.0
	m,p-Xylene	100.0000	101.3081	101.3	85.0	115.0
49-072899-9	Benzene	50.0000	51.8407	103.7	85.0	115.0
	Toluene	50.0000	51.6055	103.2	85.0	115.0
	Ethylbenzene	50.0000	50.3390	100.7	85.0	115.0
	o-Xylene	50.0000	50.3692	100.7	85.0	115.0
	m,p-Xylene	100.0000	98.5105	98.5	85.0	115.0
49-072899-10	Benzene	50.0000	51.5938	103.2	85.0	115.0
	Toluene	50.0000	51.0287	102.1	85.0	115.0
	Ethylbenzene	50.0000	51.9997	104.0	85.0	115.0
	o-Xylene	50.0000	49.4742	98.9	85.0	115.0
	m,p-Xylene	100.0000	101.1983	101.2	85.0	115.0
52-072999-11	Benzene	50.0000	51.7143	103.4	85.0	115.0
	Toluene	50.0000	50.8827	101.8	85.0	115.0
	Ethylbenzene	50.0000	49.7645	99.5	85.0	115.0
	o-Xylene	50.0000	50.0194	100.0	85.0	115.0
	m,p-Xylene	100.0000	97.8686	97.9	85.0	115.0
52-072999-12	Benzene	50.0000	50.9003	101.8	85.0	115.0
	Toluene	50.0000	50.1475	100.3	85.0	115.0
	Ethylbenzene	50.0000	49.2196	98.4	85.0	115.0
	o-Xylene	50.0000	48.9914	98.0	85.0	115.0
	m,p-Xylene	100.0000	99.9267	99.9	85.0	115.0
55-072999-13	Benzene	50.0000	49.8246	99.6	85.0	115.0
	Toluene	50.0000	49.7912	99.6	85.0	115.0
	Ethylbenzene	50.0000	48.8673	97.7	85.0	115.0
	o-Xylene	50.0000	48.8012	97.6	85.0	115.0

Analysis Batch Number: 0511E-07/26/99-1205-1
Test Identification : 0511E-Purgeable Aromatics, BTEX Solids Units: ug/kg Sequence: BTX171Q
Number of Samples : 52
Data-Date/Time : 07/29/99 / 12:06:35

CV #	ANALYTE	TRUE VALUE	BATCH READ	QC LIMITS		
				% REC #	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
	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#	TFT #	BFB #
SAMPLE 51968-270967	70(G)	78
SAMPLE 51968-270967	79	83
SAMPLE 51962-270923	69(G)	73
SAMPLE 51962-270923	79	76
SAMPLE 51962-270924	65(A)	76
SAMPLE 51962-270924	73	76
SAMPLE 51962-270925	92	95
SAMPLE 51962-270925	103	107
SAMPLE 51939-270848	120	140(A)
SAMPLE 51939-270848	122	93
SAMPLE 51939-270849	87	96
SAMPLE 51939-270849	85	97
SAMPLE 51939-270850	95	103
SAMPLE 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	96
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
SAMPLE 51962-270930	97	108
SAMPLE 51962-270930	98	104
SAMPLE 52054-271390	73	93
SAMPLE 52054-271390	84	88

Core Lab-Gulf States Analytical
Daily QC Batching Data
Data Released for Reporting08/04/99
15:17:37
Group: 51962

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

Test Identification : 0511E-Purgeable Aromatics, BTEX Solids

Units: ug/kg

Sequence: BTX171Q

Number of Samples : 52

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

URG #:21-0511E-S-SU

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

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

Test Identification : 0511E-Purgeable Aromatics, BTEX Solids Units: ug/kg Sequence: BTX171Q

Number of Samples : 52

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

21-0511E-S-SU - BTEX SOLIDS SURROGATE

SRG ABRV = SURROGATE DESCRIPTION

QC LIMITS

		LOWER	UPPER
TFT	Trifluorotoluene	70.0	130.0
BFB	p-Bromofluorobenzene	70.0	130.0

Result Footnotes

- (G) - Marginal Outlier
- (A) - Matrix Interference
- (D) - Surrogate is diluted out
- (B1) - Sample(s) rerun to confirm matrix interference.

Groups & Samples

51939-270848	51939-270849	51939-270850	51939-270851	51939-270852	51939-270853	51962-270923	51962-270924
51962-270925	51962-270926	51962-270927	51962-270928	51962-270929	51962-270930	51968-270967	51996-271092
52054-271390	52054-271391	52055-271392	52101-271648				

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

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

Analysis Batch Number: 0538H-07/15/99-1205-2

Test Identification : 0538H-TPH, Gasoline Range Organics, SW

Units: ug/kg

Sequence: GR07166Q

Number of Samples : 22

Analysis Date/Time : 07/29/99 / 14:27:18

LAB#	ANALYTE	CONC FOUND #	LMT OF QUANTITATION
27-072799	Gasoline	286.5500	1000.0000
55-072899-2	Gasoline	584.5900	1000.0000
53-072899-3	Gasoline	1397.9300(D1)	1000.0000
71-072899-4	Gasoline	654.9700	1000.0000

PIKE							QC LIMITS	
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #		LOWER	UPPER
1968-270967	Gasoline	5000.0000	545.3600	6240.5600	113.9		70.0	130.0
2055-271392-2	Gasoline	5000.0000	1412.9500	18049.0600	332.7(D1)		70.0	130.0
2055-271392-3	Gasoline	5000.0000	477.9800	4665.0200	83.7		70.0	130.0

SD							QC LIMITS			
SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #		LOWER	UPPER	RPD #	LIMIT
1968-270967	Gasoline	5000.0000	545.3600	5820.0800	105.5		70.0	130.0	7.7	27.0
2055-271392-2	Gasoline	5000.0000	1412.9500	10161.8400	175.0(D1)		70.0	130.0	62.1(D1)	27.0
2055-271392-3	Gasoline	5000.0000	477.9800	4584.5700	82.1		70.0	130.0	1.9	27.0

CONTROL							QC LIMITS	
SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #			LOWER	UPPER
26-072799	Gasoline	5537.9700	5000.0000	110.8			75.2	121.4
54-072899-2	Gasoline	5320.8200	5000.0000	106.4			75.2	121.4
56-072899-3	Gasoline	5094.6000	5000.0000	101.9			75.2	121.4
71-072899-4	Gasoline	4857.1800	5000.0000	97.1			75.2	121.4

							QC LIMITS	
CV #	ANALYTE	TRUE VALUE	BATCH READ	% REC #			LOWER	UPPER
25-072799	Gasoline	250.0000	225.3100	90.1			85.0	115.0
41-072799-2	Gasoline	250.0000	267.7500	107.1			85.0	115.0
44-072899-3	Gasoline	250.0000	243.9500	97.6			85.0	115.0
64-072899-4	Gasoline	250.0000	263.3000	105.3			85.0	115.0
69-072899-5	Gasoline	250.0000	271.4500	108.6			85.0	115.0
78-072999-6	Gasoline	250.0000	244.7400	97.9			85.0	115.0

URG #:20-0538 -S-SU

SAMPLE#	TFT #	BFB #
SAMPLE 51968-270967	73	89
SAMPLE 51962-270930	110	127
SAMPLE 51962-270924	88	96
SAMPLE 51962-270925	105	116
SAMPLE 51962-270926	59(L1)	59(L1)
SAMPLE 51962-270927	78	86
SAMPLE 51962-270928	92	100
SAMPLE 51962-270929	100	108
SAMPLE 51962-270923	89	107
SAMPLE 51962-270926	86	86
SAMPLE 51969-270968	141(D)	597(D)
SAMPLE 51969-270969	654(D)	427(D)
SAMPLE 51969-270968	0(D)	960(D)
SAMPLE 51969-270968	4234(D)	4270(D)
SAMPLE 51969-270969	****(D)	1637(D)

Analysis Batch Number: 0538H-07/15/99-1205-2

Test Identification : 0538H-TPH, Gasoline Range Organics, SW

Units: ug/kg

Sequence: GR07166Q

Number of Samples : 22

Data-Date/Time : 07/29/99 / 14:27:18

SURG #:20-0538 -S-SU

SAMPLE#	TFT #	BFB #
SAMPLE 52054-271390	86	137(A)
SAMPLE 52054-271391	102	132(A)
SAMPLE 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	99	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
CTL 4 170-072899	96	122
CCV 1 125-072799	97	105
CCV 2 141-072799	100	108
CCV 3 144-072899	98	105
CCV 4 164-072899	103	106
CCV 5 169-072899	104	103
CCV 6 178-072999	113	118
MSD 1 51968-270967	109	120
MSD 2 52055-271392	112	110
MSD 3 52055-271392	97	106

20-0538 -S-SU - TPH GRO SURROGATES, SOIL

QC LIMITS

SRG ABRV = SURROGATE DESCRIPTION

	LOWER	UPPER
TFT Trifluorotoluene	70.0	130.0
BFB p-Bromofluorobenzene	70.0	130.0

----- Result Footnotes -----

- (O1) - Carryover contamination from previous run.
 (L1) - Analytical results not used, another run reported.
 (D) - Surrogate is diluted out
 (A) - Matrix Interference
 (M) - QC Sample Was Reanalyzed

Groups & Samples

51908-270698	51962-270923	51962-270924	51962-270925	51962-270926	51962-270927	51962-270928	51962-270929
51962-270930	51968-270967	51969-270968	51969-270969	52054-271390	52054-271391	52055-271392	

Analysis Batch Number: 0539G-07/23/99-1230-4

Test Identification : 0539G-TPH, Diesel Range Organics

Units: ug/kg

Sequence: TPH1730Q

Number of Samples : 17

Batch Date/Time : 08/03/99 / 10:54:24

BLK#	ANALYTE	CONC FOUND	#	LMT OF QUANTITATION
BLK	none detected			

AMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	QC LIMITS LOWER UPPER
1904-270670	Diesel fuel	67000.0000	0.0000	0.0000	0.0(K1)	70.0 130.0

AMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	QC LIMITS LOWER UPPER	RPD #	LIMIT
1904-270670	Diesel fuel	67000.0000	0.0000	0.0000	0.0(K1)	70.0 130.0	0.0	26.9

AMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS LOWER UPPER
LCS	Diesel fuel	62087.0000	67000.0000	92.7	61.2 128.1

URG #:26-0539 -S-SU

AMPLE#	O-TP #
AMPLE 51962-270923	2(A)
AMPLE 51962-270924	3(A)
AMPLE 51904-270673	89
AMPLE 51962-270925	0(A)
AMPLE 51904-270674	0(A)
AMPLE 51962-270926	1(A)
AMPLE 51904-270675	0(A)
AMPLE 51962-270927	89
AMPLE 51904-270676	79
AMPLE 51962-270928	4(A)
AMPLE 51904-270677	77
AMPLE 51904-270670	4(A)
AMPLE 51904-270671	4(A)
AMPLE 51904-270672	10(A)
AMPLE 51904-270678	0(A)
AMPLE 51904-270679	1(A)
AMPLE 51969-270969	0(A)
BLK 1 BLK	73
PK 1 51904-270670	4(A)
TL 1 LCS	76
SD 1 51904-270670	4(A)

6-0539 -S-SU - DRO SURROGATE SOIL

RG ABRV =	SURROGATE DESCRIPTION	QC LIMITS LOWER UPPER
-TP	o-Terphenyl	70.0 130.0

----- Result Footnotes -----

K1) - See comment for explanation

A) - Matrix Interference

----- Batch Notes -----

Found sample 51904-270670 had a concentration of 1626600 ppb. MS concentration is 2063000 ppb. MSD concentration is 2108600 ppb. Spike recovery is valid because the sample is > four times the spiked amount.

Core Lab-Gulf States Analytical
Daily QC Batching Data
Data Released for Reporting08/04/99
15:17:41
Group: 51962

Analysis Batch Number: 0539G-07/23/99-1230-4

Test Identification : 0539G-TPH, Diesel Range Organics

Units: ug/kg

Sequence: TPH1730Q

Number of Samples : 17

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							

Analysis Batch Number: 0539G-07/23/99-1230-2

Test Identification : 0539G-TPH, Diesel Range Organics

Units: ug/kg

Sequence: TPH1730Q

Number of Samples : 15

Batch Data-Date/Time : 07/29/99 / 17:00:40

BLANK#	ANALYTE	CONC FOUND #	LMT OF QUANTITATION
BLK	none detected		

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	CONC SPIKE	% REC #	QC LIMITS	
						LOWER	UPPER
51974-271008	Diesel fuel	67000.0000	35676.6000	99411.6000	95.1	70.0	130.0

SAMPLE#	ANALYTE	CONC ADDED	CONC SAMPLE	RESULT 2	%REC2 #	QC LIMITS		RPD #	LIMIT
						LOWER	UPPER		
51974-271009	Diesel fuel	67000.0000	35676.6000	102105.0000	99.1	70.0	130.0	4.1	26.9

SAMPLE#	ANALYTE	CONC FOUND	CONC KNOWN	% REC #	QC LIMITS	
					LOWER	UPPER
LCS	Diesel fuel	67900.0000	67000.0000	101.3	61.2	128.1

SURG #:26-0539 -S-SU

SAMPLE#	O-TP #
SAMPLE 51974-271005	6(A)
SAMPLE 51974-271006	5(A)
SAMPLE 51974-271007	44(A)
SAMPLE 51974-271011	104
SAMPLE 51974-271012	12(A)
SAMPLE 51974-271013	22(A)
SAMPLE 51974-271014	13(A)
SAMPLE 52004-271123	13(A)
SAMPLE 52004-271120	68(A)
SAMPLE 52004-271124	5(A)
SAMPLE 52004-271121	0(A)
SAMPLE 51969-270968	0(A)
SAMPLE 52004-271122	79
SAMPLE 51962-270929	1(A)
SAMPLE 51962-270930	0(A)
BLK 1 BLK	75
SPK 1 51974-271008	91
CTL 1 LCS	94
MSD 1 51974-271009	40(A)

26-0539 -S-SU - DRO SURROGATE SOIL		QC LIMITS	
SRG ABRV =	SURROGATE DESCRIPTION	LOWER	UPPER
O-TP	o-Terphenyl	70.0	130.0

----- Result Footnotes -----

(A) - Matrix Interference

Groups & Samples

51962-270929	51962-270930	51969-270968	51974-271005	51974-271006	51974-271007	51974-271008	51974-271009
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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

Test Identification : 0539G-TPH, Diesel Range Organics

Units: ug/kg

Sequence: TPH1730Q

Number of Samples : 15

Sample 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							



GULF STATES ANALYTICAL

6310 F. Jay, Houston, Texas 77040
(713) 690-4444, Fax (713) 690-5646

Company: **Corrosion Control** Address: **9907 L.R. Hwy #103** Tele: **972-843-7643**
Dallas TX 75224 Fax: **972-247-0617**
Reports Sent To: **John Alderman** P O #: **99003** Project #:

Project Location: **3 Launch Jal Unit 507 New Orleans**

Sampler(s) Name: (Signature) **John H. Alderman**

Courier:

Field Sample ID

Sampling

Date Time

Haz. Sample (Y/N)
of Containers

Matrix

Water
Soil
Sludge
Oil
Other

Special Detection Limits

QC Package: (check one)
☐ CLP ☐ Site Specific
☐ Tier 1 ☐ Tier 2 ☐ QC Summary

Relinquished by Sampler: (Signature)

Date

Time

Received by: (Signature)

Date

Time

Relinquished by: (Signature)

Date

Time

Received by: (Signature)

Date

Time

Relinquished by: (Signature)

Date

Time

Received by Laboratory: (Signature)

Date

Time

Remarks:

Requested Turnaround

GSAI Group: **51962**

**CORE LAB / GULF STATES ANALYTICAL
SAMPLE RECEIPT CHECKLIST**

JOHN ALDERMAN

CLIENT: CONNER CONTACT: CONNER
 PROJECT: S-1 ANGLRY JAL UNIT JALAN Mexico CARRIER: FEDEX
 DATE RECEIVED: _____ UNPACKED STAMP: 1999 JUL 23 11:10:21
 DATE SHIPPED: 7-21-99 UNPACKED BY: ES
 NUMBER OF KITS RECEIVED: 1 GROUP#: 51962 B.O.#: —

KIT CHECKLIST

KIT ID	COC PRESENT	CUSTODY TAPE		COOLER TEMP Thermometer # <u>274</u>	# OF SAMPLE CONTAINERS
		PRESENT?	INTACT?		
<u>B/W E.T.S.</u>	<u>yes</u>	<u>C yes</u>	<u>yes</u>	<u>1.3 °C</u>	<u>11</u>
		<u>B NO</u>	<u>NO</u>		
		<u>C</u>			
		<u>B</u>			
		<u>C</u>			
		<u>B</u>			

C = COOLER B = BOTTLES

INCONSISTENCIES

SAMPLE	PARAMETER	INCONSISTENCY
		<u>3- SX DID NOT BELONG TO THIS GROUP.</u>

pH OF WATER SAMPLES CHECKED YES ☒ NO ☐ SAMPLE(S) SCREENED FOR RADIATION YES ☒ NO ☐
 VOLATILE HEAD SPACE CHECKED YES ☐ NO ☐ SEE ATTACHED WORKSHEET ☐
 ACTION TAKEN _____

PERSON CONTACTED: _____ DATE: _____
 RESOLUTION _____

CORE / GSA EMPLOYEE _____ DATE: _____

☐ HNO3 ☐ HCL ☐ H2SO4 ☐ NaOH ☐ Na2S2O3 ☐ NEAT ☐ NaHSO4 ☐ OT/PRE.
 (Water Only)

☐ VOA
☐ OTHER

☐ VOA
☐ OTHER

Remaining Samples in Group _____

Project Manager MA

# Cont.	Mtrx.
<u>8</u>	<u>80</u>
Total <u>8</u>	<u>80</u>

**South Langley Jal Unit
Attachment A**