Site Investigation Report And Corrective Action Plan for the Candelario 24 SWD
Eddy County New Mexico

Rockcliff Energy LLC

1301 McKinney Street

Suite 1300

Houston, Texas 77010

Kane Environmental Engineering Inc.

8816 Big View Drive

Austin, Texas 78730

June 2017

Site Investigation Summary

Introduction:

On May 9th, 2017 approximately 30 barrels of produced water were release as a result of a 1" diameter valve located on the triplex SWD that failed. The release was contained within the secondary containment area and approximately 25 barrels were recovered. The impacted area was estimated to be about 1,750 square feet.

The Candelario 24 SWD facility is located in rural Eddy County New Mexico and groundwater, based on information provided the New Mexico Office of the State Engineer is likely to be encountered at a depth of approximately 36 feet below ground surface (bgs). The distance to the nearest surface water is approximately 1,375 feet, northeast of the facility. Historical information from 1991 indicated that chloride content of the shallowest groundwater in this area ranges from 1,598 to 3,214 mg/L.

Liner Evaluation Summary

1. Representatives of Kane Environmental (Kane) completed a NM811, New Mexico One Call to verify clearance any utilities. Rockcliff operating personnel verified that these locations were clear of any underground equipment.

2. Kane personnel, Kevin Elrod and Alan Kane, P.E. began the site investigation at 7:50 am on June 15th, 2017 (See Field Notes). Photographs were taken of the liner in areas that were exposed and of the test holes used to verify the presence and evaluate the integrity of the liner (See Appendix A-Photographs).

3. Kane personnel identified and collected five samples (Sample S1, S2, S3, S4 and S5) that were taken in each cardinal direction of the impacted area (See Figure 1). Materials collected from the midpoint from the surface to where the liner was encountered at each sample

point were placed in sealable plastic bags, allowed to reach temperature equilibrium and then screened for hydrocarbons using an ION Tiger Procheck photoionization detector (PID). The samples were also screened for chlorides using a Spectrum Field Scout electrical conductivity (EC) meter. The results are provided in Table 1. A background sample was also collected at a depth of 1 foot from an area, that based on historical aerial photographs has not been impacted. The location of the background sample is also depicted in Figure 1. This soil was also screened using the PID and EC meter and the results are provided in Table 1.

4. Kane personnel used a shovel and a hand trowel to determine the types of materials that cover the liner and evaluate the liner integrity. The liner was encountered across the secondary containment area from the surface on the containment berms to a depth of 12 inches below the soil surface within the secondary containment area (See Appendix A-Photographs). Approximately fifteen (15) test holes were excavated to evaluate the liner from various locations within the secondary containment and the berms. The approximate locations of the test holes is depicted in Figure 2.

5. Samples were then placed in the labelled samples jars, then on ice in a cooler and delivered to the Cardinal Laboratory located in Hobbs, New Mexico for analysis. All samples were analyzed for the following constituents:

   Benzene, Toluene, Ethylbenzene and mixed isomer Xylenes (BTEX)- EPA Method 8021

   Total Petroleum Hydrocarbons (Gasoline Rand Organics), (Diesel Range Organics) and (Oil Range Organics)- EPA Method 8105 Chlorides- EPA Method 4500 (300 equivalent).

6. Excess soil not used for laboratory testing was placed back into the sampling location from which it was removed.

7. The analytical results for each sample are provided in Table 2.

Corrective Action Plan

Based on historical aerial photographs the liner was installed before June 2011. Visual inspections suggest that the liner appears to be constructed of a 30 millimeter, high density polyethylene material. The liner was exposed and visible in several areas along the eastern secondary containment berm and other various location along the berm (See Appendix A-Photographs). Based on the observations from the fifteen (15) test holes and the five (5) sample points. The liner was placed over the secondary containment berm and covers the entire secondary containment area. The liner was placed under the storage tanks. Each test hole and sample point exposed approximately one (1) square foot of the liner. Photographs were made and the liner was evaluated. In each of the test holes and sample points we observed water indicating that the liner was intact and working properly. The water was likely a result of flushing the impacted area with fresh water after the release.

While the analytical results indicate the materials overlying the liner have been impacted. The presence of water indicates that the liner is functioning properly. Practical remediation options for the impacted materials consisting of sand, gravel and larger aggregate are limited. The risk of damaging the liner by mechanically removing the impacted materials is high. We do not recommend remediation activities at this time. However, it is recommended that when the battery is taken out of service, the liner and its contents be removed.

Tables 1 and 2

Table 1		
Sample Point	**EC**	**PID**
BKG	0.04	0
S1	Over Range	130
S2	Over Range	335
S3	Over Range	211
S4	Over Range	107
S5	Over Range	215

Table 2						
Soil ID	**S-1**	**S-2**	**S-3**	**S-4**	**S-5**	**BKG**
Benzene	<0.050	<0.050	0.054	<0.050	0.084	<0.050
Touene	<0.050	0.257	0.273	0.069	1.36	<0.050
Ethylbenzene	<0.050	0.391	0.364	1.11	0.829	<0.050
Total Xylenes	1.03	1.26	1.27	5.05	5.34	<0.150
Total BTEX	1.03	1.91	1.96	6.23	7.61	<0.300
Chlorides	11700	18800	45600	16800	52000	32
C6-C10	127	<10.0	12.7	434	114	<10.0
C10-C28	2560	535	296	15800	1650	<10.0
C28-C36	694	135	57.8	4260	450	<10.0

*TPH 8015M, SM4500Cl-B, BTEX 8021B

Figure 1

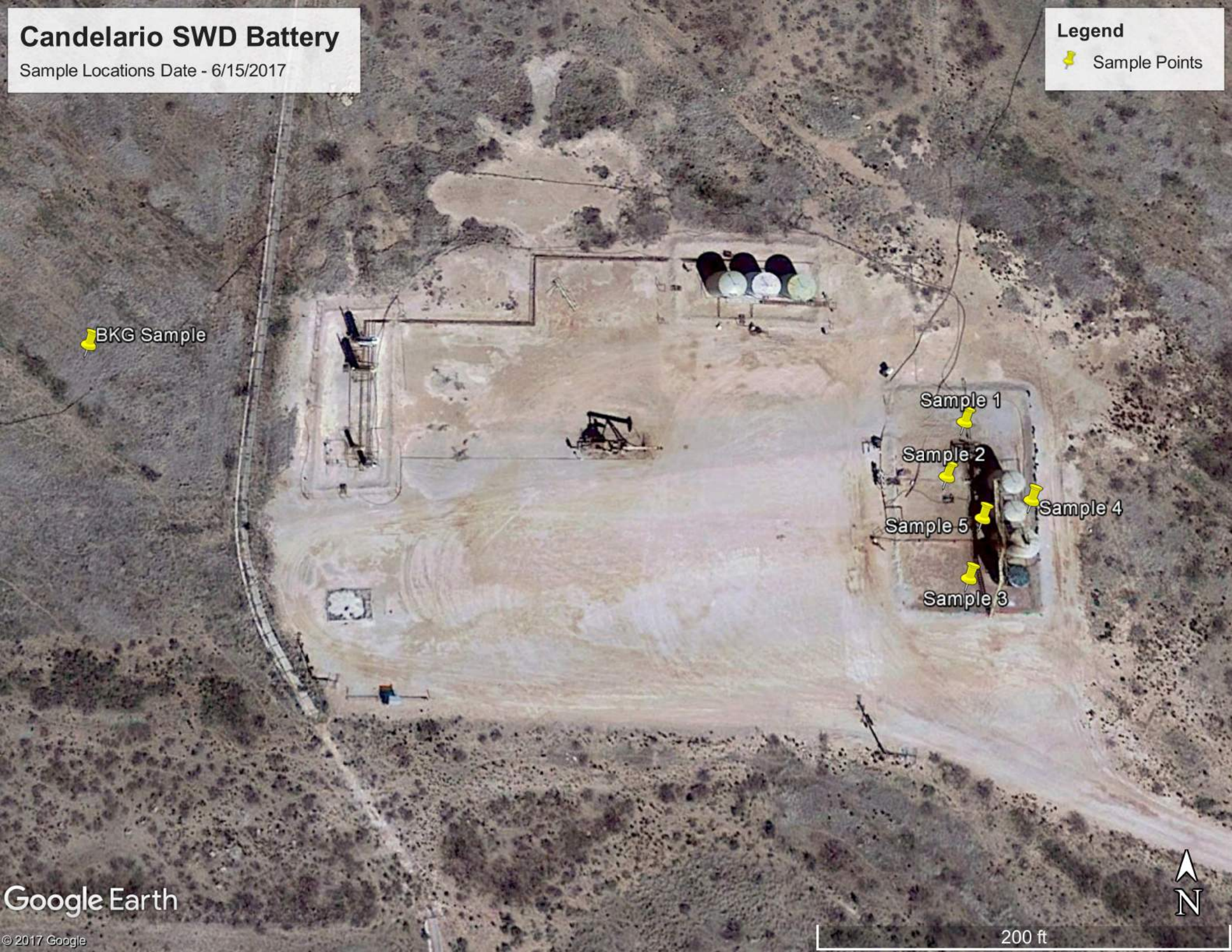
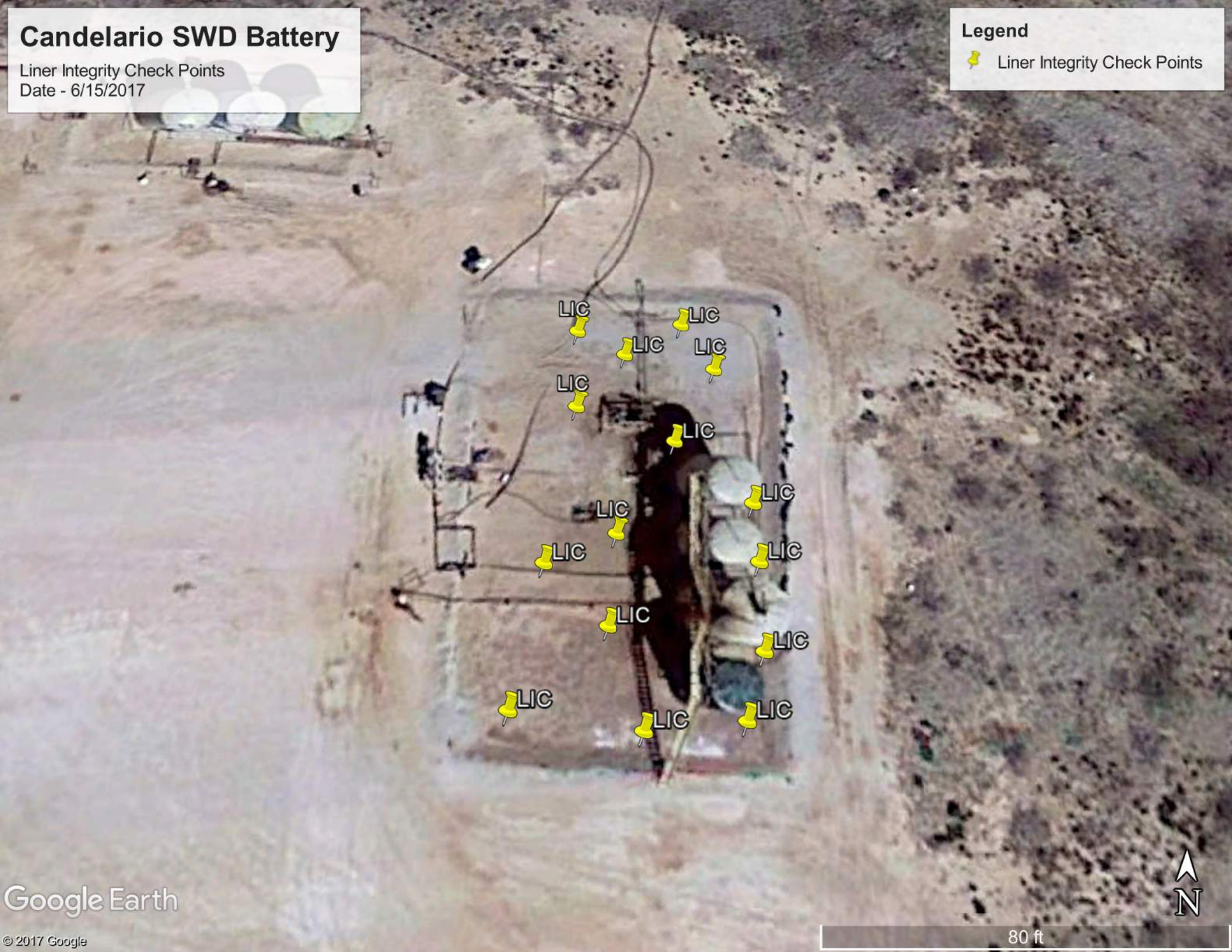

Candelario SWD Battery
Sample Locations Date - 6/15/2017
Legend
Sample Points
BKG Sample
Sample 1
Sample 2
Sample 3
Sample 4
Sample 5
Google Earth
© 2017 Google
N
200 ft

Figure 2


Candelario SWD Battery
Liner Integrity Check Points
Date - 6/15/2017
Legend
Liner Integrity Check Points
LIC
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Google Earth
© 2017 Google
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80 ft

Field Notes

6/15/2017 Candelario 24 #1 SWD Battery 32 17.566

- 7:50 AM Arrived at site 104 02.840
  Took photographs of site
  Photographed Liner – 30 mil

- 8:00 AM Calibrated PID ION Tiger LT PRO check 3193491
  Calibrated EC Probe Spectrum Field Scout

- 8:11 AM Collected Background Sample
  32 17.582 EC 0.04 mS/cm
  104 02.923 PID 0
  Put sample in bag allowed to reach temp equilibrium

- 8:25 AM Sample Point S1 North of SWD Pump
  0-2" Sand 32 17.576
  2-8" Sand/gravel mix (water visible liquid) 104 02.831
  8-12 Gravel & Rock mix (encountered line-photographed)
  Took EC reading at 6" Over Range
  PID reading from soil @ 6" 130
  Liner in good condition
  Collected sample @ 8:35 AM placed in jar, then ice

- 8:47 AM Sample Point S2 West of Cir. Pump
  0-2" Sand (visible water) 32 17.571
  2-6" Sand, gravel, and rock 104 02.834
  Encountered line- good condition, photographed
  Took EC @3" Over Range
  PID reading @3" 335
  Collected sample at @ 8:57 AM

- 9:05 AM Sample Point S3 South of tank
  0-2" Sand 32 17.566
  2-8" Sand & gravel 104 02.835
  Found liner @8" integrity good, photographed
  @4" EC Over Range Visible Liquid (Water)
  @4" PID 211
  Collected sample @9:20 placed in jar, then ice

- 9:28 AM Sample Point S4 East of tanks
  0-8" gravel with sand 32 17.568
  Found liner @8" visible standing water 102 02.825
  Liner integrity good, photographed
  EC Over Range @4"
  Soil @4" PID 107

9:40 AM collected sample placed in jar then ice

- 9:53 AM Sample point S5 Midpoint south of SWD pump near tanks
  0-2" sand
  2-8" gravel with sand 32 17.567
  Liner found @8" visible liquid 104 02.830
  Liner integrity good, photographed
  EC Over Range @4"
  Soil @4" PID 215
  Sample collected at 10:05

- Conducted investigation across battery area for liner
  Used shovel to uncover liner to depth for 6" to 12"
  Photo documentation of sites (15) test holes
  Documented presence of liner- integrity
  Visible liquids in each
  Liner was intact

Site Photos

Appendix A


RCLIFF OPERATING NEW MEXICO LLC
EMERGENCY PH# (318) 459-2382
CANDELARIO 24 #1 SWD BATT.
1980' FNL & 660' FWL
SEC. 24, T23S, R28E
EDDY COUNTY, NEW MEXICO


TIGER


GAS DETECTOR
ion

Analytical Results

CARDINAL Laboratories

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

June 20, 2017

KEVIN ELROD

KANE ENVIROMENTAL

8816 BIG VIEW DRIVE

AUSTIN, TX 78730

RE: CANDELARIO

Enclosed are the results of analyses for samples received by the laboratory on 06/15/17 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 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.

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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

KANE ENVIROMENTAL
KEVIN ELROD
8816 BIG VIEW DRIVE
AUSTIN TX, 78730
Fax To:

Received:	06/15/2017	Sampling Date:	06/14/2017
Reported:	06/20/2017	Sampling Type:	Soil
Project Name:	CANDELARIO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: S-1 (H701564-01)

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	06/16/2017	ND	2.03	102	2.00	1.49	
Toluene*	<0.050	0.050	06/16/2017	ND	1.95	97.5	2.00	0.585	
Ethylbenzene*	<0.050	0.050	06/16/2017	ND	2.00	100	2.00	1.60	
Total Xylenes*	**1.03**	0.150	06/16/2017	ND	5.41	90.2	6.00	1.67	
Total BTEX	**1.03**	0.300	06/16/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *123 %* *72-148*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**11700**	16.0	06/16/2017	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**127**	50.0	06/16/2017	ND	184	91.8	200	2.50	
DRO >C10-C28	**2560**	50.0	06/16/2017	ND	180	90.2	200	2.35	
EXT DRO >C28-C36	**694**	50.0	06/16/2017	ND					

Surrogate: 1-Chlorooctane *103 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *169 %* *34.7-157*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

KANE ENVIROMENTAL
KEVIN ELROD
8816 BIG VIEW DRIVE
AUSTIN TX, 78730
Fax To:

Received:	06/15/2017	Sampling Date:	06/14/2017
Reported:	06/20/2017	Sampling Type:	Soil
Project Name:	CANDELARIO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: S-2 (H701564-02)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/16/2017	ND	2.03	102	2.00	1.49	
Toluene*	**0.257**	0.050	06/16/2017	ND	1.95	97.5	2.00	0.585	
Ethylbenzene*	**0.391**	0.050	06/16/2017	ND	2.00	100	2.00	1.60	
Total Xylenes*	**1.26**	0.150	06/16/2017	ND	5.41	90.2	6.00	1.67	
Total BTEX	**1.91**	0.300	06/16/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *132 %* *72-148*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**18800**	16.0	06/16/2017	ND	432	108	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	06/16/2017	ND	184	91.8	200	2.50	
DRO >C10-C28	**535**	10.0	06/16/2017	ND	180	90.2	200	2.35	
EXT DRO >C28-C36	**135**	10.0	06/16/2017	ND					

Surrogate: 1-Chlorooctane *110 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *107 %* *34.7-157*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

KANE ENVIROMENTAL
KEVIN ELROD
8816 BIG VIEW DRIVE
AUSTIN TX, 78730
Fax To:

Received:	06/15/2017	Sampling Date:	06/14/2017
Reported:	06/20/2017	Sampling Type:	Soil
Project Name:	CANDELARIO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: S-3 (H701564-03)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.054**	0.050	06/16/2017	ND	2.03	102	2.00	1.49	
Toluene*	**0.273**	0.050	06/16/2017	ND	1.95	97.5	2.00	0.585	
Ethylbenzene*	**0.364**	0.050	06/16/2017	ND	2.00	100	2.00	1.60	
Total Xylenes*	**1.27**	0.150	06/16/2017	ND	5.41	90.2	6.00	1.67	
Total BTEX	**1.96**	0.300	06/16/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *122 %* *72-148*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**45600**	16.0	06/16/2017	ND	400	100	400	3.92	QM-07

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**12.7**	10.0	06/16/2017	ND	184	91.8	200	2.50	
DRO >C10-C28	**296**	10.0	06/16/2017	ND	180	90.2	200	2.35	
EXT DRO >C28-C36	**57.8**	10.0	06/16/2017	ND					

Surrogate: 1-Chlorooctane *107 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *100 %* *34.7-157*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

KANE ENVIROMENTAL
KEVIN ELROD
8816 BIG VIEW DRIVE
AUSTIN TX, 78730
Fax To:

Received:	06/15/2017	Sampling Date:	06/14/2017
Reported:	06/20/2017	Sampling Type:	Soil
Project Name:	CANDELARIO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: S-4 (H701564-04)

BTEX 8021B mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/16/2017	ND	2.03	102	2.00	1.49	
Toluene*	**0.069**	0.050	06/16/2017	ND	1.95	97.5	2.00	0.585	
Ethylbenzene*	**1.11**	0.050	06/16/2017	ND	2.00	100	2.00	1.60	
Total Xylenes*	**5.05**	0.150	06/16/2017	ND	5.41	90.2	6.00	1.67	
Total BTEX	**6.23**	0.300	06/16/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *170 %* *72-148*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16800**	16.0	06/16/2017	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**434**	100	06/16/2017	ND	184	91.8	200	2.50	
DRO >C10-C28	**15800**	100	06/16/2017	ND	180	90.2	200	2.35	
EXT DRO >C28-C36	**4260**	100	06/16/2017	ND					

Surrogate: 1-Chlorooctane *176 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *384 %* *34.7-157*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

KANE ENVIROMENTAL
KEVIN ELROD
8816 BIG VIEW DRIVE
AUSTIN TX, 78730
Fax To:

Received:	06/15/2017	Sampling Date:	06/14/2017
Reported:	06/20/2017	Sampling Type:	Soil
Project Name:	CANDELARIO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: S-5 (H701564-05)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.084**	0.050	06/16/2017	ND	2.03	102	2.00	1.49	
Toluene*	**1.36**	0.050	06/16/2017	ND	1.95	97.5	2.00	0.585	
Ethylbenzene*	**0.829**	0.050	06/16/2017	ND	2.00	100	2.00	1.60	
Total Xylenes*	**5.34**	0.150	06/16/2017	ND	5.41	90.2	6.00	1.67	
Total BTEX	**7.61**	0.300	06/16/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *124 %* *72-148*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**52000**	16.0	06/16/2017	ND	400	100	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	**114**	50.0	06/16/2017	ND	184	91.8	200	2.50	
DRO >C10-C28	**1650**	50.0	06/16/2017	ND	180	90.2	200	2.35	
EXT DRO >C28-C36	**450**	50.0	06/16/2017	ND					

Surrogate: 1-Chlorooctane *106 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *110 %* *34.7-157*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

KANE ENVIROMENTAL
KEVIN ELROD
8816 BIG VIEW DRIVE
AUSTIN TX, 78730
Fax To:

Received:	06/15/2017	Sampling Date:	06/14/2017
Reported:	06/20/2017	Sampling Type:	Soil
Project Name:	CANDELARIO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BKG (H701564-06)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/16/2017	ND	2.03	102	2.00	1.49	
Toluene*	<0.050	0.050	06/16/2017	ND	1.95	97.5	2.00	0.585	
Ethylbenzene*	<0.050	0.050	06/16/2017	ND	2.00	100	2.00	1.60	
Total Xylenes*	<0.150	0.150	06/16/2017	ND	5.41	90.2	6.00	1.67	
Total BTEX	<0.300	0.300	06/16/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *113 %* *72-148*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	06/16/2017	ND	400	100	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	<10.0	10.0	06/16/2017	ND	184	91.8	200	2.50	
DRO >C10-C28	<10.0	10.0	06/16/2017	ND	180	90.2	200	2.35	
EXT DRO >C28-C36	<10.0	10.0	06/16/2017	ND					

Surrogate: 1-Chlorooctane *95.5 %* *28.3-164*

Surrogate: 1-Chlorooctadecane *79.3 %* *34.7-157*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Kane	BILL TO P.O. #:	
Project Manager:	Kevin Elrod	Company:	Kane
Address:	8816 Big View Dr	Attn:	Alan Kane
City:	Austin State: TX Zip: 78730	Address:	8816 Big View
Phone #:	9794508307 Fax #:	City:	Austin
Project #:	Project Owner:	State: TX Zip:	78730
Project Name:	Candelario	Phone #:	281-370-6580
Project Location:		Fax #:	
Sampler Name:	Kevin Elrod		

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING DATE	TIME	ANALYSIS REQUEST: BTEX 8021	TPH 8015 Extended	Chlorides 4500
H701564																	
1	S-1	G	1			X							6/14/17	8:35	X	X	X
2	S-2		1			X								8:57	X	X	X
3	S-3		1			X								9:20	X	X	X
4	S-4		2			X								9:40	X	X	X
5	S-5		1			X								10:05	X	X	X
6	BKG		1			X							↓	8:11	X	X	X

Relinquished By: Kevin Elrod	Date: 6/15/17 Time: 12:15	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: 6-15-17 Time: 12:15	Received By: Tamara Oldaker	Fax Result: ☐ Yes ☐ No Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No	CHECKED BY: (Initials) T.O. HS	REMARKS:

5.3°C

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326