



Highlander Environmental Corp.

Midland, Texas

August 27, 2007

Mr. Larry Johnson
Environmental Engineer Specialist
Oil Conservation Division- District I
1625 N. French Drive
Hobbs, New Mexico 88240

RE: Assessment and Closure Request for the Spill at the Jalmat Yates, Well #29, Unit Letter L, Section 18, Township 25 South, Range 37 East, Lea County, New Mexico, Operated by COG Operating LLC, IRP 1380.

Dear Mr. Johnson:

API# 30005 116510000

Highlander Environmental Corp. (Highlander) was contacted by COG Operating LLC (COG) to assess and to remediate the soil impact from a spill that occurred at the Jalmat Yates Well #29 located in Unit Letter L, Section 18, Township 25 South, Range 37 East, Lea County, New Mexico. The site location is shown on Figure 1.

Background

The spill was discovered on June 2, 2007, from a leak on a flowline located near the well pad location. Approximately 1 barrel of oil and 2 barrels of water were released from the flowline and no fluids were recovered. The release impacted an area west and south of the well pad location. The initial Form C-141 is included in Appendix C.

Groundwater and Regulatory

The spill area is located in Section 18, Township 25 South, Range 37 East. The State of New Mexico Well Reports did not show any water wells in Section 18. However, there were water wells shown in Sections 19 and 20, Township 25 South, Range 37 East with an average groundwater depth of approximately 34' to 44' below surface.

Published data, from the Geology and Groundwater Conditions in Southern New Mexico, showed wells in Section 15 and 23, Township 25 South, Range 36 East with reported depths of 120' and 53.7', respectively. In Sections 17, 19 and 20, Township 25 South, Range 37 East, water wells showed average groundwater depths of approximately 62' to 65' below surface. In addition, the USGS data base reported a depth to water at 51' in the southeast quarter of Section 18, Township 25 South, Range 37 East. A monitor well, located in the western edge of Section 18, reportedly had a water level of approximately 63.0' in 2004. Based on the relative elevation of the Site and surrounding

RP#156

wells, the groundwater appears to be greater than 50.0' below surface. The State of New Mexico Well Reports, USGS report and published reports are included in Appendix B.

A risk-based evaluation was performed for the Site in accordance with the NMOCD Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene and xylene). Based on the regional groundwater data, the proposed RRAL for TPH is 1,000 mg/kg.

Assessment and Corrective Action

On June 7, 2007, Highlander personnel inspected the spill area. During the inspection, the impacted area west and south of the well pad had been excavated to a depth of approximately 6" below surface. The excavated soils were transported to Sundance Services, Inc., located in Eunice, New Mexico for proper disposal. A total of three (3) auger holes were installed in the spill area. The auger hole locations are shown on Figure 2.

The soil samples collected were analyzed for Total Petroleum Hydrocarbon (TPH) by method modified 8015 DRO/GRO, benzene, toluene, ethylbenzene, and xylene (BTEX) by EPA method 8021B and chloride by EPA method 300.0. All samples were collected and preserved in laboratory prepared sample containers, shipped under proper chain-of-custody control and analyzed within the standard holding times. The sample results are shown in Table 1. The analytical reports and chain of custody are shown in Appendix B.

Referring to Table 1, the sample from AH-2 (0-1') exceeded the RRAL for TPH with a concentration of 5,290 mg/kg. The remaining samples at 0-1' were below the RRAL for TPH and BTEX. The deeper sample at AH-2 (1-1.5') was below the TPH RRAL. The chloride concentrations ranged from 92.8 mg/kg (AH-3, 1-1.5') to 653 mg/kg (AH-2, 0-1').

On July 14, 2007, Highlander supervised the excavation to remove the impacted soil above the RRAL. The area of AH-2 was excavated and an additional 6" to 1.0' of soil was removed. The excavated area is shown Figure 3. The excavated soils were then transported to proper disposal. Once excavated, one confirmation sample CS (0-1') was collected from the excavated area. The TPH concentration was <50.0 mg/kg.

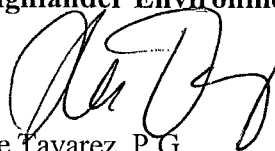
Conclusion

The spill from the release caused a shallow hydrocarbon impact to the subsurface soils, which were excavated to below NMOCD RRAL. The chloride concentrations do not appear to be an imminent threat to groundwater. Based on the results and remedial activities performed, COG request closure for the Site. The final Form C-141 is included in Appendix C.



If you require any additional information or have any questions or comments, please contact us at (432) 682-4559.

Highlander Environmental Corp.



Ike Tavaréz, P.G.
Project Manager/Senior Geologist

cc: COG – Boyd Chesser



SITE INFORMATION

RP - 1380

Report Type: CLOSURE REPORT

General Site Information:

Site:	Jalmat Yates Unit #29
Company:	COG Operating LLC
Well Location:	Section 18, T25S, R37E
Unit Letter:	Unit L
Lease Number:	301048
County:	Lea
Spill GPS:	N32.12944° W103.20727°
Surface Owner:	Clay Osborne
Mineral Owner:	Unknown
Directions:	From Jal, New Mexico, intersection of Hwy 18 and Hwy 128, go 1.1 miles (west) on 128, turn right (north) into lease road, go north 0.5 miles and turn right (east) and go 0.1 mile to well location.

Release Data:

Date Released:	6/2/2007
Type Release:	Oil and water
Source of Contamination:	Flow line leak
Fluid Released:	1 Barrel of Oil and 2 Barrels of Water
Fluids Recovered:	None

Official Communication:

Name:	Kanicia Carrillo	Ike Tavarez
Company:	COG Operating, LLC	Highlander Environmental Corp.
Address:	550 W. Texas, Ste 1300	1910 N. Big Spring
P.O. Box		
City:	Midland Texas, 79701-7340	Midland, Texas
Phone number:	(432) 683-7443	(432) 682- 4559
Fax:	(432) 683-7441	
Email:	KCarrillo@conchoresources.com	itavarez@hec-enviro.com

Ranking Criteria

Depth to Groundwater:	Ranking Score	Site Data
<50 ft	20	
50-99 ft	10	
>100 ft.	0	

WellHead Protection:	Ranking Score	Site Data
Water Source <1,000 ft., Private <200 ft.	20	None
Water Source >1,000 ft., Private >200 ft.	0	

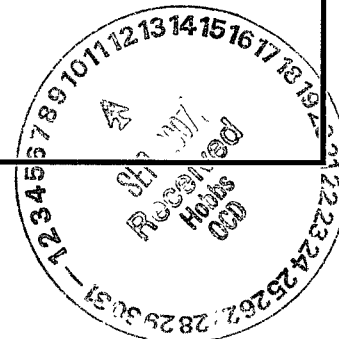
Surface Body of Water:	Ranking Score	Site Data
<200 ft.	20	None
200 ft - 1,000 ft.	10	None
>1,000 ft.	0	

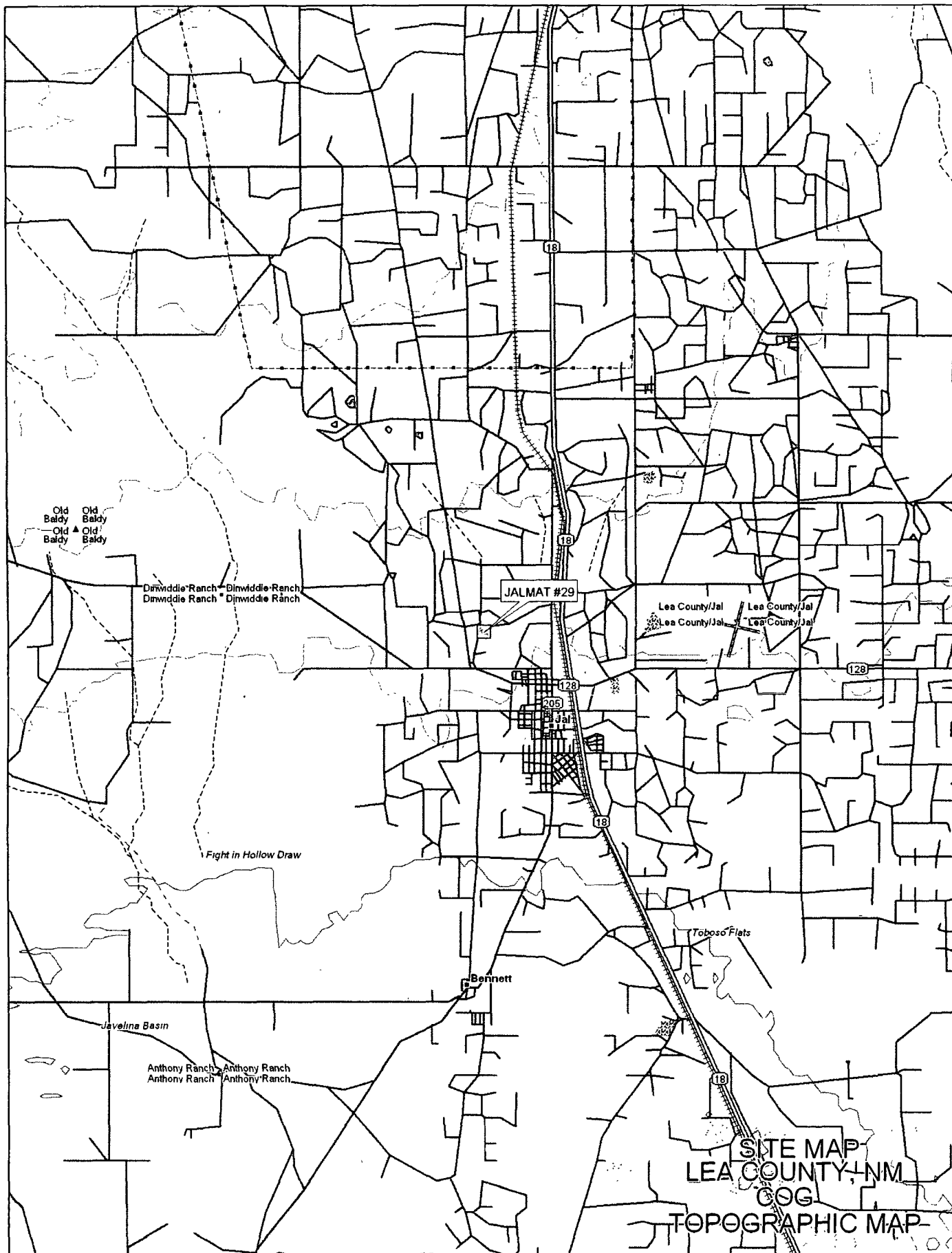
Total Ranking Score:

10

Acceptable Soil RRAL (mg/kg)

Benzene	Total BTEX	TPH
10	50	1,000



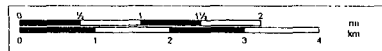


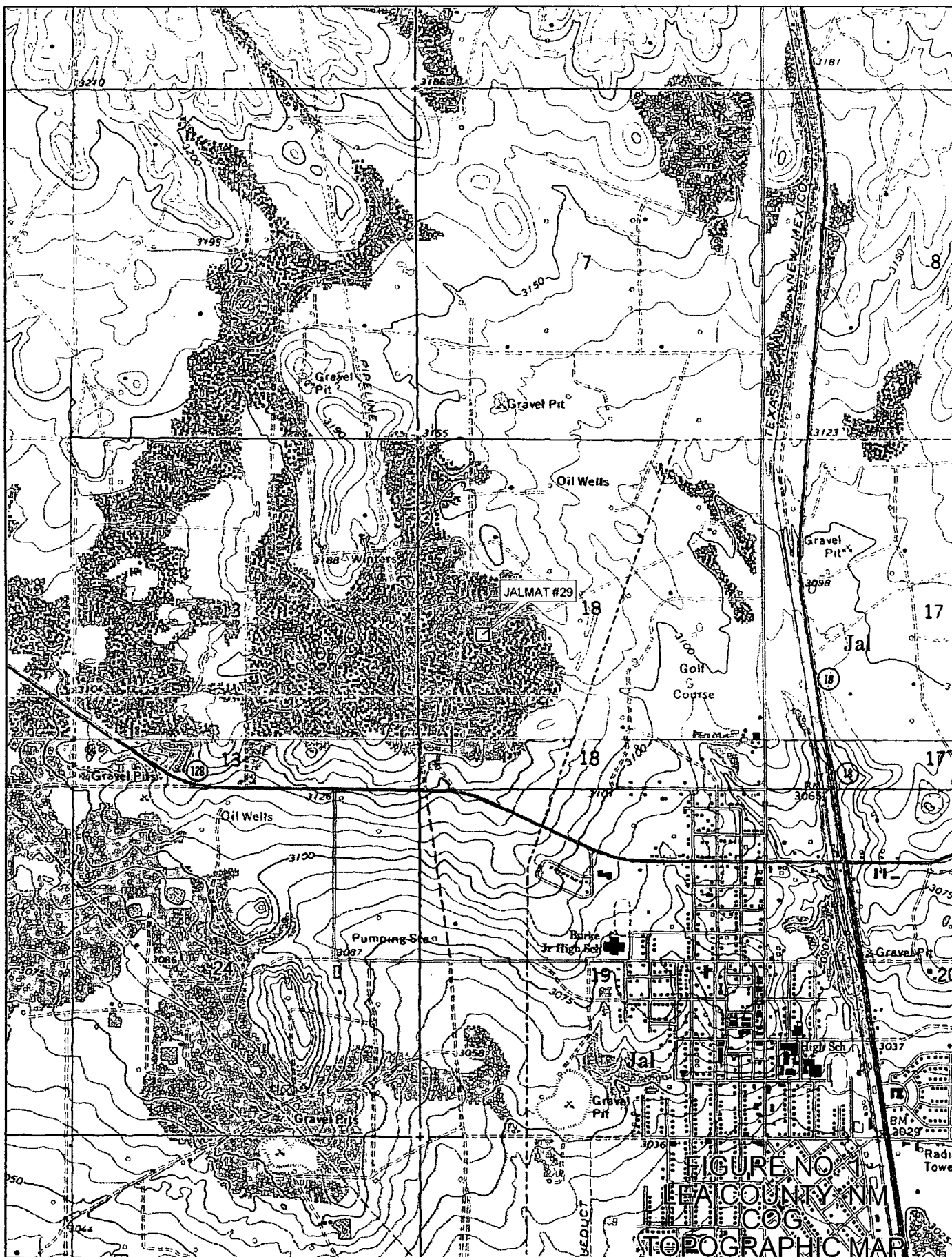
SITE MAP
LEA COUNTY, NM
COG
TOPOGRAPHIC MAP



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Scale 1 : 100,000
1" = 1.58 mi

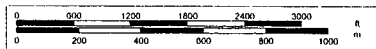




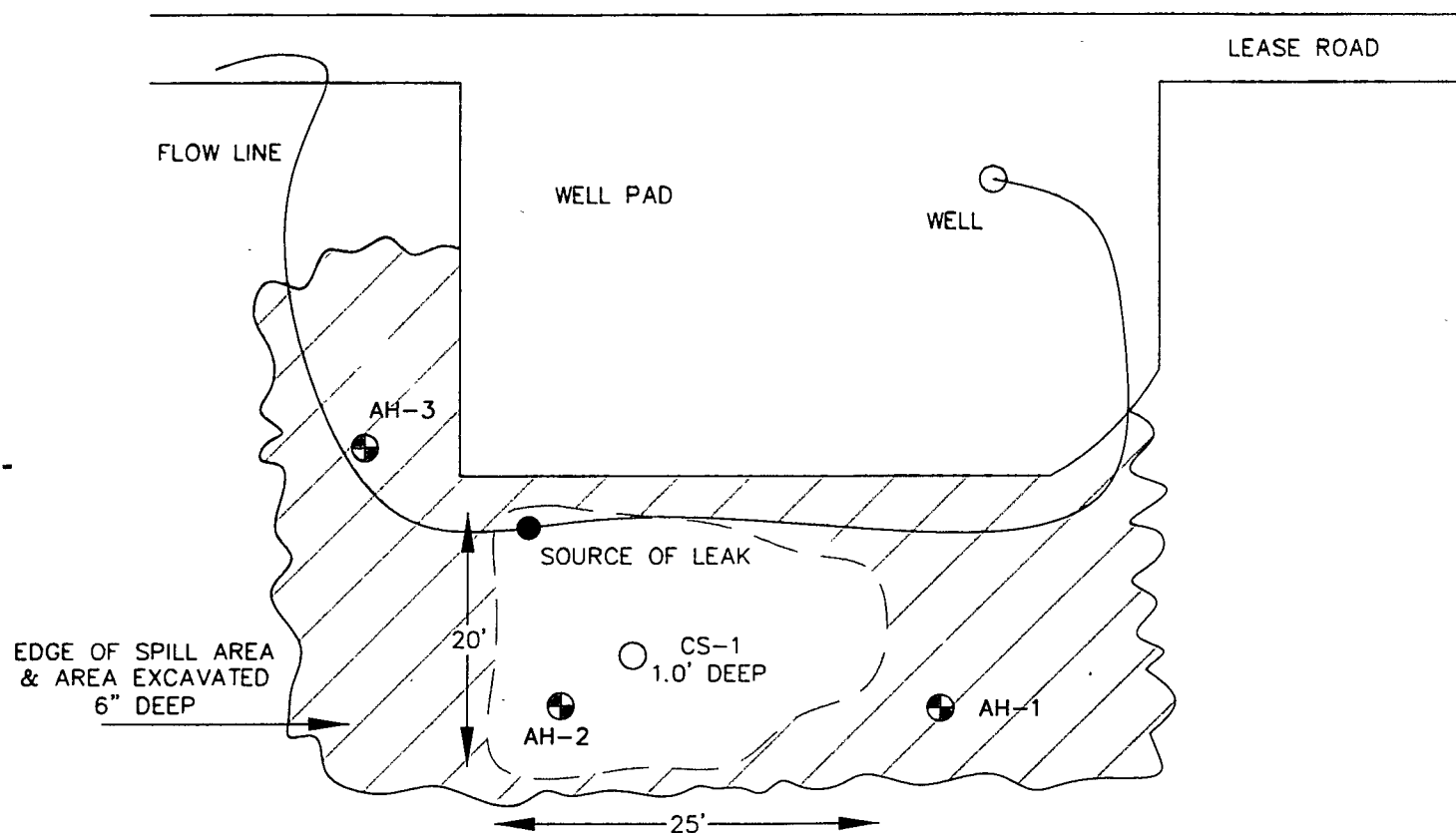
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Scale 1 : 24,000

1" = 2000 ft



NORTH



-  AUGER HOLE
-  EXCAVATED AREA
-  SPILL AREA
-  CONFIRMATION SAMPLE

NOT TO SCALE

FIGURE NO. 3

LEA COUNTY, TEXAS

COG OPERATING, LLC
JALMAT #29

HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS

DATE:
8/2/07
DWN. BY:
RC
FILE:
C:\COG\3029
JALMAT #29

Table 1
COG Operating
Jalmat Yates Unit #29 Well
Lea County, New Mexico

Sample ID	Date Sampled	Sample Depth (ft)	TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			DRO	GRO	Total					
Confirmation Sampling - Area excavated 6" prior to sampling										
AH-1	6/7/2007	0-1.0'	<50.0	<1.00	<50.0	<0.0100	<0.0100	0.0357	0.180	279
AH-1	6/7/2007	1'-1.5'	-	-	-	-	-	-	-	105
AH-2	6/7/2007	0-1.0'	3,360	1,930	5,290	0.178	5.20	9.77	26.6	653
AH-2	6/7/2007	1'-1.5'	<50.0	5.44	5.44	-	-	-	-	206
AH-2	6/7/2007	2'-2.5'	-	-	-	-	-	-	-	472
AH-3	6/7/2007	0-1.0'	85.1	<1.00	85.1	<0.0100	<0.0100	0.0889	0.275	128
AH-3	6/7/2007	1'-1.5'	-	-	-	-	-	-	-	92.8

(-) Not Analyzed

Sample ID	Date Sampled	Sample Depth (ft)	TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			DRO	GRO	Total					
Confirmation Sampling - Area of AH-2, excavation additional 6" to total depth of 1.0' to 1.5' BEB										
CS-1 (0-1') BEB 1.0'	7/14/2007	0-1.0'	<50.0	<1.00	<50.0	<0.0100	<0.0100	0.0357	0.180	279

Summary Report

Ike Tavarez
Highlander Environmental Services
1910 N. Big Spring Street
Midland, TX, 79705

Report Date: June 19, 2007

Work Order: 7060838



Project Location: Lea County, NM
Project Name: COG-Jalmet #29
Project Number: 3028

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
127046	AH-1 (0-1')	soil	2007-06-07	00:00	2007-06-08
127047	AH-1 (1-1.5')	soil	2007-06-07	00:00	2007-06-08
127048	AH-2 (0-1')	soil	2007-06-07	00:00	2007-06-08
127049	AH-2 (1-1.5')	soil	2007-06-07	00:00	2007-06-08
127050	AH-2 (2-2.5')	soil	2007-06-07	00:00	2007-06-08
127053	AH-3 (0-1')	soil	2007-06-07	00:00	2007-06-08
127054	AH-3 (1-1.5')	soil	2007-06-07	00:00	2007-06-08

Sample - Field Code	BTEX				MTBE	TPH DRO	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	MTBE (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
127046 - AH-1 (0-1')	<0.0100	<0.0100	0.0357	0.180		<50.0	<1.00
127048 - AH-2 (0-1')	0.178	5.20	9.77	26.6		3360	1930
127049 - AH-2 (1-1.5')						<50.0	5.44
127053 - AH-3 (0-1')	<0.0100	<0.0100	0.0889	0.275		85.1	<1.00

Sample: 127046 - AH-1 (0-1')

Param	Flag	Result	Units	RL
Chloride		279	mg/Kg	2.00

Sample: 127047 - AH-1 (1-1.5')

Param	Flag	Result	Units	RL
Chloride		105	mg/Kg	2.00

Sample: 127048 - AH-2 (0-1')

Param	Flag	Result	Units	RL
Chloride		653	mg/Kg	2.00

Sample: 127049 - AH-2 (1-1.5')

Param	Flag	Result	Units	RL
Chloride		206	mg/Kg	2.00

Sample: 127050 - AH-2 (2-2.5')

Param	Flag	Result	Units	RL
Chloride		472	mg/Kg	2.00

Sample: 127053 - AH-3 (0-1')

Param	Flag	Result	Units	RL
Chloride		128	mg/Kg	2.00

Sample: 127054 - AH-3 (1-1.5')

Param	Flag	Result	Units	RL
Chloride		92.8	mg/Kg	2.00

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9
200 East Sunset Road, Suite E
5002 Basin Street, Suite A1
6015 Harris Parkway, Suite 110

Lubbock, Texas 79424
El Paso, Texas 79922
Midland, Texas 79703
Ft Worth, Texas 76132

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FAX 806•794•1298
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E-Mail lab@traceanalysis.com

Analytical and Quality Control Report

Ike Tavarez
Highlander Environmental Services
1910 N. Big Spring Street
Midland, TX, 79705

Report Date: June 19, 2007

Work Order: 7060838



Project Location: Lea County, NM
Project Name: COG-Jalmet #29
Project Number: 3028

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
127046	AH-1 (0-1')	soil	2007-06-07	00:00	2007-06-08
127047	AH-1 (1-1.5')	soil	2007-06-07	00:00	2007-06-08
127048	AH-2 (0-1')	soil	2007-06-07	00:00	2007-06-08
127049	AH-2 (1-1.5')	soil	2007-06-07	00:00	2007-06-08
127050	AH-2 (2-2.5')	soil	2007-06-07	00:00	2007-06-08
127053	AH-3 (0-1')	soil	2007-06-07	00:00	2007-06-08
127054	AH-3 (1-1.5')	soil	2007-06-07	00:00	2007-06-08

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 16 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Standard Flags

B - The sample contains less than ten times the concentration found in the method blank

Case Narrative

Samples for project COG-Jalmet #29 were received by TraceAnalysis, Inc. on 2007-06-08 and assigned to work order 7060838. Samples for work order 7060838 were received intact at a temperature of 4 deg C.

Samples were analyzed for the following tests using their respective methods

Test	Method
BTEX	S 8021B
Chloride (Titration)	SM 4500-Cl B
TPH DRO	Mod 8015B
TPH GRO	S 8015B

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 7060838 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 127046 - AH-1 (0-1')

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	38108	Date Analyzed:	2007-06-12	Analyzed By:	JW
Prep Batch:	33027	Sample Preparation:	2007-06-12	Prepared By:	JW

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		0.0357	mg/Kg	1	0.0100
Xylene		0.180	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.830	mg/Kg	1	1.00	83	26 - 117.8
4-Bromofluorobenzene (4-BFB)		1.01	mg/Kg	1	1.00	101	51.1 - 119.1

Sample: 127046 - AH-1 (0-1')

Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	38069	Date Analyzed:	2007-06-12	Analyzed By:	AR
Prep Batch:	32964	Sample Preparation:		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		279	mg/Kg	25	2.00

Sample: 127046 - AH-1 (0-1')

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	38088	Date Analyzed:	2007-06-11	Analyzed By:	AG
Prep Batch:	32963	Sample Preparation:	2007-06-11	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		129	mg/Kg	1	150	86	32.9 - 167

Sample: 127046 - AH-1 (0-1')

Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	38280	Date Analyzed:	2007-06-18	Analyzed By:	KB
Prep Batch:	33143	Sample Preparation:	2007-06-18	Prepared By:	KB

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<1.00	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.884	mg/Kg	1	1.00	88	33.2 - 160
4-Bromofluorobenzene (4-BFB)		0.951	mg/Kg	1	1.00	95	10 - 227

Sample: 127047 - AH-1 (1-1.5')

Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	38069	Date Analyzed:	2007-06-12	Analyzed By:	AR
Prep Batch:	32964	Sample Preparation:		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		105	mg/Kg	25	2.00

Sample: 127048 - AH-2 (0-1')

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	38108	Date Analyzed:	2007-06-12	Analyzed By:	JW
Prep Batch:	33027	Sample Preparation:	2007-06-12	Prepared By:	JW

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.178	mg/Kg	1	0.0100
Toluene	1	5.20	mg/Kg	1	0.0100
Ethylbenzene	2	9.77	mg/Kg	1	0.0100
Xylene	3	26.6	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.647	mg/Kg	1	1.00	65	26 - 117.8
4-Bromofluorobenzene (4-BFB)		1.04	mg/Kg	1	1.00	104	51.1 - 119.1

Sample: 127048 - AH-2 (0-1')

Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	38069	Date Analyzed:	2007-06-12	Analyzed By:	AR
Prep Batch:	32964	Sample Preparation:		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		653	mg/Kg	25	2.00

¹Estimated concentration value greater than standard range.

²Estimated concentration value greater than standard range.

³Estimated concentration value greater than standard range.

Sample: 127048 - AH-2 (0-1')

Analysis:	TPH DRO	Analytical Method:	Mod 8015B	Prep Method:	N/A
QC Batch:	38088	Date Analyzed:	2007-06-11	Analyzed By:	AG
Prep Batch:	32963	Sample Preparation:	2007-06-11	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		3360	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		203	mg/Kg	1	150	135	32.9 - 167

Sample: 127048 - AH-2 (0-1')

Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	38280	Date Analyzed:	2007-06-18	Analyzed By:	KB
Prep Batch:	33143	Sample Preparation:	2007-06-18	Prepared By:	KB

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		1930	mg/Kg	20	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.422	mg/Kg	20	1.00	42	33.2 - 160
4-Bromofluorobenzene (4-BFB)		1.49	mg/Kg	20	1.00	149	10 - 227

Sample: 127049 - AH-2 (1-1.5')

Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	38069	Date Analyzed:	2007-06-12	Analyzed By:	AR
Prep Batch:	32964	Sample Preparation:		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		206	mg/Kg	25	2.00

Sample: 127049 - AH-2 (1-1.5')

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	38107	Date Analyzed:	2007-06-12	Analyzed By:	AG
Prep Batch:	32993	Sample Preparation:	2007-06-12	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

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3028

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		123	mg/Kg	1	150	82	61.7 - 143.2

Sample: 127049 - AH-2 (1-1.5')

Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035
QC Batch: 38280 Date Analyzed: 2007-06-18 Analyzed By: KB
Prep Batch: 33143 Sample Preparation: 2007-06-18 Prepared By: KB

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		5.44	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.07	mg/Kg	1	1.00	107	33.2 - 160
4-Bromofluorobenzene (4-BFB)		1.26	mg/Kg	1	1.00	126	10 - 227

Sample: 127050 - AH-2 (2-2.5')

Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 38069 Date Analyzed: 2007-06-12 Analyzed By: AR
Prep Batch: 32964 Sample Preparation: Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		472	mg/Kg	25	2.00

Sample: 127053 - AH-3 (0-1')

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 38108 Date Analyzed: 2007-06-12 Analyzed By: JW
Prep Batch: 33027 Sample Preparation: 2007-06-12 Prepared By: JW

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		0.0889	mg/Kg	1	0.0100
Xylene		0.275	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.819	mg/Kg	1	1.00	82	26 - 117.8
4-Bromofluorobenzene (4-BFB)		1.06	mg/Kg	1	1.00	106	51.1 - 119.1

Report Date: June 19, 2007
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Lea County, NM

Sample: 127053 - AH-3 (0-1')

Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	38070	Date Analyzed:	2007-06-12	Analyzed By:	AR
Prep Batch:	32965	Sample Preparation:		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		128	mg/Kg	25	2.00

Sample: 127053 - AH-3 (0-1')

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	38088	Date Analyzed:	2007-06-11	Analyzed By:	AG
Prep Batch:	32963	Sample Preparation:	2007-06-11	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		85.1	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		142	mg/Kg	1	150	95	32.9 - 167

Sample: 127053 - AH-3 (0-1')

Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	38280	Date Analyzed:	2007-06-18	Analyzed By:	KB
Prep Batch:	33143	Sample Preparation:	2007-06-18	Prepared By:	KB

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<1.00	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.00	mg/Kg	1	1.00	100	33.2 - 160
4-Bromofluorobenzene (4-BFB)		0.994	mg/Kg	1	1.00	99	10 - 227

Sample: 127054 - AH-3 (1-1.5')

Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	38070	Date Analyzed:	2007-06-12	Analyzed By:	AR
Prep Batch:	32965	Sample Preparation:		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		92.8	mg/Kg	25	2.00

Method Blank (1) QC Batch: 38069

QC Batch: 38069
Prep Batch: 32964

Date Analyzed: 2007-06-12
QC Preparation: 2007-06-12

Analyzed By: AR
Prepared By: AR

Parameter	Flag	MDL Result	Units	RL
Chloride		<0.500	mg/Kg	2

Method Blank (1) QC Batch: 38070

QC Batch: 38070
Prep Batch: 32963

Date Analyzed: 2007-06-12
QC Preparation: 2007-06-12

Analyzed By: AR
Prepared By: AR

Parameter	Flag	MDL Result	Units	RL
Chloride		<0.500	mg/Kg	2

Method Blank (1) QC Batch: 38088

QC Batch: 38088
Prep Batch: 32963

Date Analyzed: 2007-06-11
QC Preparation: 2007-06-11

Analyzed By: AG
Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
DRO		<14.6	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		172	mg/Kg	1	150	115	44.7 - 133.6

Method Blank (1) QC Batch: 38107

QC Batch: 38107
Prep Batch: 32993

Date Analyzed: 2007-06-12
QC Preparation: 2007-06-12

Analyzed By: AG
Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
DRO		<13.4	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		114	mg/Kg	1	150	76	61.7 - 143.2

Method Blank (1) QC Batch: 38108

QC Batch: 38108
Prep Batch: 33027

Date Analyzed: 2007-06-12
QC Preparation: 2007-06-12

Analyzed By: JW
Prepared By: JW

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.00110	mg/Kg	0.01
Toluene		<0.00150	mg/Kg	0.01
Ethylbenzene		<0.00160	mg/Kg	0.01
Xylene		<0.00410	mg/Kg	0.01

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.941	mg/Kg	1	1.00	94	62.6 - 117.6
4-Bromofluorobenzene (4-BFB)		0.938	mg/Kg	1	1.00	94	53.9 - 125.1

Method Blank (1) QC Batch: 38280

QC Batch: 38280
Prep Batch: 33143

Date Analyzed: 2007-06-18
QC Preparation: 2007-06-18

Analyzed By: KB
Prepared By: KB

Parameter	Flag	MDL Result	Units	RL
GRO		<0.459	mg/Kg	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.12	mg/Kg	1	1.00	112	73.2 - 125
4-Bromofluorobenzene (4-BFB)		0.860	mg/Kg	1	1.00	86	51.9 - 110

Laboratory Control Spike (LCS-1)

QC Batch: 38069
Prep Batch: 32964

Date Analyzed: 2007-06-12
QC Preparation: 2007-06-12

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec Limit
Chloride	97.7	mg/Kg	1	100	<0.500	98	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	98.7	mg/Kg	1	100	<0.500	99	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 38070
Prep Batch: 32965

Date Analyzed: 2007-06-12
QC Preparation: 2007-06-12

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec	Rec. Limit
Chloride	97.2	mg/Kg	1	100	<0.500	97	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec	Rec. Limit	RPD	RPD Limit
Chloride	98.3	mg/Kg	1	100	<0.500	98	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 38088
Prep Batch: 32963

Date Analyzed: 2007-06-11
QC Preparation: 2007-06-11

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec	Rec. Limit
DRO	270	mg/Kg	1	250	<14.6	108	47.5 - 144.1

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec	Rec. Limit	RPD	RPD Limit
DRO	235	mg/Kg	1	250	<14.6	94	47.5 - 144.1	14	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	133	130	mg/Kg	1	150	89	87	57.3 - 131.6

Laboratory Control Spike (LCS-1)

QC Batch: 38107
Prep Batch: 32993

Date Analyzed: 2007-06-12
QC Preparation: 2007-06-12

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec	Rec. Limit
DRO	196	mg/Kg	1	250	<13.4	78	62.5 - 135.4

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec	Rec. Limit	RPD	RPD Limit
DRO	227	mg/Kg	1	250	<13.4	91	62.5 - 135.4	15	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	121	107	mg/Kg	1	150	81	71	66.6 - 140.9

Laboratory Control Spike (LCS-1)

QC Batch: 38108
Prep Batch: 33027

Date Analyzed: 2007-06-12
QC Preparation: 2007-06-12

Analyzed By: JW
Prepared By: JW

Param	LCS Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec Limit
Benzene	0.994	mg/Kg	1	1.00	<0.00110	99	68.6 - 123.4
Toluene	1.01	mg/Kg	1	1.00	<0.00150	101	74.6 - 119.3
Ethylbenzene	0.979	mg/Kg	1	1.00	<0.00160	98	72.3 - 126.2
Xylene	2.95	mg/Kg	1	3.00	<0.00410	98	76.5 - 121.6

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Param	LCSD Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.926	mg/Kg	1	1.00	<0.00110	93	68.6 - 123.4	7	20
Toluene	0.944	mg/Kg	1	1.00	<0.00150	94	74.6 - 119.3	7	20
Ethylbenzene	0.913	mg/Kg	1	1.00	<0.00160	91	72.3 - 126.2	7	20
Xylene	2.75	mg/Kg	1	3.00	<0.00410	92	76.5 - 121.6	7	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.857	0.862	mg/Kg	1	1.00	86	86	64.1 - 118.2
4-Bromofluorobenzene (4-BFB)	0.947	0.942	mg/Kg	1	1.00	95	94	68.7 - 125.8

Laboratory Control Spike (LCS-1)

QC Batch: 38280
Prep Batch: 33143

Date Analyzed: 2007-06-18
QC Preparation: 2007-06-18

Analyzed By: KB
Prepared By: KB

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	9.09	mg/Kg	1	10.0	<0.459	91	79.6 - 113

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	9.87	mg/Kg	1	10.0	<0.459	99	79.6 - 113	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.938	1.02	mg/Kg	1	1.00	94	102	77.1 - 117
4-Bromofluorobenzene (4-BFB)	0.944	0.948	mg/Kg	1	1.00	94	95	78.1 - 118

Matrix Spike (MS-1) Spiked Sample: 127050

QC Batch: 38069
Prep Batch: 32964

Date Analyzed: 2007-06-12
QC Preparation: 2007-06-12

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	3000	mg/Kg	25	2500	472.345	101	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	3030	mg/Kg	25	2500	472.345	102	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 127054

QC Batch: 38070
Prep Batch: 32965

Date Analyzed: 2007-06-12
QC Preparation: 2007-06-12

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	2500	mg/Kg	25	2500	92.851	96	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	2530	mg/Kg	25	2500	92.851	97	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 127018

QC Batch: 38088
Prep Batch: 32963

Date Analyzed: 2007-06-11
QC Preparation: 2007-06-11

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	288	mg/Kg	1	250	<14.6	115	11.7 - 152.3

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	¹⁰ 497	mg/Kg	1	250	<14.6	199	11.7 - 152.3	53	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane ¹¹	142	261	mg/Kg	1	150	95	174	17 - 163.1

Matrix Spike (MS-1) Spiked Sample: 127049

QC Batch: 38107
Prep Batch: 32993

Date Analyzed: 2007-06-12
QC Preparation: 2007-06-12

Analyzed By: AG
Prepared By: AG

¹⁰ Matrix spike recovery out of control limits due to peak interference Use LCS/LCSD to demonstrate analysis is under control

¹¹ High surrogate recovery due to peak interference

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	227	mg/Kg	1	250	<13.4	91	29.7 - 168.6

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	222	mg/Kg	1	250	<13.4	89	29.7 - 168.6	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil	Spike Amount	MS Rec.	MSD Rec.	Rec Limit
n-Triacontane	134	131	mg/Kg	1	150	89	87	43.4 - 193.9

Matrix Spike (MS-1) Spiked Sample: 127017

QC Batch: 38108
Prep Batch: 33027

Date Analyzed: 2007-06-12
QC Preparation: 2007-06-12

Analyzed By: JW
Prepared By: JW

Param	MS Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec Limit
Benzene	1.05	mg/Kg	1	1.00	<0.00110	105	64.4 - 115.7
Toluene	1.08	mg/Kg	1	1.00	<0.00150	108	57.8 - 124.4
Ethylbenzene	1.06	mg/Kg	1	1.00	<0.00160	106	64.8 - 125.8
Xylene	3.18	mg/Kg	1	3.00	<0.00410	106	65.2 - 121.8

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	¹² 2.06	mg/Kg	1	1.00	<0.00110	206	64.4 - 115.7	65	20
Toluene	¹³ 2.11	mg/Kg	1	1.00	<0.00150	211	57.8 - 124.4	65	20
Ethylbenzene	¹⁴ 2.12	mg/Kg	1	1.00	<0.00160	212	64.8 - 125.8	67	20
Xylene	¹⁵ 6.36	mg/Kg	1	3.00	<0.00410	212	65.2 - 121.8	67	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.873	0.831	mg/Kg	1	1	87	83	52.8 - 121.7
4-Bromofluorobenzene (4-BFB)	0.958	0.947	mg/Kg	1	1	96	95	66.7 - 131.9

Matrix Spike (MS-1) Spiked Sample: 127255

QC Batch: 38280
Prep Batch: 33143

Date Analyzed: 2007-06-18
QC Preparation: 2007-06-18

Analyzed By: KB
Prepared By: KB

¹²MSD out of control limits, due to prep error (double-spiked). Use LCS/LCSD to demonstrate method in control. •
¹³MSD out of control limits, due to prep error (double-spiked). Use LCS/LCSD to demonstrate method in control. •
¹⁴MSD out of control limits, due to prep error (double-spiked). Use LCS/LCSD to demonstrate method in control. •
¹⁵MSD out of control limits, due to prep error (double-spiked). Use LCS/LCSD to demonstrate method in control. •

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	8.20	mg/Kg	1	10.0	<0.459	82	40.7 - 157

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec Limit	RPD	RPD Limit
GRO	8.58	mg/Kg	1	10.0	<0.459	86	40.7 - 157	4	19.6

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.867	0.900	mg/Kg	1	1	87	90	34.9 - 155
4-Bromofluorobenzene (4-BFB)	1.00	1.03	mg/Kg	1	1	100	103	58.5 - 153

Standard (ICV-1)

QC Batch: 38069

Date Analyzed: 2007-06-12

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	97.6	98	85 - 115	2007-06-12

Standard (CCV-1)

QC Batch: 38069

Date Analyzed: 2007-06-12

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	102	102	85 - 115	2007-06-12

Standard (ICV-1)

QC Batch: 38070

Date Analyzed: 2007-06-12

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	97.1	97	85 - 115	2007-06-12

Standard (CCV-1)

QC Batch: 38070

Date Analyzed: 2007-06-12

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	103	103	85 - 115	2007-06-12

Standard (CCV-2)

QC Batch: 38088

Date Analyzed: 2007-06-11

Analyzed By: AG

Param	Flag	Units	CCVs True Conc	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	265	106	85 - 115	2007-06-11

Standard (CCV-3)

QC Batch: 38088

Date Analyzed: 2007-06-11

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	266	106	85 - 115	2007-06-11

Standard (ICV-1)

QC Batch: 38107

Date Analyzed: 2007-06-12

Analyzed By: AG

Param	Flag	Units	ICVs True Conc	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	222	89	85 - 115	2007-06-12

Standard (CCV-1)

QC Batch: 38107

Date Analyzed: 2007-06-12

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	216	86	85 - 115	2007-06-12

Standard (ICV-1)

QC Batch: 38108

Date Analyzed: 2007-06-12

Analyzed By: JW

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0992	99	85 - 115	2007-06-12
Toluene		mg/Kg	0.100	0.0997	100	85 - 115	2007-06-12
Ethylbenzene		mg/Kg	0.100	0.0956	96	85 - 115	2007-06-12
Xylene		mg/Kg	0.300	0.291	97	85 - 115	2007-06-12

Standard (CCV-1)

QC Batch: 38108

Date Analyzed: 2007-06-12

Analyzed By: JW

Report Date: June 19, 2007
3028

Work Order: 7060838
COG-Jalmet #29

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Lea County, NM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0990	99	85 - 115	2007-06-12
Toluene		mg/Kg	0.100	0.0976	98	85 - 115	2007-06-12
Ethylbenzene		mg/Kg	0.100	0.0921	92	85 - 115	2007-06-12
Xylene		mg/Kg	0.300	0.277	92	85 - 115	2007-06-12

Standard (ICV-1)

QC Batch: 38280

Date Analyzed: 2007-06-18

Analyzed By: KB

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.943	94	85 - 115	2007-06-18

Standard (CCV-1)

QC Batch: 38280

Date Analyzed: 2007-06-18

Analyzed By: KB

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.08	108	85 - 115	2007-06-18

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.

Midland, Texas 79705

(432) 682-4559

Fax (432) 682-3946

CLIENT NAME:

COG

SITE MANAGER:

KE Tawar

PROJECT NO.

3028

PROJECT NAME:

COG - Jalmat #29

LAB I.D. NUMBER

127046

DATE

TIME

MATRIX

COMP.

GRAB

SAMPLE IDENTIFICATION

NUMBER OF CONTAINERS
FILTERED (Y/N)

PRESERVATIVE METHOD

HCL

HNO3

ICE

NONE

ETEX 8020/802

MTBE 8020/802

TPH 418.1

PAH 8270

RETRA Metals Ag As Ba Cd Cr Pb Hg Se

TCIP Metals Ag As Ba Cd Cr Pb Hg Se

TCIP Volatiles

TCIP Semi Volatiles

RCI

GCMS Vol. 8240/8260/824

GCMS Semi. Vol. 8270/825

PCP's 8080/808

Pest. 808/808

BOD, TSS, pH, TDS

Gamma Spec.

Alpha Beta (air)

PLM (Asbestos)

PAGE:

OF: 7

ANALYSIS REQUEST

(Circle or Specify Method No.)

6-7-07

47

48

49

50

51

52

53

54

AA-1 0-1

AA-1 1-1.5

AA-2 0-1

AA-2 1-1.5'

AA-2 2-2.5'

AA-2 3-3.5'

AA-2 4-4.5'

AA-3 0-1

AA-3 1-1.5'

RELINQUISHED BY: (Signature)

Date: 06/08/07

Time: 3:00

RECEIVED BY: (Signature)

Date: 6-8-07

Time: 1:00

SAMPLE BY: (Print & Sign)

Date:

Time:

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

SAMPLE SHIPPED BY: (Circle)

FEDEX BUS

HAND DELIVERED UPS

AIRBILL #

OTHER:

RECEIVING LABORATORY:

ADDRESS:

CITY:

CONTACT:

STATE:

ZIP:

PHONE:

RECEIVED BY: (Signature)

DATE:

TIME:

SAMPLE CONDITION WHEN RECEIVED:

40

MATRIX:

W-Water

A-Air

SD-Solid

S-Soil

SL-Sludge

O-Other

REMARKS:

Run added TPH it exceeds 1,000 mg/kg all tests - Midland

7060838

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.1910 N. Big Spring St.
Midland, Texas 79705

(432) 682-4559

Fax (432) 682-3946

CLIENT NAME:

COG

SITE MANAGER:

I. E. Tanager

PROJECT NO:

3028

PROJECT NAME:

COG-JALmet #29

LAB I.D.
NUMBER

DATE

TIME

MATRIX
COMP.
GRAB

SAMPLE IDENTIFICATION

NUMBER OF CONTAINERS
FILTERED (Y/N)PRESERVATIVE
METHOD

HCL

HNO3

ICE

NONE

BTEX 8020/802

MTBE 8020/802

TPH 418.1

PAH 8270

RCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC/MS Vol. 8240/8280/824

GC/MS Semi. Vol. 8270/825

PCB's 8080/808

Pest. 808/808

BOD, TSS, pH, TDS

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

123046

6-7-07

S

AH-1 0-1

1

1

1

1

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

47

S

AH-1 1-1.5

1

1

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1

X

X

X

X

X

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X

X

X

X

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X

X

X

X

48

S

AH-2 0-1

1

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1

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49

S

AH-2 1-1.5'

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50

S

AH-2 2-2.5'

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1

1

1

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X

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51

S

AH-2 3-3.5'

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52

S

AH-2 4-4.5'

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1

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X

X

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53

S

AH-3 0-1

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54

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AH-3 1-1.5'

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X

X

X

X

RELINQUISHED BY: (Signature)

Date: 06/08/07

Time: 3:00

RECEIVED BY: (Signature)

Date: 6-8-07

Time: 1500

RELINQUISHED BY: (Signature)

Date: _____

Time: _____

RECEIVED BY: (Signature)

Date: _____

Time: _____

RELINQUISHED BY: (Signature)

Date: _____

Time: _____

RECEIVED BY: (Signature)

Date: _____

Time: _____

RECEIVING LABORATORY: Trace

ADDRESS: _____

CITY: _____

STATE: _____

ZIP: _____

CONTACT: _____

PHONE: _____

RECEIVED BY: (Signature)

DATE: _____

TIME: _____

SAMPLE CONDITION WHEN RECEIVED:

4°

MATRIX:

W-Water

A-Air

SD-Solid

S-Soil

SL-Sludge

O-Other

REMARKS

1.000 mg/lcg

SAMPLED BY: (Print & Sign)

I. E. Tanager

SAMPLE SHIPPED BY: (Circle)

FEDEX

BUS

HAND DELIVERED

UPS

OTHER: _____

HIGHLANDER CONTACT PERSON: 6-19 FEP

I. E. Tanager

Date: _____

Time: _____

AIRBILL # _____

OTHER: _____

Results by:

RUSH Charges

Authorized:

Yes No

Summary Report

Ike Tavarez
Highlander Environmental Services
1910 N. Big Spring Street
Midland, TX, 79705

Report Date: August 17, 2007

Work Order: 7081608



Project Location: Lea County, NM
Project Name: COG-Jalmat Yates Unit #29 well
Project Number: 3028

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
133330	CS-1 (0-1.0') BEB (1.0')	soil	2007-08-14	00:00	2007-08-16

Sample - Field Code	TPH DRO DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
133330 - CS-1 (0-1.0') BEB (1.0')	<50.0	11.0

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite B Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 800•588•3443 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260
E-Mail: labs@traceanalysis.com

Analytical and Quality Control Report

Ike Tavaréz
Highlander Environmental Services
1910 N. Big Spring Street
Midland, TX, 79705

Report Date: August 17, 2007

Work Order: 7081608



Project Location: Lea County, NM
Project Name: COG-Jalmat Yates Unit #29 well
Project Number: 3028

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
133330	CS-1 (0-1.0') BEB (1.0')	soil	2007-08-14	00:00	2007-08-16

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 5 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Standard Flags

B - The sample contains less than ten times the concentration found in the method blank.

Analytical Report

Sample: 133330 - CS-1 (0-1.0') BEB (1.0')

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	40129	Date Analyzed:	2007-08-16	Analyzed By:	
Prep Batch:	34727	Sample Preparation:	2007-08-16	Prepared By:	

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		169	mg/Kg	1	150	113	17.3 - 169.6

Sample: 133330 - CS-1 (0-1.0') BEB (1.0')

Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	40185	Date Analyzed:	2007-08-17	Analyzed By:	
Prep Batch:	34766	Sample Preparation:	2007-08-16	Prepared By:	

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		11.0	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.814	mg/Kg	1	1.00	81	50.2 - 89.3
4-Bromofluorobenzene (4-BFB)		1.10	mg/Kg	1	1.00	110	50.8 - 131.6

Method Blank (1) QC Batch: 40129

QC Batch:	40129	Date Analyzed:	2007-08-16	Analyzed By:	
Prep Batch:	34727	QC Preparation:	2007-08-16	Prepared By:	

Parameter	Flag	MDL Result	Units	RL
DRO		<13.4	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		178	mg/Kg	1	150	119	32.9 - 156.1

Method Blank (1) QC Batch: 40185

QC Batch:	40185	Date Analyzed:	2007-08-17	Analyzed By:	
Prep Batch:	34766	QC Preparation:	2007-08-16	Prepared By:	

Report Date: August 17, 2007
3028

Work Order: 7081608
COG-Jalmat Yates Unit #29 well

Page Number: 3 of 5
Lea County, NM

Parameter	Flag	MDL Result	Units	RL
GRO		<0.739	mg/Kg	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.03	mg/Kg	1	1.00	103	67.8 - 103
4-Bromofluorobenzene (4-BFB)		0.946	mg/Kg	1	1.00	95	55.4 - 111.8

Laboratory Control Spike (LCS-1)

QC Batch: 40129
Prep Batch: 34727

Date Analyzed: 2007-08-16
QC Preparation: 2007-08-16

Analyzed By:
Prepared By:

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	223	mg/Kg	1	250	<13.4	89	49.1 - 142.3

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	272	mg/Kg	1	250	<13.4	109	49.1 - 142.3	20	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	194	192	mg/Kg	1	150	129	128	49 - 133.2

Laboratory Control Spike (LCS-1)

QC Batch: 40185
Prep Batch: 34766

Date Analyzed: 2007-08-17
QC Preparation: 2007-08-16

Analyzed By:
Prepared By:

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	9.07	mg/Kg	1	10.0	<0.739	91	56 - 105.2

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	9.34	mg/Kg	1	10.0	<0.739	93	56 - 105.2	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.962	0.954	mg/Kg	1	1.00	96	95	61.1 - 148.1
4-Bromofluorobenzene (4-BFB)	0.971	0.984	mg/Kg	1	1.00	97	98	67.2 - 119.2

Matrix Spike (MS-1) Spiked Sample: 133330

QC Batch: 40129
Prep Batch: 34727

Date Analyzed: 2007-08-16
QC Preparation: 2007-08-16

Analyzed By:
Prepared By:

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	157	mg/Kg	1	250	<13.4	63	30.2 - 201.4

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	137	mg/Kg	1	250	<13.4	55	30.2 - 201.4	14	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	170	186	mg/Kg	1	150	113	124	10 - 194

Matrix Spike (MS-1) Spiked Sample: 133330

QC Batch: 40185
Prep Batch: 34766

Date Analyzed: 2007-08-17
QC Preparation: 2007-08-16

Analyzed By:
Prepared By:

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	¹ 10.4	mg/Kg	1	1.00	10.4	0	10 - 102.2

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	² 11.0	mg/Kg	1	10.0	10.4	0	10 - 102.2	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	^{3 4} 0.878	0.916	mg/Kg	1	1	88	92	47.2 - 84.2
4-Bromofluorobenzene (4-BFB)	1.36	1.21	mg/Kg	1	1	136	121	58 - 162.6

Standard (ICV-1)

QC Batch: 40129

Date Analyzed: 2007-08-16

Analyzed By:

¹Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

²Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

³High surrogate recovery due to peak interference.

⁴High surrogate recovery due to peak interference.

Report Date: August 17, 2007
3028

Work Order: 7081608
COG-Jalmat Yates Unit #29 well

Page Number: 5 of 5
Lea County, NM

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	228	91	85 - 115	2007-08-16

Standard (CCV-1)

QC Batch: 40129

Date Analyzed: 2007-08-16

Analyzed By:

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	288	115	85 - 115	2007-08-16

Standard (ICV-1)

QC Batch: 40185

Date Analyzed: 2007-08-17

Analyzed By:

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.04	104	85 - 115	2007-08-17

Standard (CCV-1)

QC Batch: 40185

Date Analyzed: 2007-08-17

Analyzed By:

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.10	110	85 - 115	2007-08-17

WO# 7081608

[illegible]

Please Fill out all copies - Laboratory retains yellow copy - Return original copy to Highlander Environmental Corp. - Project Manager retains pink copy - Accounting receives Gold copy.

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Amended Report

Name of Company	COG Operating LLC	Contact	Phyllis Edwards
Address	550 W. Texas Ave., Suite 1300 Midland, TX 79701	Telephone No.	432-683-4340
Facility Name	Jalmat Yates Unit #29	Facility Type	Oil Well
Surface Owner	Clay Osborn	Mineral Owner	
		Lease No.	301048

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	18	25S	37E	2310	South	990	West	Lea

Latitude _____ Longitude _____

NATURE OF RELEASE

Type of Release	Oil & Water	Volume of Release	Approx 1 BO & 2 BW	Volume Recovered	None
Source of Release	Flowline	Date and Hour of Occurrence	Unknown	Date and Hour of Discovery	7:30 PM 6-2-07
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Landowner notified Gary Wink @ Hobbs OCD			
By Whom?	Landowner	Date and Hour	6-2-07	Time Unknown	
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			
If a Watercourse was Impacted, Describe Fully.*					
Describe Cause of Problem and Remedial Action Taken.* Flow line leak . Leak repaired. Plan of remediation is to have contaminated soil scraped from location & hauled to landfill.					
Describe Area Affected and Cleanup Action Taken.* 15' x 18' area on location – oil & water & 70' x 30' mist spray on location. Immediate action taken: dirt was shoveled & mixed with oily dirt. On 6-5-07, contaminated soil will be dug out & hauled off. Highlander Environmental will supervise finalization of clean-up procedure.					
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.					
Signature: 		OIL CONSERVATION DIVISION			
Printed Name: Phyllis A. Edwards		Approved by District Supervisor:			
Title: Regulatory Analyst		Approval Date:		Expiration Date:	
E-mail Address: pedwards@conchoresources.com		Conditions of Approval:		Attached <input type="checkbox"/>	
Date: 6/4/07		Phone: 432-683-4340			

* Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised June 10, 2003

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: COG Operating LLC	Contact: Phyllis Edwards
Address: 550 W. Texas Ave., Suite 1300, Midland, Tx 79701	Telephone No. (432) 683-4340
Facility Name: Jalmat Yates Unit #29	Facility Type: Oil Well

Surface Owner Clay Osborn	Mineral Owner	Lease No. 301048
---------------------------	---------------	------------------

LOCATION OF RELEASE

Unit Letter L	Section\ 18	Township 25S	Range 37E	Feet from the 2310'	North/South Line South	Feet from the 990'	East/West Line West	County Lea
------------------	----------------	-----------------	--------------	------------------------	---------------------------	-----------------------	------------------------	---------------

Latitude _____ Longitude _____ NATURE OF RELEASE

Type of Release Oil and Produced water	Volume of Release 1BO & 2BW	Volume Recovered 0 bbls
Source of Release Flowline	Date and Hour of Occurrence time unknown	Date and Hour of Discovery 06-2-07 7:30 PM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Landowner notified Gary Wink @ Hobbs OCD	
By Whom? Landowner	Date and Hour 06-2-07	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

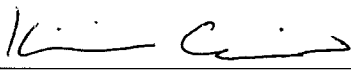
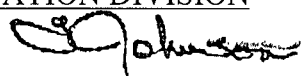
Describe Cause of Problem and Remedial Action Taken.*

Flow line leak. Repaired flowline and scraped contaminated soil from location and hauled to landfill.

Describe Area Affected and Cleanup Action Taken.*

Leak area was located west and east of well location. The impacted soils were excavated and hauled to Sundance in Eunice, New Mexico for proper disposal. Highlander Environmental personnel collected confirmation samples from the excavated spill area. Final soil samples were all below the RRAL. A Closure Report was prepared and submitted to the NMOCD for review and approval.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Kanicia Carrillo	Approved by District Supervisor: 	
Title: Regulatory Analyst	Approval Date: 9.13.07	Expiration Date: ENVIRONMENTAL ENGINEER
E-mail Address: KCarrillo@conchoresources.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: Phone: (432) 685-4332		

* Attach Additional Sheets If Necessary