District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NVF1907328394
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party **BPX Energy** (formerly BP America Production Co.)	OGRID **778**	**Final Closure Report**
Contact Name **Steve Moskal**	Contact Telephone **(505) 330-9179**	
Contact email **steve.moskal@bpx.com**	Incident # *(assigned by OCD)* **nVF1907328394**	
Contact mailing address **1199 Main Ave., Suite 101, Durango, CO 81301**		

Location of Release Source

Latitude **36.65827** Longitude **-107.71018**
(NAD 83 in decimal degrees to 5 decimal places)

Site Name **Riddle F LS 001 (P&A site)**	Site Type **Natural Gas Production Well Pad**
Date Release Discovered	API# *(if applicable)* **30-045-07407**

Unit Letter	Section	Township	Range	County
L	**17**	**28N**	**08W**	**San Juan**

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) **N/A Historical Stockpiles**	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Approximately 25 years ago, hydrocarbon and produced water impacted soils were placed on the Riddle F LS 001 plugged and abandoned well pad for on-site remediation. Remediation Plan was submitted to the New Mexico Oil Conservation Divisions's (NMOCD) District III Aztec Office, dated 04/11/2019 (included). Closure sampling of the stockpiles and vadose zone are included in this final report.

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	nVF1907328394
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: Erin Dunman
Title: Field Environmental Coordinator

Signature: DocuSigned by: Erin Dunman FE49953C960A4BA...
Date: 09-Dec-2019

email: erin.dunman@bpx.com
Telephone: 832-609-7048

OCD Only

Received by: OCD
Date: 12/10/2019

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: 2/27/2020

Printed Name: Cory
Title: Environmental Specialist

BPX Energy Inc.

(*Formerly BP America Production Company*)

Riddle F LS 001

API #: 30-045-07407 Incident #: nVF1907328394

(L) Sec 17 – T28N – R08W, San Juan County, New Mexico

Summary Record of Stockpile Soils Remediation

August 5, 2005	Initial sampling of treated stockpile soils (TSS) completed. A total of six (6) composite samples collected (*see Stockpile 2005 Sampling Event Section*).
December 14, 2018	Subsequent sampling of tss completed. A total of twenty (20) composite samples collected (*see Stockpile 2018 Sampling Event Section*).
April 11, 2019	Form C-141 Initial Report with Remediation Plan draft completed. Submitted & received by the New Mexico Oil Conservation Division (**NMOCD**) on same day via email. NMOCD approved on May 3, 2019 (*see Form C-141 Initial Report with Remediation Plan Section*).
July 2019	Initiated stockpile removal to Klein Mesa & Pine Mesa Pits.
August 2019	Completed stockpile removal. 11,935 cubic yards (c.y.) transported to Klein Mesa Pit and 5,095 c.y. to Pine Mesa Pit.
August 29, 2019	Conducted vadose zone sampling of TSS areas (*see Vadose Zone Confirmation Section*).
September 11, 2019	Received 08/29/2019 vadose zone sampling laboratory report. A total of seven (7) areas exceeded 19.15.29 NMAC allowable concentrations for chloride and two (2) for Total Petroleum Hydrocarbons (TPH) per US EPA Method 8015M.
August 26, 2019	Initiated additional soil removal of the seven (7) vadose zone areas. All areas excavated approximately two (2) feet in depth. Estimation of 200 c.y. were removed from each area or 1,400 c.y. total. Soils transported to Pine Mesa Pit (overall total - 6,495 c.y.).
October 3, 2019	Conducted subsequent sampling of the seven (7) vadose zone TSS areas.
October 7, 2019	Received 10/03/2019 final laboratory report.
October 11, 2019	Recontouring of overall TSS area completed.

BLAGG ENGINEERING, INC.
P.O. Box 87, Bloomfield, New Mexico 87413
Phone: (505)632-1199 Fax: (505)632-3903

April 17, 2019

Mr. Steve Moskal
BPX Energy
1199 Main Ave, Ste. 101
Durango, Colorado 81301

Re: Riddle Soil Piles – Site History
(L) Sec 17 – T28N – R8W
San Juan County, NM

Dear Mr. Moskal:

At your request, Blagg Engineering, Inc. (BEI) has reviewed the origin, history and sampling analytical results of the soil stockpiles located at the Riddle F LS #1 (PxA) well site located in Largo Canyon, San Juan County, New Mexico (Figure 1). Detailed below are the results of this review.

Site History

Remedial stockpiles were first created at the Riddle F LS #1 wellsite in February, 1997 following a remedial excavation of hydrocarbon impacted soils on the well pad. The exact volume of soils was not established but estimated at between 10,000 – 12,000 cubic yards (CY). Additional soils were transported to the well pad for remediation in April, 1997 following a remedial excavation of hydrocarbon impacted soils at the Gooch #1E and Riddle F LS #3, a shared wellsite located at (F) Sec. 20 – T28N – R8W (also in the Largo Canyon, south of the Riddle F LS #1). The Gooch #1E/Riddle F LS #3 combined soil volume was estimated at approximately 4,150 CY. Cow manure was incorporated into all the soil stockpiles to augment remediation.

The stockpiles were first sampled for closure on August 5, 2005. At that time there were eight (8) separate piles identified (Figure 2). The estimated total volume of soil included in all stockpiles combined was 12,000 CY. Sampling was conducted using a backhoe to dig into the piles for collection of composite samples. Due to the relative pile sizes, composites for Piles #1 and #2 were combined, Piles #3 and #4 were combined, and the remained Piles #5, #6, #7 and #8 were composited individually. Laboratory testing only included U.S. EPA Method 8015 (total petroleum hydrocarbons, TPH). New Mexico Oil Conservation Division (NMOCD) guidelines in place at the time did not require to run U.S. EPA Method 8021 (BTEX) if field organic vapor meter testing reported below 100 ppm, which all composite piles passed. Additionally, chlorides were not regulated for onsite remedial activities in 2005 and these weren't included for analysis. This sample event was not witnessed by either NMOCD or BLM.

A second round of stockpile sampling was conducted on December 14, 2018. This sampling was performed to determine the existing state of remediation and to include U.S. EPA Method 8021 (BTEX) and Method 300 (Chlorides) as requested by NMOCD. It was clearly evident that large portions of Piles #1, #2 and #3 had been removed since the original August 2005 sample event. It was estimated that approximately 10,000 CY soil remained. For this event the stockpiles were measured into segments of approximately 500 CY each and an excavator trackhoe was used to collect 5-point composites from within each segment for laboratory analytical testing. NMOCD and BLM representatives were present to observe the sample event. The results of this sampling were documented in letter report to BPX Energy prepared by BEI dated December 21, 2018.

Sampling Analytical Results

The initial August, 2005 sample event included field organic meter testing and laboratory TPH analysis via U.S. EPA Method 8015, as required by NMOCD guidelines. Summary results from this were reported as follows:

TABLE 1
Riddle Stockpiles
Summary August 2005 Test Results

Sample ID	Number Composites	Field OVM (part per million)	Laboratory TPH (mg/Kg)
Pile 1 and Pile 2	12	6.6	67
Pile 3 and Pile 4	12	2.2	72
Pile 5	6	0.8	ND
Pile 6	7	1.1	11
Pile 7	8	1.4	82
Pile 8	6	0.4	85
NMOCD Closure Standard		100	100

ND = not detected

All piles passed regulatory standards in place at the time of sampling. BEI is not aware if these results were submitted to the regulatory community with a request for closure following this sample event.

The follow-up December, 2018 sample event included field OVM and laboratory testing via U.S. EPA Methods 8015 (TPH), 8021 (BTEX) and 300 (Chlorides) as requested by NMOCD. Summary results were reported as follows:

TABLE 2
Riddle Stockpiles
Summary December 2018 Test Results

Sample ID	Volume (CY)	Number Composites	Field OVM	Laboratory BTEX (mg/Kg)	Laboratory TPH (mg/Kg)	Laboratory Chlorides (mg/Kg)
Piles 1A+3B	500	5	0.5	ND	ND	914
Pile 2A	500	5	0.6	ND	ND	878
Pile 3A	500	5	0.5	ND	ND	860
Pile 4A	500	5	0.4	ND	ND	1,100
Pile 4B	500	5	0.6	ND	ND	907
Pile 4C	500	5	0.5	ND	ND	1,040
Pile 5A	500	5	0.3	ND	ND	1,260
Pile 5B	500	5	0.4	ND	ND	959
Pile 5C	500	5	0.5	ND	ND	812
Pile 6A	500	5	0.5	ND	ND	1,930
Pile 6B	500	5	0.6	ND	ND	1,250
Pile 6C	500	5	0.4	ND	ND	1,180
Pile 6D	500	5	0.3	ND	ND	964
Pile 7A	500	5	0.3	ND	ND	1,260
Pile 7B	500	5	0.4	ND	ND	1,480
Pile 7C	500	5	0.2	ND	ND	1,350
Pile 7D	500	5	0.1	ND	ND	1,340
Pile 8A	500	5	0.1	ND	ND	1,000
Pile 8B	500	5	0.1	ND	ND	1,580
Pile 8C	500	5	0.4	ND	ND	1,360
NMOCD	Closure	Standard:	NA	50	100	600

ND = non detect NA = not applicable

The December, 2018 analytical results indicate that the only constituent exceeding current closure requirements is chloride. All samples failed, with values ranging between 812 – 1,930 mg/Kg. The 600 mg/Kg closure standard only applies to soils within the first 4 feet of ground surface, or any soils within 50 feet of groundwater. Groundwater at the Riddle F LS #1 wellsite is less that 10 feet from ground surface.

Questions or comments with respect to this transmittal may be directed to myself at (505)320-1183. BEI appreciates the opportunity to provide services to BPX.

Respectfully,
Blagg Engineering, Inc.

Jeffrey C Blagg

Jeffrey C. Blagg, P.E.
President

Attachments: Site Location Map
Site Figures
August 2005 Sampling Figure and Laboratory Reports
December 2018 Sampling Figure and Laboratory Reports

BPX Energy Inc.

(*Formerly BP America Production Company*)

Riddle F LS 001 - API: 30-045-07407

(L) Sec 17 – T28N – R08W, San Juan County, New Mexico

Stockpile Vadose Zone Closure Sampling Test Results

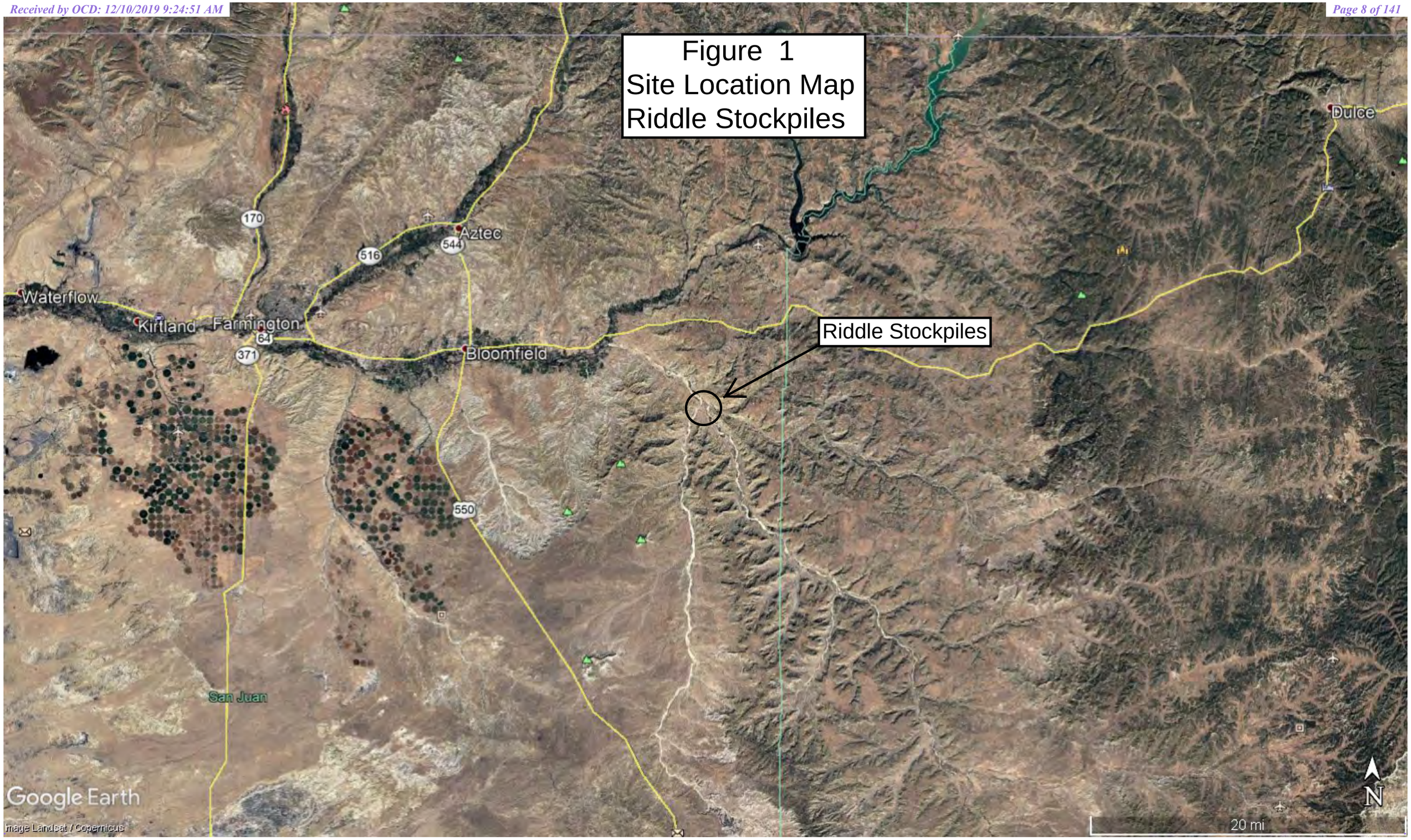
August 29, 2019 & [October 3, 2019 – designated with sample ID ending in (x)]

(see attached aerial map for sample ID area designations)

Sample ID	Time	# Comp. Points	Comp. Depths (inches)	Field OVM (ppm)	Benzene (mg/Kg)	Total BTEX (mg/Kg)	TPH GRO (mg/Kg)	TPH DRO (mg/Kg)	TPH MRO (mg/Kg)	Total TPH (mg/Kg)	Chloride (mg/Kg)
SP – VZ #1	1036	6	10-12	4.2	ND	ND	ND	13	88	**101**	**820**
SP – VZ #1 (x)	1211	6	18-24	NA	NA	NA	ND	ND	ND	ND	360
SP – VZ #2	1041	7	10-12	2.5	ND	ND	ND	ND	ND	ND	310
SP – VZ #3	1045	6	10-12	2.2	ND	ND	ND	ND	ND	ND	460
SP – VZ #4	1049	6	10-12	4.4	ND	ND	ND	ND	ND	ND	**870**
SP – VZ #4 (x)	1214	6	18-24	NA	NA	NA	NA	NA	NA	NA	380
SP – VZ #5	1052	6	10-12	1.1	ND	ND	ND	10	84	94	**660**
SP – VZ #5 (x)	1217	6	18-24	NA	NA	NA	NA	NA	NA	NA	260
SP – VZ #6	1056	6	10-12	1.5	ND	ND	ND	ND	ND	ND	440
SP – VZ #7	1058	4	10-12	1.1	ND	ND	ND	ND	ND	ND	310
SP – VZ #8	1102	6	10-12	2.4	ND	ND	ND	ND	55	55	**850**
SP – VZ #8 (x)	1220	6	18-24	NA	NA	NA	NA	NA	NA	NA	300
SP – VZ #9	1106	6	10-12	1.2	ND	ND	ND	ND	92	92	**780**
SP – VZ #9 (x)	1223	6	18-24	NA	NA	NA	NA	NA	NA	NA	270
SP – VZ #10	1110	7	10-12	0.8	ND	ND	ND	ND	ND	ND	290
SP – VZ #11	1119	6	10-12	0.9	ND	ND	ND	ND	ND	ND	520
SP – VZ #12	1124	6	10-12	1.4	ND	ND	ND	ND	50	ND	560
SP – VZ #13	1130	6	10-12	0.7	ND	ND	ND	ND	ND	ND	450
SP – VZ #14	1134	6	10-12	0.8	ND	ND	ND	ND	99	99	**610**
SP – VZ #14 (x)	1236	6	18-24	NA	NA	NA	NA	NA	NA	NA	360
SP – VZ #15	1141	6	10-12	9.4	ND	ND	ND	ND	57	63	440
SP – VZ #16	1146	6	10-12	1.6	ND	ND	ND	ND	ND	ND	390
SP – VZ #17	1150	6	10-12	1.6	ND	ND	ND	13	89	**102**	**720**
SP – VZ #17 (x)	1229	6	18-24	NA	NA	NA	ND	ND	ND	ND	320
NMOCD Site Closure Standards -					**10**	**50**				**100**	**600**

Notes: OVM – Organic Vapor Meter, ppm – parts per million, mg/Kg – milligram per kilogram, BTEX – benzene, toluene, ethylbenzene, total xylenes, TPH – Total Petroleum Hydrocarbons, GRO – Gasoline Range Organics, DRO – Diesel Range Organics, MRO or ORO – Motor Oil Range Organics, NA – Not Analyzed, ND – Not detected at laboratory reporting limit.

Figure 1
Site Location Map
Riddle Stockpiles

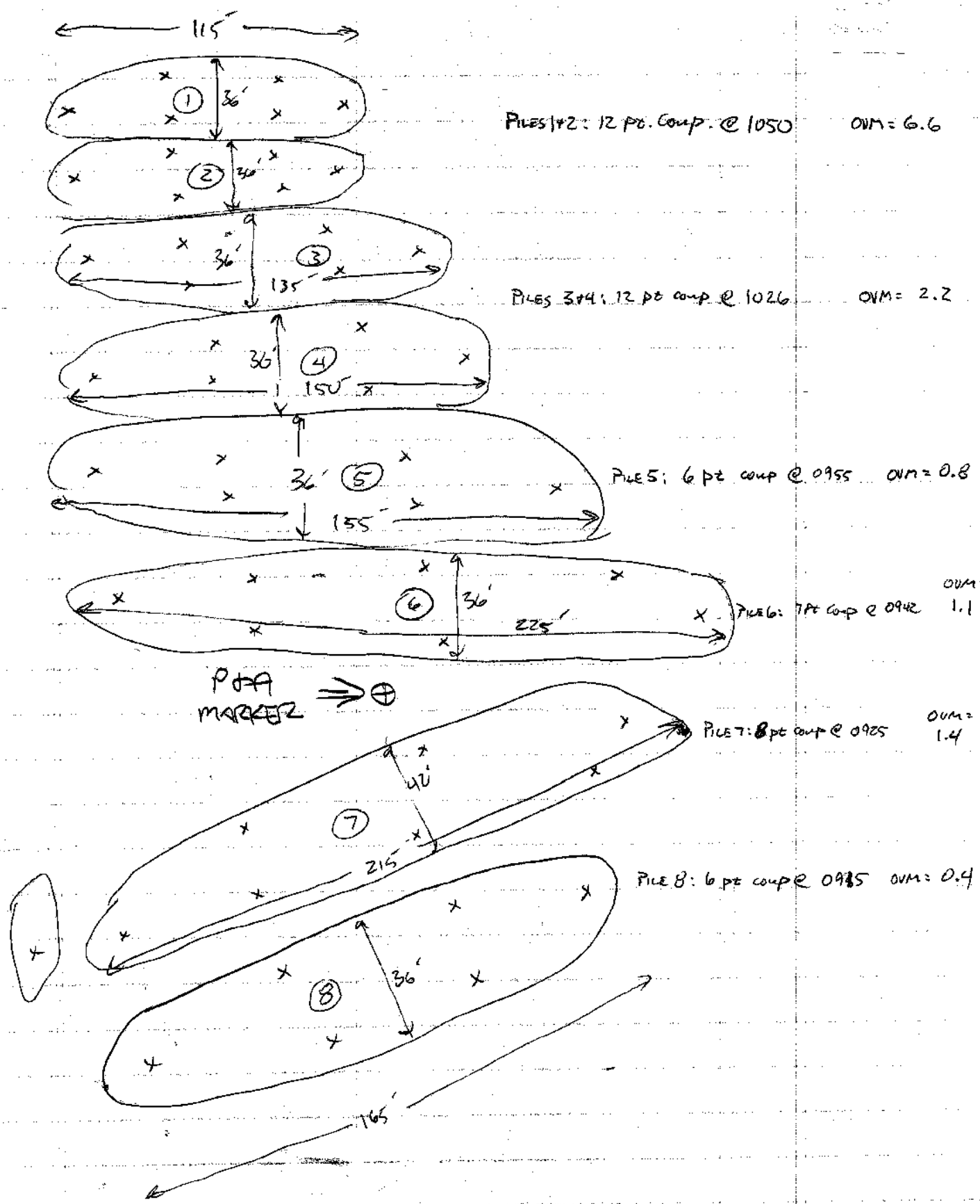


Stockpile 2005 Sampling Event Section

8/5/05

RIDDLE COM 9 (compressor)
RIDDLE FLS 10 "

N



PILES 1+2: 12 pt. Comp. @ 1050 OVM = 6.6

PILES 3+4: 12 pt comp @ 1026 OVM = 2.2

PILE 5: 6 pt comp @ 0955 OVM = 0.8

PILE 6: 7 pt comp @ 0942 OVM = 1.1

PILE 7: 8 pt comp @ 0925 OVM = 1.4

PILE 8: 6 pt comp @ 0985 OVM = 0.4

X = BACKHOE DIG POINT

EACH PILE ~ 14' TALL

CLIENT: BP

BLAGG ENGINEERING, INC.
P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199

LOCATION NO: _____
C.O.C. NO: HALL

FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: RIDDLE LEASE WELL #: PITS:
QUAD/UNIT: SEC: 17 TWP: 28N RNG: 8W PM: NM CNTY: SJ ST: NM
QTR/FOOTAGE: CONTRACTOR: P&S

DATE STARTED: _____
DATE FINISHED: 8-5-05
ENVIRONMENTAL SPECIALIST: JCB

SOIL REMEDIATION:
REMEDIATION SYSTEM: COMPOST
LAND USE: RANGE - BLM
APPROX. CUBIC YARDAGE: 12,200 ±
LIFT DEPTH (ft): NA

FIELD NOTES & REMARKS: NMOCD RANKING SCORE: 30 NMOCD TPH CLOSURE STD: 100 PPM
DEPTH TO GROUNDWATER: < 50 NEAREST WATER SOURCE: > 1000 NEAREST SURFACE WATER: < 1000

SOIL TYPE: (SAND / SILTY SAND) / SILT / SILTY CLAY / CLAY / GRAVEL / OTHER _____
SOIL COLOR: YELLOW TAN
COHESION (ALL OTHERS): (NON COHESIVE) / SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE
CONSISTENCY (NON COHESIVE SOILS): (LOOSE) / FIRM / DENSE / VERY DENSE
PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC
DENSITY (COHESIVE CLAYS & SILTS): SOFT / FIRM / STIFF / VERY STIFF / HARD
MOISTURE: (DRY / SLIGHTLY MOIS) / MOIST / WET / SATURATED / SUPER SATURATED
DISCOLORATION/STAINING OBSERVED: (YES) / NO EXPLANATION - OCCASIONAL DARK BAND IN PILE
HC ODOR DETECTED: YES / (NO) EXPLANATION - (ODOR OF MANURE)
SAMPLING DEPTHS (LANDFARMS): _____ (INCHES)
SAMPLE TYPE: GRAB / (COMPOSITE) - # OF PTS. _____
ADDITIONAL COMMENTS: USE BACKHOE TO RANDOMLY DIG TO CENTER OF EACH PILE. Collect Composites from Test holes.

FIELD 418.1 CALCULATIONS

SAMP. TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm

SKETCH/SAMPLE LOCATIONS

SEE ATTACHED DIAGRAM

OVM CALIB. READ. 52.1 ppm
OVM CALIB. GAS = 100 ppm; RF = 0.52
TIME: 1100 (am) pm DATE: 8-5-05

OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
PILES 1+2/12 Pt.	6.6
PILES 3+4/12 Pt	2.2
PILE 5	6 Pt 0.8
PILE 6	7 Pt 1.1
PILE 7	8 Pt 1.4
PILE 8	6 Pt 0.4

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME	RESULTS
1+2	TPH	1050	67
3+4	"	1026	72
5	"	0955	ND
6	"	0942	11
7	"	0925	82
8	"	0915	85

↓ METHOD 8015B

SCALE
0 FT

TRAVEL NOTES: CALLOUT: _____ ONSITE: 8/5/05

revised: 07/16/01 bei1006A.skd

Hall Environmental Analysis Laboratory

Date: *15-Aug-05*

CLIENT: Blagg Engineering
Client Sample ID: Piles 1 & 2
Lab Order: 0508074
Collection Date: 8/5/2005 10:50:00 AM
Project: Riddle Lease
Lab ID: 0508074-01
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	16	10		mg/Kg	1	8/11/2005 1:40:39 PM
~~Motor Oil Range Organics (MRO)~~	~~51~~	50		mg/Kg	1	8/11/2005 1:40:39 PM
Surr: DNOP	107	60-124		%REC	1	8/11/2005 1:40:39 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/10/2005 5:51:06 PM
Surr: BFB	99.2	83.1-124		%REC	1	8/10/2005 5:51:06 PM

16 ppm

Qualifiers:
- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *15-Aug-05*

CLIENT: Blagg Engineering
Lab Order: 0508074
Project: Riddle Lease
Lab ID: 0508074-02

Client Sample ID: Piles 3 & 4
Collection Date: 8/5/2005 10:26:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	19	10		mg/Kg	1	8/11/2005 3:20:27 PM
~~Motor Oil Range Organics (MRO)~~	~~53~~	50		mg/Kg	1	8/11/2005 3:20:27 PM
Surr: DNOP	108	60-124		%REC	1	8/11/2005 3:20:27 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/10/2005 6:23:14 PM
Surr: BFB	102	83.1-124		%REC	1	8/10/2005 6:23:14 PM

19 ppm

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *15-Aug-05*

CLIENT: Blagg Engineering
Client Sample ID: Pile 5
Lab Order: 0508074
Collection Date: 8/5/2005 9:55:00 AM
Project: Riddle Lease
Lab ID: 0508074-03
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/11/2005 3:53:52 PM
~~Motor Oil Range Organics (MRO)~~	~~ND~~	50		mg/Kg	1	8/11/2005 3:53:52 PM
Surr: DNOP	111	60-124		%REC	1	8/11/2005 3:53:52 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/10/2005 6:55:22 PM
Surr: BFB	100	83.1-124		%REC	1	8/10/2005 6:55:22 PM

ND ppm

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *15-Aug-05*

CLIENT: Blagg Engineering
Client Sample ID: Pile 6
Lab Order: 0508074
Collection Date: 8/5/2005 9:42:00 AM
Project: Riddle Lease
Lab ID: 0508074-04
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	11	10		mg/Kg	1	8/11/2005 4:27:15 PM
~~Motor Oil Range Organics (MRO)~~	~~ND~~	50		mg/Kg	1	8/11/2005 4:27:15 PM
Surr: DNOP	110	60-124		%REC	1	8/11/2005 4:27:15 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/10/2005 7:27:23 PM
Surr: BFB	99.2	83.1-124		%REC	1	8/10/2005 7:27:23 PM

11 ppm

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *15-Aug-05*

CLIENT: Blagg Engineering
Client Sample ID: Pile 7
Lab Order: 0508074
Collection Date: 8/5/2005 9:25:00 AM
Project: Riddle Lease
Lab ID: 0508074-05
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	24	10		mg/Kg	1	8/11/2005 5:00:35 PM
~~Motor Oil Range Organics (MRO)~~	~~58~~	50		mg/Kg	1	8/11/2005 5:00:35 PM
Surr: DNOP	110	60-124		%REC	1	8/11/2005 5:00:35 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/10/2005 8:31:14 PM
Surr: BFB	100	83.1-124		%REC	1	8/10/2005 8:31:14 PM

24 ppm

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: *15-Aug-05*

CLIENT: Blagg Engineering
Client Sample ID: Pile 8
Lab Order: 0508074
Collection Date: 8/5/2005 9:15:00 AM
Project: Riddle Lease
Lab ID: 0508074-06
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	24	10		mg/Kg	1	8/11/2005 5:33:57 PM
~~Motor Oil Range Organics (MRO)~~	~~61~~	50		mg/Kg	1	8/11/2005 5:33:57 PM
Surr: DNOP	107	60-124		%REC	1	8/11/2005 5:33:57 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/10/2005 9:02:42 PM
Surr: BFB	94.2	83.1-124		%REC	1	8/10/2005 9:02:42 PM

24 ppm

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CHAIN-OF-CUSTODY RECORD

Accreditation Applied:
NELAC ☐ USACE ☐
Other: _____

Client: Blagg Engineering, Inc.

Project Name: Riddle Lease

Address: P.O. Box 87
Bloomfield, NM 87413

Project #:

Project Manager: Jeff Blagg

Phone #: (505) 632-1199

Sampler: JH Blagg

Fax #:

Sample Temperature: 40

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
8-5-05	1050	soil	Piles 1+2	1-40z			508074-1			X														
"	1026	"	Piles 3+4	"			-2			X														
"	0955	"	Pile 5	"			-3			X														
"	0942	"	Pile 6	"			-4			X														
"	0925	"	Pile 7	"			-5			X														
"	0915	"	Pile 8	"			-6			X														

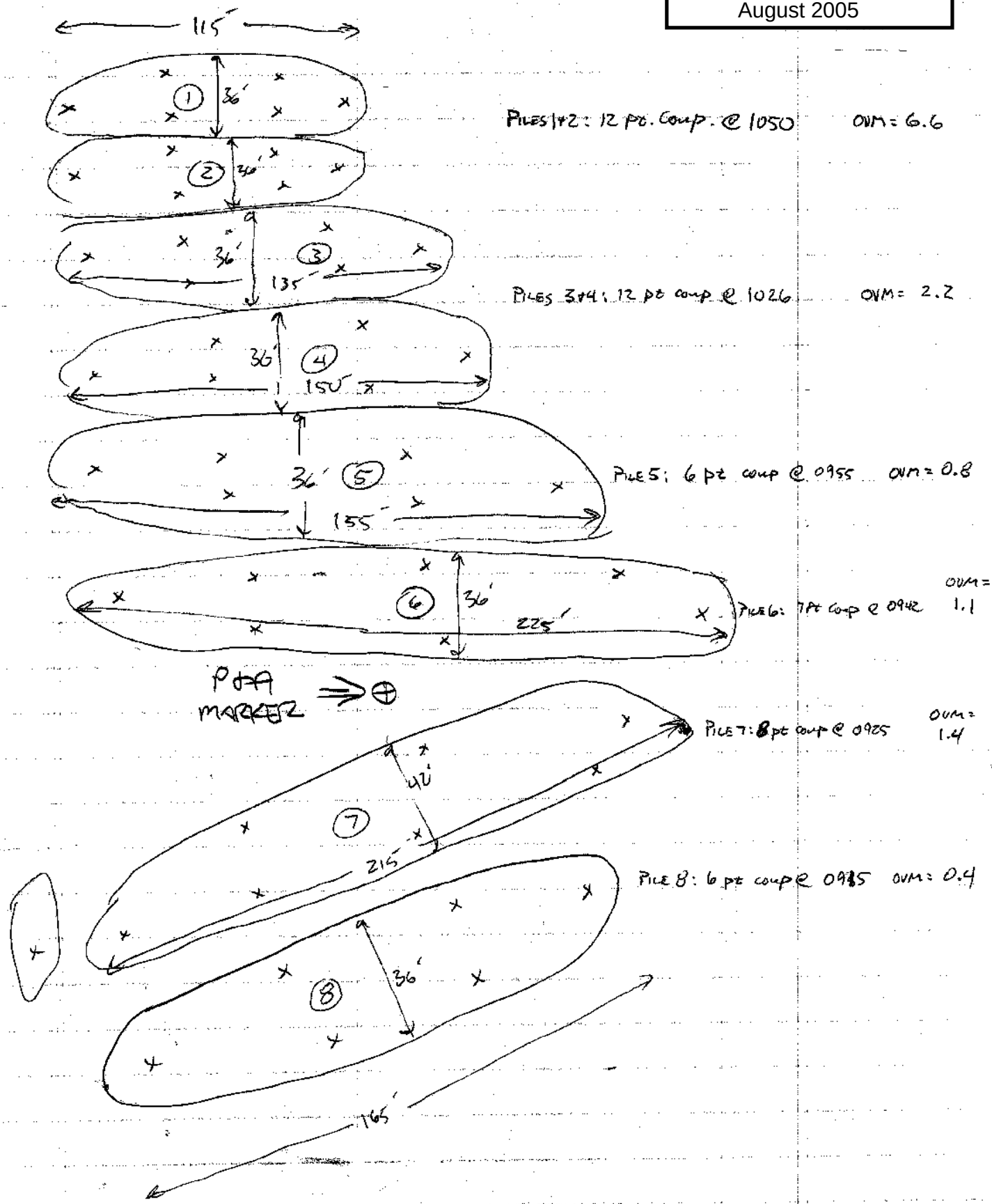
Remarks:

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
8/9/05	0725	JH Blagg	8/8/05 1648
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Stockpile 2018 Sampling Event Section

8/5/05

FIGURE 2
Riddle Stockpiles
August 2005



PILES 1+2: 12 pt. Comp. @ 1050 OVM = 6.6

PILES 3+4: 12 pt comp @ 1026 OVM = 2.2

PILE 5: 6 pt comp @ 0955 OVM = 0.8

PILE 6: 7 pt comp @ 0942 OVM = 1.1

PILE 7: 8 pt comp @ 0925 OVM = 1.4

PILE 8: 6 pt comp @ 0935 OVM = 0.4

X = BACKHOE DIG POINT

EACH PILE ~ 14' TALL


Figure 3
Riddle Soil Piles
March 2015 Google View
Pile 1
Pile 2
Pile 3
Pile 4
Pile 5
Pile 6
Riddle F LS 1
Pile 7
Pile 8
N
200 ft
Google earth


Figure 1
Riddle Soil Piles
December 14, 2018
20 each x 500 CY Segments
1A
2A
3A
3B
4A
4B
4C
5A
5B
5C
6A
6B
6C
6D
7A
7B
7C
7D
8A
8B
8C
Riddle F LS 1
Google earth
N
200 ft

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Analytical Laboratory

BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	12/20/18 15:09

Pile 1A + 3B
P812035-01 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*99.5 %*		*50-150*	*1851003*	*12/17/18*	*12/18/18*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1851003	12/17/18	12/18/18	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*93.8 %*		*50-150*	*1851003*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Surrogate: n-Nonane		*93.7 %*		*50-200*	*1851005*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**914**	20.0	mg/kg	1	1851020	12/19/18	12/19/18	EPA 300.0/9056A	

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	12/20/18 15:09

Pile 2A

P812035-02 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*100 %*	*50-150*		*1851003*	*12/17/18*	*12/18/18*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1851003	12/17/18	12/18/18	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*95.7 %*	*50-150*		*1851003*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Surrogate: n-Nonane		*90.9 %*	*50-200*		*1851005*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**878**	20.0	mg/kg	1	1851020	12/19/18	12/19/18	EPA 300.0/9056A	

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	12/20/18 15:09

Pile 3A

P812035-03 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*99.9 %*	*50-150*		*1851003*	*12/17/18*	*12/18/18*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1851003	12/17/18	12/18/18	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*94.6 %*	*50-150*		*1851003*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Surrogate: n-Nonane		*91.6 %*	*50-200*		*1851005*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**860**	20.0	mg/kg	1	1851020	12/19/18	12/19/18	EPA 300.0/9056A	

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	12/20/18 15:09

Pile 4B

P812035-04 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*99.3 %*		*50-150*	*1851003*	*12/17/18*	*12/18/18*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1851003	12/17/18	12/18/18	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*97.9 %*		*50-150*	*1851003*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Surrogate: n-Nonane		*92.6 %*		*50-200*	*1851005*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**907**	20.0	mg/kg	1	1851020	12/19/18	12/19/18	EPA 300.0/9056A	

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	12/20/18 15:09

Pile 4C

P812035-05 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*100 %*	*50-150*		*1851003*	*12/17/18*	*12/18/18*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1851003	12/17/18	12/18/18	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*93.4 %*	*50-150*		*1851003*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Surrogate: n-Nonane		*91.6 %*	*50-200*		*1851005*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**1040**	20.0	mg/kg	1	1851020	12/19/18	12/19/18	EPA 300.0/9056A	

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	12/20/18 15:09

Pile 4A

P812035-06 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1851003	12/17/18	12/18/18	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*99.5 %*		*50-150*	*1851003*	*12/17/18*	*12/18/18*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1851003	12/17/18	12/18/18	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*95.7 %*		*50-150*	*1851003*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Surrogate: n-Nonane		*90.5 %*		*50-200*	*1851005*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**1100**	20.0	mg/kg	1	1851020	12/19/18	12/19/18	EPA 300.0/9056A	

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	12/20/18 15:09

Pile 5B

P812035-07 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*98.1 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1851003	12/17/18	12/19/18	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*96.9 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8015D*	
Surrogate: n-Nonane		*93.3 %*		*50-200*	*1851005*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**959**	20.0	mg/kg	1	1851020	12/19/18	12/19/18	EPA 300.0/9056A	

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	12/20/18 15:09

Pile 5C
P812035-08 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*97.6 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1851003	12/17/18	12/19/18	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*95.5 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8015D*	
Surrogate: n-Nonane		*90.7 %*		*50-200*	*1851005*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**812**	20.0	mg/kg	1	1851020	12/19/18	12/19/18	EPA 300.0/9056A	

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
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Pile 5A

P812035-09 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*98.2 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1851003	12/17/18	12/19/18	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*96.2 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8015D*	
Surrogate: n-Nonane		*91.1 %*		*50-200*	*1851005*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**1260**	20.0	mg/kg	1	1851020	12/19/18	12/19/18	EPA 300.0/9056A	

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	12/20/18 15:09

Pile 6B
P812035-10 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*98.1 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1851003	12/17/18	12/19/18	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*96.2 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8015D*	
Surrogate: n-Nonane		*91.7 %*		*50-200*	*1851005*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**1250**	20.0	mg/kg	1	1851020	12/19/18	12/19/18	EPA 300.0/9056A	

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
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Pile 6A
P812035-11 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*98.2 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1851003	12/17/18	12/19/18	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*95.7 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8015D*	
Surrogate: n-Nonane		*90.6 %*		*50-200*	*1851005*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**1930**	20.0	mg/kg	1	1851020	12/19/18	12/19/18	EPA 300.0/9056A	

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
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Pile 6C
P812035-12 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*97.7 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1851003	12/17/18	12/19/18	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*96.0 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8015D*	
Surrogate: n-Nonane		*91.3 %*		*50-200*	*1851005*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**1180**	20.0	mg/kg	1	1851020	12/19/18	12/19/18	EPA 300.0/9056A	

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BP America Production Co.	Project Name:	Riddle Piles	
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Pile 6D
P812035-13 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*97.5 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1851003	12/17/18	12/19/18	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*94.6 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8015D*	
Surrogate: n-Nonane		*90.8 %*		*50-200*	*1851005*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**964**	20.0	mg/kg	1	1851020	12/19/18	12/20/18	EPA 300.0/9056A	

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
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Pile 7A
P812035-14 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*97.5 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1851003	12/17/18	12/19/18	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*95.8 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8015D*	
Surrogate: n-Nonane		*92.0 %*		*50-200*	*1851005*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**1260**	20.0	mg/kg	1	1851020	12/19/18	12/20/18	EPA 300.0/9056A	

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
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Pile 7B
P812035-15 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*97.6 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1851003	12/17/18	12/19/18	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*95.5 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8015D*	
Surrogate: n-Nonane		*89.8 %*		*50-200*	*1851005*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**1480**	20.0	mg/kg	1	1851020	12/19/18	12/20/18	EPA 300.0/9056A	

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
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Pile 7C
P812035-16 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*98.0 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1851003	12/17/18	12/19/18	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*95.9 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8015D*	
Surrogate: n-Nonane		*90.4 %*		*50-200*	*1851005*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**1350**	20.0	mg/kg	1	1851020	12/19/18	12/20/18	EPA 300.0/9056A	

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
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Pile 7D
P812035-17 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*97.5 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1851003	12/17/18	12/19/18	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*95.6 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8015D*	
Surrogate: n-Nonane		*88.4 %*		*50-200*	*1851005*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**1340**	20.0	mg/kg	1	1851020	12/19/18	12/20/18	EPA 300.0/9056A	

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
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Pile 8A

P812035-18 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*97.4 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1851003	12/17/18	12/19/18	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*96.2 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8015D*	
Surrogate: n-Nonane		*89.0 %*		*50-200*	*1851005*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**1000**	20.0	mg/kg	1	1851020	12/19/18	12/20/18	EPA 300.0/9056A	

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	12/20/18 15:09

Pile 8B
P812035-19 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*96.5 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1851003	12/17/18	12/19/18	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1851005	12/17/18	12/18/18	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*98.7 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8015D*	
Surrogate: n-Nonane		*90.4 %*		*50-200*	*1851005*	*12/17/18*	*12/18/18*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**1580**	20.0	mg/kg	1	1851020	12/19/18	12/20/18	EPA 300.0/9056A	

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	12/20/18 15:09

Pile 8C

P812035-20 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Toluene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Ethylbenzene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
p,m-Xylene	ND	200	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
o-Xylene	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total Xylenes	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Total BTEX	ND	100	ug/kg	1	1851003	12/17/18	12/19/18	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*97.9 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1851003	12/17/18	12/19/18	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1851014	12/18/18	12/18/18	EPA 8015D	
Oil Range Organics (C28-C40+)	ND	50.0	mg/kg	1	1851014	12/18/18	12/18/18	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*95.8 %*		*50-150*	*1851003*	*12/17/18*	*12/19/18*	*EPA 8015D*	
Surrogate: n-Nonane		*90.9 %*		*50-200*	*1851014*	*12/18/18*	*12/18/18*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**1360**	20.0	mg/kg	1	1851020	12/19/18	12/20/18	EPA 300.0/9056A	

Project Information

Chain of Custody

Page 1 of 2

Client:	BPX ENERGY
Project:	RIDDLE PILES
Project Manager:	STEVE MOSKAL
Address:	
City, State, Zip	
Phone:	505-330-9179
Email:	Steven.Moskal@BPX.COM

Report Attention

Report due by:	STANDARD TAT
Attention:	Steve Moskal / Jeff Blagg
Address:	
City, State, Zip	
Phone:	505-320-1193
Email:	jeffcbbgg@AOL.com

Lab Use Only

Lab WO# P812035

Job Number 03143-0424

TAT: 1D, 3D

EPA Program: RCRA, CWA, SDWA

State: NM X, CO, UT, AZ

Analysis and Method

Time Sampled	Date Sampled	Matrix	No Containers	Sample ID	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	TPH 418.1	Remarks
0842	12/14/2018	SOIL	1	PILE 1A & 3B	1	X	X	X			X		
0905				2A	2								
0921				3A	3								
0932				4B	4								
0946				4C	5								
0958				4A	6								
1013				5B	7								
1031				5C	8								
1043				5A	9								
1055				6B	10								

Additional Instructions: BILL BPX
P.O. is being Generated

via ice in cooler

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: Jeff Blagg

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6°C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Jeffrey C. Blagg	12/14/2018	1415		12/14/18	1415

Lab Use Only

Received on ice: (Y) / N

T1 ____ T2 ____ T3 ____

AVG Temp °C 4.0

Sample Matrix: **S** - Soil, **Sd** - Solid, **Sg** - Sludge, **A** - Aqueous, **O** - Other ____

Container Type: **g** - glass, **p** - poly/plastic, **ag** - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

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Analytical Laboratory
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Project Information | Chain of Custody | Page 2 of 2

Client:	BPX ENERGY
Project:	RIDDLE PILES
Project Manager:	STEVE MOSKAL
Address:	
City, State, Zip	
Phone:	
Email:	

Report Attention

Report due by:	
Attention:	
Address:	
City, State, Zip	
Phone:	
Email:	

Lab Use Only

Lab WO#	Job Number
P 812035	03143-0424

TAT: 1D | 3D

EPA Program: RCRA | CWA | SDWA

State: NM | CO | UT | AZ — X

Time Sampled	Date Sampled	Matrix	No Containers	Sample ID	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	TPH 418.1	Remarks
1105	12/14/2018	SOIL	1	PILE 6A	11	X	X	X			X		
~~1124~~ 1105	"	"	"	6C	12								
~~1137~~ 1124	"	"	"	6D	13								
1158				7A	14								
1210				7B	15								
1221				7C	16								
1233				7D	17								
1300				8A	18								
1310				8B	19								
1321				8C	20								

Additional Instructions: Vig ice in coolers

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: Jeff Blagg

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6°C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Jeff Blagg	12/14/2018	1415	TM	12/14/18	1415
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Lab Use Only
Received on ice: Y / N
T1 T2 T3
AVG Temp °C 4.0

Sample Matrix: **S** - Soil, **Sd** - Solid, **Sg** - Sludge, **A** - Aqueous, **O** - Other _____

Container Type: **g** - glass, **p** - poly/plastic, **ag** - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

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envirotech-inc.com
laboratory@envirotech-inc.com

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Analytical Laboratory

Analytical Report

Report Summary

Client: BP America Production Co.
Chain Of Custody Number:
Samples Received: 12/14/2018 2:15:00PM
Job Number: 03143-0424
Work Order: P812035
Project Name/Location: Riddle Piles

Report Reviewed By: Date: 12/20/18

Walter Hinchman, Laboratory Director

Date: 12/20/18

Tim Cain, Project Manager

NELAP ACCREDITED TNI LABORATORY

Envirotech Inc. certifies the test results meet all requirements of TNI unless footnoted otherwise.
Statement of Data Authenticity: Envirotech, Inc, attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.
Envirotech, Inc, currently holds the appropriate and available Utah TNI certification NM009792018-1 for the data reported.

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	12/20/18 15:09

Analyical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Pile 1A + 3B	P812035-01A	Soil	12/14/18	12/14/18	Glass Jar, 4 oz.
Pile 2A	P812035-02A	Soil	12/14/18	12/14/18	Glass Jar, 4 oz.
Pile 3A	P812035-03A	Soil	12/14/18	12/14/18	Glass Jar, 4 oz.
Pile 4B	P812035-04A	Soil	12/14/18	12/14/18	Glass Jar, 4 oz.
Pile 4C	P812035-05A	Soil	12/14/18	12/14/18	Glass Jar, 4 oz.
Pile 4A	P812035-06A	Soil	12/14/18	12/14/18	Glass Jar, 4 oz.
Pile 5B	P812035-07A	Soil	12/14/18	12/14/18	Glass Jar, 4 oz.
Pile 5C	P812035-08A	Soil	12/14/18	12/14/18	Glass Jar, 4 oz.
Pile 5A	P812035-09A	Soil	12/14/18	12/14/18	Glass Jar, 4 oz.
Pile 6B	P812035-10A	Soil	12/14/18	12/14/18	Glass Jar, 4 oz.
Pile 6A	P812035-11A	Soil	12/14/18	12/14/18	Glass Jar, 4 oz.
Pile 6C	P812035-12A	Soil	12/14/18	12/14/18	Glass Jar, 4 oz.
Pile 6D	P812035-13A	Soil	12/14/18	12/14/18	Glass Jar, 4 oz.
Pile 7A	P812035-14A	Soil	12/14/18	12/14/18	Glass Jar, 4 oz.
Pile 7B	P812035-15A	Soil	12/14/18	12/14/18	Glass Jar, 4 oz.
Pile 7C	P812035-16A	Soil	12/14/18	12/14/18	Glass Jar, 4 oz.
Pile 7D	P812035-17A	Soil	12/14/18	12/14/18	Glass Jar, 4 oz.
Pile 8A	P812035-18A	Soil	12/14/18	12/14/18	Glass Jar, 4 oz.
Pile 8B	P812035-19A	Soil	12/14/18	12/14/18	Glass Jar, 4 oz.
Pile 8C	P812035-20A	Soil	12/14/18	12/14/18	Glass Jar, 4 oz.

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	12/20/18 15:09

Volatile Organics by EPA 8021 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1851003 - Purge and Trap EPA 5030A										
Blank (1851003-BLK1)				Prepared: 12/17/18 1 Analyzed: 12/18/18 1						
Benzene	ND	100	ug/kg							
Toluene	ND	100	"							
Ethylbenzene	ND	100	"							
p,m-Xylene	ND	200	"							
o-Xylene	ND	100	"							
Total Xylenes	ND	100	"							
Total BTEX	ND	100	"							
Surrogate: 4-Bromochlorobenzene-PID	*7830*		*"*	*8000*		*97.9*	*50-150*			
LCS (1851003-BS1)				Prepared: 12/17/18 1 Analyzed: 12/18/18 1						
Benzene	5840	100	ug/kg	5000		117	70-130			
Toluene	5800	100	"	5000		116	70-130			
Ethylbenzene	5600	100	"	5000		112	70-130			
p,m-Xylene	11400	200	"	10000		114	70-130			
o-Xylene	5550	100	"	5000		111	70-130			
Total Xylenes	17000	100	"	15000		113	70-130			
Surrogate: 4-Bromochlorobenzene-PID	*7820*		*"*	*8000*		*97.7*	*50-150*			
Matrix Spike (1851003-MS1)		**Source: P812035-01**		Prepared: 12/17/18 1 Analyzed: 12/18/18 1						
Benzene	5910	100	ug/kg	5000	ND	118	54.3-133			
Toluene	5890	100	"	5000	ND	118	61.4-130			
Ethylbenzene	5800	100	"	5000	ND	116	61.4-133			
p,m-Xylene	11800	200	"	10000	ND	118	63.3-131			
o-Xylene	5750	100	"	5000	ND	115	63.3-131			
Total Xylenes	17600	100	"	15000	ND	117	63.3-131			
Surrogate: 4-Bromochlorobenzene-PID	*7950*		*"*	*8000*		*99.4*	*50-150*			
Matrix Spike Dup (1851003-MSD1)		**Source: P812035-01**		Prepared: 12/17/18 1 Analyzed: 12/18/18 1						
Benzene	5790	100	ug/kg	5000	ND	116	54.3-133	2.00	20	
Toluene	5780	100	"	5000	ND	116	61.4-130	1.90	20	
Ethylbenzene	5690	100	"	5000	ND	114	61.4-133	1.95	20	
p,m-Xylene	11600	200	"	10000	ND	116	63.3-131	1.97	20	
o-Xylene	5640	100	"	5000	ND	113	63.3-131	2.00	20	
Total Xylenes	17200	100	"	15000	ND	115	63.3-131	1.98	20	
Surrogate: 4-Bromochlorobenzene-PID	*7960*		*"*	*8000*		*99.5*	*50-150*			

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	12/20/18 15:09

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1851003 - Purge and Trap EPA 5030A										
Blank (1851003-BLK1)				Prepared: 12/17/18 1 Analyzed: 12/18/18 1						
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg							
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.37*		"	*8.00*		*92.1*	*50-150*			
LCS (1851003-BS2)				Prepared: 12/17/18 1 Analyzed: 12/18/18 1						
Gasoline Range Organics (C6-C10)	42.6	20.0	mg/kg	50.0		85.3	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.43*		"	*8.00*		*92.8*	*50-150*			
Matrix Spike (1851003-MS2)		**Source: P812035-01**		Prepared: 12/17/18 1 Analyzed: 12/18/18 1						
Gasoline Range Organics (C6-C10)	43.4	20.0	mg/kg	50.0	ND	86.7	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.64*		"	*8.00*		*95.5*	*50-150*			
Matrix Spike Dup (1851003-MSD2)		**Source: P812035-01**		Prepared: 12/17/18 1 Analyzed: 12/18/18 2						
Gasoline Range Organics (C6-C10)	41.3	20.0	mg/kg	50.0	ND	82.6	70-130	4.85	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	*7.67*		"	*8.00*		*95.9*	*50-150*			

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	12/20/18 15:09

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1851005 - DRO Extraction EPA 3570										
Blank (1851005-BLK1)				Prepared: 12/17/18 1 Analyzed: 12/18/18 0						
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
Oil Range Organics (C28-C40+)	ND	50.0	"							
Surrogate: n-Nonane	*46.7*		*"*	*50.0*		*93.3*	*50-200*			
LCS (1851005-BS1)				Prepared: 12/17/18 1 Analyzed: 12/18/18 0						
Diesel Range Organics (C10-C28)	462	25.0	mg/kg	500		92.3	38-132			
Surrogate: n-Nonane	*46.9*		*"*	*50.0*		*93.7*	*50-200*			
Matrix Spike (1851005-MS1)	**Source: P812035-01**			Prepared: 12/17/18 1 Analyzed: 12/18/18 1						
Diesel Range Organics (C10-C28)	472	25.0	mg/kg	500	ND	94.3	38-132			
Surrogate: n-Nonane	*46.8*		*"*	*50.0*		*93.7*	*50-200*			
Matrix Spike Dup (1851005-MSD1)	**Source: P812035-01**			Prepared: 12/17/18 1 Analyzed: 12/18/18 1						
Diesel Range Organics (C10-C28)	487	25.0	mg/kg	500	ND	97.4	38-132	3.24	20	
Surrogate: n-Nonane	*47.7*		*"*	*50.0*		*95.5*	*50-200*			

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	12/20/18 15:09

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1851014 - DRO Extraction EPA 3570										
Blank (1851014-BLK1)				Prepared: 12/18/18 1 Analyzed: 12/19/18 1						
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
Oil Range Organics (C28-C40+)	ND	50.0	"							
Surrogate: n-Nonane	*40.5*		*"*	*50.0*		*81.0*	*50-200*			
LCS (1851014-BS1)				Prepared & Analyzed: 12/18/18 1						
Diesel Range Organics (C10-C28)	461	25.0	mg/kg	500		92.3	38-132			
Surrogate: n-Nonane	*46.2*		*"*	*50.0*		*92.4*	*50-200*			
Matrix Spike (1851014-MS1)		**Source: P812035-20**		Prepared: 12/18/18 1 Analyzed: 12/18/18 2						
Diesel Range Organics (C10-C28)	463	25.0	mg/kg	500	ND	92.6	38-132			
Surrogate: n-Nonane	*46.0*		*"*	*50.0*		*92.1*	*50-200*			
Matrix Spike Dup (1851014-MSD1)		**Source: P812035-20**		Prepared: 12/18/18 1 Analyzed: 12/18/18 2						
Diesel Range Organics (C10-C28)	475	25.0	mg/kg	500	ND	95.1	38-132	2.60	20	
Surrogate: n-Nonane	*46.4*		*"*	*50.0*		*92.9*	*50-200*			

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BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	12/20/18 15:09

Anions by 300.0/9056A - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1851020 - Anion Extraction EPA 300.0/9056A										
Blank (1851020-BLK1)				Prepared & Analyzed: 12/19/18 1						
Chloride	ND	20.0	mg/kg							
LCS (1851020-BS1)				Prepared & Analyzed: 12/19/18 1						
Chloride	253	20.0	mg/kg	250		101	90-110			
Matrix Spike (1851020-MS1)		**Source: P812035-01**		Prepared & Analyzed: 12/19/18 1						
Chloride	1230	20.0	mg/kg	250	914	126	80-120			SPK1
Matrix Spike Dup (1851020-MSD1)		**Source: P812035-01**		Prepared & Analyzed: 12/19/18 1						
Chloride	1140	20.0	mg/kg	250	914	90.1	80-120	7.48	20	

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Analytical Laboratory

BP America Production Co.	Project Name:	Riddle Piles	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	12/20/18 15:09

Notes and Definitions

SPK1	The spike recovery is outside of quality control limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
**	Methods marked with ** are non-accredited methods.

Form C-141

Initial Report with

Remediation Plan

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Initial Report

Responsible Party

Responsible Party: BPX Energy	OGRID: 778
Contact Name: Steve Moskal	Contact Telephone: (505) 330-9179
Contact email: steven.moskal@bpx.com	Incident # *(assigned by OCD)*
Contact mailing address: 1199 Main St., Suite 101, Durango CO, 81301	

Location of Release Source

Latitude: 36.65827° Longitude: -107.71018°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Riddle F LS 001	Site Type: Natural Gas Production Well Pad
Date Release Discovered: Unknown - 1994	API#: 30-045-07407

Unit Letter	Section	Township	Range	County
L	17	T28N	R08W	San Juan

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls): N/A Historical Stockpiles	Volume Recovered (bbls):
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls):	Volume Recovered (bbls): 0 bbls
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release:
Approximately 25 years ago, hydrocarbon and produced water impacted soil was placed on the Riddle F LS 001 well pad for onsite landfarming. No known release occurred on this location.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
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Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

- ☐ The source of the release has been stopped.
- ☐ The impacted area has been secured to protect human health and the environment.
- ☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☐ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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.

Printed Name: Steve Moskal Title: Environmental Coordinator

Signature:  Date: April 11, 2019

email: steven.moskal@bpx.com Telephone: (505) 330-9179

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	10 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
☒ Field data
☒ Data table of soil contaminant concentration data
☒ Depth to water determination
☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
☐ Boring or excavation logs
☐ Photographs including date and GIS information
☒ Topographic/Aerial maps
☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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.

Printed Name: Steve Moskal Title: Environmental Coordinator

Signature:  Date: April 11, 2019

email: steven.moskal@bpx,com Telephone: (505) 330-9179

OCD Only

Received by: _____ Date: _____

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	
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Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

☒ Detailed description of proposed remediation technique
☒ Scaled sitemap with GPS coordinates showing delineation points
☒ Estimated volume of material to be remediated
☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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.

Printed Name: Steve Moskal Title: Environmental Coordinator

Signature:  Date: April 11, 2019

email: steven.moskal@bpx.com Telephone: (505) 330-9179

OCD Only

Received by: _____ Date: _____

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
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: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

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: _____

BP Remediation Plan

To:	Cory Smith (NMOCD), Emmanuel Adeloye (BLM)
From:	Steve Moskal (BPX)
CC:	Sabre Beebe (BPX)
Date:	4/11/2019
Re:	Riddle F LS 001 - Soil Remediation - Dig and Haul API#: 30-045-07407 (L), S17, T28N, R08W; Fed Serial #SF-080112 Stockpiles GPS: 36.65827°, -107.71018°

Mr. Smith and Mr. Adeloye,

The Riddle F LS 001 site is a plugged and abandoned natural gas production well location within the San Juan Basin Gas Field in San Juan County, New Mexico. The site is located on land managed by the Bureau of Reclamation and Land Management Farmington Field Office (BLM-FFO) and is in an area primarily used for oil and gas production with limited recreation use. The production well was drilled in 1952.

Background

Approximately 20 years ago, circa 1999, hydrocarbon and produced water impacted soil was placed on the Riddle F LS 001 well pad for onsite landfarming. The stockpiles are estimated to contain approximately 10,000-15,000 cubic yards of soil. The presence of these piles prohibits final reclamation and obtaining final abandonment approval of the well pad. Soil sampling of the piles was conducted on December 14, 2018 with results for hydrocarbons below NMOCD spill and release guideline levels. However, the results for chlorides were elevated, preventing beneficial use of the soil to area oil and gas operators.

Proposed Remediation – Removal of Soil

Adherent to the NMAC 19.15.29, the soil with elevated chlorides cannot remain at the current location of the Riddle F LS 001 wellpad. The soil must be removed for either offsite disposal at an NMOCD approved surface waste facility or may be placed at a site where closure criteria for chlorides is acceptable for the given concentration range of 1,200 ppm to 2,000 ppm chloride.

BP has worked with the BLM Farmington Field office personnel of Natural Resource Management to identify open soil borrow pits needing backfill material for final reclamation. Soil will be removed from the Riddle F LS 001 well pad and transported via trucks to the approved and acceptable sites listed below. The soil will be placed into the opened borrow pits and compacted as fill is added. The fill will be placed to ensure a minimum of four feet of native cover or topsoil when complete. The backfilled and covered area will then be reclaimed to BLM requirements, including, contouring, stormwater management, seeding and final abandonment requirements, as agreed upon by pit users and the BLM. Below are the sites identified by the BLM as being acceptable for closure. The table includes the location information as well as any reference material for site ranking criteria following NMAC 19.15.29.12. In the event that the pits are not of adequate size to accept the volume of soil or other unforeseen complications, the soil will be disposed at an NMOCD surface waste facility.

The soil removal will be observed for changing conditions of color, odor, debris, contnents, etc. and report immediately to the NMOCD and BLM if there are any concerns. Once the stockpiles are

removed, within 30 days, BP will perform vadose zone sampling beneath the footprint of the stockpiles, sampling for TPH, BTEX and chlorides to determine if the site meets closure.

Location	Legal Description	GPS Coordinates	Ranking Criteria
Riddle F LS 001 (Stockpile Source)	(L), S17, T28N, R08W	36.65827, -107.71018 Surface Elevation 5,725'	<50' to groundwater. Largo Wash elev. 5,719'.
Doggie Pit	T25N R6W Sec 4 NWSW	36.42718, -107.47983 **Location to be Confirmed** Surface Elevation 6,430'	Greater than 10,000 mg/kg Cl; Reference attached Canyon Largo Unit 486 BGT Registration
Pine Tree Mesa Rock Pit	T25N R6W Sec 9 NWNW	36.41886, -107.48098 Surface Elevation 6,660'	Greater than 10,000 mg/kg Cl; Reference attached Canyon Largo Unit 486 BGT Registration
Kline Mesa Pit	T26N R6W Sec 33 SWNE	36.44578, -107.46996 Surface Elevation, 6,730'	Greater than 10,000 mg/kg Cl Reference attached Klein 26N BGT Registration
~~Unnamed site~~	T26N R8W Sec 22	36.47451, -107.66249	**Less than 100' to wash**
~~Marron Sandstone Pit~~	T27N R8W Sec 27 SENE	36.54655, -107.66284	**Within 150' of tributary of Largo Wash**

Site Ranking

Depth to groundwater at the Riddle F LS 001 stockpile site is estimated to be less than 50 feet from ground surface. This estimation is based on the proximity of Largo Wash being approximately 500 feet away and an elevation difference of approximately 6 feet.

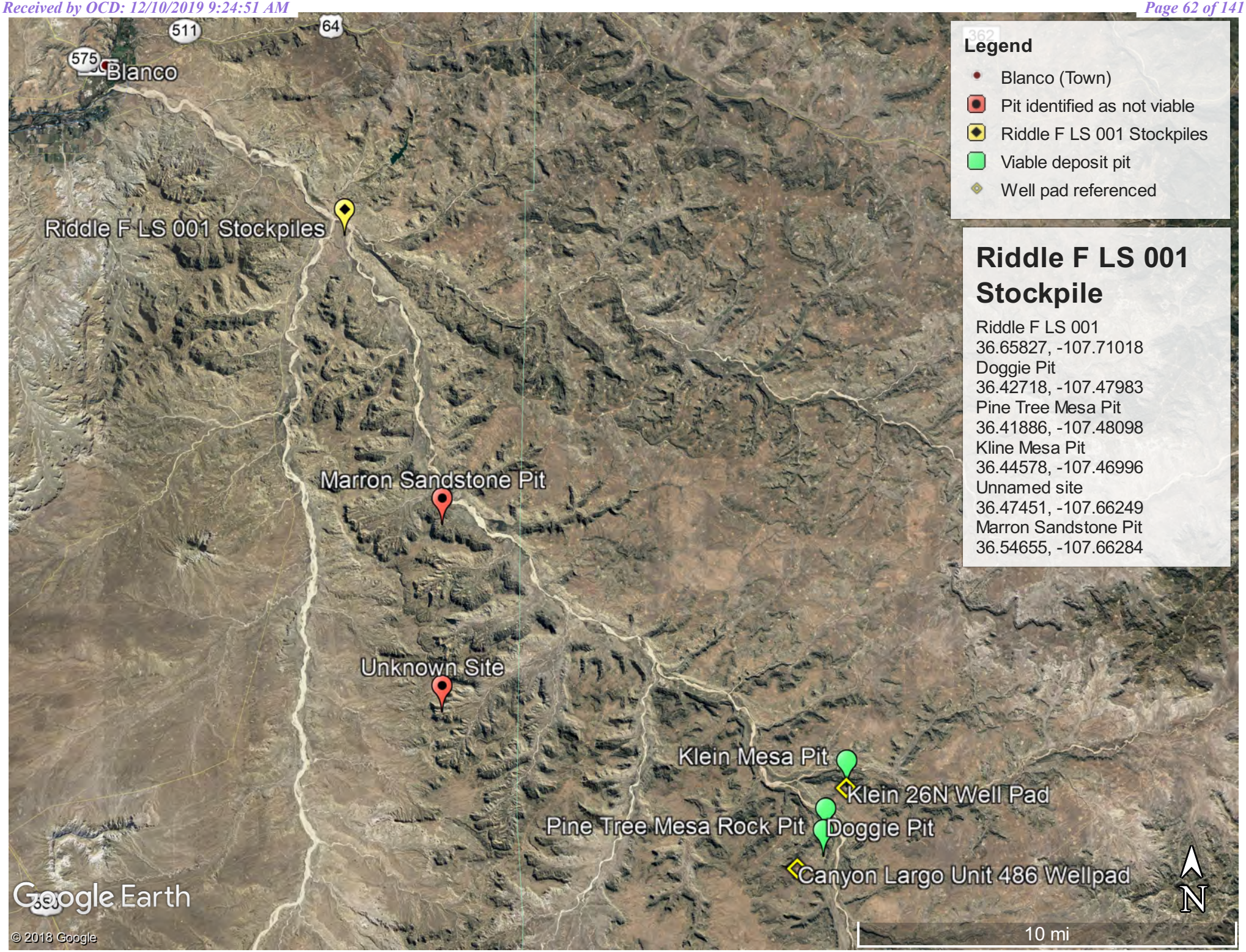
The Marron and unnamed pits are within 150' and 100' of significant ephemeral water ways, defaulting both to 600 mg/kg chloride threshold. These will not be acceptable deposit sites for the soil.

The Doggie, Pine Tree Mesa and Klein Mesa pits are a viable deposit sites for the soil. Each are greater than 100' to groundwater, greater than 200' to a surface water or tributary, greater than 1,000 from a domestic water source, occupied structure/institution and none within a municipal boundary. Attached are reference siting criteria for each. The Pine Tree Mesa pit and Doggie pit are within 4,000 and 6,000 feet of the Canyon Largo Unit 486 well pad, with similar elevation (6,710'). The Klein Mesa Pit is within 200' of the Klein 26N well pad with equal elevations.

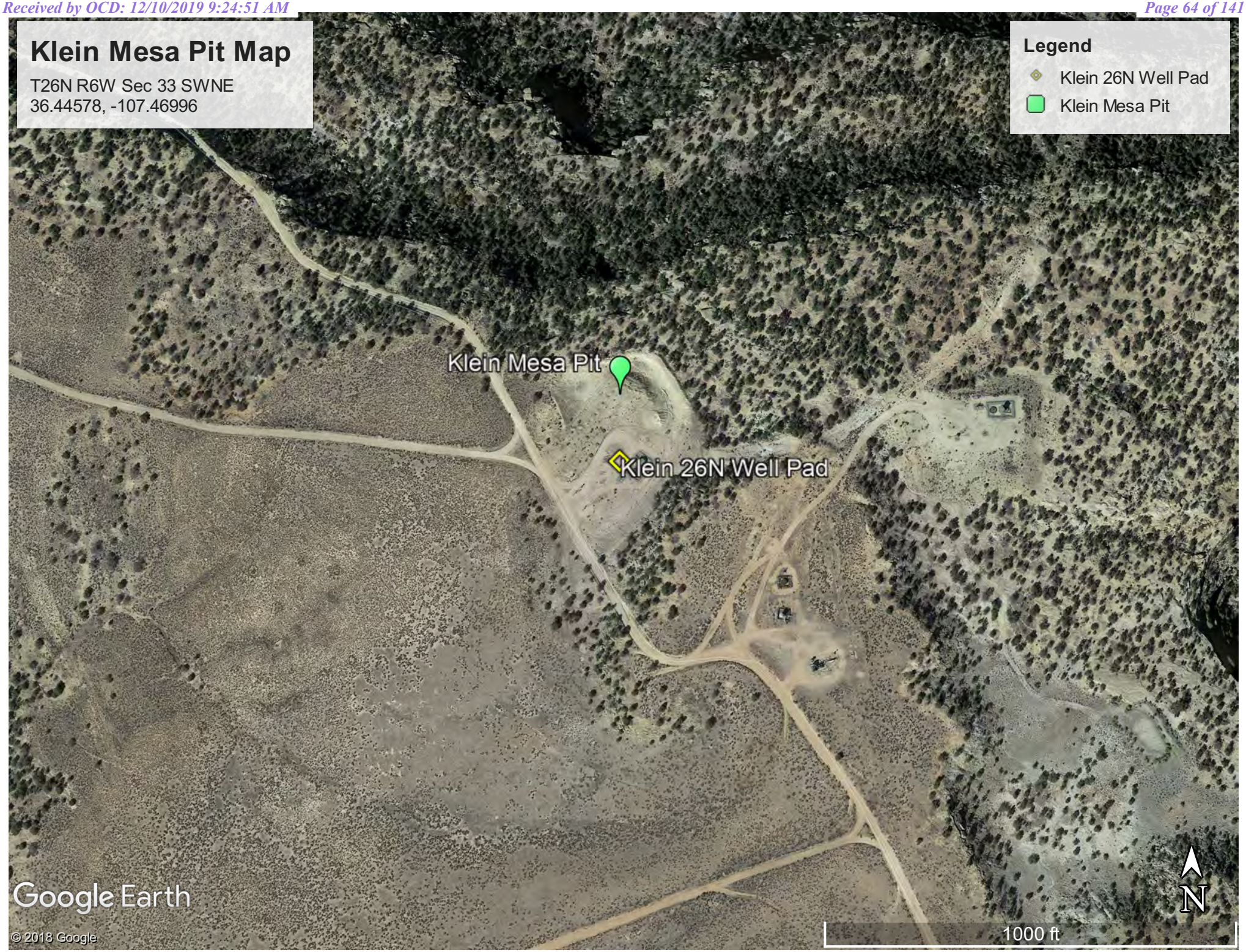
Based on the siting criteria, the remediation site closure standards will be 2,500 ppm TPH, 1,000 ppm GRO+DRO, 50 ppm BTEX, 10 ppm benzene and 10,000 ppm chlorides. The soil samples from December 14, 2018 meet these parameters.

Site Closure and Reporting

Once the trucking activity is complete, vadose zone sampling results are received BP will request closure of the Riddle F LS 001 stockpile site within 60 and proceed with final reclamation at the site under the guidance of the BLM.


Legend
Blanco (Town)
Pit identified as not viable
Riddle F LS 001 Stockpiles
Viable deposit pit
Well pad referenced
Riddle F LS 001 Stockpile
Riddle F LS 001
36.65827, -107.71018
Doggie Pit
36.42718, -107.47983
Pine Tree Mesa Pit
36.41886, -107.48098
Kline Mesa Pit
36.44578, -107.46996
Unnamed site
36.47451, -107.66249
Marron Sandstone Pit
36.54655, -107.66284
Riddle F LS 001 Stockpiles
Marron Sandstone Pit
Unknown Site
Klein Mesa Pit
Klein 26N Well Pad
Pine Tree Mesa Rock Pit
Doggie Pit
Canyon Largo Unit 486 Wellpad
Blanco
511
64
575
N
10 mi
Google Earth
© 2018 Google


Doggie and Pine Mesa Pit Map
T25N R6W Sec 4/9 SWNE
Doggie: 36.42718, -107.47983
Pine Tree Mesa: 36.41886, -107.48098
Legend
Canyon Largo Unit 486 Wellpad
Pit
Doggie Pit
Pine Tree Mesa Rock Pit
Canyon Largo Unit 486 Wellpad
523
379
Google Earth
© 2018 Google
N
4000 ft


Klein Mesa Pit Map
T26N R6W Sec 33 SWNE
36.44578, -107.46996
Legend
Klein 26N Well Pad
Klein Mesa Pit
Klein Mesa Pit
Klein 26N Well Pad
Google Earth
© 2018 Google
N
1000 ft

District I
1625 N. French Dr., Hobbs, NM 88240
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State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
July 21, 2008

For temporary pits, closed-loop sytems, and below-grade tanks, submit to the appropriate NMOCD District Office.

For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

Pit, Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application

Type of action:
- [X] Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method
- [ ] Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method
- [ ] Modification to an existing permit
- [ ] Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1
Operator: **Burlington Resources Oil & Gas Company, LP** OGRID#: **14538**
Address: **PO Box 4289, Farmington, NM 87499**
Facility or well name: **CANYON LARGO UNIT 486**
API Number: **3003929722** OCD Permit Number:
U/L or Qtr/Qtr: **F** Section: **8** Township: **25N** Range: **6W** County: **Rio Arriba**
Center of Proposed Design: Latitude: **36.4143°N** Longitude: **-107.4926°W** NAD: [X] 1927 [ ] 1983
Surface Owner: [X] Federal [ ] State [ ] Private [ ] Tribal Trust or Indian Allotment

2
[ ] **Pit:** Subsection F or G of 19.15.17.11 NMAC
Temporary: [ ] Drilling [ ] Workover
[ ] Permanent [ ] Emergency [ ] Cavitation [ ] P&A
[ ] Lined [ ] Unlined Liner type: Thickness _____ mil [ ] LLDPE [ ] HDPE [ ] PVC [ ] Other _____
[ ] String-Reinforced
Liner Seams: [ ] Welded [ ] Factory [ ] Other _____ Volume: _____ bbl Dimensions L ____ x W ____ x D ____

3
[ ] **Closed-loop System:** Subsection H of 19.15.17.11 NMAC
Type of Operation: [ ] P&A [ ] Drilling a new well [ ] Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)
[ ] Drying Pad [ ] Above Ground Steel Tanks [ ] Haul-off Bins [ ] Other _____
[ ] Lined [ ] Unlined Liner type: Thickness _____ mil [ ] LLDPE [ ] HDPE [ ] PVD [ ] Other _____
Liner Seams: [ ] Welded [ ] Factory [ ] Other _____

4
[X] **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: **120** bbl Type of fluid: **Produced Water**
Tank Construction material: **Metal**
[ ] Secondary containment with leak detection [X] Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
[ ] Visible sidewalls and liner [ ] Visible sidewalls only [ ] Other _____
Liner Type: Thickness _____ mil [ ] HDPE [ ] PVC [X] Other **Unspecified**

5
[ ] **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

20

6

Fencing: Subsection D of 19.15.17.11 NMAC *(Applies to permanent pit, temporary pits, and below-grade tanks)*

☐ Chain link, six feet in height, two strands of barbed wire at top *(Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)*

☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet

☒ Alternate. Please specify **4' hog wire fencing topped with two strands barbed wire.**

7

Netting: Subsection E of 19.15.17.11 NMAC *(Applies to permanent pits and permanent open top tanks)*

☒ Screen ☐ Netting ☐ Other _____

☐ Monthly inspections *(If netting or screening is not physically feasible)*

8

Signs: Subsection C of 19.15.17.11 NMAC

☐ 12" X 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☒ Signed in compliance with 19.15.3.103 NMAC

9

Administrative Approvals and Exceptions:

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

☒ Administrative approval(s): Requests must be submitted to the appropriate division district of the Santa Fe Environmental Bureau office for consideration of approval. **(Fencing/BGT Liner)**

☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

10

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau Office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. **Siting criteria does not apply to drying pads or above grade-tanks associated with a closed-loop system.**

Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☒ No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applies to temporary, emergency, or cavitation pits and below-grade tanks)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☒ No ☐ NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applied to permanent pits)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No ☒ NA
Within 500 horizonal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site.	☐ Yes ☒ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☒ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD - Mining and Mineral Division	☐ Yes ☒ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☒ No
Within a 100-year floodplain - FEMA map	☐ Yes ☒ No

11
Temporary Pits, Emergency Pits and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- [X] Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- [ ] Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9
- [X] Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- [X] Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- [X] Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- [X] Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

[ ] Previously Approved Design (attach copy of design) API _____ or Permit _____

12
Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- [ ] Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9
- [ ] Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC
- [ ] Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- [ ] Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- [ ] Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

[ ] Previously Approved Design (attach copy of design) API _____
[ ] Previously Approved Operating and Maintenance Plan API _____

13
Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- [ ] Hydrogeologic Report - based upon the requirements of Paragraph (I) of Subsection B of 19.15.17.9 NMAC
- [ ] Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- [ ] Climatological Factors Assessment
- [ ] Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- [ ] Dike Protection and Structural Integrity Design: based upon the appropriate requirements of 19.15.17.11 NMAC
- [ ] Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- [ ] Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- [ ] Quality Control/Quality Assurance Construction and Installation Plan
- [ ] Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- [ ] Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- [ ] Nuisance or Hazardous Odors, including H2S, Prevention Plan
- [ ] Emergency Response Plan
- [ ] Oil Field Waste Stream Characterization
- [ ] Monitoring and Inspection Plan
- [ ] Erosion Control Plan
- [ ] Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

14
Proposed Closure: 19.15.17.13 NMAC
Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

Type: [ ] Drilling [ ] Workover [ ] Emergency [ ] Cavitation [ ] P&A [ ] Permanent Pit [X] Below-grade Tank [ ] Closed-loop System [ ] Alternative

Proposed Closure Method: [X] Waste Excavation and Removal **(Below-Grade Tank)**
[ ] Waste Removal (Closed-loop systems only)
[ ] On-site Closure Method (only for temporary pits and closed-loop systems)
[ ] In-place Burial [ ] On-site Trench
[ ] Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

15
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- [X] Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- [X] Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
- [X] Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- [X] Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- [X] Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
- [X] Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

16

Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC)
Instructions: Please identify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

Disposal Facility Name: _____ Disposal Facility Permit #: _____

Disposal Facility Name: _____ Disposal Facility Permit #: _____

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?
☐ Yes (If yes, please provide the information ☐ No

Required for impacted areas which will not be used for future service and operations:

☐ Soil Backfill and Cover Design Specification - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropraite requirements of Subsection G of 19.15.17.13 NMAC

17

Siting Criteria (Regarding on-site closure methods only: 19.15.17.10 NMAC

Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 50 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS: Data obtained from nearby wells	☐ Yes ☐ No ☐ N/A
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ N/A
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ N/A
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal fee of any other fresh water well or spring, in existence at the time of the initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within 500 feet of a wetland - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within the area overlying a subsurface mine. - Written confiramtion or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☐ No

18

On-Site Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must bee attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Construction/Design Plan of Temporary Pit (for in place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
☐ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

19
Operator Application Certification:
I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): Crystal Tafoya Title: Regulatory Technician

Signature: Crystal Tafoya Date: 12/22/2008

e-mail address: crystal.tafoya@conocophillips.com Telephone: 505-326-9837

20
OCD Approval: ☐ Permit Application (including closure plan) ☐ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature: _____ **Approval Date:** _____

Title: _____ **OCD Permit Number:** _____

21
Closure Report (required within 60 days of closure completion): Subsection K of 19.15.17.13 NMAC
Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☐ **Closure Completion Date:** _____

22
Closure Method:
☐ Waste Excavation and Removal ☐ On-site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)
☐ If different from approved plan, please explain.

23
Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:
Instructions: Please identify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Were the closed-loop system operations and associated activities performed on or in areas that *will not* be used for future service and opeartions?

☐ Yes (If yes, please demonstrate complilane to the items below) ☐ No

Required for impacted areas which will not be used for future service and operations:
☐ Site Reclamation (Photo Documentation)
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique

24
Closure Report Attachment Checklist: ***Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.***
☐ Proof of Closure Notice (surface owner and division)
☐ Proof of Deed Notice (required for on-site closure)
☐ Plot Plan (for on-site closures and temporary pits)
☐ Confirmation Sampling Analytical Results (if applicable)
☐ Waste Material Sampling Analytical Results (if applicable)
☐ Disposal Facility Name and Permit Number
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique
☐ Site Reclamation (Photo Documentation)
On-site Closure Location: Latitude: _____ Longitude: _____ NAD ☐ 1927 ☐ 1983

25
Operator Closure Certification:
I hereby certify that the information and attachments submitted with this closure report is ture, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 25N Range: 06W Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) ○ Non-Domestic ○ Domestic ◉ All

POD / Surface Data Report | Avg Depth to Water Report | Water Column Report

Clear Form | iWATERS Menu | Help

WATER COLUMN REPORT 08/20/2008

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are biggest to smallest)

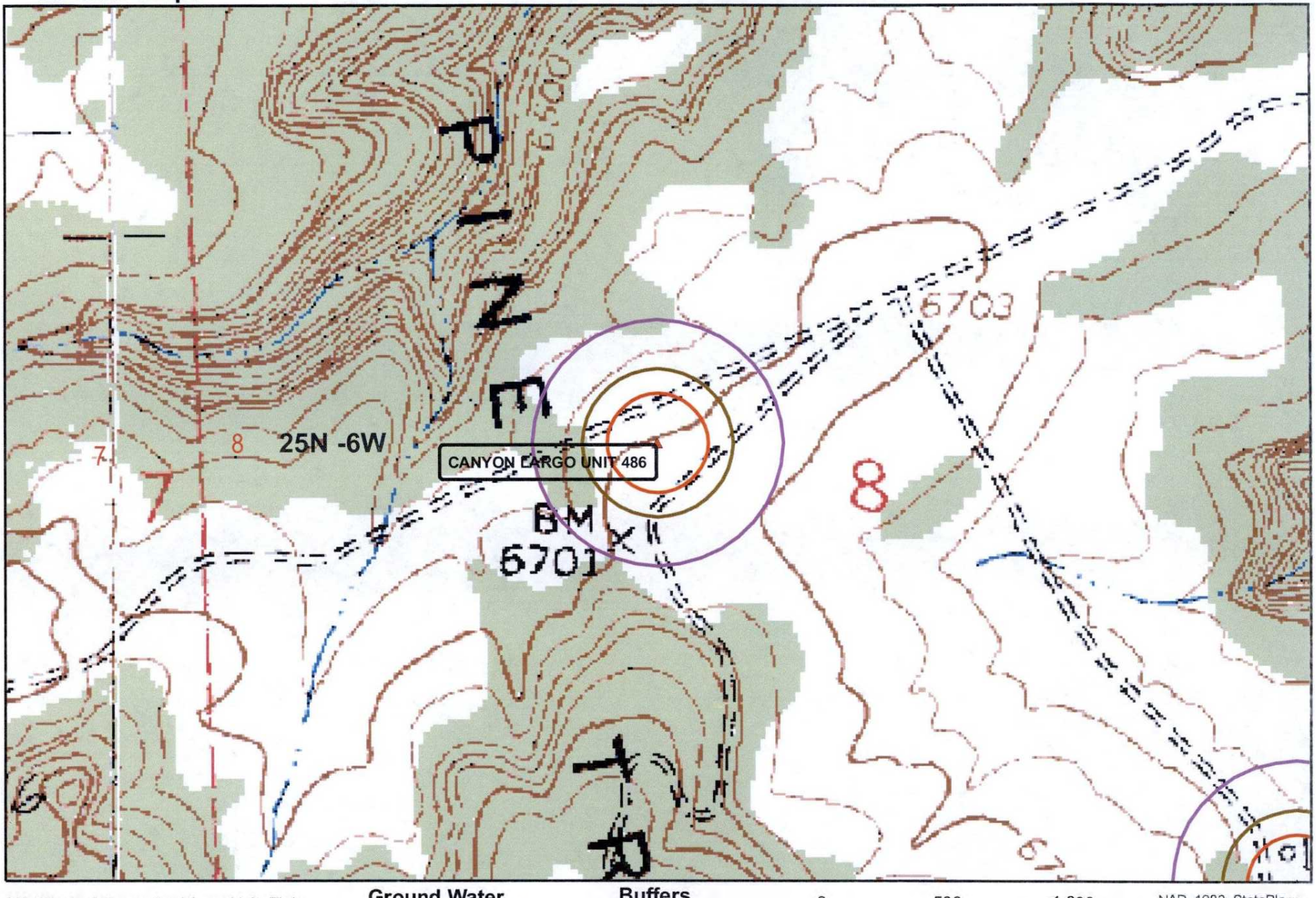
POD Number	Tws	Rng	Sec	q	q	q	Zone	X	Y	Depth Well	Depth Water	Water Column (in
SJ 00201	25N	06W	03	4	1					1346	500	846
SJ 00681	25N	06W	21	4	1	4					80	
SJ 00681 12	25N	06W	33	4	4	4				435		

Record Count: 3

ConocoPhillips

USGS TOPO MAP

CANYON LARGO UNIT 486



Wetlands data aquired from U.S. Fish and Wildlife
http://wetlandswms.er.usgs.gov

Ground Water
iWaters
COP

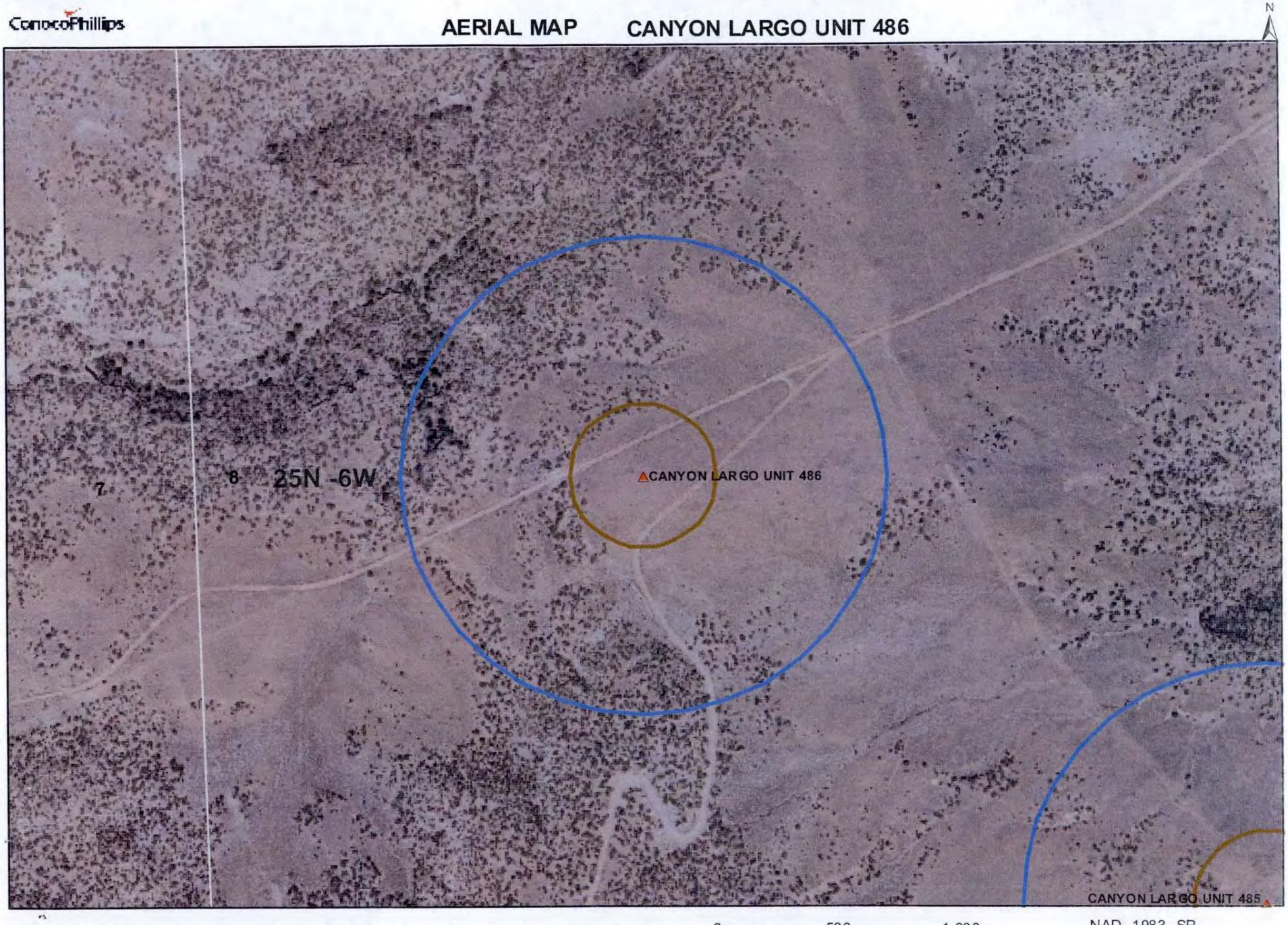
Buffers
200ft
300ft
500ft
Wetlands

0 500 1,000 Feet
1:6,000

NAD_1983_StatePlane_NMWest_FIPS_3003
8/08

ConocoPhillips

AERIAL MAP CANYON LARGO UNIT 486



Data Source
Aerial flown locally Sedgewick in 2005.

1000FT

300FT

0 500 1,000 Feet

1:6,000

NAD_1983_SP_
NM West_FIPS_3003

8/08

Mines, Mills and Quarries Web Map

CANYON LARGO UNIT 486

Unit Letter: F, Section: 08, Town: 025N, Range: 006W

Mines, Mills & Quarries Commodity Groups

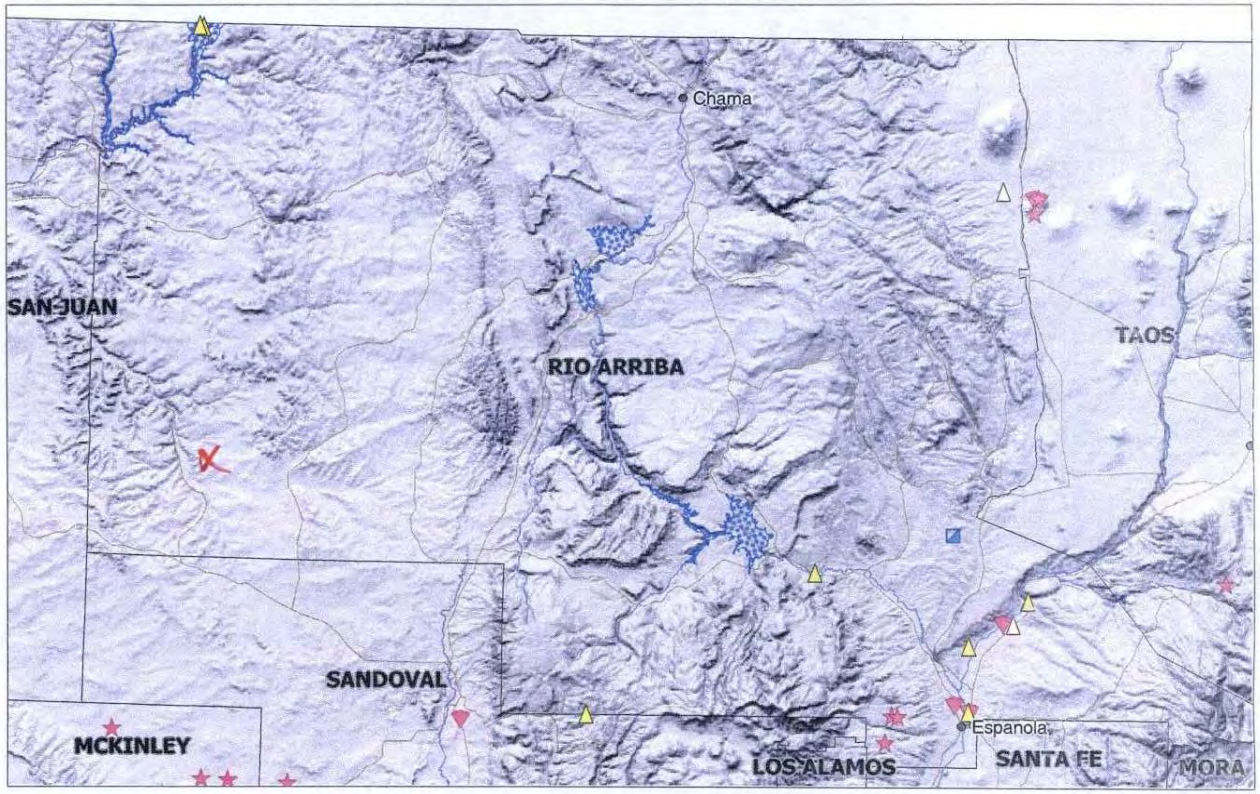
- Aggregate & Stone Mines
- Coal Mines
- Industrial Minerals Mines
- Industrial Minerals Mills
- Metal Mines and Mill Concentrate
- Potash Mines & Refineries
- Smelters & Refinery Ops.
- Uranium Mines
- Uranium Mills

Population

- Cities - major

Transportation

- Railways
- Interstate Highways
- Major Roads



SCALE 1 : 1,180,363

20 0 20 40 60

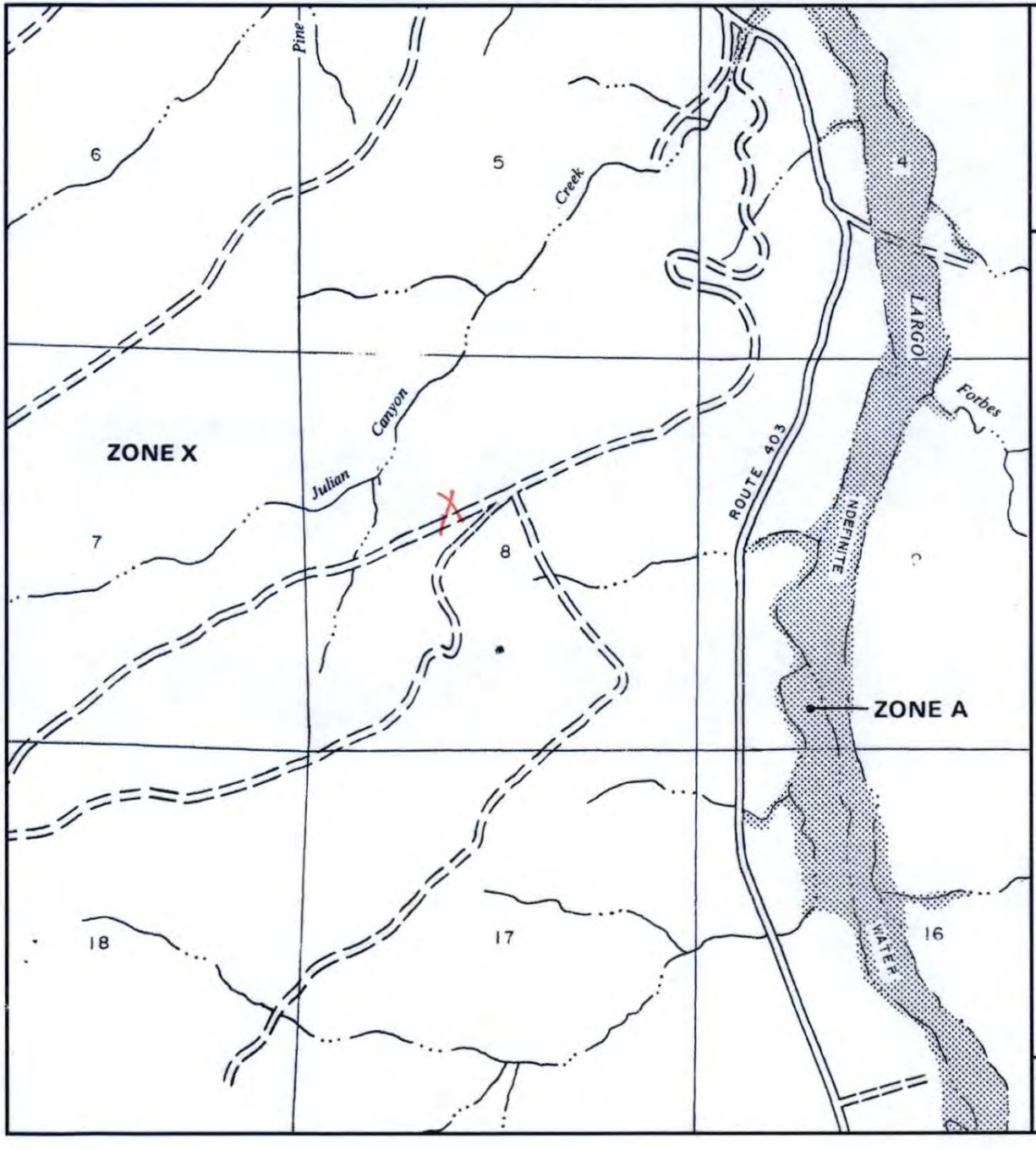
MILES

N

tp://www.emnrd.state.nm.us/MMD/MMQonline/MMQonline-PUBLIC-PROD.mwf

Saturday, September 06, 2008 8:43 AM

CANYON LARGO UNIT 486



N

APPROXIMATE SCALE

2000 0 2000 FEET

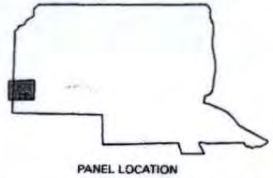
NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

RIO ARRIBA COUNTY, NEW MEXICO
UNINCORPORATED AREAS

PANEL 725 OF 1325
(SEE MAP INDEX FOR PANELS NOT PRINTED)



PANEL LOCATION

COMMUNITY-PANEL NUMBER
350049 0725 B

EFFECTIVE DATE:
JANUARY 5, 1989

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

CANYON LARGO UNIT 486

Site Specific Hydrogeology

A visual site inspection confirming the information contained herein was performed on the well 'CANYON LARGO UNIT 486', which is located at 36.4143 degrees North latitude and 107.4926 degrees West longitude. This location is located on the Gonzales Mesa 7.5' USGS topographic quadrangle. This location is in section 8 of Township 25 North Range 6 West of the Public Land Survey System (New Mexico Principal Meridian). This location is located in Rio Arriba County, New Mexico. The nearest town is Nageezi, located 17.3 miles to the southwest. The nearest large town (population greater than 10,000) is Farmington, located 45.4 miles to the northwest (National Atlas). The nearest highway is State Highway 403, located 1.2 miles to the southeast. The location is on BLM land and is 4,249 feet from the edge of the parcel as notated in the BLM land status layer updated January 2008. This location is in the Blanco Canyon. New Mexico, Sub-basin. This location is located 2043 meters or 6701 feet above sea level and receives 10.5 inches of rain each year. The vegetation at this location is classified as Colorado Plateau Pinon-Juniper Woodland as per the Southwest Regional Gap Analysis Program.

The estimated depth to ground water at this point is 119 feet. This estimation is based on the data published on the New Mexico Engineer's iWaters Database website and water depth data from ConocoPhillips' cathodic wells. Groundwater data available from the NM State Engineer's iWaters Database for wells near the proposed site are attached. The nearest stream is 1,043 feet to the west and is classified by the USGS as an intermittent stream. The nearest perennial stream is 4,265 feet to the west. The nearest water body is 4,217 feet to the west. It is classified by the USGS as an intermittent lake and is 0.7 acres in size. The nearest spring is 6,302 feet to the southwest. All stream, river, water body and spring information was determined as per the USGS Hydrographic Dataset (High Resolution), downloaded 3/2008. The nearest water well is 5,930 feet to the southwest. The nearest wetland is a 0.8 acre other located 4,220 feet to the west. The slope at this location is 1 degree to the northwest as calculated from USGS 30M National Elevation Dataset. This information is also discerned from the aerial and topographic map included. The surface geology at this location is SAN JOSE FORMATION--Siltstone, shale, and sandstone with a Sandstone dominated formations of all ages substrate. The soil at this location is 'Orlie fine sandy loam, 1 to 8 percent slopes' and is well drained and not hydric with moderate erosion potential as taken from the NRCS SSURGO map unit, downloaded January 2008. The nearest underground mine is 26.0 miles to the southwest as indicated on the Mines, Mills and Quarries Map of New Mexico provided.

Regional Hydrogeological context:

The San Jose Formation of Eocene age occurs in New Mexico and Colorado, and its outcrop forms the land surface over much of the eastern half of the central basin. It overlies the Nacimiento Formation in the area generally south of the Colorado-New Mexico State line and overlies the Animas Formation in the area generally north of the State line. The San Jose Formation was deposited in various fluvial-type environments. In general, the unit consists of an inter-bedded sequence of sandstone, siltstone, and variegated shale. Thickness of the San Jose Formation generally increases from west to east (200 feet in the west and south to almost 2,700 feet in the center of the structural basin). Ground water is associated with alluvial and fluvial sandstone aquifers. Thus, the occurrence of ground water is mainly controlled by the distribution of sandstone in the formation. The distribution of such sandstone is the result of original depositional extent plus any post-depositional modifications, namely erosion and structural deformation. Transmissivity data for San Jose Formation are minimal. Values of 40 and 120 feet squared per day were determined from two aquifer tests (Stone et al, 1983, table 5). The reported or measured discharge from 46 water wells completed in San Jose Formation ranges from 0.15 to 61 gallons per minute and the median is 5 gallons per minute. Most of the wells provide water for livestock and domestic use. The San Jose Formation is a very suitable unit for recharge from precipitation because soils that form on the unit are sandy and highly permeable and therefore readily adsorb precipitation. However, low annual precipitation, relatively high transpiration and evaporation rates, and deep dissection of the San Jose Formation by the San Juan River and its tributaries all tend to reduce the effective recharge to the unit.

Stone et al., 1983, Hydrogeology and Water Resources of the San Juan Basin, New Mexico: Socorro, New Mexico Bureau of Mines and Mineral Resources Hydrologic Report 6, 70 p.

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
July 21, 2008

For temporary pits, closed-loop sytems, and below-grade tanks, submit to the appropriate NMOCD District Office.

For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

Pit, Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application

Type of action:
- [X] Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method
- [ ] Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method
- [ ] Modification to an existing permit
- [ ] Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1
Operator: **Burlington Resources Oil & Gas Company, LP** OGRID#: **14538**
Address: **PO Box 4289, Farmington, NM 87499**
Facility or well name: **KLEIN 26N**
API Number: **3003930341** OCD Permit Number:
U/L or Qtr/Qtr: **G** Section: **33** Township: **26N** Range: **6W** County: **Rio Arriba**
Center of Proposed Design: Latitude: **36.4452990°N** Longitude: **-107.4694200°W** NAD: [X] 1927 [ ] 1983
Surface Owner: [X] Federal [ ] State [ ] Private [ ] Tribal Trust or Indian Allotment

2
[ ] **Pit:** Subsection F or G of 19.15.17.11 NMAC
Temporary: [ ] Drilling [ ] Workover
[ ] Permanent [ ] Emergency [ ] Cavitation [ ] P&A
[ ] Lined [ ] Unlined Liner type: Thickness _____ mil [ ] LLDPE [ ] HDPE [ ] PVC [ ] Other _____
[ ] String-Reinforced
Liner Seams: [ ] Welded [ ] Factory [ ] Other _____ Volume: _____ bbl Dimensions L ____ x W ____ x D ____

3
[ ] **Closed-loop System:** Subsection H of 19.15.17.11 NMAC
Type of Operation: [ ] P&A [ ] Drilling a new well [ ] Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)
[ ] Drying Pad [ ] Above Ground Steel Tanks [ ] Haul-off Bins [ ] Other _____
[ ] Lined [ ] Unlined Liner type: Thickness _____ mil [ ] LLDPE [ ] HDPE [ ] PVD [ ] Other _____
Liner Seams: [ ] Welded [ ] Factory [ ] Other _____

4
[X] **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: **120** bbl Type of fluid: **Produced Water**
Tank Construction material: **Metal**
[ ] Secondary containment with leak detection [X] Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
[ ] Visible sidewalls and liner [ ] Visible sidewalls only [ ] Other _____
Liner Type: Thickness _____ mil [ ] HDPE [ ] PVC [X] Other **Unspecified**

5
[ ] **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

6

Fencing: Subsection D of 19.15.17.11 NMAC *(Applies to permanent pit, temporary pits, and below-grade tanks)*

☐ Chain link, six feet in height, two strands of barbed wire at top *(Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)*

☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet

☒ Alternate. Please specify **4' hog wire fencing topped with two strands barbed wire.**

7

Netting: Subsection E of 19.15.17.11 NMAC *(Applies to permanent pits and permanent open top tanks)*

☒ Screen ☐ Netting ☐ Other _____

☐ Monthly inspections *(If netting or screening is not physically feasible)*

8

Signs: Subsection C of 19.15.17.11 NMAC

☐ 12" X 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☒ Signed in compliance with 19.15.3.103 NMAC

9

Administrative Approvals and Exceptions:

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

☒ Administrative approval(s): Requests must be submitted to the appropriate division district of the Santa Fe Environmental Bureau office for consideration of approval. **(Fencing/BGT Liner)**

☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

10

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau Office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. **Siting criteria does not apply to drying pads or above grade tanks associated with a closed-loop system.**

Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☒ No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applies to temporary, emergency, or cavitation pits and below-grade tanks)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☒ No ☐ NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applied to permanent pits)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No ☒ NA
Within 500 horizonal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☒ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD - Mining and Mineral Division	☐ Yes ☒ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☒ No
Within a 100-year floodplain - FEMA map	☐ Yes ☒ No

11
Temporary Pits, Emergency Pits and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- [X] Hydrogeologic Report (Below grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- [ ] Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9
- [X] Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- [X] Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- [X] Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- [X] Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

[ ] Previously Approved Design (attach copy of design) API _____ or Permit _____

12
Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- [ ] Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9
- [ ] Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC
- [ ] Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- [ ] Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- [ ] Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

[ ] Previously Approved Design (attach copy of design) API _____
[ ] Previously Approved Operating and Maintenance Plan API _____

13
Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- [ ] Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- [ ] Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- [ ] Climatological Factors Assessment
- [ ] Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- [ ] Dike Protection and Structural Integrity Design. based upon the appropriate requirements of 19.15.17.11 NMAC
- [ ] Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- [ ] Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- [ ] Quality Control/Quality Assurance Construction and Installation Plan
- [ ] Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- [ ] Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- [ ] Nuisance or Hazardous Odors, including H2S, Prevention Plan
- [ ] Emergency Response Plan
- [ ] Oil Field Waste Stream Characterization
- [ ] Monitoring and Inspection Plan
- [ ] Erosion Control Plan
- [ ] Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

14
Proposed Closure: 19.15.17.13 NMAC
Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

Type: [ ] Drilling [ ] Workover [ ] Emergency [ ] Cavitation [ ] P&A [ ] Permanent Pit [X] Below-grade Tank [ ] Closed-loop System [ ] Alternative

Proposed Closure Method:
- [X] Waste Excavation and Removal **(Below-Grade Tank)**
- [ ] Waste Removal (Closed-loop systems only)
- [ ] On-site Closure Method (only for temporary pits and closed-loop systems)
  - [ ] In-place Burial [ ] On-site Trench
- [ ] Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

15
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- [X] Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- [X] Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
- [X] Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- [X] Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- [X] Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
- [X] Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

16

Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC)
Instructions: Please identify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

Disposal Facility Name: _____ Disposal Facility Permit #: _____

Disposal Facility Name: _____ Disposal Facility Permit #: _____

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?
☐ Yes (If yes, please provide the information ☐ No

Required for impacted areas which will not be used for future service and operations:

☐ Soil Backfill and Cover Design Specification - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

17

Siting Criteria (Regarding on-site closure methods only: 19.15.17.10 NMAC

Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance

Ground water is less than 50 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ N/A
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ N/A
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ N/A
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal fee of any other fresh water well or spring, in existence at the time of the initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within 500 feet of a wetland - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☐ No

18

On-Site Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must bee attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Construction/Design Plan of Temporary Pit (for in place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
☐ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

19
Operator Application Certification:
I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): Crystal Tafoya Title: Regulatory Technician

Signature: Crystal Tafoya Date: 12/22/2008

e-mail address: crystal.tafoya@conocophillips.com Telephone 505-326-9837

20
OCD Approval: ☐ Permit Application (including closure plan) ☐ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature: _____ **Approval Date:** _____

Title: _____ **OCD Permit Number:** _____

21
Closure Report (required within 60 days of closure completion): Subsection K of 19.15.17.13 NMAC
Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☐ **Closure Completion Date:** _____

22
Closure Method:
☐ Waste Excavation and Removal ☐ On-site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)
☐ If different from approved plan, please explain.

23
Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:
Instructions: Please identify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Were the closed-loop system operations and associated activities performed on or in areas that *will not* be used for future service and opeartions?

☐ Yes (If yes, please demonstrate complilane to the items below) ☐ No

Required for impacted areas which will not be used for future service and operations.
☐ Site Reclamation (Photo Documentation)
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique

24
Closure Report Attachment Checklist: ***Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.***
☐ Proof of Closure Notice (surface owner and division)
☐ Proof of Deed Notice (required for on-site closure)
☐ Plot Plan (for on-site closures and temporary pits)
☐ Confirmation Sampling Analytical Results (if applicable)
☐ Waste Material Sampling Analytical Results (if applicable)
☐ Disposal Facility Name and Permit Number
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique
☐ Site Reclamation (Photo Documentation)

On-site Closure Location: Latitude: _____ Longitude: _____ NAD ☐ 1927 ☐ 1983

25
Operator Closure Certification:
I hereby certify that the information and attachments submitted with this closure report is ture, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 26N Range: 06W Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) Non-Domestic Domestic All

POD / Surface Data Report | Avg Depth to Water Report | Water Column Report

Clear Form | iWATERS Menu | Help

WATER COLUMN REPORT 08/20/2008

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are biggest to smallest)

POD Number	Tws	Rng	Sec	q	q	q	Zone	X	Y	Depth Well	Depth Water	Water Column (in

No Records found, try again

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 25N Range: 06W Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) Non-Domestic Domestic All

POD / Surface Data Report | Avg Depth to Water Report | Water Column Report

Clear Form | iWATERS Menu | Help

WATER COLUMN REPORT 08/20/2008

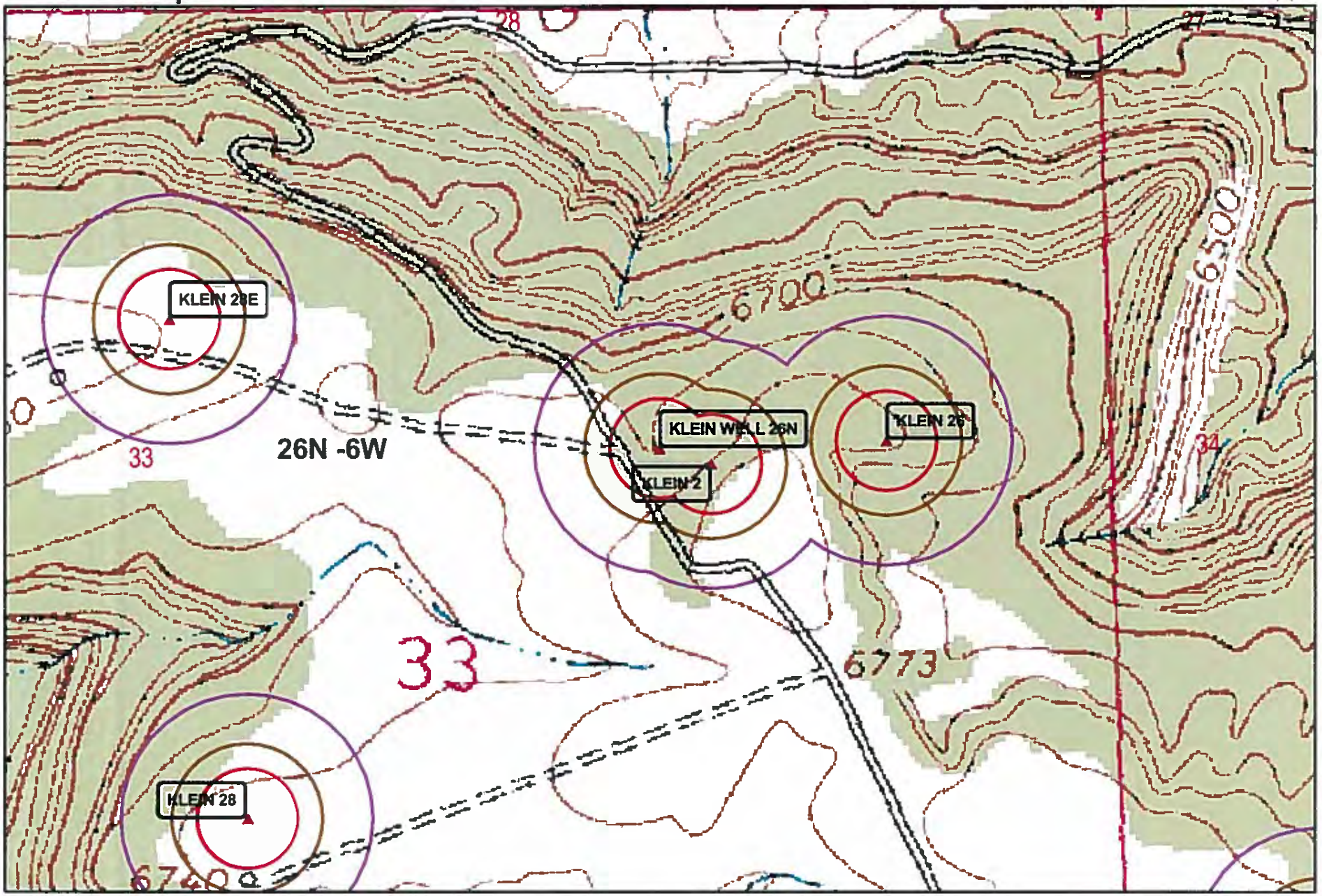
(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are biggest to smallest)

POD Number	Tws	Rng	Sec	q	q	q	Zone	X	Y	Depth Well	Depth Water	Water Column (in
SJ 00201	25N	06W	03	4	1					1346	500	846
SJ 00681	25N	06W	21	4	1	4					80	
SJ 00681 12	25N	06W	33	4	4	4				435		

Record Count: 3

ConocoPhillips

USGS TOPO MAP KLEIN WELL 26N



Wetlands data aquired from U.S. Fish and Wildlife
http://wetlandswms.er.usgs.gov

Ground Water
iWaters
COP

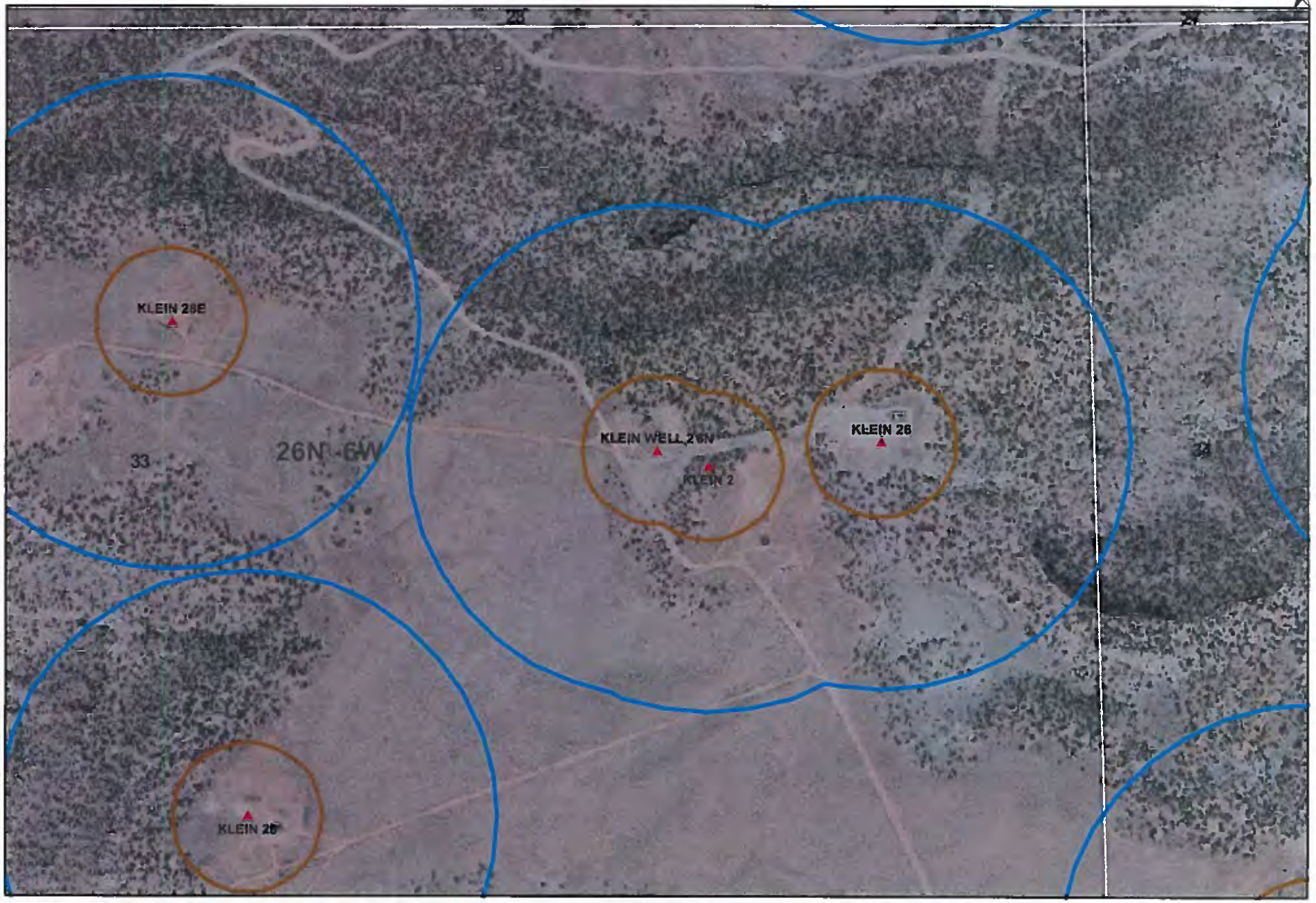
Buffers
200ft
300ft
500ft
Wetlands

0 500 1,000 Feet
1:6,000

NAD_1983_StatePlane_NMWest_FIPS_3003
8/08

ConocoPhillips

AERIAL MAP KLEIN WELL 26N



Data Source
Aerial flown locally Sedgewick in 2005.

1000FT

300FT

0 500 1,000 Feet

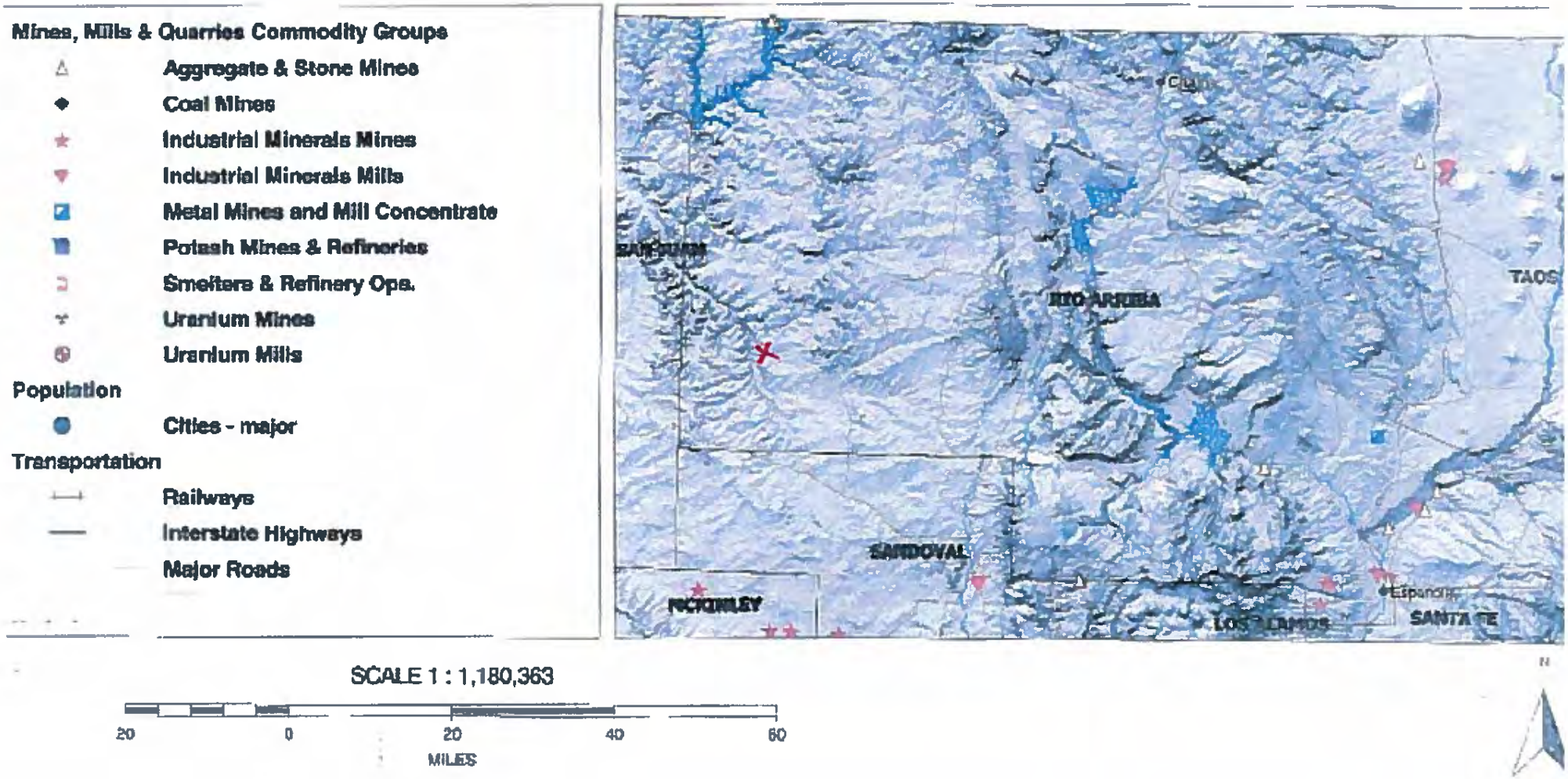
1:6,000

NAD_1983_SP_
NM West_FIPS_3003
8/08

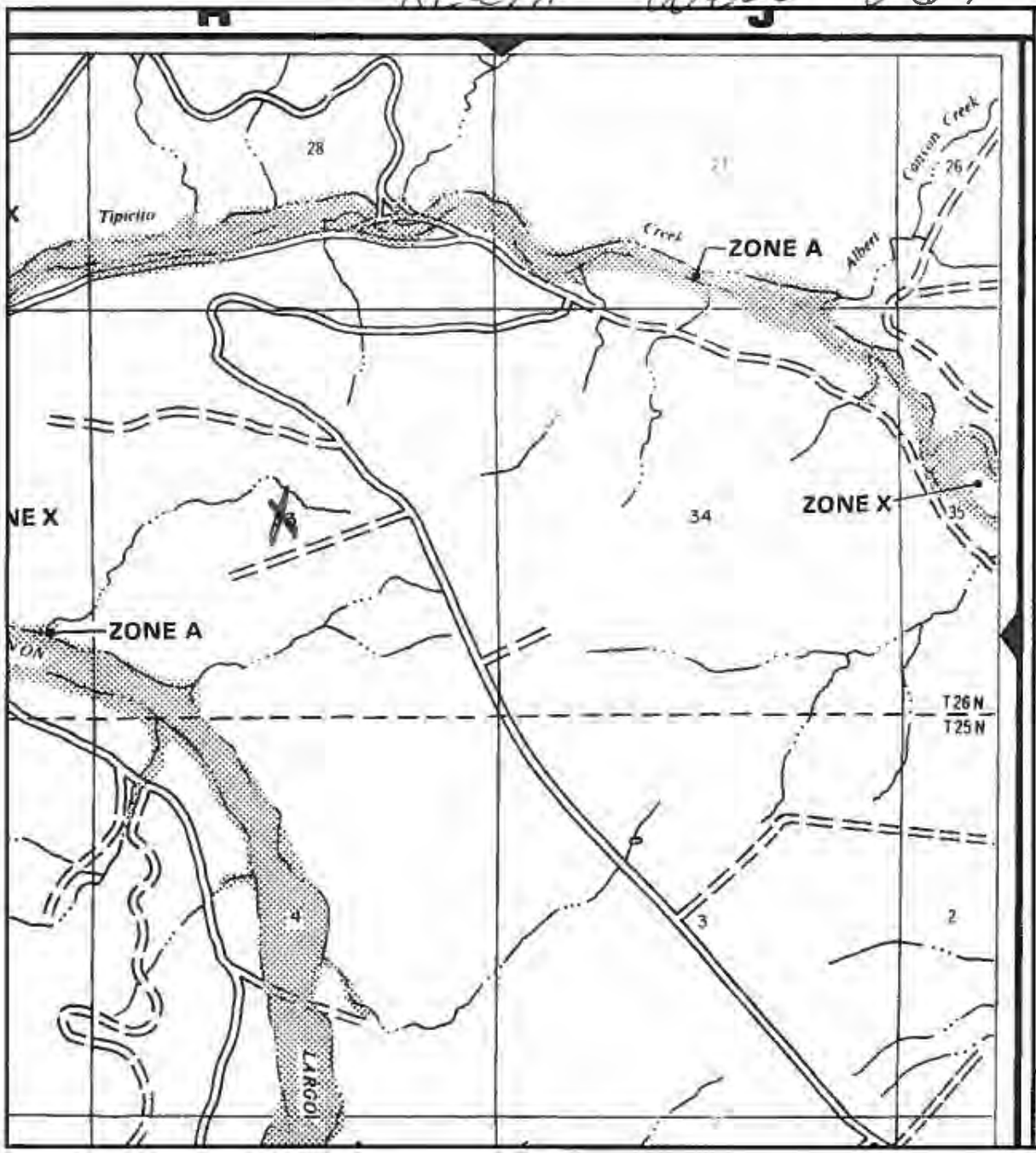
Mines, Mills and Quarries Web Map

KLEIN WELL 26N

Unit Letter: , Section: 33, Town: 26N, Range: 6W



Klein Well 26 N



KLEIN WELL 26N

Site Specific Hydrogeology

A visual site inspection confirming the information contained herein was performed on the well 'KLEIN WELL 26N', which is located at 36.445299 degrees North latitude and 107.46942 degrees West longitude. This location is located on the Gonzales Mesa 7.5' USGS topographic quadrangle. This location is in section 33 of Township 26 North Range 6 West of the Public Land Survey System (New Mexico Principal Meridian). This location is located in Rio Arriba County, New Mexico. The nearest town is Nageezi, located 19.6 miles to the southwest. The nearest large town (population greater than 10,000) is Farmington, located 45.5 miles to the northwest (National Atlas). The nearest highway is State Highway 403, located 3.1 miles to the south. The location is on BLM land and is 3,692 feet from the edge of the parcel as notated in the BLM land status layer updated January 2008. This location is in the Blanco Canyon. New Mexico, Sub-basin. This location is located 2058 meters or 6750 feet above sea level and receives 10.5 inches of rain each year. The vegetation at this location is classified as Colorado Plateau Pinon-Juniper Woodland as per the Southwest Regional Gap Analysis Program.

The estimated depth to ground water at this point is 393 feet. This estimation is based on the data published on the New Mexico Engineer's iWaters Database website and water depth data from ConocoPhillips' cathodic wells. Groundwater data available from the NM State Engineer's iWaters Database for wells near the proposed site are attached. The nearest stream is 664 feet to the northwest and is classified by the USGS as an intermittent stream. The nearest perennial stream is named Tapicito Creek and is 2,758 feet to the north. The nearest water body is 6,187 feet to the southeast. It is classified by the USGS as an intermittent lake and is 0.2 acres in size. The nearest spring is 7,666 feet to the south. All stream, river, water body and spring information was determined as per the USGS Hydrographic Dataset (High Resolution), downloaded 3/2008. The nearest water well is 2,473 feet to the north. The nearest wetland is a 412.7 acre Ravine located 2,702 feet to the north. The slope at this location is 3 degrees to the northwest as calculated from USGS 30M National Elevation Dataset. This information is also discerned from the aerial and topographic map included. The surface geology at this location is SAN JOSE FORMATION--Siltstone, shale, and sandstone with a Sandstone dominated formations of all ages substrate. The soil at this location is 'Vessilla-Menefee-Orlie complex, 1 to 30 percent slopes' and is well drained and not hydric with severe erosion potential as taken from the NRCS SSURGO map unit, downloaded January 2008. The nearest underground mine is 27.8 miles to the north as indicated on the Mines, Mills and Quarries Map of New Mexico provided.

Regional Hydrogeological context:

The San Jose Formation of Eocene age occurs in New Mexico and Colorado, and its outcrop forms the land surface over much of the eastern half of the central basin. It overlies the Nacimiento Formation in the area generally south of the Colorado-New Mexico State line and overlies the Animas Formation in the area generally north of the State line. The San Jose Formation was deposited in various fluvial-type environments. In general, the unit consists of an interbedded sequence of sandstone, siltstone, and variegated shale. Thickness of the San Jose Formation generally increases from west to east (200 feet in the west and south to almost 2,700 feet in the center of the structural basin). Ground water is associated with alluvial and fluvial sandstone aquifers. Thus, the occurrence of ground water is mainly controlled by the distribution of sandstone in the formation. The distribution of such sandstone is the result of original depositional extent plus any post-depositional modifications, namely erosion and structural deformation. Transmissivity data for San Jose Formation are minimal. Values of 40 and 120 feet squared per day were determined from two aquifer tests (Stone et al, 1983, table 5). The reported or measured discharge from 46 water wells completed in San Jose Formation ranges from 0.15 to 61 gallons per minute and the median is 5 gallons per minute. Most of the wells provide water for livestock and domestic use. The San Jose Formation is a very suitable unit for recharge from precipitation because soils that form on the unit are sandy and highly permeable and therefore readily adsorb precipitation. However, low annual precipitation, relatively high transpiration and evaporation rates, and deep dissection of the San Jose Formation by the San Juan River and its tributaries all tend to reduce the effective recharge to the unit.

Stone et al., 1983, Hydrogeology and Water Resources of the San Juan Basin, New Mexico: Socorro, New Mexico Bureau of Mines and Mineral Resources Hydrologic Report 6, 70 p.

Vadose Zone

Confirmation

BP - Riddle F LS 001

(L) Section 17, T28N, R08W
API #: 3004507407

Imagery Date: 10/5/2016.
P&A GPS Coord.: 36.658065,-107.710081
MW #12R GPS Coord.: 36.658062,-107.710165
Drop Pole GPS Coord.: 36.658055,-107.710385

Figure 1

17 total samples

1 - 6-pt. composite sample 2500 sqft area
1 - 6-pt. composite sample 2500 sqft area
1 - 6-pt. composite sample 2500 sqft area
1 - 6-pt. composite sample 2500 sqft area
1 - 6-pt. composite sample 2500 sqft area
1 - 6-pt. composite sample 2500 sqft area
1 - 6-pt. composite sample 2500 sqft area
1 - 7-pt. composite sample 3125 sqft area
1 - 6-pt. composite sample 2500 sqft area
1 - 6-pt. composite sample 2500 sqft area
1 - 6-pt. composite sample 2500 sqft area
1 - 6-pt. composite sample 2500 sqft area
1 - 4-pt. composite sample 1700 sqft area
1 - 6-pt. composite sample 2500 sqft area
1 - 7-pt. composite sample 2900 sqft area

Drop Pole
MW #12R
P&A

Google Earth
© 2018 Google

N
100 ft

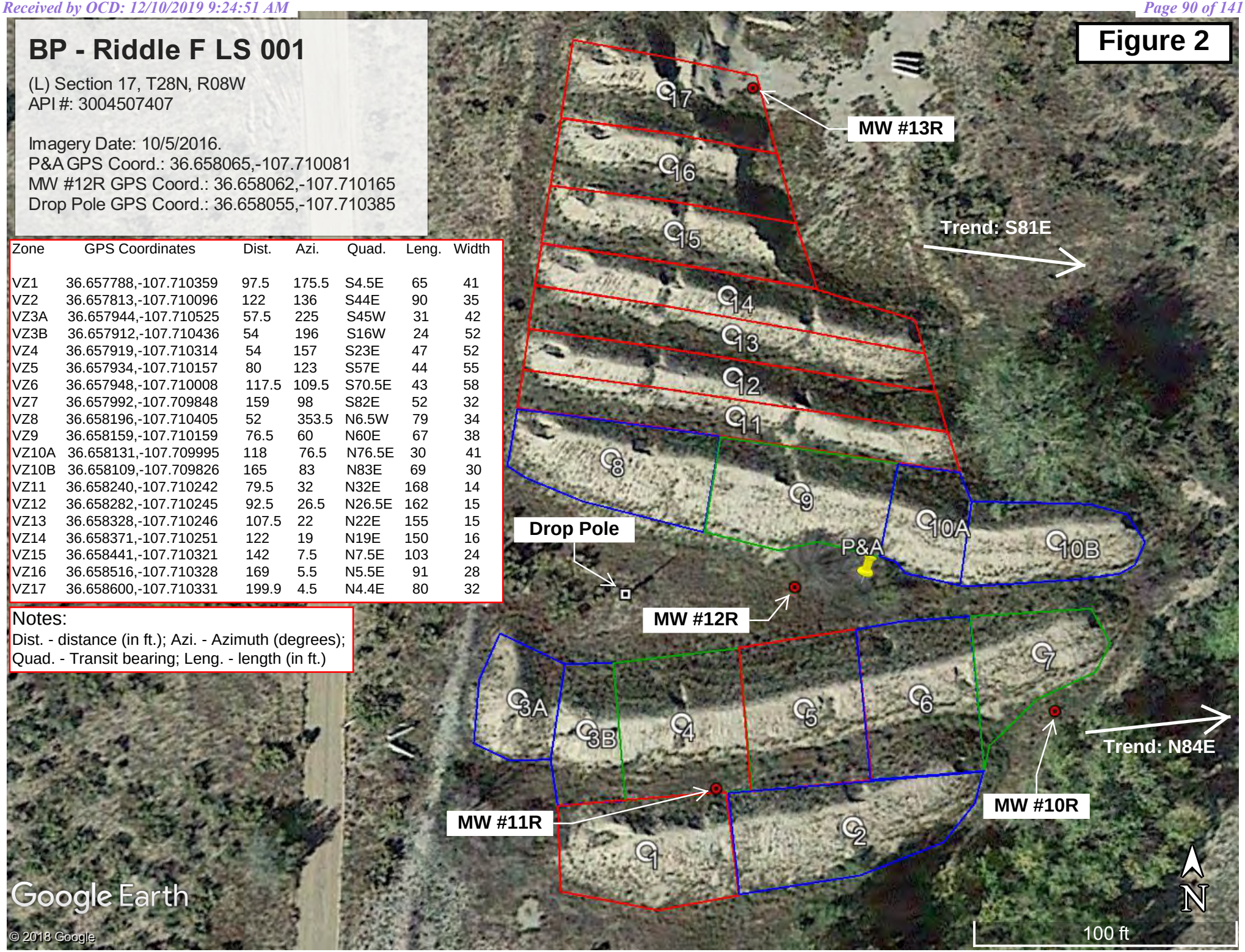
BP - Riddle F LS 001

(L) Section 17, T28N, R08W
API #: 3004507407

Imagery Date: 10/5/2016.
P&A GPS Coord.: 36.658065,-107.710081
MW #12R GPS Coord.: 36.658062,-107.710165
Drop Pole GPS Coord.: 36.658055,-107.710385

Zone	GPS Coordinates	Dist.	Azi.	Quad.	Leng.	Width
VZ1	36.657788,-107.710359	97.5	175.5	S4.5E	65	41
VZ2	36.657813,-107.710096	122	136	S44E	90	35
VZ3A	36.657944,-107.710525	57.5	225	S45W	31	42
VZ3B	36.657912,-107.710436	54	196	S16W	24	52
VZ4	36.657919,-107.710314	54	157	S23E	47	52
VZ5	36.657934,-107.710157	80	123	S57E	44	55
VZ6	36.657948,-107.710008	117.5	109.5	S70.5E	43	58
VZ7	36.657992,-107.709848	159	98	S82E	52	32
VZ8	36.658196,-107.710405	52	353.5	N6.5W	79	34
VZ9	36.658159,-107.710159	76.5	60	N60E	67	38
VZ10A	36.658131,-107.709995	118	76.5	N76.5E	30	41
VZ10B	36.658109,-107.709826	165	83	N83E	69	30
VZ11	36.658240,-107.710242	79.5	32	N32E	168	14
VZ12	36.658282,-107.710245	92.5	26.5	N26.5E	162	15
VZ13	36.658328,-107.710246	107.5	22	N22E	155	15
VZ14	36.658371,-107.710251	122	19	N19E	150	16
VZ15	36.658441,-107.710321	142	7.5	N7.5E	103	24
VZ16	36.658516,-107.710328	169	5.5	N5.5E	91	28
VZ17	36.658600,-107.710331	199.9	4.5	N4.4E	80	32

Notes:
Dist. - distance (in ft.); Azi. - Azimuth (degrees);
Quad. - Transit bearing; Leng. - length (in ft.)



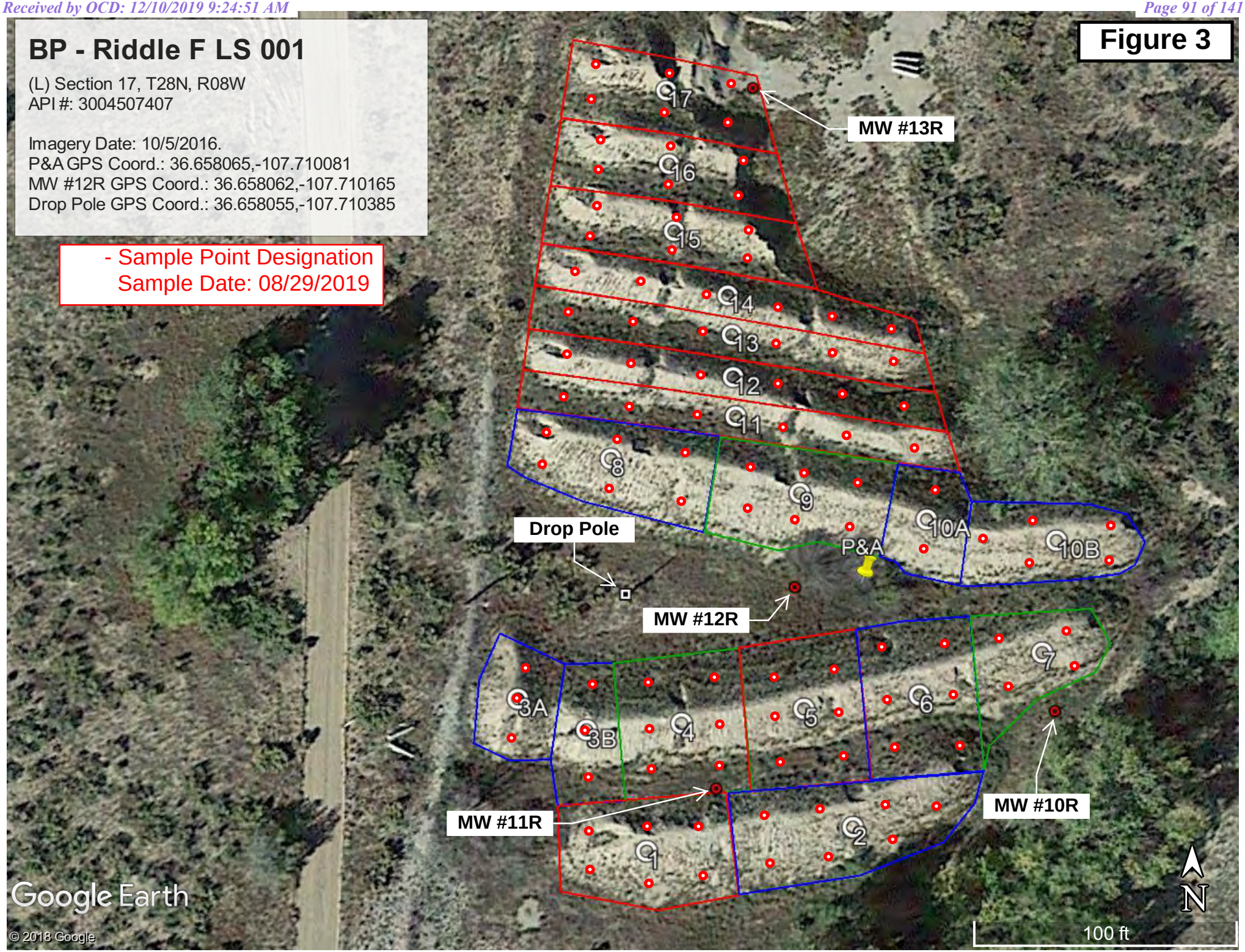
BP - Riddle F LS 001

(L) Section 17, T28N, R08W
API #: 3004507407

Imagery Date: 10/5/2016.
P&A GPS Coord.: 36.658065,-107.710081
MW #12R GPS Coord.: 36.658062,-107.710165
Drop Pole GPS Coord.: 36.658055,-107.710385

- Sample Point Designation
Sample Date: 08/29/2019

Figure 3



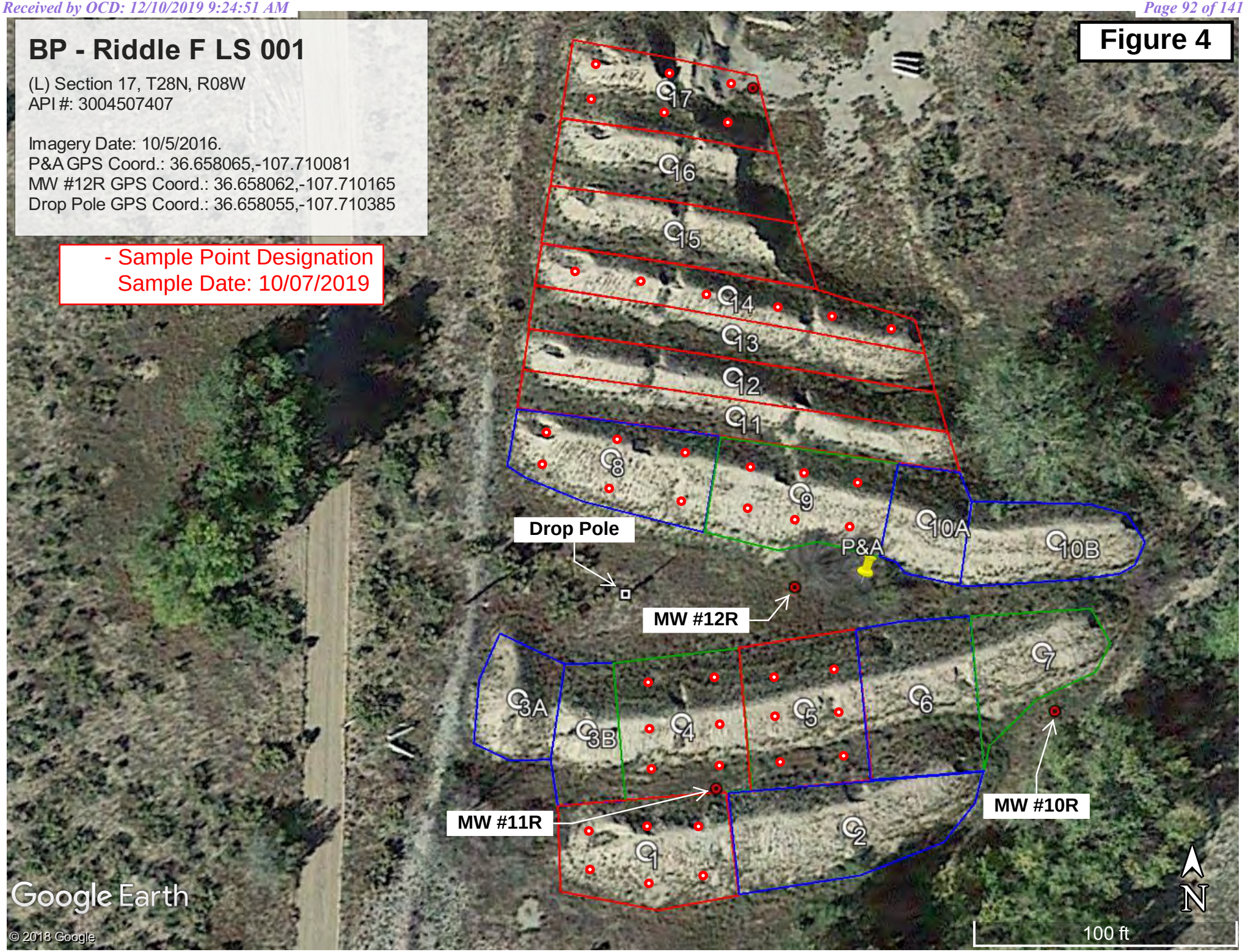
BP - Riddle F LS 001

(L) Section 17, T28N, R08W
API #: 3004507407

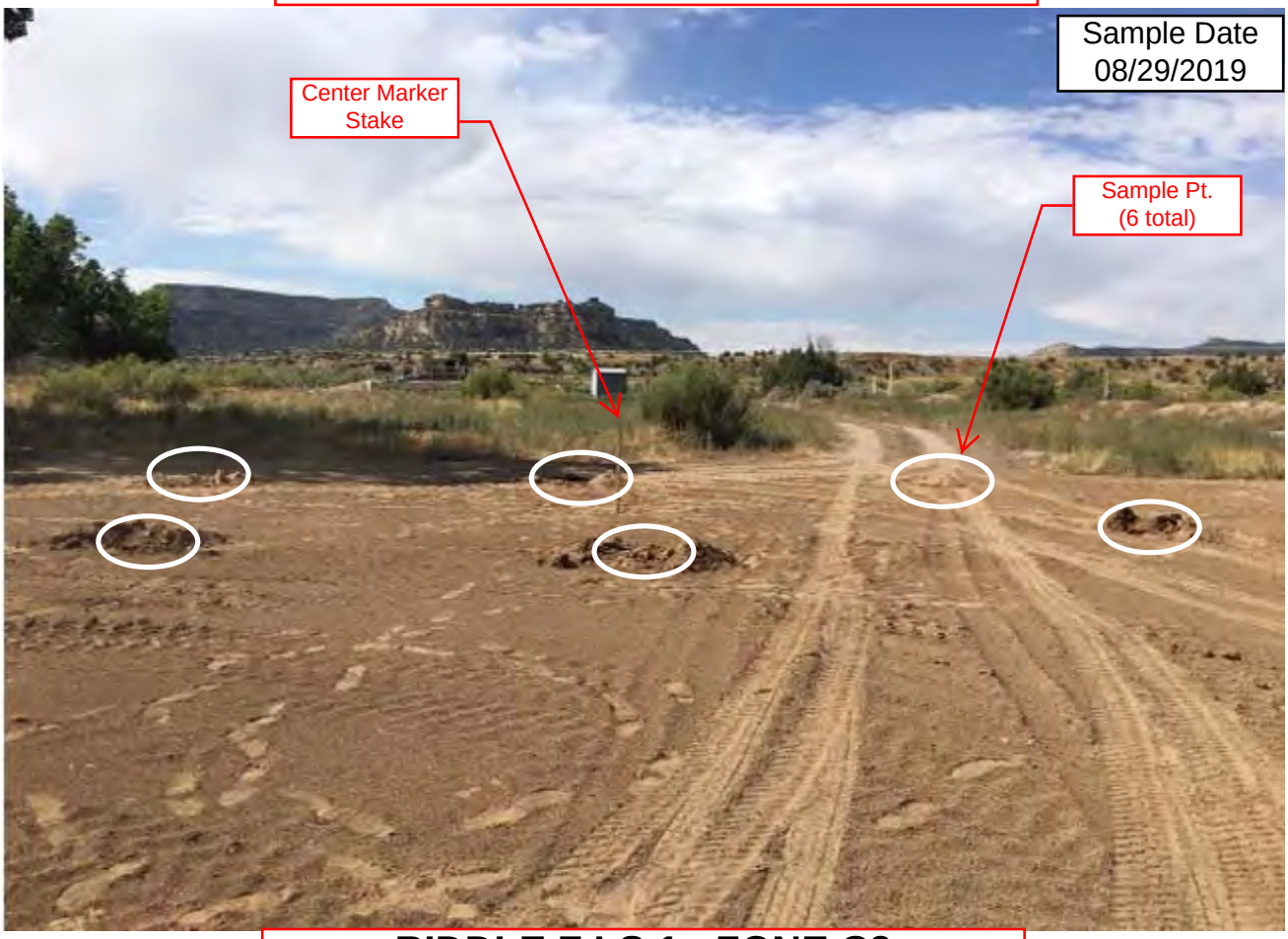
Imagery Date: 10/5/2016.
P&A GPS Coord.: 36.658065,-107.710081
MW #12R GPS Coord.: 36.658062,-107.710165
Drop Pole GPS Coord.: 36.658055,-107.710385

- Sample Point Designation
Sample Date: 10/07/2019

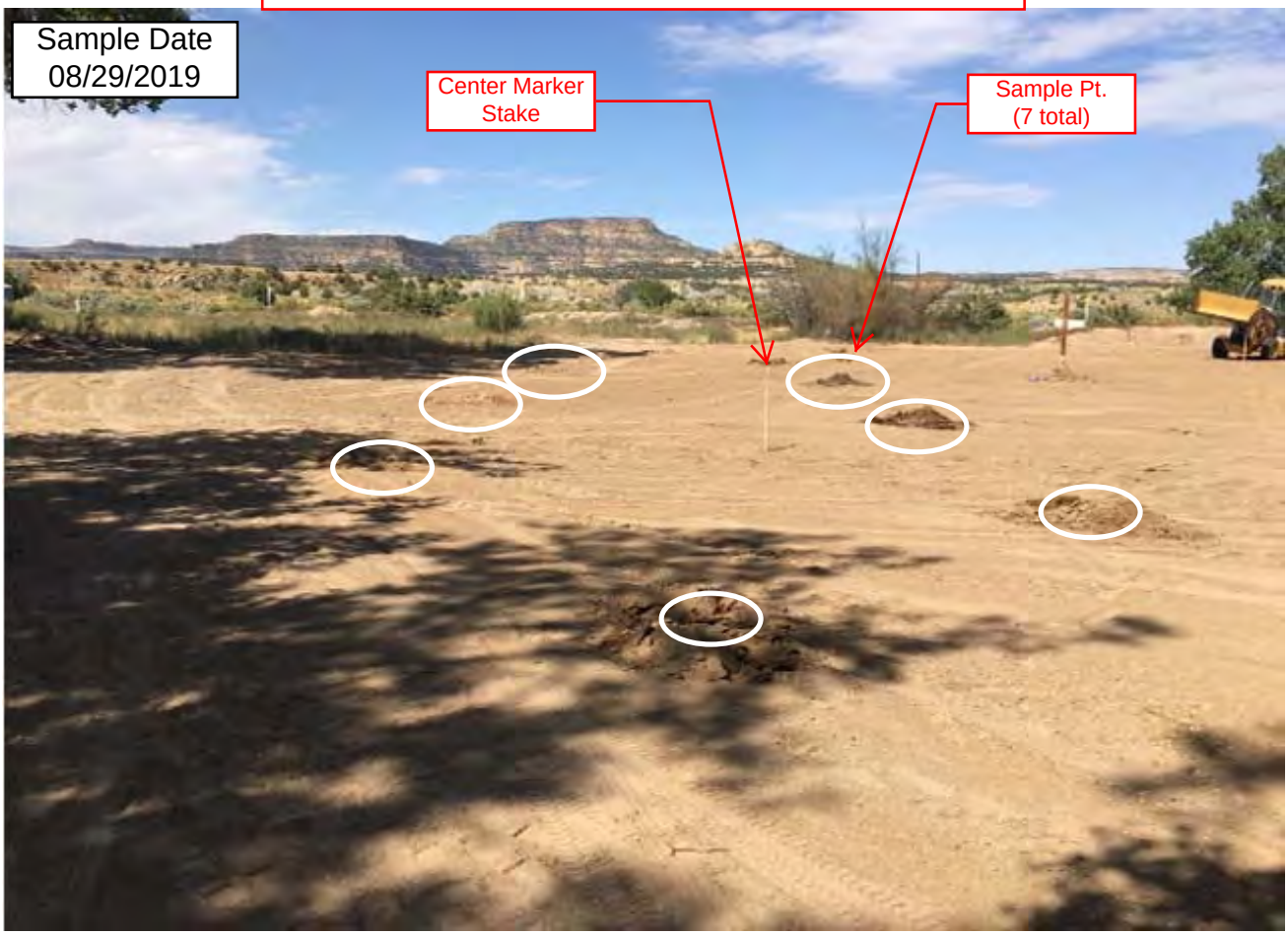
Figure 4



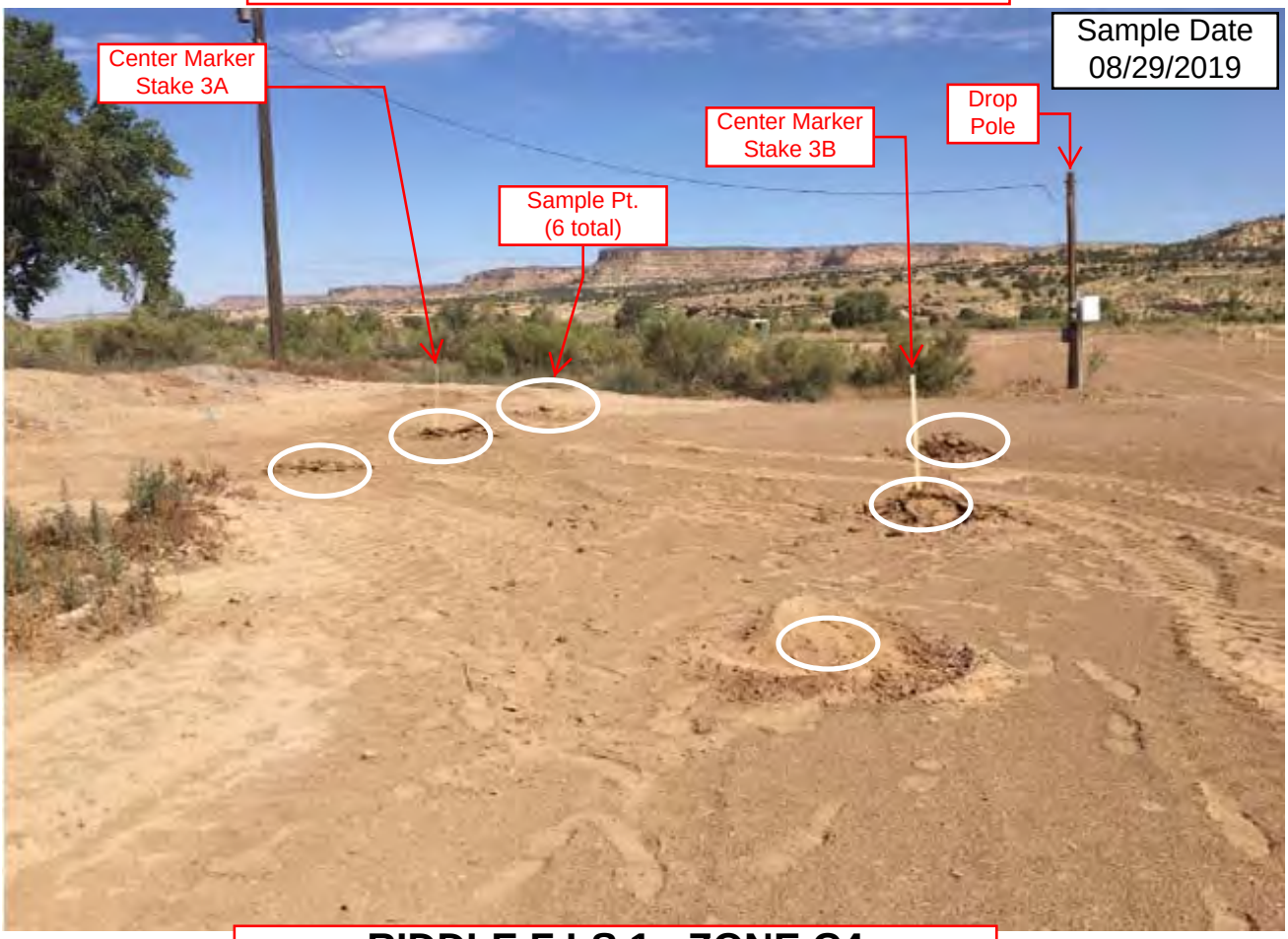
RIDDLE F LS 1 - ZONE C1



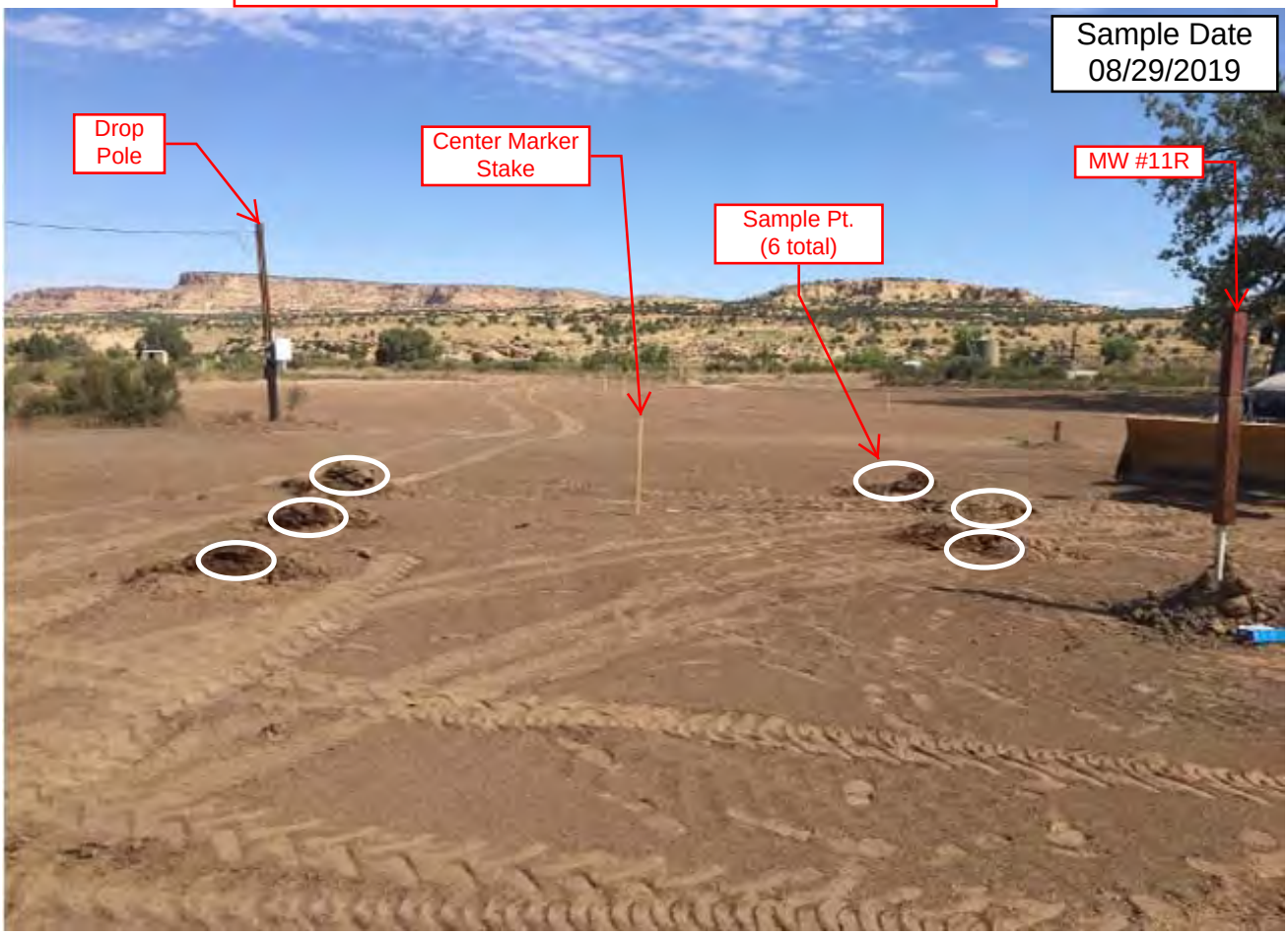
RIDDLE F LS 1 - ZONE C2



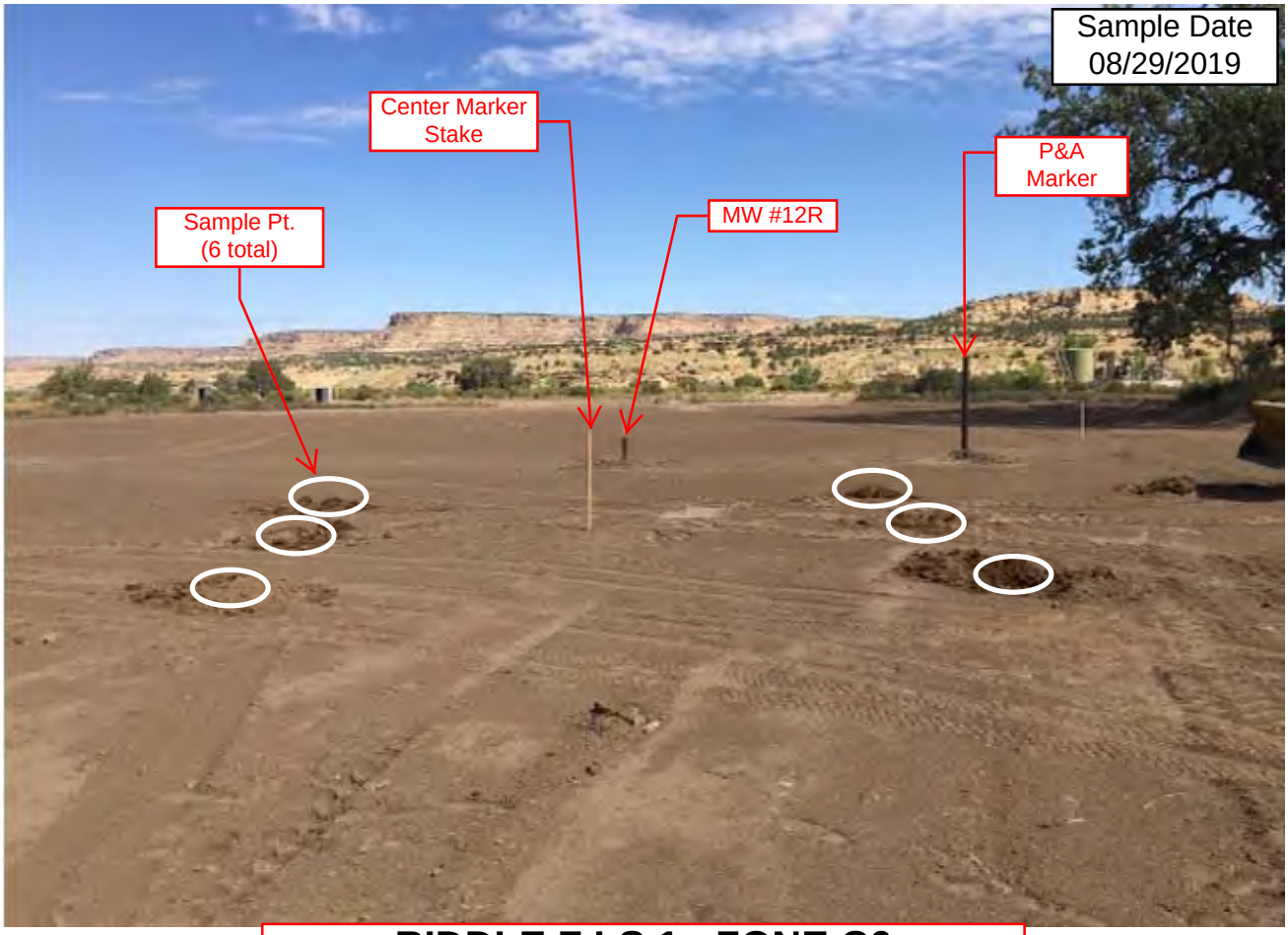
RIDDLE F LS 1 - ZONE C3



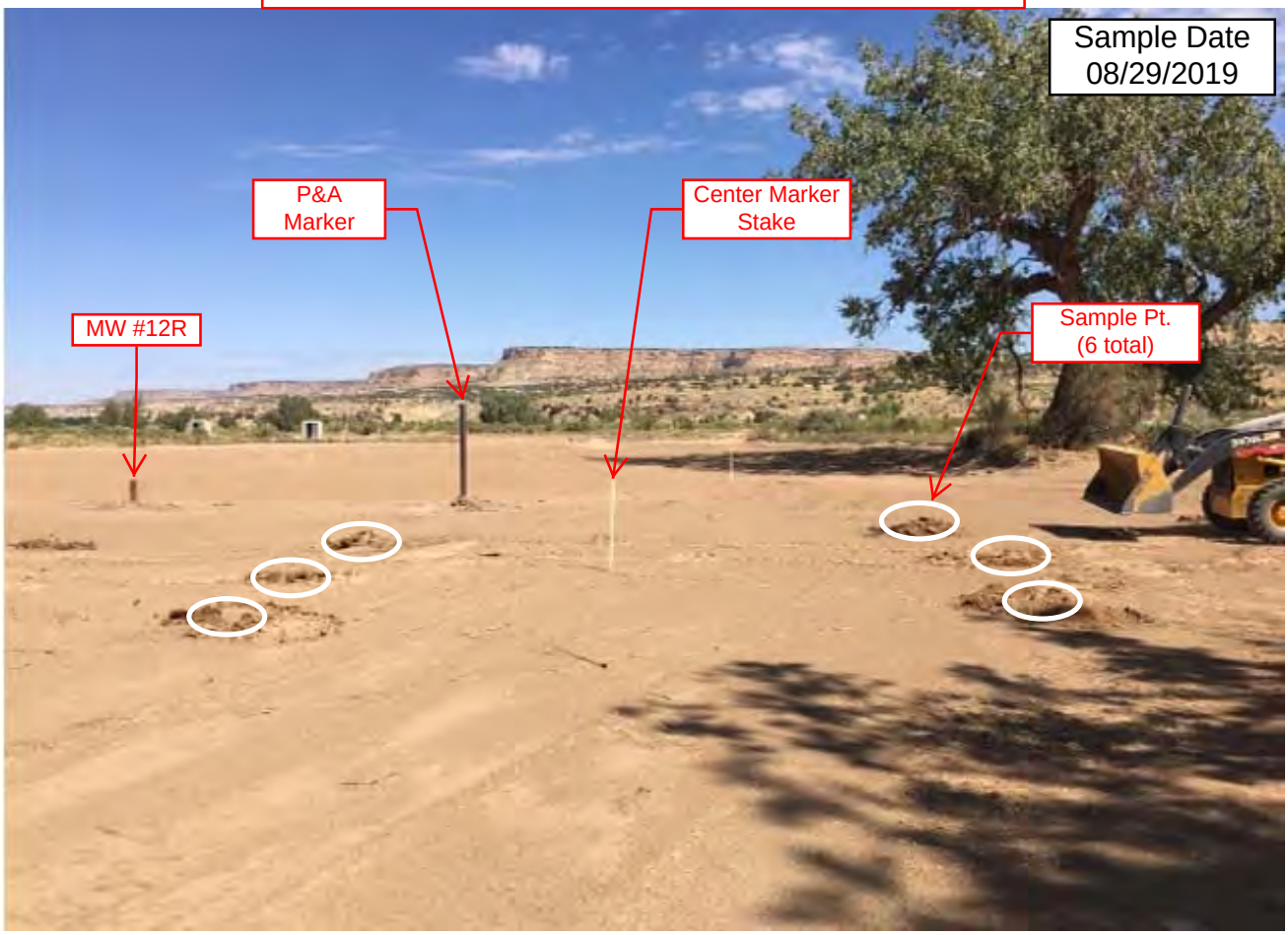
RIDDLE F LS 1 - ZONE C4



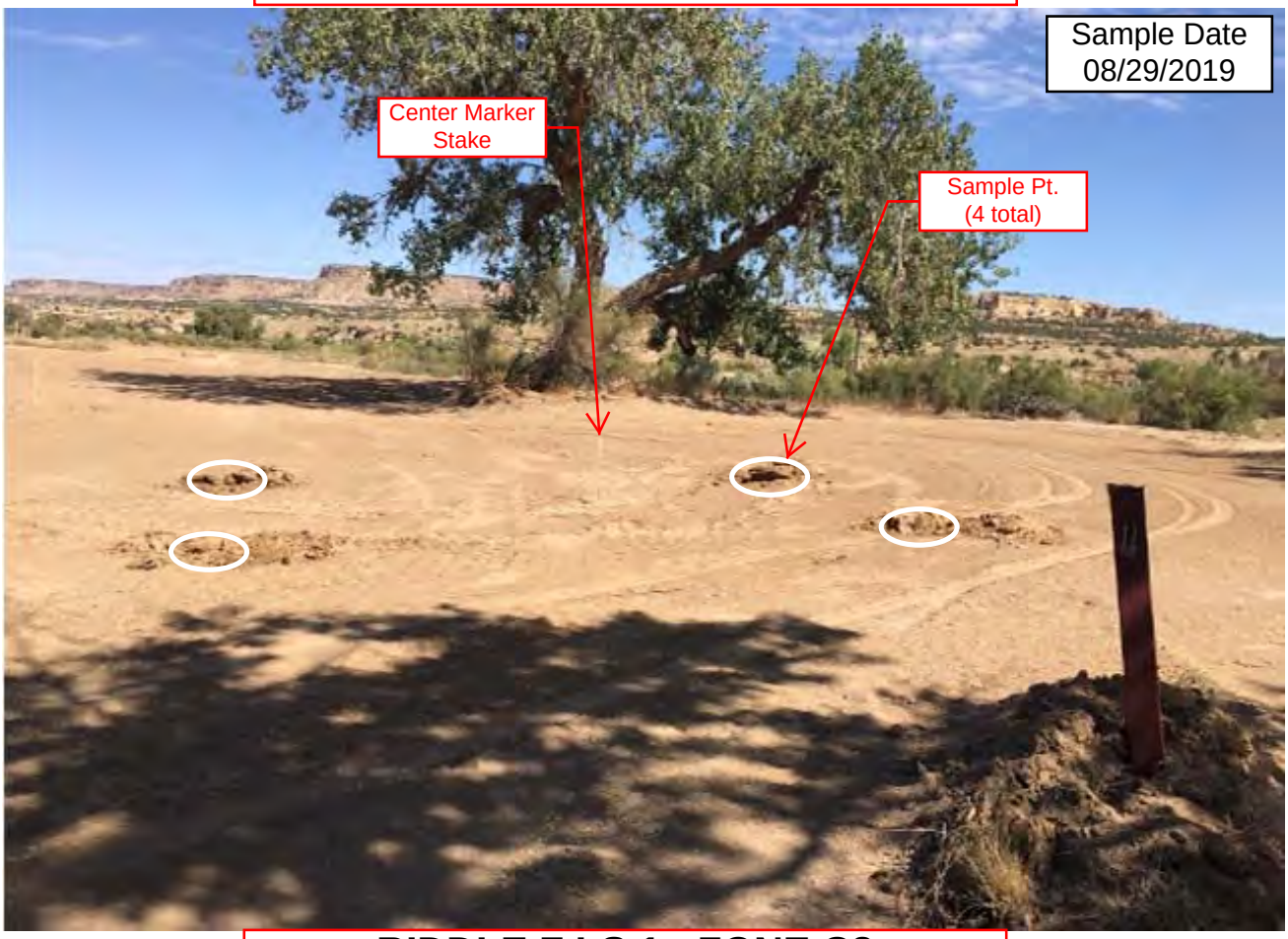
RIDDLE F LS 1 - ZONE C5



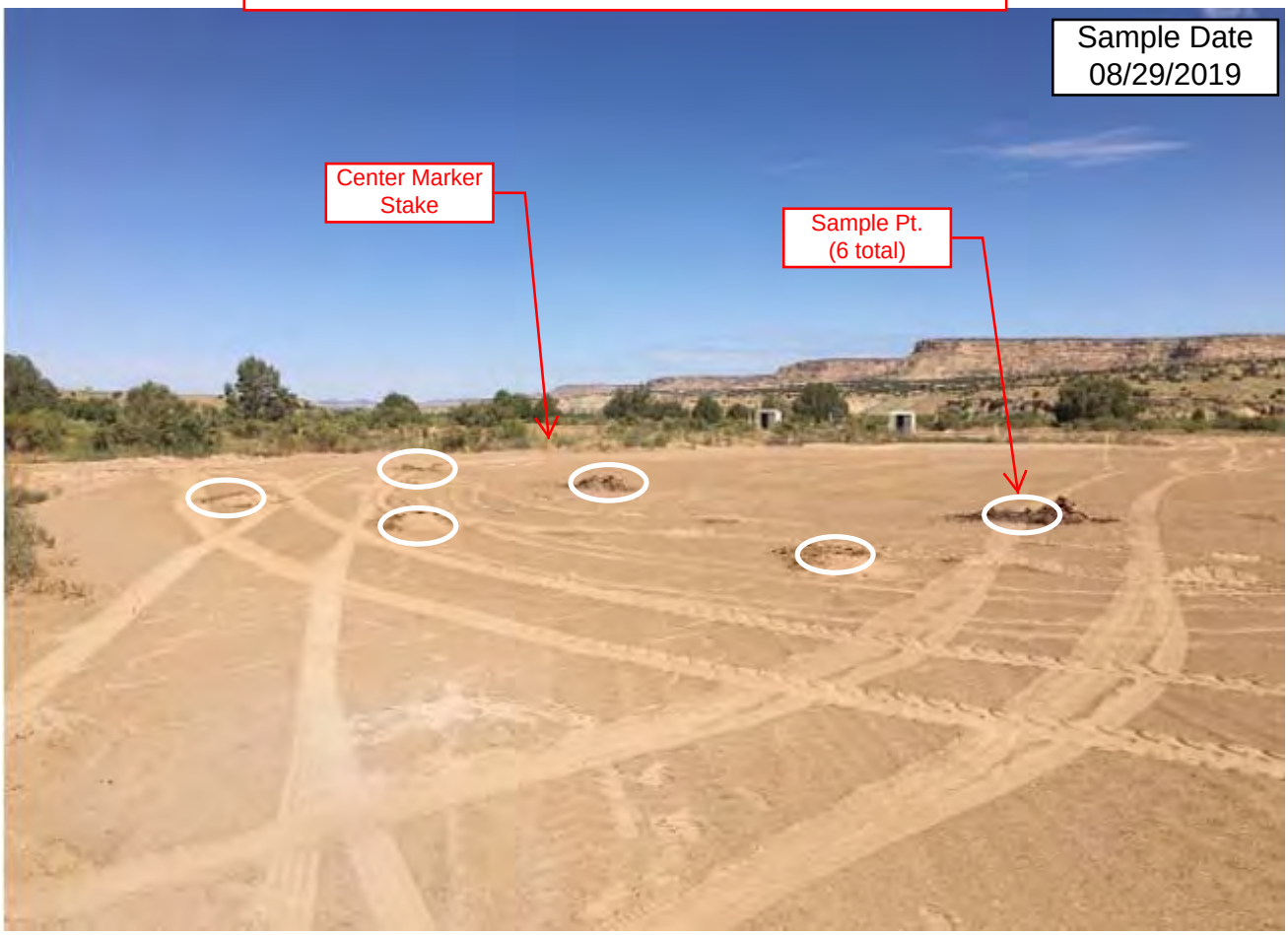
RIDDLE F LS 1 - ZONE C6



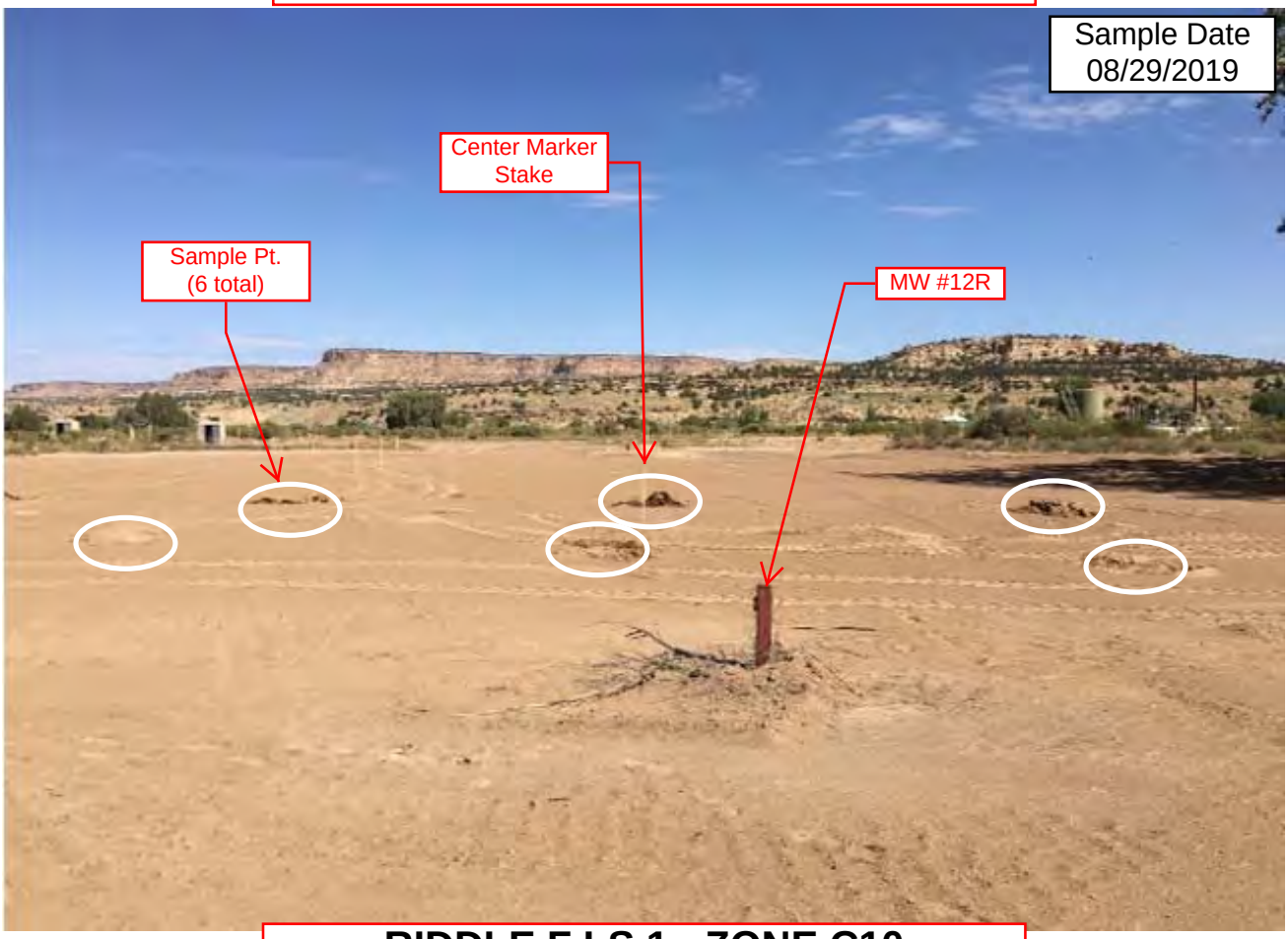
RIDDLE F LS 1 - ZONE C7



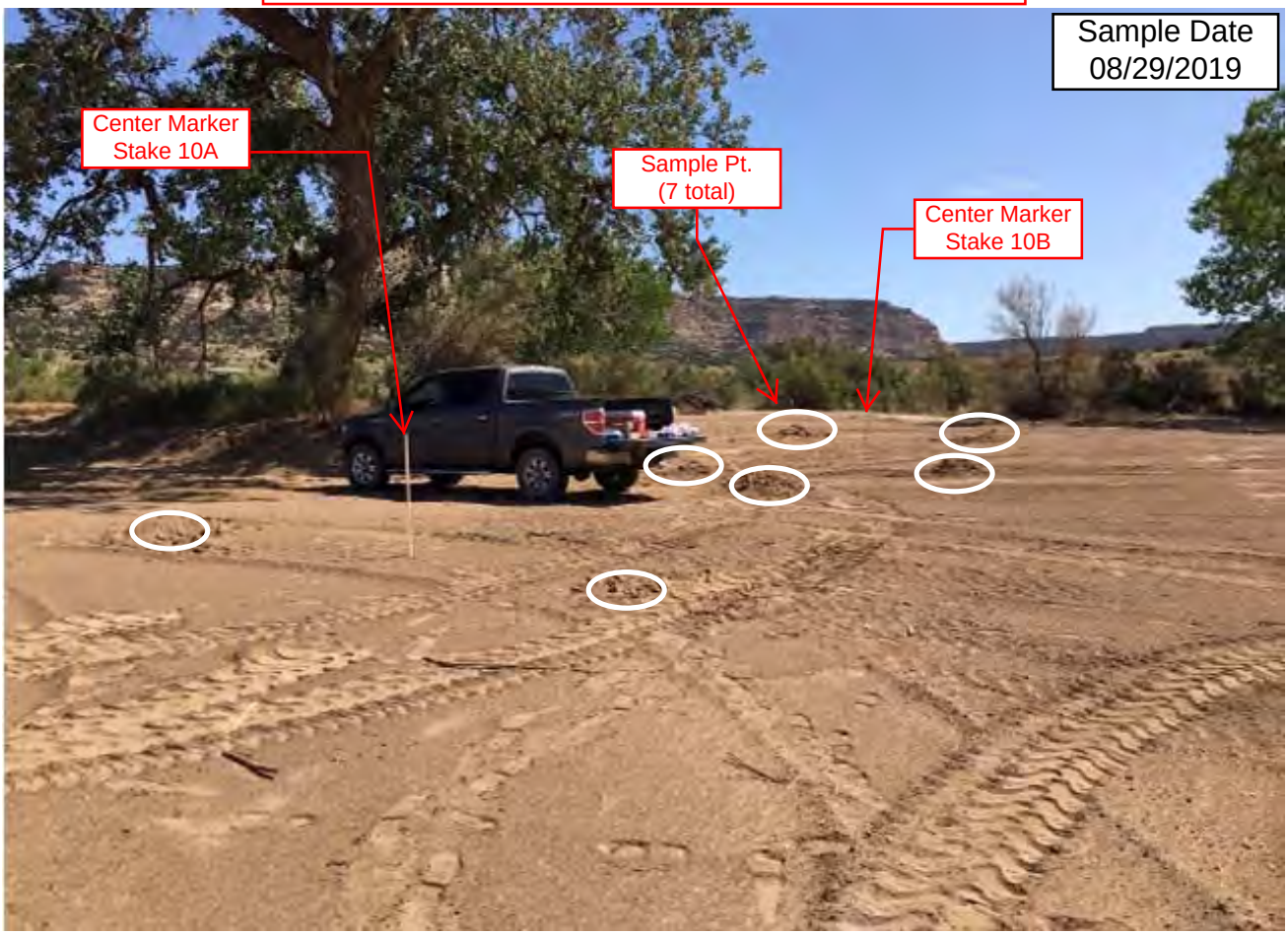
RIDDLE F LS 1 - ZONE C8



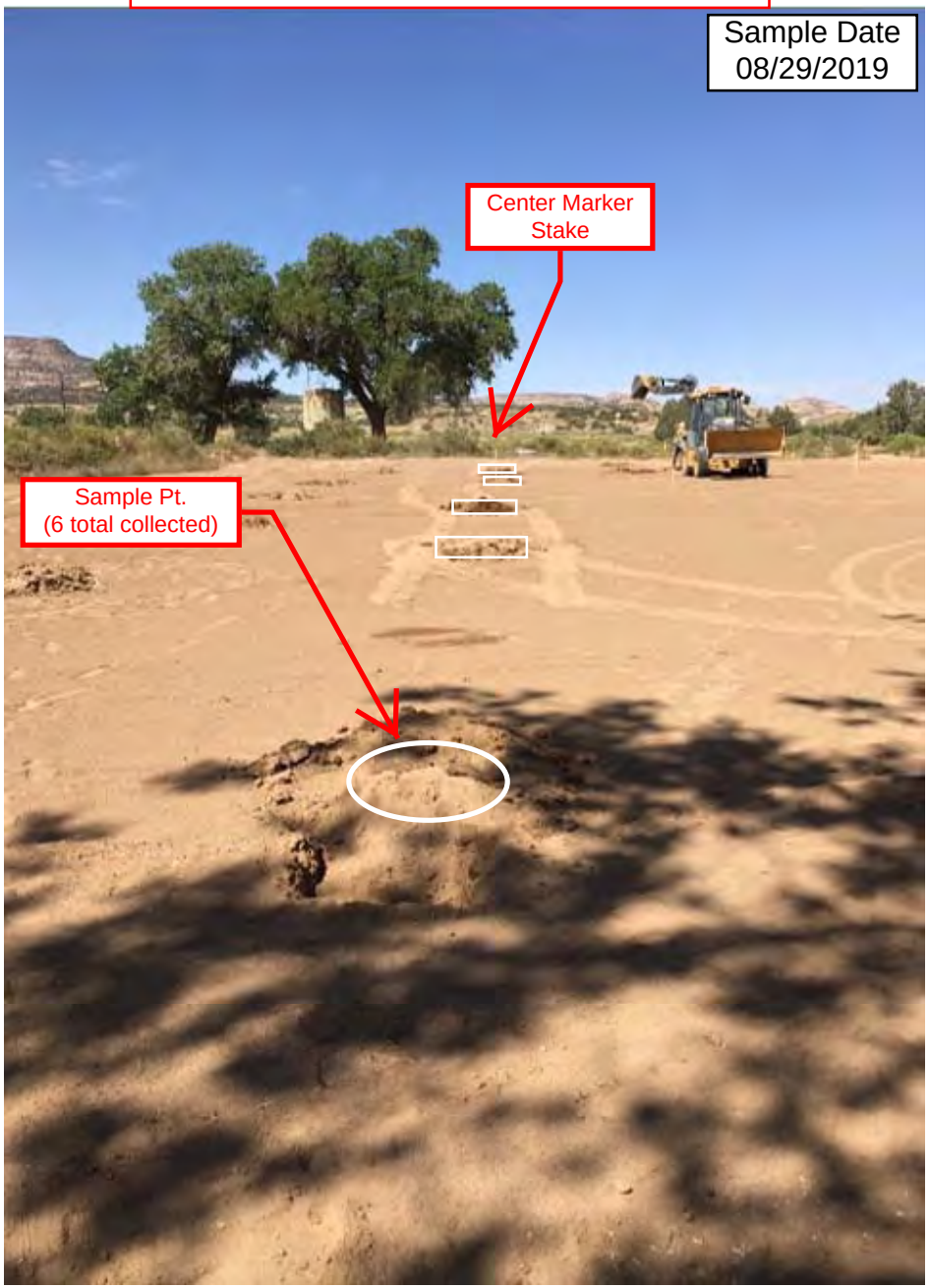
RIDDLE F LS 1 - ZONE C9



RIDDLE F LS 1 - ZONE C10



RIDDLE F LS 1 - ZONE C11



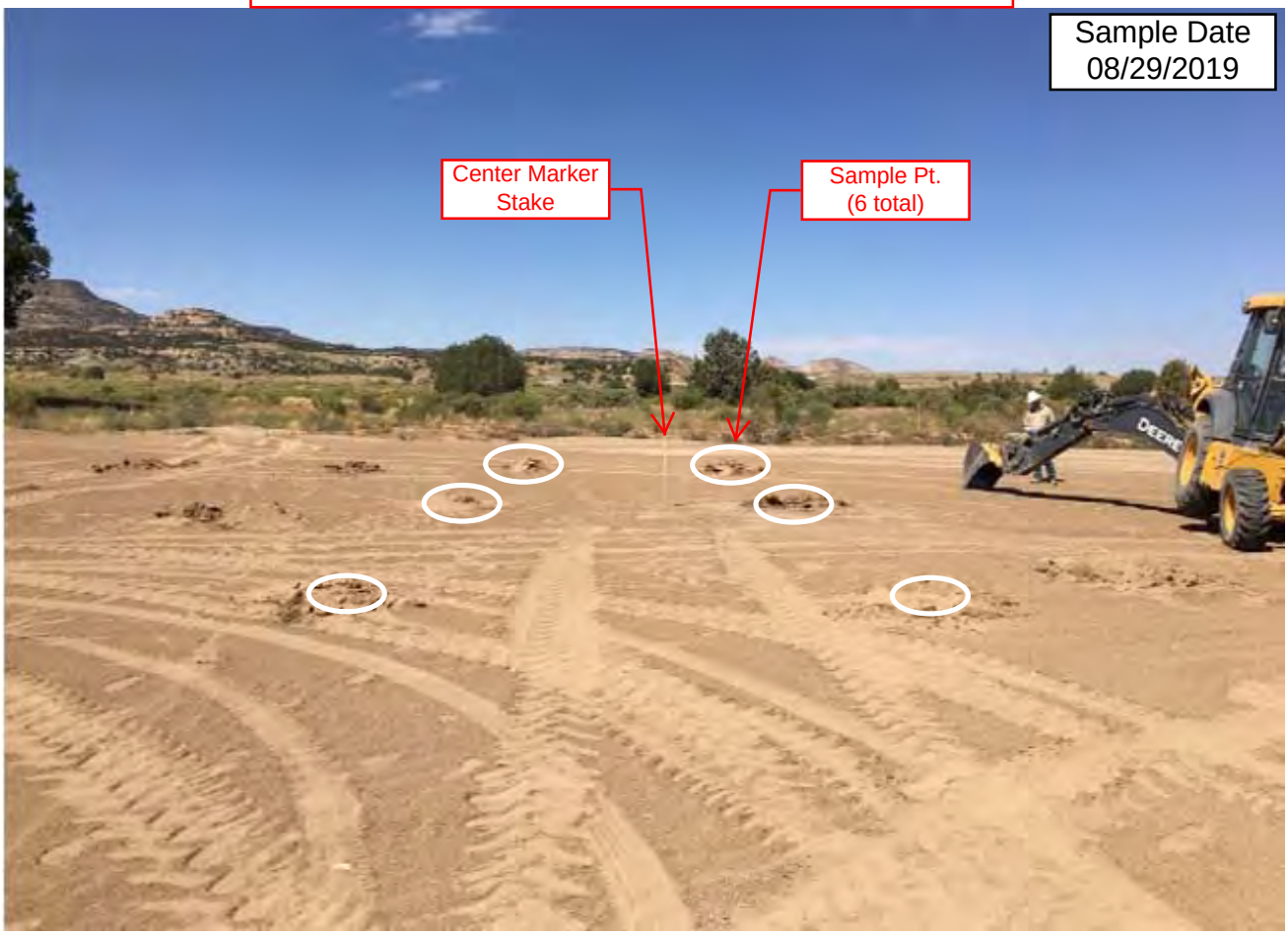
RIDDLE F LS 1 - ZONE C12

RIDDLE F LS 1 - ZONE C13

RIDDLE F LS 1 - ZONE C14

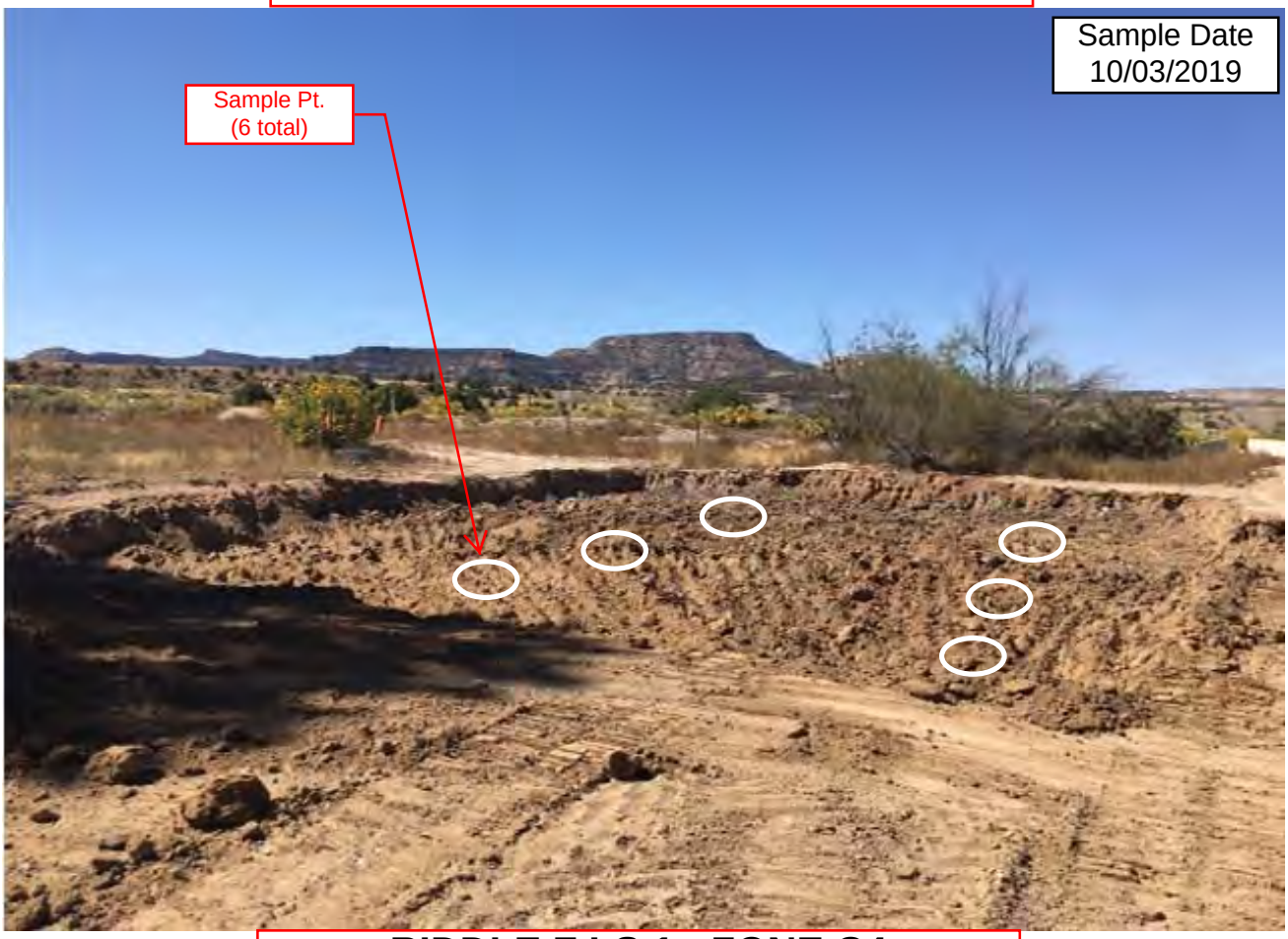
RIDDLE F LS 1 - ZONE C15

RIDDLE F LS 1 - ZONE C16

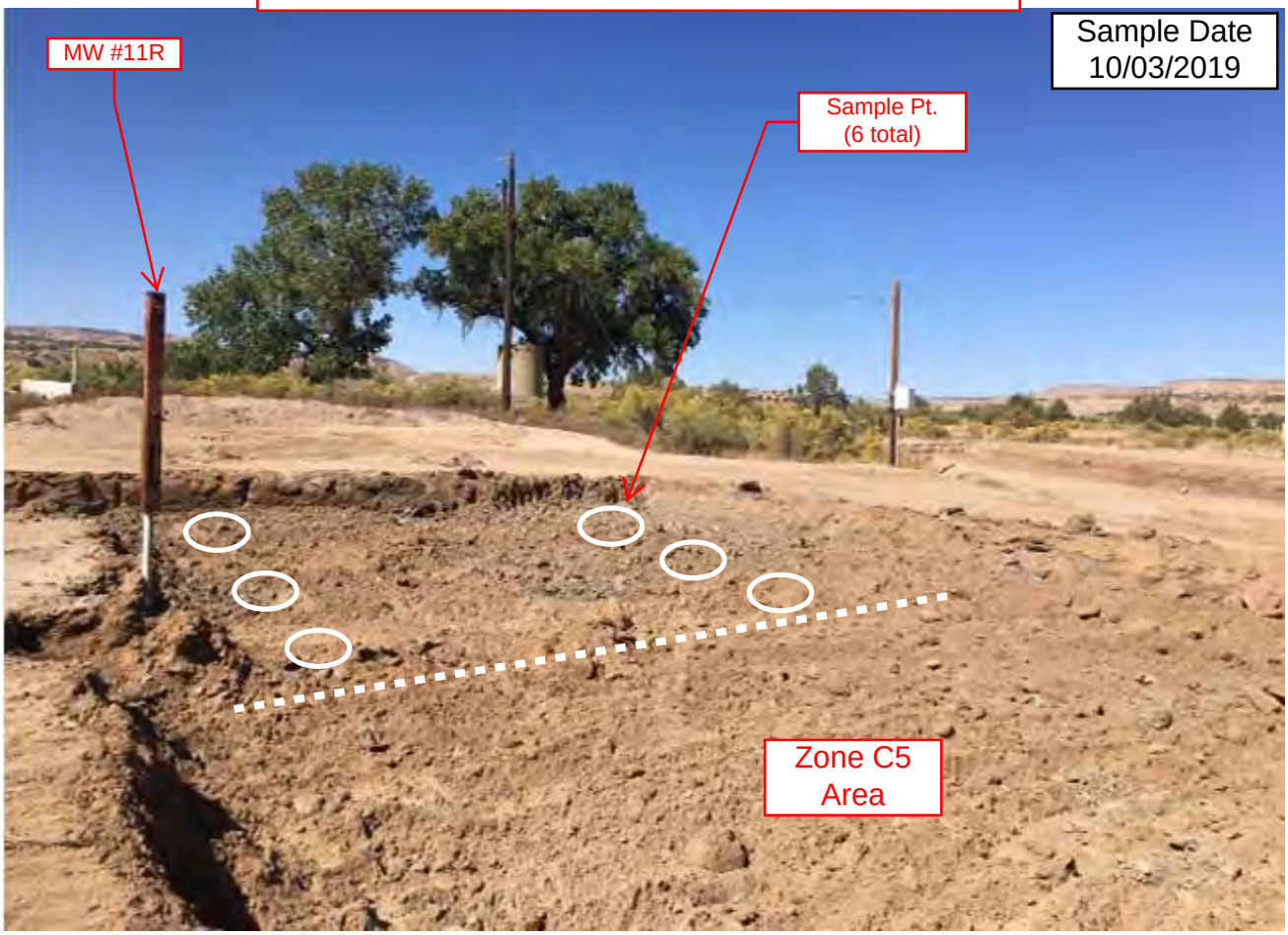


RIDDLE F LS 1 - ZONE C17

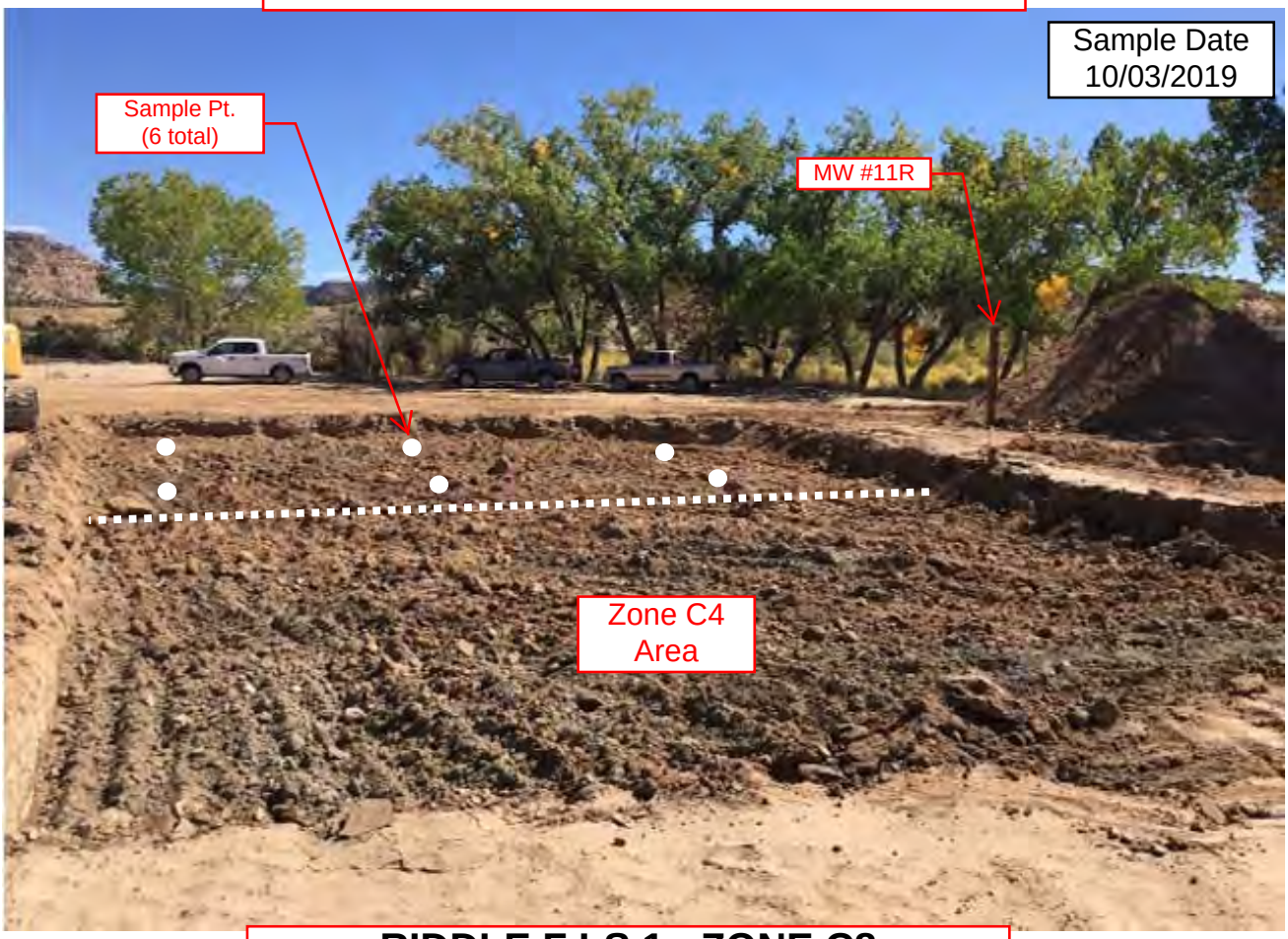
RIDDLE F LS 1 - ZONE C1



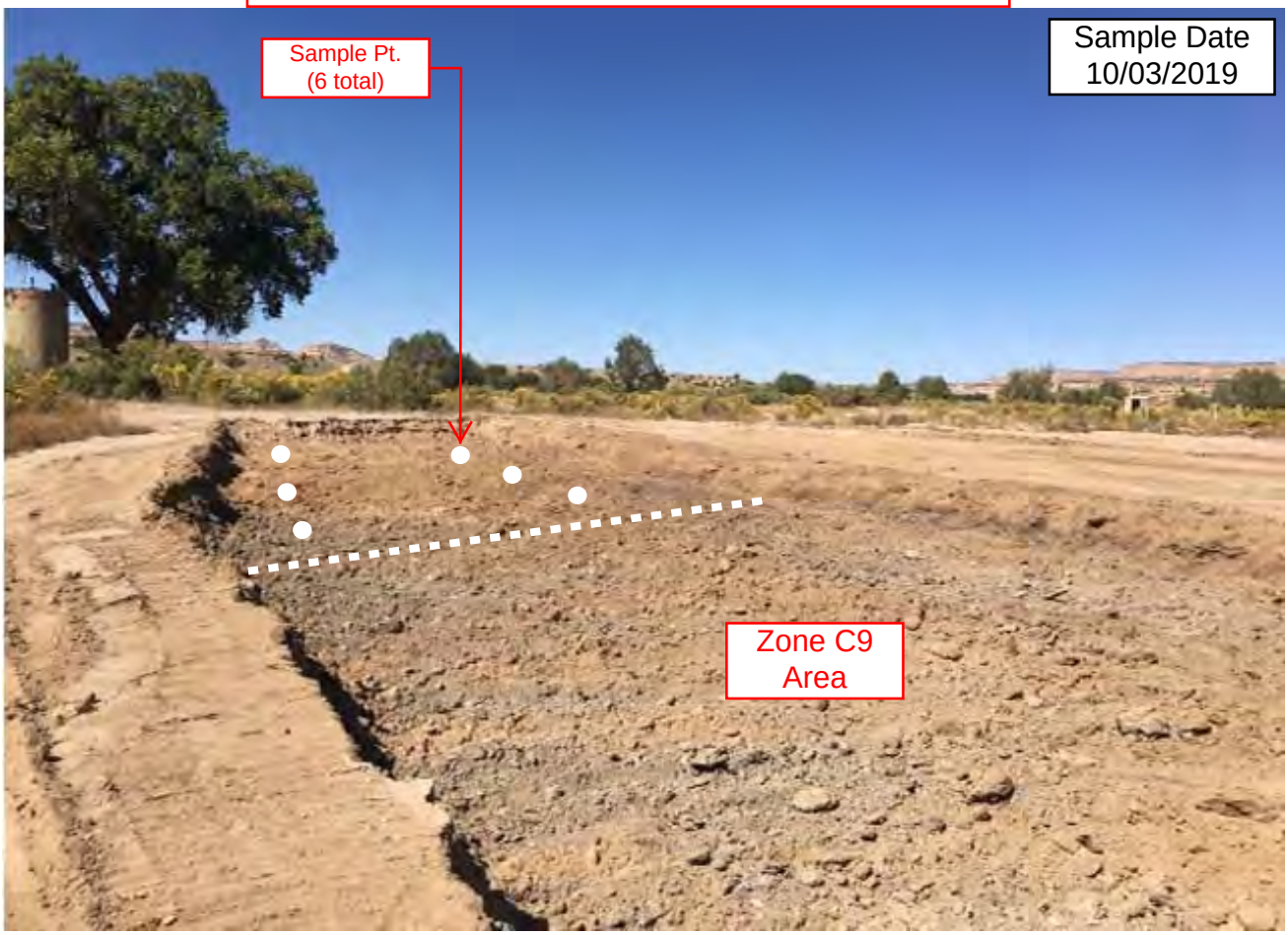
RIDDLE F LS 1 - ZONE C4



RIDDLE F LS 1 - ZONE C5



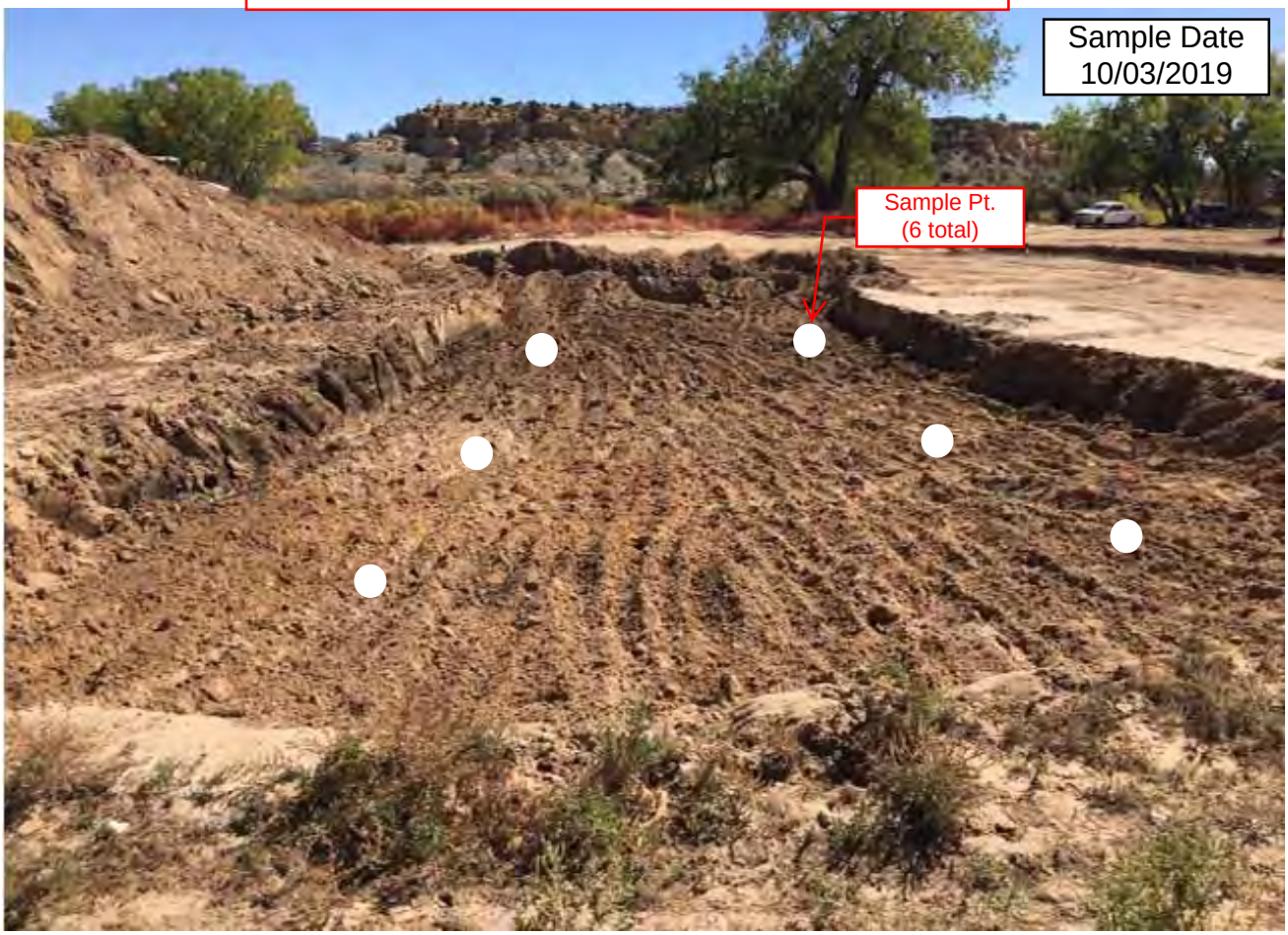
RIDDLE F LS 1 - ZONE C8



RIDDLE F LS 1 - ZONE C9

RIDDLE F LS 1 - ZONE C14

RIDDLE F LS 1 - ZONE C17



Analytical Report
Lab Order **1908I75**
Date Reported: **9/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: SP-VZ #1
Project: RIDDLE F LS 1
Collection Date: 8/29/2019 10:36:00 AM
Lab ID: 1908I75-001 **Matrix:** SOIL **Received Date:** 8/30/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	820	60		mg/Kg	20	9/7/2019 10:59:42 AM	47324
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	13	9.5		mg/Kg	1	9/5/2019 9:42:55 PM	47254
Motor Oil Range Organics (MRO)	88	48		mg/Kg	1	9/5/2019 9:42:55 PM	47254
Surr: DNOP	108	70-130		%Rec	1	9/5/2019 9:42:55 PM	47254
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/5/2019 12:24:30 PM	47241
Surr: BFB	94.3	77.4-118		%Rec	1	9/5/2019 12:24:30 PM	47241
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/5/2019 12:24:30 PM	47241
Toluene	ND	0.049		mg/Kg	1	9/5/2019 12:24:30 PM	47241
Ethylbenzene	ND	0.049		mg/Kg	1	9/5/2019 12:24:30 PM	47241
Xylenes, Total	ND	0.097		mg/Kg	1	9/5/2019 12:24:30 PM	47241
Surr: 4-Bromofluorobenzene	83.1	80-120		%Rec	1	9/5/2019 12:24:30 PM	47241

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910296**
Date Reported: **10/7/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: SP-VZ#1(x)
Project: Riddle F LS 1
Collection Date: 10/3/2019 12:11:00 PM
Lab ID: 1910296-001 **Matrix:** SOIL **Received Date:** 10/4/2019 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	360	60		mg/Kg	20	10/4/2019 11:58:12 AM	47944
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	10/4/2019 10:40:13 AM	47935
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	10/4/2019 10:40:13 AM	47935
Surr: DNOP	108	70-130		%Rec	1	10/4/2019 10:40:13 AM	47935
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	10/4/2019 10:39:56 AM	47919
Surr: BFB	94.9	77.4-118		%Rec	1	10/4/2019 10:39:56 AM	47919

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1908I75**
Date Reported: **9/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: SP-VZ #2
Project: RIDDLE F LS 1
Collection Date: 8/29/2019 10:41:00 AM
Lab ID: 1908I75-002 **Matrix:** SOIL **Received Date:** 8/30/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	310	60		mg/Kg	20	9/7/2019 11:12:06 AM	47324
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	9/5/2019 10:07:31 PM	47254
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/5/2019 10:07:31 PM	47254
Surr: DNOP	109	70-130		%Rec	1	9/5/2019 10:07:31 PM	47254
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/5/2019 9:47:34 AM	47241
Surr: BFB	89.6	77.4-118		%Rec	1	9/5/2019 9:47:34 AM	47241
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/5/2019 9:47:34 AM	47241
Toluene	ND	0.049		mg/Kg	1	9/5/2019 9:47:34 AM	47241
Ethylbenzene	ND	0.049		mg/Kg	1	9/5/2019 9:47:34 AM	47241
Xylenes, Total	ND	0.098		mg/Kg	1	9/5/2019 9:47:34 AM	47241
Surr: 4-Bromofluorobenzene	92.1	80-120		%Rec	1	9/5/2019 9:47:34 AM	47241

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1908I75**
Date Reported: **9/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: SP-VZ #3
Project: RIDDLE F LS 1
Collection Date: 8/29/2019 10:45:00 AM
Lab ID: 1908I75-003 **Matrix:** SOIL **Received Date:** 8/30/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	460	61		mg/Kg	20	9/7/2019 11:24:30 AM	47324
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/6/2019 1:09:26 PM	47288
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/6/2019 1:09:26 PM	47288
Surr: DNOP	122	70-130		%Rec	1	9/6/2019 1:09:26 PM	47288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/5/2019 2:52:30 PM	47276
Surr: BFB	91.4	77.4-118		%Rec	1	9/5/2019 2:52:30 PM	47276
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/5/2019 2:52:30 PM	47276
Toluene	ND	0.048		mg/Kg	1	9/5/2019 2:52:30 PM	47276
Ethylbenzene	ND	0.048		mg/Kg	1	9/5/2019 2:52:30 PM	47276
Xylenes, Total	ND	0.096		mg/Kg	1	9/5/2019 2:52:30 PM	47276
Surr: 4-Bromofluorobenzene	93.7	80-120		%Rec	1	9/5/2019 2:52:30 PM	47276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1908I75**
Date Reported: **9/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: SP-VZ #4
Project: RIDDLE F LS 1
Collection Date: 8/29/2019 10:49:00 AM
Lab ID: 1908I75-004 **Matrix:** SOIL **Received Date:** 8/30/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	870	60		mg/Kg	20	9/7/2019 12:26:33 PM	47324
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/6/2019 1:33:43 PM	47288
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/6/2019 1:33:43 PM	47288
Surr: DNOP	108	70-130		%Rec	1	9/6/2019 1:33:43 PM	47288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/5/2019 4:03:04 PM	47276
Surr: BFB	88.0	77.4-118		%Rec	1	9/5/2019 4:03:04 PM	47276
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/5/2019 4:03:04 PM	47276
Toluene	ND	0.049		mg/Kg	1	9/5/2019 4:03:04 PM	47276
Ethylbenzene	ND	0.049		mg/Kg	1	9/5/2019 4:03:04 PM	47276
Xylenes, Total	ND	0.097		mg/Kg	1	9/5/2019 4:03:04 PM	47276
Surr: 4-Bromofluorobenzene	90.0	80-120		%Rec	1	9/5/2019 4:03:04 PM	47276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910296**
Date Reported: **10/7/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Riddle F LS 1
Lab ID: 1910296-002 **Matrix:** SOIL

Client Sample ID: SP-VZ#4(x)
Collection Date: 10/3/2019 12:14:00 PM
Received Date: 10/4/2019 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	380	60		mg/Kg	20	10/4/2019 12:10:37 PM	47944

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1908I75**
Date Reported: **9/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: SP-VZ #5
Project: RIDDLE F LS 1
Collection Date: 8/29/2019 10:52:00 AM
Lab ID: 1908I75-005 **Matrix:** SOIL **Received Date:** 8/30/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	660	60		mg/Kg	20	9/7/2019 12:38:57 PM	47324
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	10	9.7		mg/Kg	1	9/6/2019 1:58:10 PM	47288
Motor Oil Range Organics (MRO)	84	49		mg/Kg	1	9/6/2019 1:58:10 PM	47288
Surr: DNOP	114	70-130		%Rec	1	9/6/2019 1:58:10 PM	47288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/5/2019 6:00:43 PM	47276
Surr: BFB	87.4	77.4-118		%Rec	1	9/5/2019 6:00:43 PM	47276
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	9/5/2019 6:00:43 PM	47276
Toluene	ND	0.046		mg/Kg	1	9/5/2019 6:00:43 PM	47276
Ethylbenzene	ND	0.046		mg/Kg	1	9/5/2019 6:00:43 PM	47276
Xylenes, Total	ND	0.093		mg/Kg	1	9/5/2019 6:00:43 PM	47276
Surr: 4-Bromofluorobenzene	89.4	80-120		%Rec	1	9/5/2019 6:00:43 PM	47276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910296**
Date Reported: **10/7/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Riddle F LS 1
Lab ID: 1910296-003 **Matrix:** SOIL

Client Sample ID: SP-VZ#5(x)
Collection Date: 10/3/2019 12:17:00 PM
Received Date: 10/4/2019 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	260	60		mg/Kg	20	10/4/2019 12:23:01 PM	47944

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1908I75**
Date Reported: **9/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: SP-VZ #6
Project: RIDDLE F LS 1
Collection Date: 8/29/2019 10:56:00 AM
Lab ID: 1908I75-006 **Matrix:** SOIL **Received Date:** 8/30/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	440	60		mg/Kg	20	9/7/2019 12:51:22 PM	47324
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/6/2019 4:44:56 PM	47288
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/6/2019 4:44:56 PM	47288
Surr: DNOP	101	70-130		%Rec	1	9/6/2019 4:44:56 PM	47288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/5/2019 6:24:13 PM	47276
Surr: BFB	89.3	77.4-118		%Rec	1	9/5/2019 6:24:13 PM	47276
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/5/2019 6:24:13 PM	47276
Toluene	ND	0.049		mg/Kg	1	9/5/2019 6:24:13 PM	47276
Ethylbenzene	ND	0.049		mg/Kg	1	9/5/2019 6:24:13 PM	47276
Xylenes, Total	ND	0.098		mg/Kg	1	9/5/2019 6:24:13 PM	47276
Surr: 4-Bromofluorobenzene	91.3	80-120		%Rec	1	9/5/2019 6:24:13 PM	47276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1908I75**
Date Reported: **9/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: SP-VZ #7
Project: RIDDLE F LS 1
Collection Date: 8/29/2019 10:58:00 AM
Lab ID: 1908I75-007 **Matrix:** SOIL **Received Date:** 8/30/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	310	60		mg/Kg	20	9/7/2019 1:28:35 PM	47324
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/6/2019 5:07:18 PM	47288
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/6/2019 5:07:18 PM	47288
Surr: DNOP	100	70-130		%Rec	1	9/6/2019 5:07:18 PM	47288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/5/2019 6:47:40 PM	47276
Surr: BFB	95.4	77.4-118		%Rec	1	9/5/2019 6:47:40 PM	47276
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	9/5/2019 6:47:40 PM	47276
Toluene	ND	0.047		mg/Kg	1	9/5/2019 6:47:40 PM	47276
Ethylbenzene	ND	0.047		mg/Kg	1	9/5/2019 6:47:40 PM	47276
Xylenes, Total	ND	0.093		mg/Kg	1	9/5/2019 6:47:40 PM	47276
Surr: 4-Bromofluorobenzene	98.3	80-120		%Rec	1	9/5/2019 6:47:40 PM	47276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1908I75**
Date Reported: **9/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: SP-VZ #8
Project: RIDDLE F LS 1
Collection Date: 8/29/2019 11:02:00 AM
Lab ID: 1908I75-008 **Matrix:** SOIL **Received Date:** 8/30/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	850	60		mg/Kg	20	9/7/2019 1:40:59 PM	47324
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	9/6/2019 5:29:32 PM	47288
Motor Oil Range Organics (MRO)	55	46		mg/Kg	1	9/6/2019 5:29:32 PM	47288
Surr: DNOP	102	70-130		%Rec	1	9/6/2019 5:29:32 PM	47288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/5/2019 7:11:06 PM	47276
Surr: BFB	88.6	77.4-118		%Rec	1	9/5/2019 7:11:06 PM	47276
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	9/5/2019 7:11:06 PM	47276
Toluene	ND	0.050		mg/Kg	1	9/5/2019 7:11:06 PM	47276
Ethylbenzene	ND	0.050		mg/Kg	1	9/5/2019 7:11:06 PM	47276
Xylenes, Total	ND	0.10		mg/Kg	1	9/5/2019 7:11:06 PM	47276
Surr: 4-Bromofluorobenzene	91.0	80-120		%Rec	1	9/5/2019 7:11:06 PM	47276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910296**
Date Reported: **10/7/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Riddle F LS 1
Lab ID: 1910296-004 **Matrix:** SOIL

Client Sample ID: SP-VZ#8(x)
Collection Date: 10/3/2019 12:20:00 PM
Received Date: 10/4/2019 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	300	60		mg/Kg	20	10/4/2019 12:35:25 PM	47944

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1908I75**
Date Reported: **9/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: SP-VZ #9
Project: RIDDLE F LS 1
Collection Date: 8/29/2019 11:06:00 AM
Lab ID: 1908I75-009 **Matrix:** SOIL **Received Date:** 8/30/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	780	59		mg/Kg	20	9/8/2019 12:47:49 PM	47337
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/6/2019 5:51:52 PM	47288
Motor Oil Range Organics (MRO)	92	49		mg/Kg	1	9/6/2019 5:51:52 PM	47288
Surr: DNOP	105	70-130		%Rec	1	9/6/2019 5:51:52 PM	47288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/5/2019 7:34:31 PM	47276
Surr: BFB	87.8	77.4-118		%Rec	1	9/5/2019 7:34:31 PM	47276
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	9/5/2019 7:34:31 PM	47276
Toluene	ND	0.049		mg/Kg	1	9/5/2019 7:34:31 PM	47276
Ethylbenzene	ND	0.049		mg/Kg	1	9/5/2019 7:34:31 PM	47276
Xylenes, Total	ND	0.098		mg/Kg	1	9/5/2019 7:34:31 PM	47276
Surr: 4-Bromofluorobenzene	90.2	80-120		%Rec	1	9/5/2019 7:34:31 PM	47276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910296**
Date Reported: **10/7/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Riddle F LS 1
Lab ID: 1910296-005 **Matrix:** SOIL

Client Sample ID: SP-VZ#9(x)
Collection Date: 10/3/2019 12:23:00 PM
Received Date: 10/4/2019 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	270	60		mg/Kg	20	10/4/2019 11:54:37 PM	47944

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **1908I75**
Date Reported: **9/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: SP-VZ #10
Project: RIDDLE F LS 1
Collection Date: 8/29/2019 11:10:00 AM
Lab ID: 1908I75-010 **Matrix:** SOIL **Received Date:** 8/30/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	290	60		mg/Kg	20	9/8/2019 1:00:13 PM	47337
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/6/2019 6:14:07 PM	47288
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/6/2019 6:14:07 PM	47288
Surr: DNOP	122	70-130		%Rec	1	9/6/2019 6:14:07 PM	47288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/5/2019 7:57:54 PM	47276
Surr: BFB	88.7	77.4-118		%Rec	1	9/5/2019 7:57:54 PM	47276
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	9/5/2019 7:57:54 PM	47276
Toluene	ND	0.047		mg/Kg	1	9/5/2019 7:57:54 PM	47276
Ethylbenzene	ND	0.047		mg/Kg	1	9/5/2019 7:57:54 PM	47276
Xylenes, Total	ND	0.093		mg/Kg	1	9/5/2019 7:57:54 PM	47276
Surr: 4-Bromofluorobenzene	90.1	80-120		%Rec	1	9/5/2019 7:57:54 PM	47276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1908I75**
Date Reported: **9/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: SP-VZ #11
Project: RIDDLE F LS 1
Collection Date: 8/29/2019 11:19:00 AM
Lab ID: 1908I75-011 **Matrix:** SOIL **Received Date:** 8/30/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	520	60		mg/Kg	20	9/8/2019 1:12:38 PM	47337
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/6/2019 6:36:36 PM	47288
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/6/2019 6:36:36 PM	47288
Surr: DNOP	102	70-130		%Rec	1	9/6/2019 6:36:36 PM	47288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/5/2019 8:21:18 PM	47276
Surr: BFB	87.6	77.4-118		%Rec	1	9/5/2019 8:21:18 PM	47276
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	9/5/2019 8:21:18 PM	47276
Toluene	ND	0.046		mg/Kg	1	9/5/2019 8:21:18 PM	47276
Ethylbenzene	ND	0.046		mg/Kg	1	9/5/2019 8:21:18 PM	47276
Xylenes, Total	ND	0.093		mg/Kg	1	9/5/2019 8:21:18 PM	47276
Surr: 4-Bromofluorobenzene	89.6	80-120		%Rec	1	9/5/2019 8:21:18 PM	47276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1908I75**
Date Reported: **9/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: SP-VZ #12
Project: RIDDLE F LS 1
Collection Date: 8/29/2019 11:24:00 AM
Lab ID: 1908I75-012 **Matrix:** SOIL **Received Date:** 8/30/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	560	60		mg/Kg	20	9/8/2019 1:25:02 PM	47337
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	9/6/2019 6:59:00 PM	47288
Motor Oil Range Organics (MRO)	50	45		mg/Kg	1	9/6/2019 6:59:00 PM	47288
Surr: DNOP	104	70-130		%Rec	1	9/6/2019 6:59:00 PM	47288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/5/2019 8:44:44 PM	47276
Surr: BFB	87.5	77.4-118		%Rec	1	9/5/2019 8:44:44 PM	47276
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	9/5/2019 8:44:44 PM	47276
Toluene	ND	0.049		mg/Kg	1	9/5/2019 8:44:44 PM	47276
Ethylbenzene	ND	0.049		mg/Kg	1	9/5/2019 8:44:44 PM	47276
Xylenes, Total	ND	0.099		mg/Kg	1	9/5/2019 8:44:44 PM	47276
Surr: 4-Bromofluorobenzene	90.2	80-120		%Rec	1	9/5/2019 8:44:44 PM	47276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1908I75**
Date Reported: **9/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: SP-VZ #13
Project: RIDDLE F LS 1
Collection Date: 8/29/2019 11:30:00 AM
Lab ID: 1908I75-013 **Matrix:** SOIL **Received Date:** 8/30/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	450	60		mg/Kg	20	9/8/2019 1:37:26 PM	47337
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/6/2019 7:21:32 PM	47288
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/6/2019 7:21:32 PM	47288
Surr: DNOP	111	70-130		%Rec	1	9/6/2019 7:21:32 PM	47288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/5/2019 9:08:03 PM	47276
Surr: BFB	85.6	77.4-118		%Rec	1	9/5/2019 9:08:03 PM	47276
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	9/5/2019 9:08:03 PM	47276
Toluene	ND	0.050		mg/Kg	1	9/5/2019 9:08:03 PM	47276
Ethylbenzene	ND	0.050		mg/Kg	1	9/5/2019 9:08:03 PM	47276
Xylenes, Total	ND	0.099		mg/Kg	1	9/5/2019 9:08:03 PM	47276
Surr: 4-Bromofluorobenzene	88.2	80-120		%Rec	1	9/5/2019 9:08:03 PM	47276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1908I75**
Date Reported: **9/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: SP-VZ #14
Project: RIDDLE F LS 1
Collection Date: 8/29/2019 11:34:00 AM
Lab ID: 1908I75-014 **Matrix:** SOIL **Received Date:** 8/30/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	610	60		mg/Kg	20	9/8/2019 1:49:51 PM	47337
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/6/2019 7:43:54 PM	47288
Motor Oil Range Organics (MRO)	99	47		mg/Kg	1	9/6/2019 7:43:54 PM	47288
Surr: DNOP	124	70-130		%Rec	1	9/6/2019 7:43:54 PM	47288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/5/2019 9:31:28 PM	47276
Surr: BFB	85.1	77.4-118		%Rec	1	9/5/2019 9:31:28 PM	47276
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	9/5/2019 9:31:28 PM	47276
Toluene	ND	0.049		mg/Kg	1	9/5/2019 9:31:28 PM	47276
Ethylbenzene	ND	0.049		mg/Kg	1	9/5/2019 9:31:28 PM	47276
Xylenes, Total	ND	0.098		mg/Kg	1	9/5/2019 9:31:28 PM	47276
Surr: 4-Bromofluorobenzene	87.6	80-120		%Rec	1	9/5/2019 9:31:28 PM	47276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910296**
Date Reported: **10/7/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Riddle F LS 1
Lab ID: 1910296-006 **Matrix:** SOIL

Client Sample ID: SP-VZ#14(x)
Collection Date: 10/3/2019 12:26:00 PM
Received Date: 10/4/2019 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	360	60		mg/Kg	20	10/5/2019 12:06:57 AM	47944

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1908I75**
Date Reported: **9/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: SP-VZ #15
Project: RIDDLE F LS 1
Collection Date: 8/29/2019 11:41:00 AM
Lab ID: 1908I75-015 **Matrix:** SOIL **Received Date:** 8/30/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	440	60		mg/Kg	20	9/8/2019 2:02:16 PM	47337
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/6/2019 8:06:31 PM	47288
Motor Oil Range Organics (MRO)	57	48		mg/Kg	1	9/6/2019 8:06:31 PM	47288
Surr: DNOP	115	70-130		%Rec	1	9/6/2019 8:06:31 PM	47288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/5/2019 10:42:31 PM	47276
Surr: BFB	90.9	77.4-118		%Rec	1	9/5/2019 10:42:31 PM	47276
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	9/5/2019 10:42:31 PM	47276
Toluene	ND	0.046		mg/Kg	1	9/5/2019 10:42:31 PM	47276
Ethylbenzene	ND	0.046		mg/Kg	1	9/5/2019 10:42:31 PM	47276
Xylenes, Total	ND	0.091		mg/Kg	1	9/5/2019 10:42:31 PM	47276
Surr: 4-Bromofluorobenzene	92.2	80-120		%Rec	1	9/5/2019 10:42:31 PM	47276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1908I75**
Date Reported: **9/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: SP-VZ #16
Project: RIDDLE F LS 1
Collection Date: 8/29/2019 11:46:00 AM
Lab ID: 1908I75-016 **Matrix:** SOIL **Received Date:** 8/30/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	390	60		mg/Kg	20	9/8/2019 2:14:41 PM	47337
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/6/2019 8:28:54 PM	47288
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/6/2019 8:28:54 PM	47288
Surr: DNOP	105	70-130		%Rec	1	9/6/2019 8:28:54 PM	47288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/5/2019 11:06:26 PM	47276
Surr: BFB	96.8	77.4-118		%Rec	1	9/5/2019 11:06:26 PM	47276
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	9/5/2019 11:06:26 PM	47276
Toluene	ND	0.046		mg/Kg	1	9/5/2019 11:06:26 PM	47276
Ethylbenzene	ND	0.046		mg/Kg	1	9/5/2019 11:06:26 PM	47276
Xylenes, Total	ND	0.092		mg/Kg	1	9/5/2019 11:06:26 PM	47276
Surr: 4-Bromofluorobenzene	99.1	80-120		%Rec	1	9/5/2019 11:06:26 PM	47276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1908I75**
Date Reported: **9/11/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: SP-VZ #17
Project: RIDDLE F LS 1
Collection Date: 8/29/2019 11:50:00 AM
Lab ID: 1908I75-017 **Matrix:** SOIL **Received Date:** 8/30/2019 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	720	59		mg/Kg	20	9/8/2019 2:27:05 PM	47337
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	13	9.8		mg/Kg	1	9/6/2019 8:51:16 PM	47288
Motor Oil Range Organics (MRO)	89	49		mg/Kg	1	9/6/2019 8:51:16 PM	47288
Surr: DNOP	110	70-130		%Rec	1	9/6/2019 8:51:16 PM	47288
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/5/2019 11:30:13 PM	47276
Surr: BFB	90.3	77.4-118		%Rec	1	9/5/2019 11:30:13 PM	47276
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	9/5/2019 11:30:13 PM	47276
Toluene	ND	0.049		mg/Kg	1	9/5/2019 11:30:13 PM	47276
Ethylbenzene	ND	0.049		mg/Kg	1	9/5/2019 11:30:13 PM	47276
Xylenes, Total	ND	0.097		mg/Kg	1	9/5/2019 11:30:13 PM	47276
Surr: 4-Bromofluorobenzene	92.5	80-120		%Rec	1	9/5/2019 11:30:13 PM	47276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1910296**
Date Reported: **10/7/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: SP-VZ#17(x)
Project: Riddle F LS 1
Collection Date: 10/3/2019 12:29:00 PM
Lab ID: 1910296-007 **Matrix:** SOIL **Received Date:** 10/4/2019 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	320	60		mg/Kg	20	10/5/2019 12:19:17 AM	47944
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	10/4/2019 11:04:20 AM	47935
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	10/4/2019 11:04:20 AM	47935
Surr: DNOP	108	70-130		%Rec	1	10/4/2019 11:04:20 AM	47935
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	10/4/2019 11:02:50 AM	47919
Surr: BFB	95.2	77.4-118		%Rec	1	10/4/2019 11:02:50 AM	47919

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Chain-of-Custody Record

Client: BLAGG ENGR. / BPX ENERGY

Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
RIDDLE F LS #1

Project #:

Project Manager:
SABRE BEEBE

Sampler: NELSON VELEZ / JEFF BLAGG

On Ice: ☑ Yes ☐ No

Sample Temperature: 4.6 + .5 = 4.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1908175	BTEX + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil - 300.0 / water - 300.1)		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
							Analysis Request															
8/29/19	1036	SOIL	SP - VZ #1	4 oz. - 1	Cool	001	√		√									√			6	
8/29/19	1041	SOIL	SP - VZ #2	4 oz. - 1	Cool	002	√		√									√			7	
8/29/19	1045	SOIL	SP - VZ #3	4 oz. - 1	Cool	003	√		√									√			6	
8/29/19	1049	SOIL	SP - VZ #4	4 oz. - 1	Cool	004	√		√									√			6	
8/29/19	1052	SOIL	SP - VZ #5	4 oz. - 1	Cool	005	√		√									√			6	
8/29/19	1056	SOIL	SP - VZ #6	4 oz. - 1	Cool	006	√		√									√			6	
8/29/19	1058	SOIL	SP - VZ #7	4 oz. - 1	Cool	007	√		√									√			4	
8/29/19	1102	SOIL	SP - VZ #8	4 oz. - 1	Cool	008	√		√									√			6	
8/29/19	1106	SOIL	SP - VZ #9	4 oz. - 1	Cool	009	√		√									√			6	
8/29/19	1110	SOIL	SP - VZ #10	4 oz. - 1	Cool	010	√		√									√			7	
8/29/19	1119	SOIL	SP - VZ #11	4 oz. - 1	Cool	011	√		√									√			6	
8/29/19	1124	SOIL	SP - VZ #12	4 oz. - 1	Cool	012	√		√									√			6	

Date	Time	Relinquished by:	Received by:	Date	Time
8/29/2019	1442	Jeff Blagg		8/29/19	1442
8/29/19	1752			08/30/19	0700

Remarks: BILL DIRECTLY TO BPX USING THE CONTACT(S) BELOW. PO DELIVERED VIA EMAIL OR IS PENDING.

CONTACT: SABRE BEEBE / ERIN DUNMAN

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: BLAGG ENGR. / BPX ENERGY

Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
RIDDLE F LS #1

Project #:

Project Manager:
SABRE BEEBE

Sampler: NELSON VELEZ / JEFF BLAGG

On Ice: ☒ Yes ☐ No

Sample Temperature: 46-0.5CF=4.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1908173	BTEX + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil - 300.0 / water - 300.1)		Grab sample	# pt. composite sample	Air Bubbles (Y or N)
8/29/19	1130	SOIL	SP - VZ # 13	4 oz. - 1	Cool	013	✓		✓									✓			6	
8/29/19	1134	SOIL	SP - VZ # 14	4 oz. - 1	Cool	014	✓		✓									✓			6	
8/29/19	1141	SOIL	SP - VZ # 15	4 oz. - 1	Cool	015	✓		✓									✓			6	
8/29/19	1146	SOIL	SP - VZ # 16	4 oz. - 1	Cool	016	✓		✓									✓			6	
8/29/19	1150	SOIL	SP - VZ # 17	4 oz. - 1	Cool	017	✓		✓									✓			6	

Date	Time	Relinquished by:	Received by:	Date	Time
8/29/2019	1442	Jeff Blagg			
8/29/19	1752			8/29/19	1442
				08/30/19	0800

Remarks: BILL DIRECTLY TO BPX USING THE CONTACT(S) BELOW. PO DELIVERED VIA EMAIL OR IS PENDING.

CONTACT: SABRE BEEBE / ERIN DUNMAN

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: BPX ENERGY
BLAGG ENGINEERING, INC.
Mailing Address:
Phone #: 505-320-1183
email or Fax#:
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush Same Day
Project Name: RIDDLE F LS #1
Project #:
Project Manager: SABRE BEEBE
Sampler: JEFF BLAGG
On Ice: ☑ Yes ☐ No
Sample Temperature: 2.9 - 0 = 2.9

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1910296
10/3/2019	1211	SOIL	SP-VE #1(X)	4 oz x 1	COOL	-001
	1214		SP-VE #4(X)			-002
	1217		SP-VE #5(X)			-003
	1220		SP-VE #8(X)			-004
	1223		SP-VE #9(X)			-005
	1226		SP-VE #14(X)			-006
	1229		SP-VE #17(X)			-007

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE 300.0				Air Bubbles (Y or N)
		X									X				
											X				
											X				
											X				
											X				
											X				
		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
10/3/2019	1536	Jeff Blagg	Christian Walker	10/3/2019	1536
10/3/19	1752	Christian Walker	Courier	10/4/19	9:30

Remarks: BILL BPX - PROJECT P.O. ISSUED
CONTACTS: SABRE BEEBE / ERIN DUNMAN

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1908I75**

11-Sep-19

Client: Blagg Engineering

Project: RIDDLE F LS 1

Sample ID: **MB-47324**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **47324**	RunNo: **62719**							
Prep Date: **9/6/2019**	Analysis Date: **9/7/2019**	SeqNo: **2136450**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-47324**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **47324**	RunNo: **62719**							
Prep Date: **9/6/2019**	Analysis Date: **9/7/2019**	SeqNo: **2136451**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.1	90	110			

Sample ID: **MB-47337**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **47337**	RunNo: **62749**							
Prep Date: **9/6/2019**	Analysis Date: **9/8/2019**	SeqNo: **2137240**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-47337**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **47337**	RunNo: **62749**							
Prep Date: **9/6/2019**	Analysis Date: **9/8/2019**	SeqNo: **2137241**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	96.7	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1908I75**

11-Sep-19

Client: Blagg Engineering

Project: RIDDLE F LS 1

Sample ID: **LCS-47254** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **47254** RunNo: **62660**

Prep Date: **9/4/2019** Analysis Date: **9/5/2019** SeqNo: **2133502** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.4	63.9	124			
Surr: DNOP	4.3		5.000		86.6	70	130			

Sample ID: **MB-47254** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **47254** RunNo: **62660**

Prep Date: **9/4/2019** Analysis Date: **9/5/2019** SeqNo: **2133503** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		101	70	130			

Sample ID: **LCS-47288** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **47288** RunNo: **62698**

Prep Date: **9/5/2019** Analysis Date: **9/6/2019** SeqNo: **2135531** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	10	50.00	0	113	63.9	124			
Surr: DNOP	5.9		5.000		117	70	130			

Sample ID: **MB-47288** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **47288** RunNo: **62698**

Prep Date: **9/5/2019** Analysis Date: **9/6/2019** SeqNo: **2135532** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		107	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1908I75**

11-Sep-19

Client: Blagg Engineering

Project: RIDDLE F LS 1

Sample ID: **MB-47241**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **47241**	RunNo: **62633**
Prep Date: **9/3/2019**	Analysis Date: **9/4/2019**	SeqNo: **2132540** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	980		1000		98.2	77.4	118			

Sample ID: **LCS-47241**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **47241**	RunNo: **62633**
Prep Date: **9/3/2019**	Analysis Date: **9/4/2019**	SeqNo: **2132541** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	94.7	80	120			
Surr: BFB	1200		1000		115	77.4	118			

Sample ID: **MB-47276**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **47276**	RunNo: **62667**
Prep Date: **9/4/2019**	Analysis Date: **9/5/2019**	SeqNo: **2134629** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	890		1000		89.3	77.4	118			

Sample ID: **LCS-47276**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **47276**	RunNo: **62667**
Prep Date: **9/4/2019**	Analysis Date: **9/5/2019**	SeqNo: **2134630** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.6	80	120			
Surr: BFB	1000		1000		99.6	77.4	118			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1908I75**

11-Sep-19

Client: Blagg Engineering

Project: RIDDLE F LS 1

Sample ID: **MB-47241**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **47241**	RunNo: **62633**
Prep Date: **9/3/2019**	Analysis Date: **9/4/2019**	SeqNo: **2132575** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.86		1.000		85.5	80	120			

Sample ID: **LCS-47241**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **47241**	RunNo: **62633**
Prep Date: **9/3/2019**	Analysis Date: **9/4/2019**	SeqNo: **2132576** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	93.4	80	120			
Toluene	0.97	0.050	1.000	0	96.6	80	120			
Ethylbenzene	0.98	0.050	1.000	0	98.1	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.6	80	120			
Surr: 4-Bromofluorobenzene	0.91		1.000		91.3	80	120			

Sample ID: **MB-47276**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **47276**	RunNo: **62667**
Prep Date: **9/4/2019**	Analysis Date: **9/5/2019**	SeqNo: **2134673** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.92		1.000		92.3	80	120			

Sample ID: **LCS-47276**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **47276**	RunNo: **62667**
Prep Date: **9/4/2019**	Analysis Date: **9/5/2019**	SeqNo: **2134675** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	96.1	80	120			
Toluene	0.98	0.050	1.000	0	97.8	80	120			
Ethylbenzene	0.97	0.050	1.000	0	96.8	80	120			
Xylenes, Total	3.0	0.10	3.000	0	98.6	80	120			
Surr: 4-Bromofluorobenzene	0.97		1.000		97.3	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: BLAGG Work Order Number: 1908I75 RcptNo: 1

Received By: Anne Thorne 8/30/2019 8:00:00 AM Anne Thorne
Completed By: Anne Thorne 8/30/2019 2:57:17 PM Anne Thorne
Reviewed By: TO 8/30/19

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? NO
Checked by: 8.30.19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.6	Good	Yes			

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1910296**

07-Oct-19

Client: Blagg Engineering

Project: Riddle F LS 1

Sample ID: **MB-47944**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **47944**	RunNo: **63436**
Prep Date: **10/4/2019**	Analysis Date: **10/4/2019**	SeqNo: **2166913** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-47944**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **47944**	RunNo: **63436**
Prep Date: **10/4/2019**	Analysis Date: **10/4/2019**	SeqNo: **2166914** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.3	90	110			

Sample ID: **LCS-47944**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **47944**	RunNo: **63443**
Prep Date: **10/4/2019**	Analysis Date: **10/4/2019**	SeqNo: **2166987** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.2	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1910296**

07-Oct-19

Client: Blagg Engineering

Project: Riddle F LS 1

Sample ID: **LCS-47935**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **47935**	RunNo: **63422**
Prep Date: **10/4/2019**	Analysis Date: **10/4/2019**	SeqNo: **2165732** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	106	63.9	124			
Surr: DNOP	4.9		5.000		97.6	70	130			

Sample ID: **MB-47935**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **47935**	RunNo: **63422**
Prep Date: **10/4/2019**	Analysis Date: **10/4/2019**	SeqNo: **2165733** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		99.7	70	130			

Sample ID: **LCS-47905**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **47905**	RunNo: **63422**
Prep Date: **10/3/2019**	Analysis Date: **10/4/2019**	SeqNo: **2166359** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.8		5.000		96.1	70	130			

Sample ID: **MB-47905**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **47905**	RunNo: **63422**
Prep Date: **10/3/2019**	Analysis Date: **10/4/2019**	SeqNo: **2166360** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	13		10.00		132	70	130			S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1910296**

07-Oct-19

Client: Blagg Engineering

Project: Riddle F LS 1

Sample ID: **MB-47919** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **PBS** Batch ID: **47919** RunNo: **63433**

Prep Date: **10/3/2019** Analysis Date: **10/4/2019** SeqNo: **2166815** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	980		1000		98.1	77.4	118			

Sample ID: **LCS-47919** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**

Client ID: **LCSS** Batch ID: **47919** RunNo: **63433**

Prep Date: **10/3/2019** Analysis Date: **10/4/2019** SeqNo: **2166816** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	80	120			
Surr: BFB	1100		1000		110	77.4	118			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

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4901 Hawkins NE
Albuquerque, NM 87109
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Sample Log-In Check List

Client Name: BLAGG Work Order Number: 1910296 RcptNo: 1

Received By: JUAN ROJAS 10/4/2019 9:30:00 AM
Completed By: Yazmine Garduno 10/4/2019 9:40:45 AM
Reviewed By: YG 10/4/19

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: (<2 or >12 unless noted)
Adjusted?
Checked by: LB 10/4/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.9	Good				