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	NRM2012166326
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

Latitude: 36.921376° Longitude: -107.501767°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Northeast Blanco Unit 426A Waterline	Site Type: Water Transfer System
Date Release Discovered: April 14, 2020	API#: No API assigned to ROW

Unit Letter	Section	Township	Range	County
O	06	T31N	R06W	San Juan

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls): **22**	Volume Recovered (bbls): **0**
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls):	Volume Recovered (bbls):
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release:
Release of produced water from a produced water transfer pipeline failure. Root cause was determined to be internal corrosion. No BTEX or TPH detected above the remedial action level. Flow path has been sampled for baseline chloride concentrations. Approximately 100 lbs of gypsum was applied to the surface and raked in to the flowpath on 4/27/20.

State of New Mexico
Oil Conservation Division

Incident ID	NRM2012166326
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Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

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

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

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

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

Printed Name: Steve Moskal Title: Environmental Coordinator

Signature:  Date: April 28, 2020

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

OCD Only

Received by: Ramona Marcus Date: 4/30/2020

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
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Printed Name: Steve Moskal Title: Environmental Coordinator

Signature:  Date: April 28, 2020

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

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

☐ Extents of contamination must be fully delineated.

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

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

Printed Name: Steve Moskal Title: Environmental Coordinator

Signature: _____ Date: _____

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

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☐ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Steve Moskal Title: Environmental Coordinator

Signature: _____ Date: _____

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: _____ Date: _____

Printed Name: _____ Title: _____

Summary of Laboratory Analysis
Results in mg/Kg

NEBU 426A Waterline
Pipeline Release
4/13/2020

Date	Time	Sample ID	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8015 MRO	Method 8021 Benzene	Method 8021 BTEX	Method 300.0 Chloride
NMOCD Guidelines				100 ppm			10 ppm	50 ppm	600 ppm
4/16/2020	11:59A	Point	Surface	<10.0	<10.0	<10.0	<0.025	0.187	**688**
4/16/2020	12:06P	SS1	Surface	<10.0	<10.0	<10.0	<0.025	<0.150	**775**
4/16/2020	12:15P	SS2	Surface	<10.0	<10.0	<10.0	<0.025	<0.150	541
4/16/2020	12:21P	SS3	Surface	<10.0	<10.0	<10.0	<0.025	<0.150	487

75 Suttle Street
Durango, CO 81303
970.247.4220 Phone
970.247.4227 Fax
www.greenanalytical.com

24 April 2020

Erin Dunman
BP America
1199 Main Ave Suite 101
Durango, CO 81303
RE: BTEX TPH

Enclosed are the results of analyses for samples received by the laboratory on 04/16/20 14:08.
If you need any further assistance, please feel free to contact me.

Sincerely,

Debbie Zufelt
Reports Manager

All accredited analytes contained in this report are denoted by an asterisk (*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at http://greenanalytical.com/certifications/

Green Analytical Laboratories is NELAP accredited through the Texas Commission on Environmental Quality. Accreditation applies to drinking water and non-potable water matrices for trace metals and a variety of inorganic parameters. Green Analytical Laboratories is also accredited through the Colorado Department of Public Health and Environment and EPA region 8 for trace metals, Cyanide, Fluoride, Nitrate, and Nitrite in drinking water.

Our affiliate laboratory, Cardinal Laboratories, is also NELAP accredited through the Texas Commission on Environmental Quality for a variety of organic constituents in drinking water, non-potable water and solid matrices. Cardinal is also accredited for regulated VOCs, TTHM, and HAA-5 in drinking water through the Colorado Department of Public Health and Environment and EPA region 8.

Green Analytical Laboratories
dzufelt@greenanalytical.com p: 970.247.4220 f: 970.247.4227 75 Suttle Street Durango, CO 81303
www.GreenAnalytical.com

BP America	Project: BTEX TPH	
1199 Main Ave Suite 101	Project Name / Number: NEBU 426A	**Reported:**
Durango CO, 81303	Project Manager: Erin Dunman	04/24/20 15:33

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
Point	2004115-01	Solid	04/16/20 11:59	04/16/20 14:08	
SS1	2004115-02	Solid	04/16/20 12:06	04/16/20 14:08	
SS2	2004115-03	Solid	04/16/20 12:15	04/16/20 14:08	
SS3	2004115-04	Solid	04/16/20 12:21	04/16/20 14:08	

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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www.GreenAnalytical.com

BP America	Project: BTEX TPH	
1199 Main Ave Suite 101	Project Name / Number: NEBU 426A	**Reported:**
Durango CO, 81303	Project Manager: Erin Dunman	04/24/20 15:33

Point

2004115-01 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
% Dry Solids	**83.0**			%	1	04/22/20 10:15	EPA160.3/1684		VJW
Soluble (DI Water Extraction)									
Chloride	**688**	60.3	5.34	mg/kg dry	50	04/24/20 11:39	EPA300.0		AES
Subcontracted -- **Cardinal Laboratories**									
Petroleum Hydrocarbons by GC FID									
GRO C6-C10*	<10.0	10.0	1.97	mg/kg	1	04/18/20 12:27	8015B		MS
DRO >C10-C28*	<10.0	10.0	2.97	mg/kg	1	04/18/20 12:27	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	2.97	mg/kg	1	04/18/20 12:27	8015B		MS
Surrogate: 1-Chlorooctane			*90.0 %*	*44.3-144*		*04/18/20 12:27*	*8015B*		MS
Surrogate: 1-Chlorooctadecane			*91.9 %*	*42.2-156*		*04/18/20 12:27*	*8015B*		MS
Volatile Organic Compounds by EPA Method 8260B									
Benzene*	<0.025	0.025	0.006	mg/kg	50	04/20/20 18:23	8260B		MS
Toluene*	**0.026**	0.025	0.003	mg/kg	50	04/20/20 18:23	8260B		MS
Ethylbenzene*	<0.025	0.025	0.004	mg/kg	50	04/20/20 18:23	8260B		MS
Total Xylenes*	**0.149**	0.075	0.014	mg/kg	50	04/20/20 18:23	8260B		MS
Total BTEX	**0.187**	0.150	0.028	mg/kg	50	04/20/20 18:23	8260B		MS
Surrogate: Dibromofluoromethane			*91.5 %*	*81.7-113*		*04/20/20 18:23*	*8260B*		MS
Surrogate: Toluene-d8			*102 %*	*84.4-116*		*04/20/20 18:23*	*8260B*		MS
Surrogate: 4-Bromofluorobenzene			*101 %*	*62.8-131*		*04/20/20 18:23*	*8260B*		MS

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

Green Analytical Laboratories
dzufelt@greenanalytical.com p: 970.247.4220 f: 970.247.4227 75 Suttle Street Durango, CO 81303
www.GreenAnalytical.com

BP America	Project: BTEX TPH	
1199 Main Ave Suite 101	Project Name / Number: NEBU 426A	**Reported:**
Durango CO, 81303	Project Manager: Erin Dunman	04/24/20 15:33

SS1

2004115-02 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
% Dry Solids	**85.1**			%	1	04/22/20 10:15	EPA160.3/1684		VJW
Soluble (DI Water Extraction)									
Chloride	**775**	58.8	5.21	mg/kg dry	50	04/24/20 11:58	EPA300.0		AES
Subcontracted -- **Cardinal Laboratories**									
Petroleum Hydrocarbons by GC FID									
GRO C6-C10*	<10.0	10.0	1.97	mg/kg	1	04/18/20 12:52	8015B		MS
DRO >C10-C28*	<10.0	10.0	2.97	mg/kg	1	04/18/20 12:52	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	2.97	mg/kg	1	04/18/20 12:52	8015B		MS
Surrogate: 1-Chlorooctane			*92.9 %*	*44.3-144*		*04/18/20 12:52*	*8015B*		MS
Surrogate: 1-Chlorooctadecane			*94.5 %*	*42.2-156*		*04/18/20 12:52*	*8015B*		MS
Volatile Organic Compounds by EPA Method 8260B									
Benzene*	<0.025	0.025	0.006	mg/kg	50	04/20/20 18:47	8260B		MS
Toluene*	<0.025	0.025	0.003	mg/kg	50	04/20/20 18:47	8260B		MS
Ethylbenzene*	<0.025	0.025	0.004	mg/kg	50	04/20/20 18:47	8260B		MS
Total Xylenes*	<0.075	0.075	0.014	mg/kg	50	04/20/20 18:47	8260B		MS
Total BTEX	<0.150	0.150	0.028	mg/kg	50	04/20/20 18:47	8260B		MS
Surrogate: Dibromofluoromethane			*92.0 %*	*81.7-113*		*04/20/20 18:47*	*8260B*		MS
Surrogate: Toluene-d8			*101 %*	*84.4-116*		*04/20/20 18:47*	*8260B*		MS
Surrogate: 4-Bromofluorobenzene			*102 %*	*62.8-131*		*04/20/20 18:47*	*8260B*		MS

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

Green Analytical Laboratories
dzufelt@greenanalytical.com p: 970.247.4220 f: 970.247.4227 75 Suttle Street Durango, CO 81303
www.GreenAnalytical.com

BP America	Project: BTEX TPH	
1199 Main Ave Suite 101	Project Name / Number: NEBU 426A	**Reported:**
Durango CO, 81303	Project Manager: Erin Dunman	04/24/20 15:33

SS2

2004115-03 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
% Dry Solids	**86.5**			%	1	04/22/20 10:15	EPA160.3/1684		VJW
Soluble (DI Water Extraction)									
Chloride	**541**	57.8	5.12	mg/kg dry	50	04/24/20 12:17	EPA300.0		AES
Subcontracted -- **Cardinal Laboratories**									
Petroleum Hydrocarbons by GC FID									
GRO C6-C10*	<10.0	10.0	1.97	mg/kg	1	04/18/20 13:18	8015B		MS
DRO >C10-C28*	<10.0	10.0	2.97	mg/kg	1	04/18/20 13:18	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	2.97	mg/kg	1	04/18/20 13:18	8015B		MS
Surrogate: 1-Chlorooctane			*86.2 %*	*44.3-144*		*04/18/20 13:18*	*8015B*		MS
Surrogate: 1-Chlorooctadecane			*88.4 %*	*42.2-156*		*04/18/20 13:18*	*8015B*		MS
Volatile Organic Compounds by EPA Method 8260B									
Benzene*	<0.025	0.025	0.006	mg/kg	50	04/20/20 19:11	8260B		MS
Toluene*	<0.025	0.025	0.003	mg/kg	50	04/20/20 19:11	8260B		MS
Ethylbenzene*	<0.025	0.025	0.004	mg/kg	50	04/20/20 19:11	8260B		MS
Total Xylenes*	<0.075	0.075	0.014	mg/kg	50	04/20/20 19:11	8260B		MS
Total BTEX	<0.150	0.150	0.028	mg/kg	50	04/20/20 19:11	8260B		MS
Surrogate: Dibromofluoromethane			*91.9 %*	*81.7-113*		*04/20/20 19:11*	*8260B*		MS
Surrogate: Toluene-d8			*102 %*	*84.4-116*		*04/20/20 19:11*	*8260B*		MS
Surrogate: 4-Bromofluorobenzene			*102 %*	*62.8-131*		*04/20/20 19:11*	*8260B*		MS

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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dzufelt@greenanalytical.com p: 970.247.4220 f: 970.247.4227 75 Suttle Street Durango, CO 81303
www.GreenAnalytical.com

BP America	Project: BTEX TPH	
1199 Main Ave Suite 101	Project Name / Number: NEBU 426A	**Reported:**
Durango CO, 81303	Project Manager: Erin Dunman	04/24/20 15:33

SS3

2004115-04 (Soil)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
% Dry Solids	**87.0**			%	1	04/22/20 10:15	EPA160.3/1684		VJW
Soluble (DI Water Extraction)									
Chloride	**487**	57.5	5.09	mg/kg dry	50	04/24/20 12:37	EPA300.0		AES
Subcontracted -- **Cardinal Laboratories**									
Petroleum Hydrocarbons by GC FID									
GRO C6-C10*	<10.0	10.0	1.97	mg/kg	1	04/18/20 13:43	8015B		MS
DRO >C10-C28*	<10.0	10.0	2.97	mg/kg	1	04/18/20 13:43	8015B		MS
EXT DRO >C28-C36	<10.0	10.0	2.97	mg/kg	1	04/18/20 13:43	8015B		MS
Surrogate: 1-Chlorooctane			*89.5 %*	*44.3-144*		*04/18/20 13:43*	*8015B*		MS
Surrogate: 1-Chlorooctadecane			*92.4 %*	*42.2-156*		*04/18/20 13:43*	*8015B*		MS
Volatile Organic Compounds by EPA Method 8260B									
Benzene*	<0.025	0.025	0.006	mg/kg	50	04/20/20 19:35	8260B		MS
Toluene*	<0.025	0.025	0.003	mg/kg	50	04/20/20 19:35	8260B		MS
Ethylbenzene*	<0.025	0.025	0.004	mg/kg	50	04/20/20 19:35	8260B		MS
Total Xylenes*	<0.075	0.075	0.014	mg/kg	50	04/20/20 19:35	8260B		MS
Total BTEX	<0.150	0.150	0.028	mg/kg	50	04/20/20 19:35	8260B		MS
Surrogate: Dibromofluoromethane			*92.0 %*	*81.7-113*		*04/20/20 19:35*	*8260B*		MS
Surrogate: Toluene-d8			*102 %*	*84.4-116*		*04/20/20 19:35*	*8260B*		MS
Surrogate: 4-Bromofluorobenzene			*102 %*	*62.8-131*		*04/20/20 19:35*	*8260B*		MS

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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www.GreenAnalytical.com

BP America	Project: BTEX TPH	
1199 Main Ave Suite 101	Project Name / Number: NEBU 426A	**Reported:**
Durango CO, 81303	Project Manager: Erin Dunman	04/24/20 15:33

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B200662 - General Prep - Wet Chem										
Duplicate (B200662-DUP1)		**Source: 2004115-01**		Prepared & Analyzed: 04/22/20						
% Dry Solids	83.2		%		83.0			0.315	20	

Soluble (DI Water Extraction) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B200672 - General Prep - Wet Chem										
Blank (B200672-BLK1)				Prepared: 04/23/20 Analyzed: 04/24/20						
Chloride	ND	10.0	mg/kg wet							
LCS (B200672-BS1)				Prepared: 04/23/20 Analyzed: 04/24/20						
Chloride	238	10.0	mg/kg wet	250		95.3	85-115			
LCS Dup (B200672-BSD1)				Prepared: 04/23/20 Analyzed: 04/24/20						
Chloride	244	10.0	mg/kg wet	250		97.6	85-115	2.32	20	

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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dzufelt@greenanalytical.com p: 970.247.4220 f: 970.247.4227 75 Suttle Street Durango, CO 81303
www.GreenAnalytical.com

BP America	Project: BTEX TPH	
1199 Main Ave Suite 101	Project Name / Number: NEBU 426A	**Reported:**
Durango CO, 81303	Project Manager: Erin Dunman	04/24/20 15:33

Petroleum Hydrocarbons by GC FID - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0041707 - General Prep - Organics										
Blank (0041707-BLK1)				Prepared: 04/17/20 Analyzed: 04/18/20						
Surrogate: 1-Chlorooctadecane	*50.5*		mg/kg	*50.0*		*101*	*42.2-156*			
Surrogate: 1-Chlorooctane	*48.4*		mg/kg	*50.0*		*96.8*	*44.3-144*			
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
GRO C6-C10	ND	10.0	mg/kg							
LCS (0041707-BS1)				Prepared: 04/17/20 Analyzed: 04/18/20						
Surrogate: 1-Chlorooctadecane	*54.8*		mg/kg	*50.0*		*110*	*42.2-156*			
Surrogate: 1-Chlorooctane	*54.2*		mg/kg	*50.0*		*108*	*44.3-144*			
DRO >C10-C28	195	10.0	mg/kg	200		97.3	80-132			
GRO C6-C10	200	10.0	mg/kg	200		100	78.8-127			
Total TPH C6-C28	395	10.0	mg/kg	400		98.7	81.3-128			
LCS Dup (0041707-BSD1)				Prepared: 04/17/20 Analyzed: 04/18/20						
Surrogate: 1-Chlorooctadecane	*53.4*		mg/kg	*50.0*		*107*	*42.2-156*			
Surrogate: 1-Chlorooctane	*52.7*		mg/kg	*50.0*		*105*	*44.3-144*			
DRO >C10-C28	189	10.0	mg/kg	200		94.6	80-132	2.73	17.1	
GRO C6-C10	199	10.0	mg/kg	200		99.4	78.8-127	0.846	15.1	
Total TPH C6-C28	388	10.0	mg/kg	400		97.0	81.3-128	1.77	15	

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BP America	Project: BTEX TPH	
1199 Main Ave Suite 101	Project Name / Number: NEBU 426A	**Reported:**
Durango CO, 81303	Project Manager: Erin Dunman	04/24/20 15:33

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0042006 - Volatiles										
Blank (0042006-BLK1)			Prepared & Analyzed: 04/20/20							
Surrogate: 4-Bromofluorobenzene	*1.27*		mg/kg	*1.25*		*102*	*62.8-131*			
Benzene	ND	0.025	mg/kg							
Surrogate: Dibromofluoromethane	*1.14*		mg/kg	*1.25*		*91.2*	*81.7-113*			
Ethylbenzene	ND	0.025	mg/kg							
Toluene	ND	0.025	mg/kg							
Surrogate: Toluene-d8	*1.27*		mg/kg	*1.25*		*102*	*84.4-116*			
Total BTEX	ND	0.150	mg/kg							
Total Xylenes	ND	0.075	mg/kg							
LCS (0042006-BS1)			Prepared & Analyzed: 04/20/20							
Surrogate: 4-Bromofluorobenzene	*1.28*		mg/kg	*1.25*		*102*	*62.8-131*			
Benzene	1.81	0.025	mg/kg	2.00		90.4	64.8-122			
Surrogate: Dibromofluoromethane	*1.15*		mg/kg	*1.25*		*91.8*	*81.7-113*			
Ethylbenzene	2.06	0.025	mg/kg	2.00		103	77.3-126			
m+p - Xylene	4.25	0.050	mg/kg	4.00		106	83.1-132			
o-Xylene	2.20	0.025	mg/kg	2.00		110	79.6-131			
Toluene	1.97	0.025	mg/kg	2.00		98.3	75.9-124			
Surrogate: Toluene-d8	*1.27*		mg/kg	*1.25*		*102*	*84.4-116*			
Total Xylenes	6.45	0.075	mg/kg	6.00		107	82-132			
LCS Dup (0042006-BSD1)			Prepared & Analyzed: 04/20/20							
Surrogate: 4-Bromofluorobenzene	*1.30*		mg/kg	*1.25*		*104*	*62.8-131*			
Benzene	1.87	0.025	mg/kg	2.00		93.3	64.8-122	3.14	9.42	
Surrogate: Dibromofluoromethane	*1.13*		mg/kg	*1.25*		*90.7*	*81.7-113*			
Ethylbenzene	2.12	0.025	mg/kg	2.00		106	77.3-126	3.12	10	
m+p - Xylene	4.40	0.050	mg/kg	4.00		110	83.1-132	3.51	9.6	
o-Xylene	2.28	0.025	mg/kg	2.00		114	79.6-131	3.63	8.93	
Toluene	2.05	0.025	mg/kg	2.00		103	75.9-124	4.21	10	
Surrogate: Toluene-d8	*1.28*		mg/kg	*1.25*		*102*	*84.4-116*			
Total Xylenes	6.68	0.075	mg/kg	6.00		111	82-132	3.55	9.26	

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www.GreenAnalytical.com

BP America	Project: BTEX TPH	
1199 Main Ave Suite 101	Project Name / Number: NEBU 426A	**Reported:**
Durango CO, 81303	Project Manager: Erin Dunman	04/24/20 15:33

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
	*Results reported on as received basis unless designated as dry.
RPD	Relative Percent Difference
LCS	Laboratory Control Sample (Blank Spike)
RL	Report Limit
MDL	Method Detection Limit

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

GREEN GAL Analytical Laboratories

(970) 247-4220
Fax: (970) 247-4227

jenna.emerick@greenanalytical.com or
dzufelt@greenanalytical.com
75 Suttle St Durango, CO 81303

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

FORM-006
COC - Revision 6.0

Company or Client:	BP America Prod. Co
Address:	1199 Main Ave, Suite 101
City:	Durango State: CO Zip: 81301
Phone #:	832-609-7048
Contact Person:	Erin Dunman
Email Report to:	Erin.Dunman@bpx.com
Project Name(optional):	NEBU ~~264A~~ 426A per Steve Moskal 04-24-20 DJF
Sampler Name (Print):	Erin Dunman

Bill to (if different):
P.O. #: TBD
Company:
Attn:
Address:
City:
State: Zip:
Phone #:
Email:

For Lab Use	Sample Name or Location	Collected Date	Collected Time	Matrix: GROUNDWATER	SURFACEWATER	WASTEWATER	PRODUCEDWATER	SOIL	DRINKING WATER	OTHER:	# of containers: No preservation (general)	HNO_3	HCl	H_2SO_4	Other:	Other:	ANALYSIS REQUEST: TPH (GRO/DRO, MRO/BRO) - EPA 8015	Chloride - EPA 300.0	BTEX - EPA 8260
2004-115-01	Point	4/16	11:59 A					X			X						X	X	X
-02	SS1		12:06 P																
-03	SS2		12:15 P																
-04	SS3		12:21 P																

PLEASE NOTE: GAL's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by GAL within 30 days after completion. In no event shall GAL be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by GAL, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: / Time:	Received By:
Erin Dunman	4/16/2020 14:08	
Relinquished By:	Date: / Time:	Received By:
Relinquished By:	Date: / Time:	Received By:
Relinquished By:	Date: / Time:	Received By:

ADDITIONAL REMARKS:
laser #01
No ice
22.4 | 22.5 Temperature at receipt:
FH CHECKED BY

Report to State? (Circle)
Yes No
Ask Card to send back.

† GAL cannot always accept verbal changes. Please fax or email written change requests.
* Chain of Custody must be signed in "Relinquished By:" as an acceptance of services and all applicable charges.

Just Click Printing Form #17-0301

Hydrogeological Report for the NEBU 260H

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 over lies 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 stratigraghic position similar to that of the OJO Alamo and Nacimiento Formations. The Animas strata comprise a general fining upward sequence of volcaniclastic 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) ourcrop 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 (Fasset 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 intertounguing (Smith, 1988). The San Jose formation was deposited in various fluvial type environments. In general the unit consists of an interbeded 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, Nacimienito, 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 260H

The NEBU 260H 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: 06W Sections: 5,6,7,8

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

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

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

Clear Form | iWATERS Menu | Help

AVERAGE DEPTH OF WATER REPORT 02/18/2009

								(Depth Water in Feet)		
Bsn	**Tws**	**Rng**	**Sec**	**Zone**	**X**	**Y**	**Wells**	**Min**	**Max**	**Avg**
SJ	31N	06W	07				1	310	310	310

Record Count: 1

New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	SJ 03685 POD1	4	2	1	07	31N	06W	276814	4088772*

Driller License:	1479	**Driller Company:**	THREE 3-D DRILLING		
Driller Name:	GILES, DEE III				
Drill Start Date:	03/03/2006	**Drill Finish Date:**	03/03/2006	**Plug Date:**	
Log File Date:	03/22/2006	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	1 GPM
Casing Size:	6.63	**Depth Well:**	460 feet	**Depth Water:**	310 feet

Water Bearing Stratifications:	Top	Bottom	Description
	420	440	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	420	460

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

OSE POD Locations

Points of Diversion visible at 1:19,000 with 1,000 features per view

Water Rights Look Up

Measurement

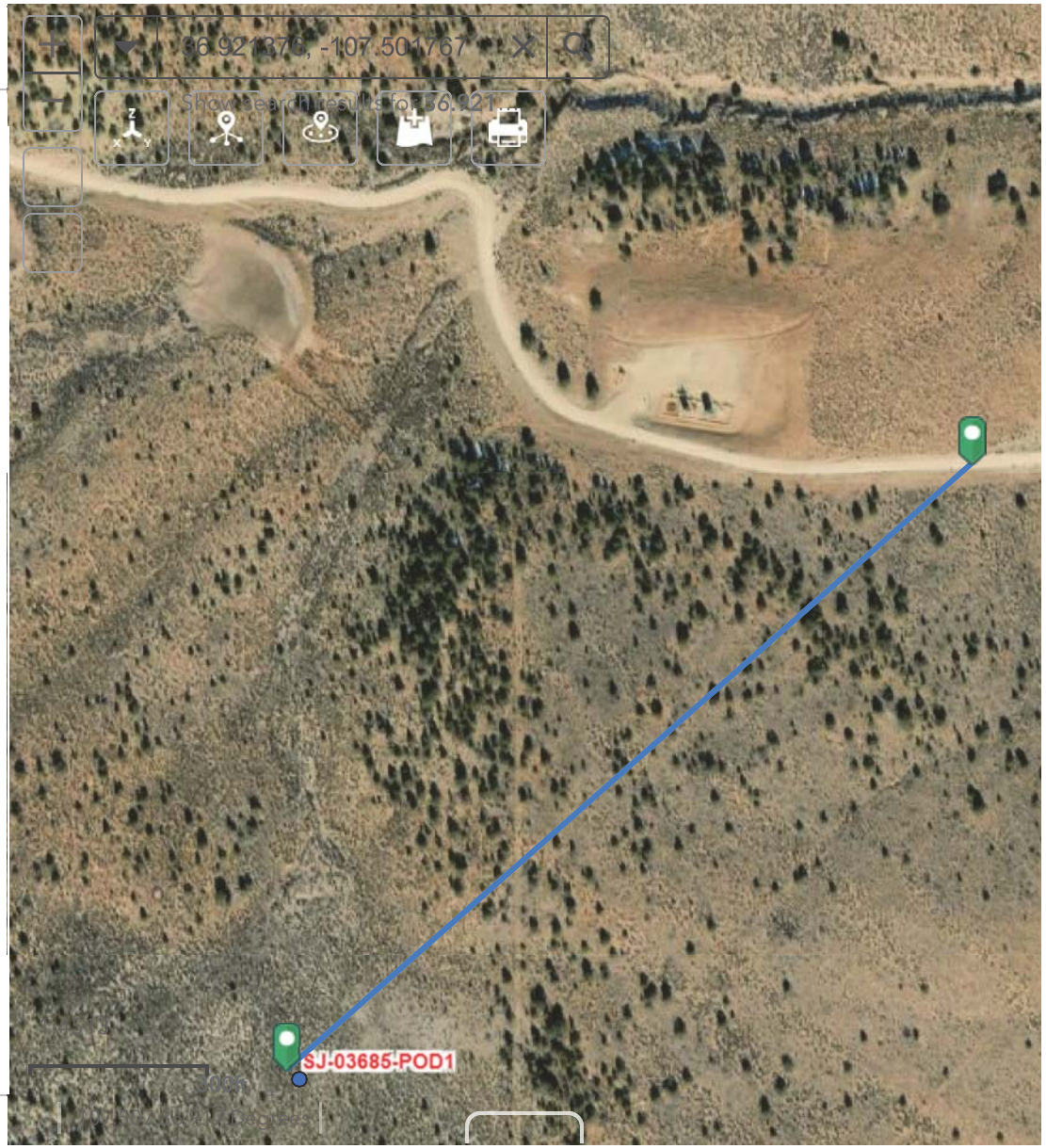
| Feet

Measurement Result

1,520.7 Feet

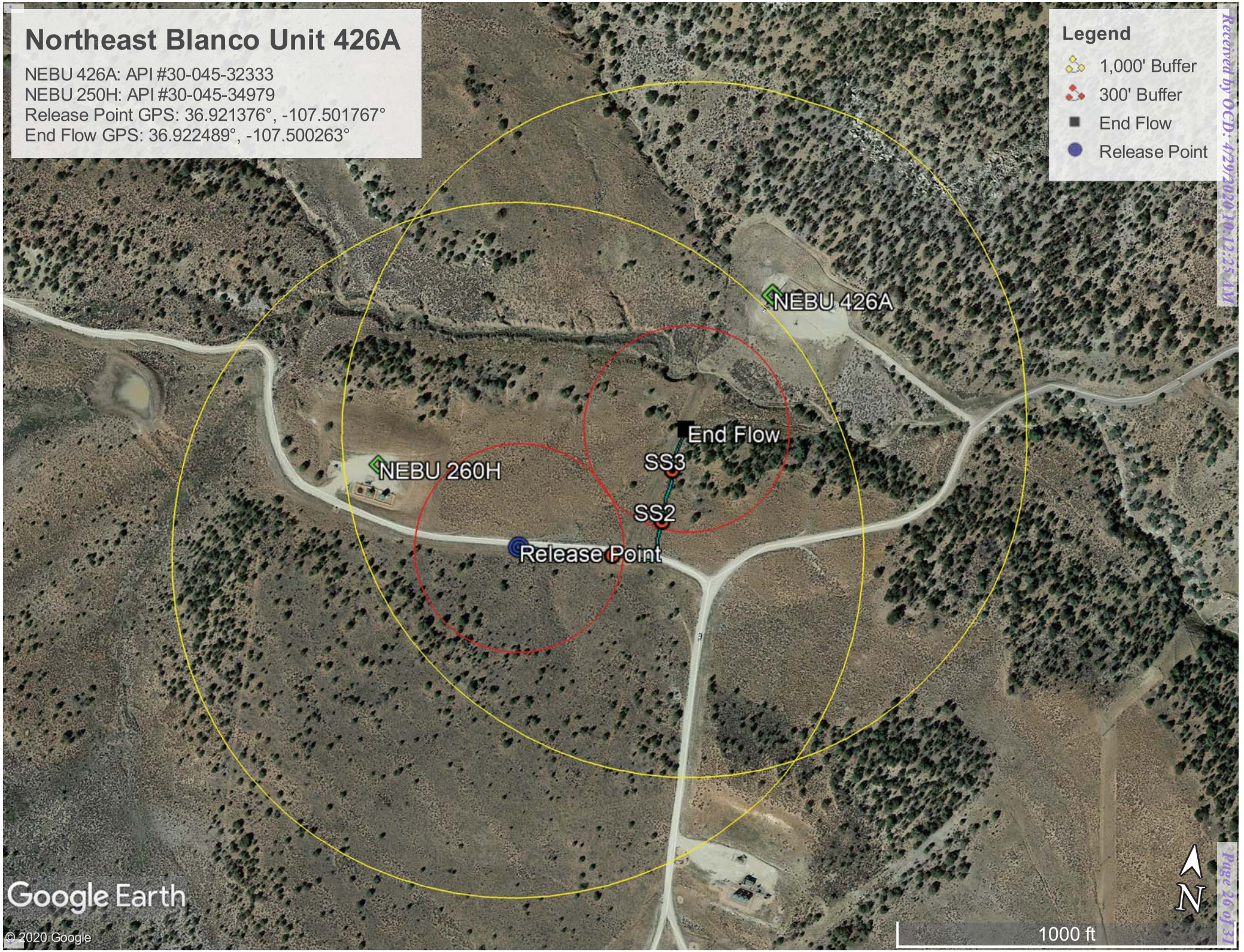
Clear

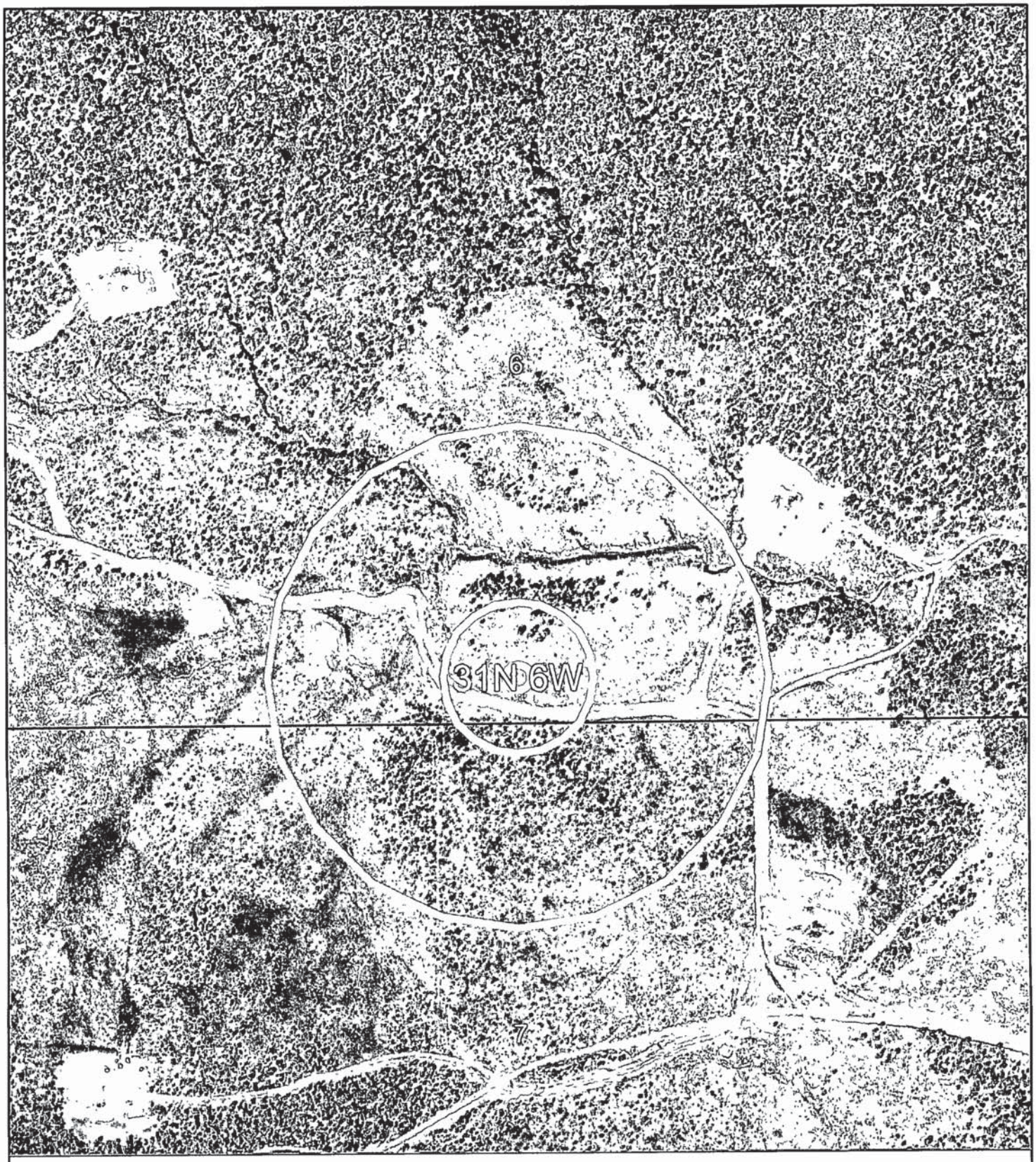
Press **CTRL** to enable snapping



Northeast Blanco Unit 426A

NEBU 426A: API #30-045-32333
NEBU 250H: API #30-045-34979
Release Point GPS: 36.921376°, -107.501767°
End Flow GPS: 36.922489°, -107.500263°





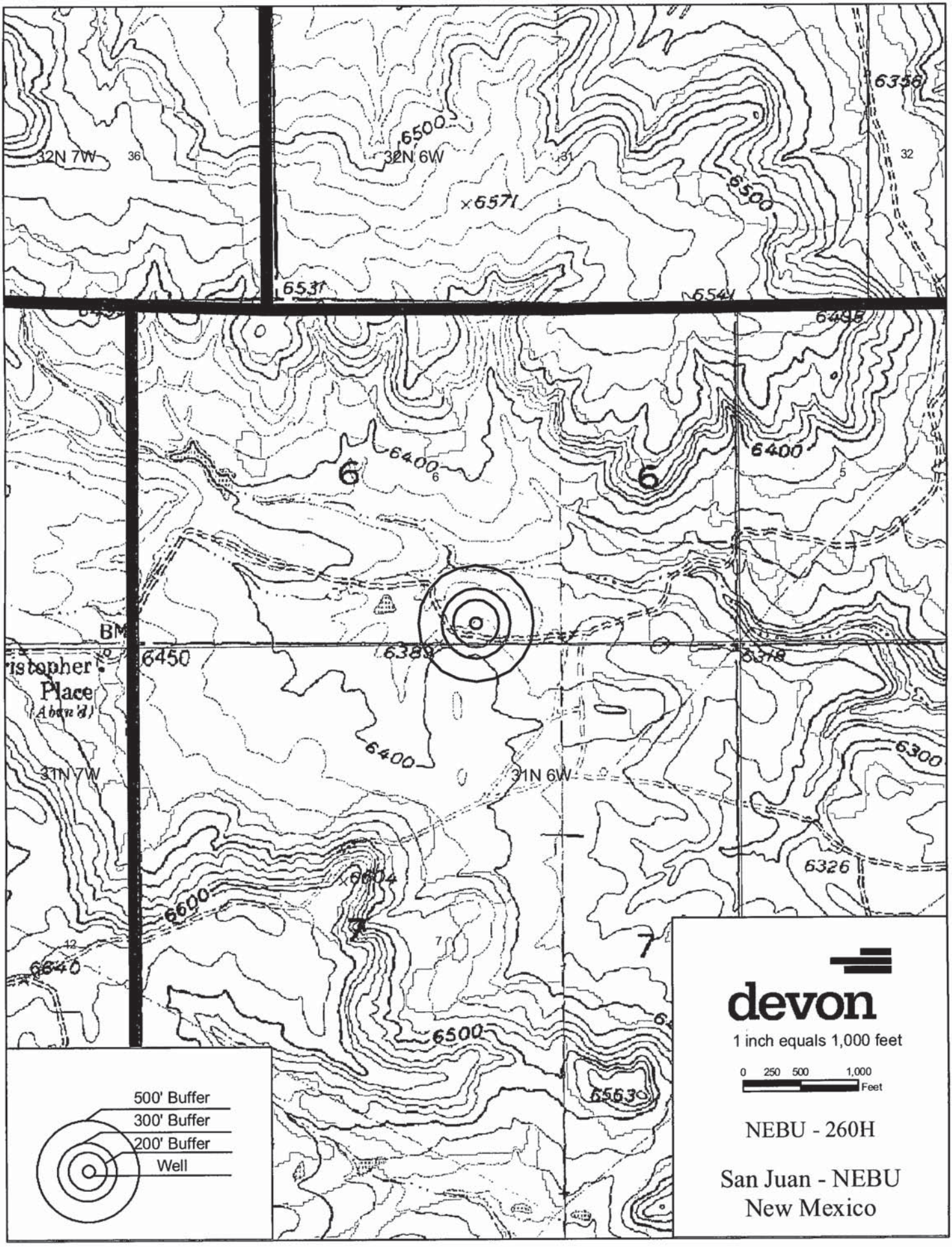
1000' Buffer
300' Buffer
Well

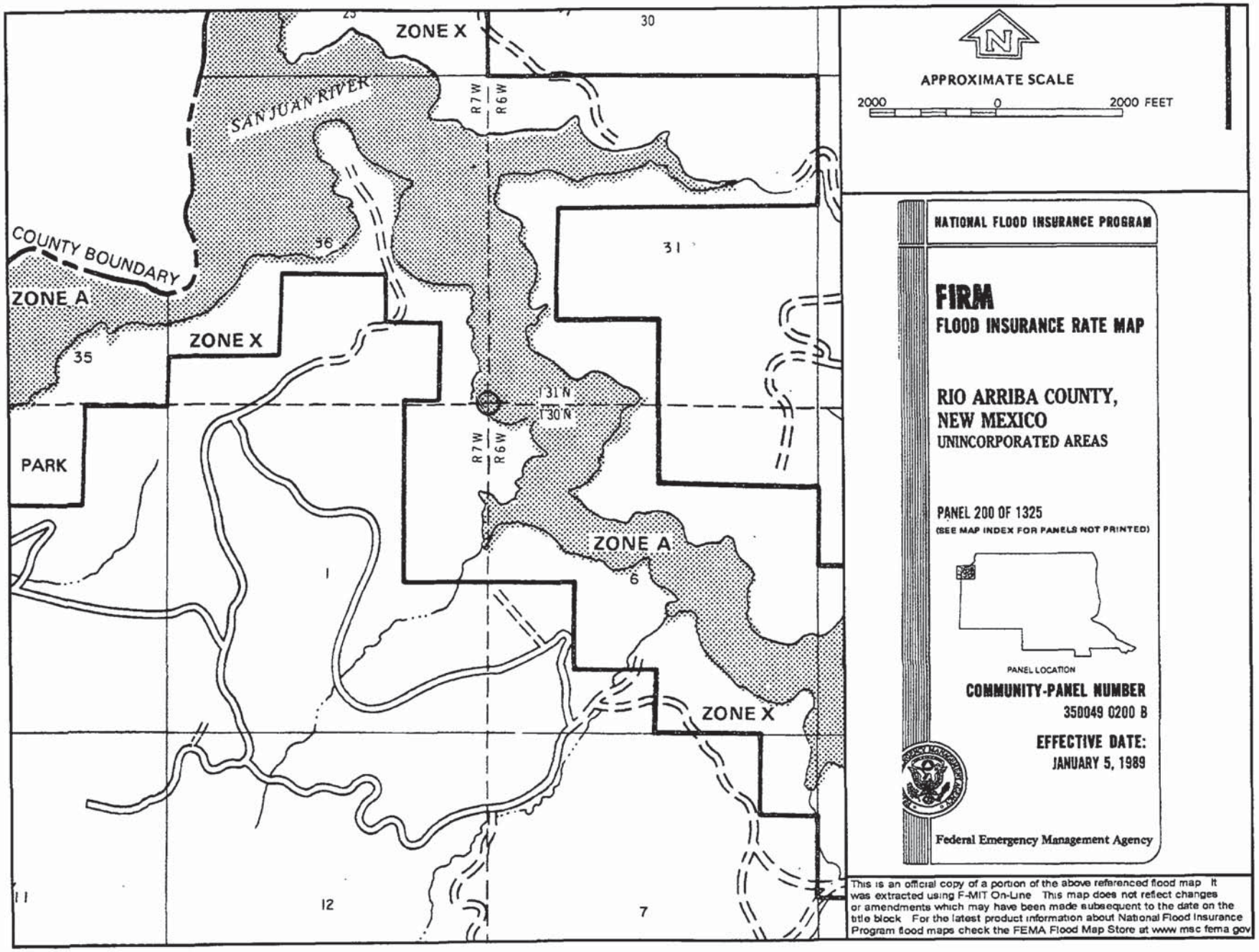
NEBU - 260H

San Juan - NEBU
New Mexico

devon

1 inch equals 500 feet


32N 7W
32N 6W
31N 7W
31N 6W
6500
6400
6450
6600
6640
6563
6326
6300
devon
1 inch equals 1,000 feet
0 250 500 1,000
Feet
NEBU - 260H
San Juan - NEBU
New Mexico
500' Buffer
300' Buffer
200' Buffer
Well



NEBU 260H Wetlands Map

Legend

- Interstate
- Major Roads
- 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: 1:60,000

Map center: 36° 55' 19" N, 107° 30' 12" 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.

260H Mines, Mills, Quarries Web Map

Mines, Mills & Quarries Commodity Groups

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

Mines, Mills & Quarries Status

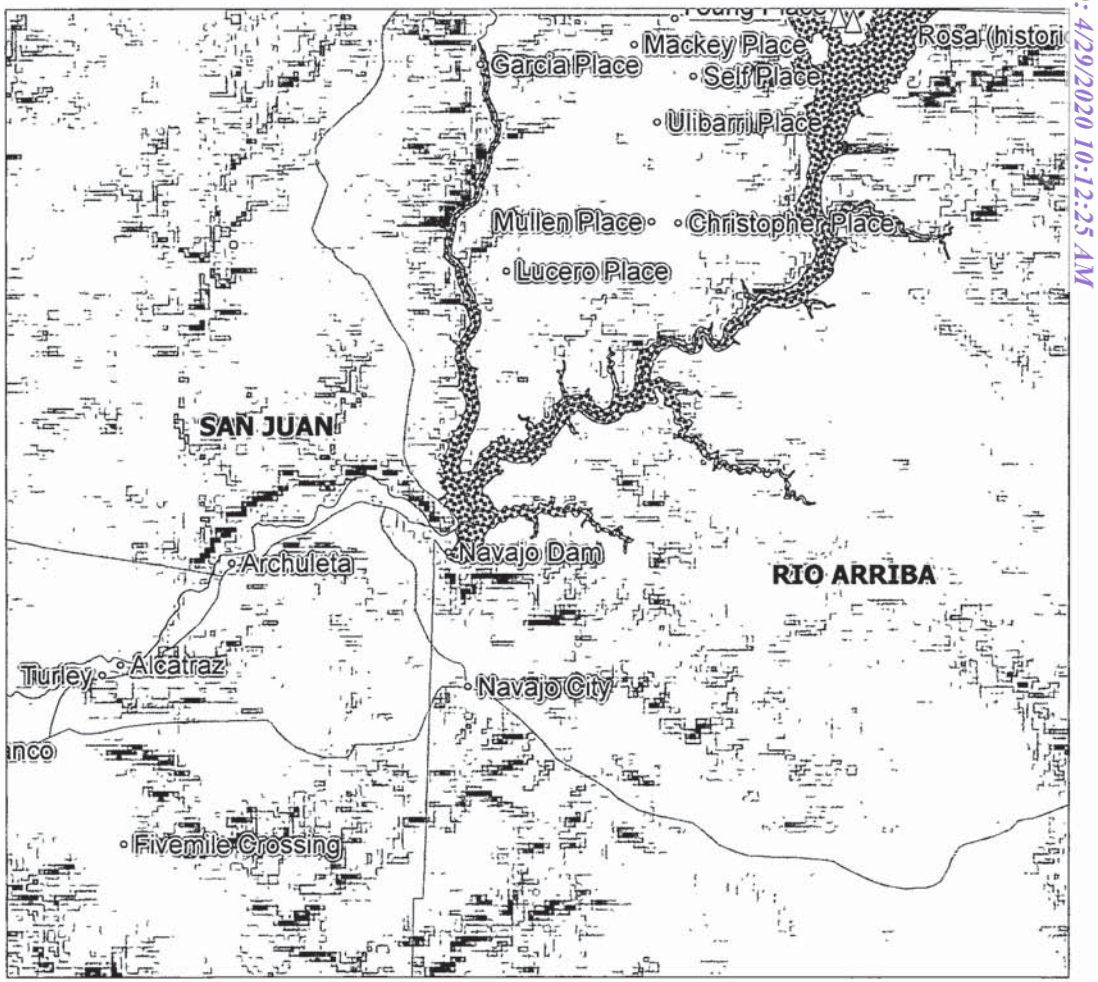
- Active Mining
- Active Mining, Active Reclamation
- Permanent Closure, Active Reclamation
- Permanent Closure, Reclaimed Awaiting Bond Release
- Temporary Suspension
- Under Development

Population

- Cities (2000 Census)

Transportation

- Railways



SCALE 1 : 295,000

5 0 5 10 15

MILES

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

Thursday, February 19, 2009 11:54 AM