



Dakota Neel
Environmental Coordinator

March 31, 2017

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

Re: White Star Federal Tank Battery
Sec. 29, 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 September 21, 2016.

Background

This release was caused by a corroded connection between the tank and sight glass. Upon discovery, the corroded connection was repaired and a vac truck was dispatched to recover standing fluid. The release remained within the unlined facility.

Groundwater

Based on the information obtained through the use of the Chevron-Texaco Maps, the release area would be classified at a site ranking of **Zero** with depth to groundwater at greater than 150'.

Soil Assessment and Analytical Results

The sample points for the release are labeled as T1 and AH1 on the attached Site Diagram. According to the analytical results obtained, T1 and AH1 had elevated concentrations of chloride to a depth of 2' with delineation showing a decrease in concentration. Copies of the analytical results along with a site diagram and sample summary table are attached for your consideration.

White Star Federal Tank Battery			
Site Ranking: Zero			
Depth to GW per SEO: >100			
Delineation Samples 7/8/16		Delineation Samples 11/16/2016	
T1	GI-	AH1	CI-
1'	1150	Surface	608
2'	400	1'	1800
3'	240	2'	3120
4'	352	3'	928
5'	400	4'	832
7'	288	5'	704
8'	256		
10'	272		
12'	64		

Work Plan

COG Operating LLC proposes the following excavations for remediation of the release area:

T1 & AH1– Excavate to a depth of approximately 1'-2' due to the close proximity of the release to equipment and safety concerns.

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 me with any questions or concerns.

Sincerely,



Dakota Neel,

Environmental Coordinator

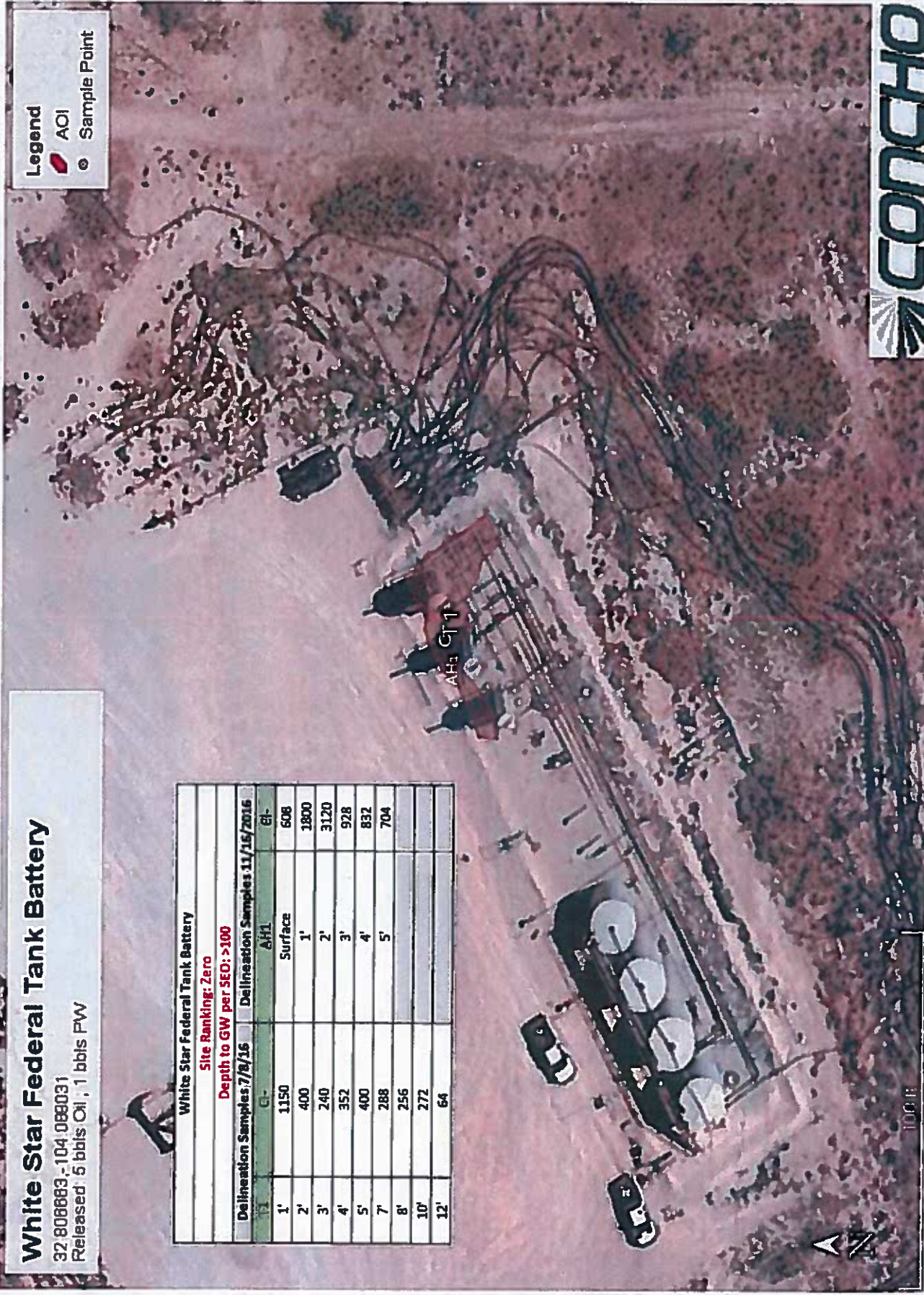
Enclosure(s): Site Diagram
Sample Summary Table
Analytical Results
C-141 Initial (Copy)

White Star Federal Tank Battery

32 808683,-104 088031

Released: 5 bbls Oil; 1 bbls PW

White Star Federal Tank Battery				
Site Ranking: Zero				
Depth to GW per SED: >100				
Delineation Samples 7/8/16		Delineation Samples 11/15/2016		
1'	2'	3'	4'	5'
1'	1150	Surface	608	
2'	400	1'	1800	
3'	240	2'	3120	
4'	352	3'	928	
5'	400	4'	832	
7'	288	5'	704	
8'	256			
10'	272			
12'	64			



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: White Star Federal Tank Battery	Facility Type: Battery

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-29986
------------------------	------------------------	----------------------

LOCATION OF RELEASE

Unit Letter H	Section 29	Township 17S	Range 29E	Feet from the 2150	North/South Line North	Feet from the 330	East/West Line East	County Eddy
------------------	---------------	-----------------	--------------	-----------------------	---------------------------	----------------------	------------------------	----------------

32.8068848,-104.089447

NATURE OF RELEASE

Type of Release: Oil & Produced Water	Volume of Release: 5 bbls oil; 1 bbls pw	Volume Recovered: 4 bbls oil; 0.5 bbls pw
Source of Release: Sight Glass	Date and Hour of Occurrence: 9/14/2016 unknown	Date and Hour of Discovery: 9/14/2016 8:00 a.m.
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.*

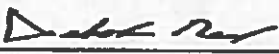
Describe Cause of Problem and Remedial Action Taken.*

This release was caused by a corroded connection between the tank and sight glass. The corroded connection was replaced.

Describe Area Affected and Cleanup Action Taken.*

This release remained on location within the bermed area. Vacuum trucks were immediately dispatched to recover all standing fluid. The contaminated gravel has been removed and replaced with fresh gravel. 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: 	OIL CONSERVATION DIVISION	
Printed Name: Dakota Neel	Approved by Environmental Specialist:	
Title: Environmental Coordinator	Approval Date:	Expiration Date:
E-mail Address: dneel2@concho.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: September 21, 2016	Phone: 575-748-6933	

* Attach Additional Sheets If Necessary



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

January 31, 2017

DAKOTA NEEL

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: WHITE STAR FEDERAL TANK BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 01/25/17 12:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized "C" and "K".

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: 01/25/2017
Reported: 01/31/2017
Project Name: WHITE STAR FEDERAL TANK BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 01/23/2017
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Angela Cabrera

Sample ID: T1 - 1' (H700184-01)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1150	16.0	01/28/2017	ND	432	108	400	3.77	

Sample ID: T1 - 2' (H700184-02)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	01/28/2017	ND	432	108	400	3.77	

Sample ID: T1 - 3' (H700184-03)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	01/28/2017	ND	432	108	400	3.77	

Sample ID: T1 - 4' (H700184-04)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	01/28/2017	ND	432	108	400	3.77	

Cardinal Laboratories

* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for 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 thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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: 01/25/2017
Reported: 01/31/2017
Project Name: WHITE STAR FEDERAL TANK BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 01/23/2017
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Angela Cabrera

Sample ID: T1 - 5' (H700184-05)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	01/28/2017	ND	432	108	400	3.77	

Sample ID: T1 - 7' (H700184-06)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	01/28/2017	ND	432	108	400	3.77	

Sample ID: T1 - 8' (H700184-07)

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	01/28/2017	ND	432	108	400	3.77	

Sample ID: T1 - 10' (H700184-08)

Chloride, SM4500Cl-B			mg/kg Analyzed By: AC							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	01/28/2017	ND	432	108	400	3.77		

Sample ID: T1 - 12' (H700184-09)

Chloride, SM4500Cl-B			mg/kg Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	01/28/2017	ND	432	108	400	3.77	

Cardinal Laboratories

**=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (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 customers arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Remedies apply only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey 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 SM4500C-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

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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 Project Manager: Dakota Noel Address: 2208 West Main City: Arleta State: NM Zip: 88210 Phone #: 432-215-2783 Fax #: Project #: Project Name: White Star Federal Tank Battery Project Location: Sampler Name: <small>FOR LAB USE ONLY</small>										BILL TO P.O. #: Company: COG Operating LLC Attn: Robert McNeil Address: 600 W Elms City: Midland State: TX Zip: 79701 Phone #: (432) 221-0388 Fax #:										ANALYSIS REQUEST																			
Lab I.D. H700194 Sample I.D.										Matrix <input type="checkbox"/> (G)RAB OR (C)OMP <input type="checkbox"/> # CONTAINERS <input type="checkbox"/> GROUNDWATER <input type="checkbox"/> WASTEWATER <input type="checkbox"/> SOIL <input type="checkbox"/> OIL <input type="checkbox"/> BLUDGE <input type="checkbox"/> OTHER <input type="checkbox"/> ACID/BASE <input type="checkbox"/> ICE / COOL <input type="checkbox"/> OTHER										Sampling DATE TIME T1-1' 1/23/17 10:00 AM T1-2' 1/23/17 10:00 AM T1-3' 1/23/17 10:00 AM T1-4' 1/23/17 10:00 AM T1-5' 1/23/17 10:00 AM T1-7' 1/23/17 10:00 AM T1-8' 1/23/17 10:00 AM T1-10' 1/23/17 10:00 AM T1-12' 1/23/17 10:00 AM										Analysis BTEX TPH Chloride									
Rollinquinshed By: [Signature] Date: 12/15 Time:										Rollinquinshed By: [Signature] Date: 12/15 Time:										Rollinquinshed By: [Signature] Date: 12/15 Time:																			
Delivered By: (Circle One) Sample - UPS Bus Other:										Sample Condition Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>										CHECKED BY: (Initials) [Signature] cdk #75																			
Refinquinshed By:										Refinquinshed By:										Refinquinshed By:																			
REMARKS:										REMARKS:										REMARKS:																			



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

December 01, 2016

AARON LIEB

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: WHITE STAR FEDERAL TANK BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 11/30/16 11:34.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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,

A handwritten signature in black ink that reads "Coley D. Keene". The signature is written in a cursive style with a large, stylized 'C' at the beginning.

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 11/30/2016
Reported: 12/01/2016
Project Name: WHITE STAR FEDERAL TANK BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 11/16/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Angela Cabrera

Sample ID: AH 1 • SURFACE (H602672-01)

BTEX 80218			mg/kg							
			Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/30/2016	ND	2.10	105	2.00	1.81		
Toluene*	<0.050	0.050	11/30/2016	ND	2.16	108	2.00	1.71		
Ethylbenzene*	<0.050	0.050	11/30/2016	ND	2.12	106	2.00	1.69		
Total Xylenes*	<0.150	0.150	11/30/2016	ND	6.35	106	6.00	1.68		
Total BTEX	<0.300	0.300	11/30/2016	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 113 % 73.6-140

Chloride, SM4500Cl-B			mg/kg							
			Analyzed By: AC							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	608	16.0	12/01/2016	ND	400	100	400	0.00		
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	11/30/2016	ND	190	95.1	200	6.67		
DRO >C10-C28	360	10.0	11/30/2016	ND	198	99.2	200	11.3	QM-07	

Surrogate: 1-Chlorooctane 80.4 % 35-147

Surrogate: 1-Chlorooctadecane 91.1 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated causes or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 11/30/2016
Reported: 12/01/2016
Project Name: WHITE STAR FEDERAL TANK BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 11/16/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Angela Cabrera

Sample ID: AH 1 @ 1' (H602672-02)

BTX 80218		mg/kg		Analyzed By: M5						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/30/2016	ND	2.10	105	2.00	1.81		
Toluene*	<0.050	0.050	11/30/2016	ND	2.16	108	2.00	1.71		
Ethylbenzene*	<0.050	0.050	11/30/2016	ND	2.12	106	2.00	1.69		
Total Xylenes*	<0.150	0.150	11/30/2016	ND	6.35	106	6.00	1.68		
Total BTX	<0.300	0.300	11/30/2016	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 115 % 73 6-140

Chloride, SM4580C1-B			mg/kg							Analyzed By: AC	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Chloride	1800	16.0	12/01/2016	ND	400	100	400	0.00			

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	11/30/2016	ND	190	95.1	200	6.67			
DRO >C10-C28	<10.0	10.0	11/30/2016	ND	198	99.2	200	11.3			

Surrogate: 1-Chlorooctane 81.7 % 35-147

Surrogate: 1-Chlorooctadecane 68.4 % 28-171

Cardinal Laboratories

**=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence and any other claim whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (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 customers arising out of or related to the performance of the services furnished by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 11/30/2016
Reported: 12/01/2016
Project Name: WHITE STAR FEDERAL TANK BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 11/16/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Angela Cabrera

Sample ID: AH 1 @ 2' (H602672-03)

BTEX #0218		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/30/2016	ND	2.10	105	2.00	1.81	
Toluene*	<0.050	0.050	11/30/2016	ND	2.16	108	2.00	1.71	
Ethylbenzene*	<0.050	0.050	11/30/2016	ND	2.12	106	2.00	1.69	
Total Xylenes*	<0.150	0.150	11/30/2016	ND	6.35	106	6.00	1.68	
Total BTEX	<0.300	0.300	11/30/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 113 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3120	16.0	12/01/2016	ND	400	100	400	0.00	
TPH #015M		mg/kg		Analyzed By: MS					

Surrogate: 1-Chlorooctane 78.1 % 35-147

Surrogate: 1-Chlorooctadecane 62.7 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Coverage. Cardinal's liability and the client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 11/30/2016
Reported: 12/01/2016
Project Name: WHITE STAR FEDERAL TANK BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 11/16/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Angela Cabrera

Sample ID: AH 1 @ 3' (H602672-04)

BTEX 80218		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/30/2016	ND	2.10	105	2.00	1.81	
Toluene*	<0.050	0.050	11/30/2016	ND	2.16	108	2.00	1.71	
Ethylbenzene*	<0.050	0.050	11/30/2016	ND	2.12	106	2.00	1.69	
Total Xylenes*	<0.150	0.150	11/30/2016	ND	6.35	106	6.00	1.68	
Total BTEX	<0.300	0.300	11/30/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 114 % 73 6-140

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	928	16.0	12/01/2016	ND	400	100	400	0.00	
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	11/30/2016	ND	190	95.1	200	6.67	
DRO >C10-C28	<10.0	10.0	11/30/2016	ND	198	99.2	200	11.3	

Surrogate: 1-Chlorooctane 72.0 % 35-147

Surrogate: 1-Chlorooctadecane 55.8 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claims arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 11/30/2016
Reported: 12/01/2016
Project Name: WHITE STAR FEDERAL TANK BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 11/16/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Angela Cabrera

Sample ID: AH 1 @ 4' (H602672-05)

BTEX 80218		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/30/2016	ND	2.10	105	2.00	1.81	
Toluene*	<0.050	0.050	11/30/2016	ND	2.16	108	2.00	1.71	
Ethylbenzene*	<0.050	0.050	11/30/2016	ND	2.12	106	2.00	1.69	
Total Xylenes*	<0.150	0.150	11/30/2016	ND	6.35	106	6.00	1.68	
Total BTEX	<0.300	0.300	11/30/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 114 % 73.6-140

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	832	16.0	12/01/2016	ND	400	100	400	0.00	
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	11/30/2016	ND	190	95.1	200	6.67	
DRO >C10-C28	<10.0	10.0	11/30/2016	ND	198	99.2	200	11.3	

Surrogate: 1-Chlorooctane 76.6 % 35-147

Surrogate: 1-Chlorooctadecane 60.6 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 11/30/2016
Reported: 12/01/2016
Project Name: WHITE STAR FEDERAL TANK BATTERY
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 11/16/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Angela Cabrera

Sample ID: AH 1 @ 5' (H602672-06)

BTEX 80218			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	11/30/2016	ND	2.10	105	2.00	1.81	
Toluene*	<0.050	0.050	11/30/2016	ND	2.16	108	2.00	1.71	
Ethylbenzene*	<0.050	0.050	11/30/2016	ND	2.12	106	2.00	1.69	
Total Xylenes*	<0.150	0.150	11/30/2016	ND	6.35	106	6.00	1.68	
Total BTEX	<0.300	0.300	11/30/2016	ND					

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

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	704	16.0	12/01/2016	ND	400	100	400	0.00	
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	11/30/2016	ND	190	95.1	200	6.67	
DRO >C10-C28	<10.0	10.0	11/30/2016	ND	198	99.2	200	11.3	

Surrogate: 1-Chlorooctane 83.2 % 35-147

Surrogate: 1-Chlorooctadecane 74.2 % 28-171

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

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

Cardinal Laboratories

* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analytes. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated causes or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

