

Lupe Carrasco
Environmental Coordinator

May 5, 2014

Oil Conservation Division
District 2 – Artesia
811 S. First St.
Artesia, NM 88210

Re: Burch Keely Unit #232
30-015-27992
Sec. 23, T17S-R29E
Eddy County, NM

Mr. Mike Bratcher,

COG Operating LLC would like to submit for your consideration the enclosed work plan for the above captioned well. The plan is in response to the C-141 Initial report dated 3/6/14.

Background

The release was caused by a valve which was not properly closed on the bottom of a filter pot causing an attached hose to pressure up and disconnect from the filter pot. The situation was remediated by closing the valve fully, replacing the hose, and associated connections. The initial excavation of the impacted area is approximately 10 – 12” in depth with all impacted material hauled to an NMOCD approved facility.

Groundwater

Based on the Chevron Trend Maps, the release area would be classified at a site ranking of Zero due to the depth of groundwater at approximately 125’. No well information could be found for Section 23.

Soil Assessment and Analytical Results

Random samples were taken within the impacted area of the battery using a hand soil auger. This area is the low point in the battery and the reason this release pooled in this area. Sample points are labeled as S1, S2, S3, and S4 on the attached Site Diagram. Sampling points were determined using a random point generator and were adjusted accordingly due to difficulty of the soil auger’s inability to penetrate the subsurface. S5 was taken at a later date with the use of a backhoe for the purpose of further chloride delineation. S5 was chosen as the midpoint between S3 and S4. The sampling midpoint for S1 and S2 could not be completed due to safety hazards associated with buried lines.

Every attempt was made to delineate the area, but after the backhoe operator hit an electrical conduit and a 4" pvc line, safety took precedence over further delineation of the S1/S2 area.

A Sample Summary Table, Analytical Results, and a copy of the NRCS Soil Survey for this area are attached for your consideration. Sample results show TPH and BTEX levels to be within RRAL's per NMOCD *Guidelines of Remediation of Leaks, Spills and Releases* (1993). S1, S2, and S3 show elevated chloride concentrations which could be consistent with historic releases within the berm battery.

Work Plan

In summary, depth to ground water is approximately 125'. The facilities associated buried lines are hazardous and exceed the practicality of excavation. Sample analysis indicates RRALs for a site ranking of Zero have been met and at 6' chloride concentrations decreased to 1340 ppm. COG proposes to backfill the release area with no further excavation due to safety concerns and the impracticality of excavation within an active battery.

If there are no objections or further stipulations, COG Operating LLC would like to begin the remediation process based on approval of this work plan. Please feel free to contact my with any questions or concerns at (575) 748-6933

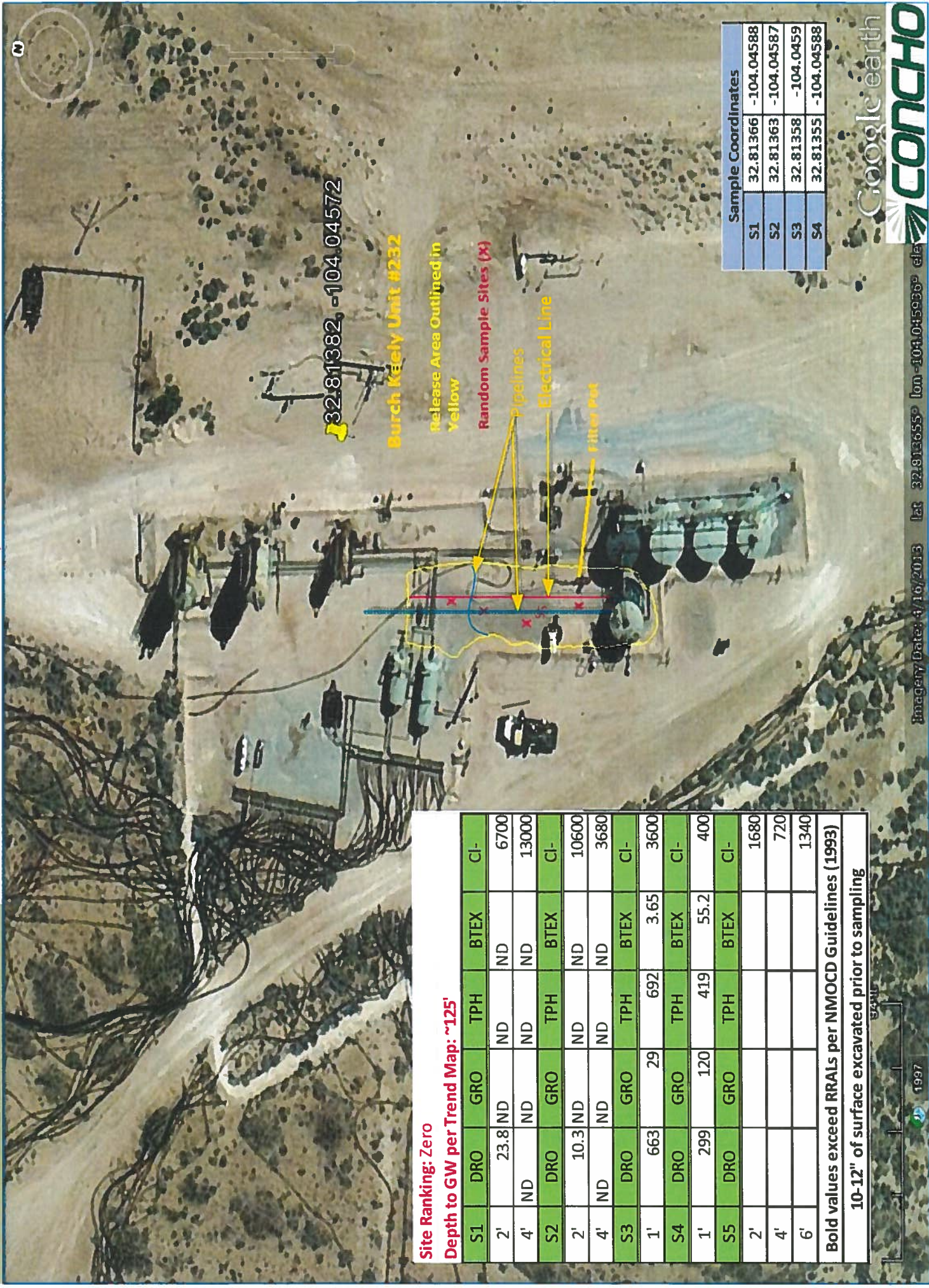
Sincerely,

A handwritten signature in black ink, appearing to read 'Lupe Carrasco', written in a cursive style.

Lupe Carrasco
Environmental Coordinator

BKU Satellite E Battery (BKU #232)

May 5, 2014



Sample Coordinates	
S1	32.81366 -104.04588
S2	32.81363 -104.04587
S3	32.81358 -104.0459
S4	32.81355 -104.04588



Site Ranking: Zero						
Depth to GW per Trend Map: ~125'						
S1	DRO	GRO	TPH	BTEX	CI-	
2'	23.8	ND	ND	ND	6700	
4'	ND	ND	ND	ND	13000	
S2	DRO	GRO	TPH	BTEX	CI-	
2'	10.3	ND	ND	ND	10600	
4'	ND	ND	ND	ND	3680	
S3	DRO	GRO	TPH	BTEX	CI-	
1'	663	29	692	3.65	3600	
S4	DRO	GRO	TPH	BTEX	CI-	
1'	299	120	419	55.2	400	
S5	DRO	GRO	TPH	BTEX	CI-	
2'					1680	
4'					720	
6'					1340	
Bold values exceed RRLs per NMOCD Guidelines (1993)						
10-12" of surface excavated prior to sampling						



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

March 26, 2014

LUPE CARRASCO
COG OPERATING
P. O. BOX 1630
ARTESIA, NM 88210

RE: BKU SATELLITE E BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 03/19/14 15:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene
Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 LUPE CARRASCO
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 03/19/2014
 Reported: 03/26/2014
 Project Name: BKU SATELLITE E BATTERY
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 03/18/2014
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S1-2' (H400840-01)

BTEX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/25/2014	ND	2.42	121	2.00	1.74	
Toluene*	<0.050	0.050	03/25/2014	ND	2.31	115	2.00	1.57	
Ethylbenzene*	<0.050	0.050	03/25/2014	ND	2.27	113	2.00	1.25	
Total Xylenes*	<0.150	0.150	03/25/2014	ND	6.48	108	6.00	0.484	
Total BTEX	<0.300	0.300	03/25/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 107 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6700	16.0	03/25/2014	ND	432	108	400	3.77	

TPH 8015M			mg/kg		Analyzed By: ms				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/24/2014	ND	216	108	200	2.18	
DRO >C10-C28	23.8	10.0	03/24/2014	ND	212	106	200	2.35	

Surrogate: 1-Chlorooctane 78.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 89.4 % 63.6-154

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 LUPE CARRASCO
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 03/19/2014
 Reported: 03/26/2014
 Project Name: BKU SATELLITE E BATTERY
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 03/18/2014
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S1-4' (H400840-02)

BTEX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/25/2014	ND	2.42	121	2.00	1.74	
Toluene*	<0.050	0.050	03/25/2014	ND	2.31	115	2.00	1.57	
Ethylbenzene*	<0.050	0.050	03/25/2014	ND	2.27	113	2.00	1.25	
Total Xylenes*	<0.150	0.150	03/25/2014	ND	6.48	108	6.00	0.484	
Total BTEX	<0.300	0.300	03/25/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 107 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	13000	16.0	03/25/2014	ND	432	108	400	3.77	

TPH 8015M			mg/kg		Analyzed By: ms				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/24/2014	ND	216	108	200	2.18	
DRO >C10-C28	<10.0	10.0	03/24/2014	ND	212	106	200	2.35	

Surrogate: 1-Chlorooctane 93.0 % 65.2-140

Surrogate: 1-Chlorooctadecane 96.3 % 63.6-154

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 LUPE CARRASCO
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 03/19/2014
 Reported: 03/26/2014
 Project Name: BKU SATELLITE E BATTERY
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 03/18/2014
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S2-2' (H400840-03)

BTX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/25/2014	ND	2.42	121	2.00	1.74	
Toluene*	<0.050	0.050	03/25/2014	ND	2.31	115	2.00	1.57	
Ethylbenzene*	<0.050	0.050	03/25/2014	ND	2.27	113	2.00	1.25	
Total Xylenes*	<0.150	0.150	03/25/2014	ND	6.48	108	6.00	0.484	
Total BTX	<0.300	0.300	03/25/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 106 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10600	16.0	03/25/2014	ND	432	108	400	3.77	

TPH 8015M			mg/kg		Analyzed By: ms				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/24/2014	ND	216	108	200	2.18	
DRO >C10-C28	10.3	10.0	03/24/2014	ND	212	106	200	2.35	

Surrogate: 1-Chlorooctane 71.9 % 65.2-140

Surrogate: 1-Chlorooctadecane 83.9 % 63.6-154

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 LUPE CARRASCO
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 03/19/2014
 Reported: 03/26/2014
 Project Name: BKU SATELLITE E BATTERY
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 03/18/2014
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S2-4' (H400840-04)

BTEX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/25/2014	ND	2.42	121	2.00	1.74	
Toluene*	<0.050	0.050	03/25/2014	ND	2.31	115	2.00	1.57	
Ethylbenzene*	<0.050	0.050	03/25/2014	ND	2.27	113	2.00	1.25	
Total Xylenes*	<0.150	0.150	03/25/2014	ND	6.48	108	6.00	0.484	
Total BTEX	<0.300	0.300	03/25/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 106 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3680	16.0	03/25/2014	ND	432	108	400	3.77	

TPH 8015M			mg/kg		Analyzed By: ms				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/24/2014	ND	216	108	200	2.18	
DRO >C10-C28	<10.0	10.0	03/24/2014	ND	212	106	200	2.35	

Surrogate: 1-Chlorooctane 74.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 85.9 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 LUPE CARRASCO
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 03/19/2014
 Reported: 03/26/2014
 Project Name: BKU SATELLITE E BATTERY
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 03/18/2014
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S3-1' (H400840-05)
BTEX 8021B

mg/kg

Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	03/25/2014	ND	2.42	121	2.00	1.74	
Toluene*	0.485	0.200	03/25/2014	ND	2.31	115	2.00	1.57	
Ethylbenzene*	1.17	0.200	03/25/2014	ND	2.27	113	2.00	1.25	
Total Xylenes*	1.99	0.600	03/25/2014	ND	6.48	108	6.00	0.484	
Total BTEX	3.65	1.20	03/25/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 110 % 89.4-126

Chloride, SM4500Cl-B

mg/kg

Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3600	16.0	03/25/2014	ND	432	108	400	3.77	

TPH 8015M

mg/kg

Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	29.0	10.0	03/24/2014	ND	216	108	200	2.18	
DRO >C10-C28	663	10.0	03/24/2014	ND	212	106	200	2.35	

Surrogate: 1-Chlorooctane 81.0 % 65.2-140

Surrogate: 1-Chlorooctadecane 123 % 63.6-154

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*—Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
LUPE CARRASCO
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/19/2014
Reported: 03/26/2014
Project Name: BKU SATELLITE E BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/18/2014
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S4-1' (H400840-06)

BTX 8021B		mg/kg	Analyzed By: MS					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	2.46	0.200	03/25/2014	ND	2.42	121	2.00	1.74	
Toluene*	21.6	0.200	03/25/2014	ND	2.31	115	2.00	1.57	
Ethylbenzene*	13.8	0.200	03/25/2014	ND	2.27	113	2.00	1.25	
Total Xylenes*	17.4	0.600	03/25/2014	ND	6.48	108	6.00	0.484	
Total BTX	55.2	1.20	03/25/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 143 % 89.4-126

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	03/25/2014	ND	432	108	400	3.77	
TPH 8015M		mg/kg	Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	120	50.0	03/24/2014	ND	216	108	200	2.18	
DRO >C10-C28	299	50.0	03/24/2014	ND	212	106	200	2.35	

Surrogate: 1-Chlorooctane		82.3 %	65.2-140						
Surrogate: 1-Chlorooctadecane		122 %	63.6-154						

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

**101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476**

Company Name: COG Operating LLC				P.O. #:			
Project Manager: Lupe Carrasco				Company: COG Operating LLC			
Address: 2208 West Main				Attn: Robert McNeill			
City: Artesia				Address: 600 W Illinois			
Phone #: (575) 748-6840				City: Midland			
Project #:				State: TX Zip: 79701			
Project Name: BKU Satellite E Battery				Phone #: (432) 221-0388			
Project Location:				Fax #:			
Sampler Name: Lupe Carrasco							

FOR LAB USE ONLY		MATRIX		PRESERV	SAMPLING
Lab I.D.	Sample I.D.	GROUNDWATER	WASTEWATER	SOIL	OIL
		SLUDGE	OTHER :	ACID/BASE:	ICE / COOL
		OTHER :			

	DATE	TIME	BTEX	TPH	Chloride
1	3/18/14		X	X	X
2	3/18/14		X	X	X
3	3/18/14		X	X	X
4	3/18/14		X	X	X
5	3/18/14		X	X	X
6	3/18/14		X	X	X

DISCLAIMER: Liability and Damages. Customer hereby and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. No claims including those for negligence and any other causes whatsoever shall be deemed waived services made by writing and received by Customer within 30 days after completion of the applicable service. In no event shall Customer be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or fees of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Customer, regardless of whether such claim is based upon any of the above stated remedies or otherwise.

Relinquished By: <i>[Signature]</i>		Date: 3/18/14	Received By: <i>[Signature]</i>
Relinquished By: <i>[Signature]</i>		Date: 3/18/14	Received By: <i>[Signature]</i>

Delivered By: (Circle One) Sampler - UPS Bus Other:	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: <i>[Signature]</i>
---	--	---------------------------------------

Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #:
---	---

REMARKS: GCarrasco@concho.com



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

April 25, 2014

LUPE CARRASCO

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: BKU #232 (BKU SATELLITE E BATTERY)

Enclosed are the results of analyses for samples received by the laboratory on 04/16/14 12:11.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
LUPE CARRASCO
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	04/16/2014	Sampling Date:	04/15/2014
Reported:	04/25/2014	Sampling Type:	Soil
Project Name:	BKU #232 (BKU SATELLITE E BATTERY)	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S5-2' (H401147-01)

Chloride, SM4500CI-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1680	16.0	04/17/2014	ND	416	104	400	3.77	

Sample ID: S5-4' (H401147-02)

Chloride, SM4500CI-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	720	16.0	04/17/2014	ND	416	104	400	3.77	

Sample ID: S5-6' (H401147-03)

Chloride, SM4500CI-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1340	16.0	04/17/2014	ND	416	104	400	3.77	

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*=Accredited Analyte

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Celest D. Keene, Lab Director/Quality Manager

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

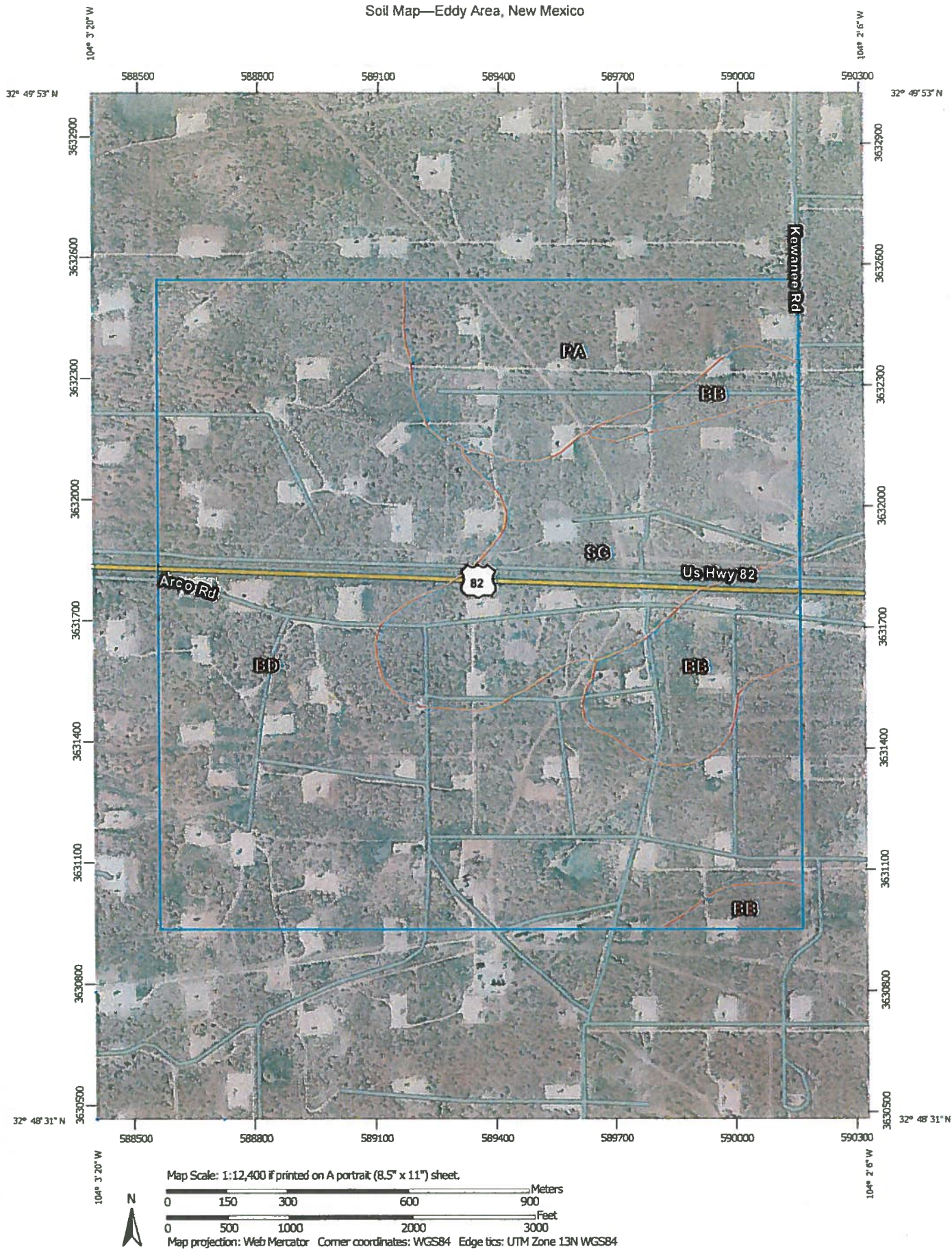


01 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

Soil Map—Eddy Area, New Mexico



Map Unit Legend

Eddy Area, New Mexico (NM614)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BB	Berino complex, 0 to 3 percent slopes, eroded	60.3	9.4%
BD	Berino-Dune land complex, 0 to 3 percent slopes	386.9	60.5%
PA	Pajarito loamy fine sand, 0 to 3 percent slopes, eroded	79.3	12.4%
SG	Simona gravelly fine sandy loam, 0 to 3 percent slopes	112.9	17.7%
Totals for Area of Interest		639.3	100.0%



Eddy Area, New Mexico

BD—Berino-Dune land complex, 0 to 3 percent slopes

Map Unit Setting

Elevation: 3,000 to 5,000 feet

Mean annual precipitation: 8 to 15 inches

Mean annual air temperature: 60 to 64 degrees F

Frost-free period: 190 to 220 days

Map Unit Composition

Berino and similar soils: 45 percent

Dune land: 40 percent

Description of Berino

Setting

Landform: Plains, fan piedmonts

Landform position (three-dimensional): Riser

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Mixed alluvium and/or eolian sands

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water

(Ksat): Moderately high to high (0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 40 percent

Maximum salinity: Nonsaline to very slightly saline (2.0 to 4.0 mmhos/cm)

Sodium adsorption ratio, maximum: 1.0

Available water capacity: Moderate (about 7.7 inches)

Interpretive groups

Farmland classification: Not prime farmland

Land capability classification (irrigated): 3e

Land capability (nonirrigated): 7e

Hydrologic Soil Group: B

Ecological site: Loamy (R042XC007NM)

Typical profile

0 to 17 inches: Fine sandy loam

17 to 50 inches: Sandy clay loam

50 to 60 inches: Loamy sand