

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	NRM2016448841
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party: SIMCOE LLC	OGRID: 329736	Initial Spill Report
Contact Name: Steve Moskal (Contract for Simcoe)	Contact Telephone: (505) 330-9179	
Contact email: steven.moskal@bpx.com	Incident # (assigned by OCD)	
Contact mailing address: 1199 Main St., Suite 101, Durango CO, 81301		

### Location of Release Source

Latitude: 36.850419° Longitude: -107.630780°  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Northeast Blanco Unit Pump Mesa SWD 001	Site Type: Water Injection Well
Date Release Discovered: May 20, 2020	API#: 30-045-27340

Unit Letter	Section	Township	Range	County
N	36	T31N	R08W	San Juan

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (Name: \_\_\_\_\_)

### Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls): <b>31</b>	Volume Recovered (bbls): <b>30</b>
	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 checked="" type="checkbox"/> Other (describe)	Volume/Weight Released (provide units) <b>40 gallons – slop oil</b>	Volume/Weight Recovered (provide units) <b>0 gallons</b>

Cause of Release:


**Release of produced water from a slop oil tank that over-ran during a truck offloading event. The isolation valves were not in the correct operating positions from the prior week when the tank was emptied.**

Incident ID	NRM2016448841
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? <b>Greater than 25 bbls and water and oil was released into containment.</b>
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? <b>Steve Moskal to Cory Smith (cell phone) on May 20, 2020; 3:45 PM</b>	

### 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: <u>Steve Moskal</u>	Title: <u>Contract Environmental Coordinator</u>
Signature: 	Date: <u>June 4, 2020</u>
email: <u>steven.moskal@bpx.com</u>	Telephone: <u>(505) 330-9179</u>
<b><u>OCD Only</u></b> Received by: <u>Ramona Marcus</u> Date: <u>6/12/2020</u>	

Incident ID	NRM2016448841
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>&gt;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 <b>not</b> 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.

Incident ID	NRM2016448841
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: Contract Environmental Coordinator

Signature: 

Date: June 4, 2020

email: steven.moskal@bpx.com

Telephone: (505) 330-9179

**OCD Only**

Received by: Ramona Marcus Date: 6/12/2020

Incident ID	NRM2016448841
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: Contract Environmental Coordinator

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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

**OCD Only**

Received by: Ramona Marcus Date: 6/12/2020

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

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Incident ID	NRM2016448841
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: Contract Environmental Coordinator

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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

**OCD Only**

Received by: Ramona Marcus Date: 6/12/2020

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: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_



# NORTHEAST BLANCO UNIT PUMP MESA SWD #001

API #30-045-27340  
N-36-31N-08W  
GPS: 36.850419°, -107.630780°

## Legend

- Release Extents
- Release Point





CLIENT: _____	<b>BLAGG ENGINEERING, INC.</b> <b>P.O. BOX 87, BLOOMFIELD, NM 87413</b> <b>(505) 632-1199</b>	API #: _____ TANK ID (if applicable): _____
<b>FIELD REPORT:</b> (circle one): BGT CONFIRMATION / <u>RELEASE INVESTIGATION</u> / OTHER: _____		PAGE #: <u>1</u> of <u>1</u>
<b>SITE INFORMATION:</b> SITE NAME: <u>NEBU PUMP MESA SWD</u> QUAD/UNIT: SEC. <u>36</u> TWP. <u>31N</u> RING: <u>8W</u> PM: <u>NM</u> CNTY: <u>SJ</u> ST: <u>NM</u> 1/4-1/4/FOOTAGE: <u>990 FSL x 1600 FWL</u> LEASE TYPE: <u>FEDERAL / STATE / FEE / INDIAN</u> LEASE #: _____ PROD. FORMATION: _____ CONTRACTOR: _____		DATE STARTED: <u>5/22/2020</u> DATE FINISHED: <u>5/22/2020</u> ENVIRONMENTAL SPECIALIST(S): <u>JCB</u>
<b>REFERENCE POINT:</b> WELL HEAD (W.H.) GPS COORD.: <u>36.850222 x 107.630321</u> GL ELEV.: <u>6,432'</u> 1) <u>RELEASE SOURCE POINT</u> GPS COORD.: <u>36.850427 x 107.630779</u> DISTANCE/BEARING FROM W.H.: _____ 2) _____ GPS COORD.: _____ DISTANCE/BEARING FROM W.H.: _____ 3) _____ GPS COORD.: _____ DISTANCE/BEARING FROM W.H.: _____ 4) _____ GPS COORD.: _____ DISTANCE/BEARING FROM W.H.: _____		
<b>SAMPLING DATA:</b> CHAIN OF CUSTODY RECORD(S) # OR LAB USED: <u>ENVIROTECH</u>		OVM READING (ppm)
1) SAMPLE ID: <u>AREA 1 (S-POINT)</u> SAMPLE DATE: <u>5/22/2020</u> SAMPLE TIME: <u>1005</u> LAB ANALYSIS: <u>TPH/BTEX/CL</u> 2) SAMPLE ID: <u>AREA 2 (S-POINT)</u> SAMPLE DATE: <u>"</u> SAMPLE TIME: <u>1008</u> LAB ANALYSIS: <u>"</u> 3) SAMPLE ID: <u>AREA 3 (S-POINT)</u> SAMPLE DATE: <u>"</u> SAMPLE TIME: <u>1011</u> LAB ANALYSIS: <u>"</u> 4) SAMPLE ID: <u>AREA 4 (S-POINT)</u> SAMPLE DATE: <u>"</u> SAMPLE TIME: <u>1014</u> LAB ANALYSIS: <u>"</u>		<u>4,271</u> <u>3,960</u> <u>2,820</u> <u>966</u>
<b>SOIL DESCRIPTION:</b> SOIL TYPE: <u>SAND/SILTY SAND/SILT/SILTY CLAY/CLAY/GRAVEL</u> OTHER: <u>GRAVEL ON SURFACE ONLY</u> SOIL COLOR: <u>TAN</u> COHESION (ALL OTHERS): <u>NON COHESIVE/SLIGHTLY COHESIVE/COHESIVE/HIGHLY COHESIVE</u> CONSISTENCY (NON COHESIVE SOILS): <u>LOOSE/FIRM/DENSE/VERY DENSE</u> MOISTURE: <u>DRY/SLIGHTLY MOIST/MOIST/WET/SATURATED/SUPER SATURATED</u> SAMPLE TYPE: <u>GRAB/COMPOSITE</u> - # OF PTS. <u>5</u> DISCOLORATION/STAINING OBSERVED: <u>YES</u> NO EXPLANATION - <u>oily surface</u> PLASTICITY (CLAYS): <u>NON PLASTIC/SLIGHTLY PLASTIC/COHESIVE/MEDIUM PLASTIC/HIGHLY PLASTIC</u> DENSITY (COHESIVE CLAYS & SILTS): <u>SOFT/FIRM/STIFF/VERY STIFF/HARD</u> HC ODOR DETECTED: <u>YES</u> NO EXPLANATION - <u>MODERATE/STRONG</u> ANY AREAS DISPLAYING WETNESS: <u>YES</u> NO EXPLANATION - _____		
<b>SITE OBSERVATIONS:</b> LOST INTEGRITY OF EQUIPMENT: <u>YES</u> NO EXPLANATION - <u>OVERFLOW</u> APPARENT EVIDENCE OF A RELEASE OBSERVED AND/OR OCCURRED: <u>YES</u> NO EXPLANATION: _____ EQUIPMENT SET OVER RECLAIMED AREA: <u>YES</u> NO EXPLANATION: _____ OTHER: _____		
SOIL IMPACT DIMENSION ESTIMATION: <u>40</u> ft. X <u>30</u> ft. X <u>?</u> ft. EXCAVATION ESTIMATION (Cubic Yards): <u>1200</u> ft <sup>3</sup> DEPTH TO GROUNDWATER: <u>&gt;100</u> NEAREST WATER SOURCE: <u>&gt;1000</u> NEAREST SURFACE WATER: <u>&gt;1000</u> NMOCED TPH CLOSURE STD: <u>2500</u> ppm		
<b>SITE SKETCH</b> BGT Located: <u>off / on site</u> PLOT PLAN circle: <u>attached</u>		
		OVM CALIB. READ = <u>100.2</u> ppm RF = <u>0.92</u> OVM CALIB. GAS = <u>100.0</u> ppm TIME <u>1020</u> am/pm DATE <u>5/22/2020</u>
<b>MISCELL. NOTES</b> WO: _____ PO #: _____ PK: _____ PJ #: _____ Permit date(s): _____ OCD Appr. date(s): _____ Tank ID: _____ OVM = Organic Vapor Meter ppm = parts per million BGT Sidewalls Visible: <u>Y / N</u> BGT Sidewalls Visible: <u>Y / N</u> BGT Sidewalls Visible: <u>Y / N</u> Magnetic declination: <u>10° E</u>		
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: _____ ONSITE: <u>5/22/2020</u>		



# NORTHEAST BLANCO UNIT PUMP MESA SWD #001

API #30-045-27340  
N-36-31N-08W  
GPS: 36.850419°, -107.630780°

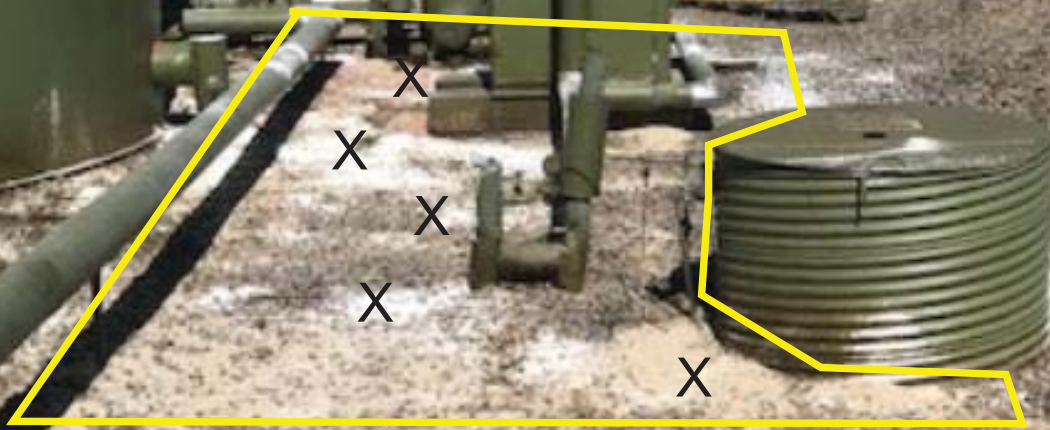
## Legend

- Release Extents
- Release Point





Area 1  
May 22, 2020





Area 2  
May 22, 2020









Area 2  
May 22, 2020





Area 3  
May 22, 2020

X

X

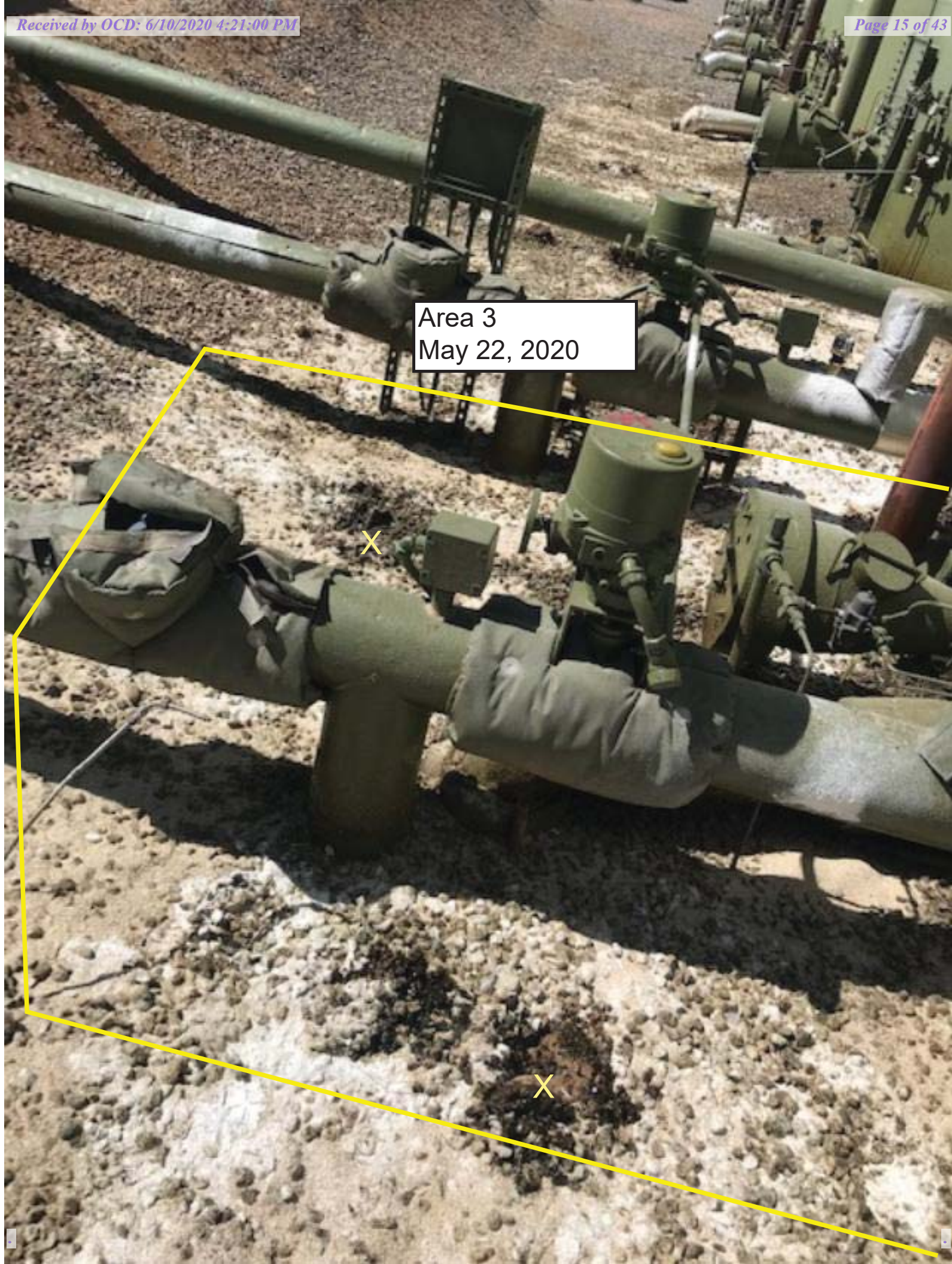




Area 3  
May 22, 2020

X

X







Area 3  
May 22, 2020

Area 2  
May 22, 2020



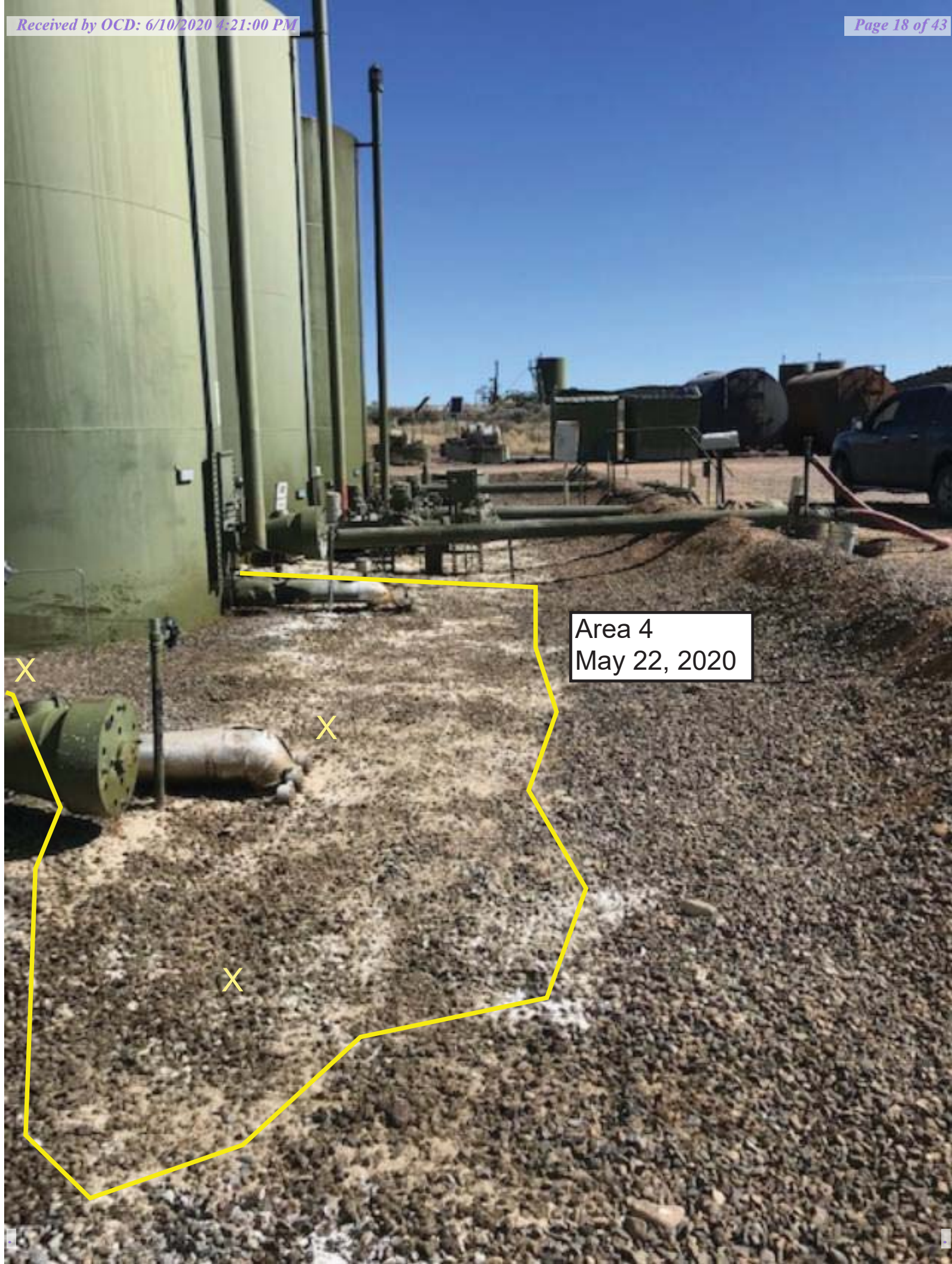
Area 4  
May 22, 2020

X

X









[illegible]





## Analytical Report

### Report Summary

Client: BP America Production Co.

Samples Received: 5/22/2020

Job Number: 03143-0424

Work Order: P005074

Project Name/Location: NEBU Pump Mesa SWD

Report Reviewed By:

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

Date: 5/27/20

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, 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.





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

Project Name: NEBU Pump Mesa SWD  
Project Number: 03143-0424  
Project Manager: Steve Moskal

**Reported:**  
05/27/20 12:07

### Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
AREA 1	P005074-01A	Soil	05/22/20	05/22/20	Glass Jar, 4 oz.
AREA 2	P005074-02A	Soil	05/22/20	05/22/20	Glass Jar, 4 oz.
AREA 3	P005074-03A	Soil	05/22/20	05/22/20	Glass Jar, 4 oz.
AREA 4	P005074-04A	Soil	05/22/20	05/22/20	Glass Jar, 4 oz.

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



BP America Production Co.	Project Name:	NEBU Pump Mesa SWD	<b>Reported:</b> 05/27/20 12:07
PO Box 22024	Project Number:	03143-0424	
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	

**AREA 1**  
**P005074-01 (Solid)**

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

**Volatile Organics by EPA 8021**

Benzene	0.497	0.250	mg/kg	10	2022001	05/26/20	05/26/20	EPA 8021B	
Toluene	31.2	0.250	mg/kg	10	2022001	05/26/20	05/26/20	EPA 8021B	
Ethylbenzene	13.2	0.250	mg/kg	10	2022001	05/26/20	05/26/20	EPA 8021B	
p,m-Xylene	159	0.500	mg/kg	10	2022001	05/26/20	05/26/20	EPA 8021B	
o-Xylene	37.5	0.250	mg/kg	10	2022001	05/26/20	05/26/20	EPA 8021B	
Total Xylenes	197	0.250	mg/kg	10	2022001	05/26/20	05/26/20	EPA 8021B	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		108 %		50-150	2022001	05/26/20	05/26/20	EPA 8021B	

**Nonhalogenated Organics by 8015 - DRO/ORO**

Diesel Range Organics (C10-C28)	13500	1250	mg/kg	50	2022003	05/26/20	05/26/20	EPA 8015D	
Oil Range Organics (C28-C40)	9920	2500	mg/kg	50	2022003	05/26/20	05/26/20	EPA 8015D	
<i>Surrogate: n-Nonane</i>		1100 %		50-200	2022003	05/26/20	05/26/20	EPA 8015D	S5

**Nonhalogenated Organics by 8015 - GRO**

Gasoline Range Organics (C6-C10)	1290	200	mg/kg	10	2022001	05/26/20	05/26/20	EPA 8015D	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		93.4 %		50-150	2022001	05/26/20	05/26/20	EPA 8015D	

**Anions by 300.0/9056A**

Chloride	ND	20.0	mg/kg	1	2022002	05/26/20	05/26/20	EPA 300.0/9056A	
----------	----	------	-------	---	---------	----------	----------	--------------------	--

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





BP America Production Co.	Project Name:	NEBU Pump Mesa SWD	
PO Box 22024	Project Number:	03143-0424	<b>Reported:</b>
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	05/27/20 12:07

**AREA 2**  
**P005074-02 (Solid)**

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

**Volatile Organics by EPA 8021**

Benzene	ND	0.250	mg/kg	10	2022001	05/26/20	05/26/20	EPA 8021B	
Toluene	10.7	0.250	mg/kg	10	2022001	05/26/20	05/26/20	EPA 8021B	
Ethylbenzene	5.64	0.250	mg/kg	10	2022001	05/26/20	05/26/20	EPA 8021B	
p,m-Xylene	71.4	0.500	mg/kg	10	2022001	05/26/20	05/26/20	EPA 8021B	
o-Xylene	17.9	0.250	mg/kg	10	2022001	05/26/20	05/26/20	EPA 8021B	
Total Xylenes	89.2	0.250	mg/kg	10	2022001	05/26/20	05/26/20	EPA 8021B	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		107 %		50-150	2022001	05/26/20	05/26/20	EPA 8021B	

**Nonhalogenated Organics by 8015 - DRO/ORO**

Diesel Range Organics (C10-C28)	6760	500	mg/kg	20	2022003	05/26/20	05/26/20	EPA 8015D	
Oil Range Organics (C28-C40)	4970	1000	mg/kg	20	2022003	05/26/20	05/26/20	EPA 8015D	
<i>Surrogate: n-Nonane</i>		526 %		50-200	2022003	05/26/20	05/26/20	EPA 8015D	S5

**Nonhalogenated Organics by 8015 - GRO**

Gasoline Range Organics (C6-C10)	629	200	mg/kg	10	2022001	05/26/20	05/26/20	EPA 8015D	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		90.9 %		50-150	2022001	05/26/20	05/26/20	EPA 8015D	

**Anions by 300.0/9056A**

Chloride	ND	20.0	mg/kg	1	2022002	05/26/20	05/26/20	EPA 300.0/9056A	
----------	----	------	-------	---	---------	----------	----------	--------------------	--

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



BP America Production Co.	Project Name:	NEBU Pump Mesa SWD	<b>Reported:</b> 05/27/20 12:07
PO Box 22024	Project Number:	03143-0424	
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	

**AREA 3**  
**P005074-03 (Solid)**

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

**Volatile Organics by EPA 8021**

Benzene	ND	0.0250	mg/kg	1	2022001	05/26/20	05/26/20	EPA 8021B	
Toluene	<b>0.0288</b>	0.0250	mg/kg	1	2022001	05/26/20	05/26/20	EPA 8021B	
Ethylbenzene	<b>0.0550</b>	0.0250	mg/kg	1	2022001	05/26/20	05/26/20	EPA 8021B	
p,m-Xylene	<b>1.24</b>	0.0500	mg/kg	1	2022001	05/26/20	05/26/20	EPA 8021B	
o-Xylene	<b>0.508</b>	0.0250	mg/kg	1	2022001	05/26/20	05/26/20	EPA 8021B	
Total Xylenes	<b>1.74</b>	0.0250	mg/kg	1	2022001	05/26/20	05/26/20	EPA 8021B	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		<i>107 %</i>		<i>50-150</i>	<i>2022001</i>	<i>05/26/20</i>	<i>05/26/20</i>	<i>EPA 8021B</i>	

**Nonhalogenated Organics by 8015 - DRO/ORO**

Diesel Range Organics (C10-C28)	<b>799</b>	25.0	mg/kg	1	2022003	05/26/20	05/26/20	EPA 8015D	
Oil Range Organics (C28-C40)	<b>638</b>	50.0	mg/kg	1	2022003	05/26/20	05/26/20	EPA 8015D	
<i>Surrogate: n-Nonane</i>		<i>106 %</i>		<i>50-200</i>	<i>2022003</i>	<i>05/26/20</i>	<i>05/26/20</i>	<i>EPA 8015D</i>	

**Nonhalogenated Organics by 8015 - GRO**

Gasoline Range Organics (C6-C10)	<b>31.6</b>	20.0	mg/kg	1	2022001	05/26/20	05/26/20	EPA 8015D	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		<i>90.9 %</i>		<i>50-150</i>	<i>2022001</i>	<i>05/26/20</i>	<i>05/26/20</i>	<i>EPA 8015D</i>	

**Anions by 300.0/9056A**

Chloride	<b>35.0</b>	20.0	mg/kg	1	2022002	05/26/20	05/26/20	EPA 300.0/9056A	
----------	-------------	------	-------	---	---------	----------	----------	--------------------	--

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





BP America Production Co.	Project Name:	NEBU Pump Mesa SWD	
PO Box 22024	Project Number:	03143-0424	<b>Reported:</b>
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	05/27/20 12:07

**AREA 4**  
**P005074-04 (Solid)**

Reporting									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

**Volatile Organics by EPA 8021**

Benzene	ND	0.0250	mg/kg	1	2022001	05/26/20	05/26/20	EPA 8021B	
Toluene	<b>0.0499</b>	0.0250	mg/kg	1	2022001	05/26/20	05/26/20	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	2022001	05/26/20	05/26/20	EPA 8021B	
p,m-Xylene	<b>4.65</b>	0.0500	mg/kg	1	2022001	05/26/20	05/26/20	EPA 8021B	
o-Xylene	<b>1.41</b>	0.0250	mg/kg	1	2022001	05/26/20	05/26/20	EPA 8021B	
Total Xylenes	<b>6.06</b>	0.0250	mg/kg	1	2022001	05/26/20	05/26/20	EPA 8021B	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		<i>110 %</i>		<i>50-150</i>	<i>2022001</i>	<i>05/26/20</i>	<i>05/26/20</i>	<i>EPA 8021B</i>	

**Nonhalogenated Organics by 8015 - DRO/ORO**

Diesel Range Organics (C10-C28)	<b>1020</b>	25.0	mg/kg	1	2022003	05/26/20	05/26/20	EPA 8015D	
Oil Range Organics (C28-C40)	<b>811</b>	50.0	mg/kg	1	2022003	05/26/20	05/26/20	EPA 8015D	
<i>Surrogate: n-Nonane</i>		<i>116 %</i>		<i>50-200</i>	<i>2022003</i>	<i>05/26/20</i>	<i>05/26/20</i>	<i>EPA 8015D</i>	

**Nonhalogenated Organics by 8015 - GRO**

Gasoline Range Organics (C6-C10)	<b>71.4</b>	20.0	mg/kg	1	2022001	05/26/20	05/26/20	EPA 8015D	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>		<i>93.6 %</i>		<i>50-150</i>	<i>2022001</i>	<i>05/26/20</i>	<i>05/26/20</i>	<i>EPA 8015D</i>	

**Anions by 300.0/9056A**

Chloride	<b>163</b>	20.0	mg/kg	1	2022002	05/26/20	05/26/20	EPA 300.0/9056A	
----------	------------	------	-------	---	---------	----------	----------	--------------------	--

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



BP America Production Co.	Project Name:	NEBU Pump Mesa SWD	<b>Reported:</b> 05/27/20 12:07
PO Box 22024	Project Number:	03143-0424	
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	

**Volatile Organics by EPA 8021 - Quality Control****Envirotech Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch 2022001 - Purge and Trap EPA 5030A****Blank (2022001-BLK1)**

Prepared: 05/26/20 0 Analyzed: 05/26/20 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: 4-Bromochlorobenzene-PID	8.33		"	8.00		104	50-150			
-------------------------------------	------	--	---	------	--	-----	--------	--	--	--

**LCS (2022001-BS1)**

Prepared: 05/26/20 0 Analyzed: 05/26/20 1

Benzene	5.09	0.0250	mg/kg	5.00		102	70-130			
Toluene	5.09	0.0250	"	5.00		102	70-130			
Ethylbenzene	5.07	0.0250	"	5.00		101	70-130			
p,m-Xylene	10.1	0.0500	"	10.0		101	70-130			
o-Xylene	5.08	0.0250	"	5.00		102	70-130			
Total Xylenes	15.2	0.0250	"	15.0		101	0-200			

Surrogate: 4-Bromochlorobenzene-PID	8.50		"	8.00		106	50-150			
-------------------------------------	------	--	---	------	--	-----	--------	--	--	--

**Matrix Spike (2022001-MS1)**

Source: P005075-04

Prepared: 05/26/20 0 Analyzed: 05/26/20 1

Benzene	5.09	0.0250	mg/kg	5.00	ND	102	54.3-133			
Toluene	5.08	0.0250	"	5.00	ND	102	61.4-130			
Ethylbenzene	5.05	0.0250	"	5.00	ND	101	61.4-133			
p,m-Xylene	10.1	0.0500	"	10.0	ND	101	63.3-131			
o-Xylene	5.06	0.0250	"	5.00	ND	101	63.3-131			
Total Xylenes	15.1	0.0250	"	15.0	ND	101	0-200			

Surrogate: 4-Bromochlorobenzene-PID	8.49		"	8.00		106	50-150			
-------------------------------------	------	--	---	------	--	-----	--------	--	--	--

**Matrix Spike Dup (2022001-MSD1)**

Source: P005075-04

Prepared: 05/26/20 0 Analyzed: 05/26/20 1

Benzene	4.92	0.0250	mg/kg	5.00	ND	98.4	54.3-133	3.40	20	
Toluene	4.89	0.0250	"	5.00	ND	97.8	61.4-130	3.76	20	
Ethylbenzene	4.87	0.0250	"	5.00	ND	97.4	61.4-133	3.66	20	
p,m-Xylene	9.73	0.0500	"	10.0	ND	97.3	63.3-131	3.61	20	
o-Xylene	4.87	0.0250	"	5.00	ND	97.5	63.3-131	3.76	20	
Total Xylenes	14.6	0.0250	"	15.0	ND	97.3	0-200	3.66	200	

Surrogate: 4-Bromochlorobenzene-PID	8.31		"	8.00		104	50-150			
-------------------------------------	------	--	---	------	--	-----	--------	--	--	--

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





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

Project Name: NEBU Pump Mesa SWD  
Project Number: 03143-0424  
Project Manager: Steve Moskal

**Reported:**  
05/27/20 12:07

### 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 2022003 - DRO Extraction EPA 3570

##### Blank (2022003-BLK1)

Prepared: 05/26/20 0 Analyzed: 05/26/20 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 (2022003-BS1)

Prepared: 05/26/20 0 Analyzed: 05/26/20 1

Diesel Range Organics (C10-C28)	417	25.0	mg/kg	500		83.4	38-132			
Surrogate: n-Nonane	46.4		"	50.0		92.8	50-200			

##### Matrix Spike (2022003-MS1)

Source: P005074-01

Prepared: 05/26/20 0 Analyzed: 05/26/20 1

Diesel Range Organics (C10-C28)	14400	2500	mg/kg	500	13500	172	38-132			M4
Surrogate: n-Nonane	0.00		"	50.0			50-200			S6

##### Matrix Spike Dup (2022003-MSD1)

Source: P005074-01

Prepared: 05/26/20 0 Analyzed: 05/26/20 1

Diesel Range Organics (C10-C28)	14800	2500	mg/kg	500	13500	249	38-132	2.64	20	M4
Surrogate: n-Nonane	0.00		"	50.0			50-200			S6

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



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

Project Name: NEBU Pump Mesa SWD  
Project Number: 03143-0424  
Project Manager: Steve Moskal

**Reported:**  
05/27/20 12:07

### 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 2022001 - Purge and Trap EPA 5030A

##### Blank (2022001-BLK1)

Prepared: 05/26/20 0 Analyzed: 05/26/20 1

Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.30		"	8.00		91.3	50-150			

##### LCS (2022001-BS2)

Prepared: 05/26/20 0 Analyzed: 05/26/20 1

Gasoline Range Organics (C6-C10)	46.0	20.0	mg/kg	50.0		92.0	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.52		"	8.00		94.0	50-150			

##### Matrix Spike (2022001-MS2)

Source: P005075-04

Prepared: 05/26/20 0 Analyzed: 05/26/20 1

Gasoline Range Organics (C6-C10)	48.7	20.0	mg/kg	50.0	ND	97.4	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.38		"	8.00		92.2	50-150			

##### Matrix Spike Dup (2022001-MSD2)

Source: P005075-04

Prepared: 05/26/20 0 Analyzed: 05/26/20 1

Gasoline Range Organics (C6-C10)	45.4	20.0	mg/kg	50.0	ND	90.9	70-130	6.92	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.32		"	8.00		91.5	50-150			

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





BP America Production Co.	Project Name:	NEBU Pump Mesa SWD	
PO Box 22024	Project Number:	03143-0424	<b>Reported:</b>
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	05/27/20 12:07

**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 2022002 - Anion Extraction EPA 300.0/9056A****Blank (2022002-BLK1)**

Prepared: 05/26/20 0 Analyzed: 05/26/20 1

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

**LCS (2022002-BS1)**

Prepared: 05/26/20 0 Analyzed: 05/26/20 1

Chloride	254	20.0	mg/kg	250		102	90-110			
----------	-----	------	-------	-----	--	-----	--------	--	--	--

**Matrix Spike (2022002-MS1)****Source: P005076-01**

Prepared: 05/26/20 0 Analyzed: 05/26/20 1

Chloride	261	20.0	mg/kg	250	ND	105	80-120			
----------	-----	------	-------	-----	----	-----	--------	--	--	--

**Matrix Spike Dup (2022002-MSD1)****Source: P005076-01**

Prepared: 05/26/20 0 Analyzed: 05/26/20 1

Chloride	260	20.0	mg/kg	250	ND	104	80-120	0.537	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:	NEBU Pump Mesa SWD	<b>Reported:</b> 05/27/20 12:07
PO Box 22024	Project Number:	03143-0424	
Tulsa OK, 74121-2024	Project Manager:	Steve Moskal	

### Notes and Definitions

S6 Surrogate was diluted out due to high concentrations of target and/or non-target analytes and does not provide useful information. The associated LCS spike recovery was acceptable.

S5 Surrogate spike recovery exceeded acceptance limits due to interfering target and/or non-target analytes.

M4 Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.

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.

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



## Project Information

## Chain of Custody

Page 1 of 1

<b>Client:</b> BPX <b>Project:</b> NEBU Rump Mesa SWP <b>Project Manager:</b> Steve Maskal <b>Address:</b> <b>City, State, Zip:</b> <b>Phone:</b> <b>Email:</b> JEFFCBLA66@AOL.COM <b>Report due by:</b> 5/29/2020				<b>Bill To</b> <b>Attention:</b> BPX - Steve Maskal <b>Address:</b> <b>City, State, Zip:</b> <b>Phone:</b> <b>Email:</b> steven.maskal@BPX.COM				<b>Lab Use Only</b> <b>Lab WO#</b> P005074 <b>Job Number</b> 03143-0424 <b>Analysis and Method</b>				<b>EPA Program</b> <b>TAT</b> 1D 3D <b>RCRA</b> <b>CWA</b> <b>SDWA</b>			
Time Sampled	Date Sampled	Matrix	No Containers	Sample ID	Lab Number	DRO/DRO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	State			
1005	5/22/20	SOIL	1	AREA 1	1	X	X	X		X		NM	CO	UT	AZ
1008			1	AREA 2	2							TX	OK		
1011			1	AREA 3	3										
1014			1	AREA 4	4										
<b>Additional Instructions:</b> Bill BPX 142020 SPIUS P.O.															
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: <u>Jeffrey</u>															
Relinquished by: (Signature)		Date: 5/22/2020		Time: 11:58		Received by: (Signature)		Date: 5/22/2020		Time: 11:58		Lab Use Only Received on ice: <u>Y</u> N T1 T2 T3 AVG Temp °C <u>4°C</u>			
Relinquished by: (Signature)		Date:		Time:		Received by: (Signature)		Date:		Time:		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

24 Hour Emergency Response Phone (800) 363-1879

Ph (505) 632-1881 Fx (505) 632-1865

 envirotech-inc.com  
 labadmin@envirotech-inc.com

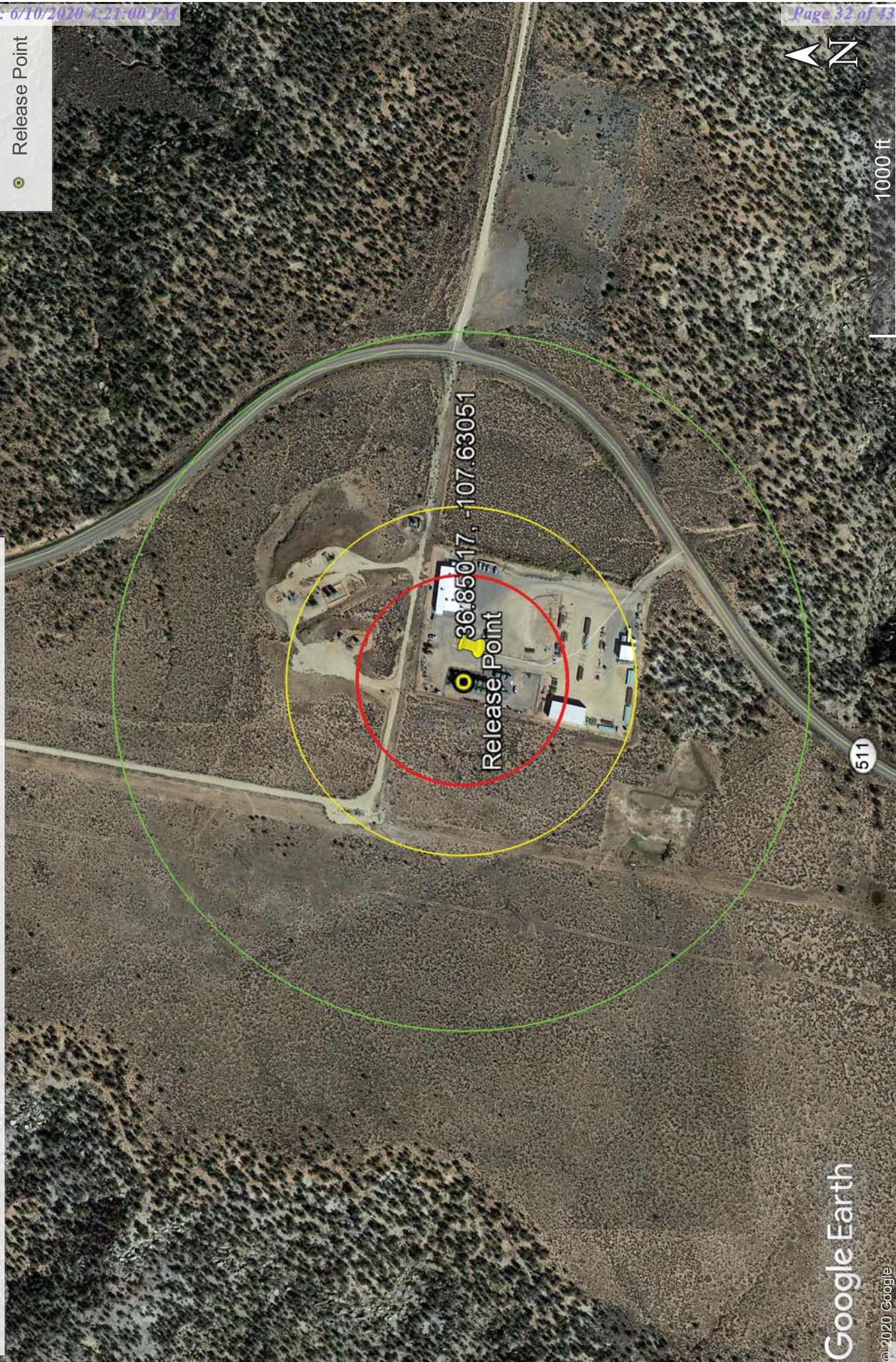


# NORTHEAST BLANCO UNIT PUMP MESA SWD #001

API #30-045-27340  
N-36-31N-08W  
GPS: 36.850419°, -107.630780°

## Legend

- 1,000 ft
- 500 ft
- 300 ft
- Release Point










## 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 03306	4	4	1	25	31N	08W	265739	4083645* 
x									
Driller License:	1357	Driller Company:				BAILEY DRILLING COMPANY			
Driller Name:	MARK BAILEY								
Drill Start Date:	11/03/2003	Drill Finish Date:				11/17/2003		Plug Date:	
Log File Date:	11/26/2003	PCW Rcv Date:						Source:	Shallow
Pump Type:		Pipe Discharge Size:						Estimated Yield:	10 GPM
Casing Size:	5.00	Depth Well:				600 feet		Depth Water:	500 feet
x									
Water Bearing Stratifications:					Top	Bottom	Description		
					500	600	Sandstone/Gravel/Conglomerate		
x									
Casing Perforations:					Top	Bottom			
					480	600			

\*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.

6/4/20 10:41 AM

POINT OF DIVERSION SUMMARY



## **Hydrogeological Report for the NEBU 447**

### **Geology:**

The stratigraphic sequence of Paleocene and Eocene rocks in the eastern part of the San Juan basin is the Nacimiento and Animas formation overlain by the San Jose Formation. The San Jose Formation of Eocene age was defined by Simpson (1948a, b). It occurs in New Mexico and Colorado and its outcrop forms the land surface over much of the central basin area. It overlies the Nacimiento Formation in the area generally south of the State line (Fassett, 1974. P229). The Basal contact of the San Jose varies with location in the basin. This contact is a disconformity along the basin margins, and it is an angular unconformity along the Nacimiento uplift; the contact is conformable in the central basin. The Nacimiento is a sequence of varicolored beds of sandstone and mudrock that attains a thickness of as much as 120 m thick (Baltz, 1967).

The Animas Formation occupies a stratigraphic position similar to that of the OJO Alamo and Nacimiento Formations. The Animas strata comprise a general fining upward sequence of volcanoclastic conglomerates and sandstones, with arkosic conglomerates and sandstones near the top. The upper member of the Animas has been shown to interfinger with the Nacimiento in its eastern (Dane, 1946) and western (Barnes et al., 1954) outcrop belts. Subsurface correlation of these formations has not been carried out in any detail because of the difficulty of recognizing their contact on Electric logs (Fassett and Hinds, 1971:33).

The nature of the contact between the lower Eocene San Jose Formation and the Nacimiento formation north of latitude 36 degrees 45'N has been described as conformable (Barnes et al., 1954, Stone et al., 1983 25-26), Whereas at latitude 36 it has been shown to be unconformable (Baltz, 1967; Lucas et al., 1981) Contact relationships between the San Jose and Animas Formations in the northernmost San Juan Basin have been shown to be intertonguing (Smith, 1988). The San Jose formation was deposited in various fluvial type environments. In general the unit consists of an interbedded sequence of sandstone siltstone and variegated shale, the sandstones are buff to yellow and rusty-colored crossbedded very fine to coarse grained arkose, which are locally conglomeratic and contain abundant silicified wood. The thickness of the San Jose Nacimiento and Animas Formations is ranges from zero to more than 3,500 feet in the east central part of the structural basin. The bottom of the Nacimiento and Animas Formations decreases from a maximum altitude of more than 8 000 feet above sea level along the northeastern basin rim to less than 4,000 feet above sea level in the east central part of the basin.

### **Hydraulic Properties:**

The San Jose, Nacimiento, and Animas Formations are a source of water for public-supply, commercial, private-domestic, and livestock use in areas where drilling depths and pumping levels are economically feasible and where water quality is suitable. Water in the San Jose Nacimiento and Animas Formations occurs under both water table and

artesian conditions. Recharge to the aquifer is from infiltration of precipitation and stream flow on outcrops and from vertical upward leakage of water from underlying units. Transmissivity data for the San Jose Nacimiento and Animas Formations are minimal-Values of 40 and 120 feet squared per day were determined from two aquifer tests (Stone and others 1983 table 5). The reported or measured discharge from 79 water wells completed in the San Jose, Nacimiento, and Animas Formations ranges from 1 to 61 gallons per minute and the median is 6 gallons per minute. The specific capacity of 12 of these wells ranges from 0.03 to 2.30 gallons per minute per foot of drawdown and the median is 0.23 gallon per minute per foot of drawdown. Water quality data described in this section are from the NWIS data base and were collected during 1938. 84 Well records were checked to assure to the extent possible that a particular sample represents water only from the San Jose Nacimiento and Animas Formations and not a mixture of water from other aquifers. Locally however these formations may have substantial differences in the concentration of some water quality constituents due in part to differences in rock characteristics as described in the Geology section.

**Reference:**

USGS Hydrologic investigations atlas HA-720-A plate 1,2  
Lucas, Spencer G and Smith, Larry N. 1991, Stratigraphy, Sedimentology and Paleontology of the Lower Eocene San Jose Formation in the central portion of the San Juan basin, Northwestern New Mexico, New Mexico Bureau of Mines & Mineral Resources Bulletin 126. 6-7p.



## **Sitting Requirements for NEBU 447**

The NEBU 447 is not located in an unstable area per topographic map attached.

There is no continuously flowing watercourse near the proposed location.

The proposed well location is neither near any private and/or public buildings nor any private and/or public water sources.

The proposed well location is not located within any incorporated municipal boundaries or municipal fresh water well field.

There are no wetlands located near the proposed well location as per the wetlands map attached.

Per the NM Bureau of Geology and Mineral Resources map attached there are no locations of any mines, mills or quarries near the proposed well location.

The FEMA floodplain map attached indicates the proposed well location is defined as outside of the 500 Year Flood Plain.

There will be no excavated material placed within 300 feet of a flowing watercourse or within 200 feet of any other defined water course.

**New Mexico Office of the State Engineer  
POD Reports and Downloads**

Township: 31N | Range: 08W | Sections: 36,25,35,26 |

NAD27 X: | Y: | Zone: ☐ Search Radius:

County: ☐ Basin: ☐ Number: Suffix:

Owner Name: (First) | (Last) | ☐ Non-Domestic ☐ Domestic  
☒ All

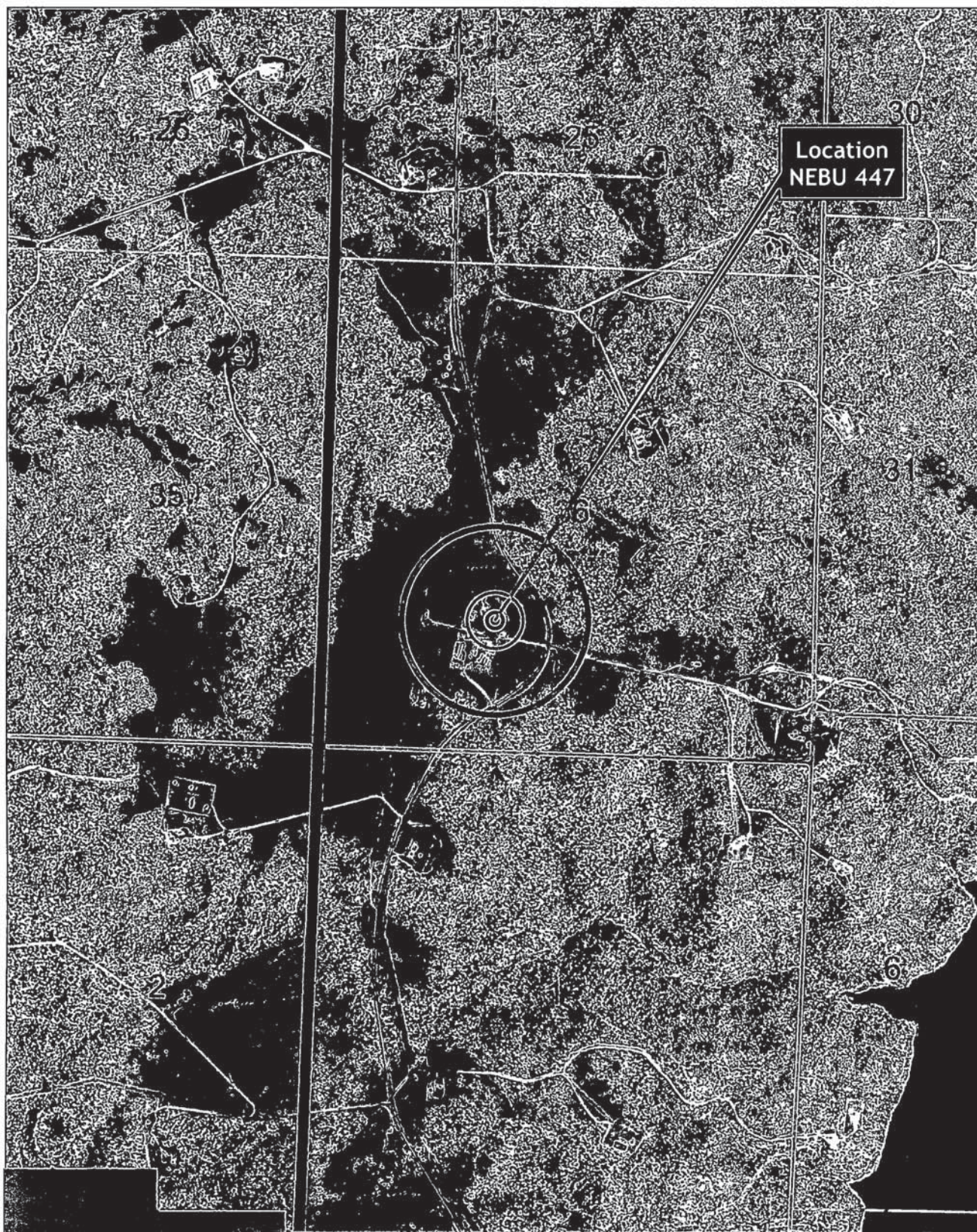
☐ POD / Surface Data Report ☐ Avg Depth-to-Water Report  
☐ Water Column Report

**AVERAGE DEPTH OF WATER REPORT 09/10/2008**

Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	(Depth Water in Feet)		
								Min	Max	Avg
SJ	31N	08W	25				2	500	500	500

Record Count: 2





1 inch equals 1,500 feet

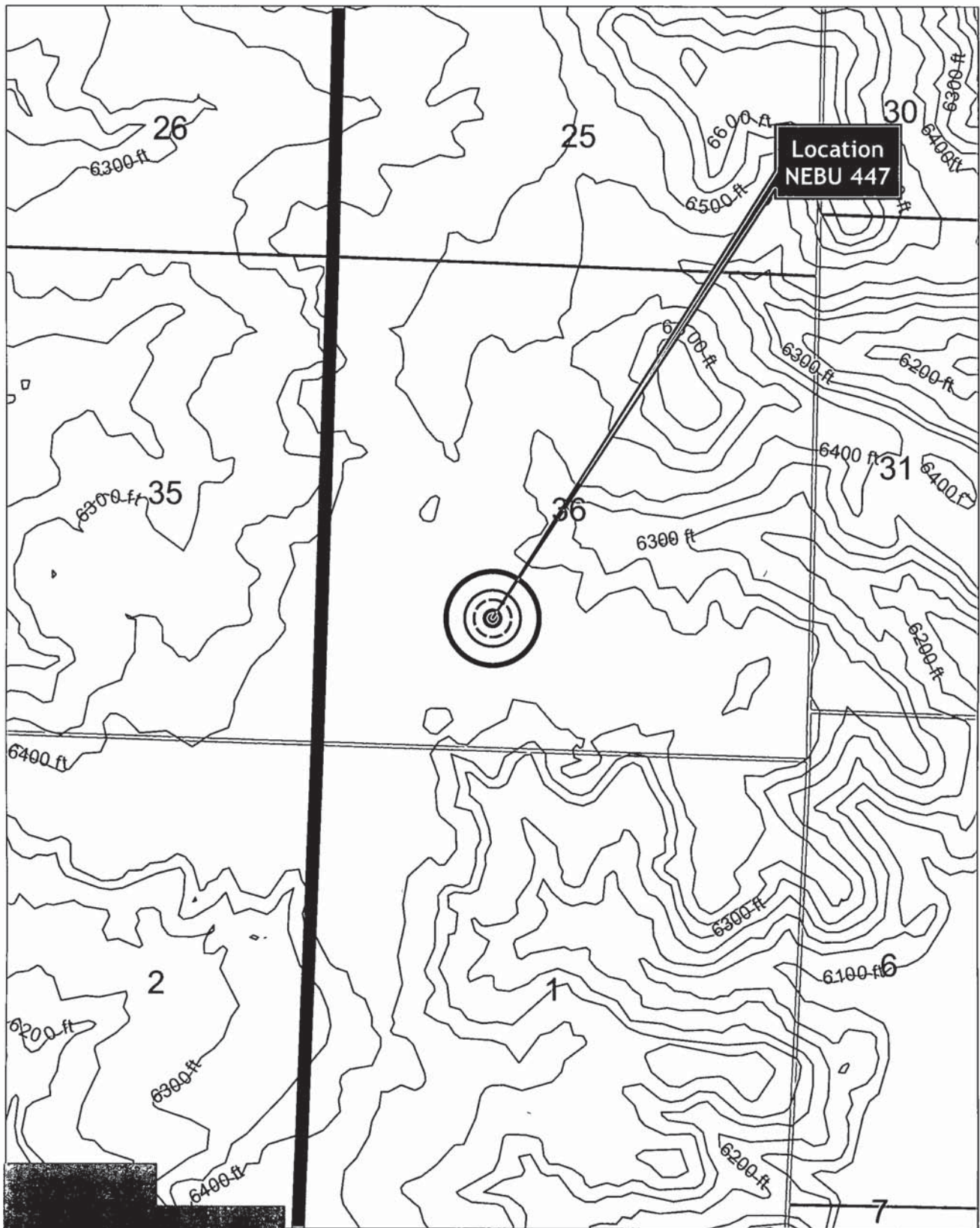
○ 300 ft  
○ 1000 ft

# Northeast Blanco Unit

Aerial Map







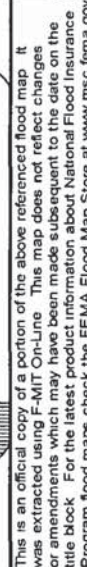
1 inch equals 1,500 feet

- 200 ft
- 300 ft
- 500 ft

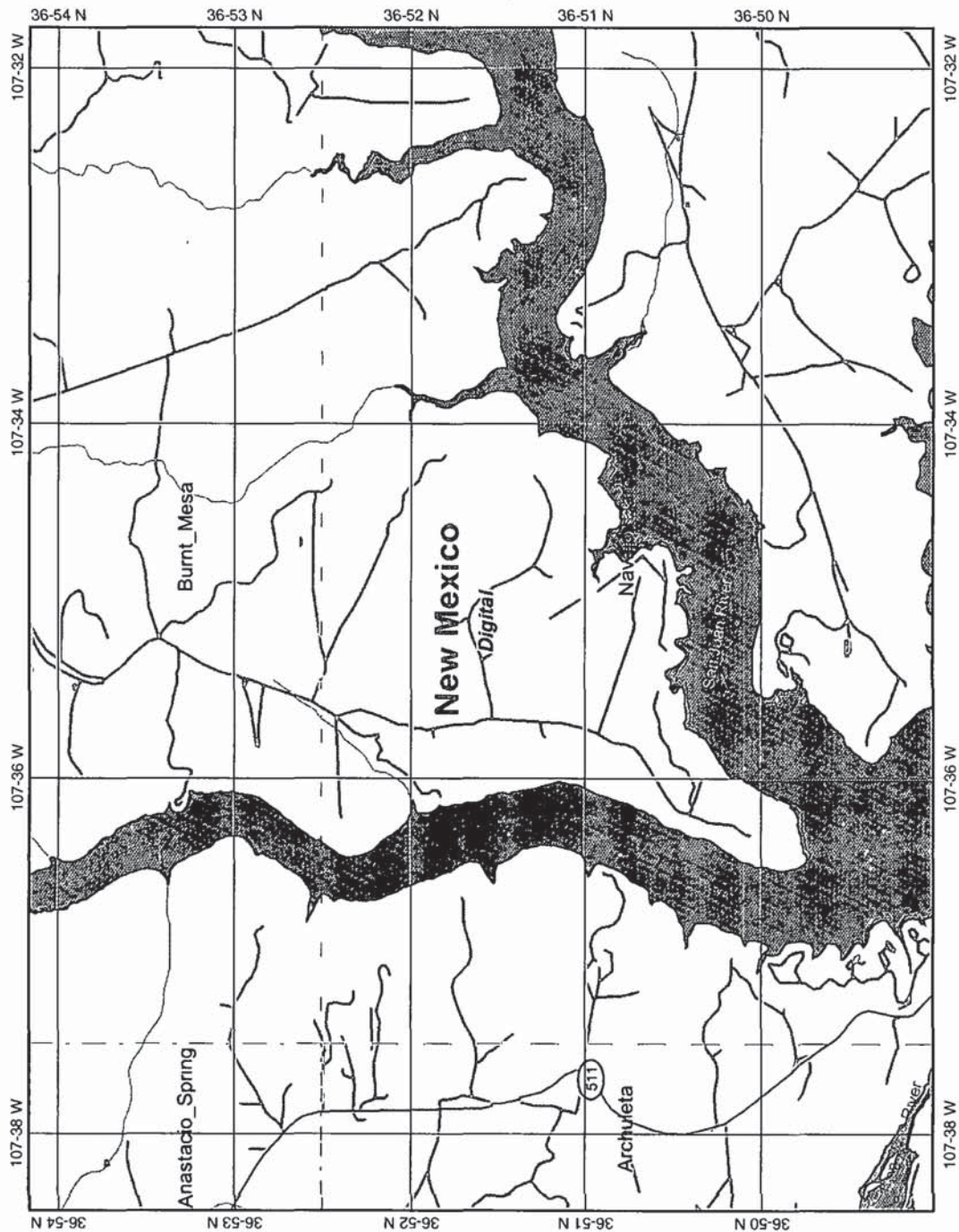
**Northeast Blanco Unit**  
Topo Map

  
**devon**





## NEBU 447 Wetlands Map



Map center: 36° 51' 36" N, 107° 35' 6" W

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION



## Legend

- Interstate
- Major Road
- Other Road
- Interstate
- State highway
- US highway
- Roads
- Cities
- USGS Quad Index 24K
- Lower 48 Wetland Polygons
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Lower 48 Available Wetland Data
- Non-Digital
- Digital
- No Data
- Scan
- NHD Streams
- Counties 100K
- States 100K
- South America
- North America



Scale: 1:66,584



# NEBU 447 Mines, Mills and Quarries Web Map



SCALE 1 : 578,656

