AE Order Number Banner

Report Description

This report shows an AE Order Number in Barcode format for purposes of scanning. The Barcode format is Code 39.

App Number: pPAC0719237372

1RP - 1483

CHEVRON U S A INC

7/29/2016

CONESTOGA-ROVERS
& ASSOCIATES

2135 S. Loop 250 West
Midland, Texas 79703
Telephone: (432) 686-0086 Fax: (432) 686-0186
http://www.craworld.com

March 18, 2011

Reference No. 073822

Mr. Geoffrey R. Leking
Environmental Engineer
New Mexico Oil Conservation Division
1625 N French Drive
Hobbs, New Mexico 88240

Re: Closure Request Workplans
Vacuum Grayburg San Andres Unit #250, API #30-025-38001
Central Vacuum Unit #47H, API #30-025-08532 (RP #1483)
Lea County, New Mexico

Dear Mr. Leking:

Conestoga-Rovers & Associates, Inc. (CRA), on behalf of Chevron Environmental Management Company (CEMC), is pleased to submit the closure request workplans for the two subject Sites and Remediation Plans (referenced above) as discussed in our meeting on January 11, 2011. Upon your review and concurrence, CEMC will proceed with described activities and submit a final C-141 for each subject location. CRA will provide the New Mexico Oil Conservation Division (NMOCD) a 48 hour notification prior to commencing field activities.

Should you have any questions regarding these requests, please feel free to give us a call at (432) 686-0086.

GW@80'

Sincerely,
CONESTOGA-ROVERS & ASSOCIATES, INC.

James Ornelas
Project Manager

Thomas C. Larson, P.G.
Sr. Geologist/Operations Manager

Enclosures
Cc: Matt Hudson, CEMC, Houston, Texas
Marcos Silvestri AECOM, Houston, Texas

SITE INFORMATION

Report Type: CLOSURE REQUEST **RP # NA** **CRA Project # 073822**

General Site Information:	
Site:	Vacuum Grayburg San Andres Unit #250
Company:	Chevron Environmental Management Company
Well Location:	Section 1, T-18-S, R-34-E
Unit Letter:	Unit H
API #:	30-025-38001
Lease Number:	--
County:	Lea County
Surface Owner:	State of New Mexico
Mineral Owner:	
Directions:	From Hobbs, travel west along US Hwy 62/180 approx. 11 miles. Merge onto NM Hwy 529 and travel 2.5 miles to NM Hwy 238. Then travel North on NM Hwy 238 approx. 7.6 miles to CR 51 (Texas Camp Rd). Turn West on CR 51 and travel 0.5 miles to lease road. Then travel south along lease road 0.3 miles, then 0.1 miles east, then 0.1 miles north to Pit location

Release Data:	
Spill GPS:	
Date Released:	
Source of Contamination:	Pit Location
Fluid Released:	
Fluids Recovered:	

Official Communication:	Contact #1	Contact #2
Name:	Matt Hudson	Tom Larson
Company:	CEMC - Upstream Business Unit	CRA
Address:	1400 Smith Street Room 07062	2135 S Loop 250 West
P.O. Box:		
City:	Houston Texas 77002	Midland Texas 79703
Phone Number:	713-372-9207	432-686-0086
Fax Number:		432-686-0186
Email:	mhudson@craworld.com	tlarson@craworld.com

GW-106

Ranking Criteria:		
Depth to Groundwater:	**Ranking Score:**	**Site Data:**
<50 ft.	20	
50-99 ft.	10	
>100 ft.	0	0
Wellhead Protection:	**Ranking Score:**	**Site Data:**
Water Source <1,000 ft., Private <200 ft.	20	20
Water Source >1,000 ft., Private >200 ft.	0	
Surface Body of Water:	**Ranking Score:**	**Site Data:**
<200 ft.	20	
200 ft. - 1,000 ft.	10	
>1,000 ft.	0	0
Total Ranking Score:	20	

Acceptable Soil RRAL (mg/kg)			
Benzene	**Total BTEX**	**TPH**	**Chlorides**
10	50	100	250

CONESTOGA-ROVERS
& ASSOCIATES

2135 S. Loop 250 West
Midland, Texas 79705
Telephone: (432) 686-0086 Fax: (432) 686-0186
http://www.craworld.com

March 18, 2011

Reference No. 073822

Mr. Geoffrey R. Leking
ENVIRONMENTAL ENGINEER SPECIALIST
OIL CONSERVATION DIVISION – DISTRICT I
1625 N. French Drive
Hobbs, New Mexico 88240

RE: Closure Request Workplan
Vacuum Grayburg San Andres Unit #250, API #30-025-38001
Unit Letter H, Section 1, T18S, R34E
Lea County, New Mexico

Dear Mr. Leking:

The subject location is the Vacuum Grayburg San Andres Unit (VGSAU) #250 pit location (Site). The pit location is located in Unit Letter H, Section 1, Township 18 South, Range 34 East, Lea County, New Mexico. The approximate pit dimensions are 100' x 100' x 6' average depth. The Site coordinates are N 32.780556°, W 103.510052°. The Site location is shown on FIGURES 1 & 2.

BACKGROUND

On September 19, 2006, Chevron submitted an application to the New Mexico Oil Conservation Division (NMOCD) for approval to drill and inject fluids into VGSAU well #250. On October 23, 2006, NMOCD granted Chevron's request to drill and inject fluids into VGSAU well #250. Subsequent to completion of drilling activities, records indicate a pit closure (C-144) form (APPENDIX A) was submitted to NMOCD for review and approval in September 2007. In 2010, Chevron was contacted by the NMOCD District I office to close the pit associated with the installation of VGSAU well #250 following a Site inspection. As a result, an environmental Site consultant (Tetra Tech) was contracted by Chevron to assess the soils in the pit prior to closure. In December 2010, Chevron Environmental Management Company (CEMC) assumed the responsibilities of the pit closure activities at this subject location from Chevron. CEMC subcontracted Conestoga Rovers & Associates to manage pit closure activities. On January 11, 2011, CRA, CEMC, AECOM met at the New Mexico Oil Conservation Division (NMOCD) district I Hobbs office to discuss the subject property. Topics of discussions included objectives to close the pit as directed by the NMOCD Hobbs district office.

GROUNDWATER & REGULATORY

There are numerous water wells in the vicinity of VGSAU well #250. According the Petroleum Recovery Research Center (PRRC) database and the New Mexico Office of the State Engineer (NMOSE), the average depth to groundwater in the immediate area of VGSAU well #250 is approximately 106 feet below ground surface (bgs). A FIGURE depicting the average depths to groundwater, distance to surface water bodies and any wellheads is provided in APPENDIX B.

Site assessment and remedial action activities will be completed in accordance to the New Mexico Oil Conservation Division's (NMOCD's) guidance document *Guidelines for Remediation of Leaks, Spills and Releases,* dated August 13, 1993. Section III of the guidance document provides three general characteristics (Depth to groundwater, Wellhead Protection Area, Distance to Nearest Surface Water Body) to "evaluate a Sites potential risk, the need for remedial action and if necessary, the level of cleanup required at the Site." Section IV provides ranking criteria for each Site-specific characteristic to determine their relative threat to public threat, fresh waters and the environment. The sum of each individual characteristic equals the total ranking score. The total ranking score determines the recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (BTEX) and total petroleum hydrocarbons (TPH) in soil. Based on average depth to groundwater (>100 feet below ground surface), Wellhead Protection (water source <1,000 feet & <200 feet private) and surface body of water (>1,000 feet) for the Site, the RRALs were determined to be 10 mg/kg for benzene, 50 mg/kg for BTEX, 100 mg/kg for TPH and 250 mg/kg for chlorides.

SITE INSPECTION AND SAMPLING

On two separate events (July 14 & August 19, 2010), a total of ten soil samples were collected at different intervals (0-1' & 1.5-2.5' respectively) from the bottom of the excavation. The soil samples were submitted to Trace Analysis for BTEX analysis by EPA Method 8021B, TPH analysis by EPA Method 8015M, and chlorides by SM 4500. Copies of the laboratory analysis and chain-of-custody documentation are included in APPENDIX C. The soil sample results are summarized in TABLE I. All ten samples were below the Site-specific RRALs for benzene, BTEX & TPH. The chloride concentrations were all below the reporting limit (<200 mg/kg).

At the request of the NMOCD during the January 11, 2011 meeting, CRA will collect another set of chloride samples in the same general vicinities to confirm concentrations are still below the clean up goal for chlorides. If chloride concentrations are below the cleanup goal (<250 mg/kg), the following activities described will be performed:

PROPOSED PIT RESTORATION ACTIVITIES

Upon concurrence of vertical delineation by the NMOCD, the following tasks will be completed:

- Backfill excavation with clean backfill material from 6 feet up to 4 feet to eliminate unsafe work conditions;
- Lay a 20 mil poly liner in excavated area, cover and compact area with heavy equipment and clean backfill and topsoil material;
- Rip and seed 'constructed affected' locations and plant seed with approved mixture and using procedures as designated by property owner;
- Submit a final C-144 to the NMOCD detailing completion of work activities.

CRA will provide the New Mexico Oil Conservation Division (NMOCD) a 48 hour notification prior to commencing field activities. If you have any questions or comments with regards to this closure request, please do not hesitate to contact our Midland office at (432) 686-0086.

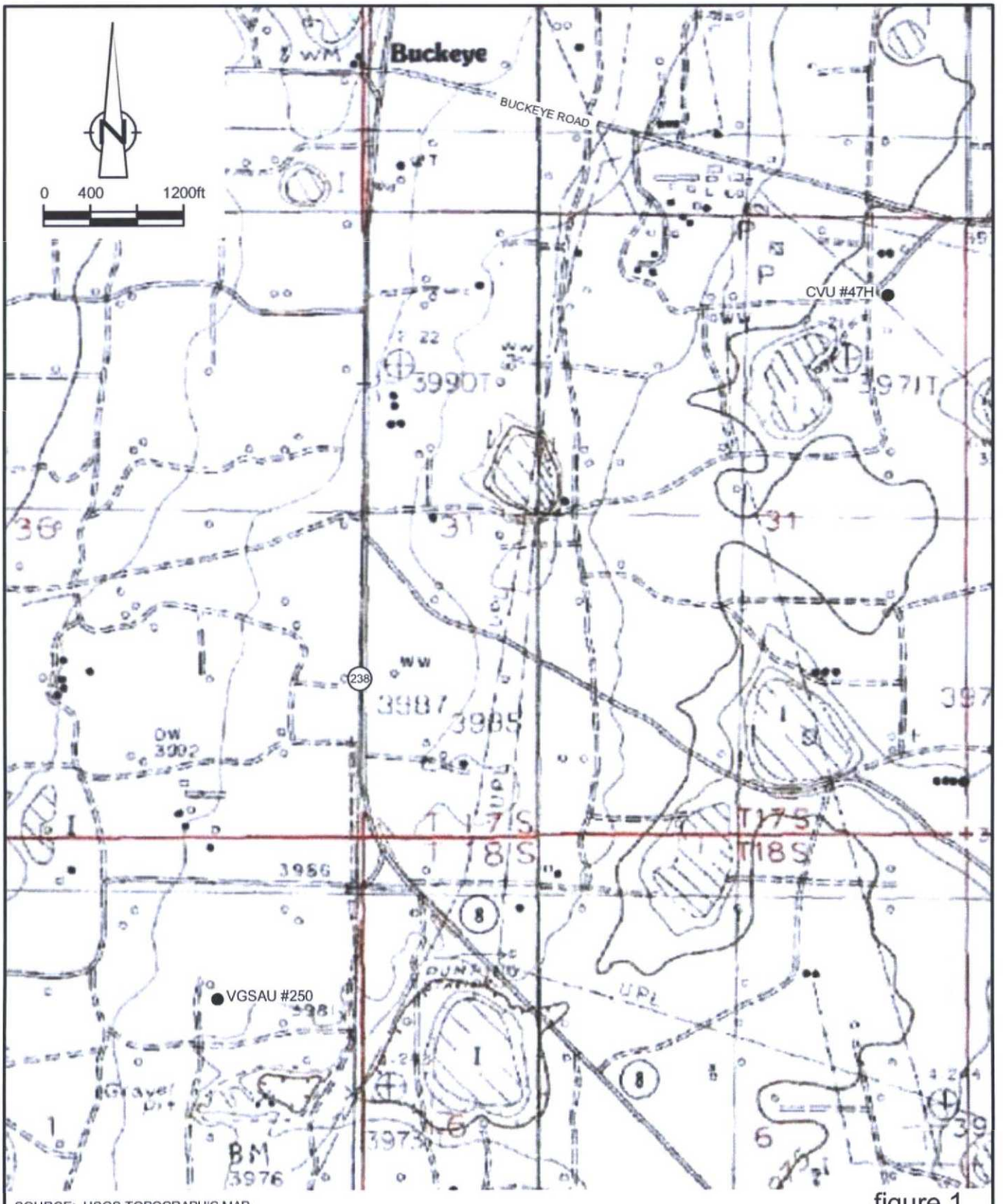
Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

James Ornelas
Senior Project Manager

Thomas C. Larson
Operations Manager

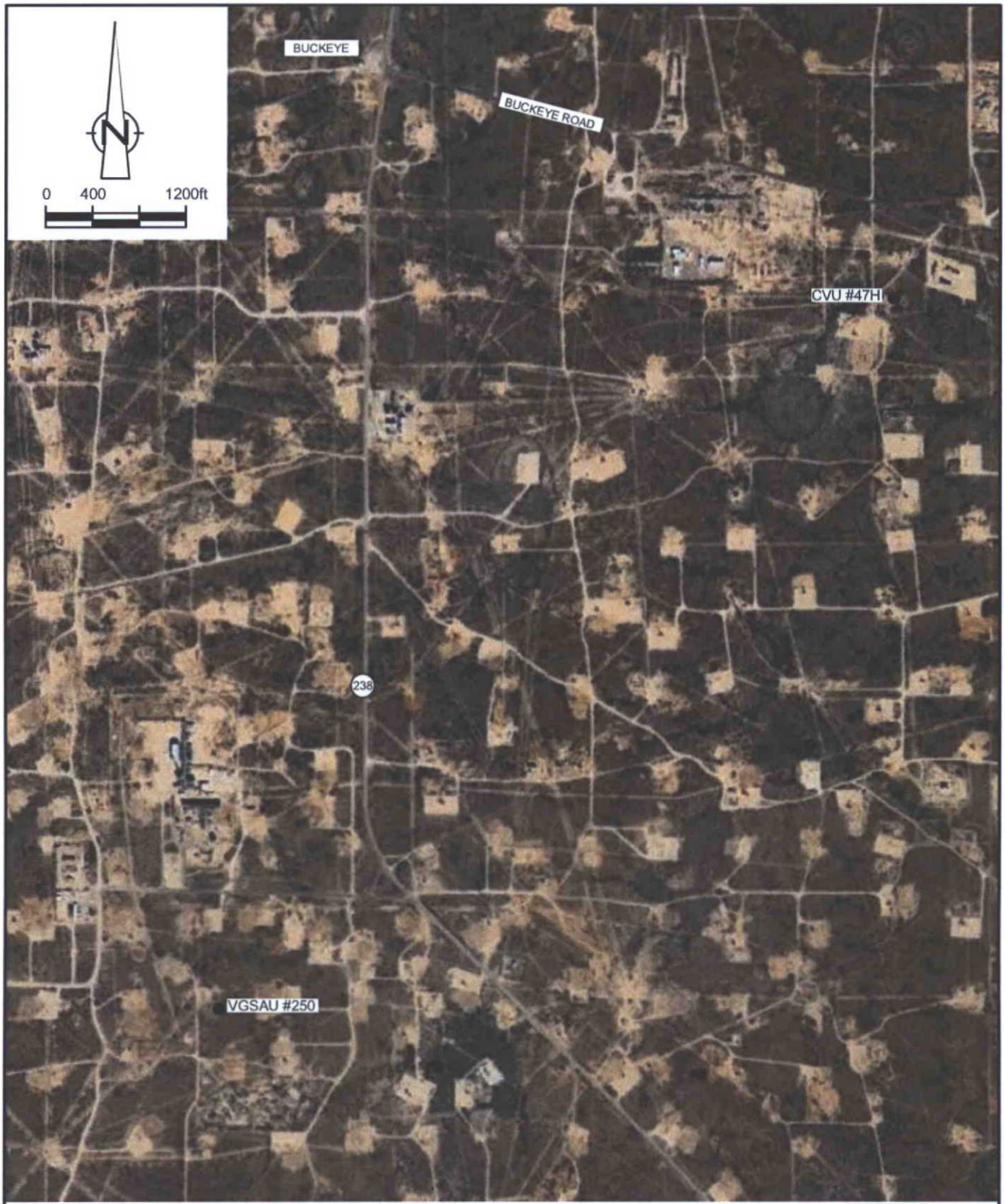
Cc: Matt Hudson (CEMC-Houston)



SOURCE: USGS TOPOGRAPHIC MAP
BUCKEYE 7.5 MINUTE QUADRANGLE
VGSAU #250 32° 46' 49" N, 103° 30' 34" W

figure 1

SITE VICINITY MAP
VACUUM GRAYBURG SAN ANDRES UNIT #250
LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company



SOURCE: USGS TOPOGRAPHIC MAP
BUCKEYE 7.5 MINUTE QUADRANGLE
VGSAU #250 32° 46' 49" N, 103° 30' 34" W

figure 2

SITE LOCATION MAP
VACUUM GRAYBURG SAN ANDRES UNIT #250
LEA COUNTY, NEW MEXICO
Chevron Environmental Management Company

073822-98(CORR001)GN-MD001 JAN 26/2011

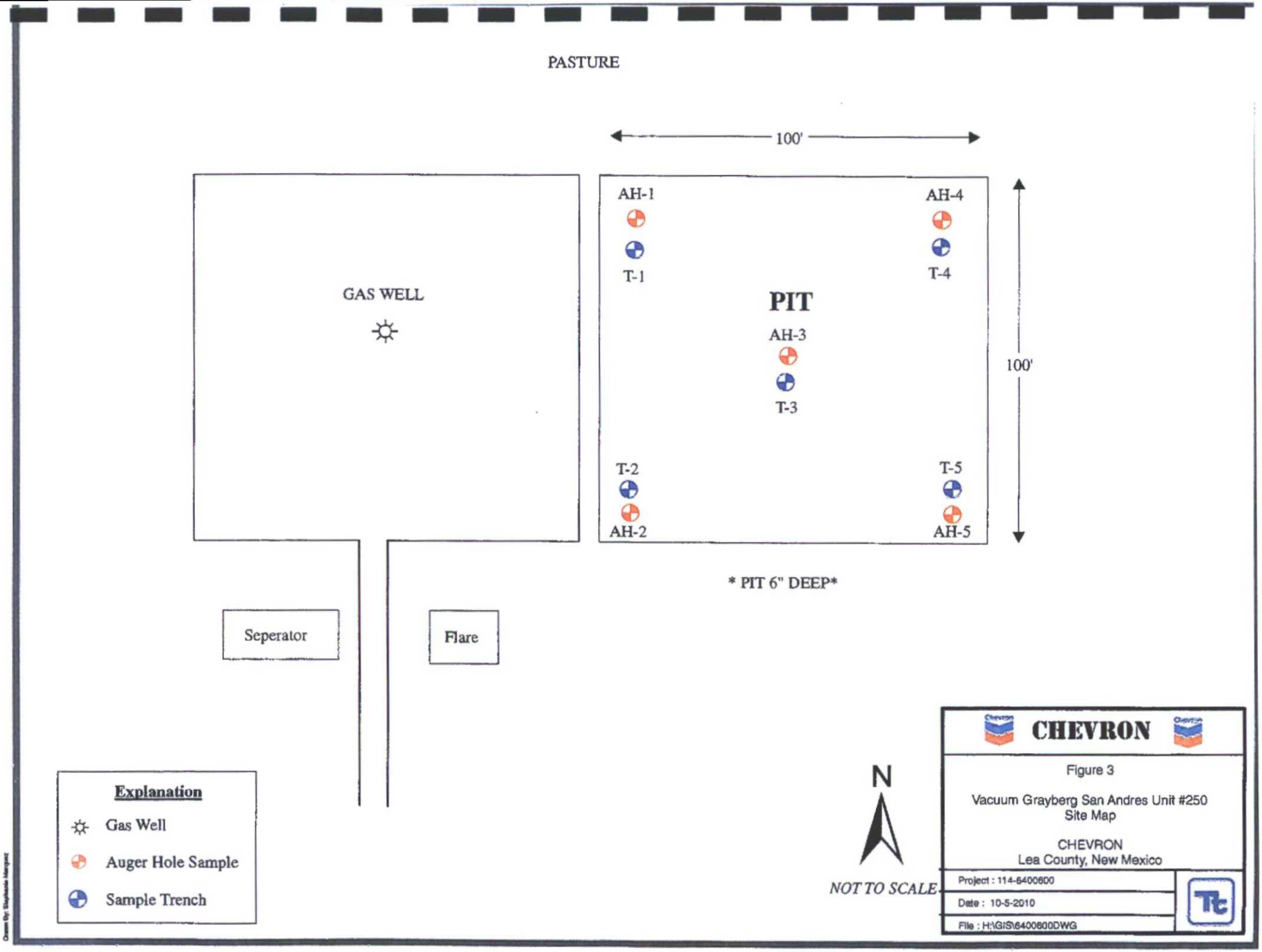

PASTURE
100'
AH-1
T-1
AH-4
T-4
PIT
AH-3
T-3
100'
GAS WELL
T-2
AH-2
T-5
AH-5
* PIT 6" DEEP*
Seperator
Flare
Explanation
Gas Well
Auger Hole Sample
Sample Trench
N
NOT TO SCALE
CHEVRON
Figure 3
Vacuum Grayberg San Andres Unit #250
Site Map
CHEVRON
Lea County, New Mexico
Project : 114-6400600
Date : 10-5-2010
File : H:\GIS\6400600DWG

TABLE I
SOIL ANALYTICAL SUMMARY
CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
VACUUM GRAYBURG SAN ANDRES UNIT #250 (PIT)
LEA COUNTY, NEW MEXICO

Sample ID	Depth (feet)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH (8015B Modified)			Chlorides (mg/kg)
								DRO (mg/kg)	GRO (mg/kg)	(GRO/DRO (mg/kg)	
NMOCD Recommended Remediation Action Levels (Total Ranking Score = 10)											
			10 mg/kg	--- mg/kg	--- mg/kg	--- mg/kg	50 mg/kg	--- mg/kg	--- mg/kg	100 mg/kg	--- mg/kg
AH-1	0-1'	7/14/10	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00	<50.0	<200
T-1	1.5-2'	8/19/10	NA	NA	NA	NA	NA	NA	NA	NA	<200
AH-2	0-1'	7/14/10	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00	<50.0	<200
T-2	1.5-2'	8/19/10	NA	NA	NA	NA	NA	NA	NA	NA	<200
AH-3	0-1'	7/14/10	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00	<50.0	<200
T-3	1.5-2'	8/19/10	NA	NA	NA	NA	NA	NA	NA	NA	<200
AH-4	0-1'	7/14/10	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00	<50.0	<200
T-4	2-2.5'	8/19/10	NA	NA	NA	NA	NA	NA	NA	NA	<200
AH-5	0-1'	7/14/10	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00	<50.0	<200
T-5	1.5-2'	8/19/10	NA	NA	NA	NA	NA	NA	NA	NA	<200

Notes:

1. BTEX analyses by EPA Method 8021B.
2. TPH analyzed by EPA Method 8015B Mod.
3. Chlorides analyzed by SM 4500-Cl B
4. NA - Not Analyzed
5. Bold concentrations above lab reporting limits.
6. Highlighted cells indicated concentrations above regulatory limits

APPENDICES

APPENDIX A

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-144
June 1, 2004

For drilling and production facilities, submit to appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☐ No ☒
Type of action Registration of a pit or below-grade tank ☐ Closure of a pit or below-grade tank ☒

Operator CHEVRON USA Telephone 505-390-7225 e-mail address lduk@chevron.com
Address P O BOX 1949 2401 AVE O EUNICE, NM 88231
Facility or well name. VGSAU #250 API # 30-025-38001 U/L or Qtr/Qtr H Sec 01 T 18S R 34E
County LEA Latitude Longitude NAD 1927 ☐ 1983 ☐
Surface Owner Federal ☐ State ☒ Private ☐ Indian ☐

Pit	**Below-grade tank**	
Type Drilling ☒ Production ☐ Disposal ☐ Workover ☐ Emergency ☐ Lined ☒ Unlined ☐ Liner type Synthetic ☒ Thickness 20 mil Clay ☐ Pit Volume ____ bbl	Volume ____ bbl Type of fluid ____ Construction material ____ Double-walled, with leak detection? Yes ☐ If not, explain why not	
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water)	Less than 50 feet 50 feet or more, but less than 100 feet 100 feet or more	(20 points) (10 points) (0 points) X
Wellhead protection area (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources)	Yes No	(20 points) (0 points) X
Distance to surface water. (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses)	Less than 200 feet 200 feet or more, but less than 1000 feet 1000 feet or more	(20 points) (10 points) (0 points) X
	Ranking Score (Total Points)	0

If this is a pit closure: (1) Attach a diagram of the facility showing the pit's relationship to other equipment and tanks (2) Indicate disposal location (check the onsite box if your are burying in place) onsite ☐ offsite ☒ If offsite, name of facility CRI . (3) Attach a general description of remedial action taken including remediation start date and end date (4) Groundwater encountered No ☒ Yes ☐ If yes, show depth below ground surface ____ ft and attach sample results (5) Attach soil sample results and a diagram of sample locations and excavations

Additional Comments: HAUL TRACKHOE TO LOCATION, HAUL EXCESS WATER AND FLUIDS OFF, BEGIN MIXING CLEAN-UP TO SOLIDIFY FOR HAUL OFF TO CRI, TEST PIT AREA, ONCE TESTED AND PASSED, COVER AREA WITH TOPSOIL AND RETURN IT TO NATURAL GROUND

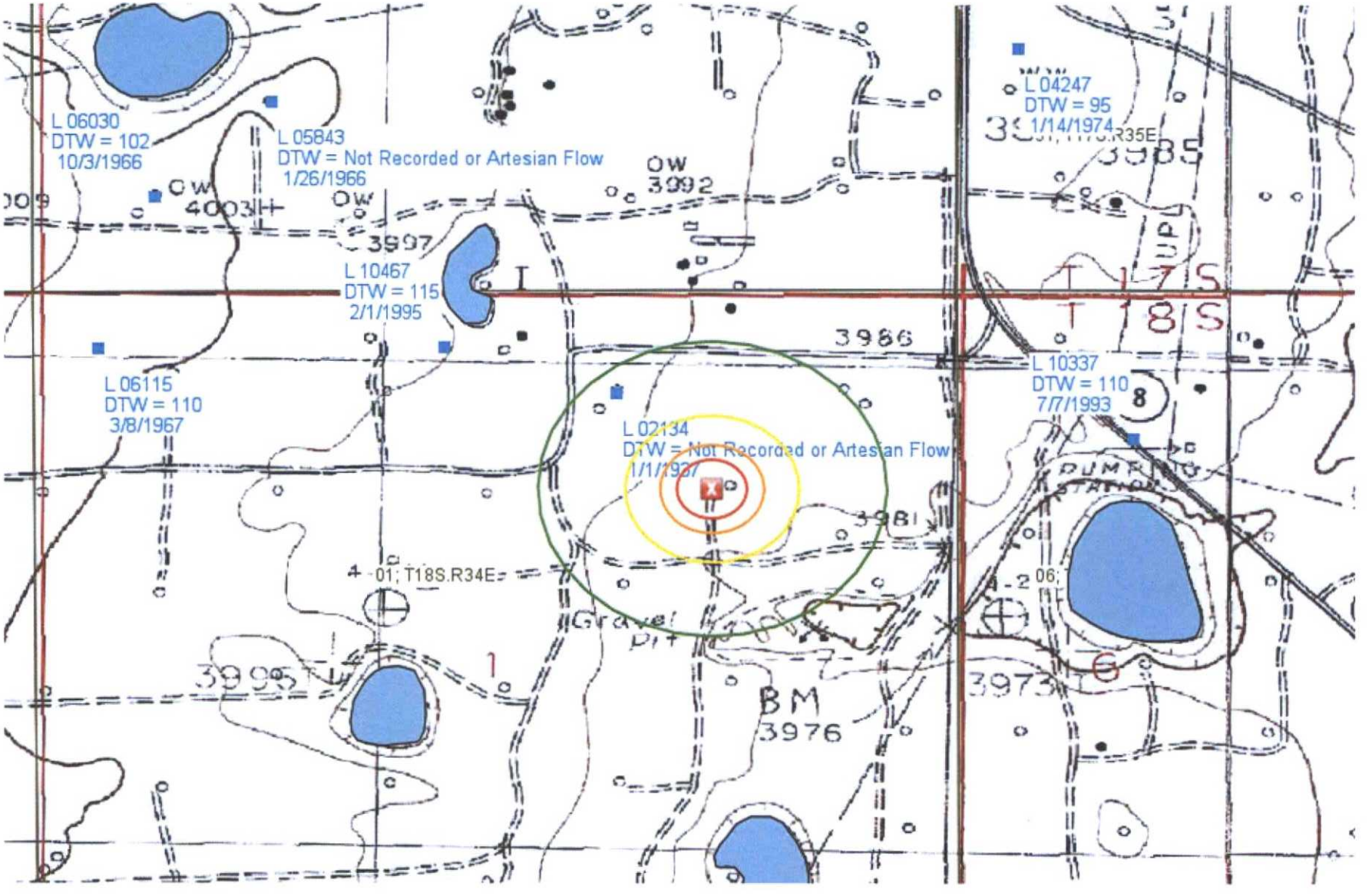
I hereby certify that the information above is true and complete to the best of my knowledge and belief **I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.**

Date 9/10/07
Printed Name/Title Jim Duke / Construction Rep Signature

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations

Approval
Printed Name/Title L Johnson · Enviro Engr Signature Date 9-11-07

APPENDIX B



Petroleum Recovery Research Center	VGSAU #250 PIT	Figure: 1
		Jan 05, 2011

APPENDIX C

Summary Report

Ike Tavarez
Tetra Tech
1910 N. Big Spring Street
Midland, TX 79705

Report Date: July 21, 2010

Work Order: 10071924

Project Location: Lea County, NM
Project Name: Vacuum Grayburg San Andres Unit #250 (Pit)
Project Number: 114-6400600

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
238035	AH-1 0-1'	soil	2010-07-14	00:00	2010-07-19
238036	AH-2 0-1'	soil	2010-07-14	00:00	2010-07-19
238037	AH-3 0-1'	soil	2010-07-14	00:00	2010-07-19
238038	AH-4 0-1'	soil	2010-07-14	00:00	2010-07-19
238039	AH-5 0-1'	soil	2010-07-14	00:00	2010-07-19

	BTEX				TPH DRO - NEW	TPH GRO
Sample - Field Code	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
238035 - AH-1 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
238036 - AH-2 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
238037 - AH-3 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
238038 - AH-4 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
238039 - AH-5 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00

Sample: 238035 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 238036 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 238037 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 238038 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 238039 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 | Lubbock, Texas 79424 | 800•378•1296 | 806•794•1296 | FAX 806•794•1298
200 East Sunset Road, Suite E | El Paso, Texas 79922 | 888•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: lab@traceanalysis.com

Certifications

WBENC: 237019 **HUB:** 1752439743100-86536 **DBE:** VN 20657
NCTRCA WFWB38444Y0909

NELAP Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas E-10317 **El Paso:** T104704221-08-TX LELAP-02002 **Midland:** T104704392-08-TX

Analytical and Quality Control Report

Ike Tavarez
Tetra Tech
1910 N. Big Spring Street
Midland, TX, 79705

Report Date: July 21, 2010

Work Order: 10071924

Project Location: Lea County, NM
Project Name: Vacuum Grayburg San Andres Unit #250 (Pit)
Project Number: 114-6400600

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
238035	AH-1 0-1'	soil	2010-07-14	00:00	2010-07-19
238036	AH-2 0-1'	soil	2010-07-14	00:00	2010-07-19
238037	AH-3 0-1'	soil	2010-07-14	00:00	2010-07-19
238038	AH-4 0-1'	soil	2010-07-14	00:00	2010-07-19
238039	AH-5 0-1'	soil	2010-07-14	00:00	2010-07-19

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.

TraceAnalysis, Inc.

Dr. Blair Leftwich, Director
Dr. Michael Abel, Project Manager

Standard Flags

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

Case Narrative

Samples for project Vacuum Grayburg San Andres Unit #250 (Pit) were received by TraceAnalysis, Inc. on 2010-07-19 and assigned to work order 10071924. Samples for work order 10071924 were received intact at a temperature of 3.3 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	61608	2010-07-19 at 16:00	71924	2010-07-20 at 11:02
BTEX	S 8021B	61608	2010-07-19 at 16:00	71949	2010-07-21 at 05:06
Chloride (Titration)	SM 4500-Cl B	61621	2010-07-20 at 08:52	71897	2010-07-20 at 11:57
TPH DRO - NEW	S 8015 D	61592	2010-07-19 at 14:30	71873	2010-07-19 at 14:30
TPH DRO - NEW	S 8015 D	61593	2010-07-19 at 14:30	71874	2010-07-19 at 14:30
TPH GRO	S 8015 D	61608	2010-07-19 at 16:00	71925	2010-07-20 at 11:29
TPH GRO	S 8015 D	61608	2010-07-19 at 16:00	71950	2010-07-21 at 05:34

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 10071924 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: 238035 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	71924	Date Analyzed:	2010-07-20	Analyzed By:	AG
Prep Batch:	61608	Sample Preparation:	2010-07-19	Prepared By:	AG

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		<0.0200		mg/Kg	1	0.0200
Toluene		<0.0200		mg/Kg	1	0.0200
Ethylbenzene		<0.0200		mg/Kg	1	0.0200
Xylene		<0.0200		mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.61	mg/Kg	1	2.00	80	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1.61	mg/Kg	1	2.00	80	38.4 - 157

Sample: 238035 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	71897	Date Analyzed:	2010-07-20	Analyzed By:	AR
Prep Batch:	61621	Sample Preparation:	2010-07-20	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		<200		mg/Kg	50	4.00

Sample: 238035 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	71873	Date Analyzed:	2010-07-19	Analyzed By:	kg
Prep Batch:	61592	Sample Preparation:	2010-07-19	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		96.6	mg/Kg	1	100	97	70 - 130

Sample: 238035 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	71925	Date Analyzed:	2010-07-20	Analyzed By:	AG
Prep Batch:	61608	Sample Preparation:	2010-07-19	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<2.00	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.87	mg/Kg	1	2.00	94	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.77	mg/Kg	1	2.00	88	42 - 159

Sample: 238036 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	71924	Date Analyzed:	2010-07-20	Analyzed By:	AG
Prep Batch:	61608	Sample Preparation:	2010-07-19	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0200	mg/Kg	1	0.0200
Toluene		<0.0200	mg/Kg	1	0.0200
Ethylbenzene		<0.0200	mg/Kg	1	0.0200
Xylene		<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.40	mg/Kg	1	2.00	70	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1.40	mg/Kg	1	2.00	70	38.4 - 157

Sample: 238036 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	71897	Date Analyzed:	2010-07-20	Analyzed By:	AR
Prep Batch:	61621	Sample Preparation:	2010-07-20	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Sample: 238036 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	71873	Date Analyzed:	2010-07-19	Analyzed By:	kg
Prep Batch:	61592	Sample Preparation:	2010-07-19	Prepared By:	kg

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-Tricosane		103	mg/Kg	1	100	103	70 - 130

Sample: 238036 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	71925	Date Analyzed:	2010-07-20	Analyzed By:	AG
Prep Batch:	61608	Sample Preparation:	2010-07-19	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<2.00	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.65	mg/Kg	1	2.00	82	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.55	mg/Kg	1	2.00	78	42 - 159

Sample: 238037 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	71924	Date Analyzed:	2010-07-20	Analyzed By:	AG
Prep Batch:	61608	Sample Preparation:	2010-07-19	Prepared By:	AG

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		<0.0200		mg/Kg	1	0.0200
Toluene		<0.0200		mg/Kg	1	0.0200
Ethylbenzene		<0.0200		mg/Kg	1	0.0200
Xylene		<0.0200		mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.62	mg/Kg	1	2.00	81	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1.64	mg/Kg	1	2.00	82	38.4 - 157

Sample: 238037 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	71897	Date Analyzed:	2010-07-20	Analyzed By:	AR
Prep Batch:	61621	Sample Preparation:	2010-07-20	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		<200		mg/Kg	50	4.00

Sample: 238037 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	71873	Date Analyzed:	2010-07-19	Analyzed By:	kg
Prep Batch:	61592	Sample Preparation:	2010-07-19	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		100	mg/Kg	1	100	100	70 - 130

Sample: 238037 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	71925	Date Analyzed:	2010-07-20	Analyzed By:	AG
Prep Batch:	61608	Sample Preparation:	2010-07-19	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<2.00	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.90	mg/Kg	1	2.00	95	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.80	mg/Kg	1	2.00	90	42 - 159

Sample: 238038 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	71949	Date Analyzed:	2010-07-21	Analyzed By:	AG
Prep Batch:	61608	Sample Preparation:	2010-07-19	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0200	mg/Kg	1	0.0200
Toluene		<0.0200	mg/Kg	1	0.0200
Ethylbenzene		<0.0200	mg/Kg	1	0.0200
Xylene		<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.10	mg/Kg	1	2.00	55	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1.11	mg/Kg	1	2.00	56	38.4 - 157

Sample: 238038 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	71897	Date Analyzed:	2010-07-20	Analyzed By:	AR
Prep Batch:	61621	Sample Preparation:	2010-07-20	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Sample: 238038 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	71874	Date Analyzed:	2010-07-19	Analyzed By:	kg
Prep Batch:	61593	Sample Preparation:	2010-07-19	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		94.2	mg/Kg	1	100	94	70 - 130

Sample: 238038 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	71950	Date Analyzed:	2010-07-21	Analyzed By:	AG
Prep Batch:	61608	Sample Preparation:	2010-07-19	Prepared By:	AG

Parameter	Flag	Result	RL	Units	Dilution	RL
GRO		<2.00		mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.29	mg/Kg	1	2.00	64	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.23	mg/Kg	1	2.00	62	42 - 159

Sample: 238039 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	71949	Date Analyzed:	2010-07-21	Analyzed By:	AG
Prep Batch:	61608	Sample Preparation:	2010-07-19	Prepared By:	AG

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		<0.0200		mg/Kg	1	0.0200
Toluene		<0.0200		mg/Kg	1	0.0200
Ethylbenzene		<0.0200		mg/Kg	1	0.0200
Xylene		<0.0200		mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.75	mg/Kg	1	2.00	88	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1.75	mg/Kg	1	2.00	88	38.4 - 157

Sample: 238039 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	71897	Date Analyzed:	2010-07-20	Analyzed By:	AR
Prep Batch:	61621	Sample Preparation:	2010-07-20	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Sample: 238039 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	71874	Date Analyzed:	2010-07-19	Analyzed By:	kg
Prep Batch:	61593	Sample Preparation:	2010-07-19	Prepared By:	kg

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-Tricosane		96.6	mg/Kg	1	100	97	70 - 130

Sample: 238039 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	71950	Date Analyzed:	2010-07-21	Analyzed By:	AG
Prep Batch:	61608	Sample Preparation:	2010-07-19	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<2.00	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.06	mg/Kg	1	2.00	103	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.93	mg/Kg	1	2.00	96	42 - 159

Method Blank (1) QC Batch: 71873

QC Batch: 71873 | Date Analyzed: 2010-07-19 | Analyzed By: kg
Prep Batch: 61592 | QC Preparation: 2010-07-19 | Prepared By: kg

Parameter	Flag	MDL Result	Units	RL
DRO		<14.5	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		103	mg/Kg	1	100	103	70 - 130

Method Blank (1) QC Batch: 71874

QC Batch: 71874 | Date Analyzed: 2010-07-19 | Analyzed By: kg
Prep Batch: 61593 | QC Preparation: 2010-07-19 | Prepared By: kg

Parameter	Flag	MDL Result	Units	RL
DRO		<14.5	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		87.4	mg/Kg	1	100	87	70 - 130

Method Blank (1) QC Batch: 71897

QC Batch: 71897 | Date Analyzed: 2010-07-20 | Analyzed By: AR
Prep Batch: 61621 | QC Preparation: 2010-07-20 | Prepared By: AR

Parameter	Flag	MDL Result	Units	RL
Chloride		<2.18	mg/Kg	4

Method Blank (1) QC Batch: 71924

QC Batch: 71924 | Date Analyzed: 2010-07-20 | Analyzed By: AG
Prep Batch: 61608 | QC Preparation: 2010-07-19 | Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.0150	mg/Kg	0.02
Toluene		<0.00950	mg/Kg	0.02
Ethylbenzene		<0.0106	mg/Kg	0.02
Xylene		<0.00930	mg/Kg	0.02

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.19	mg/Kg	1	2.00	110	66.6 - 122
4-Bromofluorobenzene (4-BFB)		2.18	mg/Kg	1	2.00	109	55.4 - 132

Method Blank (1) QC Batch: 71925

QC Batch: 71925 | Date Analyzed: 2010-07-20 | Analyzed By: AG
Prep Batch: 61608 | QC Preparation: 2010-07-19 | Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
GRO		<1.65	mg/Kg	2

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.63	mg/Kg	1	2.00	132	67.6 - 150
4-Bromofluorobenzene (4-BFB)		2.41	mg/Kg	1	2.00	120	52.4 - 130

Method Blank (1) QC Batch: 71949

QC Batch: 71949 | Date Analyzed: 2010-07-21 | Analyzed By: AG
Prep Batch: 61608 | QC Preparation: 2010-07-19 | Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.0150	mg/Kg	0.02
Toluene		<0.00950	mg/Kg	0.02
Ethylbenzene		<0.0106	mg/Kg	0.02
Xylene		<0.00930	mg/Kg	0.02

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.01	mg/Kg	1	2.00	100	66.6 - 122
4-Bromofluorobenzene (4-BFB)		1.93	mg/Kg	1	2.00	96	55.4 - 132

Method Blank (1) QC Batch: 71950

QC Batch: 71950 | Date Analyzed: 2010-07-21 | Analyzed By: AG
Prep Batch: 61608 | QC Preparation: 2010-07-19 | Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
GRO		<1.65	mg/Kg	2

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.44	mg/Kg	1	2.00	122	67.6 - 150
4-Bromofluorobenzene (4-BFB)		2.16	mg/Kg	1	2.00	108	52.4 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 71873 | Date Analyzed: 2010-07-19 | Analyzed By: kg
Prep Batch: 61592 | QC Preparation: 2010-07-19 | Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	256	mg/Kg	1	250	<14.5	102	57.4 - 133.4

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	251	mg/Kg	1	250	<14.5	100	57.4 - 133.4	2	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-Tricosane	111	114	mg/Kg	1	100	111	114	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 71874 | Date Analyzed: 2010-07-19 | Analyzed By: kg
Prep Batch: 61593 | QC Preparation: 2010-07-19 | Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	239	mg/Kg	1	250	<14.5	96	57.4 - 133.4

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	248	mg/Kg	1	250	<14.5	99	57.4 - 133.4	4	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-Tricosane	102	106	mg/Kg	1	100	102	106	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 71897 | Date Analyzed: 2010-07-20 | Analyzed By: AR
Prep Batch: 61621 | QC Preparation: 2010-07-20 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.5	mg/Kg	1	100	<2.18	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	101	mg/Kg	1	100	<2.18	101	85 - 115	2	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: 71924 | Date Analyzed: 2010-07-20 | Analyzed By: AG
Prep Batch: 61608 | QC Preparation: 2010-07-19 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.99	mg/Kg	1	2.00	<0.0150	100	81.9 - 108
Toluene	2.02	mg/Kg	1	2.00	<0.00950	101	81.9 - 107
Ethylbenzene	2.00	mg/Kg	1	2.00	<0.0106	100	78.4 - 107
Xylene	6.06	mg/Kg	1	6.00	<0.00930	101	79.1 - 107

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

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control spikes continued ...

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.03	mg/Kg	1	2.00	<0.0150	102	81.9 - 108	2	20
Toluene	2.07	mg/Kg	1	2.00	<0.00950	104	81.9 - 107	2	20
Ethylbenzene	2.04	mg/Kg	1	2.00	<0.0106	102	78.4 - 107	2	20
Xylene	6.21	mg/Kg	1	6.00	<0.00930	104	79.1 - 107	2	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)	2.09	2.04	mg/Kg	1	2.00	104	102	70.2 - 114
4-Bromofluorobenzene (4-BFB)	2.15	2.09	mg/Kg	1	2.00	108	104	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch: 71925 | Date Analyzed: 2010-07-20 | Analyzed By: AG
Prep Batch: 61608 | QC Preparation: 2010-07-19 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	15.7	mg/Kg	1	20.0	<1.65	78	69.9 - 95.4

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
GRO	16.6	mg/Kg	1	20.0	<1.65	83	69.9 - 95.4	6	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)	2.68	2.68	mg/Kg	1	2.00	134	134	61.9 - 142
4-Bromofluorobenzene (4-BFB)	2.53	2.55	mg/Kg	1	2.00	126	128	68.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 71949 | Date Analyzed: 2010-07-21 | Analyzed By: AG
Prep Batch: 61608 | QC Preparation: 2010-07-19 | Prepared By: AG

continued ...

control spikes continued ...

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.02	mg/Kg	1	2.00	<0.0150	101	81.9 - 108
Toluene	2.04	mg/Kg	1	2.00	<0.00950	102	81.9 - 107
Ethylbenzene	2.00	mg/Kg	1	2.00	<0.0106	100	78.4 - 107
Xylene	6.08	mg/Kg	1	6.00	<0.00930	101	79.1 - 107

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	1.95	mg/Kg	1	2.00	<0.0150	98	81.9 - 108	4	20
Toluene	1.96	mg/Kg	1	2.00	<0.00950	98	81.9 - 107	4	20
Ethylbenzene	1.93	mg/Kg	1	2.00	<0.0106	96	78.4 - 107	4	20
Xylene	5.87	mg/Kg	1	6.00	<0.00930	98	79.1 - 107	4	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)	1.92	1.96	mg/Kg	1	2.00	96	98	70.2 - 114
4-Bromofluorobenzene (4-BFB)	1.96	2.01	mg/Kg	1	2.00	98	100	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch: 71950 | Date Analyzed: 2010-07-21 | Analyzed By: AG
Prep Batch: 61608 | QC Preparation: 2010-07-19 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	14.2	mg/Kg	1	20.0	<1.65	71	69.9 - 95.4

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
GRO	14.6	mg/Kg	1	20.0	<1.65	73	69.9 - 95.4	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)	2.24	2.30	mg/Kg	1	2.00	112	115	61.9 - 142
4-Bromofluorobenzene (4-BFB)	2.08	2.16	mg/Kg	1	2.00	104	108	68.2 - 132

Matrix Spike (MS-1) Spiked Sample: 238025

QC Batch: 71873 | Date Analyzed: 2010-07-19 | Analyzed By: kg
Prep Batch: 61592 | QC Preparation: 2010-07-19 | Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	241	mg/Kg	1	250	<14.5	96	35.2 - 167.1

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	242	mg/Kg	1	250	<14.5	97	35.2 - 167.1	0	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-Tricosane	101	106	mg/Kg	1	100	101	106	70 - 130

Matrix Spike (MS-1) Spiked Sample: 238039

QC Batch: 71874 | Date Analyzed: 2010-07-19 | Analyzed By: kg
Prep Batch: 61593 | QC Preparation: 2010-07-19 | Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	235	mg/Kg	1	250	<14.5	94	35.2 - 167.1

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	225	mg/Kg	1	250	<14.5	90	35.2 - 167.1	4	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-Tricosane	102	97.3	mg/Kg	1	100	102	97	70 - 130

Matrix Spike (MS-1) Spiked Sample: 238039

QC Batch: 71897 | Date Analyzed: 2010-07-20 | Analyzed By: AR
Prep Batch: 61621 | QC Preparation: 2010-07-20 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10000	mg/Kg	100	10000	<218	100	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	10200	mg/Kg	100	10000	<218	102	85 - 115	2	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: 238026

QC Batch: 71924 | Date Analyzed: 2010-07-20 | Analyzed By: AG
Prep Batch: 61608 | QC Preparation: 2010-07-19 | Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.94	mg/Kg	1	2.00	<0.0150	97	80.5 - 112
Toluene	2.01	mg/Kg	1	2.00	<0.00950	100	82.4 - 113
Ethylbenzene	2.06	mg/Kg	1	2.00	<0.0106	103	83.9 - 114
Xylene	6.25	mg/Kg	1	6.00	<0.00930	104	84 - 114

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	[1]	2.31	mg/Kg	1	2.00	<0.0150	116	80.5 - 112	17	20
Toluene	[2]	2.37	mg/Kg	1	2.00	<0.00950	118	82.4 - 113	16	20
Ethylbenzene	[3]	2.45	mg/Kg	1	2.00	<0.0106	122	83.9 - 114	17	20
Xylene	[4]	7.38	mg/Kg	1	6.00	<0.00930	123	84 - 114	17	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)	1.61	1.74	mg/Kg	1	2	80	87	41.3 - 117
4-Bromofluorobenzene (4-BFB)	1.67	1.82	mg/Kg	1	2	84	91	35.5 - 129

Matrix Spike (MS-1) Spiked Sample: 238037

QC Batch: 71925 | Date Analyzed: 2010-07-20 | Analyzed By: AG
Prep Batch: 61608 | QC Preparation: 2010-07-19 | Prepared By: AG

[1]MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.
[2]MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.
[3]MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.
[4]MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	15.2	mg/Kg	1	20.0	<1.65	76	61.8 - 114

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	16.2	mg/Kg	1	20.0	<1.65	81	61.8 - 114	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)	1.55	2.31	mg/Kg	1	2	78	116	50 - 162
4-Bromofluorobenzene (4-BFB)	1.58	2.30	mg/Kg	1	2	79	115	50 - 162

Matrix Spike (MS-1) Spiked Sample: 238038

QC Batch: 71949 | Date Analyzed: 2010-07-21 | Analyzed By: AG
Prep Batch: 61608 | QC Preparation: 2010-07-19 | Prepared By: AG

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		2.16	mg/Kg	1	2.00	<0.0150	108	80.5 - 112
Toluene		2.23	mg/Kg	1	2.00	<0.00950	112	82.4 - 113
Ethylbenzene		2.28	mg/Kg	1	2.00	<0.0106	114	83.9 - 114
Xylene	[5]	6.91	mg/Kg	1	6.00	<0.00930	115	84 - 114

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		2.21	mg/Kg	1	2.00	<0.0150	110	80.5 - 112	2	20
Toluene	[6]	2.28	mg/Kg	1	2.00	<0.00950	114	82.4 - 113	2	20
Ethylbenzene	[7]	2.32	mg/Kg	1	2.00	<0.0106	116	83.9 - 114	2	20
Xylene	[8]	7.03	mg/Kg	1	6.00	<0.00930	117	84 - 114	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
Trifluorotoluene (TFT)	1.70	1.17	mg/Kg	1	2	85	58	41.3 - 117
4-Bromofluorobenzene (4-BFB)	1.73	1.19	mg/Kg	1	2	86	60	35.5 - 129

[5]Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
[6]MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.
[7]MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.
[8]MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.

Matrix Spike (MS-1) Spiked Sample: 238039

QC Batch: 71950 | Date Analyzed: 2010-07-21 | Analyzed By: AG
Prep Batch: 61608 | QC Preparation: 2010-07-19 | Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	14.7	mg/Kg	1	20.0	<1.65	74	61.8 - 114

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	15.4	mg/Kg	1	20.0	<1.65	77	61.8 - 114	5	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)	2.12	2.32	mg/Kg	1	2	106	116	50 - 162
4-Bromofluorobenzene (4-BFB)	2.12	2.32	mg/Kg	1	2	106	116	50 - 162

Standard (CCV-3)

QC Batch: 71873 | Date Analyzed: 2010-07-19 | Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	265	106	80 - 120	2010-07-19

Standard (CCV-4)

QC Batch: 71873 | Date Analyzed: 2010-07-19 | Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	244	98	80 - 120	2010-07-19

Standard (CCV-1)

QC Batch: 71874 | Date Analyzed: 2010-07-19 | Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	246	98	80 - 120	2010-07-19

Standard (CCV-2)

QC Batch: 71874 Date Analyzed: 2010-07-19 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	255	102	80 - 120	2010-07-19

Standard (ICV-1)

QC Batch: 71897 Date Analyzed: 2010-07-20 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	102	102	85 - 115	2010-07-20

Standard (CCV-1)

QC Batch: 71897 Date Analyzed: 2010-07-20 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.3	98	85 - 115	2010-07-20

Standard (CCV-2)

QC Batch: 71924 Date Analyzed: 2010-07-20 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0995	100	80 - 120	2010-07-20
Toluene		mg/Kg	0.100	0.101	101	80 - 120	2010-07-20
Ethylbenzene		mg/Kg	0.100	0.0996	100	80 - 120	2010-07-20
Xylene		mg/Kg	0.300	0.302	101	80 - 120	2010-07-20

Standard (CCV-3)

QC Batch: 71924 | Date Analyzed: 2010-07-20 | Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0972	97	80 - 120	2010-07-20
Toluene		mg/Kg	0.100	0.0979	98	80 - 120	2010-07-20
Ethylbenzene		mg/Kg	0.100	0.0954	95	80 - 120	2010-07-20
Xylene		mg/Kg	0.300	0.290	97	80 - 120	2010-07-20

Standard (CCV-2)

QC Batch: 71925 | Date Analyzed: 2010-07-20 | Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.992	99	80 - 120	2010-07-20

Standard (CCV-3)

QC Batch: 71925 | Date Analyzed: 2010-07-20 | Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.978	98	80 - 120	2010-07-20

Standard (CCV-1)

QC Batch: 71949 | Date Analyzed: 2010-07-21 | Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0972	97	80 - 120	2010-07-21
Toluene		mg/Kg	0.100	0.0984	98	80 - 120	2010-07-21
Ethylbenzene		mg/Kg	0.100	0.0957	96	80 - 120	2010-07-21
Xylene		mg/Kg	0.300	0.291	97	80 - 120	2010-07-21

Standard (CCV-2)

QC Batch: 71949 | Date Analyzed: 2010-07-21 | Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0979	98	80 - 120	2010-07-21
Toluene		mg/Kg	0.100	0.0989	99	80 - 120	2010-07-21
Ethylbenzene		mg/Kg	0.100	0.0964	96	80 - 120	2010-07-21
Xylene		mg/Kg	0.300	0.293	98	80 - 120	2010-07-21

Standard (CCV-1)

QC Batch: 71950 Date Analyzed: 2010-07-21 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.956	96	80 - 120	2010-07-21

Standard (CCV-2)

QC Batch: 71950 Date Analyzed: 2010-07-21 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.957	96	80 - 120	2010-07-21

Order #: 100-71929

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 1

TETRA TECH
1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

CLIENT NAME: Chevron

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-G400600

PROJECT NAME: Vacuum Grayburg San Andres Unit #250 (Pit) Lea Co NM

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
288035	7/14		S		X	AH-1 0-1'	1				X	
036	"		"		"	AH-2 0-1'	1				X	
037	"		"		"	AH-3 0-1'	1				X	
038	"		"		"	AH-4 0-1'	1				X	
039	"		"		"	AH-5 0-1'	1				X	

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8021B	TX1005 (Ext. to C35)	TPH 8015 MOD	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
X	X												X				
X	X												X				
X	X												X				
X	X												X				
X	X												X				

RELINQUISHED BY: (Signature) Date: 7/15/10 Time: 2:05
RECEIVED BY: (Signature) Date: 7/15/10 Time: 14:05

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Initial) TF JS Date: 7-14-10 Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS AIRBILL #: OTHER:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: (Yes) No

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Midland STATE: Tx ZIP:
CONTACT: PHONE: DATE: TIME:
RECEIVED BY: (Signature)

SAMPLE CONDITION WHEN RECEIVED: 3.3°c intact

REMARKS: All tests to Midland

Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

Summary Report

Ike Tavarez
Tetra Tech
1910 N. Big Spring Street
Midland, TX 79705

Report Date: August 30, 2010

Work Order: 10082304

Project Location: Lea County, NM
Project Name: Chevron/Vacuum Grayburg San Andres Unit #250 (Pit)
Project Number: 114-6400600

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
242080	T-1 1.5-2'	soil	2010-08-19	00:00	2010-08-20
242081	T-2 1.5-2'	soil	2010-08-19	00:00	2010-08-20
242082	T-3 1.5-2'	soil	2010-08-19	00:00	2010-08-20
242083	T-4 2-2.5'	soil	2010-08-19	00:00	2010-08-20
242084	T-5 1.5-2'	soil	2010-08-19	00:00	2010-08-20

Sample: 242080 - T-1 1.5-2'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 242081 - T-2 1.5-2'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 242082 - T-3 1.5-2'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 242083 - T-4 2-2.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 242084 - T-5 1.5-2'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 888•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: lab@traceanalysis.com

Certifications

WBENC: 237019 **HUB:** 1752439743100-86536 **DBE:** VN 20657
NCTRCA WFWB38444Y0909

NELAP Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas E-10317 **El Paso:** T104704221-08-TX LELAP-02002 **Midland:** T104704392-08-TX

Analytical and Quality Control Report

Ike Tavarez
Tetra Tech
1910 N. Big Spring Street
Midland, TX, 79705

Report Date: August 30, 2010

Work Order: 10082304

Project Location: Lea County, NM
Project Name: Chevron/Vacuum Grayburg San Andres Unit #250 (Pit)
Project Number: 114-6400600

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
242080	T-1 1.5-2'	soil	2010-08-19	00:00	2010-08-20
242081	T-2 1.5-2'	soil	2010-08-19	00:00	2010-08-20
242082	T-3 1.5-2'	soil	2010-08-19	00:00	2010-08-20
242083	T-4 2-2.5'	soil	2010-08-19	00:00	2010-08-20
242084	T-5 1.5-2'	soil	2010-08-19	00:00	2010-08-20

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.

TraceAnalysis, Inc.

Dr. Blair Leftwich, Director
Dr. Michael Abel, Project Manager

Standard Flags

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

Case Narrative

Samples for project Chevron/Vacuum Grayburg San Andres Unit #250 (Pit) were received by TraceAnalysis, Inc. on 2010-08-20 and assigned to work order 10082304. Samples for work order 10082304 were received intact at a temperature of 4.0 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	62585	2010-08-26 at 09:38	73008	2010-08-27 at 15:06

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 10082304 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: 242080 - T-1 1.5-2'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	73008	Date Analyzed:	2010-08-27	Analyzed By:	AR
Prep Batch:	62585	Sample Preparation:	2010-08-26	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Sample: 242081 - T-2 1.5-2'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	73008	Date Analyzed:	2010-08-27	Analyzed By:	AR
Prep Batch:	62585	Sample Preparation:	2010-08-26	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Sample: 242082 - T-3 1.5-2'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	73008	Date Analyzed:	2010-08-27	Analyzed By:	AR
Prep Batch:	62585	Sample Preparation:	2010-08-26	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Sample: 242083 - T-4 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	73008	Date Analyzed:	2010-08-27	Analyzed By:	AR
Prep Batch:	62585	Sample Preparation:	2010-08-26	Prepared By:	AR

continued ...

sample 242083 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Sample: 242084 - T-5 1.5-2'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	73008	Date Analyzed:	2010-08-27	Analyzed By:	AR
Prep Batch:	62585	Sample Preparation:	2010-08-26	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Method Blank (1) QC Batch: 73008

QC Batch:	73008	Date Analyzed:	2010-08-27	Analyzed By:	AR
Prep Batch:	62585	QC Preparation:	2010-08-26	Prepared By:	AR

Parameter	Flag	MDL Result	Units	RL
Chloride		<2.18	mg/Kg	4

Laboratory Control Spike (LCS-1)

QC Batch:	73008	Date Analyzed:	2010-08-27	Analyzed By:	AR
Prep Batch:	62585	QC Preparation:	2010-08-26	Prepared By:	AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.7	mg/Kg	1	100	<2.18	99	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	102	mg/Kg	1	100	<2.18	102	85 - 115	3	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: 242084

QC Batch: 73008 | Date Analyzed: 2010-08-27 | Analyzed By: AR
Prep Batch: 62585 | QC Preparation: 2010-08-26 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	9840	mg/Kg	100	10000	<218	97	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	10200	mg/Kg	100	10000	<218	100	85 - 115	4	20

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

Standard (ICV-1)

QC Batch: 73008 | Date Analyzed: 2010-08-27 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-08-27

Standard (CCV-1)

QC Batch: 73008 | Date Analyzed: 2010-08-27 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.4	99	85 - 115	2010-08-27

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 1

TETRA TECH
1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

CLIENT NAME: Chevron

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-G400600

PROJECT NAME: Chevron / Vacuum Grayberg San Andres Unit #250 La Co, NM

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
242080	8/19		S		X	T-1 1.5'-2'	1				X													X				
081						T-2 1.5'-2'																							
082						T-3 1.5'-2'																							
083						T-4 2'-2.5'																							
084						T-5 1.5'-2'																							

RELINQUISHED BY: (Signature) Date: 8/20/10 Time: 1595 RECEIVED BY: (Signature) Date: 8/20/10 Time: 15:45

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: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:

SAMPLED BY: (Print & Initial) JJ Date: 8/18 Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS AIRBILL #: OTHER:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 4.0°c intact

REMARKS: all tests - Midland

Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.