Cimarex Energy Company
Sandy & Forty-Niner Tank Battery
Site Closure Report
Incident ID nRM2014958679
August 2020

Purpose of Report:

The purpose of this report is to document remedial activities and present supporting analytical data to the NMOCD and NMBLM, requesting closure of incident ID nRM2014958679.

Summary of Field Activities:

1. Impacted Soil Removal

   On July 28, 2020 a hydro-vac truck was mobilized to the site and began excavation of the off pad impacted soil. Impacted soil was removed utilizing a hydro-vac to depths ranging from one (1) to three (3) feet below ground surface (bgs). Excavation activities were completed and confirmation soil samples were collected. Please refer to Figure 1 and Figure 2 for sample locations.

2. Excavated Soil

   Excavated soil was removed from location and disposed of at R360 located in Lea County.

3. Confirmation Soil Sampling and Analytical Results

   On July 28, 2020, two (2) composite confirmation soil samples (BH-1 and BH-2) were collected from the excavated area. The soil samples were submitted to the laboratory for chloride analysis using Method EPA 300.0. A summary of Chloride Concentration in Soil is provided as Table 1. Laboratory analytical results are provided as Appendix C. A review of the laboratory analytical results indicated Chloride concentrations were below NMOCD regulatory limits of 600 mg/kg for all submitted soil samples.

   On July 31, 2020, three (3) composite confirmation soil samples (BH-3, BH-4, and BH-5) were collected from the excavated area. The soil samples were submitted to the laboratory for chloride analysis using Method EPA 300.0. A summary of Chloride Concentration in Soil is provided as Table 1. Laboratory analytical results are provided as

Appendix C. A review of the laboratory analytical results indicated Chloride concentrations were below NMOCD regulatory limits of 600 mg/kg for all submitted soil samples.

4. Backfilling and Site Restoration

Based on the analytical results of the confirmation soil samples the excavated area is ready for backfill. We will lay a 30 mil liner in the excavation before we backfill.

5. Summary and Request for Closure

Based on analytical results of laboratory analyzed confirmation soil samples from the excavation off pad, the horizontal and vertical extent of the referenced produced water release has been delineated, and the impacted soil has been removed and disposed of. Due to safety and operational concerns, the impacted area on pad will be remediated when the facility is reclaimed and the remediation activities can be safely performed. We respectfully request the NMOCD and BLM grant closure to the Forty-Niner & Sandy Release incident ID nRM2014958679.

TABLES

Table 1

CONCENTRATIONS OF CHLORIDES IN SOIL

Cimarex Energy Company
Forty-Niner & Sandy Battery
Eddy County, NM

All concetrations are in mg/kg

SAMPLE LOCATION	SAMPLE DATE	SAMPLE DEPTH (ft)	CHLORIDE (MG/KG)
BH-1	7/29/2020	0-0.5	26.2
BH-2	7/29/2020	0-0.5	31.2
BH-3	7/31/2020	0-0.5	36.6
BH-4	7/31/2020	0-0.5	22.4
BH-5	7/31/2020	0-0.5	15.8

APPENDICES

APPENDIX A:

NMOCD C-141 FORM

State of New Mexico
Oil Conservation Division

Incident ID	nRM2014958679
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Gloria Garza_____ Title: ESH Specialist_____

Signature: gloria garza_____ Date: 8/13/2020_____

email: ggarza@cimarex.com_____ Telephone: (432) 571-7800_____

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

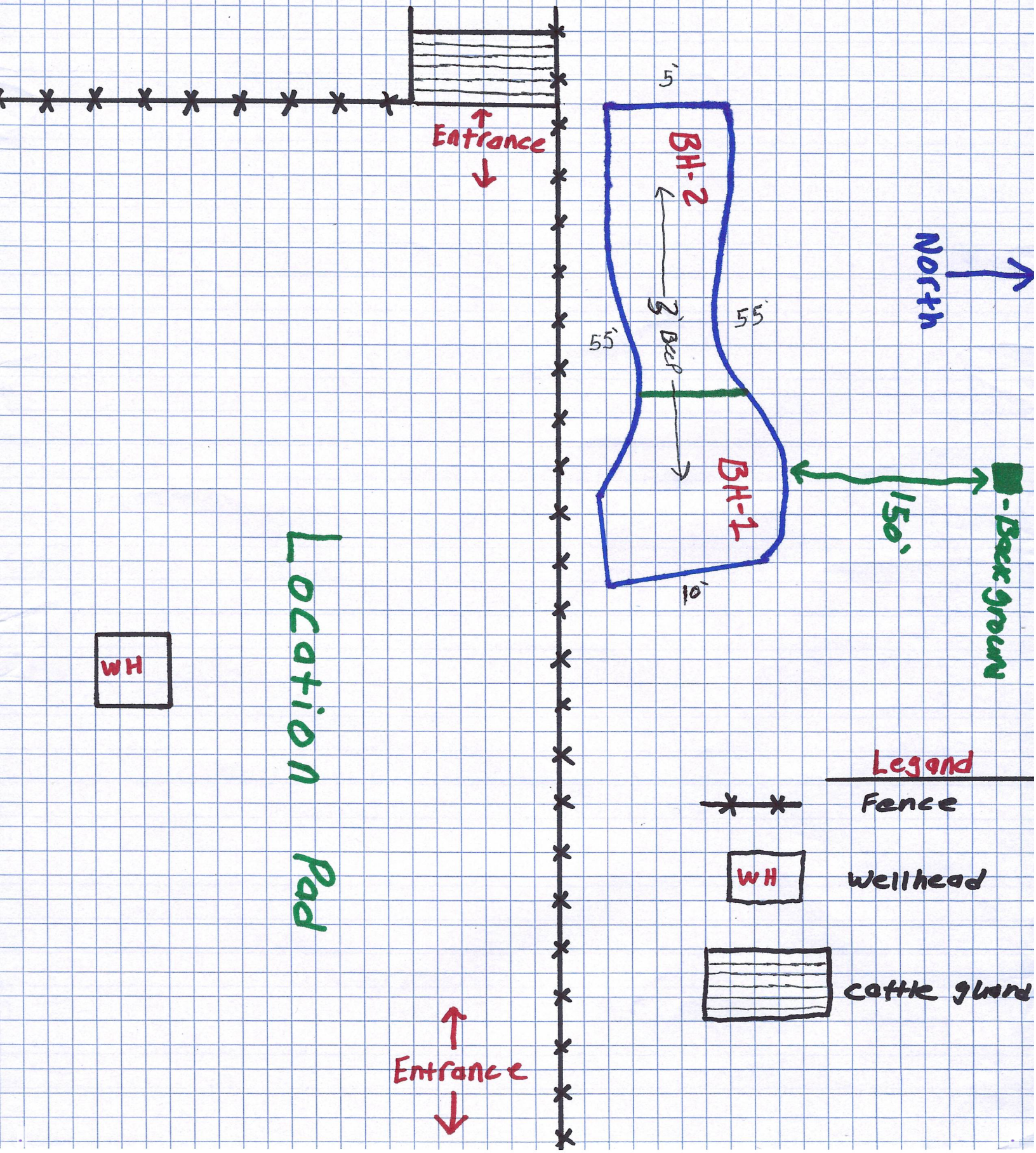
Printed Name: _____ Title: _____

APPENDIX B:

Photographic Documentation

FIGURE 1

Cimarex - July 29, 2020 — Forty Niner & Sandy Battery



LEGEND

- Spill sample locations
- 2.5' – 3' proposed excavation area
- Above ground poly line
- Flex pipe

CIMAREX

Forty Niner & Sandy Battery
(32.28411, -103.84491)

PROPOSED EXCAVATION AREA
& DEPTH MAP
EDDY COUNTY, NEW MEXICO

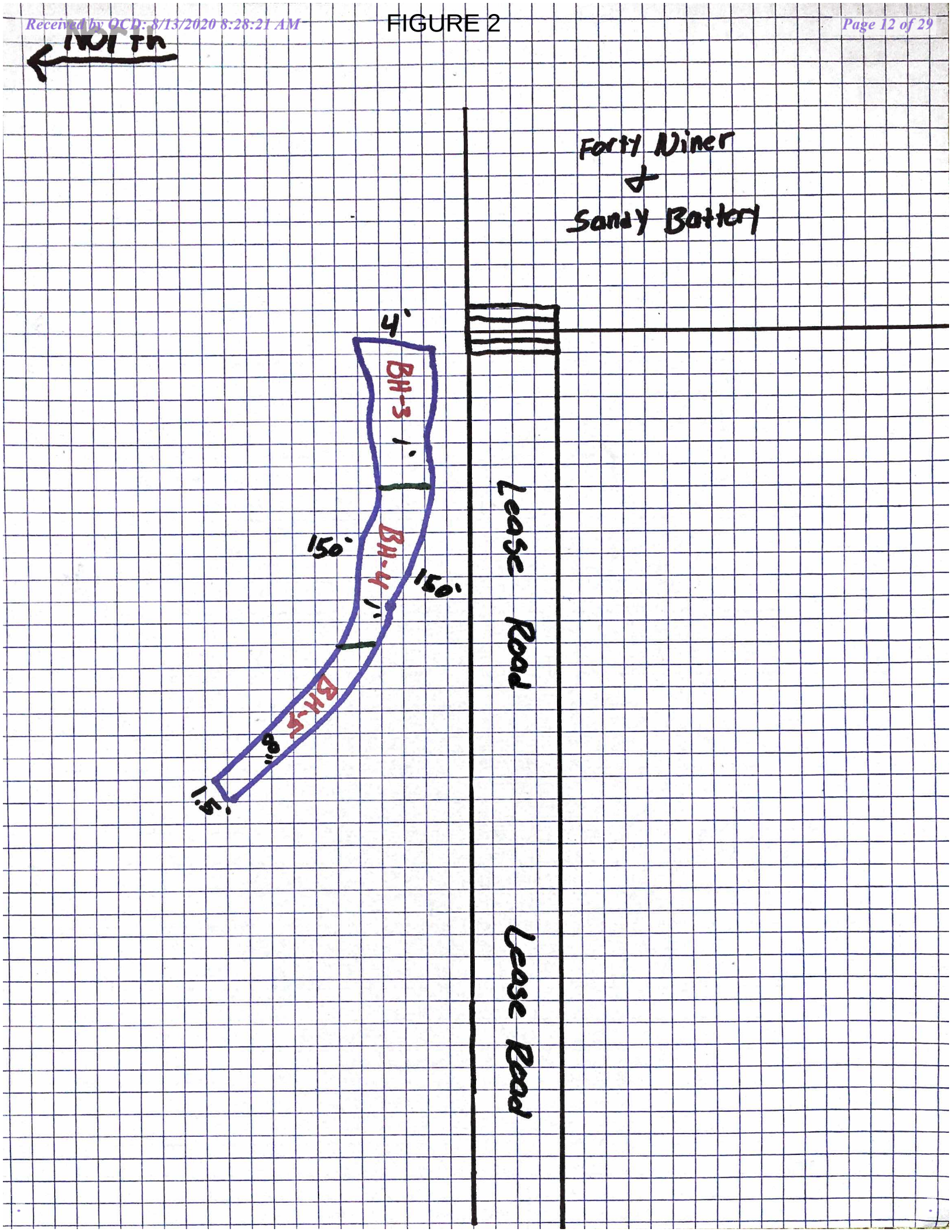
N NE E
0 30 60 90

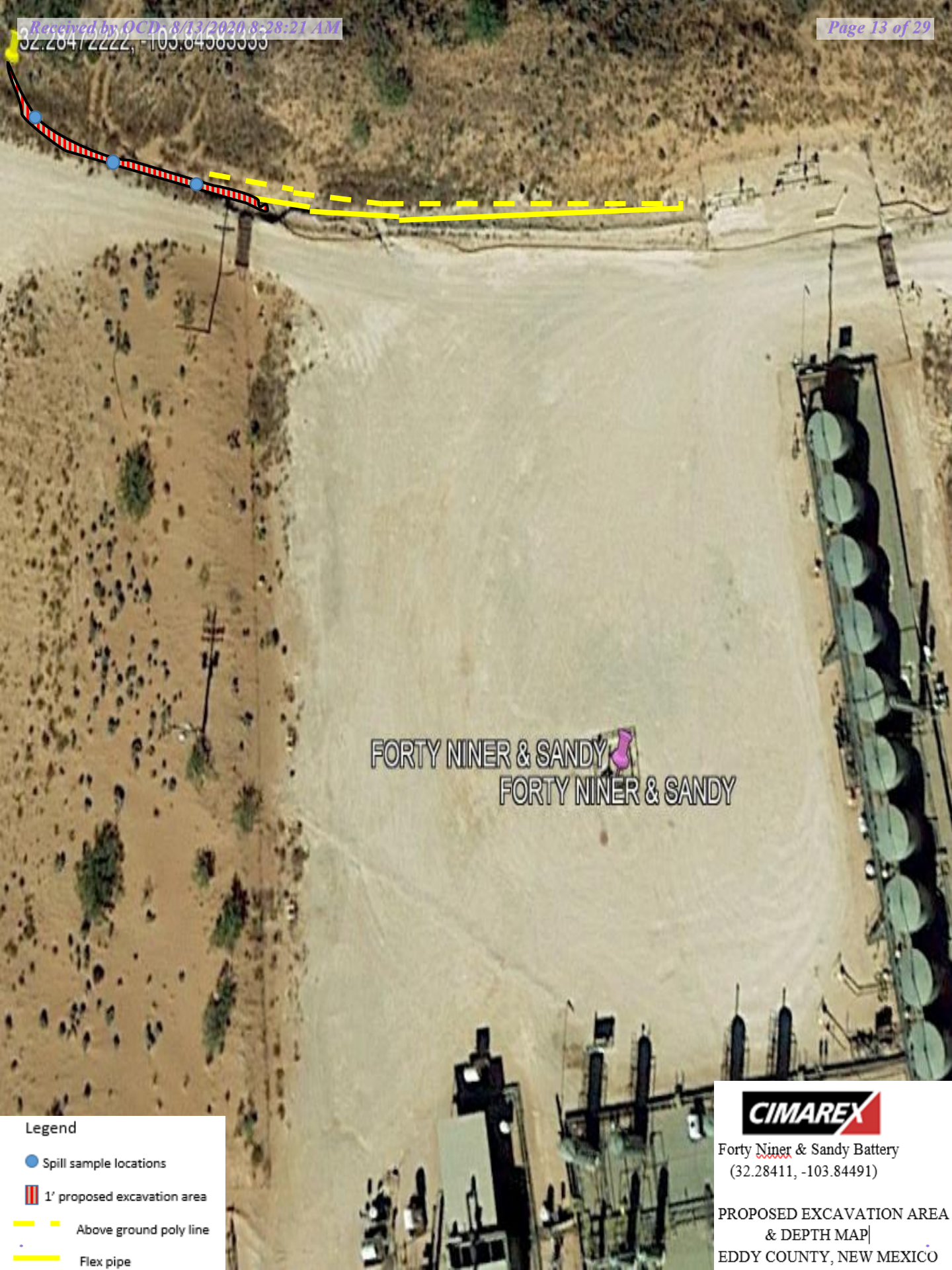
45°NE (T) 32°17'4"N, 103°50'43"W ±19ft ▲3289ft

Laci Luig

Sandy-Forty Niner Battery
04 Aug 2020, 12:46:13

FIGURE 2


North
Forty Niner
&
Sandy Battery
4'
BH-3
1'
150'
BH-4
1'
150'
BH-5
1'
Lease Road
Lease Road



CIMAREX

Forty Niner & Sandy Battery
(32.28411, -103.84491)

PROPOSED EXCAVATION AREA
& DEPTH MAP
EDDY COUNTY, NEW MEXICO

NE E SE

30 60 90 120

76°E (T) 32°17'5"N, 103°50'44"W ±16ft 3288ft

Laci Luig

Sandy-Forty Niner Battery
04 Aug 2020, 12:44:56

APPENDIX C:

Laboratory Analytical Reports and Chain-of-Custody Documentation

PERMIAN BASIN
ENVIRONMENTAL LAB, LP
1400 Rankin Hwy
Midland, TX 79701

PBELAB

Analytical Report

Prepared for:

Stuart Wittenbach

Cimarex

600 N. Marinfeld, Ste. 600

Midland, TX 79701

Project: Forty Niner & Sandy Battery

Project Number: [none]

Location: Eddy County, NM

Lab Order Number: 0H03001

NELAP ACCREDITED TNI LABORATORY

NELAP/TCEQ # T104704516-17-8

Report Date: 08/04/20

Cimarex
600 N. Marinfeld, Ste. 600
Midland TX, 79701

Project: Forty Niner & Sandy Battery
Project Number: [none]
Project Manager: Stuart Wittenbach

Fax: (432) 571-7832

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-1 @ 6"	0H03001-01	Soil	07/29/20 10:00	08-03-2020 09:07
BH-2 @ 6"	0H03001-02	Soil	07/29/20 10:10	08-03-2020 09:07
BH-3 @ 6"	0H03001-03	Soil	07/31/20 11:10	08-03-2020 09:07
BH-4 @ 6"	0H03001-04	Soil	07/31/20 11:15	08-03-2020 09:07
BH-5 @ 6"	0H03001-05	Soil	07/31/20 11:20	08-03-2020 09:07
Background @ 6"	0H03001-06	Soil	07/29/20 10:20	08-03-2020 09:07

Cimarex	Project: Forty Niner & Sandy Battery	Fax: (432) 571-7832
600 N. Marinfeld, Ste. 600	Project Number: [none]	
Midland TX, 79701	Project Manager: Stuart Wittenbach	

BH-1 @ 6"

0H03001-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**26.2**	1.09	mg/kg dry	1	P0H0304	08/03/20	08/03/20	EPA 300.0	
% Moisture	**8.0**	0.1	%	1	P0H0305	08/03/20	08/03/20	ASTM D2216	

Cimarex	Project: Forty Niner & Sandy Battery	Fax: (432) 571-7832
600 N. Marinfeld, Ste. 600	Project Number: [none]	
Midland TX, 79701	Project Manager: Stuart Wittenbach	

BH-2 @ 6"

0H03001-02 (Soil)

Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloride	**31.2**	1.09	mg/kg dry	1	P0H0304	08/03/20	08/03/20	EPA 300.0	
% Moisture	**8.0**	0.1	%	1	P0H0305	08/03/20	08/03/20	ASTM D2216	

Cimarex	Project: Forty Niner & Sandy Battery	Fax: (432) 571-7832
600 N. Marinfeld, Ste. 600	Project Number: [none]	
Midland TX, 79701	Project Manager: Stuart Wittenbach	

BH-3 @ 6"

0H03001-03 (Soil)

Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloride	**36.6**	1.06	mg/kg dry	1	P0H0304	08/03/20	08/03/20	EPA 300.0	
% Moisture	**6.0**	0.1	%	1	P0H0305	08/03/20	08/03/20	ASTM D2216	

Cimarex	Project: Forty Niner & Sandy Battery	Fax: (432) 571-7832
600 N. Marinfeld, Ste. 600	Project Number: [none]	
Midland TX, 79701	Project Manager: Stuart Wittenbach	

BH-4 @ 6"

0H03001-04 (Soil)

Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloride	**22.4**	1.06	mg/kg dry	1	P0H0304	08/03/20	08/03/20	EPA 300.0	
% Moisture	**6.0**	0.1	%	1	P0H0305	08/03/20	08/03/20	ASTM D2216	

Cimarex	Project: Forty Niner & Sandy Battery	Fax: (432) 571-7832
600 N. Marinfeld, Ste. 600	Project Number: [none]	
Midland TX, 79701	Project Manager: Stuart Wittenbach	

BH-5 @ 6"

0H03001-05 (Soil)

Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloride	**15.8**	1.03	mg/kg dry	1	P0H0304	08/03/20	08/03/20	EPA 300.0	
% Moisture	**3.0**	0.1	%	1	P0H0305	08/03/20	08/03/20	ASTM D2216	

Cimarex	Project: Forty Niner & Sandy Battery	Fax: (432) 571-7832
600 N. Marinfeld, Ste. 600	Project Number: [none]	
Midland TX, 79701	Project Manager: Stuart Wittenbach	

Background @ 6"

0H03001-06 (Soil)

Permian Basin Environmental Lab, L.P.

General Chemistry Parameters by EPA / Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloride	**11.1**	1.01	mg/kg dry	1	P0H0304	08/03/20	08/03/20	EPA 300.0	
% Moisture	**1.0**	0.1	%	1	P0H0305	08/03/20	08/03/20	ASTM D2216	

Cimarex	Project: Forty Niner & Sandy Battery	Fax: (432) 571-7832
600 N. Marinfeld, Ste. 600	Project Number: [none]	
Midland TX, 79701	Project Manager: Stuart Wittenbach	

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P0H0304 - * DEFAULT PREP *** **										
Blank (P0H0304-BLK1)				Prepared: 08/03/20 Analyzed: 08/04/20						
Chloride	ND	1.00	mg/kg wet							
LCS (P0H0304-BS1)				Prepared & Analyzed: 08/03/20						
Chloride	401	1.00	mg/kg wet	400		100	80-120			
LCS Dup (P0H0304-BSD1)				Prepared & Analyzed: 08/03/20						
Chloride	401	1.00	mg/kg wet	400		100	80-120	0.125	20	
Calibration Blank (P0H0304-CCB1)				Prepared: 08/03/20 Analyzed: 08/04/20						
Chloride	0.00		mg/kg wet							
Calibration Blank (P0H0304-CCB2)				Prepared: 08/03/20 Analyzed: 08/04/20						
Chloride	0.00		mg/kg wet							
Calibration Check (P0H0304-CCV1)				Prepared & Analyzed: 08/03/20						
Chloride	20.2		mg/kg	20.0		101	0-200			
Calibration Check (P0H0304-CCV2)				Prepared & Analyzed: 08/03/20						
Chloride	20.6		mg/kg	20.0		103	0-200			
Calibration Check (P0H0304-CCV3)				Prepared & Analyzed: 08/03/20						
Chloride	21.2		mg/kg	20.0		106	0-200			
Matrix Spike (P0H0304-MS1)		**Source: 0H03001-01**		Prepared & Analyzed: 08/03/20						
Chloride	534	1.09	mg/kg dry	543	26.2	93.5	80-120			
Matrix Spike (P0H0304-MS2)		**Source: 0H03002-05**		Prepared & Analyzed: 08/03/20						
Chloride	12800	25.8	mg/kg dry	2580	10000	108	80-120			

Cimarex	Project: Forty Niner & Sandy Battery	Fax: (432) 571-7832
600 N. Marinfeld, Ste. 600	Project Number: [none]	
Midland TX, 79701	Project Manager: Stuart Wittenbach	

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P0H0304 - * DEFAULT PREP *** **										
Matrix Spike Dup (P0H0304-MSD1)	**Source: 0H03001-01**			Prepared & Analyzed: 08/03/20						
Chloride	592	1.09	mg/kg dry	543	26.2	104	80-120	10.3	20	
Matrix Spike Dup (P0H0304-MSD2)	**Source: 0H03002-05**			Prepared & Analyzed: 08/03/20						
Chloride	12700	25.8	mg/kg dry	2580	10000	104	80-120	0.830	20	
Batch P0H0305 - * DEFAULT PREP *** **										
Blank (P0H0305-BLK1)				Prepared & Analyzed: 08/03/20						
% Moisture	ND	0.1	%							
Blank (P0H0305-BLK2)				Prepared & Analyzed: 08/03/20						
% Moisture	ND	0.1	%							
Blank (P0H0305-BLK3)				Prepared & Analyzed: 08/03/20						
% Moisture	ND	0.1	%							
Duplicate (P0H0305-DUP1)	**Source: 0H03002-04**			Prepared & Analyzed: 08/03/20						
% Moisture	5.0	0.1	%		5.0			0.00	20	
Duplicate (P0H0305-DUP2)	**Source: 0H03002-14**			Prepared & Analyzed: 08/03/20						
% Moisture	4.0	0.1	%		3.0			28.6	20	
Duplicate (P0H0305-DUP3)	**Source: 0H03003-15**			Prepared & Analyzed: 08/03/20						
% Moisture	3.0	0.1	%		3.0			0.00	20	
Duplicate (P0H0305-DUP4)	**Source: 0H03003-25**			Prepared & Analyzed: 08/03/20						
% Moisture	6.0	0.1	%		5.0			18.2	20	

Cimarex	Project: Forty Niner & Sandy Battery	Fax: (432) 571-7832
600 N. Marinfeld, Ste. 600	Project Number: [none]	
Midland TX, 79701	Project Manager: Stuart Wittenbach	

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P0H0305 - * DEFAULT PREP *** **										
Duplicate (P0H0305-DUP5)		**Source: 0H03003-40**		Prepared & Analyzed: 08/03/20						
% Moisture	5.0	0.1	%		5.0			0.00	20	

Cimarex	Project: Forty Niner & Sandy Battery	Fax: (432) 571-7832
600 N. Marinfeld, Ste. 600	Project Number: [none]	
Midland TX, 79701	Project Manager: Stuart Wittenbach	

Notes and Definitions

BULK	Samples received in Bulk soil containers
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Brent Barron Date: 8/4/2020

Brent Barron, Laboratory Director/Technical Director

OH03001

LMB CK TB

CIMAREX

CHAIN OF CUSTODY RECORD

001310

Facility Name: Forty Niner & Sandy Battery	Analytical Laboratory Name: PBE Lab		Today's Date: 8-3-20
Address:	Address: 1400 Rankin Hwy	City: Midland	Zip: 79701
City: Eddy / State: NM / Zip:	Contact Name and Report to: Stuart Wittenbach		Page: 1 / Of: 1
Sample Group Identifier:	Phone: 918-404-1084	Fax:	
Site/Project Name or Identifier: Forty Niner & Sandy Battery	Carrier Waybill Number:		
Special Instructions: Rush			

Station Name or Sample ID	Sample Date	Time 24 hrs	Matrix	Sample Top	Sample Btm	Size	Containers Type	Containers No.	Filtered Y	Filtered N	Preservative	Comments	Analysis/Analytes: Chloride
BH-1	7-29	10:00	Soil	0"	6"	Quart	Plastic bag		☐	☒			☒
BH-2	7-29	10:10	Soil	0"	6"	Quart	Plastic bag		☐	☒			☒
BH-3	7-31	11:10	Soil	0"	6"	Quart	Plastic bag		☐	☒			☒
BH-4	7-31	11:15	Soil	0"	6"	Quart	Plastic bag		☐	☒			☒
BH-5	7-31	11:20	Soil	0"	6"	Quart	Plastic bag		☐	☒			☒
Background	7-29	10:20	Soil	0"	6"	Quart	Plastic bag		☐	☒			☒
									☐	☐			☐
									☐	☐			☐
									☐	☐			☐
									☐	☐			☐
									☐	☐			☐
									☐	☐			☐
									☐	☐			☐

Notes:

Potential Hazardous Characteristics

☒ Non-Haz ☐ RCRA D001, 2&3, or 4 ☐ RCRA Listed ☐ Radioactive ☐ Unknown

Sample Disposal

☒ Disposal by Lab ☐ Return to Client ☐ Hold pending further instructions

22@ 23.6 CF+1 L2

1. Relinquished by:	Date: 8-3-20	Time: 9:07	2. Received by: Bruce Bledsoe	Date: 8/3/20	Time: 9:07
3. Relinquished by	Date	Time	4. Received by	Date	Time
5. Relinquished by	Date	Time	6. Received by	Date	Time
Comments			Samples released by or H.P. name	Date	Time
Comments			Send iovoice to ESH Departmeot		

Version 1: 4/21/2015

Original – Send to lab with sample Yellow – Return to ESH Pink – Remain in book