

CORRECTIVE ACTION PLAN FINAL

APACHE CORPORATION
Loco Hills SWD Booster Station
Eddy County, New Mexico
Unit Letter "G", Section 24, Township 17 South, Range 30 East
Latitude 32.82272, Longitude -103.92335
2RP-3460

August 1, 2016

Prepared for:

Apache Corporation 2350 W. Marland Blvd. Hobbs, NM 88240 Attn: **Mr. Bruce Baker**

Prepared by:

Thomas Franklin Jack Zimmerman, PG, CPG Environmental Manager Senior Geologist

American Safety Services, Inc. (ASSI) would like to submit for your consideration the following Corrective Action Plan (CAP) for the Loco Hills SWD Booster Station site. The CAP is in response to the C-141 Initial report dated December 18, 2015.

Background

Due to high winds a 6-inch PVC water boot sheared-off between two 1,000 barrel tanks resulting in a loss of fluid. The power was shut-off to the transfer pump and the two 6-inch valves were closed on the tanks. Subsequently, the original connections to the boot were replaced with metal connections. The majority of the release was contained inside the lined facility. However, the containment was breached on the northwest corner resulting in loss of fluid in the pasture and on the lease pad. A vacuum truck was dispatched to pick-up fluid.

Groundwater

The Site is subject to regulatory oversight by the NMOCD. To address activities related to releases, the NMOCD utilizes the *Guidelines for Remediation of Leaks, Spills and Releases* as guidance to establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.

In accordance with the aforementioned guidance ASSI utilized available resources to determine the appropriate "ranking" for the Site. The ranking and associated scoring are provided in the table below:

Rankir	ıg Criteria		Ranking Score		
	<50 feet	20			
Depth to Groundwater	50 to 99 feet	10	0		
	>100 feet	0			
Wellhead Protection Area, <1,000 feet from a water	Yes	20			
source, or; <200 feet from private domestic water source.	No	0	0		
Distance to Surface Water	<200 feet	20			
Body	200 to 1,000 feet	10	0		
Войу	>1,000 feet	0			
Total Ra	nking Score		0		

Based on ASSI's assessment of the Total Ranking Score, the release area would be classified as having a score of **Zero** with depth to groundwater at greater than 100'. This ranking is based on the following:

- ➤ The depth to the initial groundwater-bearing zone is >100 feet at the Site.
- > There exists no known groundwater.
- ➤ The impacted area is greater than 200 feet from a private domestic water source.
- Distance to the nearest surface water body is greater than 1,000 ft.

Soil Assessment and Analytical Results

For purposes of this CAP the Site will be divided into three areas (i.e., SP-6 through SP-9, SP-8, and SP-10) making evaluation of soil assessment activities and analytical results more straightforward in understanding. Figure 1 is attached showing sample point (s) location.

Sample locations SP-6, SP-7, and SP-9 have no exceedances for TPH and manageable exceedances for Chloride between zero and four (0 to 4') feet below ground surface (bgs). A summary table is below.

Site Ranking: 0							
Depth to G	W: >100'						
SP-6	CI mg/Kg						
Surface	544						
1'	48						
2' 3'	64						
3'	128						
4'	192						
SP-7	CI mg/Kg						
Surface	80						
1'	272						
2'	512						
3'	400						
4'	704						
SP-9	CI mg/Kg						
Surface	240						
1'	112						
2'	192						
3' 4'	288						
4'	416						

At location SP-8 Chloride concentrations were confirmed at each sample depth. Exceedances ranging from 656 to 5600 mg/Kg were confirmed between zero and seven (0 to 7') feet bgs. A sample summary table is below.

Site Ranking: 0							
Depth to G	W: >100'						
SP-8	CI mg/Kg						
Surface	1800						
1'	3760						
2'	3200						
3'	2640						
4'	1330						
5'	1330						
6'	656						
7'	5600						

Sample location SP-10 has exceedances for TPH at the surface to one (0 to 1') foot bgs. However, delineation shows a decrease in concentration below 1' bgs to a depth of 6' bgs. Chloride concentration at the surface show an exceedance but decrease with depth to 4' bgs. Summary tables are below.

Site Ranking: 0							
Depth to G	W: >100'						
SP-10	TPH mg/Kg						
Surface	55,959						
1'	7900						
2'	30						
3'	40.9						
4'	<10						
5'	63						
6'	19.7						

Site Ranking: 0							
Depth to G	W: >100'						
SP-10	CI mg/Kg						
Surface	1260						
1'	144						
2'	64						
3'	48						
4'	144						

Delineation

Apache has requested that a variance be granted due to aboveground and underground safety concerns. Specifically, overhead electric cables, with proximity to location SP-8, pose a safety hazard dealing with equipment access to the location in question. Oilfield utility systems are often run underground; some by the very nature of their function, others for convenience or aesthetics. Safety issues exist concerning buried pipelines and electrical cables which pose hazards while doing intrusive work activities with proximity to sample locations SP-6, SP-7, and SP-9; SP-8 and SP-10.

Safety issues limit the techniques that can be considered to further delineate the Site. Specifically, at locations SP-6, SP-7, and SP-9 the use of a drill rig and backhoe tractor are prohibited due to numerous buried oilfield utility systems. At location SP-8, the same safety issues remain resulting in achieving less than what would normally be expected.

Therefore, Apache requests that a variance, due to safety concerns, both above- and underground be issued by the NMOCD. Apache understands its responsibility for the Site and would like to discuss contingencies that would be acceptable to the NMOCD going forward while at the same time evaluating the safety challenges the Site presents.

Corrective Action Plan

Project Objective

The project objectives are to remediate existing Chloride in soil, with proximity to sample location (SP) SP-8, vertically to four (4') foot bgs and to remediate TPH in soil, and any existing Chloride, at sample location SP-10, vertically to two (2') foot bgs. Supporting documentation (written and photographic) of the activities that will be performed per Apache's request during implementation of the CAP activities at the Site will be archived.

ASSI proposes the following excavations for the remediation at the Site:

- Excavate to a depth of approximately 4' bgs at location SP-8
- Excavate to a depth of approximately 2' bgs at location SP-10

No excavation (i.e., intrusive) work will be completed with proximity to locations SP-6, SP-7 or SP-9 due to safety concerns mentioned above.

Apache recognizes managing safety concerns and limited by Apache's Corporate Safety policy, makes options available in terms of equipment that can be utilized during the remediation activities be constrained. Apache recognizes using a CAT Model 262D Skidsteer Loader machine for the required earth work will not achieve what is normally expected. However, with regard to the top four (4') foot of soil, the Chloride exceedances can be remediated.

All areas excavated will be backfilled with like material. Safety during excavation/construction activities will be made priority for the personnel involved, thus all safety procedures will be followed. All areas affected during excavation/construction activities will be returned to their normal state and will be remediated as necessary.



Figure 1 – Sample point locations.

District 1
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 Fc, NM 87505

State of New Mexico **Energy Minerals and Natural Resources**

Form C-141 Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

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

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Address: 23	350 W Ma	rland Blvd F	łobbs, Ni				o. (432) 631-					
acility Nar	ne Loco H	ills SWD B	ooster Sta	tion		Facility Type: Booster Station						
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Patterson, Heather, EMNRD

From: Baker, Larry < Larry.Baker@apachecorp.com>

Sent: Friday, December 18, 2015 9:16 AM

To: Bratcher, Mike, EMNRD; Patterson, Heather, EMNRD; stucker@blm.gov

Subject: Loco Hills SWD Booster Station

Attachments: Loco Hills SWD Booster Station Initial C-141.pdf

All,

Attached is the initial C-141 for the above referenced site. Please let me know if you have any questions or wish to discuss. Thanks and have a good day.

Bruce Baker Apache Corporation Environmental Technician Northwest District

Email: larry.baker@apachecorp.com

Mobile: 432-631-6982



April 18, 2016

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: LOCO HILLS SWD BOOSTER

Enclosed are the results of analyses for samples received by the laboratory on 03/24/16 15:10.

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 accreditated 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.

Celey D. Keine

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



APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240 Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/18/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 6 (SURFACE) (H600643-01)

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	03/29/2016	ND	2.07	104	2.00	5.25	
Toluene*	0.062	0.050	03/29/2016	ND	1.96	97.8	2.00	7.05	
Ethylbenzene*	<0.050	0.050	03/29/2016	ND	1.72	85.9	2.00	8.63	
Total Xylenes*	<0.150	0.150	03/29/2016	ND	5.28	87.9	6.00	8.62	
Total BTEX	<0.300	0.300	03/29/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.7	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	03/28/2016	ND	416	104	400	3.92	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	03/28/2016	ND	179	89.3	200	3.87	
DRO >C10-C28	287	50.0	03/28/2016	ND	160	79.9	200	4.90	
Surrogate: 1-Chlorooctane	76.2	% 35-147	7						
Surrogate: 1-Chlorooctadecane	106 9	% 28-171							

Cardinal Laboratories *=Accredited Analyte

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APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240 Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/18/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 6 1' (H600643-02)

BTEX 8021B	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/29/2016	ND	2.07	104	2.00	5.25	
Toluene*	<0.050	0.050	03/29/2016	ND	1.96	97.8	2.00	7.05	
Ethylbenzene*	<0.050	0.050	03/29/2016	ND	1.72	85.9	2.00	8.63	
Total Xylenes*	<0.150	0.150	03/29/2016	ND	5.28	87.9	6.00	8.62	
Total BTEX	<0.300	0.300	03/29/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.8	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	03/28/2016	ND	416	104	400	3.92	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	03/29/2016	ND	179	89.3	200	3.87	
DRO >C10-C28	58.3	50.0	03/29/2016	ND	160	79.9	200	4.90	
Surrogate: 1-Chlorooctane	78.0	% 35-147	7						
Surrogate: 1-Chlorooctadecane	91.5	% 28-171							

Sample ID: SP 6 2' (H600643-03)

Chloride, SM4500Cl-B mg/kg		/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	03/28/2016	ND	416	104	400	3.92	

Cardinal Laboratories *=Accredited Analyte

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400

3.92



Analytical Results For:

APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240

Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/18/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

192

16.0

Sample ID: SP 6 3' (H600643-04)

Chloride

Chloride, SM4500CI-B	mg	/kg	Analyze	ed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	03/28/2016	ND	416	104	400	3.92	
Sample ID: SP 6 4' (H600	0643-05)								
Chloride, SM4500Cl-B	mg	/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Oualifier

03/28/2016

ND

416

104

Cardinal Laboratories *=Accredited Analyte

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APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240 Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/18/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 7 (SURFACE) (H600643-06)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/29/2016	ND	2.07	104	2.00	5.25	
Toluene*	<0.050	0.050	03/29/2016	ND	1.96	97.8	2.00	7.05	
Ethylbenzene*	<0.050	0.050	03/29/2016	ND	1.72	85.9	2.00	8.63	
Total Xylenes*	<0.150	0.150	03/29/2016	ND	5.28	87.9	6.00	8.62	
Total BTEX	<0.300	0.300	03/29/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 %	6 73.6-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	03/28/2016	ND	416	104	400	3.92	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/28/2016	ND	179	89.3	200	3.87	
DRO >C10-C28	109	10.0	03/28/2016	ND	160	79.9	200	4.90	
Surrogate: 1-Chlorooctane	87.2 9	% 35-147	7						
Surrogate: 1-Chlorooctadecane	89.3 9	% 28-171							

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APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240 Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/18/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 7 1' (H600643-07)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/29/2016	ND	2.07	104	2.00	5.25	
Toluene*	<0.050	0.050	03/29/2016	ND	1.96	97.8	2.00	7.05	
Ethylbenzene*	<0.050	0.050	03/29/2016	ND	1.72	85.9	2.00	8.63	
Total Xylenes*	<0.150	0.150	03/29/2016	ND	5.28	87.9	6.00	8.62	
Total BTEX	<0.300	0.300	03/29/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 9	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	03/28/2016	ND	416	104	400	3.92	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/28/2016	ND	179	89.3	200	3.87	
DRO >C10-C28	15.6	10.0	03/28/2016	ND	160	79.9	200	4.90	
Surrogate: 1-Chlorooctane	85.9	% 35-147	7						
Surrogate: 1-Chlorooctadecane	88.1	% 28-171							

Sample ID: SP 7 2' (H600643-08)

Chloride, SM4500CI-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	512	16.0	03/28/2016	ND	416	104	400	3.92	

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APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD.

HOBBS NM, 88240

Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/18/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 7 3' (H600643-09)

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 03/28/2016 ND 416 104 400 3.92

Sample ID: SP 7 4' (H600643-10)

Chloride, SM4500Cl-B Analyzed By: AP mg/kg Reporting Limit Analyzed Method Blank BS True Value QC RPD Qualifier Analyte Result % Recovery Chloride 704 16.0 03/28/2016 416 104 400 3.92 ND

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APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240 Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/18/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 9 (SURFACE) (H600643-11)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/29/2016	ND	2.07	104	2.00	5.25	
Toluene*	0.052	0.050	03/29/2016	ND	1.96	97.8	2.00	7.05	
Ethylbenzene*	<0.050	0.050	03/29/2016	ND	1.72	85.9	2.00	8.63	
Total Xylenes*	<0.150	0.150	03/29/2016	ND	5.28	87.9	6.00	8.62	
Total BTEX	<0.300	0.300	03/29/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 9	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	'kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	03/28/2016	ND	432	108	400	3.77	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<100	100	03/28/2016	ND	179	89.3	200	3.87	
DRO >C10-C28	<100	100	03/28/2016	ND	160	79.9	200	4.90	
Surrogate: 1-Chlorooctane	67.2	% 35-147	,						
Surrogate: 1-Chlorooctadecane	94.7	% 28-171							

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APACHE CORP - HOBBS **BRUCE BAKER** 2350 W. MARLAND BLVD. HOBBS NM, 88240 Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/18/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact Sample Received By: Project Number: NONE GIVEN Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 9 1' (H600643-12)

BTEX 8021B	mg,	/kg	Analyze	Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/30/2016	ND	2.11	106	2.00	4.65	
Toluene*	0.063	0.050	03/30/2016	ND	2.00	99.8	2.00	6.38	
Ethylbenzene*	<0.050	0.050	03/30/2016	ND	1.75	87.7	2.00	6.84	
Total Xylenes*	<0.150	0.150	03/30/2016	ND	5.39	89.8	6.00	6.36	
Total BTEX	<0.300	0.300	03/30/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	101	% 73.6-14	0						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	03/28/2016	ND	432	108	400	3.77	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<100	100	03/28/2016	ND	179	89.3	200	3.87	
DRO >C10-C28	831	100	03/28/2016	ND	160	79.9	200	4.90	
Surrogate: 1-Chlorooctane	76.5	% 35-147	7						
Surrogate: 1-Chlorooctadecane	118	% 28-171	,						

Surrogate: 1-Chlorooctadecane 118 % 28-171

Sample ID: SP 9 2' (H600643-13)

Chloride, SM4500CI-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	03/28/2016	ND	432	108	400	3.77	

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APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240

Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/18/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 9 3' (H600643-14)

Chloride, SM4500Cl-B mg/kg Analyzed By: AP Analyte Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC RPD Qualifier Chloride 288 16.0 03/28/2016 ND 432 108 400 3.77

Sample ID: SP 9 4' (H600643-15)

Chloride, SM4500Cl-B Analyzed By: AP mg/kg Reporting Limit Analyzed Method Blank BS True Value QC RPD Qualifier Analyte Result % Recovery Chloride 416 16.0 03/28/2016 432 400 3.77 ND 108

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APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240 Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/18/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 10 (SURFACE) (H600643-16)

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	03/30/2016	ND	2.11	106	2.00	4.65	
Toluene*	8.66	0.200	03/30/2016	ND	2.00	99.8	2.00	6.38	
Ethylbenzene*	2.74	0.200	03/30/2016	ND	1.75	87.7	2.00	6.84	
Total Xylenes*	9.24	0.600	03/30/2016	ND	5.39	89.8	6.00	6.36	
Total BTEX	20.6	1.20	03/30/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	109 9	% 73.6-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP					

Chloride, SM4500CI-B	hloride, SM4500Cl-B mg/kg		Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1260	16.0	03/28/2016	ND	432	108	400	3.77	
TPH 8015M	mg/	'kg	Analyze	Analyzed By: MS					QM-07, S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	459	200	03/29/2016	ND	176	88.2	200	6.12	
DRO >C10-C28	55500	200	03/29/2016	ND	166	83.1	200	12.3	

Surrogate: 1-Chlorooctane 118 % 35-147
Surrogate: 1-Chlorooctadecane 2060 % 28-171

Sample ID: SP 10 1' (H600643-17)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	03/28/2016	ND	432	108	400	3.77	

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APACHE CORP - HOBBS **BRUCE BAKER** 2350 W. MARLAND BLVD. HOBBS NM, 88240 Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/18/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact Sample Received By: Project Number: NONE GIVEN Jodi Henson

Project Location: EDDY COUNTY, NM

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	03/28/2016	ND	432	108	400	3.77	
Sample ID: SP 10 3' (H600	0643-19)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	03/28/2016	ND	432	108	400	3.77	

Chloride, SM4500Cl-B	/kg	Analyze	d By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	03/28/2016	ND	432	108	400	3.77	

Sample ID: SP 8 (SURFACE) (H600643-21)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1800	16.0	04/18/2016	ND	416	104	400	0.00	

Sample ID: SP 8 1' (H600643-22)

	,								
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3760	16.0	04/18/2016	ND	416	104	400	0.00	

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APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240 Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/18/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

2640

16.0

Sample ID: SP 8 2' (H600643-23)

Sumple IDI SI G E (11000)	0.0 20)								
Chloride, SM4500Cl-B	mg	mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3200	16.0	04/18/2016	ND	416	104	400	0.00	
Sample ID: SP 8 3' (H6000	643-24)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	ed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier

Sample ID: SP 8 4' (H600643-25)

Chloride

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1330	16.0	04/18/2016	ND	416	104	400	0.00	

ND

416

104

400

0.00

04/18/2016

Sample ID: SP 8 5' (H600643-26)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1330	16.0	04/18/2016	ND	416	104	400	0.00	

Sample ID: SP 8 6' (H600643-27)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	656	16.0	04/18/2016	ND	416	104	400	0.00	

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APACHE CORP - HOBBS BRUCE BAKER

2350 W. MARLAND BLVD. HOBBS NM, 88240

Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/18/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 8 7' (H600643-28)

Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5600	16.0	04/18/2016	ND	416	104	400	0.00	

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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.

QR-03 The RPD value for the sample duplicate or MS/MSD was outside if QC acceptance limits due to matrix interference. QC batch

accepted based on LCS and/or LCSD recovery and/or RPD values.

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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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

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FOR LAB USE ONLY		MATRIX	PRESERV. SAMPLING	80			
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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 consequental diamages, 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 reasoning and whether such harbor income and of the applicable.	and any other cause whatsoever shall be deem dental or consequential damages, including with the performance of services hereunder by Cardin to performance of service	Awaser entruty or any carm assing whether based in contract or lot, shall be limited to the ancount paid by the client for inhalsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiarities hereunder by Cardinal regardless of whether such dains is head from any of the above and the subsidiarities.	t, shall be limited to the amount paid by wed by Cardinal within 30 days after cor fuse, or loss of profits incurred by client	the client for the applicable its subsidiaries,			İ
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CARDINAL Laboratories

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

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Sampler - UPS - Bus - Other:

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 364-2326

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Sample Condition
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Delivered By: (Circle One)

Relinquished By

Time: 570 Date: 3/24/5

Phone Result: Fax Result: REMARKS:

No No

Add'l Phone #: Add'l Fax #:

Time: Date:



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

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Project Manager:			P.O. #:		
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FOR LAB USE ONLY		P. MATRIX	PRESERV. SAMPLING	801	
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† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326



May 05, 2016

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: LOCO HILLS SWD BOOSTER

Enclosed are the results of analyses for samples received by the laboratory on 04/29/16 10:15.

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 accreditated 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.

Celey D. Keine

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



APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240

Fax To: (575) 393-2432

Received: 04/29/2016 Sampling Date: 04/29/2016

Reported: 05/05/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: ** (See Notes)
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 8 (0') (H600923-01)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/03/2016	ND	1.86	93.1	2.00	0.855	
Toluene*	<0.050	0.050	05/03/2016	ND	1.81	90.4	2.00	0.203	
Ethylbenzene*	<0.050	0.050	05/03/2016	ND	1.65	82.6	2.00	0.769	
Total Xylenes*	<0.150	0.150	05/03/2016	ND	5.09	84.8	6.00	0.424	
Total BTEX	<0.300	0.300	05/03/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	96.0	% 73.6-14	0						
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/02/2016	ND	183	91.7	200	14.1	
DRO >C10-C28	22.8	10.0	05/02/2016	ND	194	97.1	200	16.1	
Surrogate: 1-Chlorooctane	106 9	% 35-147	7						
Surrogate: 1-Chlorooctadecane	114 9	% 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 analyses. All claims, including those for negligence and any other cause whistoever 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 related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240 Fax To: (575) 393-2432

Received: 04/29/2016 Sampling Date: 04/29/2016

Reported: 05/05/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: ** (See Notes)
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 8 (1') (H600923-02)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/03/2016	ND	1.86	93.1	2.00	0.855	
Toluene*	<0.050	0.050	05/03/2016	ND	1.81	90.4	2.00	0.203	
Ethylbenzene*	<0.050	0.050	05/03/2016	ND	1.65	82.6	2.00	0.769	
Total Xylenes*	<0.150	0.150	05/03/2016	ND	5.09	84.8	6.00	0.424	
Total BTEX	<0.300	0.300	05/03/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.2	% 73.6-14	0						
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/02/2016	ND	183	91.7	200	14.1	
DRO >C10-C28	20.6	10.0	05/02/2016	ND	194	97.1	200	16.1	
Surrogate: 1-Chlorooctane	99.8	% 35-147	,						
Surrogate: 1-Chlorooctadecane	90.5	% 28-171							

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APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240 Fax To: (575) 393-2432

Received: 04/29/2016 Sampling Date: 04/29/2016

Reported: 05/05/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: ** (See Notes)
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 10 (0') (H600923-09)

BTEX 8021B	mg/	kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/04/2016	ND	1.86	93.1	2.00	0.855	
Toluene*	0.287	0.050	05/04/2016	ND	1.81	90.4	2.00	0.203	
Ethylbenzene*	<0.050	0.050	05/04/2016	ND	1.65	82.6	2.00	0.769	
Total Xylenes*	5.71	0.150	05/04/2016	ND	5.09	84.8	6.00	0.424	
Total BTEX	6.00	0.300	05/04/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	177 9	% 73.6-14	0						
TPH 8015M	mg/	'kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	602	50.0	05/02/2016	ND	183	91.7	200	14.1	
DRO >C10-C28	12900	50.0	05/02/2016	ND	194	97.1	200	16.1	
Surrogate: 1-Chlorooctane	176 9	% 35-147	,						
Surrogate: 1-Chlorooctadecane	435 9	% 28-171							

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APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240 Fax To: (575) 393-2432

Received: 04/29/2016 Sampling Date: 04/29/2016

Reported: 05/05/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: ** (See Notes)
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 10 (1') (H600923-10)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/04/2016	ND	1.86	93.1	2.00	0.855	
Toluene*	0.322	0.050	05/04/2016	ND	1.81	90.4	2.00	0.203	
Ethylbenzene*	<0.050	0.050	05/04/2016	ND	1.65	82.6	2.00	0.769	
Total Xylenes*	15.2	0.150	05/04/2016	ND	5.09	84.8	6.00	0.424	
Total BTEX	15.5	0.300	05/04/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	251	% 73.6-14	0						
TPH 8015M	mg,	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	1030	50.0	05/02/2016	ND	183	91.7	200	14.1	
DRO >C10-C28	6870	50.0	05/02/2016	ND	194	97.1	200	16.1	
Surrogate: 1-Chlorooctane	169	% 35-147	7						
Surrogate: 1-Chlorooctadecane	150	% 28-171	1						

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Notes and Definitions

The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or S-06 matrix interference's. S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect. 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. The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS OM-07 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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Celeg D. Freene



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476	40			
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PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any whether based in contract or lort, shall be limited to the amount paid by the client lor the PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any whether based in writing and received by Cardinal within 30 days after completion of the applicable	any claim arising whether based in contract or tort, she deemed waived unless made in writing and received	all be limited to the amount paid by the c by Cardinal within 30 days after complet	client for the tion of the applicable	
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† Cardinal cannot accept verbal changes. Please fax written changes to (575) 3952326

Ps lof2



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

11.

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

				ANAI VSIS BEOLIEST	
ompany Name: Apacho		DILL 10			
roject Manager: Leary beker	1	F.O. #.			
ddress:	Co	Company: Halle			
ity: State:	Zip:	Attn: Lary Bylas			
hone #: Fax #:	A	Address:			
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FOR LAB USE ONLY	MATRIX	PRESERV. SAMPLING			
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April 01, 2016

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: LOCO HILLS SWD BOOSTER

Enclosed are the results of analyses for samples received by the laboratory on 03/24/16 15:10.

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 accreditated 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.

Celey D. Keine

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



APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240

Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/01/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 6 (SURFACE) (H600643-01)

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	03/29/2016	ND	2.07	104	2.00	5.25	
Toluene*	0.062	0.050	03/29/2016	ND	1.96	97.8	2.00	7.05	
Ethylbenzene*	<0.050	0.050	03/29/2016	ND	1.72	85.9	2.00	8.63	
Total Xylenes*	< 0.150	0.150	03/29/2016	ND	5.28	87.9	6.00	8.62	
Total BTEX	<0.300	0.300	03/29/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.7	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	03/28/2016	ND	416	104	400	3.92	
TPH 8015M	mg/	kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	03/28/2016	ND	179	89.3	200	3.87	
DRO >C10-C28	287	50.0	03/28/2016	ND	160	79.9	200	4.90	
Surrogate: 1-Chlorooctane	76.2 9	% 35-147	7						
Surrogate: 1-Chlorooctadecane	106 %	% 28-171	•						

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APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240 Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/01/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 6 1' (H600643-02)

BTEX 8021B	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/29/2016	ND	2.07	104	2.00	5.25	
Toluene*	<0.050	0.050	03/29/2016	ND	1.96	97.8	2.00	7.05	
Ethylbenzene*	<0.050	0.050	03/29/2016	ND	1.72	85.9	2.00	8.63	
Total Xylenes*	<0.150	0.150	03/29/2016	ND	5.28	87.9	6.00	8.62	
Total BTEX	<0.300	0.300	03/29/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.8	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	03/28/2016	ND	416	104	400	3.92	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	03/29/2016	ND	179	89.3	200	3.87	
DRO >C10-C28	58.3	50.0	03/29/2016	ND	160	79.9	200	4.90	
Surrogate: 1-Chlorooctane	78.0	% 35-147	7						
Surrogate: 1-Chlorooctadecane	91.5	% 28-171							

Sample ID: SP 6 2' (H600643-03)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	03/28/2016	ND	416	104	400	3.92	

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APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240

Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/01/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 6 3' (H600643-04)

Chloride, SM4500Cl-B mg/kg Analyzed By: AP Analyte Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC RPD Qualifier Chloride 16.0 03/28/2016 ND 416 104 400 3.92 128

Sample ID: SP 6 4' (H600643-05)

Chloride, SM4500Cl-B Analyzed By: AP mg/kg Reporting Limit Analyzed Method Blank BS True Value QC RPD Qualifier Analyte Result % Recovery Chloride 192 16.0 03/28/2016 416 104 400 3.92 ND

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APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240 Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/01/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 7 (SURFACE) (H600643-06)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/29/2016	ND	2.07	104	2.00	5.25	
Toluene*	<0.050	0.050	03/29/2016	ND	1.96	97.8	2.00	7.05	
Ethylbenzene*	< 0.050	0.050	03/29/2016	ND	1.72	85.9	2.00	8.63	
Total Xylenes*	<0.150	0.150	03/29/2016	ND	5.28	87.9	6.00	8.62	
Total BTEX	<0.300	0.300	03/29/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 %	6 73.6-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	03/28/2016	ND	416	104	400	3.92	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/28/2016	ND	179	89.3	200	3.87	
DRO >C10-C28	109	10.0	03/28/2016	ND	160	79.9	200	4.90	
Surrogate: 1-Chlorooctane	87.2 9	% 35-147	7						
Surrogate: 1-Chlorooctadecane	89.3	% 28-171							

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Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/01/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Analyzed By: MC

Project Location: EDDY COUNTY, NM

ma/ka

Sample ID: SP 7 1' (H600643-07)

RTFY 8021R

BIEX 8021B	mg/	кд	Anaiyze	а ву: м5					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/29/2016	ND	2.07	104	2.00	5.25	
Toluene*	<0.050	0.050	03/29/2016	ND	1.96	97.8	2.00	7.05	
Ethylbenzene*	<0.050	0.050	03/29/2016	ND	1.72	85.9	2.00	8.63	
Total Xylenes*	<0.150	0.150	03/29/2016	ND	5.28	87.9	6.00	8.62	
Total BTEX	<0.300	0.300	03/29/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 9	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	03/28/2016	ND	416	104	400	3.92	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/28/2016	ND	179	89.3	200	3.87	
DRO >C10-C28	15.6	10.0	03/28/2016	ND	160	79.9	200	4.90	
Surrogate: 1-Chlorooctane	85.9	% 35-147	7						
Surrogate: 1-Chlorooctadecane	88.1	% 28-171							

Sample ID: SP 7 2' (H600643-08)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	512	16.0	03/28/2016	ND	416	104	400	3.92	

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APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD.

HOBBS NM, 88240

Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/01/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

03/28/2016

Project Location: EDDY COUNTY, NM

400

16.0

Sample ID: SP 7 3' (H600643-09)

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC RPD Qualifier

ND

416

104

400

3.92

Sample ID: SP 7 4' (H600643-10)

Chloride

Chloride, SM4500Cl-B Analyzed By: AP mg/kg Reporting Limit Analyzed Method Blank BS True Value QC RPD Qualifier Analyte Result % Recovery Chloride 704 16.0 03/28/2016 416 104 400 3.92 ND

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APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240 Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/01/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 9 (SURFACE) (H600643-11)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/29/2016	ND	2.07	104	2.00	5.25	
Toluene*	0.052	0.050	03/29/2016	ND	1.96	97.8	2.00	7.05	
Ethylbenzene*	< 0.050	0.050	03/29/2016	ND	1.72	85.9	2.00	8.63	
Total Xylenes*	< 0.150	0.150	03/29/2016	ND	5.28	87.9	6.00	8.62	
Total BTEX	<0.300	0.300	03/29/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 %	73.6-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	03/28/2016	ND	432	108	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<100	100	03/28/2016	ND	179	89.3	200	3.87	
DRO >C10-C28	<100	100	03/28/2016	ND	160	79.9	200	4.90	
Surrogate: 1-Chlorooctane	67.2 9	% 35-147	,						
Surrogate: 1-Chlorooctadecane	94.7 9	% 28-171							

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APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240

Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/01/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 9 1' (H600643-12)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/30/2016	ND	2.11	106	2.00	4.65	
Toluene*	0.063	0.050	03/30/2016	ND	2.00	99.8	2.00	6.38	
Ethylbenzene*	<0.050	0.050	03/30/2016	ND	1.75	87.7	2.00	6.84	
Total Xylenes*	<0.150	0.150	03/30/2016	ND	5.39	89.8	6.00	6.36	
Total BTEX	<0.300	0.300	03/30/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 9	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	03/28/2016	ND	432	108	400	3.77	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<100	100	03/28/2016	ND	179	89.3	200	3.87	
DRO >C10-C28	831	100	03/28/2016	ND	160	79.9	200	4.90	
Surrogate: 1-Chlorooctane	76.5	% 35-147	7						
Surrogate: 1-Chlorooctadecane	118 9	% 28-171							

Sample ID: SP 9 2' (H600643-13)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	03/28/2016	ND	432	108	400	3.77	

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APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240

Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/01/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 9 3' (H600643-14)

Chloride, SM4500Cl-B mg/kg Analyzed By: AP Analyte Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC RPD Qualifier Chloride 288 16.0 03/28/2016 ND 432 108 400 3.77

Sample ID: SP 9 4' (H600643-15)

Chloride, SM4500Cl-B Analyzed By: AP mg/kg Reporting Limit Analyzed Method Blank BS True Value QC RPD Qualifier Analyte Result % Recovery Chloride 416 16.0 03/28/2016 432 400 3.77 ND 108

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Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/01/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 10 (SURFACE) (H600643-16)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Benzene*	<0.200	0.200	03/30/2016	ND	2.11	106	2.00	4.65	
Toluene*	8.66	0.200	03/30/2016	ND	2.00	99.8	2.00	6.38	
Ethylbenzene*	2.74	0.200	03/30/2016	ND	1.75	87.7	2.00	6.84	
Total Xylenes*	9.24	0.600	03/30/2016	ND	5.39	89.8	6.00	6.36	
Total BTEX	20.6	1.20	03/30/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	109 9	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: AP					
Analyte	Docult	Penorting Limit	Analyzed	Method Blank	RC	% Decovery	True Value OC	PPD	Oualifie

Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1260	16.0	03/28/2016	ND	432	108	400	3.77	
TPH 8015M	mg/	kg	Analyze	d By: MS					S-06, QM-07
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	459	200	03/29/2016	ND	176	88.2	200	6.12	
DRO >C10-C28	55500	200	03/29/2016	ND	166	83.1	200	12.3	

Surrogate: 1-Chlorooctane 118 % 35-147
Surrogate: 1-Chlorooctadecane 2060 % 28-171

Sample ID: SP 10 1' (H600643-17)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	03/28/2016	ND	432	108	400	3.77	

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APACHE CORP - HOBBS BRUCE BAKER 2350 W. MARLAND BLVD. HOBBS NM, 88240

Fax To: (575) 393-2432

Received: 03/24/2016 Sampling Date: 03/24/2016

Reported: 04/01/2016 Sampling Type: Soil

Project Name: LOCO HILLS SWD BOOSTER Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: EDDY COUNTY, NM

Sample ID: SP 10 2' (H600643-18)

Chloride, SM4500Cl-B mg/kg Analyzed By: AP Analyte Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC RPD Qualifier Chloride 64.0 03/28/2016 ND 432 400 16.0 108 3.77

Sample ID: SP 10 3' (H600643-19)

Chloride, SM4500Cl-B Analyzed By: AP mg/kg Reporting Limit Analyzed BS True Value QC RPD Analyte Result Method Blank % Recovery Qualifier Chloride 48.0 16.0 03/28/2016 432 400 3.77 ND 108

Sample ID: SP 10 4' (H600643-20)

Chloride, SM4500Cl-B mg/kg Analyzed By: AP Analyte Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC RPD Qualifier Chloride 144 03/28/2016 ND 400 16.0 432 108 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 whistoever 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.



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.

QR-03 The RPD value for the sample duplicate or MS/MSD was outside if QC acceptance limits due to matrix interference. QC batch

accepted based on LCS and/or LCSD recovery and/or RPD values.

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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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Project Manager: Larry Balls. Address: City: State: Zip:	P.O. #:	ANALYSIS REQUEST
ess: State:	ny:	
State:		
	Attn:	
Phone #: Fax #:	Address:	
Project #: Project Owner:	City:	
Project Name: Loo Hills Swi) Book	State: Zip:	
n: Eddy 6 Nm	**	>-1
Sampler Name: Kran Reich III	21	301
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PLEASE NOTE: Liability and Damages. Cardinal's lability 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	based in contract or tot, shall be limited to the amount paid by the client for the	
service. In no event shall Caridinal be liable for incidental or consequential damages, including what our limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, resuccessors 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 reasons or otherwise. Relinquished By:	ade in writing and received by Cardinal within 30 days after completion of the applicable ses interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, ether such claim is based upon any of the above stated reasons or otherwise.	
Time:	Phone Result: Yes	□ No Add'I Phone #: □ No Add'I Fax #:
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Delivered By: (Circle One)	Sample Condition CHECKED BY:	

78.4

Sample Condition
Cool Intact
Yes Yes
No No

Email results to lamp below +

Treich @ americansafely not

Sampler - UPS - Bus - Other:



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476 Company Name: ADG/ 6-

Company Name:	Desh		BIII WA		
Project Manager:	Lain Rier		P.O. #:	ANALYSIS REQUEST	
Address:	x 46		Company: April		
City:	State:	Zip:	1		
Phone #:	Fax #:		Address:		
Project #:	Project Owner:	4	City:		
Project Name: Loco	Hills Sul Boar	3	State: Zin:		
Project Location:	Eddy to Non		*		
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PLEASE NOTE: Liability and Damages. C	ardinal's liability and client's exclusive remedy for any	Y Claim arising who the	2	1432 V	
malyses. All claims including those for negervice. In no event shall Cardinal be liable filiates or successors arising out of or rela	malyses. 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 revice. In no event shall Cardinal he liable for incidental or consequental damages, including without initiation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, inflicitles or successors arising out of or related to the performance of services hereunder by Cardinal regardless of Whether such polaring is based upon any of the children whether such polaring is based upon any of the children and the performance of services hereunder by Cardinal regardless of Whether such polaring is based upon any of the children and the performance of services hereunder by Cardinal regardless of Whether such polaring is based upon any of the children and the performance of services hereunder by Cardinal regardless of Whether such polaring is based upon any of the children and the performance of services hereunder by Cardinal regardless of Whether such polaring is based upon any of the children and the performance of services hereunder by Cardinal regardless of Whether such polaring is based upon any of the children and the performance of services hereunder by Cardinal regardless of Whether such polaring is based upon any of the children and the performance of services hereunder by Cardinal regardless of Whether such polaring is a performance of services hereunder by Cardinal regardless of whether such polaring is a performance of services hereunder by Cardinal regardless of whether such polaring is a performance of services hereunder by Cardinal regardless of the performance of services hereunder by th	use whatsoever shall be deemed waived unless made in writing and re- ental damages, including without limitation, business interruptions, loss services hereunder by Cardinal, regardless of whether such claim is, ha-	ort, shall be limited to the amount paid belied by Cardinal within 30 days after of use, or loss of profits incurred by clisted the profits incurred by cliste	d by the client for the rounding the special state of the applicable from pletion of the applicable states, the subsidiaries,	
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	Time:				
Delivered By: (Circle One)		Sample Condition Cool Intact	CHECKE		
Sampler - UPS - Bus - Other:	Other:	-	(militals)		



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:		
Project Manager House	BILL TO	O ANALYSIS REQUEST
rioject manager. Legry Byles	P.O. #:	
Address:	Company: AR(h	
City: State:		
Phone #: Fax #:	Address:	
Project #: Project Owner:		
Project Name: 60 All Sw A	9	
4	-	
Sampler Name: Legay & NA	Phone #:	- /
Sampler Name:	Fax #:	_
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PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any dalim arising whether based in contract or tort, shall be limited to the amount paid by the client for the	or any claim arising whether based in contract or tort, shall be limited to the amount	paid by the client for the
service. In no event shall Cardinal be liable for induced any owns value wissuccers made and warved unless made in writing and received by Cardinal within 30 days after completion of the applicable officiates 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 reasons or otherwise. Relinquished By:	overs avail be deemed varied unless made in writing and received by Cardinal within, 30 days ages, including without fination, business interruptions, loss of use, or loss of profits incurred the reunder by Cardinal repairdless of whether such claim is based upon any of the above stated	days after completion of the applicable unred by client, its subsidiaries, surface by client, its subsidiaries, stated reasons or otherwise.
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Relinquished By: Date:	Received By:	Hobl Schar
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Delivered By: (Circle One)	Sample Condition CHRCKED BY.	

Sampler - UPS - Bus - Other: