



Robert Grubbs
Senior Environmental Coordinator

July 22, 2016

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

Re: THO State #1
30-015-34515
Sec. 34, T17S-R28E
Eddy County, NM

Ms. Heather Patterson,

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 January 5, 2016.

Background

The release was caused by a tank overflow during a storm that prevented accessibility to the location. Once roads were passable, vacuum trucks were dispatched to recover the standing fluid of which 18 barrels of the 20 barrels of oil released were recovered. The initial cleanup consisted of a 6" excavation within the unlined facility.

Groundwater

Base on the information obtained from of the Chevron-Texaco maps, the release area would be classified at a site ranking of **Zero** with depth to groundwater at greater than 100' (Sec. 34, T17-R28E).

Soil Assessment and Analytical Results

Sample points for the release area are denoted as an S on the attached site diagram and on the sample result summary table. The points chosen for sampling were based on the associated safety hazards within the facility and in the pasture. BTEX and TPH results are elevated at varying depths for all sample points and will be excavated as described in the work plan section. The analytical results are summarized on the attached site diagram. A copy of the analytical results is attached for your consideration.

Work Plan

COG Operating LLC proposes the following excavations for each sample point:

- S1-** Excavate to a depth of 6'.
- S2-** Excavate to a depth of 1.5'
- S3-** Excavate to a depth of 3.5', depending on samples taken at time of excavation. The area will be further delineated during excavation and submitted to the NMOCD during closure of the release. If sample results prove to be high during excavation, the area will be excavated to the depth at which sample results fall within RRAL's for a site ranking of Zero.
- S4-** The area will be excavated to a depth of 6" to remove any staining.
- S5-** The area will be excavated to a depth of 1.5'. The area had been excavated to a depth of 6" during the initial scrape. This would bring the total excavation to a depth of 2'.
- S6-** The area will be excavated to a depth of 1'. The area had been excavated to a depth of 6" during the initial scrape. This would bring the total excavation to a depth of 1.5'.

If there are no objections or further stipulations, COG Operating LLC would like to continue the remediation process based on approval of this work plan. Please feel free to contact me with any questions or concerns at (432) 683-7443.

Sincerely,



Robert Grubbs
Senior Environmental Coordinator

Enclosure(s): Site Diagram
Sample Summary Table
Analytical Results
C-141 Initial (Copy)

Sec. 34, T17S-R28ERelease: 20 B/O
Recovered: 18 B/O

S1	BTEX	GRO	DRO	TPH
1'	685	4390	7500	11890
2'	461	3060	5290	8350
3'	461	3940	7650	11590
4'	559	3260	5410	8670
6'	29.8	347	996	1343
8'	ND	ND	ND	ND
10'	ND	ND	ND	ND
12'	ND	ND	ND	ND
S2	BTEX	GRO	DRO	TPH
1'	52	433	1300	1733
3'	ND	ND	ND	ND
5'	ND	ND	ND	ND
7'	ND	ND	ND	ND
9'	ND	ND	ND	ND
S3	BTEX	GRO	DRO	TPH
1'	185	1520	3130	4650
2'	49.1	131	429	560
3'	193	1480	3770	5250
S4	BTEX	GRO	DRO	TPH
1'	1.12	10.6	94.7	105.3
2'	ND	ND	ND	ND
3'	ND	ND	11	11
4'	ND	ND	12.9	12.9
5'	ND	ND	ND	ND
S5	BTEX	GRO	DRO	TPH
1'	349	2830	8580	11410
2'	ND	233	1300	1533
S6	BTEX	GRO	DRO	TPH
1'	79.1	782	2870	3652
2'	ND	ND	10.6	10.6
3'	0.521	ND	85.3	85.3
4'	1.45	32.7	250	282.7
5'	0.736	28.5	332	360.5



March 15, 2016

DAKOTA NEEL

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: THO STATE OIL BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 03/09/16 11:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-15-7. 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/ga/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
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/07/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S1 - 1' (H600513-01)

BTEX 8021B		mg/kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	53.4	2.00	03/11/2016	ND	1.75	87.7	2.00	10.6	
Toluene*	299	2.00	03/11/2016	ND	1.79	89.7	2.00	7.59	
Ethylbenzene*	133	2.00	03/11/2016	ND	1.62	80.8	2.00	8.89	
Total Xylenes*	199	6.00	03/11/2016	ND	4.99	83.2	6.00	9.98	
Total BTEX	685	12.0	03/11/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 105 % 73.6-140

TPH 8015M		mg/kg	Analyzed By: MS					S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	4390	50.0	03/10/2016	ND	190	94.9	200	8.64	
DRO >C10-C28	7500	50.0	03/10/2016	ND	186	93.2	200	12.1	

Surrogate: 1-Chlorooctane 167 % 35-147

Surrogate: 1-Chlorooctadecane 188 % 28-171

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/07/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S1 - 2' (H600513-02)

BTEX 8021B		mg/kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	28.8	2.00	03/11/2016	ND	1.75	87.7	2.00	10.6	
Toluene*	195	2.00	03/11/2016	ND	1.79	89.7	2.00	7.59	
Ethylbenzene*	94.3	2.00	03/11/2016	ND	1.62	80.8	2.00	8.89	
Total Xylenes*	144	6.00	03/11/2016	ND	4.99	83.2	6.00	9.98	
Total BTEX	461	12.0	03/11/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 106 % 73 6-140

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	3060	50.0	03/10/2016	ND	190	94.9	200	8.64	
DRO >C10-C28	5290	50.0	03/10/2016	ND	186	93.2	200	12.1	

Surrogate: 1-Chlorooctane 147 % 35-147

Surrogate: 1-Chlorooctadecane 152 % 28-171

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/07/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S1 - 3' (H600513-03)

BTEX 8021B		mg/kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	22.9	2.00	03/11/2016	ND	1.75	87.7	2.00	10.6	
Toluene*	193	2.00	03/11/2016	ND	1.79	89.7	2.00	7.59	
Ethylbenzene*	100	2.00	03/11/2016	ND	1.62	80.8	2.00	8.89	
Total Xylenes*	145	6.00	03/11/2016	ND	4.99	83.2	6.00	9.98	
Total BTEX	461	12.0	03/11/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 105 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	3940	50.0	03/11/2016	ND	193	96.5	200	0.498	
DRO >C10-C28	7650	50.0	03/11/2016	ND	195	97.5	200	3.86	

Surrogate: 1-Chlorooctane 165 % 35-147

Surrogate: 1-Chlorooctadecane 173 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/07/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S1 - 4' (H600513-04)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	36.5	2.00	03/11/2016	ND	1.75	87.7	2.00	10.6	
Toluene*	239	2.00	03/11/2016	ND	1.79	89.7	2.00	7.59	
Ethylbenzene*	117	2.00	03/11/2016	ND	1.62	80.8	2.00	8.89	
Total Xylenes*	165	6.00	03/11/2016	ND	4.99	83.2	6.00	9.98	
Total BTEX	559	12.0	03/11/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 103 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	3260	50.0	03/11/2016	ND	193	96.5	200	0.498	
DRO >C10-C28	5410	50.0	03/11/2016	ND	195	97.5	200	3.86	

Surrogate: 1-Chlorooctane 147 % 35-147

Surrogate: 1-Chlorooctadecane 154 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/07/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S1 - 6' (H600513-05)

BTEX 8021B		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.355	0.050	03/10/2016	ND	1.75	87.7	2.00	10.6	
Toluene*	7.99	0.050	03/10/2016	ND	1.79	89.7	2.00	7.59	
Ethylbenzene*	7.98	0.050	03/10/2016	ND	1.62	80.8	2.00	8.89	
Total Xylenes*	13.5	0.150	03/10/2016	ND	4.99	83.2	6.00	9.98	
Total BTEX	29.8	0.300	03/10/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 135 % 73.6-140

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	347	10.0	03/11/2016	ND	193	96.5	200	0.498	
DRO >C10-C28	996	10.0	03/11/2016	ND	195	97.5	200	3.86	

Surrogate: 1-Chlorooctane 111 % 35-147

Surrogate: 1-Chlorooctadecane 105 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 03/09/2016
 Reported: 03/15/2016
 Project Name: THO STATE OIL BATTERY
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 03/07/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S1 - 8' (H600513-06)

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	03/10/2016	ND	1.75	87.7	2.00	10.6	
Toluene*	0.147	0.050	03/10/2016	ND	1.79	89.7	2.00	7.59	
Ethylbenzene*	0.086	0.050	03/10/2016	ND	1.62	80.8	2.00	8.89	
Total Xylenes*	<0.150	0.150	03/10/2016	ND	4.99	83.2	6.00	9.98	
Total BTEX	<0.300	0.300	03/10/2016	ND					

Surrogate 4-Bromofluorobenzene (PIC) 105 % 73.6-140

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	03/11/2016	ND	193	96.5	200	0.498	
DRO >C10-C28	<10.0	10.0	03/11/2016	ND	195	97.5	200	3.86	

Surrogate 1-Chlorooctane 84.3 % 35-147

Surrogate 1-Chlorooctadecane 91.9 % 28-171

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 03/09/2016
 Reported: 03/15/2016
 Project Name: THO STATE OIL BATTERY
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 03/07/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S1 - 10' (H600513-07)

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	03/10/2016	ND	1.75	87.7	2.00	10.6	
Toluene*	<0.050	0.050	03/10/2016	ND	1.79	89.7	2.00	7.59	
Ethylbenzene*	<0.050	0.050	03/10/2016	ND	1.62	80.8	2.00	8.89	
Total Xylenes*	<0.150	0.150	03/10/2016	ND	4.99	83.2	6.00	9.98	
Total BTEX	<0.300	0.300	03/10/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 104 % 73 6-140

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	03/11/2016	ND	193	96.5	200	0.498	
DRO >C10-C28	<10.0	10.0	03/11/2016	ND	195	97.5	200	3.86	

Surrogate: 1-Chlorooctane 90.3 % 35-147

Surrogate: 1-Chlorooctadecane 98.7 % 28-171

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/07/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S1 - 12' (H600513-08)

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	03/10/2016	ND	1.75	87.7	2.00	10.6	
Toluene*	<0.050	0.050	03/10/2016	ND	1.79	89.7	2.00	7.59	
Ethylbenzene*	<0.050	0.050	03/10/2016	ND	1.62	80.8	2.00	8.89	
Total Xylenes*	<0.150	0.150	03/10/2016	ND	4.99	83.2	6.00	9.98	
Total BTEX	<0.300	0.300	03/10/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 102 % 73.6-140

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	03/11/2016	ND	193	96.5	200	0.498	
DRO >C10-C28	<10.0	10.0	03/11/2016	ND	195	97.5	200	3.86	

Surrogate: 1-Chlorooctane 69.7 % 35-147

Surrogate: 1-Chlorooctadecane 74.8 % 28-171

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/07/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S2 - 1' (H600513-09)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.860	0.200	03/11/2016	ND	1.75	87.7	2.00	10.6	
Toluene*	13.7	0.200	03/11/2016	ND	1.79	89.7	2.00	7.59	
Ethylbenzene*	19.8	0.200	03/11/2016	ND	1.62	80.8	2.00	8.89	
Total Xylenes*	17.6	0.600	03/11/2016	ND	4.99	83.2	6.00	9.98	
Total BTEX	52.0	1.20	03/11/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 116 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	433	10.0	03/11/2016	ND	193	96.5	200	0.498	
DRO >C10-C28	1300	10.0	03/11/2016	ND	195	97.5	200	3.86	

Surrogate: 1-Chlorooctane 121 % 35-147

Surrogate: 1-Chlorooctadecane 107 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/07/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S2 - 3' (H600513-10)

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	03/10/2016	ND	1.75	87.7	2.00	10.6	
Toluene*	0.131	0.050	03/10/2016	ND	1.79	89.7	2.00	7.59	
Ethylbenzene*	0.115	0.050	03/10/2016	ND	1.62	80.8	2.00	8.89	
Total Xylenes*	<0.150	0.150	03/10/2016	ND	4.99	83.2	6.00	9.98	
Total BTEX	<0.300	0.300	03/10/2016	ND					

Surrogate 4-Bromofluorobenzene (PIC) 102 % 73.6-140

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	03/11/2016	ND	193	96.5	200	0.498	
DRO >C10-C28	<10.0	10.0	03/11/2016	ND	195	97.5	200	3.86	

Surrogate 1-Chlorooctane 86.2 % 35-147

Surrogate 1-Chlorooctadecane 93.9 % 28-171

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Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/07/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S2 - 5' (H600513-11)

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	03/10/2016	ND	1.75	87.7	2.00	10.6	
Toluene*	<0.050	0.050	03/10/2016	ND	1.79	89.7	2.00	7.59	
Ethylbenzene*	<0.050	0.050	03/10/2016	ND	1.62	80.8	2.00	8.89	
Total Xylenes*	<0.150	0.150	03/10/2016	ND	4.99	83.2	6.00	9.98	
Total BTEX	<0.300	0.300	03/10/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 106 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/11/2016	ND	179	89.3	200	1.13	
DRO >C10-C28	<10.0	10.0	03/11/2016	ND	182	90.8	200	2.59	

Surrogate: 1-Chlorooctane 88.7 % 35-147

Surrogate: 1-Chlorooctadecane 99.1 % 28-171

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Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/07/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S2 - 7' (H600513-12)

BTEX 80218		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/14/2016	ND	1.92	96.1	2.00	3.74	
Toluene*	<0.050	0.050	03/14/2016	ND	1.87	93.7	2.00	3.94	
Ethylbenzene*	<0.050	0.050	03/14/2016	ND	1.70	85.0	2.00	3.65	
Total Xylenes*	<0.150	0.150	03/14/2016	ND	5.30	88.4	6.00	4.18	
Total BTEX	<0.300	0.300	03/14/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 99.9 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/11/2016	ND	179	89.3	200	1.13	
DRO >C10-C28	<10.0	10.0	03/11/2016	ND	182	90.8	200	2.59	

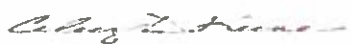
Surrogate: 1-Chlorooctane 86.2 % 35-147

Surrogate: 1-Chlorooctadecane 94.8 % 28-171

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Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/07/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S2 - 9' (H600513-13)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/14/2016	ND	1.92	96.1	2.00	3.74	
Toluene*	<0.050	0.050	03/14/2016	ND	1.87	93.7	2.00	3.94	
Ethylbenzene*	<0.050	0.050	03/14/2016	ND	1.70	85.0	2.00	3.65	
Total Xylenes*	<0.150	0.150	03/14/2016	ND	5.30	88.4	6.00	4.18	
Total BTEX	<0.300	0.300	03/14/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 99.9 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/11/2016	ND	179	89.3	200	1.13	
DRO >C10-C28	<10.0	10.0	03/11/2016	ND	182	90.8	200	2.59	

Surrogate: 1-Chlorooctane 80.2 % 35-147

Surrogate: 1-Chlorooctadecane 87.7 % 28-171

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Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/04/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S3 - 1' (H600513-14)

BTEX 8021B		mg/kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	3.52	1.00	03/14/2016	ND	1.92	96.1	2.00	3.74	
Toluene*	65.7	1.00	03/14/2016	ND	1.87	93.7	2.00	3.94	
Ethylbenzene*	47.2	1.00	03/14/2016	ND	1.70	85.0	2.00	3.65	
Total Xylenes*	68.3	3.00	03/14/2016	ND	5.30	88.4	6.00	4.18	
Total BTEX	185	6.00	03/14/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 104 % 73.6-140

TPH 8015M		mg/kg	Analyzed By: CK					S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	1520	50.0	03/11/2016	ND	179	89.3	200	1.13	
DRO >C10-C28	3130	50.0	03/11/2016	ND	182	90.8	200	2.59	

Surrogate: 1-Chlorooctane 170 % 35-147

Surrogate: 1-Chlorooctadecane 134 % 28-171

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Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/04/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S3 - 2' (H600513-15)

BTEX 8021B		mg/kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.521	0.050	03/14/2016	ND	1.92	96.1	2.00	3.74	
Toluene*	14.6	0.050	03/14/2016	ND	1.87	93.7	2.00	3.94	
Ethylbenzene*	12.5	0.050	03/14/2016	ND	1.70	85.0	2.00	3.65	
Total Xylenes*	21.5	0.150	03/14/2016	ND	5.30	88.4	6.00	4.18	
Total BTEX	49.1	0.300	03/14/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 132 % 73.6-140

TPH 8015M		mg/kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	131	10.0	03/11/2016	ND	179	89.3	200	1.13	
DRO >C10-C28	429	10.0	03/11/2016	ND	182	90.8	200	2.59	

Surrogate: 1-Chlorooctane 99.3 % 35-147

Surrogate: 1-Chlorooctadecane 101 % 28-171

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Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/04/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S3 - 3' (H600513-16)

BTEX 8021B		mg/kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	3.90	1.00	03/14/2016	ND	1.92	96.1	2.00	3.74	
Toluene*	68.7	1.00	03/14/2016	ND	1.87	93.7	2.00	3.94	
Ethylbenzene*	57.1	1.00	03/14/2016	ND	1.70	85.0	2.00	3.65	
Total Xylenes*	63.5	3.00	03/14/2016	ND	5.30	88.4	6.00	4.18	
Total BTEX	193	6.00	03/14/2016	ND					

Surrogate 4-Bromofluorobenzene (PIE) 104 % 73.6-140

TPH 8015M		mg/kg	Analyzed By: CK					S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	1480	50.0	03/11/2016	ND	179	89.3	200	1.13	
DRO >C10-C28	3770	50.0	03/11/2016	ND	182	90.8	200	2.59	

Surrogate 1-Chlorooctane 175 % 35-147

Surrogate 1-Chlorooctadecane 140 % 28-171

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Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/07/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S4 - 1' (H600513-17)

BTEX 8021B		mg/kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/14/2016	ND	1.92	96.1	2.00	3.74	
Toluene*	0.295	0.050	03/14/2016	ND	1.87	93.7	2.00	3.94	
Ethylbenzene*	0.215	0.050	03/14/2016	ND	1.70	85.0	2.00	3.65	
Total Xylenes*	0.614	0.150	03/14/2016	ND	5.30	88.4	6.00	4.18	
Total BTEX	1.12	0.300	03/14/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 101 % 73.6-140

TPH 8015M		mg/kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	10.6	10.0	03/11/2016	ND	179	89.3	200	1.13	
DRO >C10-C28	94.7	10.0	03/11/2016	ND	182	90.8	200	2.59	

Surrogate: 1-Chlorooctane 92.5 % 35-147

Surrogate: 1-Chlorooctadecane 102 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/07/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S4 - 2' (H600513-18)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/14/2016	ND	1.92	96.1	2.00	3.74	
Toluene*	<0.050	0.050	03/14/2016	ND	1.87	93.7	2.00	3.94	
Ethylbenzene*	<0.050	0.050	03/14/2016	ND	1.70	85.0	2.00	3.65	
Total Xylenes*	<0.150	0.150	03/14/2016	ND	5.30	88.4	6.00	4.18	
Total BTEX	<0.300	0.300	03/14/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 99.9 % 73 6-140

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/11/2016	ND	179	89.3	200	1.13	
DRO >C10-C28	<10.0	10.0	03/11/2016	ND	182	90.8	200	2.59	

Surrogate: 1-Chlorooctane 93.6 % 35-147

Surrogate: 1-Chlorooctadecane 105 % 28-171

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Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/07/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S4 - 3' (H600513-19)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/14/2016	ND	1.92	96.1	2.00	3.74	
Toluene*	<0.050	0.050	03/14/2016	ND	1.87	93.7	2.00	3.94	
Ethylbenzene*	<0.050	0.050	03/14/2016	ND	1.70	85.0	2.00	3.65	
Total Xylenes*	<0.150	0.150	03/14/2016	ND	5.30	88.4	6.00	4.18	
Total BTEX	<0.300	0.300	03/14/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 98.7 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/11/2016	ND	179	89.3	200	1.13	
DRO >C10-C28	11.0	10.0	03/11/2016	ND	182	90.8	200	2.59	

Surrogate: 1-Chlorooctane 88.1 % 35-147

Surrogate: 1-Chlorooctadecane 95.9 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 03/09/2016
 Reported: 03/15/2016
 Project Name: THO STATE OIL BATTERY
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 03/07/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S4 - 4' (H600513-20)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/14/2016	ND	1.92	96.1	2.00	3.74	
Toluene*	<0.050	0.050	03/14/2016	ND	1.87	93.7	2.00	3.94	
Ethylbenzene*	<0.050	0.050	03/14/2016	ND	1.70	85.0	2.00	3.65	
Total Xylenes*	<0.150	0.150	03/14/2016	ND	5.30	88.4	6.00	4.18	
Total BTEX	<0.300	0.300	03/14/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 99.2 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/11/2016	ND	179	89.3	200	1.13	
DRO >C10-C28	12.9	10.0	03/11/2016	ND	182	90.8	200	2.59	

Surrogate: 1-Chlorooctane 92.3 % 35-147

Surrogate: 1-Chlorooctadecane 94.9 % 28-171

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Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/07/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S4 - 5' (H600513-21)

BTEX 8021B		mg/kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/14/2016	ND	1.92	96.1	2.00	3.74	
Toluene*	<0.050	0.050	03/14/2016	ND	1.87	93.7	2.00	3.94	
Ethylbenzene*	<0.050	0.050	03/14/2016	ND	1.70	85.0	2.00	3.65	
Total Xylenes*	<0.150	0.150	03/14/2016	ND	5.30	88.4	6.00	4.18	
Total BTEX	<0.300	0.300	03/14/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 100 % 73.6-140

TPH 8015M		mg/kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/11/2016	ND	179	89.3	200	1.13	
DRO >C10-C28	<10.0	10.0	03/11/2016	ND	182	90.8	200	2.59	

Surrogate: 1-Chlorooctane 93.4 % 35-147

Surrogate: 1-Chlorooctadecane 106 % 28-171

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Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/07/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S5 - 1' (H600513-22)

BTEX 8021B		mg/kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	4.83	2.00	03/14/2016	ND	1.92	96.1	2.00	3.74	
Toluene*	112	2.00	03/14/2016	ND	1.87	93.7	2.00	3.94	
Ethylbenzene*	89.1	2.00	03/14/2016	ND	1.70	85.0	2.00	3.65	
Total Xylenes*	142	6.00	03/14/2016	ND	5.30	88.4	6.00	4.18	
Total BTEX	349	12.0	03/14/2016	ND					

Surrogate 4-Bromofluorobenzene (PIC) 103 % 73 6-140

TPH 8015M		mg/kg		Analyzed By: CK				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	2830	100	03/11/2016	ND	179	89.3	200	1.13	
DRO >C10-C28	8580	100	03/11/2016	ND	182	90.8	200	2.59	

Surrogate 1-Chlorooctane 172 % 35-147

Surrogate 1-Chlorooctadecane 196 % 28-171

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Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/07/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S5 - 2' (H600513-23)

BTEX 8021B		mg/kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	03/14/2016	ND	1.92	96.1	2.00	3.74	
Toluene*	<0.200	0.200	03/14/2016	ND	1.87	93.7	2.00	3.94	
Ethylbenzene*	0.319	0.200	03/14/2016	ND	1.70	85.0	2.00	3.65	
Total Xylenes*	<0.600	0.600	03/14/2016	ND	5.30	88.4	6.00	4.18	
Total BTEX	<1.20	1.20	03/14/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 98.8 % 73.6-140

TPH 8015M		mg/kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	233	10.0	03/11/2016	ND	179	89.3	200	1.13	
DRO >C10-C28	1300	10.0	03/11/2016	ND	182	90.8	200	2.59	

Surrogate: 1-Chlorooctane 120 % 35-147

Surrogate: 1-Chlorooctadecane 114 % 28-171

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Analytical Results For:

 COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 03/09/2016
 Reported: 03/15/2016
 Project Name: THO STATE OIL BATTERY
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 03/07/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S6 - 1' (H600513-24)

BTEX 8021B		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.500	0.500	03/14/2016	ND	2.03	101	2.00	2.02	
Toluene*	18.2	0.500	03/14/2016	ND	1.98	99.0	2.00	2.28	
Ethylbenzene*	21.8	0.500	03/14/2016	ND	1.82	91.0	2.00	1.48	
Total Xylenes*	39.1	1.50	03/14/2016	ND	5.59	93.2	6.00	2.13	
Total BTEX	79.1	3.00	03/14/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 109 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: CK				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	782	50.0	03/11/2016	ND	179	89.3	200	1.13	
DRO >C10-C28	2870	50.0	03/11/2016	ND	182	90.8	200	2.59	

Surrogate: 1-Chlorooctane 156 % 35-147

Surrogate: 1-Chlorooctadecane 138 % 28-171

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Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/07/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S6 - 2' (H600513-25)

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	03/14/2016	ND	2.03	101	2.00	2.02	
Toluene*	<0.050	0.050	03/14/2016	ND	1.98	99.0	2.00	2.28	
Ethylbenzene*	<0.050	0.050	03/14/2016	ND	1.82	91.0	2.00	1.48	
Total Xylenes*	<0.150	0.150	03/14/2016	ND	5.59	93.2	6.00	2.13	
Total BTEX	<0.300	0.300	03/14/2016	ND					

Surrogate 4-Bromofluorobenzene (PIE) 99.3 % 73.6-140

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/11/2016	ND	179	89.3	200	1.13	
DRO >C10-C28	10.6	10.0	03/11/2016	ND	182	90.8	200	2.59	

Surrogate 1-Chlorooctane 99.4 % 35-147

Surrogate 1-Chlorooctadecane 109 % 28-171

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Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/07/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S6 - 3' (H600513-26)

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	03/14/2016	ND	2.03	101	2.00	2.02	
Toluene*	<0.050	0.050	03/14/2016	ND	1.98	99.0	2.00	2.28	
Ethylbenzene*	0.131	0.050	03/14/2016	ND	1.82	91.0	2.00	1.48	
Total Xylenes*	0.391	0.150	03/14/2016	ND	5.59	93.2	6.00	2.13	
Total BTEX	0.521	0.300	03/14/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 101 % 73.6-140

TPH 8015M		mg/kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/11/2016	ND	179	89.3	200	1.13	
DRO >C10-C28	85.3	10.0	03/11/2016	ND	182	90.8	200	2.59	

Surrogate: 1-Chlorooctane 101 % 35-147

Surrogate: 1-Chlorooctadecane 112 % 28-171

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Analytical Results For:

 COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 03/09/2016
 Reported: 03/15/2016
 Project Name: THO STATE OIL BATTERY
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

 Sampling Date: 03/07/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S6 - 4' (H600513-27)

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	03/14/2016	ND	2.03	101	2.00	2.02	
Toluene*	<0.050	0.050	03/14/2016	ND	1.98	99.0	2.00	2.28	
Ethylbenzene*	0.249	0.050	03/14/2016	ND	1.82	91.0	2.00	1.48	
Total Xylenes*	1.20	0.150	03/14/2016	ND	5.59	93.2	6.00	2.13	
Total BTEX	1.45	0.300	03/14/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 106 % 73.6-140

TPH 8015M		mg/kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	32.7	10.0	03/11/2016	ND	179	89.3	200	1.13	
DRO >C10-C28	250	10.0	03/11/2016	ND	182	90.8	200	2.59	

Surrogate: 1-Chlorooctane 105 % 35-147

Surrogate: 1-Chlorooctadecane 108 % 28-171

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Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 03/09/2016
Reported: 03/15/2016
Project Name: THO STATE OIL BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 03/07/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S6 - 5' (H600513-28)

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	03/14/2016	ND	2.03	101	2.00	2.02	
Toluene*	<0.050	0.050	03/14/2016	ND	1.98	99.0	2.00	2.28	
Ethylbenzene*	0.165	0.050	03/14/2016	ND	1.82	91.0	2.00	1.48	
Total Xylenes*	0.571	0.150	03/14/2016	ND	5.59	93.2	6.00	2.13	
Total BTEX	0.736	0.300	03/14/2016	ND					

Surrogate 4-Bromofluorobenzene (PIE) 103 % 73.6-140

TPH 8015M		mg/kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	28.5	10.0	03/11/2016	ND	179	89.3	200	1.13	
DRO >C10-C28	332	10.0	03/11/2016	ND	182	90.8	200	2.59	

Surrogate 1-Chlorooctane 90.5 % 35-147

Surrogate 1-Chlorooctadecane 104 % 28-171

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Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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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(575) 393-2326 FAX (575) 393-2476

Page 32 of 36



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: COG Operating LLC

Project Manager: Dakota Neel

Address: 2208 West Main

City: Artesia

Phone #: (575) 748-6930

Project #: Project Owner:

Project Name: THO State Oil Battery

Project Location:

Sampler Name: Dakota Neel

FOR LAB USE ONLY

BILL TO

P.O. #:

Company: COG Operating LLC

Attn: Robert McNeill

Address: 600 W Illinois

City: Midland

State: TX Zip: 79701

Phone #: (432) 221-0388

Fax #:

ANALYSIS REQUEST

Lab I.D.	Sample I.D.	MATRIX	PRESERV	SAMPLING	ANALYSIS REQUEST													
					BTEX	TPH	Chloride											
13	SS-1	SOIL		3/4/16 10:00 AM	X	X												
14	SS-2	SOIL		3/4/16 10:00 AM	X	X												
15	SS-2	SOIL		3/4/16 10:00 AM	X	X												
16	SS-3	SOIL		3/4/16 10:00 AM	X	X												

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

Relinquished By: DAKOTA NEEL
Date: 3/9/2016

Relinquished By: [Signature]
Date: 11:30

Delivered By: (Circle One)
Sampled By: R. Pys - Other: [Signature]

Sample Condition: Cool Intact
Yes [X] No []

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:

REMARKS: dneel2@concho.com

icarrasco@concho.com

atrujillo@concho.com



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† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476



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

Page 35 of 36



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: COG Operating LLC

Project Manager: Dakota Neel

Address: 2208 West Main

City: Artesia

Phone #: (575) 748-6930

Project #:

Project Name: THO State Oil Battery

Project Location:

Sampler Name: Dakota Neel

FOR LAB USE ONLY

P.O. #:

Company: COG Operating LLC

Attn: Robert McNeill

Address: 600 W Illinois

City: Midland

State: TX Zip: 79701

Phone #: (432) 221-0386

Fax #:

BILL TO

ANALYSIS REQUEST

Lab I.D.

Sample I.D.

11000513
24
25
26
27
28

SG-1'
SG-2'
SG-3'
SG-4'
SG-5'

(G)RAB OR (C)OMP

CONTAINERS

GROUNDWATER
WASTEWATER

SOIL

OIL

SLUDGE

OTHER

ACID/BASE

ICE / COOL

OTHER

MATRIX

PRESERV

SAMPLING

DATE TIME

BTEX

TPH

Chloride

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

Relinquished By: DAKOTA NEEL

Date: 3/9/2016

Received By:

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:

Relinquished By:

Date:

Received By:

Time:

Remarks: dneel2@concho.com
lcarrasco@concho.com
atrujillo@concho.com

Delivered By: (Circle One)

Sample RAB R Bus - Other:

Sample Condition

CHECKED BY:

Cool Intact
Lives LIVES
No No

+ Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., 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 August 8, 2011

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: COG Operating LLC	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-230-0077
Facility Name: T H O STATE #001	Facility Type: Battery

Surface Owner: Fee	Mineral Owner: State	API No. 30-015-34515
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LOCATION OF RELEASE

Unit Letter E	Section 34	Township 17S	Range 28E	Feet from the 2310	North/South Line North	Feet from the 990	East/West Line West	County Eddy
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Latitude Longitude

NATURE OF RELEASE

Type of Release: Oil	Volume of Release: 20 bbls Oil	Volume Recovered: 18 bbls Oil
Source of Release: Tank Over flow	Date and Hour of Occurrence: 1/5/2016 2:00 pm	Date and Hour of Discovery: 1/5/2016 2:00 pm
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
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.*

This release was caused by a tank overflowed during a storm that caused accessibility to be limited. Vacuum trucks were dispatched to recover all standing fluid.

Describe Area Affected and Cleanup Action Taken.*

This release occurred within the earthen containment. Concho will have the spill site sampled to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation work.

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: 		<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Robert McNeill		Approved by Environmental Specialist:	
Title: Environmental Manager		Approval Date:	Expiration Date:
E-mail Address: rmcneill@concho.com		Conditions of Approval:	
Date: January 19, 2016 Phone: 432-230-0077		Attached <input type="checkbox"/>	

* Attach Additional Sheets If Necessary