

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

DENIED

Responsible Party: BP America Production Co	OGRID: 778	Closure - Remediation Variance
Contact Name: Steve Moskal	Contact Telephone: (505) 330-9179	
Contact email: steven.moskal@bpx.com	Incident # (assigned by OCD) NCS1916949750	
Contact mailing address: 1199 Main St., Suite 101, Durango CO, 81301		

Location of Release Source

Latitude: 36.7228889°

Longitude: -108.1172104°

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: GALLEGOS CANYON UNIT #505	Site Type: Natural Gas Production Well Pad
Date Release Discovered: March 6, 2019	API#: 30-045-28235

- Closure Report does not meet the requirements of 19.15.29.12.E (No Summary of Events)
- Variance Request does not meet the requirements of 19.15.29.14.A
Must submit a detailed description of why Operator is requesting Variance, and must clearly state why the variance is protective of fresh water human health and the environment.

Unit Letter	Section	Township	Range	County
P	17	T29N	R12W	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)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls): Unknown	Volume Recovered (bbls): 0 bbls
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls):	Volume Recovered (bbls):
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release:

Release of condensate and produced water caused from a storage tank integrity failure.

BP has found that the extent of the elevated chlorides appears to not be related to the below grade tank, but may in fact be naturally occurring. The attached document and lab results indicate that the chloride impact footprint far exceeds what is expected and is consistent across approximately 4' from ground surface. The estimated minimum disturbance is approximately 200'x150', or 3,000 square feet, based on current delineation points. Two thirds of this area is covered with native vegetation.

Further, based on the vegetation growth and density, it is apparent that the chloride serves no impact to plant vigor. The excavation and continued delineation would in fact be more detrimental to the area than to leave in place. Currently, the area is covered with native grasses and other plant species that are not exhibiting any type of stress. **BP request a variance to close this release.**

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? Greater than 25 bbls
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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> 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: _____ Title: _____	
Signature: _____ Date: _____	
email: _____ Telephone: _____	
<u>OCD Only</u>	
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?	<u>>100</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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.

State of New Mexico
Oil Conservation Division

Page 4

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: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

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: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

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: 1/31/2020

email: steven.moskal@bpx.com

Telephone: (505) 330-9179

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: **DENIED** Date: _____

Printed Name: _____ Title: _____

BP has found that the extent of the elevated chlorides appears to not be related to the below grade tank, but may in fact be naturally occurring. The attached document and lab results indicate that the chloride impact footprint far exceeds what is expected and is consistent across approximately 4' from ground surface. The estimated minimum disturbance is approximately 200'x150', or 3,000 square feet, based on current delineation points. Two thirds of this area is covered with native vegetation.

Further, based on the vegetation growth and density, it is apparent that the chloride serves no impact to plan vigor. The excavation and continued delineation would in fact be more detrimental to the area than to leave in place. Currently, the area is covered with native grasses and other plant species that are not exhibiting any type of stress. **BP requests a variance for closure of this release.**

SITE MAPS & PHOTOGRAPHS

GCU 505
(P) Sec 17 - T29N - R12W
API: 30-045-28235



Test Hole A

Received by OCD: 2/8/2019 11:51 AM Page 9 of 75

(70' NE of Excavation)



Test Hole B
Received by OCD: 2/3/2020 11:14:51 AM Page 10 of 75
(35' East of Excavation)



Test Hole C

Received by OGD: 2/5/2020 11:14:51 AM Page 11 of 75

(35' South of Excavation)



Test Hole D

Received by (35' West of Excavation) 2011/11/15 11:51 AM Page 12 of 75



Test Hole E

Received by OGD 2/5/2020 11:11:51 AM Page 13 of 75

(30' NW of Excavation)



Test Hole F

Received by OCD: 2/5/2020 11:11:51 AM Page 14 of 75



(P) Sec 17 - T29N - R12W
API: 30-045-28235



Possible Extent
of Impacts

June 19, 2019
Remedial Excavation
11' x 15' x 4.5' Deep

2'-4' Composite
CL-: Field Test = 212 ppm,
Lab Test = 127 ppm

2'-4' Composite:
CL-: Field Test = 432 ppm,
Lab Test = 219 ppm

11' Depth
CL-: Field Test = 684 ppm,
Lab Test = Pending

2'-4' Composite
CL-: Field Test = 1,380 ppm

2'-4' Composite
CL-: Field Test = 2,020 ppm,
Lab Test = 1,340 ppm

2'-4' Composite
CL-: Field Test = 388 ppm,
Lab Test = 143 ppm

LABORATORY DATA & REPORTS

GALLEGOS CANYON UNIT #505												
Lab Summary (Values in ppm)												
Sample ID	Date	Time	GRO	DRO	MRO	TPH	Benzene	Toluene	Ethylbenzene	Xylene	BTEX	Chloride
West Wall 10pt (1-4')	6/21/2019	3:10 PM	NS	NS	NS	NS	NS	NS	NS	NS	NS	1810
North Wall 10pt (1-4')	6/21/2019	3:17 PM	NS	NS	NS	NS	NS	NS	NS	NS	NS	1370
East Wall 10pt (1-4')	6/21/2019	3:24 PM	NS	NS	NS	NS	NS	NS	NS	NS	NS	503
South Wall 10 pt (1-4')	6/21/2019	3:31 PM	NS	NS	NS	NS	NS	NS	NS	NS	NS	1020
TH-A (70' NE)	6/24/2019	3:00 PM	NS	NS	NS	NS	NS	NS	NS	NS	NS	1210
TH-B (35' East)	6/24/2019	3:04 PM	NS	NS	NS	NS	NS	NS	NS	NS	NS	983
TH-C (35' South)	6/24/2019	3:08 PM	NS	NS	NS	NS	NS	NS	NS	NS	NS	827
TH-D (35' West)	6/24/2019	3:12 PM	NS	NS	NS	NS	NS	NS	NS	NS	NS	875
TH-E (30' NW)	6/24/2019	3:16 PM	NS	NS	NS	NS	NS	NS	NS	NS	NS	731
TH-F (100' East)	6/24/2019	4:22 PM	NS	NS	NS	NS	NS	NS	NS	NS	NS	113
Release Center @ -11'	6/19/2019	12:00 PM	NS	NS	NS	NS	NS	NS	NS	NS	NS	230
12' South of Fence (2'-4')	6/19/2019	2:03 PM	NS	NS	NS	NS	NS	NS	NS	NS	NS	1340
12' East of Fence (2'-4')	6/19/2019	2:25 PM	NS	NS	NS	NS	NS	NS	NS	NS	NS	219
20' South of Fence (2'-4')	6/19/2019	3:02 PM	NS	NS	NS	NS	NS	NS	NS	NS	NS	143
2' North of Fence (2'-4')	6/19/2019	3:13 PM	NS	NS	NS	NS	NS	NS	NS	NS	NS	127
5PC-TB @ 3' & 4' (21)	3/6/2019	10:20 AM	ND	ND	ND	ND	ND	ND	ND	ND	ND	1900
NMOCD Closure Standards (ppm)						100	10				50	600



Analytical Report

Report Summary

Client: BP America Production Co.

Samples Received: 6/25/2019

Job Number: 03143-0424

Work Order: P906111

Project Name/Location: GCU 505

Report Reviewed By:

A handwritten signature in black ink, appearing to read 'Walter Hinchman', is written over a light pink rectangular background.

Date: 7/2/19

Walter Hinchman, Laboratory Director



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.



BP America Production Co.
PO Box 22024
Tulsa OK, 74121-2024

Project Name: GCU 505
Project Number: 03143-0424
Project Manager: Steve Moskal

Reported:
07/02/19 09:43

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
TH-A (70' NE)	P906111-01A	Soil	06/24/19	06/25/19	Glass Jar, 4 oz.
TH-B (35' East)	P906111-02A	Soil	06/24/19	06/25/19	Glass Jar, 4 oz.
TH-C (35' South)	P906111-03A	Soil	06/24/19	06/25/19	Glass Jar, 4 oz.
TH-D (35' West)	P906111-04A	Soil	06/24/19	06/25/19	Glass Jar, 4 oz.
TH-E (30' NW)	P906111-05A	Soil	06/24/19	06/25/19	Glass Jar, 4 oz.
TH-F (100' East)	P906111-06A	Soil	06/24/19	06/25/19	Glass Jar, 4 oz.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	07/02/19 09:43

TH-A (70' NE)
P906111-01 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Anions by 300.0/9056A

Chloride	1210	20.0	mg/kg	1	1926020	06/26/19	06/26/19	EPA 300.0/9056A	
----------	------	------	-------	---	---------	----------	----------	--------------------	--

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	07/02/19 09:43

TH-B (35' East)

P906111-02 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Anions by 300.0/9056A

Chloride	983	20.0	mg/kg	1	1926020	06/26/19	06/26/19	EPA 300.0/9056A	
----------	-----	------	-------	---	---------	----------	----------	--------------------	--

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	07/02/19 09:43

TH-C (35' South)
P906111-03 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Anions by 300.0/9056A

Chloride	827	20.0	mg/kg	1	1926020	06/26/19	06/26/19	EPA 300.0/9056A	
----------	-----	------	-------	---	---------	----------	----------	--------------------	--

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	07/02/19 09:43

TH-D (35' West)

P906111-04 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Anions by 300.0/9056A

Chloride	875	20.0	mg/kg	1	1926020	06/26/19	06/26/19	EPA 300.0/9056A	
----------	-----	------	-------	---	---------	----------	----------	--------------------	--

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	07/02/19 09:43

TH-E (30' NW)

P906111-05 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Anions by 300.0/9056A

Chloride	731	20.0	mg/kg	1	1926020	06/26/19	06/26/19	EPA 300.0/9056A	
----------	-----	------	-------	---	---------	----------	----------	--------------------	--

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	07/02/19 09:43

TH-F (100' East)

P906111-06 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Anions by 300.0/9056A

Chloride	113	20.0	mg/kg	1	1926020	06/26/19	06/26/19	EPA 300.0/9056A	
----------	-----	------	-------	---	---------	----------	----------	--------------------	--

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	07/02/19 09:43

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 1926020 - Anion Extraction EPA 300.0/9056A**Blank (1926020-BLK1)**

Prepared & Analyzed: 06/26/19 1

Chloride	ND	20.0	mg/kg
----------	----	------	-------

LCS (1926020-BS1)

Prepared & Analyzed: 06/26/19 1

Chloride	255	20.0	mg/kg	250	102	90-110
----------	-----	------	-------	-----	-----	--------

Matrix Spike (1926020-MS1)**Source: P906110-01**

Prepared & Analyzed: 06/26/19 1

Chloride	258	20.0	mg/kg	250	ND	103	80-120
----------	-----	------	-------	-----	----	-----	--------

Matrix Spike Dup (1926020-MSD1)**Source: P906110-01**

Prepared & Analyzed: 06/26/19 1

Chloride	264	20.0	mg/kg	250	ND	106	80-120	2.51	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 may differ slightly.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	07/02/19 09:43

Notes and Definitions

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.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

Project Information					Chain of Custody		Lab Use Only		TAT		EPA Program				
Client: <u>BPX ENERGY</u>					Report Attention		Lab WO#		Job Number		1D	3D	RCRA	CWA	SDWA
Project: <u>GCW SOS</u>					Report due by: <u>JULY 3, 2019</u>		<u>P906111</u>		<u>03143-0424</u>						
Project Manager: <u>Steve Moskal</u>					Attention: <u>Steve Moskal / Jeff Blegg</u>		Analysis and Method								
Address:					Address:										
City, State, Zip					City, State, Zip		State								
Phone:					Phone:										
Email:					Email:		<div style="display: flex; justify-content: space-between;"> <div> DRO/ORO by 8015 GRO/DRO by 8015 BTEX by 8021 VOC by 8260 Metals 6010 Chloride 300.0 TPH 418.1 </div> <div> NM <input checked="" type="checkbox"/> CO <input type="checkbox"/> UT <input type="checkbox"/> AZ <input type="checkbox"/> </div> </div>								
Time Sampled	Date Sampled	Matrix	No Containers	Sample ID	Lab Number	Remarks									
1500	6/24/2019	SOIL	1	TH-A (70' NE)	1										
1504			1	TH-B (35' EAST)	2										
1508			1	TH-C (35' SOUTH)	3										
1512			1	TH-D (35' WEST)	4										
1516			1	TH-E (30' NW)	5										
1622			1	TH-F (100' EAST)	6										

Additional Instructions: BKX BPX
Contact Steve Moskal P.O. For this Project

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 Blegg

Relinquished by: (Signature) Jeff Blegg
Date 6/25/2019 Time 1337

Received by: (Signature) Ramona Lopez
Date 6/25/19 Time 1336

Relinquished by: (Signature) _____
Date _____ Time _____

Received by: (Signature) _____
Date _____ Time _____

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.



Analytical Report

Report Summary

Client: BP America Production Co.

Samples Received: 6/21/2019

Job Number: 03143-0424

Work Order: P906104

Project Name/Location: GCU 505

Report Reviewed By:

A handwritten signature in black ink, appearing to read 'Walter Hinchman', is written over a light blue rectangular background.

Date: 6/25/19

Walter Hinchman, Laboratory Director



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.



BP America Production Co.
PO Box 22024
Tulsa OK, 74121-2024

Project Name: GCU 505
Project Number: 03143-0424
Project Manager: Steve Moskal

Reported:
06/25/19 14:55

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
West Wall 10-pt (1'-4')	P906104-01A	Soil	06/21/19	06/21/19	Glass Jar, 4 oz.
North Wall 10-pt (1'-4')	P906104-02A	Soil	06/21/19	06/21/19	Glass Jar, 4 oz.
East Wall 10-pt (1'-4')	P906104-03A	Soil	06/21/19	06/21/19	Glass Jar, 4 oz.
South Wall 10-pt (1'-4')	P906104-04A	Soil	06/21/19	06/21/19	Glass Jar, 4 oz.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	06/25/19 14:55

West Wall 10-pt (1'-4')
P906104-01 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Anions by 300.0/9056A

Chloride	1810	20.0	mg/kg	1	1926001	06/24/19	06/24/19	EPA 300.0/9056A	
----------	------	------	-------	---	---------	----------	----------	--------------------	--

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	Reported: 06/25/19 14:55
PO Box 22024	Project Number:	03143-0424	
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	

North Wall 10-pt (1'-4')**P906104-02 (Solid)**

Reporting

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-------	-------	----------	-------	----------	----------	--------	-------

Anions by 300.0/9056A

Chloride	1370	20.0	mg/kg	1	1926001	06/24/19	06/24/19	EPA 300.0/9056A	
----------	-------------	------	-------	---	---------	----------	----------	--------------------	--

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	06/25/19 14:55

East Wall 10-pt (1'-4')
P906104-03 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Anions by 300.0/9056A

Chloride	503	20.0	mg/kg	1	1926001	06/24/19	06/24/19	EPA 300.0/9056A	
----------	-----	------	-------	---	---------	----------	----------	--------------------	--

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	06/25/19 14:55

South Wall 10-pt (1'-4')
P906104-04 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Anions by 300.0/9056A

Chloride	1020	20.0	mg/kg	1	1926001	06/24/19	06/24/19	EPA 300.0/9056A	
----------	------	------	-------	---	---------	----------	----------	--------------------	--

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	06/25/19 14:55

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 1926001 - Anion Extraction EPA 300.0/9056A**Blank (1926001-BLK1)**

Prepared: 06/24/19 0 Analyzed: 06/24/19 1

Chloride	ND	20.0	mg/kg							
----------	----	------	-------	--	--	--	--	--	--	--

LCS (1926001-BS1)

Prepared: 06/24/19 0 Analyzed: 06/24/19 1

Chloride	251	20.0	mg/kg	250		100	90-110			
----------	-----	------	-------	-----	--	-----	--------	--	--	--

Matrix Spike (1926001-MS1)**Source: P906104-01**

Prepared: 06/24/19 0 Analyzed: 06/24/19 1

Chloride	1220	20.0	mg/kg	250	1810	NR	80-120			SPK1
----------	------	------	-------	-----	------	----	--------	--	--	------

Matrix Spike Dup (1926001-MSD1)**Source: P906104-01**

Prepared: 06/24/19 0 Analyzed: 06/24/19 1

Chloride	1270	20.0	mg/kg	250	1810	NR	80-120	4.43	20	SPK1
----------	------	------	-------	-----	------	----	--------	------	----	------

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 may differ slightly.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	Reported: 06/25/19 14:55
PO Box 22024	Project Number:	03143-0424	
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	

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.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

Project Information

Client: BPX
 Project: GCU 505
 Project Manager: Steve Moskal
 Address:
 City, State, Zip
 Phone:
 Email:

Chain of Custody

Report Attention
 Report due by: JUNE 24, 2019
 Attention: Steve Moskal / Jeff Blagg
 Address:
 City, State, Zip
 Phone:
 Email:

Page 1 of 1

Lab Use Only

Lab WO# P 906104 Job Number 03143-0424
 TAT 1D 3D ☒ ☐
 EPA Program RCRA CWA SDWA

Analysis and Method

State

NM CO UT AZ
☒ ☐ ☐ ☐
 Remarks

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							
1510	6/21/19	SOIL	1	West Wall 10-pt (1'-4')	1						X								
1517			1	North Wall 10-pt (1'-4')	2						X								
1524			1	East Wall 10-pt (1'-4')	3						X								
1531			1	South Wall 10-pt (1'-4')	4						X								

Additional Instructions: Bill BPX
contact: Steve Moskal P.O. for this Project

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	Lab Use Only
<u>Jeff Blagg</u>	<u>6/21/19</u>	<u>1653</u>	<u>Raina Lopez</u>	<u>6/21/19</u>	<u>16:53</u>	Received on ice: <input checked="" type="checkbox"/> Y / N
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T1 T2 T3
						AVG Temp °C <u>4</u>

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.



5796 US Highway 64, Farmington, NM 87401
 Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865
 Ph (970) 259-0615 Fx (800) 362-1879

envirotech-inc.com
 Laboratory: envirotech-inc.com



Analytical Report

Report Summary

Client: BP America Production Co.

Samples Received: 6/19/2019

Job Number: 03143-0424

Work Order: P906088

Project Name/Location: GCU 505

Report Reviewed By:

A handwritten signature in black ink, appearing to read 'Walter Hinchman', is written over a light blue rectangular background.

Date: 6/26/19

Walter Hinchman, Laboratory Director



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.



BP America Production Co.	Project Name:	GCU 505	Reported: 06/26/19 09:48
PO Box 22024	Project Number:	03143-0424	
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Release Center @ -11'	P906088-01A	Soil	06/19/19	06/19/19	Glass Jar, 4 oz.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	06/26/19 09:48

Release Center @ -11'
P906088-01 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Anions by 300.0/9056A

Chloride	230	20.0	mg/kg	1	1925040	06/21/19	06/21/19	EPA 300.0/9056A	
----------	-----	------	-------	---	---------	----------	----------	--------------------	--

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	06/26/19 09:48

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 1925040 - Anion Extraction EPA 300.0/9056A

Blank (1925040-BLK1)

Prepared: 06/21/19 0 Analyzed: 06/21/19 1

Chloride	ND	20.0	mg/kg							
----------	----	------	-------	--	--	--	--	--	--	--

LCS (1925040-BS1)

Prepared: 06/21/19 0 Analyzed: 06/21/19 1

Chloride	252	20.0	mg/kg	250		101	90-110			
----------	-----	------	-------	-----	--	-----	--------	--	--	--

Matrix Spike (1925040-MS1)

Source: P906094-01

Prepared: 06/21/19 0 Analyzed: 06/21/19 1

Chloride	263	20.0	mg/kg	250	ND	105	80-120			
----------	-----	------	-------	-----	----	-----	--------	--	--	--

Matrix Spike Dup (1925040-MSD1)

Source: P906094-01

Prepared: 06/21/19 0 Analyzed: 06/21/19 1

Chloride	263	20.0	mg/kg	250	ND	105	80-120	0.0608	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 may differ slightly.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	06/26/19 09:48

Notes and Definitions

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.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

Project Information

Chain of Custody

Page 1 of 1

Client: BPX
 Project: GCW 505
 Project Manager: Steve Moskal
 Address:
 City, State, Zip
 Phone:
 Email:

Report Attention

Report due by: 6/27/2019
 Attention: Steve Moskal / Jeff Blagg
 Address:
 City, State, Zip
 Phone:
 Email:

Lab Use Only

TAT

EPA Program

Lab WO#

Job Number

1D

3D

RCRA

CWA

SDWA

P906088

03143-0424

Analysis and Method

State

DRO/ORO by 8015

GRO/DRO by 8015

BTEX by 8021

VOC by 8260

Metals 6010

Chloride 300.0

TPH 418.1

NM

CO

UT

AZ

Remarks

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	1D	3D	RCRA	CWA	SDWA	State	Remarks
1200	6/19/19	SOIL	1	Release Center @ -11'	1						X								

Additional Instructions:

Bill BPX
 P.O. to be Prepared

v-side in cooler

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling 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

Lab Use Only

Received on ice:

Y / N

Relinquished by: (Signature)

Date

Time

Received by: (Signature)

Date

Time

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



5796 US Highway 64, Farmington, NM 87401

Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fr (800) 362-1879

envirotech-inc.com
 Laboratory: envirotech-inc.com



Analytical Report

Report Summary

Client: BP America Production Co.

Samples Received: 6/19/2019

Job Number: 03143-0424

Work Order: P906087

Project Name/Location: GCU 505

Report Reviewed By:

A handwritten signature in black ink, appearing to read 'Walter Hinchman', is written over a light pink rectangular background.

Date: 6/21/19

Walter Hinchman, Laboratory Director



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.



BP America Production Co.	Project Name:	GCU 505	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	06/21/19 11:35

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
12' South of Fence (2'-4')	P906087-01A	Soil	06/19/19	06/19/19	Glass Jar, 4 oz.
12' East of Fence (2'-4')	P906087-02A	Soil	06/19/19	06/19/19	Glass Jar, 4 oz.
20' South of Fence (2'-4')	P906087-03A	Soil	06/19/19	06/19/19	Glass Jar, 4 oz.
2' North of Fence (2'-4')	P906087-04A	Soil	06/19/19	06/19/19	Glass Jar, 4 oz.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	06/21/19 11:35

12' South of Fence (2'-4')
P906087-01 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Anions by 300.0/9056A

Chloride	1340	20.0	mg/kg	1	1925028	06/19/19	06/20/19	EPA 300.0/9056A	
----------	------	------	-------	---	---------	----------	----------	--------------------	--

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	06/21/19 11:35

12' East of Fence (2'-4')
P906087-02 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Anions by 300.0/9056A

Chloride	219	20.0	mg/kg	1	1925028	06/19/19	06/20/19	EPA 300.0/9056A	
----------	-----	------	-------	---	---------	----------	----------	--------------------	--

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	06/21/19 11:35

20' South of Fence (2'-4')
P906087-03 (Solid)

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Anions by 300.0/9056A

Chloride	143	20.0	mg/kg	1	1925028	06/19/19	06/20/19	EPA 300.0/9056A	
----------	-----	------	-------	---	---------	----------	----------	--------------------	--

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	06/21/19 11:35

2' North of Fence (2'-4')**P906087-04 (Solid)**

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

Anions by 300.0/9056A

Chloride	127	20.0	mg/kg	1	1925028	06/19/19	06/20/19	EPA 300.0/9056A	
----------	-----	------	-------	---	---------	----------	----------	--------------------	--

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	06/21/19 11:35

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 1925028 - Anion Extraction EPA 300.0/9056A

Blank (1925028-BLK1)

Prepared: 06/19/19 1 Analyzed: 06/20/19 0

Chloride	ND	20.0	mg/kg							
----------	----	------	-------	--	--	--	--	--	--	--

LCS (1925028-BS1)

Prepared: 06/19/19 1 Analyzed: 06/20/19 0

Chloride	268	20.0	mg/kg	250		107	90-110			
----------	-----	------	-------	-----	--	-----	--------	--	--	--

Matrix Spike (1925028-MS1)

Source: P906086-01

Prepared: 06/19/19 1 Analyzed: 06/20/19 1

Chloride	265	20.0	mg/kg	250	ND	106	80-120			
----------	-----	------	-------	-----	----	-----	--------	--	--	--

Matrix Spike Dup (1925028-MSD1)

Source: P906086-01

Prepared: 06/19/19 1 Analyzed: 06/20/19 1

Chloride	267	20.0	mg/kg	250	ND	107	80-120	0.644	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 may differ slightly.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.



BP America Production Co.	Project Name:	GCU 505	
PO Box 22024	Project Number:	03143-0424	Reported:
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	06/21/19 11:35

Notes and Definitions

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.

Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc.

Project Information

Chain of Custody

Page 1 of 1

Client: BPX
 Project: GCW SOS
 Project Manager: Steve Moskal
 Address: _____
 City, State, Zip _____
 Phone: _____
 Email: _____

Report Attention

Report due by: 6/20/2019
 Attention: Jeff Blagg / Steve Moskal
 Address: _____
 City, State, Zip _____
 Phone: _____
 Email: _____

Lab Use Only

TAT

EPA Program

Lab WO#

Job Number

1D

3D

RCRA

CWA

SDWA

P906087

03143-0424

☒

Analysis and Method

State

DRO/ORO by 8015

GRO/DRO by 8015

BTEX by 8021

VOC by 8260

Metals 6010

Chloride 300.0

TPH 418.1

NM

CO

UT

AZ

Remarks

Time Sampled	Date Sampled	Matrix	No Containers	Sample ID	Lab Number	DRO/ORO	GRO/DRO	BTEX by	VOC by	Metals 6	Chloride	TPH 418							Remarks
1403	6/19/2019	SOIL	1	12' South of Fence (2'-4')	1						X								
1425			1	12' EAST OF Fence (2'-4')	2						X								
1502			1	20' South of Fence (2'-4')	3						X								
1513			1	2' NORTH OF Fence (2'-4')	4						X								

Additional Instructions: Bill BPX P.O. to be Prepared

Vis. in cooler

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling 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

Relinquished by: (Signature)

Date

Time

Received by: (Signature)

Date

Time

Lab Use Only

Received on ice: Y / N

T1

T2

T3

AVG Temp °C 4Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - OtherContainer 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.



5796 US Highway 64, Farmington, NM 87401
 Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865
 Ph (970) 259-0615 Fx (800) 362-1879

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

**BELOW GRADE TANK
CLOSURE INFO
3/6/2019**

CLIENT:

BPX

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

API #: 3004528235
TANK ID (if applicable): A

FIELD REPORT:

(circle one):

BGT CONFIRMATION

 / RELEASE INVESTIGATION / OTHER:

PAGE #: 1 of 1

SITE INFORMATION:

SITE NAME: GCU # 505

QUAD/UNIT: P SEC: 17 TWP: 29N RNG: 12W PM: NM CNTY: SJ ST: NM

1/4 -1/4/FOOTAGE: 1,204'S / 1,160'E SE/SE LEASE TYPE:

FEDERAL

 / STATE / FEE / INDIAN

LEASE #: SF080491 PROD. FORMATION: FT CONTRACTOR: CROSSFIRE
BPX - D. BULLER

DATE STARTED: 03/06/19

DATE FINISHED:

ENVIRONMENTAL SPECIALIST(S): NJV

REFERENCE POINT:

WELL HEAD (W.H.) GPS COORD.: 36.722894 X 108.117216 GL ELEV.: 5,693'

1) 21 BGT (SW/DB) GPS COORD.: 36.722916 X 108.116599 DISTANCE/BEARING FROM W.H.: 181', N87.5E

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

1) SAMPLE ID: 5PC - TB @ 3'-4' (21) SAMPLE DATE: 03/06/19 SAMPLE TIME: 1020 LAB ANALYSIS: 8015B/8021B/300.0 (CI) OVM READING (ppm) NA

2) SAMPLE ID: SAMPLE DATE: SAMPLE TIME: LAB ANALYSIS:

3) SAMPLE ID: SAMPLE DATE: SAMPLE TIME: LAB ANALYSIS:

4) SAMPLE ID: SAMPLE DATE: SAMPLE TIME: LAB ANALYSIS:

5) SAMPLE ID: SAMPLE DATE: SAMPLE TIME: LAB ANALYSIS:

SOIL DESCRIPTION:

SOIL TYPE:

SAND

 SILTY SAND / SILT / SILTY CLAY / CLAY

GRAVEL

 OTHER

SOIL COLOR: DARK YELLOWISH ORANGE

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

COHESION (ALL OTHERS):

NON COHESIVE

 SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE

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

CONSISTENCY (NON COHESIVE SOILS):

LOOSE

FIRM

 DENSE / VERY DENSE

HC ODOR DETECTED: YES

NO

 EXPLANATION -

MOISTURE: DRY

SLIGHTLY MOIST

 MOIST / WET / SATURATED / SUPER SATURATED

SAMPLE TYPE: GRAB

COMPOSITE

 # OF PTS. 5

ANY AREAS DISPLAYING WETNESS: YES

NO

 EXPLANATION -

DISCOLORATION/STAINING OBSERVED: 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 - 45 BBL ABOVE-GRADE TANK (AGT) SET ATOP BGT LOCATION.

OTHER: NMOCD OR BLM REPS. NOT PRESENT TO WITNESS CONFIRMATION SAMPLING. 45 BBL AGT WAS REMOVED PRIOR TO TEST HOLE ADVANCE - MENT. 21 BBL BGT BOTTOM WAS APPROXIMATELY 3 FT. BELOW GRADE DURING ITS EXISTENCE.

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

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

SITE SKETCH

BGT Located : off

on

 site

PLOT PLAN circle: attached

OVM CALIB. READ. = NA ppm RF=1.00

OVM CALIB. GAS = NA ppm

TIME: NA am/pm DATE: NA

N

BERM

FENCE

FIBERGLASS HOUSING

PBGTL T.B. ~ 3' B.G.

TO W.H.

X - S.P.D.

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.

MISCELL. NOTES

PO #: 4301062122

REF #:

VID:

PJ #:

Permit date(s): 02/13/19

OCD Appr. date(s): 02/22/19

Tank ID A 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: GOOGLE EARTH IMAGERY DATE: 3/15/2015. ONSITE: 03/06/19

revised: 11/26/13

BEI1005E-6.SKF

Analytical Report

Lab Order 1903282

Date Reported: 3/8/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: 5PC-TB @ 3' & 4' (21)

Project: GCU 505

Collection Date: 3/6/2019 10:20:00 AM

Lab ID: 1903282-001

Matrix: SOIL

Received Date: 3/7/2019 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	1900	60		mg/Kg	20	3/7/2019 12:17:24 PM	43555
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/7/2019 11:04:23 AM	43552
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/7/2019 11:04:23 AM	43552
Surr: DNOP	93.5	70-130		%Rec	1	3/7/2019 11:04:23 AM	43552
EPA METHOD 8015D: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	3/7/2019 9:28:57 AM	43530
Surr: BFB	93.4	73.8-119		%Rec	1	3/7/2019 9:28:57 AM	43530
EPA METHOD 8021B: VOLATILES							Analyst: RAA
Benzene	ND	0.019		mg/Kg	1	3/7/2019 9:28:57 AM	43530
Toluene	ND	0.038		mg/Kg	1	3/7/2019 9:28:57 AM	43530
Ethylbenzene	ND	0.038		mg/Kg	1	3/7/2019 9:28:57 AM	43530
Xylenes, Total	ND	0.077		mg/Kg	1	3/7/2019 9:28:57 AM	43530
Surr: 4-Bromofluorobenzene	99.3	80-120		%Rec	1	3/7/2019 9:28:57 AM	43530

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 Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Client: **BLAGG ENGR. / BP AMERICA**

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

Phone #: **(505) 632-1199**

email or Fax#:

QA/QC Package:

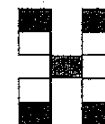
☒ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:	
<input type="checkbox"/> Standard	<input checked="" type="checkbox"/> Rush SAME DAY
Project Name:	
GCU # 505	
Project #:	
Project Manager:	
STEVE MOSKAL	
Sampler: NELSON VELEZ	
On Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Sample Temperature:	0



www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

[illegible]

Date: 3/6/19	Time: 1630	Relinquished by: [Signature]	Received by: [Signature]	Date 3/6/19	Time 1630
Date: 3/6/19	Time: 1814	Relinquished by: [Signature]	Received by: [Signature]	Date 03/07/19	Time 0700

Remarks: BILL DIRECTLY TO BP USING THE CONTACT WITH CORRESPONDING
VID: P.O. TO BE SENT. 91
CONTACT: STEVE MOSKAL / DON BULLER
VID: VHXONEVRM 21

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#: 1903282

08-Mar-19

Client: Blagg Engineering**Project:** GCU 505

Sample ID: MB-43555	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 43555	RunNo: 58187								
Prep Date: 3/7/2019	Analysis Date: 3/7/2019	SeqNo: 1952520	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-43555	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 43555	RunNo: 58187								
Prep Date: 3/7/2019	Analysis Date: 3/7/2019	SeqNo: 1952521	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.0	90	110			

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 Quantitative 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 Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1903282

08-Mar-19

Client: Blagg Engineering**Project:** GCU 505

Sample ID: LCS-43552	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 43552	RunNo: 58182								
Prep Date: 3/7/2019	Analysis Date: 3/7/2019	SeqNo: 1951337	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	10	50.00	0	82.8	63.9	124			
Surr: DNOP	4.3		5.000		86.0	70	130			

Sample ID: MB-43552	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 43552	RunNo: 58182								
Prep Date: 3/7/2019	Analysis Date: 3/7/2019	SeqNo: 1951338	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	9.2		10.00		92.2	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 Quantitative 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 Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1903282

08-Mar-19

Client: Blagg Engineering**Project:** GCU 505

Sample ID: LCS-43530	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 43530	RunNo: 58169								
Prep Date: 3/6/2019	Analysis Date: 3/7/2019	SeqNo: 1950867	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	80.1	123			
Surr: BFB	1100		1000		107	73.8	119			

Sample ID: MB-43530	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 43530	RunNo: 58169								
Prep Date: 3/6/2019	Analysis Date: 3/7/2019	SeqNo: 1950899	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	960		1000		95.6	73.8	119			

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 Quantitative 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 Detection Limit
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1903282

08-Mar-19

Client: Blagg Engineering**Project:** GCU 505

Sample ID: LCS-43530	SampType: LCS			TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS	Batch ID: 43530			RunNo: 58169						
Prep Date: 3/6/2019	Analysis Date: 3/7/2019			SeqNo: 1950868		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	94.0	80	120			
Toluene	0.98	0.050	1.000	0	98.3	80	120			
Ethylbenzene	0.99	0.050	1.000	0	98.9	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		99.6	80	120			

Sample ID: MB-43530	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch ID: 43530			RunNo: 58169						
Prep Date: 3/6/2019	Analysis Date: 3/7/2019			SeqNo: 1950900		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	1.0		1.000		102	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 Quantitative 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 Detection Limit
W Sample container temperature is out of limit as specified



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: **1903282**RcptNo: **1**Received By: **Anne Thorne**

3/7/2019 7:10:00 AM

Completed By: **Anne Thorne**

3/7/2019 7:23:49 AM

Reviewed By: **SO**

3/7/19

Labeled by: AT 03/07/19

Chain of Custody1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐2. How was the sample delivered? CourierLog In3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ 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? Yes ☒ No ☐

(Note discrepancies on chain of custody)

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? Yes ☒ No ☐

(If no, notify customer for authorization.)

of preserved bottles checked for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			



SITE RANKING CRITERIA

SITING AND HYDRO-GEOLOGICAL REPORT FOR GALLEGOS CANYON UNIT 505

Siting Criteria 19.15.17.10 NMAC

Depth to groundwater at the site is estimated to be greater than 100 feet (ft.) below grade (b.g.). 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 (NMOSE). Local topography and proximity to adjacent water features were also considered. Figure 1, utilized from the adjacent well site's (GCU 134E) 95 barrel bgt permit, and an aerial map provided as Figure 1A, demonstrates that there are no freshwater wells or springs within 200 ft. of the below-grade tank (BGT). A topographic map (Figure 2) demonstrates that the BGT is not within 100 ft. of any continuously flowing watercourse or any other significant watercourse, lakebed, sinkhole or playa lake as measured from the ordinary high water mark. Figure 3, also utilized from the GCU 134E bgt permit, demonstrates that the BGT is not within 500 ft. of a wetland. Figure 4, once again utilized from the GCU 134E bgt permit, demonstrates that the BGT is not within the mapped FEMA 100-year floodplain. The BGT locations from both the GCU 134E and GCU 505 are within 320 ft. of each other.

Local Geology and Hydrology

This particular site is located on a mesa top, north of the San Juan River within the Nacimiento Formation between the Animas and San Juan Rivers. The nearest water well found is POD SJ01566 (attached) and located in NW/4 SW/4, Section 8, T29.0N, R12W, 1.3 miles, north of the GCU 505 well site (ground elevation – 5,693 ft.). POD SJ01566 had recorded depth to water at 60 ft. b.g. and its current ground elevation is approximately 5,635 ft.; resulting in depth to water elevation of 5,575 ft. The San Juan River is south of the site, approximately 1.5 miles away and 300 ft. lower in elevation.

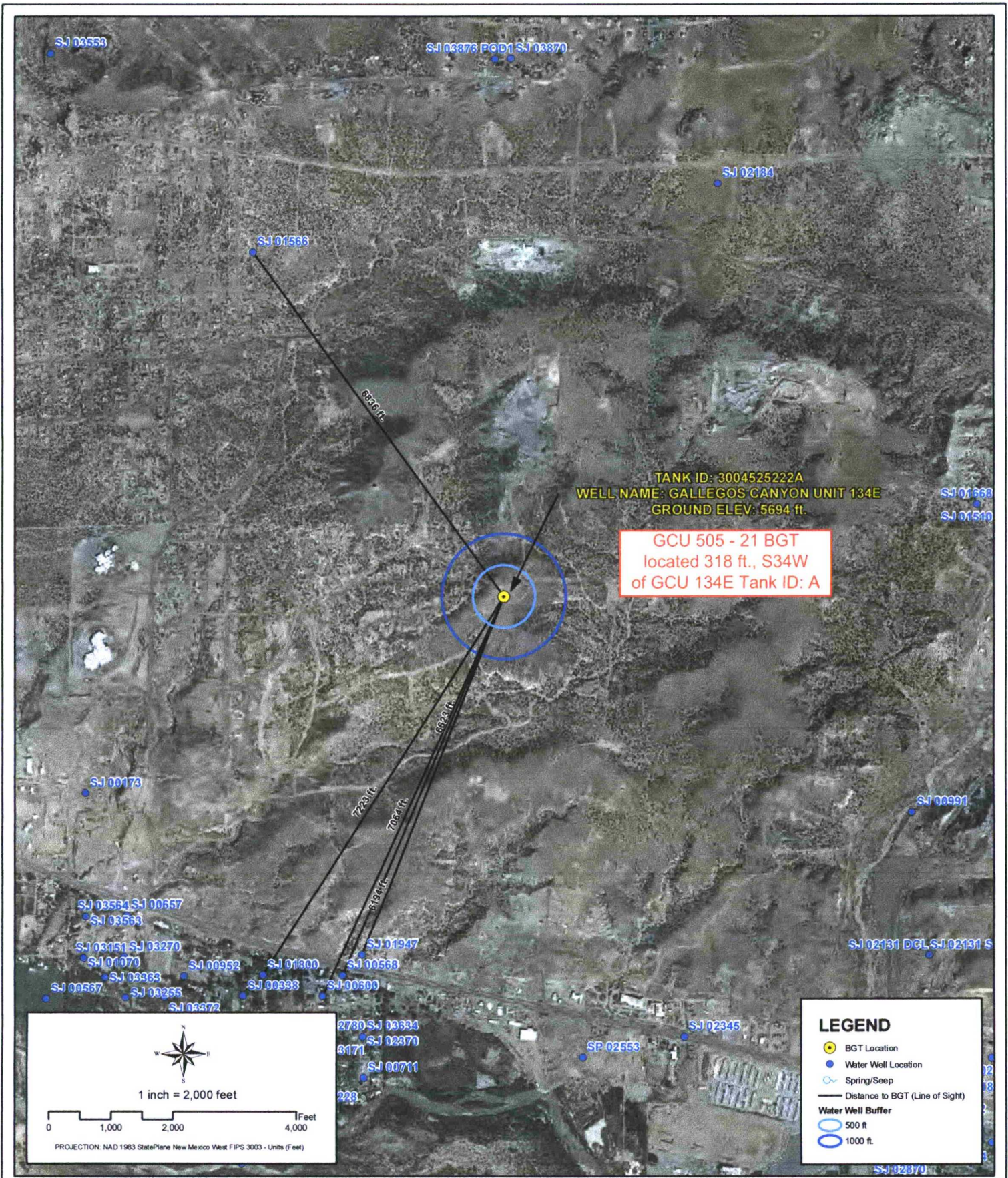
Regional Geology and Hydrology

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). In most of the proposed area, the Nacimiento Formation lies at the surface and grades into the Animas Formation to the west. 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 slope-forming, even within the sandstone units. Thickness of the Nacimiento ranges from 418 to 2,232 ft. (Stone et al., 1983). Aquifers within the coarser and continuous sandstone bodies of the Nacimiento Formation are between 0 and 1,000 ft. 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 ft²/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



PROXIMITY TO WATER WELLS
WELL NAME: GALLEGOS CANYON UNIT 134E
API NUMBER: 3004525222 TANK ID: 3004525222A
SECTION 17, TOWNSHIP 29.0N, RANGE 12W, P.M. NM23

FIGURE
1

BPX - GCU 505

BP(P) Section 17, T29N, R12W
API #: 3004528235

Imagery date: 3/15/2015
WH GPS Coord.: 36.722894,-108.117216
21 BGT GPS Coord.: 36.722916,-108.116599

FIGURE 1A

200 ft. radius
from 21 BGT center

21 BGT

WH

Google Earth

© 2018 Google

200 ft

N

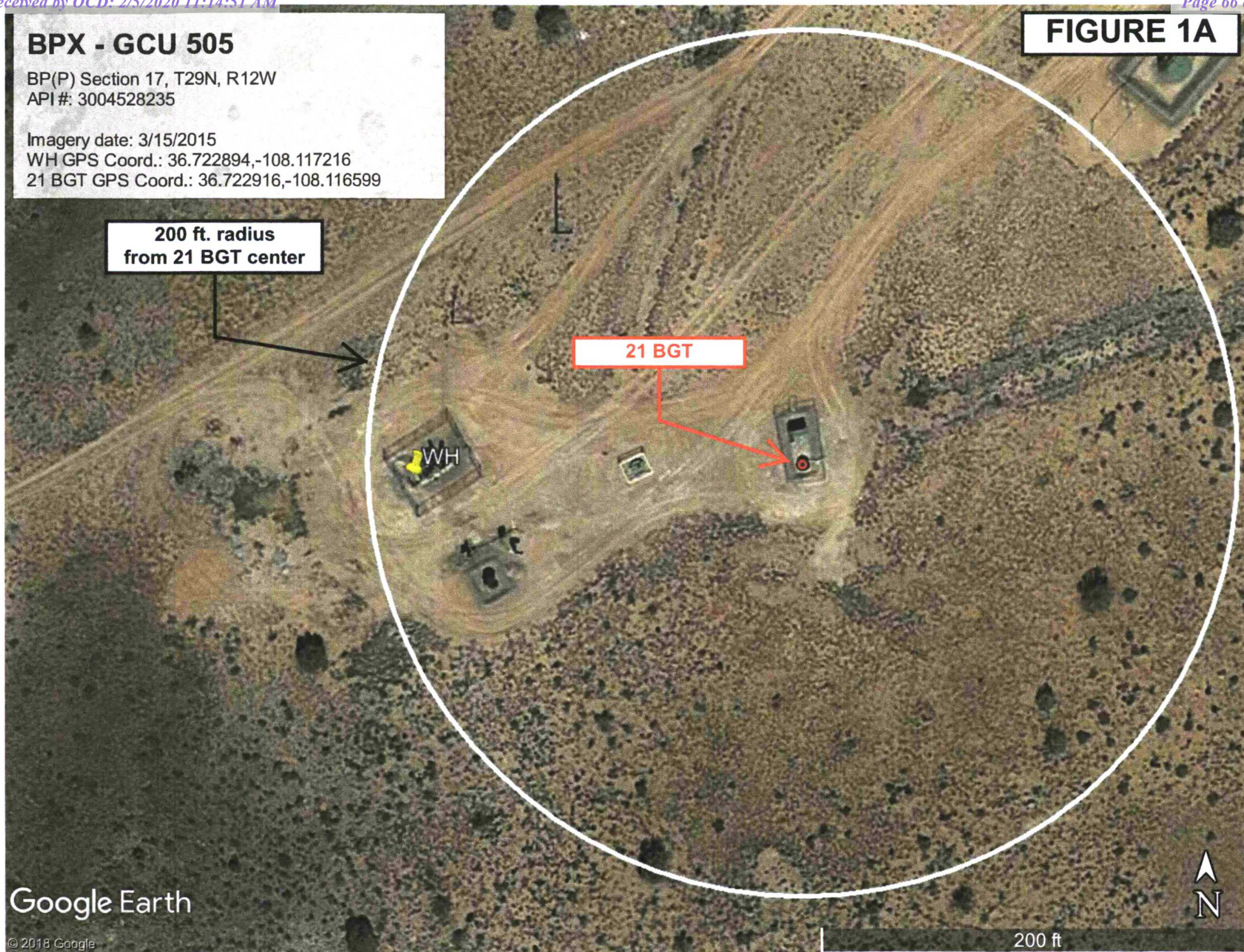
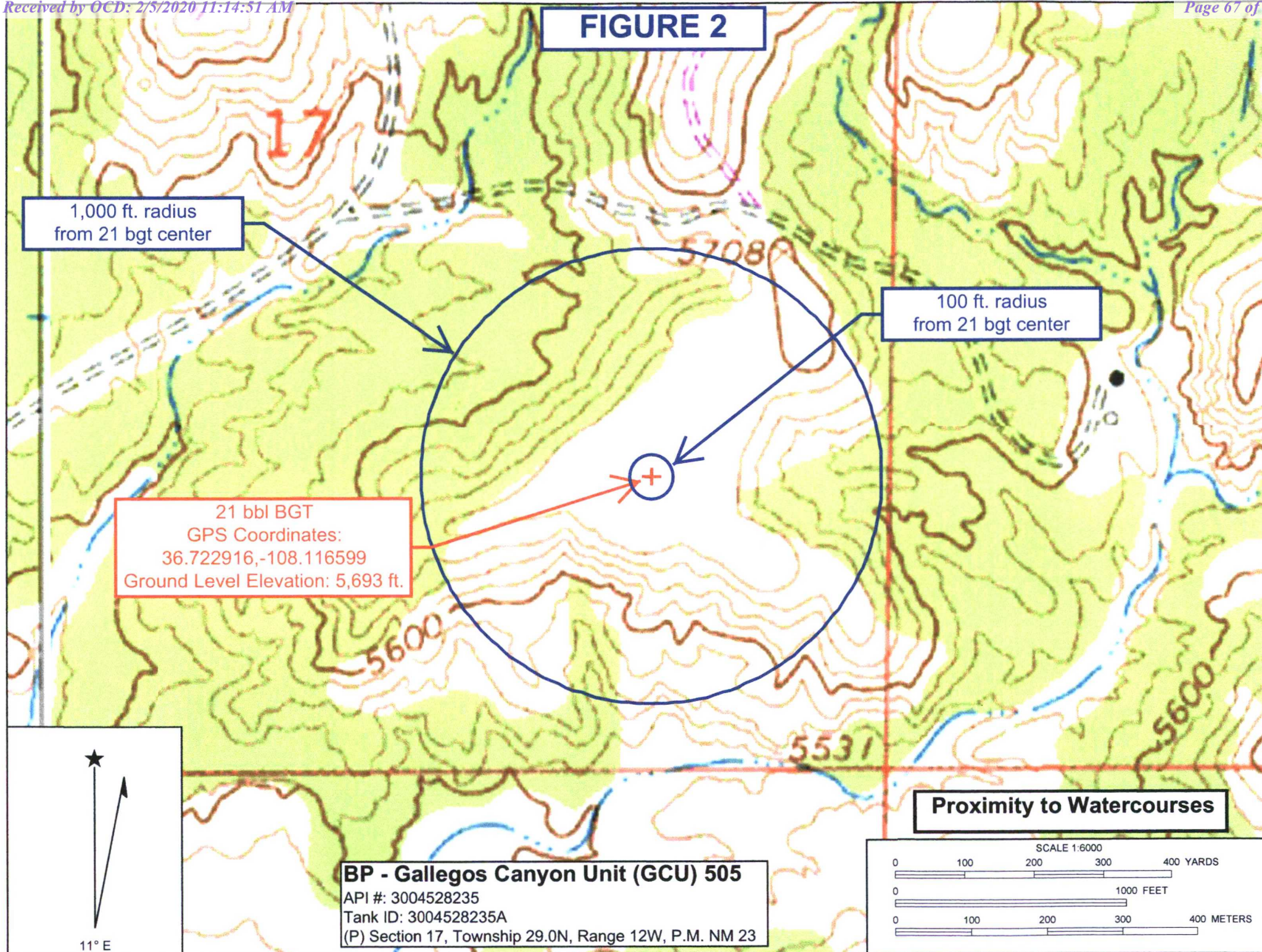
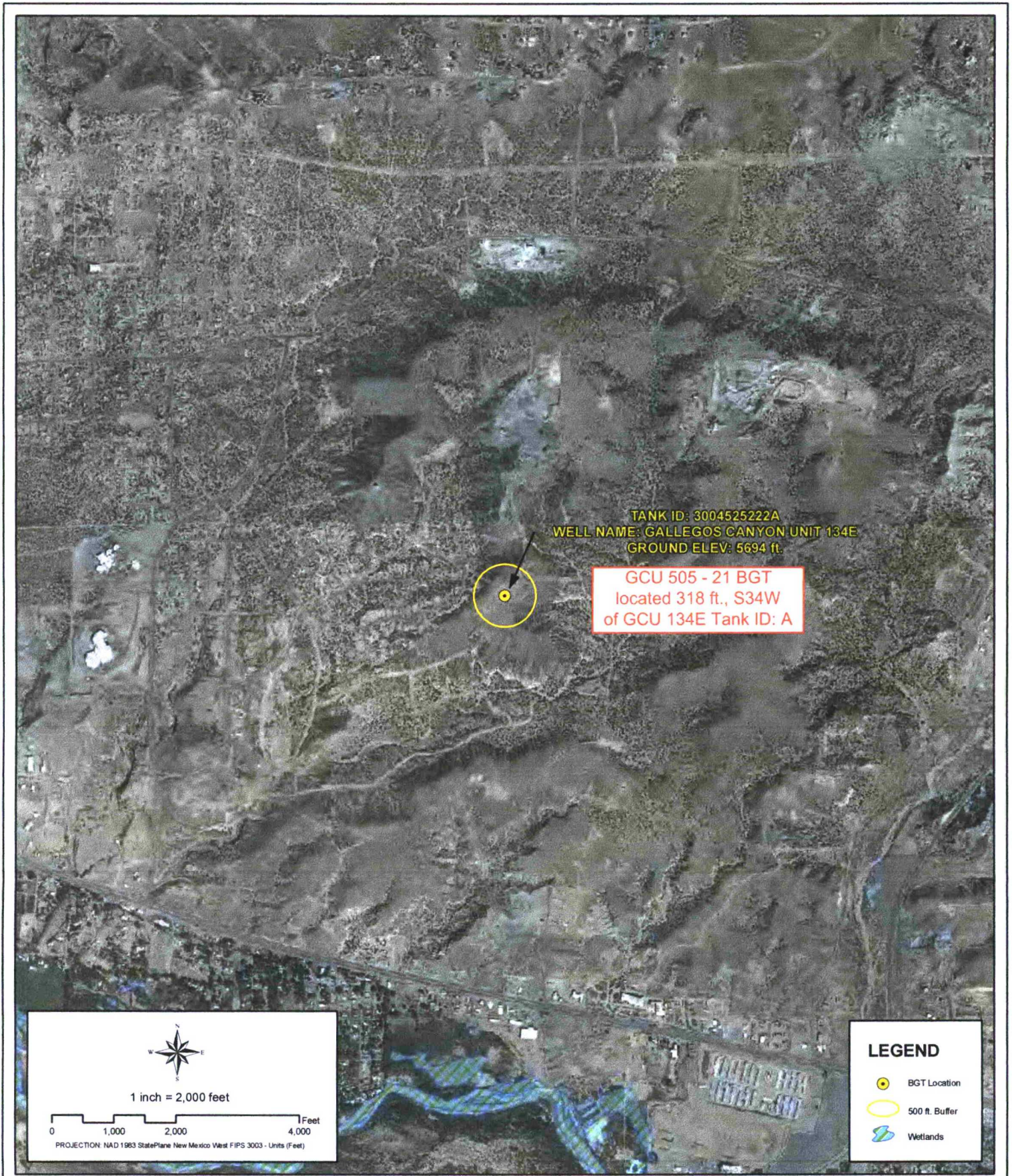
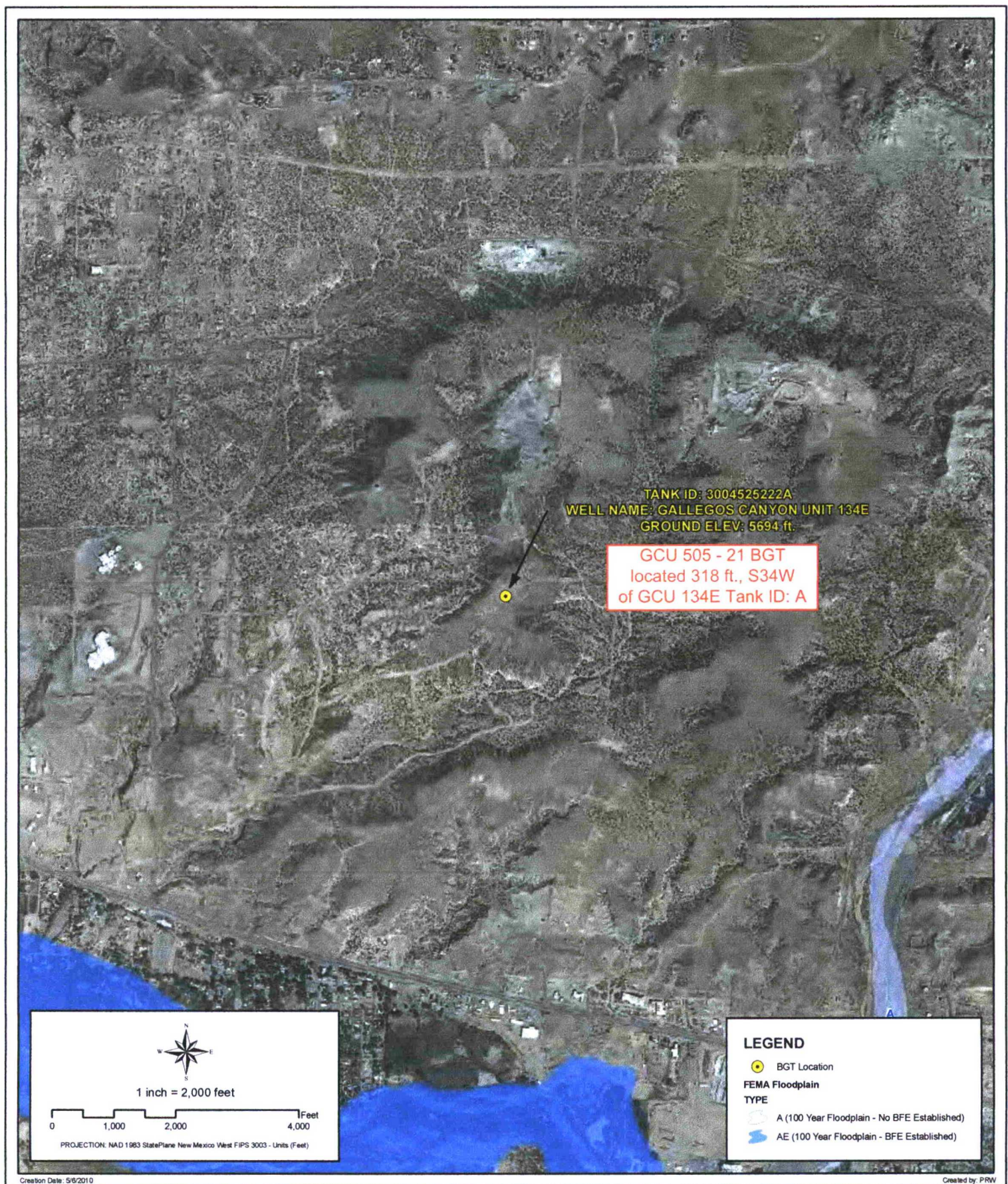


FIGURE 2



PROXIMITY TO WETLANDS
WELL NAME: GALLEGOS CANYON UNIT 134E
API NUMBER: 3004525222 TANK ID: 3004525222A
SECTION 17, TOWNSHIP 29.0N, RANGE 12W, P.M. NM23

FIGURE
3



PROXIMITY TO FLOODPLAIN
WELL NAME: GALLEGOS CANYON UNIT 134E
 API NUMBER: 3004525222 TANK ID: 3004525222A
 SECTION 17, TOWNSHIP 29.0N, RANGE 12W, P.M. NM23

FIGURE
4

Public Land Survey System (PLSS)

☐ Q64: Q16: Q4: Sec: Tws: Rng:

State Plane Coordinate System - NAD27

☐ x: 0 ft y: 0 ft Zone:

State Plane Coordinate System - NAD83

☐ x: 0 ft y: 0 ft Zone:

Degrees/Minutes/Seconds

☒ Longitude (X): Degrees: 108 ° Minutes: 7 ' Seconds: "
Latitude (Y): Degrees: 36 ° Minutes: 3 ' Seconds: 22.5 "

UTM - NAD27

☐ Easting (X): 0 mtrs Northing (Y): 0 mtrs Zone:

SUBMITAll Conversion Results are displayed as NAD 1983 UTM Zone 13

Easting (X): **221648.82** mtrs Northing (Y): **4068664.72** mtrs

~~ Please keep screen open to copy UTM values for Reports. ~~



New Mexico Office of the State Engineer Wells with Well Log Information

No wells found.

Basin/County Search:

Basin: San Juan

UTMNAD83 Radius Search (in meters):

Easting (X): 221648.82

Northing (Y): 4068664.72

Radius: 1609.3

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

2/12/19 2:44 PM

Page 1 of 1

WELLS WITH WELL LOG INFORMATION



New Mexico Office of the State Engineer

Wells Without Well Log Information

No wells found.

Basin/County Search:

Basin: San Juan

UTMNA83 Radius Search (in meters):

Easting (X): 221648.82

Northing (Y): 4068664.72

Radius: 1609.3

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



New Mexico Office of the State Engineer

Point of Diversion with Meter Attached

No PODs found.

Basin/County Search:

Basin: San Juan

UTMNAD83 Radius Search (in meters):

Easting (X): 221648.82

Northing (Y): 4068664.72

Radius: 1609.3

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the
POD suffix indicates the
POD has been replaced
& no longer serves a
water right file.)

(R=POD has
been replaced,
O=orphaned,
C=the file is
closed)

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 01566			SJ	3	1	3	08	29N	12W	220538	4070446*	105	60	45

GPS Coordinates
36.738595,-108.129736

Average Depth to Water: **60 feet**

Minimum Depth: **60 feet**

Maximum Depth: **60 feet**

Record Count: 1

Basin/County Search:

Basin: San Juan

PLSS Search:

Q64: SW

Q16: NW

Q4: SW

Section(s): 8

Township: 29N

Range: 12W

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



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 01566	3	1	3	08	29N	12W	220538	4070446*

Driller License: 527	Driller Company: THOMPSON WELL DRILLING	
Driller Name: THOMPSON, LEON		
Drill Start Date: 04/20/1983	Drill Finish Date: 04/25/1983	Plug Date:
Log File Date: 05/13/1983	PCW Rcv Date:	Source: Shallow
Pump Type:	Pipe Discharge Size:	Estimated Yield: 5 GPM
Casing Size: 5.00	Depth Well: 105 feet	Depth Water: 60 feet

Water Bearing Stratifications:	Top	Bottom	Description
	100	105	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	75	105

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

2/12/19 2:50 PM

Page 1 of 1

POD SUMMARY - SJ 01566