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

Responsible Party

Responsible Party: BP America Production Co	OGRID: 778	Historic Landfarm Closure
Contact Name: Steve Moskal	Contact Telephone: (505) 330-9179	
Contact email: steven.moskal@bpx.com	Incident # *(assigned by OCD)* nDGF0129832262	
Contact mailing address: 1199 Main St., Suite 101, Durango CO, 81301		

Location of Release Source

Latitude: 36.808382° Longitude: -107.799361°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Riddle 002A	Site Type: Natural Gas Production Well Pad
Date Release Discovered: October 24, 2001	API#: 30-045-22148

Unit Letter	Section	Township	Range	County
J	17	T30N	R9W	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):	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) **200 bbls 4% KCL**	Volume/Weight Recovered (provide units)

Cause of Release:
Release of 4% KCl water from frac tank due to corrosion hole. (Historic; 10/24/2001)

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)? Steve Moskal to Cory Smith (cell phone – Voicemail) on October 14, 2019 at 2:00 PM	

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 10, 2020

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

OCD Only

Received by: _____ Date: _____

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?	>100 (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 **(N/A)**
- ☒ 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 **(N/A)**
- ☒ 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.

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 10, 2020

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

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

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: _____

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: _____

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: Steve Moskal Title: Environmental Coordinator

Signature:  Date: April 10, 2020

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

OCD Only

Received by: OCD Date: 4/13/2020

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: 7/28/2020

Printed Name: Cory Smith Title: Environmental Specialist

*****Site is a historical landfarm of KCl water. After 19 years of onsite treatment, lab samples indicate no residual impact for analyzed constituents of concern. The area has successfully been reclaimed and final reclamation will be performed by the operating producer at the time of plugging and abandonment of the production well.*****

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

State of New Mexico
Energy Minerals and Natural Resources

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

NOV 2001
RECEIVED
OIL CON. DIV.
DIST. 3

Form C-141
Revised March 17, 1999

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

30 045 22148

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☐ Final Report

Name of Company **BP (Amoco Production Company)**	Contact **Brittany Benko**
Address **200 Energy Court Farmington, NM 87401**	Telephone No. **(505) 326-9235**
Facility Name **Riddle 2A**	Facility Type **Wellsite**

Surface Owner **BLM**	Mineral Owner **BLM**	Lease No. **NMSF080244**

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	**17**	**30N**	**9W**					**San Juan County**

NATURE OF RELEASE

Type of Release **4% KCl Water**	Volume of Release **200 bbls**	Volume Recovered
Source of Release **Frac Tank**	Date and Hour of Occurrence **The evening of 10/23 or early morning of 10/24**	Date and Hour of Discovery **10/24/2001 7:15am**
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? **Charlie Perrin**	
By Whom? **Brittany Benko**	Date and Hour **10/24/2001 11:15am**	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
A leak was discovered from a Frac Tank on the Riddle 2A when the rig crew arrived on location and discovered a significant amount of water pooling on the location. All Frac Tanks were checked the day before and there was no indication of a leak. It appeared that the leak sprung overnight and was a result of corrosion of a portion of the bottom of the tank. A water hauling truck was dispatched to drain the tank and another tank was brought onto the location as a replacement.

Describe Area Affected and Cleanup Action Taken.*
None of the 4% KCl water left the location/wellpad. The contaminated soil is being landfarmed on site.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Brittany D Benko	OIL CONSERVATION DIVISION
Printed Name: Brittany D. Benko	Approved by District Supervisor: Denny Foust for Frank Chavez
Title: Field Environmental Coordinator	Approval Date: 11/16/01 Expiration Date:
Date: 11/01/01 Phone: (505) 326-9235	Conditions of Approval: Attached ☐

* Attach Additional Sheets If Necessary

nDGF0129832262

bp

Amoco Production Company
A Part of the BP Amoco Group
200 Energy Court
Farmington, NM 87401

Phone (505) 326-9200

November 1, 2001

Bureau of Land Management
1235 La Plata Highway
Farmington, NM 87401
Attn: Mr. Mark Kelly

RE: Riddle #2A 4% KCl Water spill, Lease NMSF080244

Dear Mr. Kelly,

Confirming my phone call to you on Thursday, October 25, 2001 at 9:00am, a spill of 200 barrels of 4% KCl water occurred at the Riddle #2A, a wellsite in Unit J, Section 17 T30N-R9W. The spill was discovered at 7:15 am on October 24, 2001. A Frac tank on location began leaking the night before as a result of corrosion of a portion of the bottom of the tank. A water hauling truck was dispatched to drain the tank and another tank was brought onto the location as a replacement. None of the 200 barrels of 4% KCl left the wellpad. The contaminated soil is being landfarmed on site.

Should you have any additional questions, please feel free to contact either Brittany Benko at 326-9235 or Buddy Shaw at 326-9219 in our Farmington office.

Sincerely,

Brittany Benko
Environmental Coordinator

Cc: New Mexico Oil Conservation Division
1000 Rio Brazos Rd
Aztec, NM 87410
Attn: Mr. Denny Foust

From: Smith, Cory, EMNRD
Sent: Wednesday, March 25, 2020 9:49 AM
To: Steven Moskal <Steven.Moskal@BPX.COM>
Cc: Blagg, Jefferey <jeffcblagg@aol.com>; blagg_njv@yahoo.com; Jonathan Divine <JONATHAN.DIVINE@BPX.COM>
Subject: RE: Riddle 002A Historic Landfarm Closure

Steve,

Sorry forgot to add that the closure report is due no later than May 25, 2020 (90 days from today)

Thanks,

From: Smith, Cory, EMNRD
Sent: Wednesday, March 25, 2020 9:42 AM
To: 'Steven Moskal' <Steven.Moskal@BPX.COM>
Cc: Blagg, Jefferey <jeffcblagg@aol.com>; blagg_njv@yahoo.com; Jonathan Divine <JONATHAN.DIVINE@BPX.COM>
Subject: RE: Riddle 002A Historic Landfarm Closure

Steve,

OCD approves the sampling plan with the following conditions of approval

- BP will sample for all constituents listed in Table 1 of 19.15.29 NMAC
- BP will collect 1 additional vadose zone soil sample consisting of a 5pt composite samples at a depth of 1.5'

BP must submit this approval with the final C-141 or it will be denied.

Please note that although this is a historic spill because it wasn't closed out prior to the new rules and there was no previous approved plan it is subjected to all of the closure requirements of the new rule.

If you have any additional questions please give me a call.

Thanks,

Cory

From: Steven Moskal <Steven.Moskal@BPX.COM>
Sent: Wednesday, March 25, 2020 9:09 AM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Cc: Blagg, Jefferey <jeffcblagg@aol.com>; blagg_njv@yahoo.com; Jonathan Divine <JONATHAN.DIVINE@BPX.COM>
Subject: [EXT] RE: Riddle 002A Historic Landfarm Closure

Cory – Can you provide some direction on how to proceed with this proposed closure sampling plan? This is historic, so I am unsure how to procced.

Thanks!

Steve Moskal
Environmental Coordinator
BP America Production Co.
bpx energy - WBU
1199 Main Ave. | Suite 101
Durango | CO | 81301

Direct: 505.330.9179
steven.moskal@bpx.com

From: Steven Moskal
Sent: Wednesday, March 11, 2020 5:03 PM
To: Cory Smith - NMOCD (Cory.Smith@state.nm.us) <Cory.Smith@state.nm.us>
Cc: jeffcblagg@aol.com; 'blagg_njv@yahoo.com' <blagg_njv@yahoo.com>; Jonathan Divine <JONATHAN.DIVINE@BPX.COM>
Subject: Riddle 002A Historic Landfarm Closure

Cory,

As we discussed earlier, the subject well has a historic landfarm dating back to 2001 from a KCl water spill. The landfarm was never properly closed out.

RIDDLE #002A; API #30-045-22148
J-17-30N-09W
Incident# NDGF0129831866 2001 A INIT

http://ocdimage.emnrd.state.nm.us/Imaging/FileStore/aztec/wf/83106/3004522148_23_wf.pdf

I visited the site today and identified what looks like the landfarm area based on mounded dirt, an abandoned rig anchor (that was likely covered by the landfarm) and damaged vegetation from dirt moving activities. Attached are photos.

propose sampling the area, approximately 1,020 sq ft, in three zones, each with a 5 point composite at a depth of 6”, for chloride. I have attached a map with the landfarm zone and proposed sampling areas.

Once approved, BP will sample the area and file a C-141 with field report and lab results.

Thank you,

Steve Moskal
Environmental Coordinator
BP America Production Co.
bpx energy - WBU
1199 Main Ave. | Suite 101
Durango | CO | 81301

Direct: 505.330.9179
steven.moskal@bpx.com

CLIENT: BPX

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

API #: 3004522148
TANK ID (if applicble): NA

FIELD REPORT:

(circle one): BGT CONFIRMATION / RELEASE INVESTIGATION / OTHER:
KCL RELEASE SOILS (Yr.: 2001)

PAGE #: 1 of 1

SITE INFORMATION:

SITE NAME: RIDDLE # 2A

QUAD/UNIT: J SEC: 17 TWP: 30N RNG: 9W PM: NM CNTY: SJ ST: NM

1/4 -1/4/FOOTAGE: 1,450'S / 1,450'E NW/SE LEASE TYPE: FEDERAL / STATE / FEE / INDIAN

LEASE #: SF080244 PROD. FORMATION: MV CONTRACTOR:

DATE STARTED: 03/30/20
DATE FINISHED:
ENVIRONMENTAL SPECIALIST(S): NJV

REFERENCE POINT:

WELL HEAD (W.H.) GPS COORD.: 36.808313 X 107.799634 GL ELEV.: 6,082'

1) Landfarm Center GPS COORD.: 36.808382 X 107.799361 DISTANCE/BEARING FROM W.H.: 84', N72.5E
2) GPS COORD.: DISTANCE/BEARING FROM W.H.:
3) GPS COORD.: DISTANCE/BEARING FROM W.H.:
4) GPS COORD.: DISTANCE/BEARING FROM W.H.:

SAMPLING DATA:

CHAIN OF CUSTODY RECORD(S) # OR LAB USED: HALL

	SAMPLE ID:	SAMPLE DATE:	SAMPLE TIME:	LAB ANALYSIS:	OVM READING (ppm)
1)	LF #1 (north) - 5PC	03/30/20	0915	8015B/8021B/300.0 (Cl)	0.0
2)					
3)					
4)					
5)					

SOIL DESCRIPTION:

SOIL TYPE: SAND / SILTY SAND / SILT / SILTY CLAY / CLAY / GRAVEL / OTHER

SOIL COLOR: DARK YELLOWISH ORANGE

COHESION (ALL OTHERS): NON COHESIVE / SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE

CONSISTENCY (NON COHESIVE SOILS): LOOSE / FIRM / DENSE / VERY DENSE

MOISTURE: DRY / SLIGHTLY MOIST / MOIST / WET / SATURATED / SUPER SATURATED

SAMPLE TYPE: GRAB / COMPOSITE - # OF PTS. 5

DISCOLORATION/STAINING OBSERVED: YES / NO EXPLANATION -

PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC

DENSITY (COHESIVE CLAYS & SILTS): SOFT / FIRM / STIFF / VERY STIFF / HARD

HC ODOR DETECTED: YES / NO EXPLANATION -

ANY AREAS DISPLAYING WETNESS: YES / NO EXPLANATION -

SITE OBSERVATIONS:

LOST INTEGRITY OF EQUIPMENT: YES / NO EXPLANATION -

APPARENT EVIDENCE OF A RELEASE OBSERVED AND/OR OCCURRED : YES / NO EXPLANATION:

EQUIPMENT SET OVER RECLAIMED AREA: YES / NO EXPLANATION -

OTHER: NMOCD OR BLM REPS. NOT PRESENT TO WITNESS CONFIRMATION SAMPLING. AREA SAMPLED CALCULATED BETWEEN 1,000-1,050 SQ. FT.
INCIDENT #: NDGF0129831866 - 2001 A INIT

EXCAVATION DIMENSION ESTIMATION: NA ft. X NA ft. X NA ft. EXCAVATION ESTIMATION (Cubic Yards) : NA

DEPTH TO GROUNDWATER: >100' NEAREST WATER SOURCE: >1,000' NEAREST SURFACE WATER: 300'<X<1,000' NMOCD TPH CLOSURE STD: 2,500 ppm

SITE SKETCH

~~BGT Located : off / on site~~

PLOT PLAN circle: attached

N

SEE FOLLOWING AERIAL MAP

OVM CALIB. READ. = 100.2 ppm RF =1.00
OVM CALIB. GAS = 100 ppm
TIME: 9:35 am/pm DATE: 03/30/20

MISCELL. NOTES

PO:
AFE #:
SIO #:
GL #:
Permit date(s):
OCD Appr. date(s):

Tank ID	OVM = Organic Vapor Meter ppm = parts per million
	BGT Sidewalls Visible: Y / N
	BGT Sidewalls Visible: Y / N
	BGT Sidewalls Visible: Y / N

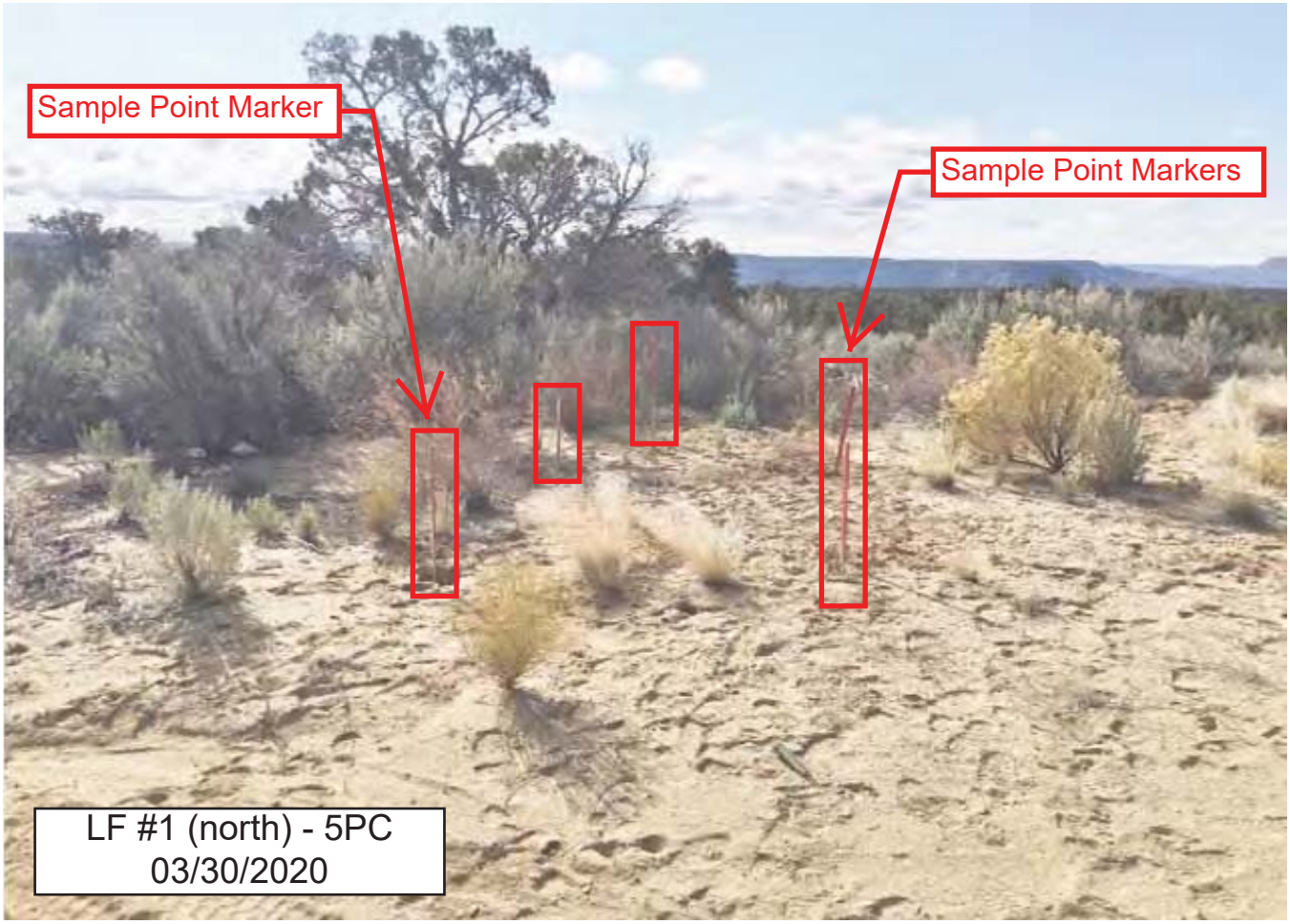
Magnetic declination: 10° E

NOTES: BGT = BELOW-GRADE TANK; E.D. = EXCAVATION DEPRESSION; B.G. = BELOW GRADE; B = BELOW; T.H. = TEST HOLE; ~ = APPROX.; W.H. = WELL HEAD; T.B. = TANK BOTTOM; PBGTL = PREVIOUS BELOW-GRADE TANK LOCATION; SPD = SAMPLE POINT DESIGNATION; R.W. = RETAINING WALL; NA - NOT APPLICABLE OR NOT AVAILABLE; SW - SINGLE WALL; DW - DOUBLE WALL; SB - SINGLE BOTTOM; DB - DOUBLE BOTTOM.

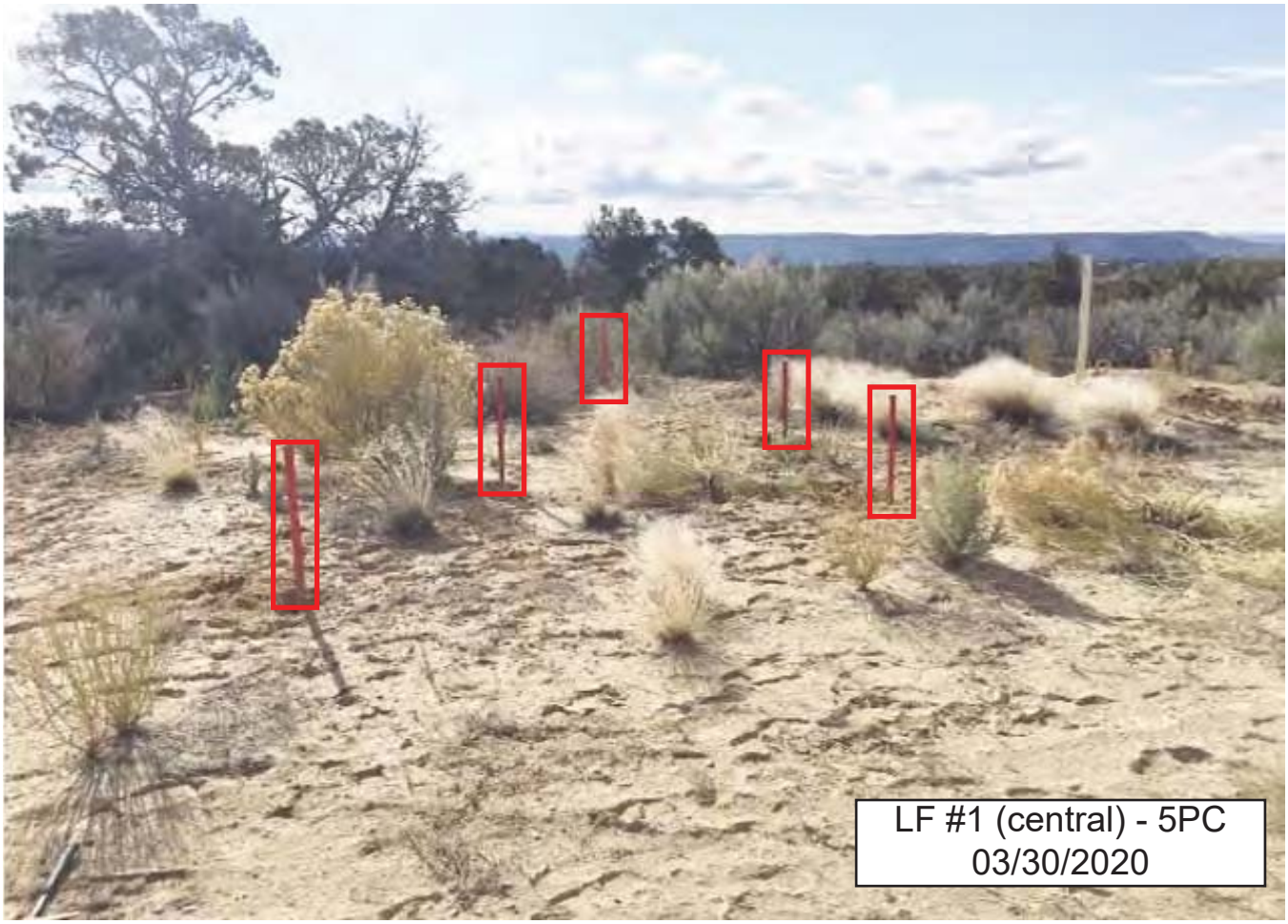
NOTES: GOOGLE EARTH IMAGERY DATE: 4/6/2019. ONSITE: 03/30/20


Riddle #002A Landfarm Sampling
API #30-045-22148
J-17-30N-09W
36.808382,-107.799361
Approximate area of landfarm = 1,000sq. ft.
Legend
Zone 3 Composite Sample Locations
Landfarm area
Zone 1 Composite Sample Locations
Zone 2 Composite Sample Locations
LF #1 (north)-5PC
LF #2 (central)-5PC
LF #3 (south)-5PC
Google Earth
N
100 ft

BPX - RIDDLE 002A

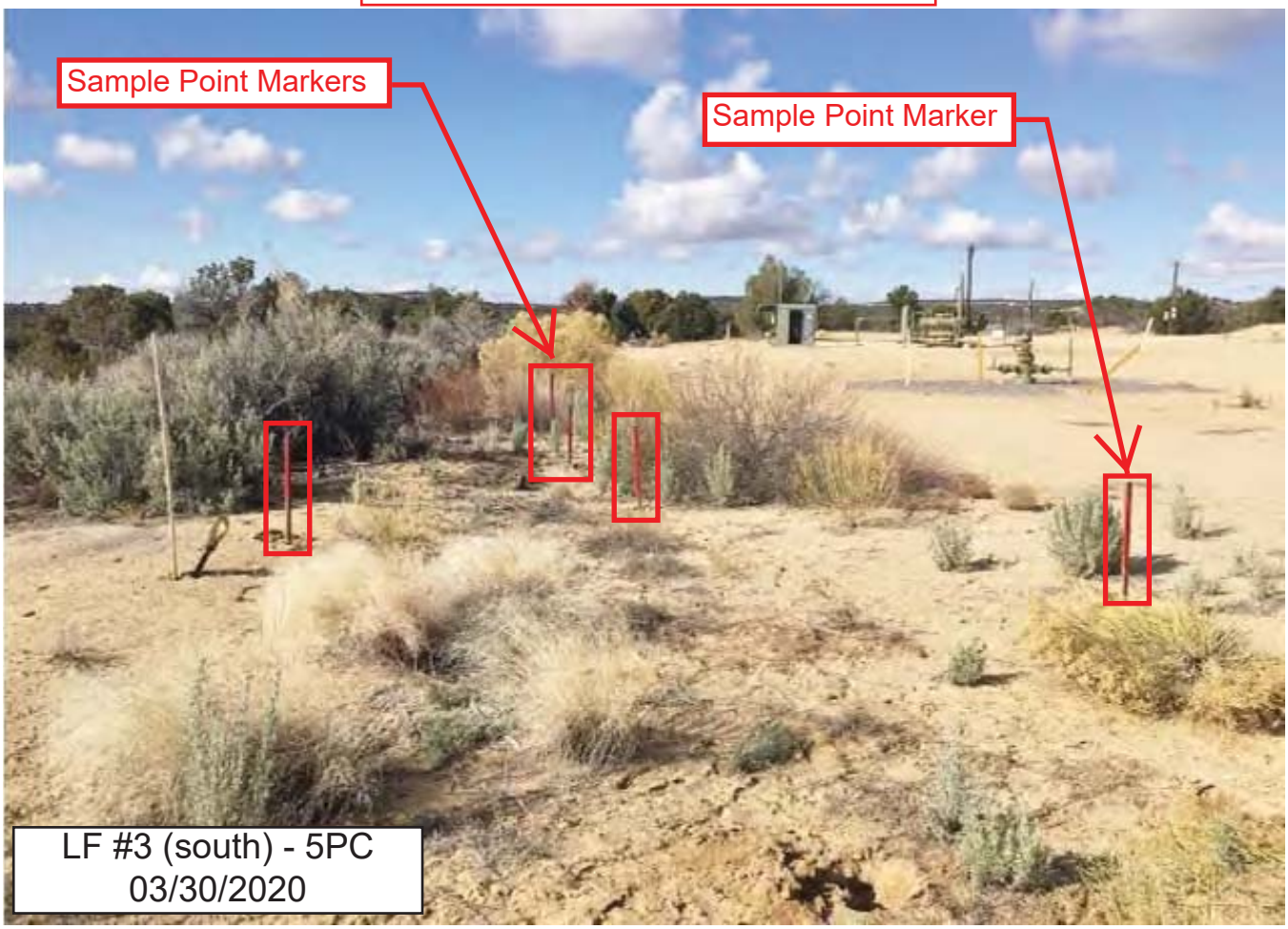


LF #1 (north) - 5PC
03/30/2020

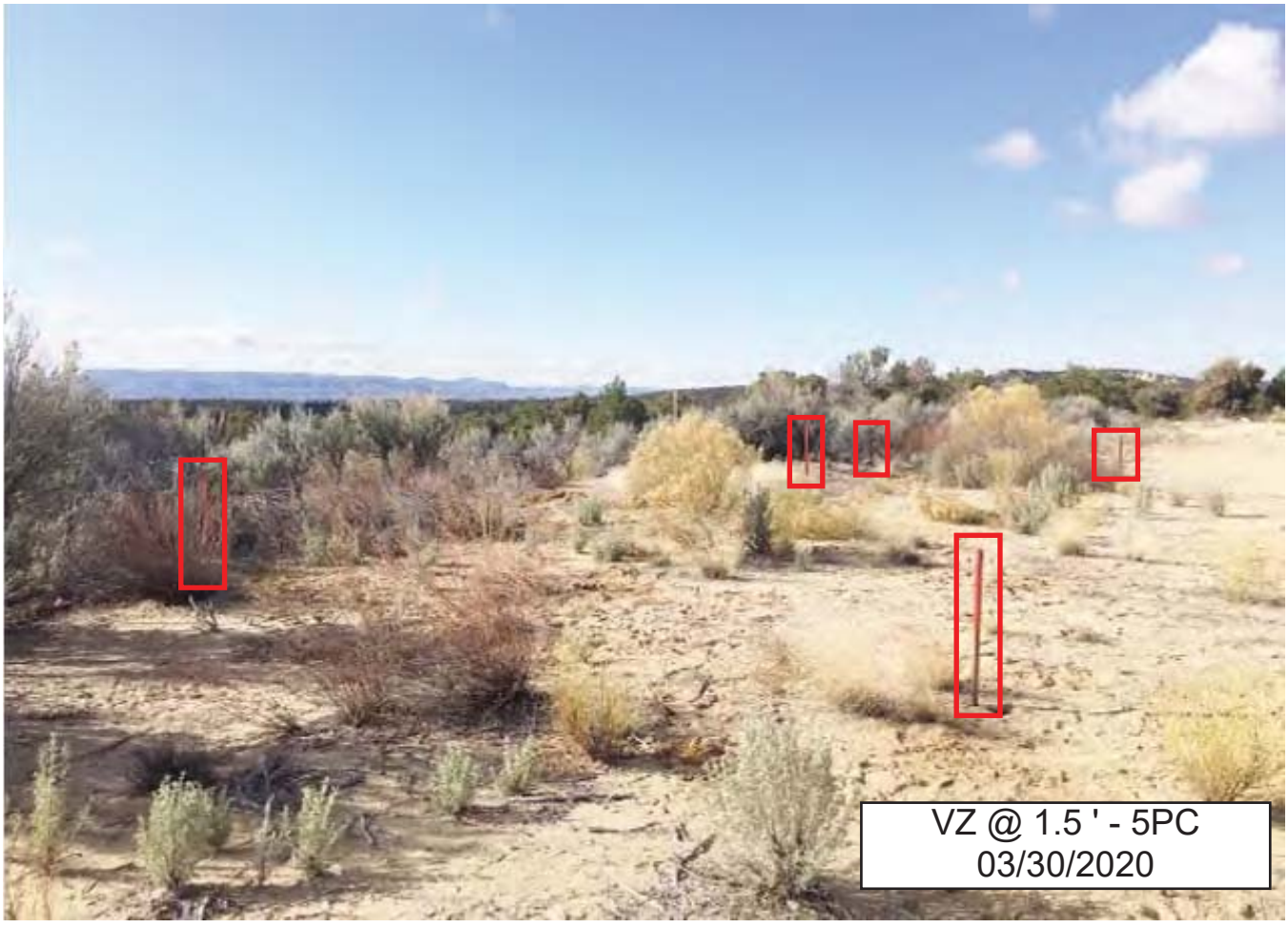


LF #1 (central) - 5PC
03/30/2020

BPX - RIDDLE 002A



LF #3 (south) - 5PC
03/30/2020



VZ @ 1.5 ' - 5PC
03/30/2020

Steven Moskal

From: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Sent: Wednesday, March 25, 2020 9:42 AM
To: Steven Moskal
Cc: Blagg, Jefferey; blagg_njv@yahoo.com; Jonathan Divine
Subject: RE: Riddle 002A Historic Landfarm Closure

Steve,

OCD approves the sampling plan with the following conditions of approval

- BP will sample for all constituents listed in Table 1 of 19.15.29 NMAC
- BP will collect 1 additional vadose zone soil sample consisting of a 5pt composite samples at a depth of 1.5'

BP must submit this approval with the final C-141 or it will be denied.

Please note that although this is a historic spill because it wasn't closed out prior to the new rules and there was no previous approved plan it is subjected to all of the closure requirements of the new rule.

If you have any additional questions please give me a call.

Thanks,

Cory

From: Steven Moskal <Steven.Moskal@BPX.COM>
Sent: Wednesday, March 25, 2020 9:09 AM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Cc: Blagg, Jefferey <jeffcblagg@aol.com>; blagg_njv@yahoo.com; Jonathan Divine <JONATHAN.DIVINE@BPX.COM>
Subject: [EXT] RE: Riddle 002A Historic Landfarm Closure

Cory – Can you provide some direction on how to proceed with this proposed closure sampling plan? This is historic, so I am unsure how to procced.

Thanks!

Steve Moskal
Environmental Coordinator
BP America Production Co.
bpx energy - WBU
1199 Main Ave. | Suite 101
Durango | CO | 81301

Direct: 505.330.9179
steven.moskal@bpx.com

bpx energy

From: Steven Moskal
Sent: Wednesday, March 11, 2020 5:03 PM
To: Cory Smith - NMOCD (Cory.Smith@state.nm.us) <Cory.Smith@state.nm.us>
Cc: jeffcblagg@aol.com; 'blagg_njv@yahoo.com' <blagg_njv@yahoo.com>; Jonathan Divine <JONATHAN.DIVINE@BPX.COM>
Subject: Riddle 002A Historic Landfarm Closure

Cory,

As we discussed earlier, the subject well has a historic landfarm dating back to 2001 from a KCl water spill. The landfarm was never properly closed out.

RIDDLE #002A; API #30-045-22148
J-17-30N-09W
Incident# NDGF0129831866 2001 A INIT

http://ocdimage.emnrd.state.nm.us/Imaging/FileStore/aztec/wf/83106/3004522148_23_wf.pdf

I visited the site today and identified what looks like the landfarm area based on mounded dirt, an abandoned rig anchor (that was likely covered by the landfarm) and damaged vegetation from dirt moving activities. Attached are photos.

propose sampling the area, approximately 1,020 sq ft, in three zones, each with a 5 point composite at a depth of 6", for chloride. I have attached a map with the landfarm zone and proposed sampling areas.

Once approved, BP will sample the area and file a C-141 with field report and lab results.

Thank you,

Steve Moskal
Environmental Coordinator
BP America Production Co.
bpx energy - WBU
1199 Main Ave. | Suite 101
Durango | CO | 81301

Direct: 505.330.9179
steven.moskal@bpx.com

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Analytical Laboratory

BP America Production Co.	Project Name:	Riddle #2A	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	04/06/20 13:30

LF #1 (North) - 5PC
P003132-01 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by 8260									
Benzene	ND	0.0250	mg/kg	1	2014007	03/31/20	04/01/20	EPA 8260B	
Toluene	ND	0.0250	mg/kg	1	2014007	03/31/20	04/01/20	EPA 8260B	
Ethylbenzene	ND	0.0250	mg/kg	1	2014007	03/31/20	04/01/20	EPA 8260B	
p,m-Xylene	ND	0.0500	mg/kg	1	2014007	03/31/20	04/01/20	EPA 8260B	
o-Xylene	ND	0.0250	mg/kg	1	2014007	03/31/20	04/01/20	EPA 8260B	
Total Xylenes	ND	0.0250	mg/kg	1	2014007	03/31/20	04/01/20	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		*98.3 %*		*70-130*	*2014007*	*03/31/20*	*04/01/20*	*EPA 8260B*	
Surrogate: Toluene-d8		*107 %*		*70-130*	*2014007*	*03/31/20*	*04/01/20*	*EPA 8260B*	
Surrogate: Bromofluorobenzene		*97.1 %*		*70-130*	*2014007*	*03/31/20*	*04/01/20*	*EPA 8260B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2014005	03/31/20	03/31/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2014005	03/31/20	03/31/20	EPA 8015D	
Surrogate: n-Nonane		*87.9 %*		*50-200*	*2014005*	*03/31/20*	*03/31/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2014007	03/31/20	04/01/20	EPA 8015D	
Surrogate: 1,2-Dichloroethane-d4		*98.3 %*		*70-130*	*2014007*	*03/31/20*	*04/01/20*	*EPA 8015D*	
Surrogate: Toluene-d8		*107 %*		*70-130*	*2014007*	*03/31/20*	*04/01/20*	*EPA 8015D*	
Surrogate: Bromofluorobenzene		*97.1 %*		*70-130*	*2014007*	*03/31/20*	*04/01/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2014002	03/31/20	03/31/20	EPA 300.0/9056A	

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Analytical Laboratory

BP America Production Co.	Project Name:	Riddle #2A	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	04/06/20 13:30

LF #2 (Central) - 5PC

P003132-02 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by 8260									
Benzene	ND	0.0250	mg/kg	1	2014007	03/31/20	03/31/20	EPA 8260B	
Toluene	ND	0.0250	mg/kg	1	2014007	03/31/20	03/31/20	EPA 8260B	
Ethylbenzene	ND	0.0250	mg/kg	1	2014007	03/31/20	03/31/20	EPA 8260B	
p,m-Xylene	ND	0.0500	mg/kg	1	2014007	03/31/20	03/31/20	EPA 8260B	
o-Xylene	ND	0.0250	mg/kg	1	2014007	03/31/20	03/31/20	EPA 8260B	
Total Xylenes	ND	0.0250	mg/kg	1	2014007	03/31/20	03/31/20	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		*102 %*		*70-130*	*2014007*	*03/31/20*	*03/31/20*	*EPA 8260B*	
Surrogate: Toluene-d8		*104 %*		*70-130*	*2014007*	*03/31/20*	*03/31/20*	*EPA 8260B*	
Surrogate: Bromofluorobenzene		*97.2 %*		*70-130*	*2014007*	*03/31/20*	*03/31/20*	*EPA 8260B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2014005	03/31/20	03/31/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2014005	03/31/20	03/31/20	EPA 8015D	
Surrogate: n-Nonane		*109 %*		*50-200*	*2014005*	*03/31/20*	*03/31/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2014007	03/31/20	03/31/20	EPA 8015D	
Surrogate: 1,2-Dichloroethane-d4		*102 %*		*70-130*	*2014007*	*03/31/20*	*03/31/20*	*EPA 8015D*	
Surrogate: Toluene-d8		*104 %*		*70-130*	*2014007*	*03/31/20*	*03/31/20*	*EPA 8015D*	
Surrogate: Bromofluorobenzene		*97.2 %*		*70-130*	*2014007*	*03/31/20*	*03/31/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2014002	03/31/20	03/31/20	EPA 300.0/9056A	

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Analytical Laboratory

BP America Production Co.	Project Name:	Riddle #2A	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	04/06/20 13:30

LF #3 ~~LF #2~~ (South) - 5PC

P003132-03 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by 8260									
Benzene	ND	0.0250	mg/kg	1	2014007	03/31/20	03/31/20	EPA 8260B	
Toluene	ND	0.0250	mg/kg	1	2014007	03/31/20	03/31/20	EPA 8260B	
Ethylbenzene	ND	0.0250	mg/kg	1	2014007	03/31/20	03/31/20	EPA 8260B	
p,m-Xylene	ND	0.0500	mg/kg	1	2014007	03/31/20	03/31/20	EPA 8260B	
o-Xylene	ND	0.0250	mg/kg	1	2014007	03/31/20	03/31/20	EPA 8260B	
Total Xylenes	ND	0.0250	mg/kg	1	2014007	03/31/20	03/31/20	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		*106 %*	*70-130*		*2014007*	*03/31/20*	*03/31/20*	*EPA 8260B*	
Surrogate: Toluene-d8		*106 %*	*70-130*		*2014007*	*03/31/20*	*03/31/20*	*EPA 8260B*	
Surrogate: Bromofluorobenzene		*96.6 %*	*70-130*		*2014007*	*03/31/20*	*03/31/20*	*EPA 8260B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2014005	03/31/20	03/31/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2014005	03/31/20	03/31/20	EPA 8015D	
Surrogate: n-Nonane		*88.5 %*	*50-200*		*2014005*	*03/31/20*	*03/31/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2014007	03/31/20	03/31/20	EPA 8015D	
Surrogate: 1,2-Dichloroethane-d4		*106 %*	*70-130*		*2014007*	*03/31/20*	*03/31/20*	*EPA 8015D*	
Surrogate: Toluene-d8		*106 %*	*70-130*		*2014007*	*03/31/20*	*03/31/20*	*EPA 8015D*	
Surrogate: Bromofluorobenzene		*96.6 %*	*70-130*		*2014007*	*03/31/20*	*03/31/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2014002	03/31/20	03/31/20	EPA 300.0/9056A	

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Analytical Laboratory

BP America Production Co.	Project Name:	Riddle #2A	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	04/06/20 13:30

VZ @ 1.5' - 5PC
P003132-04 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by 8260									
Benzene	ND	0.0250	mg/kg	1	2014007	03/31/20	03/31/20	EPA 8260B	
Toluene	ND	0.0250	mg/kg	1	2014007	03/31/20	03/31/20	EPA 8260B	
Ethylbenzene	ND	0.0250	mg/kg	1	2014007	03/31/20	03/31/20	EPA 8260B	
p,m-Xylene	ND	0.0500	mg/kg	1	2014007	03/31/20	03/31/20	EPA 8260B	
o-Xylene	ND	0.0250	mg/kg	1	2014007	03/31/20	03/31/20	EPA 8260B	
Total Xylenes	ND	0.0250	mg/kg	1	2014007	03/31/20	03/31/20	EPA 8260B	
Surrogate: 1,2-Dichloroethane-d4		*95.7 %*		*70-130*	*2014007*	*03/31/20*	*03/31/20*	*EPA 8260B*	
Surrogate: Toluene-d8		*108 %*		*70-130*	*2014007*	*03/31/20*	*03/31/20*	*EPA 8260B*	
Surrogate: Bromofluorobenzene		*98.1 %*		*70-130*	*2014007*	*03/31/20*	*03/31/20*	*EPA 8260B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	2014005	03/31/20	03/31/20	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	2014005	03/31/20	03/31/20	EPA 8015D	
Surrogate: n-Nonane		*85.4 %*		*50-200*	*2014005*	*03/31/20*	*03/31/20*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	2014007	03/31/20	03/31/20	EPA 8015D	
Surrogate: 1,2-Dichloroethane-d4		*95.7 %*		*70-130*	*2014007*	*03/31/20*	*03/31/20*	*EPA 8015D*	
Surrogate: Toluene-d8		*108 %*		*70-130*	*2014007*	*03/31/20*	*03/31/20*	*EPA 8015D*	
Surrogate: Bromofluorobenzene		*98.1 %*		*70-130*	*2014007*	*03/31/20*	*03/31/20*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	2014002	03/31/20	03/31/20	EPA 300.0/9056A	

Project Information

Chain of Custody

Page 1 of 1

Client:	BPX Energy Inc.
Project:	Riddle # 2A
Project Manager:	Steve Moskal - BPX Engery Inc.
Address:	1199 Main Ave., Suite 101
City, State, Zip	Durango, CO 81301
Phone:	(505) 330-9179 - S. Moskal
Email:	See "additional instructions" below

Report Attention

Report due by:	
Attention:	Steve Moskal
Address:	
City, State, Zip	
Phone:	N. Velez (505) 320-3489; S. Moskal (505) 330-9179
Email:	See "additional instructions" below

Lab Use Only

Lab WO#: P003132 Job Number: 03143-0424

TAT: 1D 3D

EPA Program: RCRA CWA SDW

State: NM X CO UT

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
0915	03/30/20	SOIL	1-4 oz.	LF #1 (north) - 5PC	1	X	X	X			X		
0920	03/30/20	SOIL	1-4 oz.	LF #2 (central) - 5PC	2	X	X	X			X		
0930	03/30/20	SOIL	1-4 oz.	LF #3 ~~LF #1~~ (south) - 5PC	3	X	X	X			X		
0918	03/30/20	SOIL	1-4 oz.	VZ @ 1.5' - 5PC	4	X	X	X			X		

Additional Instructions: Send emails to: jeffcblagg@aol.com, blagg_njv@yahoo.com, StevenMoskal@bpx.com, & Erin.Dunman@bpx.com. Use PO for: 1st half 2020 Spill.

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: NELSON VELEZ - BLAGG ENGR.

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
	3/30/2020	1311		3-30-20	13:11
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

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 laboraotry is limited to the amount paid for on the report.

envirotech Analytical Laboratory

5796 US Highway 64, Farmington, NM 87401 Ph (505) 632-0615 Fx (505) 632-1865

Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301 Ph (970) 259-0615 Fr (800) 362-1879

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Analytical Laboratory

Analytical Report

Report Summary

Client: BP America Production Co.

Samples Received: 3/30/2020
Job Number: 03143-0424
Work Order: P003132
Project Name/Location: Riddle #2A

Report Reviewed By: Walter Hinchman Date: 4/6/20

Walter Hinchman, Laboratory Director

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, holds the Utah TNI certification NM009792018-1 for the data reported.
Envirotech, Inc, holds the Texas TNI certification T104704557-19-2 for the data reported.

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Analytical Laboratory

BP America Production Co.	Project Name:	Riddle #2A	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	04/06/20 13:30

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
LF #1 (North) - 5PC	P003132-01A	Soil	03/30/20	03/30/20	Glass Jar, 4 oz.
LF #2 (Central) - 5PC	P003132-02A	Soil	03/30/20	03/30/20	Glass Jar, 4 oz.
LF #2 (South) - 5PC	P003132-03A	Soil	03/30/20	03/30/20	Glass Jar, 4 oz.
VZ @ 1.5' - 5PC	P003132-04A	Soil	03/30/20	03/30/20	Glass Jar, 4 oz.

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Analytical Laboratory

BP America Production Co.	Project Name:	Riddle #2A	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	04/06/20 13:30

Volatile Organic Compounds by 8260 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2014007 - Purge and Trap EPA 5030A										
Blank (2014007-BLK1)				Prepared: 03/31/20 0 Analyzed: 03/31/20 1						
Benzene	ND	0.0250	mg/kg							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
p,m-Xylene	ND	0.0500	"							
o-Xylene	ND	0.0250	"							
Total Xylenes	ND	0.0250	"							
Surrogate: 1,2-Dichloroethane-d4	*0.525*		"	*0.500*		*105*	*70-130*			
Surrogate: Toluene-d8	*0.534*		"	*0.500*		*107*	*70-130*			
Surrogate: Bromofluorobenzene	*0.493*		"	*0.500*		*98.5*	*70-130*			
LCS (2014007-BS1)				Prepared: 03/31/20 0 Analyzed: 03/31/20 1						
Benzene	2.26	0.0250	mg/kg	2.50		90.5	70-130			
Toluene	2.56	0.0250	"	2.50		102	70-130			
Ethylbenzene	2.56	0.0250	"	2.50		102	70-130			
p,m-Xylene	5.08	0.0500	"	5.00		102	70-130			
o-Xylene	2.51	0.0250	"	2.50		100	70-130			
Total Xylenes	7.59	0.0250	"	7.50		101	0-200			
Surrogate: 1,2-Dichloroethane-d4	*0.502*		"	*0.500*		*100*	*70-130*			
Surrogate: Toluene-d8	*0.534*		"	*0.500*		*107*	*70-130*			
Surrogate: Bromofluorobenzene	*0.493*		"	*0.500*		*98.6*	*70-130*			
Matrix Spike (2014007-MS1)	**Source: P003134-01**			Prepared: 03/31/20 0 Analyzed: 03/31/20 1						
Benzene	2.32	0.0250	mg/kg	2.50	ND	92.9	48-131			
Toluene	2.58	0.0250	"	2.50	ND	103	48-130			
Ethylbenzene	2.59	0.0250	"	2.50	ND	104	45-135			
p,m-Xylene	5.16	0.0500	"	5.00	ND	103	43-135			
o-Xylene	2.56	0.0250	"	2.50	ND	103	43-135			
Total Xylenes	7.72	0.0250	"	7.50	ND	103	0-200			
Surrogate: 1,2-Dichloroethane-d4	*0.533*		"	*0.500*		*107*	*70-130*			
Surrogate: Toluene-d8	*0.538*		"	*0.500*		*108*	*70-130*			
Surrogate: Bromofluorobenzene	*0.490*		"	*0.500*		*98.0*	*70-130*			
Matrix Spike Dup (2014007-MSD1)	**Source: P003134-01**			Prepared: 03/31/20 0 Analyzed: 03/31/20 1						
Benzene	2.31	0.0250	mg/kg	2.50	ND	92.3	48-131	0.626	23	
Toluene	2.54	0.0250	"	2.50	ND	102	48-130	1.35	24	
Ethylbenzene	2.54	0.0250	"	2.50	ND	102	45-135	1.97	27	
p,m-Xylene	5.09	0.0500	"	5.00	ND	102	43-135	1.39	27	
o-Xylene	2.52	0.0250	"	2.50	ND	101	43-135	1.93	27	
Total Xylenes	7.60	0.0250	"	7.50	ND	101	0-200	1.57	200	
Surrogate: 1,2-Dichloroethane-d4	*0.505*		"	*0.500*		*101*	*70-130*			
Surrogate: Toluene-d8	*0.519*		"	*0.500*		*104*	*70-130*			
Surrogate: Bromofluorobenzene	*0.489*		"	*0.500*		*97.8*	*70-130*			

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Analytical Laboratory

BP America Production Co.	Project Name:	Riddle #2A	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	04/06/20 13:30

Nonhalogenated Organics by 8015 - DRO/ORO - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2014005 - DRO Extraction EPA 3570										
Blank (2014005-BLK1)				Prepared: 03/31/20 0 Analyzed: 03/31/20 1						
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
Oil Range Organics (C28-C40)	ND	50.0	"							
Surrogate: n-Nonane	*51.0*		*"*	*50.0*		*102*	*50-200*			
LCS (2014005-BS1)				Prepared: 03/31/20 0 Analyzed: 03/31/20 1						
Diesel Range Organics (C10-C28)	457	25.0	mg/kg	500		91.3	38-132			
Surrogate: n-Nonane	*48.5*		*"*	*50.0*		*97.0*	*50-200*			
Matrix Spike (2014005-MS1)	**Source: P003132-01**			Prepared: 03/31/20 0 Analyzed: 03/31/20 1						
Diesel Range Organics (C10-C28)	452	25.0	mg/kg	500	ND	90.5	38-132			
Surrogate: n-Nonane	*49.0*		*"*	*50.0*		*97.9*	*50-200*			
Matrix Spike Dup (2014005-MSD1)	**Source: P003132-01**			Prepared: 03/31/20 0 Analyzed: 03/31/20 1						
Diesel Range Organics (C10-C28)	444	25.0	mg/kg	500	ND	88.8	38-132	1.90	20	
Surrogate: n-Nonane	*47.7*		*"*	*50.0*		*95.4*	*50-200*			

envirotech
Analytical Laboratory

BP America Production Co.	Project Name:	Riddle #2A	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	04/06/20 13:30

Nonhalogenated Organics by 8015 - GRO - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2014007 - Purge and Trap EPA 5030A										
Blank (2014007-BLK1)				Prepared: 03/31/20 0 Analyzed: 03/31/20 1						
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg							
Surrogate: 1,2-Dichloroethane-d4	*0.525*		"	*0.500*		*105*	*70-130*			
Surrogate: Toluene-d8	*0.534*		"	*0.500*		*107*	*70-130*			
Surrogate: Bromofluorobenzene	*0.493*		"	*0.500*		*98.5*	*70-130*			
LCS (2014007-BS2)				Prepared: 03/31/20 0 Analyzed: 03/31/20 1						
Gasoline Range Organics (C6-C10)	53.6	20.0	mg/kg	50.0		107	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.512*		"	*0.500*		*102*	*70-130*			
Surrogate: Toluene-d8	*0.542*		"	*0.500*		*108*	*70-130*			
Surrogate: Bromofluorobenzene	*0.477*		"	*0.500*		*95.3*	*70-130*			
Matrix Spike (2014007-MS2)	**Source: P003134-01**			Prepared: 03/31/20 0 Analyzed: 03/31/20 1						
Gasoline Range Organics (C6-C10)	52.3	20.0	mg/kg	50.0	ND	105	70-130			
Surrogate: 1,2-Dichloroethane-d4	*0.479*		"	*0.500*		*95.7*	*70-130*			
Surrogate: Toluene-d8	*0.540*		"	*0.500*		*108*	*70-130*			
Surrogate: Bromofluorobenzene	*0.497*		"	*0.500*		*99.3*	*70-130*			
Matrix Spike Dup (2014007-MSD2)	**Source: P003134-01**			Prepared: 03/31/20 0 Analyzed: 03/31/20 1						
Gasoline Range Organics (C6-C10)	50.5	20.0	mg/kg	50.0	ND	101	70-130	3.50	20	
Surrogate: 1,2-Dichloroethane-d4	*0.498*		"	*0.500*		*99.5*	*70-130*			
Surrogate: Toluene-d8	*0.537*		"	*0.500*		*107*	*70-130*			
Surrogate: Bromofluorobenzene	*0.491*		"	*0.500*		*98.1*	*70-130*			

envirotech
Analytical Laboratory

BP America Production Co.	Project Name:	Riddle #2A	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	04/06/20 13:30

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 2014002 - Anion Extraction EPA 300.0/9056A										
Blank (2014002-BLK1)				Prepared & Analyzed: 03/31/20 0						
Chloride	ND	20.0	mg/kg							
LCS (2014002-BS1)				Prepared & Analyzed: 03/31/20 0						
Chloride	240	20.0	mg/kg	250		95.9	90-110			
Matrix Spike (2014002-MS1)		**Source: P003132-01**		Prepared: 03/31/20 0 Analyzed: 03/31/20 1						
Chloride	247	20.0	mg/kg	250	ND	98.8	80-120			
Matrix Spike Dup (2014002-MSD1)		**Source: P003132-01**		Prepared: 03/31/20 0 Analyzed: 03/31/20 1						
Chloride	248	20.0	mg/kg	250	ND	99.1	80-120	0.295	20	

QC Summary Report
Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values my differ slightly.

envirotech
Analytical Laboratory

BP America Production Co.	Project Name:	Riddle #2A	
PO Box 22024	Project Number:	03143-0424	**Reported:**
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	04/06/20 13:30

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
**	Methods marked with ** are non-accredited methods.

Soil data is reported on an "as received" weight basis, unless reported otherwise.

SITING AND HYDRO-GEOLOGICAL REPORT FOR RIDDLE 002A

Siting Criteria 19.15.17.10 NMAC

Depth to groundwater at the site is estimated to be greater than 100 feet. This estimation is based on data from Stone and others (1983), and depth to groundwater data obtained from water wells permitted by the New Mexico State Engineer's Office (OSE, Figure 1). Local topography and proximity to adjacent water features is also considered. A topographic map of the site is provided as Figure 2 and demonstrates that the below grade tank (BGT) is not within 300 feet of any continuously flowing watercourse or within 200 feet of any other significant watercourse, lakebed, sinkhole or playa lake as measured from the ordinary high water mark. Figure 3 demonstrates that the BGT is not within 300 feet of a permanent residence, school, hospital, institution or church. Figure 4 demonstrates, based on a search of the OSE database and USGS topographic maps, that there are no freshwater wells or springs within 1000 feet of the BGT. Figure 5 demonstrates that the BGT is not within a municipal boundary or a defined municipal freshwater well field. Figure 6 demonstrates that the BGT is not within 500 feet of a wetland. Figure 7 demonstrates that the BGT is not in an area overlying a subsurface mine. The BGT is not located in an unstable area. Figure 8 demonstrates that the BGT is not within the mapped FEMA 100-year floodplain.

Local Geology and Hydrology

This particular site is located near the main channel of Vereda Canyon, a tributary of the San Juan River. Regional topography of the San Juan River area is composed of mesas dissected by deep, narrow canyons and arroyos. The more resistant cliff-forming sandstones of the San Jose Formation cap the interbedded siltstones, shales and sandstones of the Nacimiento Formation. Accumulations of talus and eroded sands at the base of canyon walls form steep to gentle slopes that transition into flat-bottomed arroyos within the canyons. Deposits of Quaternary alluvial and eolian sands occur prominently near the surface of the San Juan River area, especially near streams and washes.

Regional Geology and Hydrology

The San Juan Basin is situated in the Navajo section of the Colorado Plateau and is characterized by broad open valleys, mesas, buttes and hogbacks. Away from major valleys and canyons topographic relief is generally low. Native vegetation is sparse and shrubby. Drainage is mainly by the San Juan River, the only permanent stream in the Navajo Section of the Colorado Plateau. The San Juan River is a tributary of the Colorado River. Major tributaries include the Animas, Chaco and La Plata Rivers. Flow of the San Juan River across the basin is regulated by the Navajo Dam, located about 30 miles northeast of Farmington, New Mexico. The climate is arid to semiarid with an average annual precipitation of 8 to 10 inches. Soils within the basin consist of weathered parent rock derived from predominantly physical means mostly from eolian depositional system with fluvial having a lesser impact.

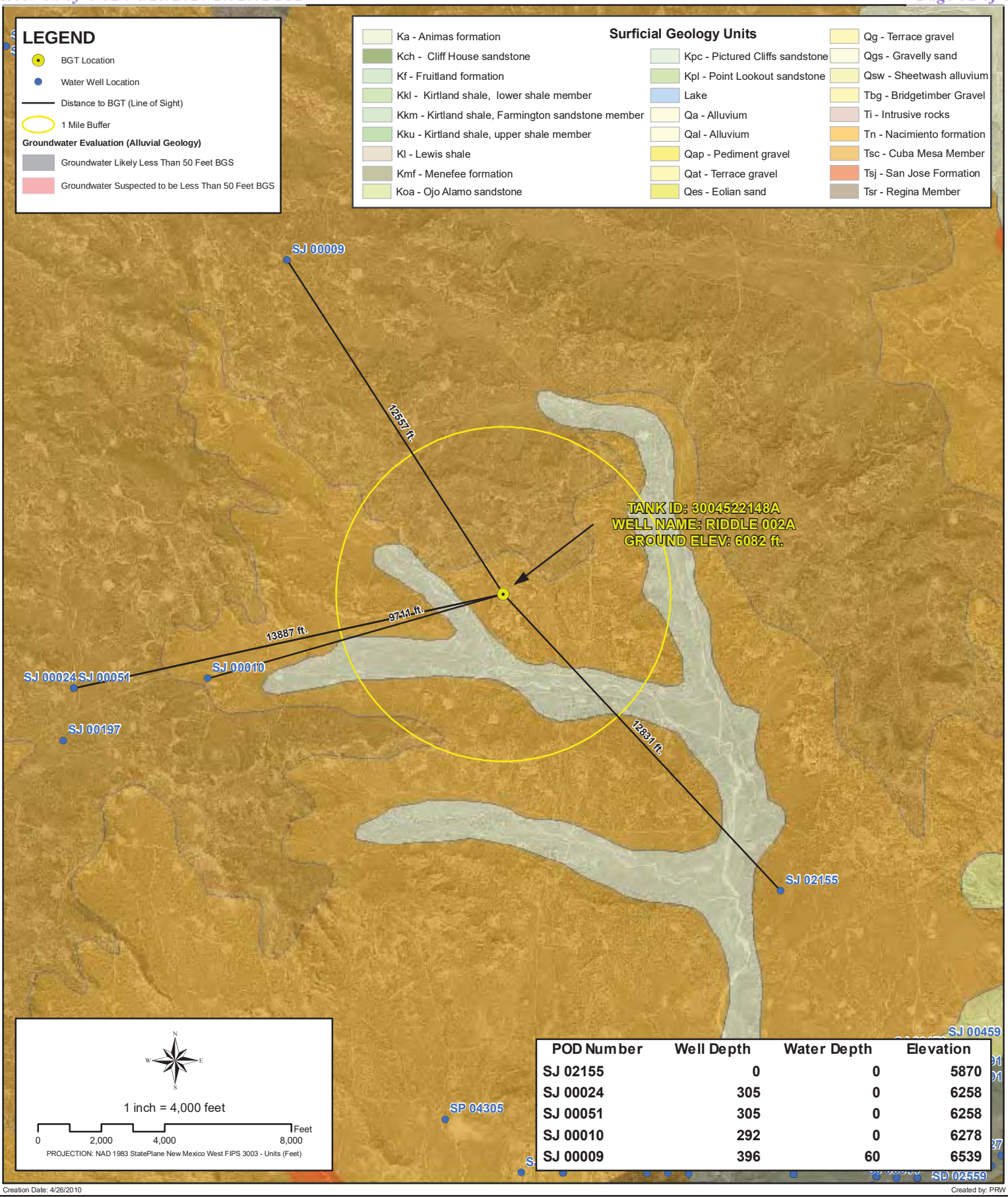
Cretaceous and Tertiary sandstones, as well as Quaternary Alluvial deposits, serve as the primary aquifers in the San Juan Basin (Stone et al., 1983). The Nacimiento Formation of Paleocene age

occurs at the surface in a broad belt at the western and southern edges of the central San Juan Basin and dips beneath the San Jose Formation in the center. The lower part of the Nacimiento Formation is composed of interbedded black, carbonaceous mudstones and white coarse-grained sandstones. The upper part is comprised of mudstone and sandstone. It is generally slopeforming, even within the sandstone units. Thickness of the Nacimiento ranges from 418 to 2232 feet. Aquifers within the coarser and continuous sandstone bodies of the Nacimiento Formation are between 0 and 1000 feet deep in this section of the basin. Wells within these bodies flow from 16 to 100 gallons per minute (gpm), and transmissivities are expected to be 100 ft^2/d (Stone et al, 1983). Groundwater within these aquifers flows toward the San Juan River.

References

Circular 154—Guidebook to coal geology of northwest New Mexico By E. C. Beaumont, J. W. Shomaker, W. J. Stone, and others, 1976

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



POD Number	Well Depth	Water Depth	Elevation
SJ 02155	0	0	5870
SJ 00024	305	0	6258
SJ 00051	305	0	6258
SJ 00010	292	0	6278
SJ 00009	396	60	6539

Creation Date: 4/26/2010 Created by: PRW
File Path: X:\BP\PASS\Sector_5\Sector_5B\MXDs\3004522148A.mxd Reviewed by: AGH

GROUNDWATER LESS THAN 50 FT.

WELL NAME: RIDDLE 002A

API NUMBER: 3004522148 TANK ID: 3004522148A

SECTION 17, TOWNSHIP 30.0N, RANGE 09W, P.M. NM23

FIGURE 1

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	SJ 00024	2	4	2	23	30N	10W	246083	4076508*

Driller License: **Driller Company:**

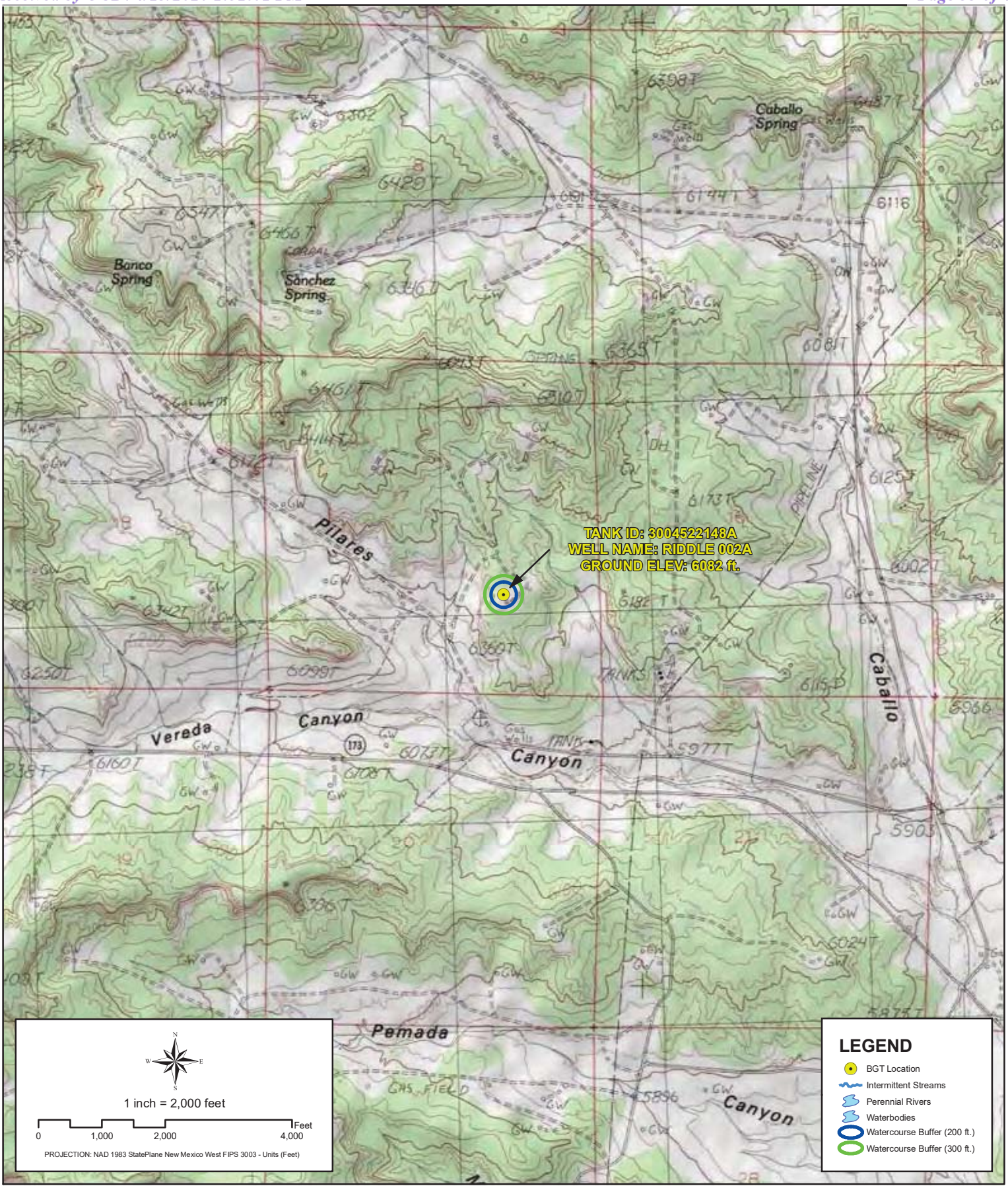
Driller Name:

Drill Start Date:	02/03/1953	**Drill Finish Date:**	02/03/1953	**Plug Date:**	
Log File Date:	12/03/1953	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	7.00	**Depth Well:**	305 feet	**Depth Water:**	

Water Bearing Stratifications:	Top	Bottom	Description
	285	305	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	285	305

***UTM location was derived from PLSS - see Help**



Creation Date: 4/26/2010 Created by: PRW

File Path: X:\BP\PASS\Sector_5\Sector_5B\MXDs\3004522148A.mxd Reviewed by: AGH

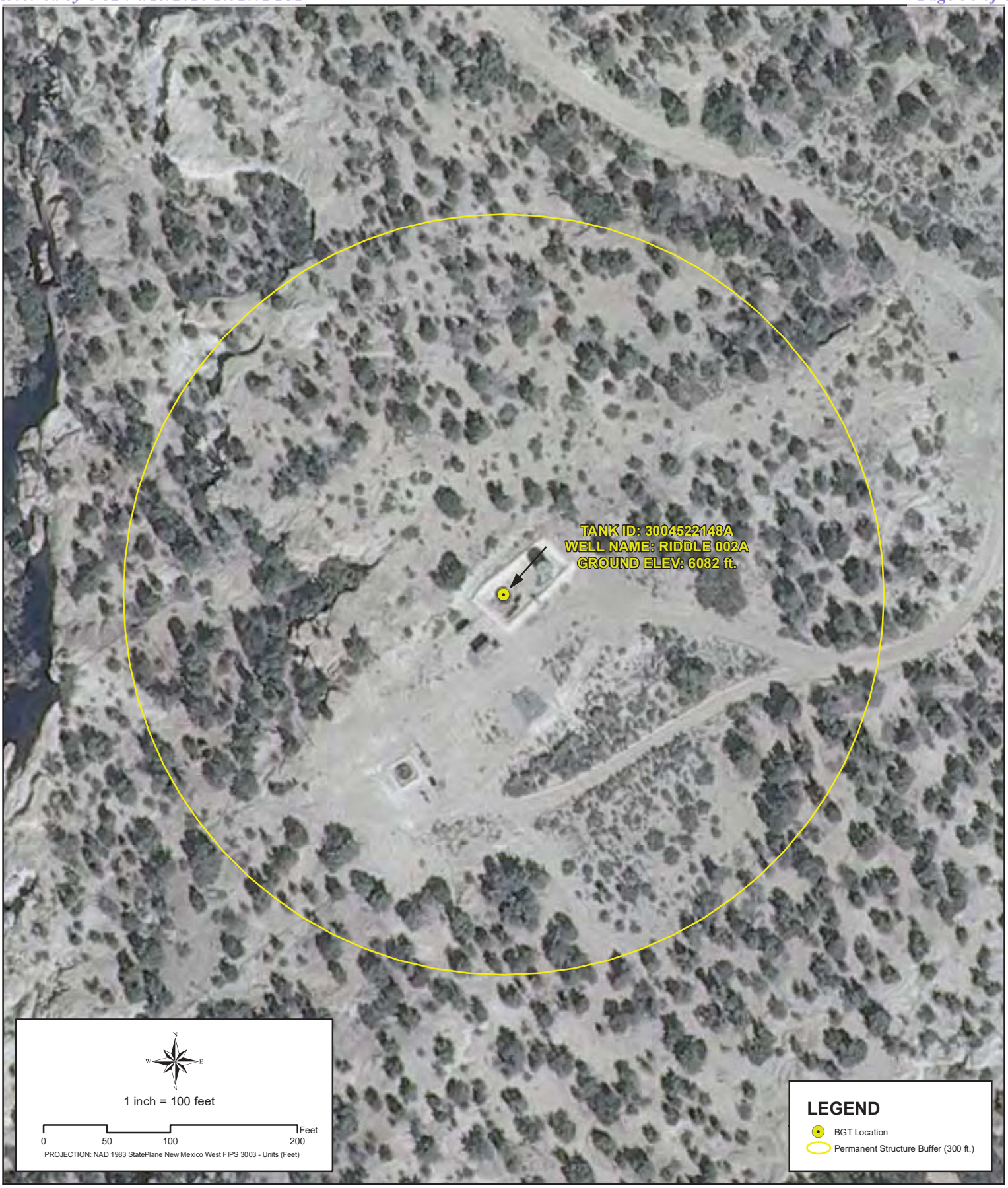
PROXIMITY TO WATERCOURSES

WELL NAME: RIDDLE 002A

API NUMBER: 3004522148 TANK ID: 3004522148A

SECTION 17, TOWNSHIP 30.0N, RANGE 09W, P.M. NM23

FIGURE 2



Creation Date: 4/26/2010 Created by: PRW

File Path: X:\BP\PASS\Sector_5\Sector_5B\MXDs\3004522148A.mxd Reviewed by: AGH

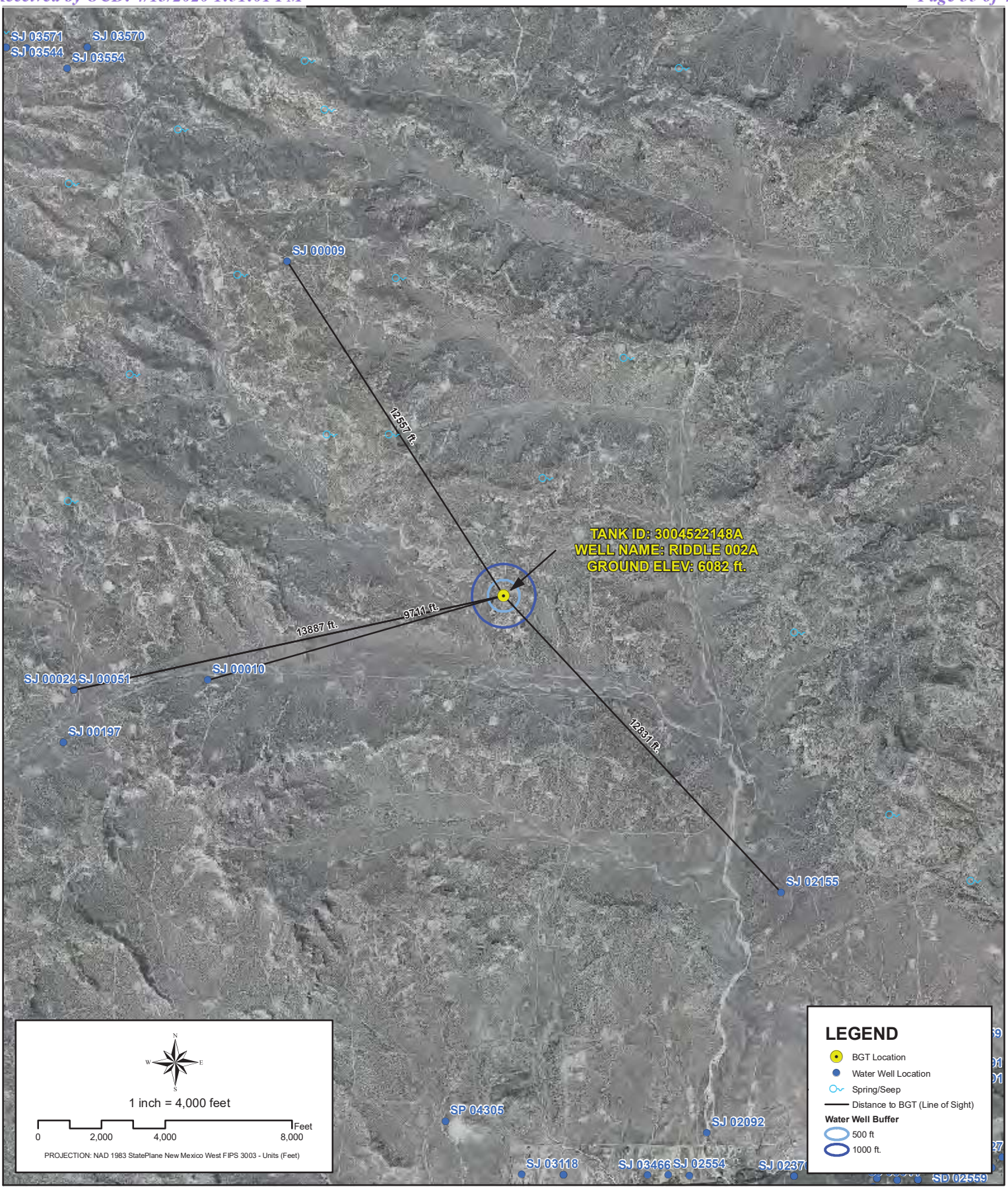
PROXIMITY TO PERMANENT STRUCTURE

WELL NAME: RIDDLE 002A

API NUMBER: 3004522148 TANK ID: 3004522148A

SECTION 17, TOWNSHIP 30.0N, RANGE 09W, P.M. NM23

FIGURE 3



Creation Date: 4/26/2010 Created by: PRW

File Path: X:\BP\PASS\Sector_5\Sector_5B\MXDs\3004522148A.mxd Reviewed by: AGH

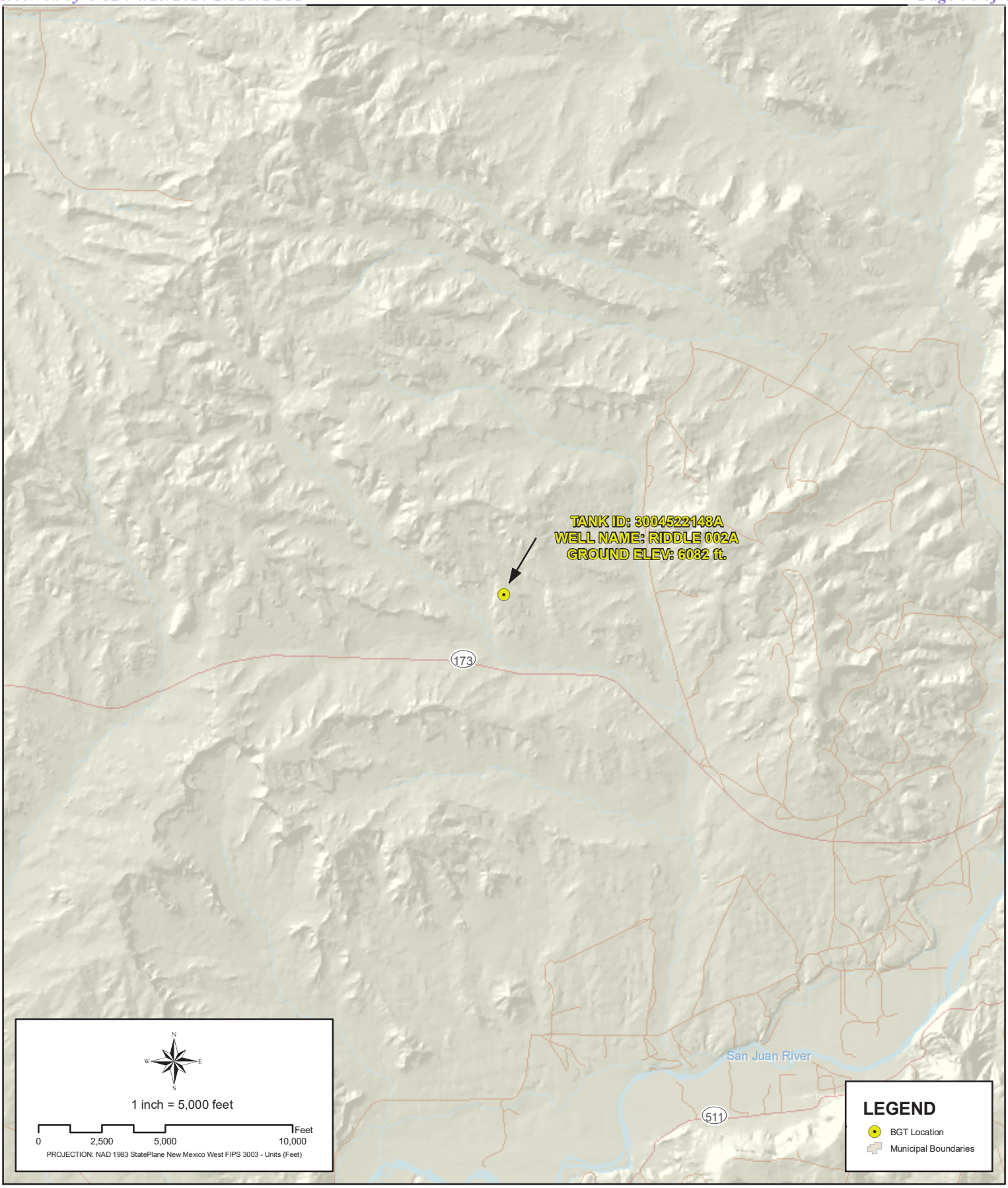
PROXIMITY TO WATER WELLS

WELL NAME: RIDDLE 002A

API NUMBER: 3004522148 TANK ID: 3004522148A

SECTION 17, TOWNSHIP 30.0N, RANGE 09W, P.M. NM23

FIGURE 4



Creation Date: 4/26/2010 Created by: PRW

File Path: X:\BP\PASS\Sector_5\Sector_5B\MXDs\3004522148A.mxd Reviewed by: AGH

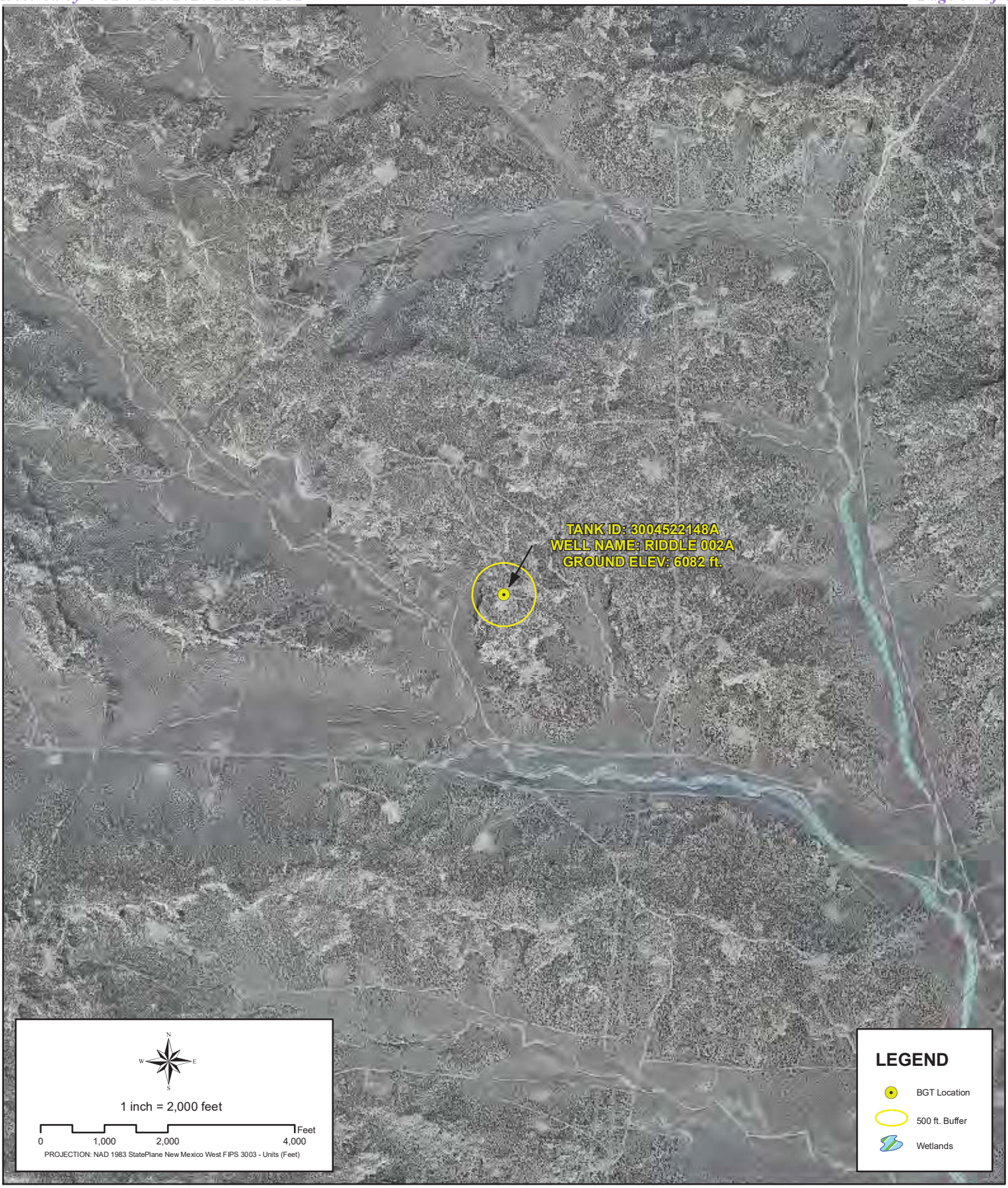
PROXIMITY TO MUNICIPAL BOUNDARY

WELL NAME: RIDDLE 002A

API NUMBER: 3004522148 TANK ID: 3004522148A

SECTION 17, TOWNSHIP 30.0N, RANGE 09W, P.M. NM23

FIGURE 5



Creation Date: 4/26/2010 Created by: PRW

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PROXIMITY TO WETLANDS

WELL NAME: RIDDLE 002A

API NUMBER: 3004522148 TANK ID: 3004522148A

SECTION 17, TOWNSHIP 30.0N, RANGE 09W, P.M. NM23

FIGURE 6

Creation Date: 4/26/2010 Created by: EBB

File Path: X:\BP\PASS\Sector_5\Sector_5B\MXDs\3004522148A.mxd Reviewed by: AGH

PROXIMITY TO SUBSURFACE MINES

WELL NAME: RIDDLE 002A

API NUMBER: 3004522148 TANK ID: 3004522148A

SECTION 17, TOWNSHIP 30.0N, RANGE 09W, P.M.NM23

FIGURE 7

Creation Date: 4/26/2010 Created by: PRW

File Path: X:\BP\PASS\Sector_5\Sector_5B\MXDs\3004522148A.mxd Reviewed by: AGH

PROXIMITY TO FLOODPLAIN

WELL NAME: RIDDLE 002A

API NUMBER: 3004522148 TANK ID: 3004522148A

SECTION 17, TOWNSHIP 30.0N, RANGE 09W, P.M. NM23

FIGURE 8

SOUTHERN SAN JUAN BASIN (SSJB)

Figure Citation List

March 2010

Figure 1: Groundwater Less Than 50 ft.

Layers:

Water Wells: **iWaters Database: NMOSE/ISC (Dec. 2009)**

New Mexico Office of the State Engineer (OSE) /ISC iWaters database. (Data updated: 12/2009. Data received: 03/09/2010). Data available from: http://www.ose.state.nm.us/waters_db_index.html.

Cathodic Wells: **Tierra Corrosion Control, Inc. (Aug. 2008)**

Tierra Corrosion Control, Inc. 1700 Schofield Ln. Farmington, NM 87401. Driller's Data Log. (Data collected: All data are associated with cathodic protection wells installed at BP facilities between 2008-2009. Data received: 05/06/2010).

Hydrogeological Evaluation: **Wright Water Engineers, Inc. (2008)**

Evaluation completed by Wright Water Engineers, Inc. Durango Office. Data created using digital statewide geology at 1:500,000 from USGS in combination with 10m Digital Elevation Model (DEM) from NRCS. (Data compiled: 2008.)

Results: Spatial Polygons representing "Groundwater likely to be less than 50 ft." and "Groundwater suspected to be less than 50 ft.".

Surficial Geology: **USGS (1963/1987)**

Data digitized and rectified by Geospatial Consultants. (Data digitized: 03/23/ 2010). Original hard copy maps sourced from United States Geological Survey (USGS). Data available from: http://pubs.er.usgs.gov/.

Geology, Structure and Uranium Deposits of the Shiprock Quadrangle, New Mexico and Arizonia. 1:250,000. I - 345. Compiled by Robert B. O'Sullivan and Helen M. Beikman. 1963.

Geologic Map of the Aztec 1 x 2 Quadrangle, Northwestern New Mexico and Southern Colorado. 1:250,000. I - 1730. Compiled by Kim Manley, Glenn R. Scott, and Reinhard A. Wobus. 1987.

Aerial Imagery: **Conoco (Summer 2009)**

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name: NAD_1983_StatePlane_New_Mexico_West_FIPS_3003_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

Figure 2: Proximity to Watercourses

Layers:

Perennial Streams: **NHD, USGS (2010)**

National Hydrography Dataset (NHD). U.S. Geological Survey. (Data last updated: 02/19/2010. Data received: 03/09/2010). High-resolution: 1:24,000. Digital Representation of USGS 24k Topographic map series with field updates as required. Data available from: http://nhd.usgs.gov/.

Intermittent Streams: **NHD, USGS (2010)**

National Hydrography Dataset (NHD). U.S. Geological Survey. (Data last updated: 02/19/2010. Data received: 03/09/2010). High-resolution: 1:24,000. Digital Representation of USGS 24k Topographic map series with field updates as required. Data available from: http://nhd.usgs.gov/.

Water Bodies: **NHD, USGS (2010)**

National Hydrography Dataset (NHD). U.S. Geological Survey. (Data last updated: 02/19/2010. Data received: 03/09/2010). High-resolution: 1:24,000. Digital representation of USGS 24k Topographic map series with field updates as required. Data available from: http://nhd.usgs.gov/.

USGS Topographic Maps: **USGS (2007)**

USGS 24k Topographic map series. 1:24000. Maps are seamless, scanned images of USGS paper topographic maps. Data available from: http://store.usgs.gov.

Figure 3: Proximity to Permanent Structure

Layers:

Aerial Imagery: **Conoco (Summer 2009)**

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name:
NAD_1983_StatePlane_New_Mexico_West_FIPS_3003_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

Figure 4: Proximity to Water Wells

Layers:

Water Wells: **iWaters Database: NMOSE/ISC (Dec. 2009)**

New Mexico Office of the State Engineer (OSE) /ISC iWaters database. (Data updated: 12/2009. Data received: 03/09/2010). Data available from: http://www.ose.state.nm.us/waters_db_index.html.

Springs/Seeps: **NHD, USGS (2010)**

National Hydrography Dataset (NHD). U.S. Geological Survey. (Data last updated: 02/19/2010. Data received: 03/09/2010). High-resolution: 1:24,000. Digital representation of USGS 24k Topographic map series with field updates as required. Data available from: http://nhd.usgs.gov/.

Aerial Imagery: **Conoco (Summer 2009)**

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name: NAD_1983_StatePlane_New_Mexico_West_FIPS_3003_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

Figure 5: Proximity to Municipal Boundary

Layers:

Municipal Boundary: **San Juan County, New Mexico (2010)**

Data provided by San Juan County GIS Division. (Data received: 03/25/2010).

Shaded Relief: **NED, USGS (1999)**

National Elevation Dataset (NED). U.S. Geological Survey, EROS Data Center. (Data created: 1999. Data downloaded: April, 2010). Resolution: 10 meter (1/3 arc-second). Data available from: http://ned.usgs.gov/.

StreetMap North America: **Tele Atlas North America, Inc., ESRI (2008)**

Data derived from Tele Atlas Dynamap/Transportation North America, version 5.2. (Data updated: annually. Data series issue: 2008).

Figure 6: Proximity to Wetlands

Layers:

Wetlands: **NWI (2010)**

National Wetlands Inventory (NWI). U.S Fish and Wildlife Service. (Data last updated: 09/25/2009. Data received: 03/21/2010). Data available from: http://www.fws.gov/wetlands/.

Aerial Imagery: **Conoco (Summer 2009)**

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name:
NAD_1983_StatePlane_New_Mexico_West_FIPS_3003_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

Figure 7: Proximity to Subsurface Mine

Layers:

Subsurface Mine: **NM Mining and Minerals Division (2010)**

New Mexico Mining and Minerals Division. (Data received: 03/12/2010). Contact: Susan Lucas Kamat, Geologist. Provided PLSS NM locations (Sections) for the two subsurface mines located in San Juan and Rio Arriba counties.

Aerial Imagery: **Conoco (Summer 2009)**

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name:
NAD_1983_StatePlane_New_Mexico_West_FIPS_3003_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

Figure 8: Proximity to FEMA Floodplain

Layers:

FEMA Floodplain: **FEMA (varying years)**

Data digitized and rectified by Wright Water Engineers, Inc. (Data digitized: August 2008). Digitized from hard copy Flood Insurance Rate Maps (FIRMs) (varying years) of San Juan County.

Aerial Imagery: **Conoco (Summer 2009)**

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name:
NAD_1983_StatePlane_New_Mexico_West_FIPS_3003_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.