

State of New Mexico  
Oil Conservation Division

Incident ID	NRM2016453805
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party: Advance Energy Partners Hat Mesa LLC	OGRID: 372417
Contact Name: David Harwell	Contact Telephone: 281-235-3431
Contact email: DHarwell@advanceenergypartners.com	Incident # (assigned by OCD)
Contact mailing address: 11490 Westheimer Rd. Suite 950. Houston, TX 77077	

### Location of Release Source

Latitude 32.4578013Longitude -103.5916387

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Wool Head B Battery	Site Type: Tank Battery
Date Release Discovered: 06/07/2020 @ 23:00	API#

Unit Letter	Section	Township	Range	County
O	20	21S	33E	Lea

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private

### 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) 10	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" 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: Actuator valve failed to open causing pump to over pressure Poly Transition on Pump causing a rupture in pipe resulting in a release of approximately 10 bbls. Outside containment on Location. Release contained on production pad. 35' x 75' approximately produced water residue.

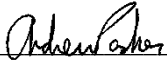
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Was this a major release as defined by 19.15.29.7(A) NMAC?  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given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

<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>Andrew Parker</u> (R.T. Hicks Consultants)	Title: <u>Sr. Env. Specialist</u>
Signature: <u></u>	Date: <u>June, 10<sup>th</sup> 2020</u>
email: <u>andrew@rthicksconsult.com</u>	Telephone: <u>970-570-9535</u>
<b><u>OCD Only</u></b>	
Received by: <u>Ramona Marcus</u>	Date: <u>6/12/2020</u>

Spill Dimensions to Volume of Release			
<b>Input</b>	<b>volume of affected soil</b>	<b>[feet^3]</b>	<b>5937.00</b>
<b>Input</b>	Porosity: typically is .35 to .40 for most soils	[ - ]	0.09
<b>Input</b>	Proportion of porosity filled with release fluid [0,1]	[ - ]	0.10
<b>Output</b>	volume of fluid	[feet^3]	<b>53.4</b>
		[gal]	<b>399.7</b>
		Barrels	9.5

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## 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? <b><u>Plate 2</u></b>	<u>203</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? <b><u>Plate 4</u></b>	<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)? <b><u>Plate 4</u></b>	<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? <b><u>Plate 5</u></b>	<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? <b><u>Plate 3</u></b>	<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? <b><u>Plate 3</u></b>	<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? <b><u>Plate 3</u></b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland? <b><u>Plate 6</u></b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine? <b><u>Plate 7</u></b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology? <b><u>Plate 8</u></b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain? <b><u>Plate 9</u></b>	<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.

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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: Andrew Parker

Title: Env. Scientist

Signature: 

Date: October 13, 2020

email: aparker@advanceenergypartners.com

Telephone: 970-570-9535

**OCD Only**

Received by: Cristina Eads

Date: 10/22/2020

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## Remediation Plan

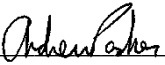
**Remediation Plan Checklist:** *Each of the following items must be included in the plan.*

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

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

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Andrew ParkerTitle: Env. ScientistSignature: Date: October 13, 2020email: aparker@advanceenergypartners.comTelephone: 970-570-9535**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

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

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

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## 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.

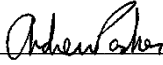
**Closure Report Attachment Checklist:** *Each of the following items must be included in the closure report.*

- ☒ 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: Andrew Parker

Title: Env. Scientist

Signature: 

Date: October 13, 2020

email: aparker@advanceenergypartners.com


Telephone: 970-570-9535

### OCD Only

Received by: Cristina Eads

Date: 10/22/2020

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: 12/16/2020

Printed Name: Cristina Eads

Title: Environmental Specialist



11490 Westheimer Road, Suite 950, Houston, Texas 77077 • Phone 832-672-4700 • Fax 832-672-4609

October 13, 2020

RE:

Characterization, Workplan, & Closure  
Incident ID: NRM2016453805  
AEP #: 06072020-2300-prodops  
Location: Wool Head "B" Pad Battery

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

NMOCD:

Advance Energy Partners Hat Mesa LLC (Advance Energy) submits this characterization report and proposed workplan/closure for the above referenced incident.

The produced water release occurred on June 07, 2020 caused by an actuator valve failing to open causing pump to over pressure the poly-transition fitting on the pump, thus causing a rupture in pipe resulting in a release of approximately 10 bbls. The release was outside of the tank battery containment and remained on an active production pad. The release covered an area of approximately 11,874 sq. ft. The source of the release is at coordinates 32.4578074, -103.5915909 (Latitude/Longitude; NAD 83). The release occurred of State surface.

Drilling, completion, and flowback operations were ongoing at the time of the release and access to the location was limited. Operations were completed on August 27<sup>th</sup>, 2020 and characterization was initiated thereafter.



Incident ID: NRM2016453805  
AEP #: 06072020-2300-prodops

## 1. Characterization

The following sections address items as described in 19.15.29.11.A, paragraphs 1- 4. Please refer to the C-141 characterization checklist for additional setback criteria and verification (Plates 5-9).

### 1.1. Site Map

Horizontal extent of the release was determined by visual observations the day that the release and mapped using GPS technology with sub-meter accuracy.

Plate 1 shows the release extent relative to the active production pad, tank batteries, flowlines, soil sample points, and the point of release.

### 1.2. Depth to Ground Water

Plate 2 shows the depth to ground water reproduced from Open File Report -95<sup>1</sup> published by Geohydrology Associates, Inc for the Bureau of Land Management (BLM). As shown on Plate 2, depth to water is between 150 to 200 feet below ground surface.

Most recent depth to water data was queried from the USGS and New Mexico Office of the State Engineer (OSE) online databases. Spatial analysis shows the nearest water well (USGS-15376) is approximately 0.8 miles southeast with a depth to water of 178.85 ft (dated 02/21/1996).

The potentiometric surface indicates that the depth to water is approximately 203 feet below ground surface, where 203 feet = 3723 ft surface elevation – 3520 ft potentiometric surface.

Appendix A are the wells logs for nearby wells.

### 1.3. Wellhead Protection Area

Plate 3 shows that the release extent is not:

- Within incorporated municipal boundaries or within a defined municipal fresh water well field.
- Within ½-mile private and domestic water sources (wells and springs).
- 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
- Within 1000 feet of any other fresh water well or spring

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<sup>1</sup> Collection of hydrologic data Eastside Roswell Range EIS area, New Mexico.  
<https://geoinfo.nmt.edu/publications/openfile/details.cfm?Volume=95>

Incident ID: NRM2016453805  
AEP #: 06072020-2300-prodops

#### **1.4. Distance to Nearest Significant Water Course**

Plate 4 shows that the release extent is not:

- Within ½ mile of any significant water course.
- Within 300 feet of a continuously flowing watercourse or any other significant watercourse.
- Within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

#### **1.5. Soil/Waste Characteristics**

The release occurred in an area where depth to water is greater than 100 ft below ground surface (bgs) and on an active production pad.

Past remediations in the area commonly show the lithology as:

- 0 – 4.5 ft: silty sand
- 4.0 – 4.5 ft: hard Caliche layer

The lateral and vertical extent of the release was determined by collecting soil samples in the four cardinal directions relative to the release extent and two samples within the release extent (Plate 1).

Table 1 summarizes the analytical results. All samples exhibit chloride and hydrocarbon concentrations, within the upper 2-feet, below the most stringent closure criteria listed in Table 1 of 19.15.29 NMAC. Laboratory Certificate of Analysis is located in Appendix B.

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AEP #: 06072020-2300-prodops

## 2. Remediation Workplan/Closure

As discussed above, soil samples obtained during characterization exhibit chloride and hydrocarbon concentrations, within the upper 2-feet, below the most stringent closure criteria listed in Table 1 of 19.15.29 NMAC. Furthermore, soil sample results from 1 to 2-feet below ground surface (bgs) show a decrease in chloride concentrations with the exception of 'HA East' that exhibited a chloride concentration of 128 mg/kg at 0 to 1-foot and 1 to 2-feet. TPH, benzene, and BTEX were below laboratory detection limits in all samples.

Therefore, we propose "No Further Action" and ask for closure of the regulatory file. The release extent remains on an active production pad for oil and gas operations (Figure 1).



Figure 1: Photo of release area on June 9, 2020. Photo is viewing south from northeast release extent. GPS: 32.4581456 N, -103.5917231 W. Date: 2020-06-09 09:58:37

Please contact me with any questions at 970-570-9535.

Sincerely,  
Advance Energy Partners Hat Mesa, LLC



Andrew Parker  
Env. Scientist

Copy: Randy Black, Braden Harris; Advance Energy Partners Hat Mesa, LLC  
Ryan Mann; New Mexico State Land Office

13 October 2020

# Plates

# Tables

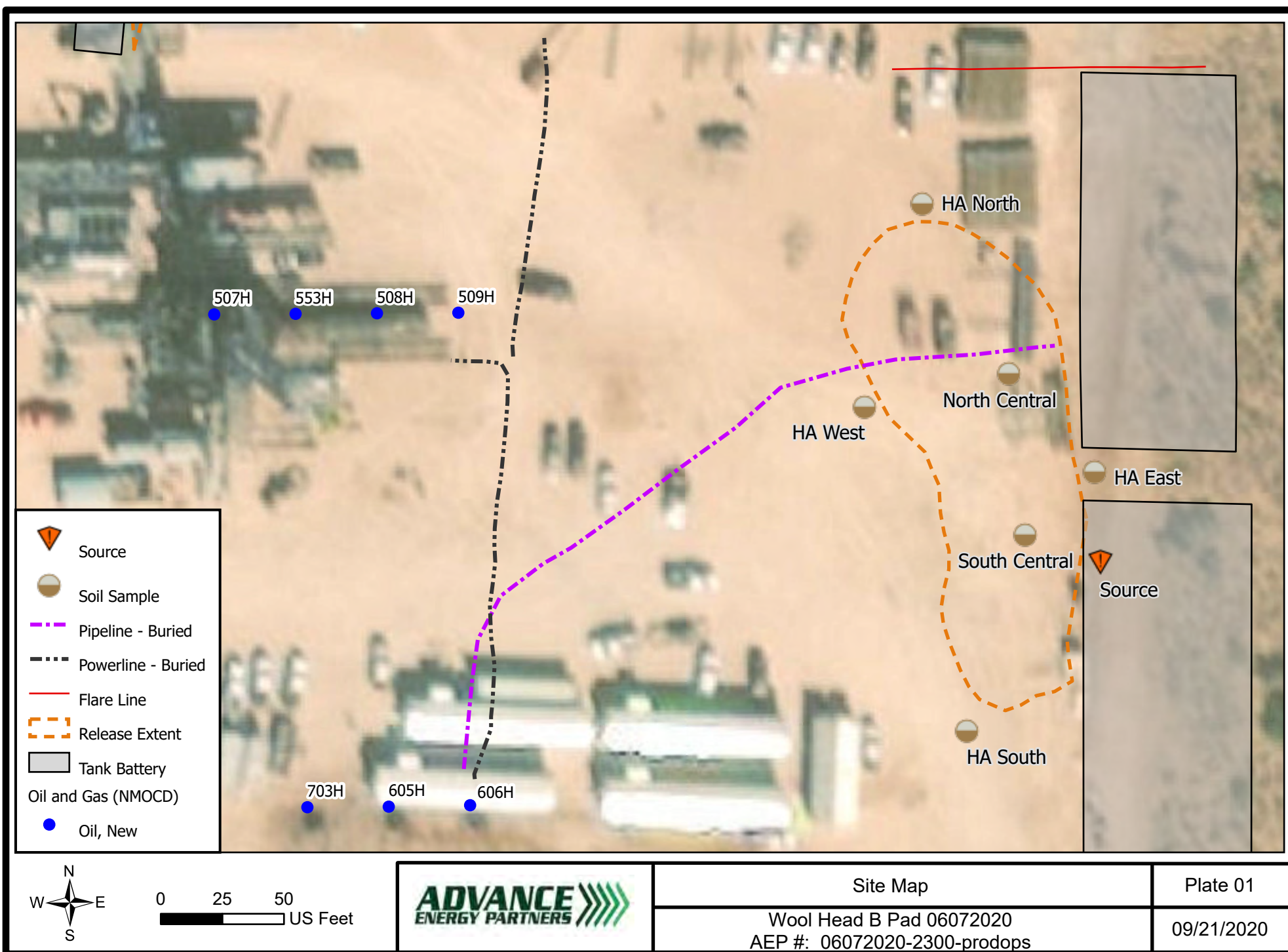
10/13/2020

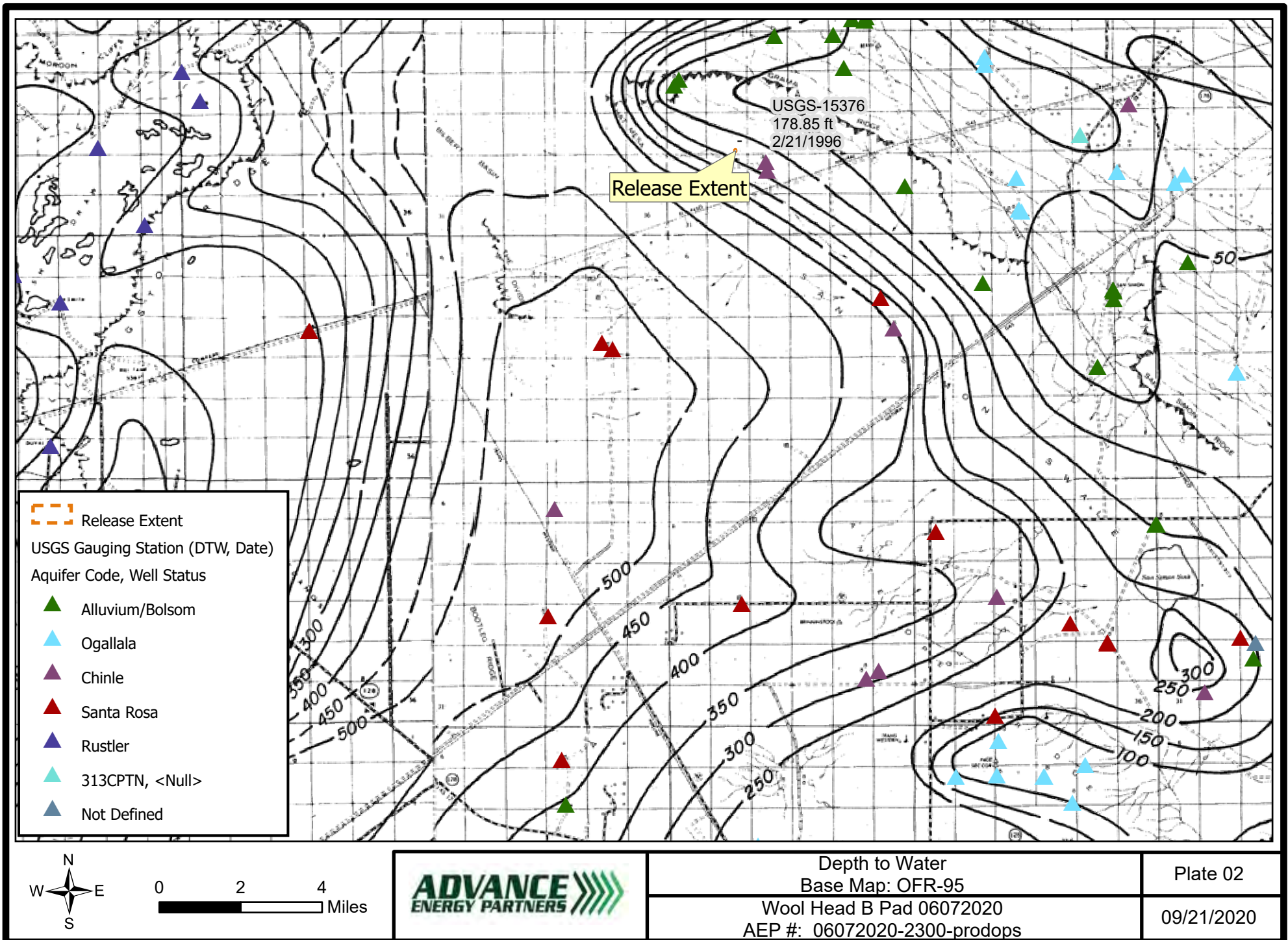
Table 1  
Summary of Analytical

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AEP #: 06072020-2300-prodops

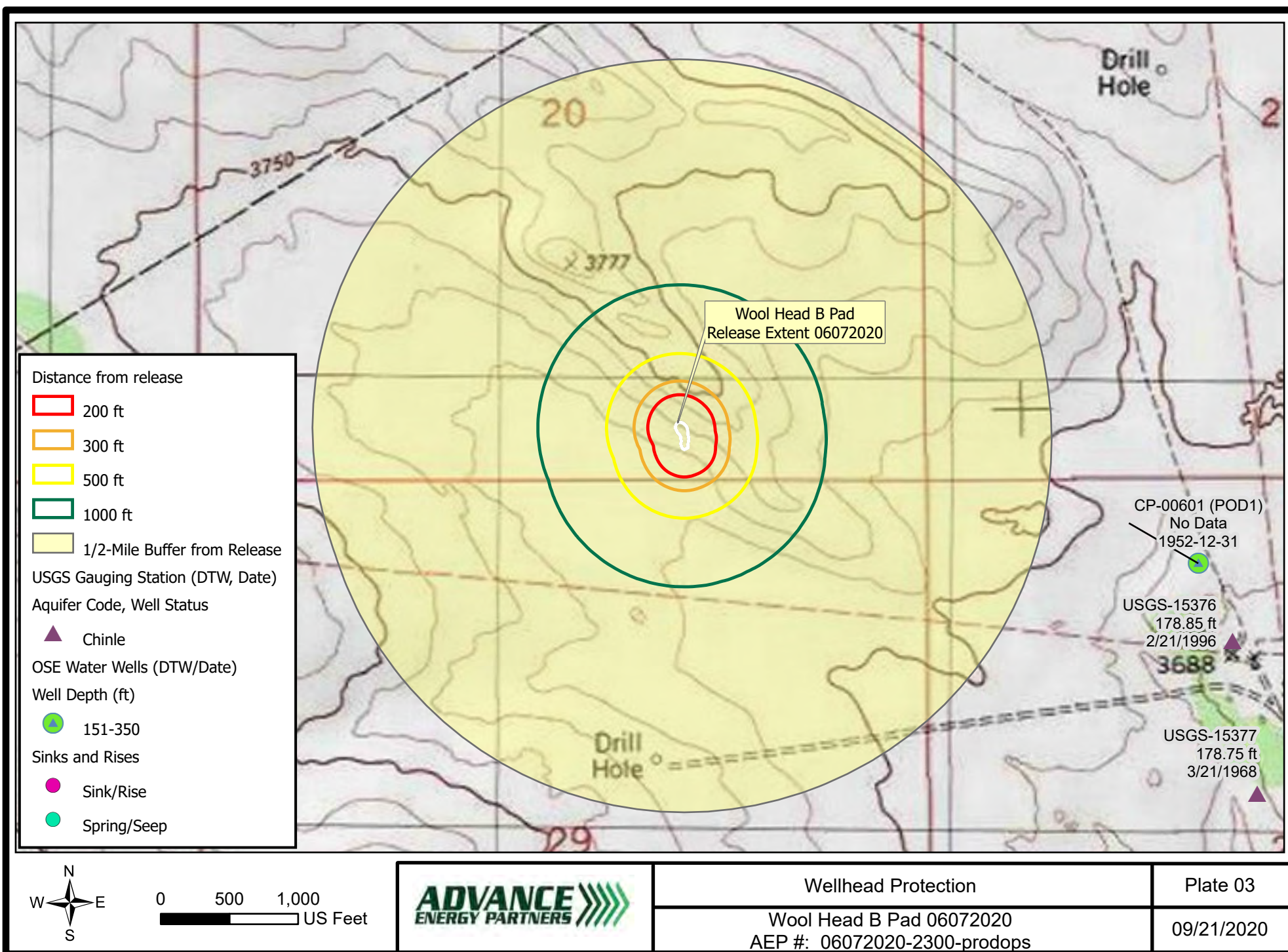
Sample ID	Date	Top Depth (Feet)	Bottom Depth (Feet)	Chloride (PPM)	GRO+DRO (PPM)	TPH Ext. (PPM)	Benzene (PPM)	BTEX (PPM)
NMOCD Closure Criteria								
0 - 4 feet				600	--	2,500	10	50
> 4 ft				20,000	1,000	2,500	10	50
HA North	9/24/2020	0	1	160	<20	<30	<0.05	<0.30
HA North	9/24/2020	1	2	32	<20	<30	<0.05	<0.30
HA South	10/2/2020	0	1	240	<20	<30	<0.05	<0.30
HA South	10/2/2020	1	2	<16	<20	<30	<0.05	<0.30
HA East	9/24/2020	0	1	128	<20	<30	<0.05	<0.30
HA East	9/24/2020	1	2	128	<20	<30	<0.05	<0.30
HA West	10/2/2020	0.0	1.0	96	<20	<30	<0.05	<0.30
HA West	10/2/2020	1.0	2.0	32	<20	<30	<0.05	<0.30
North Central	10/2/2020	0.0	1.0	560	<20	<30	<0.05	<0.30
North Central	10/2/2020	1.0	2.0	96	<20	<30	<0.05	<0.30
South Central	10/2/2020	0.0	1.0	304	<20	<30	<0.05	<0.30
South Central	10/2/2020	1.0	2.0	112	<20	<30	<0.05	<0.30



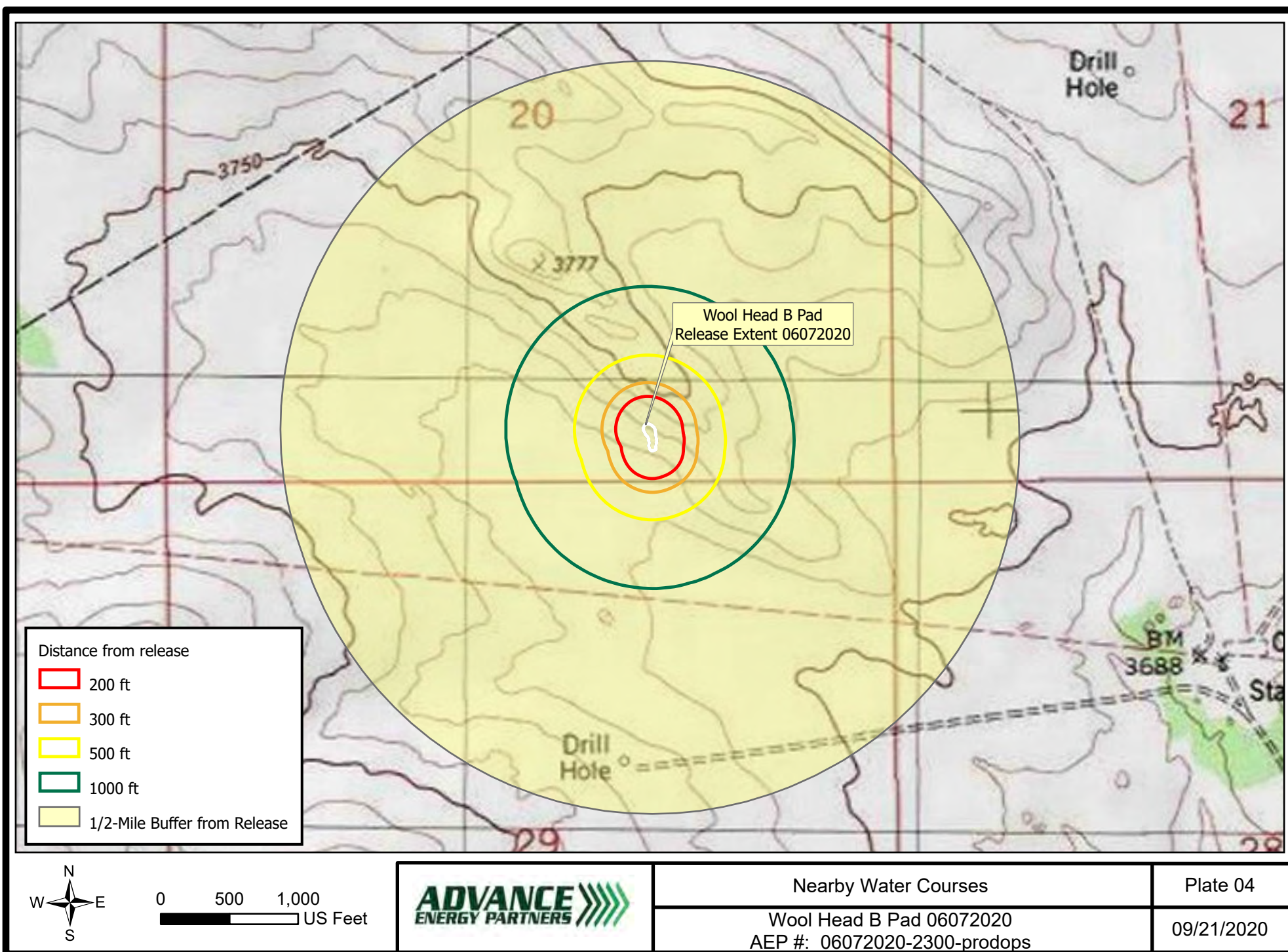




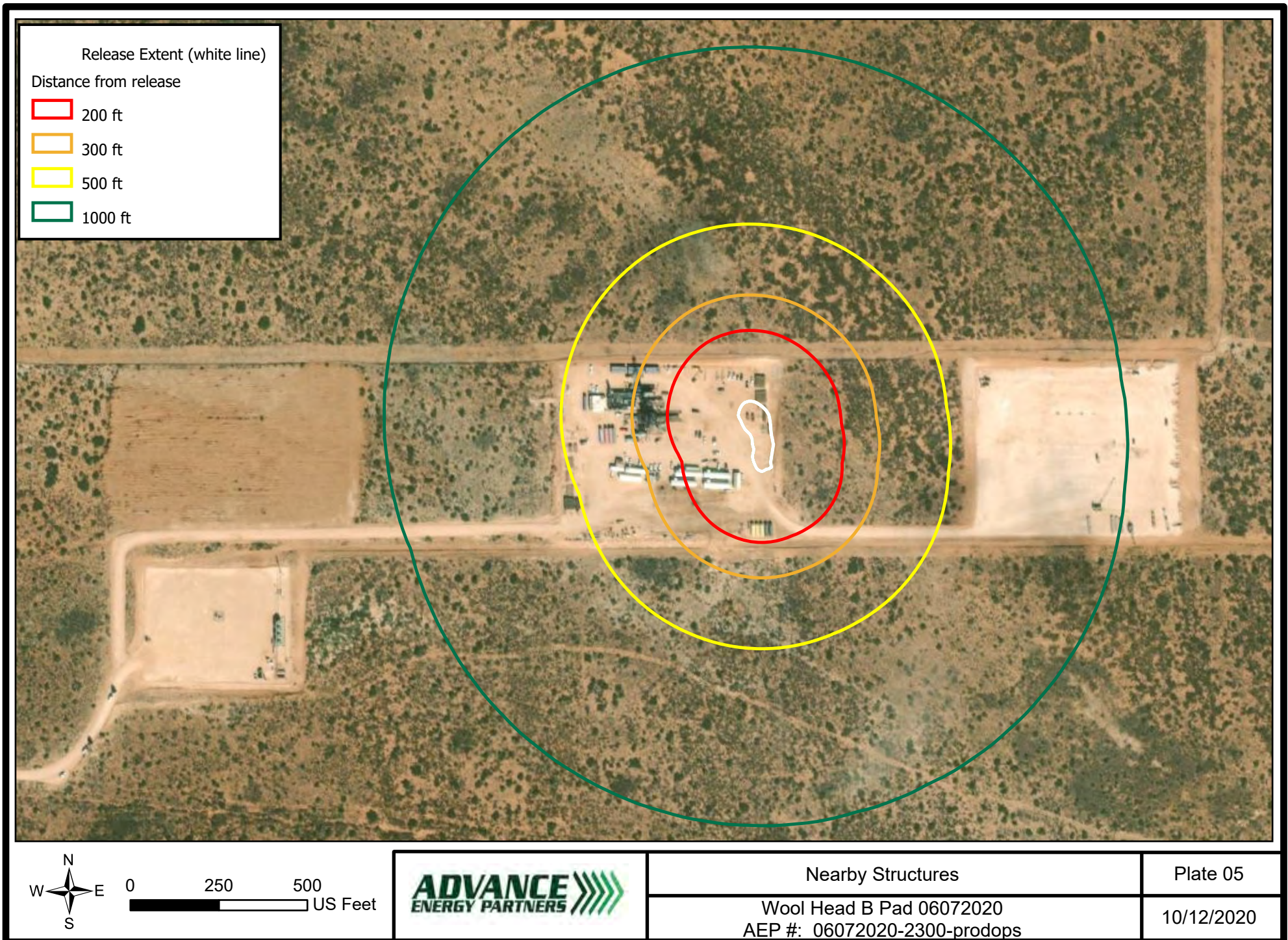




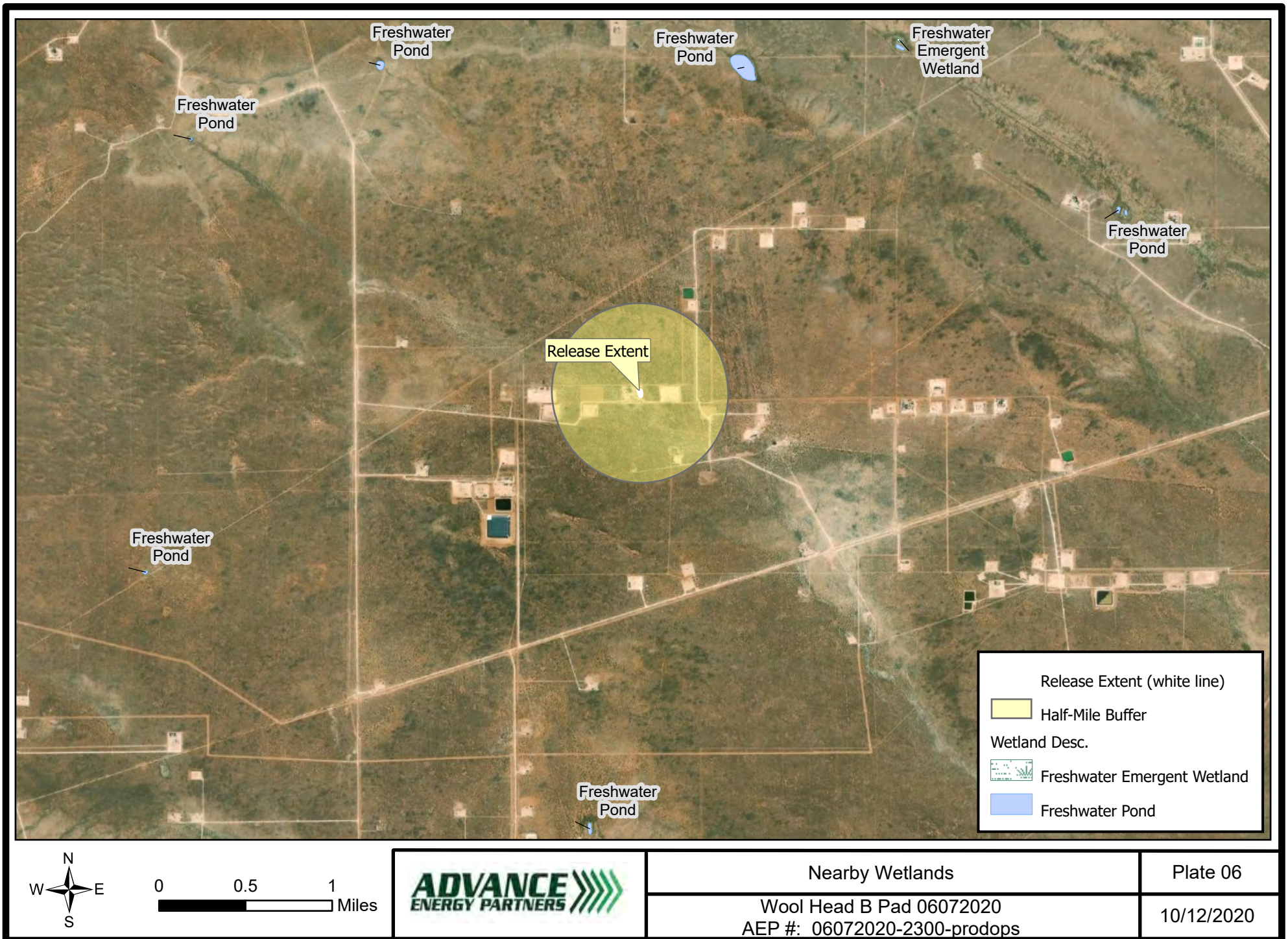




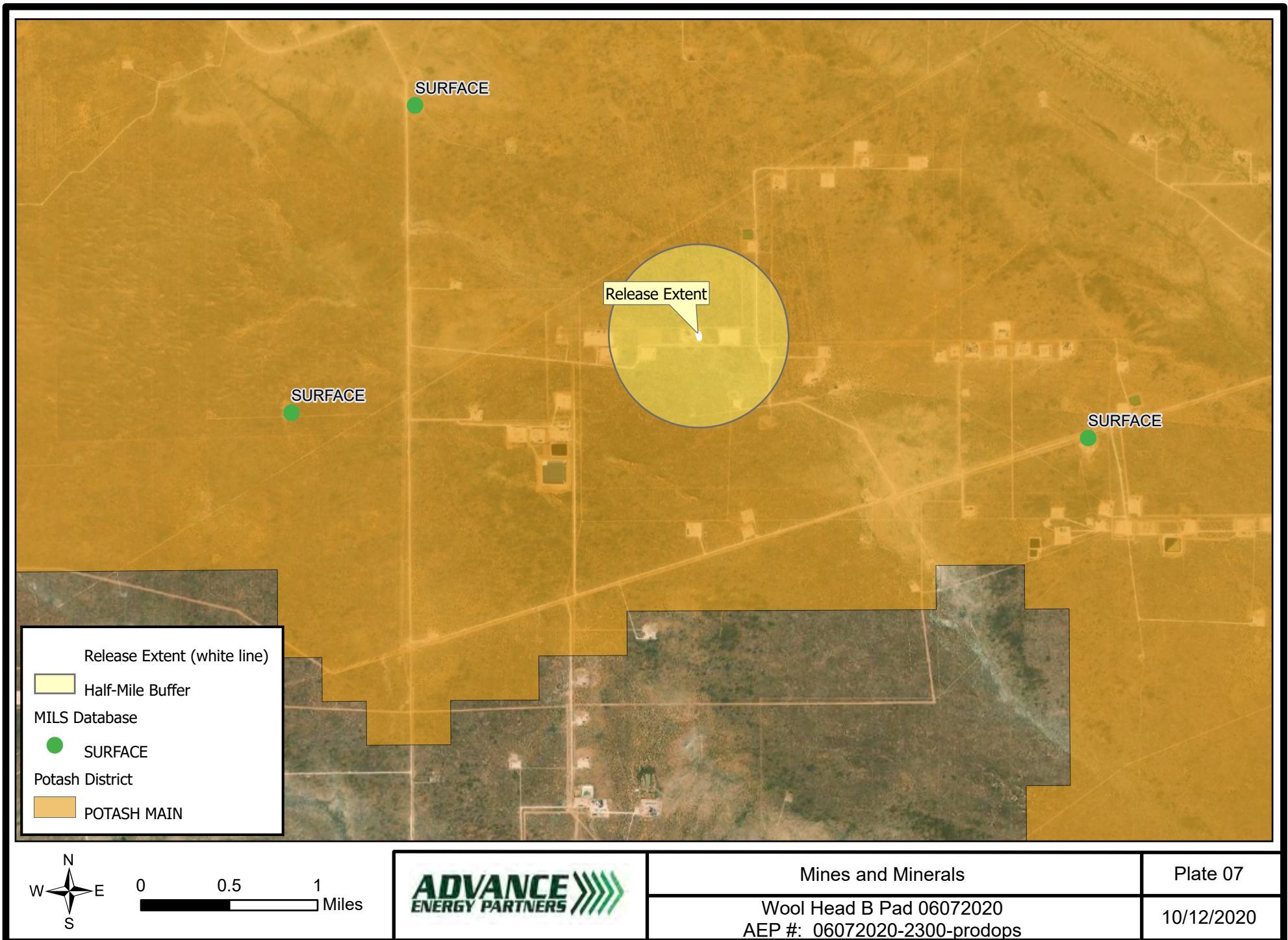




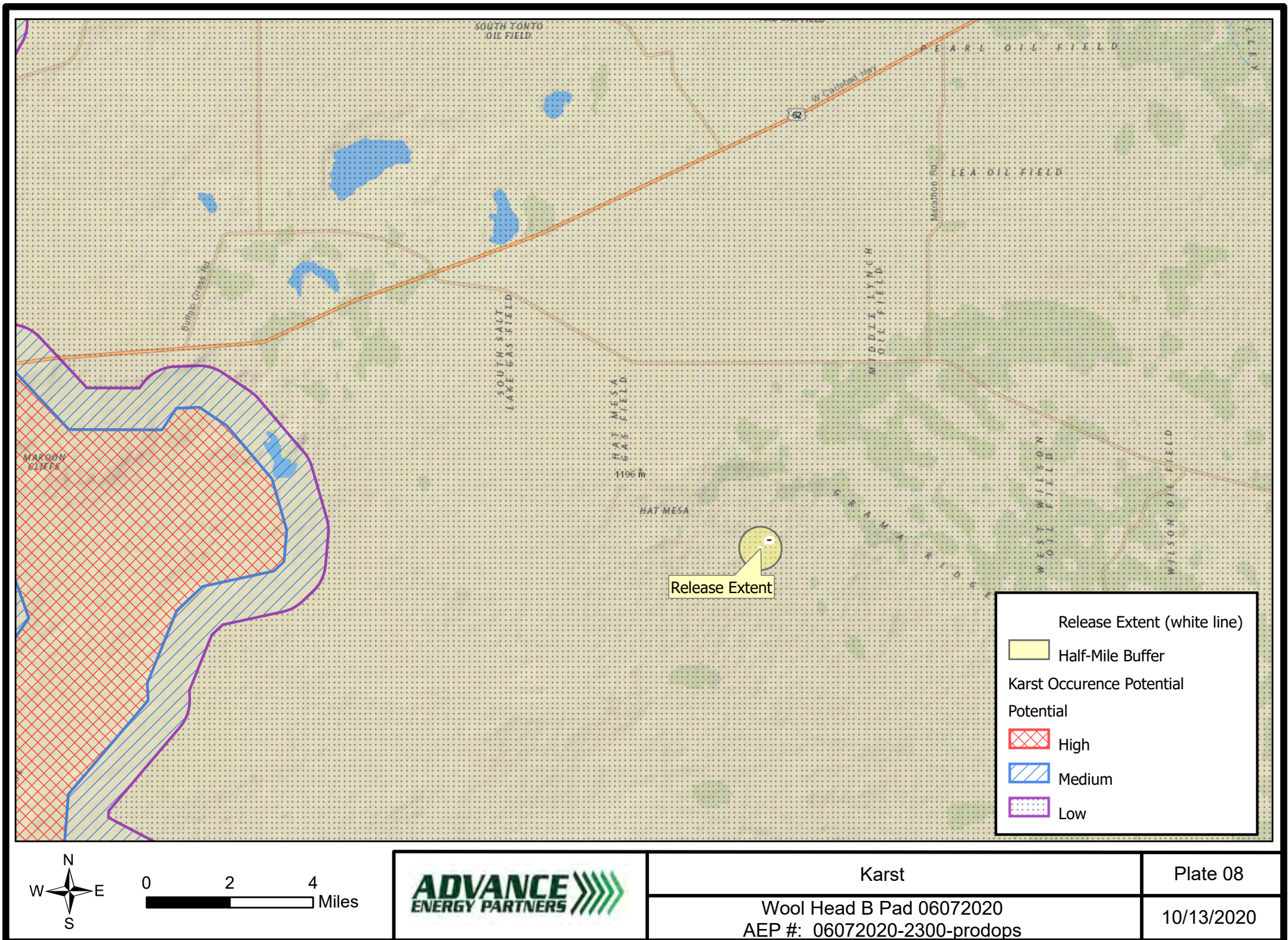




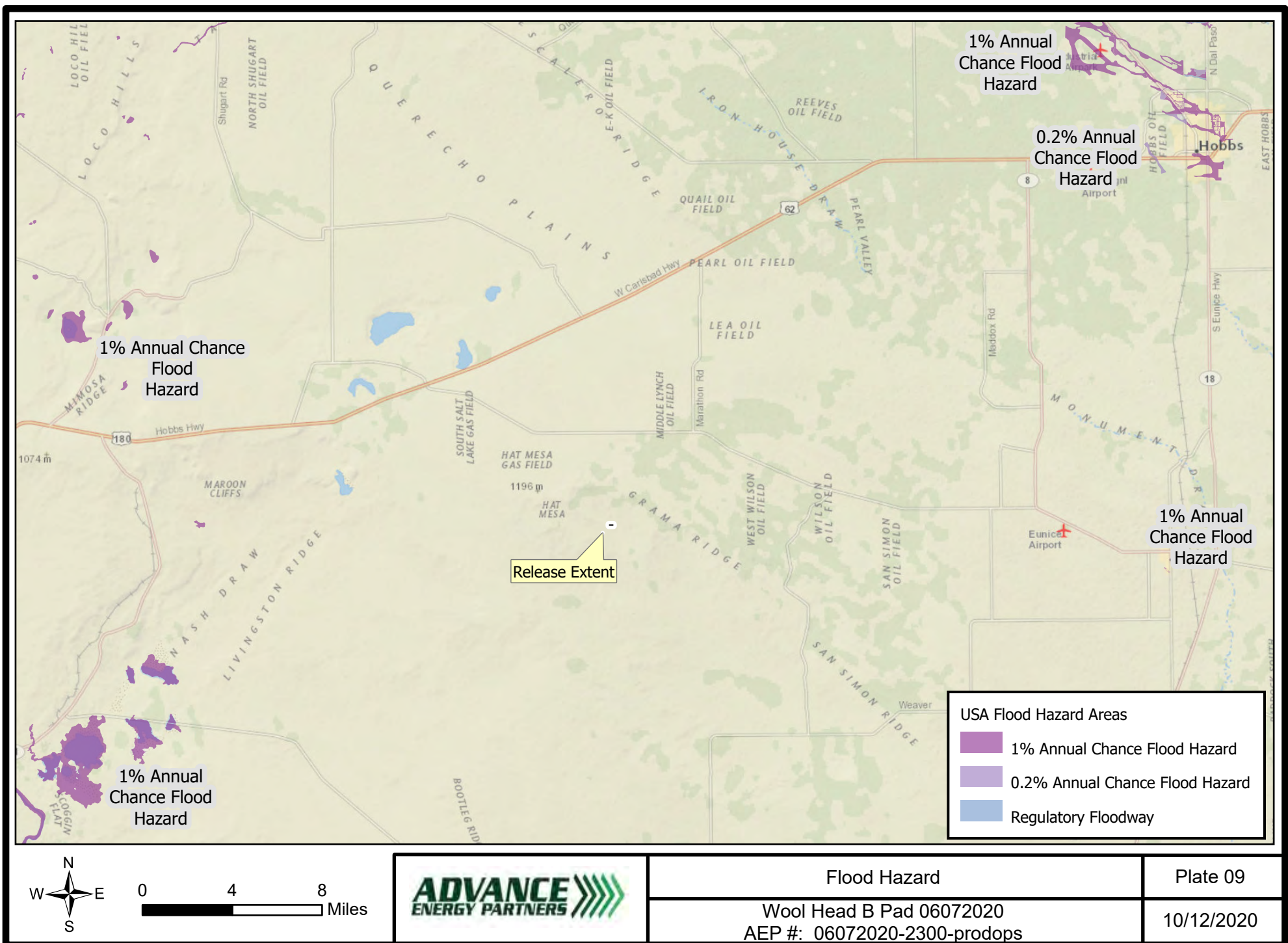












# Appendix A

## Well Logs








## New Mexico Office of the State Engineer

# Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)					(NAD83 UTM in meters)		
		(quarters are smallest to largest)							
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	C 02096	2	3	14	22S	32E	627204	3584464*	
<hr/>									
Driller License:		Driller Company:							
Driller Name:		JOHN H. TRIGG CO.							
Drill Start Date:		Drill Finish Date:		12/31/1963		Plug Date:			
Log File Date:		PCW Rcv Date:				Source:			
Pump Type:		Pipe Discharge Size:				Estimated Yield: 25 GPM			
Casing Size: 7.00		Depth Well:		435 feet		Depth Water: 360 feet			
<hr/>									

\*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.


4/17/20 3:04 PM

POINT OF DIVERSION SUMMARY



# 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)	
<b>Well Tag</b>	<b>POD Number</b>	<b>Q64</b>	<b>Q16</b>	<b>Q4</b>	<b>Sec</b>	<b>Tws</b>	<b>Rng</b>	<b>X</b>	<b>Y</b>
	C 02821	2	2	3	14	22S	32E	627303	3584563* 

---

x	
<b>Driller License:</b>	1348
<b>Driller Company:</b>	TAYLOR WATER WELL SERVICE
<b>Driller Name:</b>	
<b>Drill Start Date:</b>	06/12/2001
<b>Drill Finish Date:</b>	06/23/2001
<b>Plug Date:</b>	
<b>Log File Date:</b>	10/04/2001
<b>PCW Rcv Date:</b>	
<b>Source:</b>	Shallow
<b>Pump Type:</b>	
<b>Pipe Discharge Size:</b>	
<b>Estimated Yield:</b>	2 GPM
<b>Casing Size:</b>	5.00
<b>Depth Well:</b>	540 feet
<b>Depth Water:</b>	340 feet

---

x	
<b>Water Bearing Stratifications:</b>	<b>Top</b> <b>Bottom</b> <b>Description</b>
	410 540 Sandstone/Gravel/Conglomerate

---

x	
<b>Casing Perforations:</b>	<b>Top</b> <b>Bottom</b>
	410 430
	440 540

---

x	
---	--

\*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.

4/17/20 3:09 PM

POINT OF DIVERSION SUMMARY

Revised December 1975

IMPORTANT — READ INSTRUCTIONS ON BACK BEFORE FILLING OUT THIS FORM.

# Declaration of Owner of Underground Water Right

CAPITAN BASIN  
BASIN NAME

Declaration No. CP-601Date received April 17, 1979

STATE ENGINEER OFFICE  
SANTA FE, N.M. 87501

## STATEMENT

- Name of Declarant THE MERCHANT LIVESTOCK COMPANY  
Mailing Address P.O. Box 548 Carlsbad  
County of Eddy, State of New Mexico
- Source of water supply shallow  
(artesian or shallow water aquifer)
- Describe well location under one of the following subheadings:  
a.  $\frac{1}{4}$  NE  $\frac{1}{4}$  NW  $\frac{1}{4}$  of Sec. 28 Twp. 21S Rge. 33-E N.M.P.M., in  
Lea County.  
b. Tract No. \_\_\_\_\_ of Map No. \_\_\_\_\_ of the \_\_\_\_\_  
c. X = \_\_\_\_\_ feet, Y = \_\_\_\_\_ feet, N. M. Coordinate System \_\_\_\_\_ Zone  
in the \_\_\_\_\_ Grant.  
On land owned by \_\_\_\_\_
- Description of well: date drilled 1952 driller \_\_\_\_\_ depth 223 feet.  
outside diameter of casing 6 5/8 inches; original capacity \_\_\_\_\_ gal. per min.; present capacity 3  
gal. per min.; pumping lift \_\_\_\_\_ feet; static water level 178 feet (above) (below) land surface;  
make and type of pump \_\_\_\_\_  
make, type, horsepower, etc., of power plant \_\_\_\_\_  
Fractional or percentage interest claimed in well 100%
- Quantity of water appropriated and beneficially used up to 3  
(~~acre feet per annum~~) (acre feet per annum)  
for stock water purposes.
- Acreage actually irrigated \_\_\_\_\_ acres, located and described as follows (describe only lands actually irrigated):

Subdivision	Sec.	Twp.	Range	Acres Irrigated	Owner
			<u>stock only</u>		<u>The Merchant Livestock Co.</u>

(Note: location of well and acreage actually irrigated must be shown on plat on reverse side.)

- Water was first applied to beneficial use \_\_\_\_\_ month \_\_\_\_\_ day \_\_\_\_\_ year 1952 and since that time  
has been used fully and continuously on all of the above described lands or for the above described purposes except  
as follows: \_\_\_\_\_

- Additional statements or explanations \_\_\_\_\_

name of well - Standard

I, J. D. Merchant, Jr., President being first duly sworn upon my oath,  
depose and say that the above is a full and complete statement prepared in accordance with the instructions on the re-  
verse side of this form and submitted in evidence of ownership of a valid underground water right, that I have carefully  
read each and all of the items contained therein and that the same are true to the best of my knowledge and belief.

THE MERCHANT LIVESTOCK CO. declarant.

by: J. D. Merchant, Jr., President  
day of April, A.D. 1979

Subscribed and sworn to before me this 12thMy commission expires March 2, 1980

Notary Public

FILED

UNDER NEW MEXICO LAW A DECLARATION IS ONLY A STATEMENT OF DECLARANT'S CLAIM.  
ACCEPTANCE FOR FILING DOES NOT CONSTITUTE APPROVAL OR REJECTION OF THE CLAIM.

563298

Locate well and areas actually irrigated as accurately as possible on following plat:

Section (s) \_\_\_\_\_, Township \_\_\_\_\_, Range \_\_\_\_\_ N. M. P. M.


#### INSTRUCTIONS

Declaration shall be executed (preferably typewritten) in triplicate and must be accompanied by a \$1.00 filing fee. Each of triplicate copies must be properly signed and attested.

A separate declaration must be filed for each well in use.

All blanks shall be filled out fully. Required information which cannot be sworn to by declarant shall be supplied by affidavit of person or persons familiar with the facts and shall be submitted herewith.

Secs. 1-3. Complete all blanks.

Sec. 4. Fill out all blanks applicable as fully as possible.

Sec. 5. Irrigation use shall be stated in acre feet of water per acre per year applied on the land. If used for domestic, municipal, or other purposes, state total quantity in acre feet used annually.

Sec. 6. Describe only the acreage actually irrigated. When necessary to clearly define irrigated acreages, describe to nearest  $2\frac{1}{2}$  acre subdivision. If located on unsurveyed lands, describe by legal subdivision "as projected" from the nearest government survey corners, or describe by metes and bounds and tie survey to some permanent, easily-located natural object.

Sec. 7. Explain and give dates as nearly as possible of any years when all or part of acreage claimed was not irrigated.

Sec. 8. If well irrigates or supplies supplemental water to any other land than that described above, or if land is also irrigated from any other source, explain under this section. Give any other data necessary to fully describe water right.

If additional space is necessary, use a separate sheet or sheets and attach securely hereto.

SF

EL

\*70 APR 20 PM 3 00

April 17, 1979

STATE ENGINEER OFFICE  
CARLSBAD, NM. 81501

Files: CP-584; CP-585; CP-586; CP-587; CP-588;  
CP-589; CP-590; CP-591; CP-592; CP-593;  
CP-594; CP-595; CP-596; CP-597; CP-598;  
CP-599; CP-600; CP-601; CP-602

The Merchant Livestock Company  
P. O. Box 548  
Carlsbad, NM 88220

Gentlemen:

Enclosed are your copies of Declarations of Owner of Underground Water Right as numbered above, which have been filed for record in the office of the State Engineer.

Please refer to each individual number in all future correspondence concerning these declarations.

The filing of these declarations does not indicate affirmation or rejection of the statements contained therein.

Yours very truly,

J. C. Groseclose  
Basin Supervisor

JCG/fh  
Encls.  
cc: Santa Fe

563298




# 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)

<b>Well Tag</b>	<b>POD Number</b>	<b>Q64 Q16 Q4</b>	<b>Sec</b>	<b>Tws</b>	<b>Rng</b>	<b>X</b>	<b>Y</b>
CP 00854	POD1	1 1 2	33	21S	33E	633879	3590223 

<b>Driller License:</b>	421	<b>Driller Company:</b>	GLENN'S WATER WELL SERVICE				
<b>Driller Name:</b>	GLENN, CLARK A."CORKY" (LD)						
<b>Drill Start Date:</b>	06/22/1996	<b>Drill Finish Date:</b>	06/22/1996	<b>Plug Date:</b>			
<b>Log File Date:</b>	07/11/1996	<b>PCW Rcv Date:</b>	10/17/2013	<b>Source:</b>	Shallow		
<b>Pump Type:</b>	SUBMER	<b>Pipe Discharge Size:</b>	2.875	<b>Estimated Yield:</b>	100 GPM		
<b>Casing Size:</b>	6.63	<b>Depth Well:</b>	950 feet	<b>Depth Water:</b>	600 feet		

<b>Water Bearing Stratifications:</b>	<b>Top</b>	<b>Bottom</b>	<b>Description</b>
	755	805	Sandstone/Gravel/Conglomerate
	860	890	Sandstone/Gravel/Conglomerate

<b>Casing Perforations:</b>	<b>Top</b>	<b>Bottom</b>
	760	950

<b>Meter Number:</b>	8514	<b>Meter Make:</b>	BLANCETT
<b>Meter Serial Number:</b>	040711711	<b>Meter Multiplier:</b>	1.0000
<b>Number of Dials:</b>	7	<b>Meter Type:</b>	Diversion
<b>Unit of Measure:</b>	Barrels 42 gal.	<b>Return Flow Percent:</b>	
<b>Usage Multiplier:</b>		<b>Reading Frequency:</b>	Quarterly

### Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount
03/15/2004	2004	121	A	jw		0
03/29/2004	2004	69871	A	jw		0
05/17/2004	2004	8758	A	jw		2.651
06/11/2004	2004	79641	A	jw		2.998
01/27/2012	2012	18062553	A	RPT	Initial reading	0
03/01/2012	2012	19039807	A	RPT		2.999
05/29/2013	2013	179696	A	RPT	initial reading	0
10/07/2013	2013	460774	A	RPT	Qtr IV 2013	36.229
11/11/2013	2013	540326	A	RPT		10.254
01/01/2014	2013	614283	A	RPT		9.533
10/01/2014	2014	1122654	A	RPT		65.526
01/01/2015	2014	1212343	A	RPT		11.560
03/31/2015	2015	1307063	A	RPT		12.209
06/27/2015	2015	1369556	A	RPT		8.055

**Meter Readings (in Acre-Feet)**

Read Date	Year	Mtr Reading	Flag	Rdr Comment	Mtr Amount
09/30/2015	2015	1371471	A	RPT	0.247
10/22/2015	2015	1400502	A	RPT	3.742
11/30/2015	2015	1400502	A	RPT	0
04/28/2016	2016	1464116	A	RPT "JD33 Well"	8.199
06/01/2016	2016	1464116	A	RPT	0
07/27/2016	2016	1496980	A	RPT JD33 Well	4.236
09/01/2016	2016	1510835	A	RPT JD 33 Well	1.786
09/30/2016	2016	1517146	A	RPT	0.813
10/31/2016	2016	1531178	A	RPT JD 33 well	1.809
11/29/2016	2016	1553285	A	RPT JD33 Well	2.849
03/01/2017	2017	1583100	A	RPT	3.843

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<b>**YTD Meter Amounts:</b>	<b>Year</b>	<b>Amount</b>
	2004	5.649
	2012	2.999
	2013	56.016
	2014	77.086
	2015	24.253
	2016	19.692
	2017	3.843

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# 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
CP 01349	POD1	2	3	1	27	21S	33E	635304	3591576

<b>Driller License:</b> 421	<b>Driller Company:</b> GLENN'S WATER WELL SERVICE
<b>Driller Name:</b> GLENN, CLARK A. "CORKY"	
<b>Drill Start Date:</b> 07/12/2014	<b>Drill Finish Date:</b> 07/18/2014
<b>Log File Date:</b> 08/04/2014	<b>PCW Rcv Date:</b>
<b>Pump Type:</b>	<b>Pipe Discharge Size:</b>
<b>Casing Size:</b> 7.00	<b>Depth Well:</b> 1188 feet
	<b>Depth Water:</b> 572 feet

Water Bearing Stratifications:	Top	Bottom	Description
	990	1188	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	721	1188





# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

[www.ose.state.nm.us](http://www.ose.state.nm.us)

STATE ENGINEER OFFICE  
SOSWELL, NEW MEXICO

2014 SEP 10 PM 2:15

1. GENERAL AND WELL LOCATION	OSE POD NUMBER (WELL NUMBER) CP-1355 (East Standard South) *** Revised 09/09/14 ***				OSE FILE NUMBER(S)			
	WELL OWNER NAME(S) Merchants/Glenn's Water Well Service, Inc.				PHONE (OPTIONAL) 575-398-2424			
	WELL OWNER MAILING ADDRESS P. O. Box 692				CITY Tatum		STATE NM	ZIP 88267
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 26	SECONDS 54.8 N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84			
		LONGITUDE 103	33	58.3 W				
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE NE1/4NW1/4SW1/4 Section 27, Township 21 South, Range 33 East on Merchants Livestock Land								
2. DRILLING & CASING INFORMATION	LICENSE NUMBER WD 421		NAME OF LICENSED DRILLER Corky Glenn			NAME OF WELL DRILLING COMPANY Glenn's Water Well Service, Inc.		
	DRILLING STARTED 07/22/14	DRILLING ENDED 07/29/14	DEPTH OF COMPLETED WELL (FT) 1,192'	BORE HOLE DEPTH (FT) 1,192'	DEPTH WATER FIRST ENCOUNTERED (FT) 925'			
	COMPLETED WELL IS: <input checked="" type="radio"/> ARTESIAN <input type="radio"/> DRY HOLE <input type="radio"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) 582'		
	DRILLING FLUID: <input checked="" type="radio"/> AIR <input type="radio"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input checked="" type="radio"/> ROTARY <input type="radio"/> HAMMER <input type="radio"/> CABLE TOOL <input type="radio"/> OTHER - SPECIFY:							
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	0'	40'	20"	16"	None	15 1/2"	.250	
	0'	757'	14 3/4"	9 5/8"	Thread & Collar	8.921"	36 lbs.	none
	690'	1,192'	8 3/4"	7" (502.14' Total)	Thread & Collar	6.366"	23 lbs.	1/8"
			317.96 perforated					
			on bottom of liner					
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						
	0'	40'	20"	Cemented	2 yds.	Top Pour		
	0	757'	14 3/4"	Float and shoe cemented to surface	962	Circulated		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER CP-1355	POD NUMBER 1	TRN NUMBER 549450
LOCATION Expl	215.33E.27.312	

PAGE 1 OF 2

## 1. HYDROGEOLOGIC LOG OF WELL

## 5. TEST: RIG SUPERVISION

### 6. SIGNATURE

FOR OSE INTERNAL USE		WR-20 WELL RECORD & LOG (Version 06/08/2012)	
FILE NUMBER	CP-1355	POD NUMBER	1
LOCATION	215.33E.27.312		TRN NUMBER
			549450
			PAGE 2 OF 2



# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

[www.ose.state.nm.us](http://www.ose.state.nm.us)

1. GENERAL AND WELL LOCATION	OSE POD NUMBER (WELL NUMBER) CP - 1355 East Standard (South)				OSE FILE NUMBER(S)			
	WELL OWNER NAME(S) Merchants Livestock/Glenn's Water Well Service, Inc.				PHONE (OPTIONAL) (575)398-2424			
	WELL OWNER MAILING ADDRESS P.O. Box 692				CITY Tatum		STATE NM	ZIP 88267
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 26	SECONDS 54.8	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND		
	LONGITUDE 103	33	58.3	W	* DATUM REQUIRED: WGS 84			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE NE/NW/SW Sec. 27, T21S, R33E on Merchants Livestock Land								
2. DRILLING & CASING INFORMATION	LICENSE NUMBER WD 421		NAME OF LICENSED DRILLER Corky Glenn			NAME OF WELL DRILLING COMPANY Glenn's Water Well Service, Inc.		
	DRILLING STARTED 7/29/14	DRILLING ENDED 8/2/14	DEPTH OF COMPLETED WELL (FT) 1192'		BORE HOLE DEPTH (FT) 1192'	DEPTH WATER FIRST ENCOUNTERED (FT) 925'		
	COMPLETED WELL IS: <input checked="" type="radio"/> ARTESIAN <input type="radio"/> DRY HOLE <input type="radio"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) 582'		
	DRILLING FLUID: <input type="radio"/> AIR <input type="radio"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input checked="" type="radio"/> ROTARY <input type="radio"/> HAMMER <input type="radio"/> CABLE TOOL <input type="radio"/> OTHER - SPECIFY:							
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	0'	40'	20"	16"	None	15 1/2"	.250	
	0'	757'	14 3/4"	9 5/8"	Thread and Collar	.352	36 lbs.	none
	757'	1192'	8 3/4"	7"	Thread and Collar	6.5"	23 lbs.	1/8"
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						
	0'	40'	20"	Cemented	2 yds	Top Pour		
	0'	757'	14 3/4"	Float and Shoe Cemented to Surface	1034	Circulated		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/08/2012)


FILE NUMBER	CP-1355	POD NUMBER	1	TRN NUMBER	549450
LOCATION	Exp	21S.33E.27.312			PAGE 1 OF 2

DEPTH (feet bgl)	THICKNESS (feet)		COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
	FROM	TO			
0'	4'	4'	Soil	<input type="radio"/> Y <input checked="" type="radio"/> N	
4'	28'	24'	Caleche	<input type="radio"/> Y <input checked="" type="radio"/> N	
28'	120'	92'	Sand and Clay	<input type="radio"/> Y <input checked="" type="radio"/> N	
120'	260'	140'	Red Clay	<input type="radio"/> Y <input checked="" type="radio"/> N	
260'	757'	497'	Red and Brown Shale and Clay(some blue)	<input type="radio"/> Y <input checked="" type="radio"/> N	
757'	815'	58'	Red and Brown Shale	<input type="radio"/> Y <input checked="" type="radio"/> N	
815'	840'	25'	Blue Clay and Shale	<input type="radio"/> Y <input checked="" type="radio"/> N	
840'	925'	85'	Red and Brown Shale(some sandrock)	<input type="radio"/> Y <input checked="" type="radio"/> N	
925'	975'	50'	Watersand and Gravel	<input checked="" type="radio"/> Y <input type="radio"/> N	
975'	1185'	210'	Watersand(brown sandrock)	<input checked="" type="radio"/> Y <input type="radio"/> N	
1185'	1192'	7'	Red Shale	<input type="radio"/> Y <input checked="" type="radio"/> N	
				<input type="radio"/> Y <input type="radio"/> N	
				<input type="radio"/> Y <input type="radio"/> N	
				<input type="radio"/> Y <input type="radio"/> N	
				<input type="radio"/> Y <input type="radio"/> N	
				<input type="radio"/> Y <input type="radio"/> N	
				<input type="radio"/> Y <input type="radio"/> N	
				<input type="radio"/> Y <input type="radio"/> N	
				<input type="radio"/> Y <input type="radio"/> N	
				<input type="radio"/> Y <input type="radio"/> N	
				<input type="radio"/> Y <input type="radio"/> N	
				<input type="radio"/> Y <input type="radio"/> N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: <input checked="" type="radio"/> PUMP				TOTAL ESTIMATED WELL YIELD (gpm): 50	
<input type="radio"/> AIR LIFT <input type="radio"/> BAILER <input type="radio"/> OTHER - SPECIFY:					

5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION:	
	0' to 757' drilled with mud. 757' to 1192' drilled with air and foam.	
PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:		

6. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:	
	<div style="display: flex; justify-content: space-between;"> <div>             SIGNATURE OF DRILLER / PRINT SIGNEE NAME         </div> <div>           8/7/14            DATE         </div> </div>	

FOR USE INTERNAL USE

WR-20 WELL RECORD &amp; LOG (Version 06/08/2012)

FILE NUMBER	CP-1355	POD NUMBER	1	TRN NUMBER	549450
LOCATION	Exp1	215.33E.27.312			PAGE 2 OF 2



# 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
CP 01356	POD1	4	2	2	33	21S	33E	634560	3590014

<b>Driller License:</b> 421	<b>Driller Company:</b> GLENN'S WATER WELL SERVICE
<b>Driller Name:</b> GLENN, CLARK A."CORKY"	
<b>Drill Start Date:</b> 08/01/2014	<b>Drill Finish Date:</b> 08/09/2014
<b>Log File Date:</b> 08/25/2014	<b>PCW Rcv Date:</b>
<b>Pump Type:</b>	<b>Pipe Discharge Size:</b>
<b>Casing Size:</b> 6.37	<b>Depth Well:</b> 1098 feet
	<b>Depth Water:</b> 555 feet

Water Bearing Stratifications:	Top	Bottom	Description
	765	795	Sandstone/Gravel/Conglomerate
	795	825	Shale/Mudstone/Siltstone
	825	920	Sandstone/Gravel/Conglomerate
	920	935	Shale/Mudstone/Siltstone
	935	968	Sandstone/Gravel/Conglomerate
	968	976	Shale/Mudstone/Siltstone
	976	1005	Sandstone/Gravel/Conglomerate
	1005	1092	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	735	1098




# 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)

<b>Well Tag</b>	<b>POD Number</b>	<b>Q64 Q16 Q4</b>	<b>Sec</b>	<b>Tws</b>	<b>Rng</b>	<b>X</b>	<b>Y</b>
CP 01357	POD1	4 3 1	27	21S	33E	634782	3591347 

**Driller License:** 421 **Driller Company:** GLENN'S WATER WELL SERVICE

**Driller Name:** GLENN, CLARK A."CORKY"

**Drill Start Date:** 08/16/2014

**Drill Finish Date:** 08/26/2014

**Plug Date:**

**Log File Date:** 09/10/2014

**PCW Rcv Date:**

**Source:** Artesian

**Pump Type:**

**Pipe Discharge Size:**

**Estimated Yield:**

**Casing Size:** 6.37

**Depth Well:** 1286 feet

**Depth Water:** 578 feet

### Water Bearing Stratifications:

### Top Bottom Description

945	960	Sandstone/Gravel/Conglomerate
960	1077	Shale/Mudstone/Siltstone
1077	1215	Sandstone/Gravel/Conglomerate
1215	1286	Shale/Mudstone/Siltstone

### Casing Perforations:

### Top Bottom

846	1286
-----	------



# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

[www.ose.state.nm.us](http://www.ose.state.nm.us)

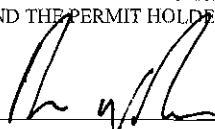
1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) CP-1701-POD1		WELL TAG ID NO.		OSE FILE NO(S)		
	WELL OWNER NAME(S) The Jimmy Mills GST and 2005 GST Trusts				PHONE (OPTIONAL)		
	WELL OWNER MAILING ADDRESS c/o Stacey Mills PO Box 1359				CITY Loving	STATE NM	
					ZIP 88256-1358		
2. DRILLING & CASING INFORMATION	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 26	SECONDS 0.5	N		
		LONGITUDE 103	39	10.1	W		
	* ACCURACY REQUIRED: ONE TENTH OF A SECOND						
	* DATUM REQUIRED: WGS 84						
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE							
3. ANNULAR MATERIAL	LICENSE NO. WD1706		NAME OF LICENSED DRILLER Bryce Wallace			NAME OF WELL DRILLING COMPANY Elite Drillers Corporation	
	DRILLING STARTED 10/15/18	DRILLING ENDED 11/29/18	DEPTH OF COMPLETED WELL (FT) 840	BORE HOLE DEPTH (FT) 880	DEPTH WATER FIRST ENCOUNTERED (FT) 560		
	COMPLETED WELL IS: <input checked="" type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) 457		
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:						
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:						
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)
	FROM	TO					
	0	20	12.75	ASTM53 Grade B Steel	N/A	12.57	.188
	+2	460	12.25	ASTM53 Grade B steel	Welded	6.065	.28
	460	840	12.25	SDR17 PVC	Spline	6	SDR17
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT	
	FROM	TO					
	0	20	12.75	Portland I/II Cement	17	Pour	
	0	453	12.25	Baroid Benseal Grout	247	Trimmic	
	453	860	12.25	8/16 Silica Sand	285	Pour	

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO.	CP-1701	POD NO.	1	TRN NO.	619305
LOCATION	Expi	215.32E.35.31	WELL TAG ID NO.		PAGE 1 OF 2



4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)		ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO					
	0	5	5	Topsoil	Y	N	
	5	8	3	Caliche	Y	N	
	8	80	72	Tan/Red sandy caliche	Y	N	
	80	190	110	Red clay	Y	N	
	190	400	210	Tan/Red sandstone	Y	N	
	400	560	160	Red siltstone	Y	N	
	560	575	15	Red siltstone/Gyp	✓ Y	N	5.00
	575	750	175	Red siltstone	Y	N	
	750	770	20	Red siltstone/Gyp	✓ Y	N	25.00
	770	840	70	Red siltstone	Y	N	
	840	880	40	Red Shale	Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: <input checked="" type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:					TOTAL ESTIMATED WELL YIELD (gpm): 30.00		
5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.					
	MISCELLANEOUS INFORMATION:						
PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:							
6. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:						
	 Bryce Wallace SIGNATURE OF DRILLER / PRINT SIGNEE NAME				12/10/2018 DATE		

FOR OSE INTERNAL USE

WR-20 WELL RECORD &amp; LOG (Version 06/30/2017)

FILE NO. CP-1701	POD NO. 1	TRN NO. 419305
LOCATION Expl 215.32E.35.31	WELL TAG ID NO. —	PAGE 2 OF 2



# Appendix B

## Certificate of Analysis





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

---

September 30, 2020

ANDREW PARKER

ADVANCE ENERGY PARTNERS

11490 WESTHEIMER ROAD, STE. 950

HOUSTON, TX 77077

RE: WOOLHEAD B PAD

Enclosed are the results of analyses for samples received by the laboratory on 09/25/20 16:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

ADVANCE ENERGY PARTNERS  
 ANDREW PARKER  
 11490 WESTHEIMER ROAD, STE. 950  
 HOUSTON TX, 77077  
 Fax To: (832) 672-4609

Received:	09/25/2020	Sampling Date:	09/24/2020
Reported:	09/30/2020	Sampling Type:	Soil
Project Name:	WOOLHEAD B PAD	Sampling Condition:	Cool & Intact
Project Number:	06072020-2300-PRODOPS	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

**Sample ID: HA NORTH 0-1' (H002553-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2020	ND	2.08	104	2.00	5.02	
Toluene*	<0.050	0.050	09/28/2020	ND	2.03	102	2.00	5.28	
Ethylbenzene*	<0.050	0.050	09/28/2020	ND	2.09	104	2.00	5.24	
Total Xylenes*	<0.150	0.150	09/28/2020	ND	6.11	102	6.00	5.07	
Total BTEX	<0.300	0.300	09/28/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	09/28/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/29/2020	ND	186	93.1	200	5.08	
DRO >C10-C28*	<10.0	10.0	09/29/2020	ND	190	95.1	200	7.43	
EXT DRO >C28-C36	<10.0	10.0	09/29/2020	ND					

Surrogate: 1-Chlorooctane 113 % 44.3-144

Surrogate: 1-Chlorooctadecane 123 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ADVANCE ENERGY PARTNERS  
 ANDREW PARKER  
 11490 WESTHEIMER ROAD, STE. 950  
 HOUSTON TX, 77077  
 Fax To: (832) 672-4609

Received:	09/25/2020	Sampling Date:	09/24/2020
Reported:	09/30/2020	Sampling Type:	Soil
Project Name:	WOOLHEAD B PAD	Sampling Condition:	Cool & Intact
Project Number:	06072020-2300-PRODOPS	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

**Sample ID: HA NORTH 1-2' (H002553-02)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2020	ND	2.08	104	2.00	5.02	
Toluene*	<0.050	0.050	09/28/2020	ND	2.03	102	2.00	5.28	
Ethylbenzene*	<0.050	0.050	09/28/2020	ND	2.09	104	2.00	5.24	
Total Xylenes*	<0.150	0.150	09/28/2020	ND	6.11	102	6.00	5.07	
Total BTEX	<0.300	0.300	09/28/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/28/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/29/2020	ND	186	93.1	200	5.08	
DRO >C10-C28*	<10.0	10.0	09/29/2020	ND	190	95.1	200	7.43	
EXT DRO >C28-C36	<10.0	10.0	09/29/2020	ND					

Surrogate: 1-Chlorooctane 114 % 44.3-144

Surrogate: 1-Chlorooctadecane 124 % 42.2-156

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ADVANCE ENERGY PARTNERS  
 ANDREW PARKER  
 11490 WESTHEIMER ROAD, STE. 950  
 HOUSTON TX, 77077  
 Fax To: (832) 672-4609

Received:	09/25/2020	Sampling Date:	09/24/2020
Reported:	09/30/2020	Sampling Type:	Soil
Project Name:	WOOLHEAD B PAD	Sampling Condition:	Cool & Intact
Project Number:	06072020-2300-PRODOPS	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

**Sample ID: HA EAST 0-1' (H002553-03)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2020	ND	2.08	104	2.00	5.02	
Toluene*	<0.050	0.050	09/28/2020	ND	2.03	102	2.00	5.28	
Ethylbenzene*	<0.050	0.050	09/28/2020	ND	2.09	104	2.00	5.24	
Total Xylenes*	<0.150	0.150	09/28/2020	ND	6.11	102	6.00	5.07	
Total BTX	<0.300	0.300	09/28/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	09/28/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/29/2020	ND	186	93.1	200	5.08	
DRO >C10-C28*	<10.0	10.0	09/29/2020	ND	190	95.1	200	7.43	
EXT DRO >C28-C36	<10.0	10.0	09/29/2020	ND					

Surrogate: 1-Chlorooctane 114 % 44.3-144

Surrogate: 1-Chlorooctadecane 123 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ADVANCE ENERGY PARTNERS  
 ANDREW PARKER  
 11490 WESTHEIMER ROAD, STE. 950  
 HOUSTON TX, 77077  
 Fax To: (832) 672-4609

Received:	09/25/2020	Sampling Date:	09/24/2020
Reported:	09/30/2020	Sampling Type:	Soil
Project Name:	WOOLHEAD B PAD	Sampling Condition:	Cool & Intact
Project Number:	06072020-2300-PRODOPS	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

**Sample ID: HA EAST 1-2' (H002553-04)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/28/2020	ND	2.08	104	2.00	5.02		
Toluene*	<0.050	0.050	09/28/2020	ND	2.03	102	2.00	5.28		
Ethylbenzene*	<0.050	0.050	09/28/2020	ND	2.09	104	2.00	5.24		
Total Xylenes*	<0.150	0.150	09/28/2020	ND	6.11	102	6.00	5.07		
Total BTEx	<0.300	0.300	09/28/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	09/28/2020	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/29/2020	ND	186	93.1	200	5.08	
DRO >C10-C28*	<10.0	10.0	09/29/2020	ND	190	95.1	200	7.43	
EXT DRO >C28-C36	<10.0	10.0	09/29/2020	ND					

Surrogate: 1-Chlorooctane 116 % 44.3-144

Surrogate: 1-Chlorooctadecane 127 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





Advance Energy Partners

Page 7 of 7



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

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October 07, 2020

ANDREW PARKER

ADVANCE ENERGY PARTNERS

11490 WESTHEIMER ROAD, STE. 950

HOUSTON, TX 77077

RE: WOOLHEAD B PAD

Enclosed are the results of analyses for samples received by the laboratory on 10/02/20 15:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

ADVANCE ENERGY PARTNERS  
 ANDREW PARKER  
 11490 WESTHEIMER ROAD, STE. 950  
 HOUSTON TX, 77077  
 Fax To: (832) 672-4609

Received:	10/02/2020	Sampling Date:	10/02/2020
Reported:	10/07/2020	Sampling Type:	Soil
Project Name:	WOOLHEAD B PAD	Sampling Condition:	Cool & Intact
Project Number:	06072020-2300-PRODOPS	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: HA-SOUTH 0-1' (H002621-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/05/2020	ND	2.32	116	2.00	1.02	
Toluene*	<0.050	0.050	10/05/2020	ND	2.27	113	2.00	1.06	
Ethylbenzene*	<0.050	0.050	10/05/2020	ND	2.34	117	2.00	0.999	
Total Xylenes*	<0.150	0.150	10/05/2020	ND	6.83	114	6.00	1.00	
Total BTEX	<0.300	0.300	10/05/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	10/06/2020	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/02/2020	ND	218	109	200	5.87	
DRO >C10-C28*	<10.0	10.0	10/02/2020	ND	223	112	200	10.1	
EXT DRO >C28-C36	<10.0	10.0	10/02/2020	ND					

Surrogate: 1-Chlorooctane 112 % 44.3-144

Surrogate: 1-Chlorooctadecane 122 % 42.2-156

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ADVANCE ENERGY PARTNERS  
 ANDREW PARKER  
 11490 WESTHEIMER ROAD, STE. 950  
 HOUSTON TX, 77077  
 Fax To: (832) 672-4609

Received:	10/02/2020	Sampling Date:	10/02/2020
Reported:	10/07/2020	Sampling Type:	Soil
Project Name:	WOOLHEAD B PAD	Sampling Condition:	Cool & Intact
Project Number:	06072020-2300-PRODOPS	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: HA-SOUTH 1-2' (H002621-02)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/05/2020	ND	2.32	116	2.00	1.02		
Toluene*	<0.050	0.050	10/05/2020	ND	2.27	113	2.00	1.06		
Ethylbenzene*	<0.050	0.050	10/05/2020	ND	2.34	117	2.00	0.999		
Total Xylenes*	<0.150	0.150	10/05/2020	ND	6.83	114	6.00	1.00		
Total BTEX	<0.300	0.300	10/05/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	10/06/2020	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/02/2020	ND	218	109	200	5.87	
DRO >C10-C28*	<10.0	10.0	10/02/2020	ND	223	112	200	10.1	
EXT DRO >C28-C36	<10.0	10.0	10/02/2020	ND					

Surrogate: 1-Chlorooctane 115 % 44.3-144

Surrogate: 1-Chlorooctadecane 125 % 42.2-156

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ADVANCE ENERGY PARTNERS  
 ANDREW PARKER  
 11490 WESTHEIMER ROAD, STE. 950  
 HOUSTON TX, 77077  
 Fax To: (832) 672-4609

Received: 10/02/2020  
 Reported: 10/07/2020  
 Project Name: WOOLHEAD B PAD  
 Project Number: 06072020-2300-PRODOPS  
 Project Location: NOT GIVEN

Sampling Date: 10/02/2020  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: HA-WEST 0-1' (H002621-03)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/05/2020	ND	2.32	116	2.00	1.02	
Toluene*	<0.050	0.050	10/05/2020	ND	2.27	113	2.00	1.06	
Ethylbenzene*	<0.050	0.050	10/05/2020	ND	2.34	117	2.00	0.999	
Total Xylenes*	<0.150	0.150	10/05/2020	ND	6.83	114	6.00	1.00	
Total BTX	<0.300	0.300	10/05/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	10/06/2020	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/02/2020	ND	218	109	200	5.87	
DRO >C10-C28*	<10.0	10.0	10/02/2020	ND	223	112	200	10.1	
EXT DRO >C28-C36	<10.0	10.0	10/02/2020	ND					

Surrogate: 1-Chlorooctane 105 % 44.3-144

Surrogate: 1-Chlorooctadecane 114 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ADVANCE ENERGY PARTNERS  
 ANDREW PARKER  
 11490 WESTHEIMER ROAD, STE. 950  
 HOUSTON TX, 77077  
 Fax To: (832) 672-4609

Received:	10/02/2020	Sampling Date:	10/02/2020
Reported:	10/07/2020	Sampling Type:	Soil
Project Name:	WOOLHEAD B PAD	Sampling Condition:	Cool & Intact
Project Number:	06072020-2300-PRODOPS	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: HA-WEST 1-2' (H002621-04)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/05/2020	ND	2.32	116	2.00	1.02	
Toluene*	<0.050	0.050	10/05/2020	ND	2.27	113	2.00	1.06	
Ethylbenzene*	<0.050	0.050	10/05/2020	ND	2.34	117	2.00	0.999	
Total Xylenes*	<0.150	0.150	10/05/2020	ND	6.83	114	6.00	1.00	
Total BTX	<0.300	0.300	10/05/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	10/06/2020	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/02/2020	ND	218	109	200	5.87	
DRO >C10-C28*	<10.0	10.0	10/02/2020	ND	223	112	200	10.1	
EXT DRO >C28-C36	<10.0	10.0	10/02/2020	ND					

Surrogate: 1-Chlorooctane 99.9 % 44.3-144

Surrogate: 1-Chlorooctadecane 108 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ADVANCE ENERGY PARTNERS  
 ANDREW PARKER  
 11490 WESTHEIMER ROAD, STE. 950  
 HOUSTON TX, 77077  
 Fax To: (832) 672-4609

Received:	10/02/2020	Sampling Date:	10/02/2020
Reported:	10/07/2020	Sampling Type:	Soil
Project Name:	WOOLHEAD B PAD	Sampling Condition:	Cool & Intact
Project Number:	06072020-2300-PRODOPS	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: NORTH CENTRAL 0-1' (H002621-05)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/05/2020	ND	2.32	116	2.00	1.02		
Toluene*	<0.050	0.050	10/05/2020	ND	2.27	113	2.00	1.06		
Ethylbenzene*	<0.050	0.050	10/05/2020	ND	2.34	117	2.00	0.999		
Total Xylenes*	<0.150	0.150	10/05/2020	ND	6.83	114	6.00	1.00		
Total BTEx	<0.300	0.300	10/05/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	560	16.0	10/06/2020	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/02/2020	ND	218	109	200	5.87	
DRO >C10-C28*	<10.0	10.0	10/02/2020	ND	223	112	200	10.1	
EXT DRO >C28-C36	<10.0	10.0	10/02/2020	ND					

Surrogate: 1-Chlorooctane 106 % 44.3-144

Surrogate: 1-Chlorooctadecane 120 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ADVANCE ENERGY PARTNERS  
 ANDREW PARKER  
 11490 WESTHEIMER ROAD, STE. 950  
 HOUSTON TX, 77077  
 Fax To: (832) 672-4609

Received:	10/02/2020	Sampling Date:	10/02/2020
Reported:	10/07/2020	Sampling Type:	Soil
Project Name:	WOOLHEAD B PAD	Sampling Condition:	Cool & Intact
Project Number:	06072020-2300-PRODOPS	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: NORTH CENTRAL 1-2' (H002621-06)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/05/2020	ND	2.32	116	2.00	1.02	
Toluene*	<0.050	0.050	10/05/2020	ND	2.27	113	2.00	1.06	
Ethylbenzene*	<0.050	0.050	10/05/2020	ND	2.34	117	2.00	0.999	
Total Xylenes*	<0.150	0.150	10/05/2020	ND	6.83	114	6.00	1.00	
Total BTX	<0.300	0.300	10/05/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	10/06/2020	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/02/2020	ND	218	109	200	5.87	
DRO >C10-C28*	<10.0	10.0	10/02/2020	ND	223	112	200	10.1	
EXT DRO >C28-C36	<10.0	10.0	10/02/2020	ND					

Surrogate: 1-Chlorooctane 107 % 44.3-144

Surrogate: 1-Chlorooctadecane 111 % 42.2-156

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**Analytical Results For:**

ADVANCE ENERGY PARTNERS  
 ANDREW PARKER  
 11490 WESTHEIMER ROAD, STE. 950  
 HOUSTON TX, 77077  
 Fax To: (832) 672-4609

Received:	10/02/2020	Sampling Date:	10/02/2020
Reported:	10/07/2020	Sampling Type:	Soil
Project Name:	WOOLHEAD B PAD	Sampling Condition:	Cool & Intact
Project Number:	06072020-2300-PRODOPS	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SOUTH CENTRAL 0-1' (H002621-07)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/05/2020	ND	2.32	116	2.00	1.02	
Toluene*	<0.050	0.050	10/05/2020	ND	2.27	113	2.00	1.06	
Ethylbenzene*	<0.050	0.050	10/05/2020	ND	2.34	117	2.00	0.999	
Total Xylenes*	<0.150	0.150	10/05/2020	ND	6.83	114	6.00	1.00	
Total BTX	<0.300	0.300	10/05/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	10/06/2020	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/05/2020	ND	229	114	200	5.73	
DRO >C10-C28*	<10.0	10.0	10/05/2020	ND	226	113	200	7.69	
EXT DRO >C28-C36	<10.0	10.0	10/05/2020	ND					

Surrogate: 1-Chlorooctane 102 % 44.3-144

Surrogate: 1-Chlorooctadecane 99.6 % 42.2-156

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**Analytical Results For:**

ADVANCE ENERGY PARTNERS  
 ANDREW PARKER  
 11490 WESTHEIMER ROAD, STE. 950  
 HOUSTON TX, 77077  
 Fax To: (832) 672-4609

Received:	10/02/2020	Sampling Date:	10/02/2020
Reported:	10/07/2020	Sampling Type:	Soil
Project Name:	WOOLHEAD B PAD	Sampling Condition:	Cool & Intact
Project Number:	06072020-2300-PRODOPS	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

**Sample ID: SOUTH CENTRAL 1-2' (H002621-08)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/05/2020	ND	2.32	116	2.00	1.02	
Toluene*	<0.050	0.050	10/05/2020	ND	2.27	113	2.00	1.06	
Ethylbenzene*	<0.050	0.050	10/05/2020	ND	2.34	117	2.00	0.999	
Total Xylenes*	<0.150	0.150	10/05/2020	ND	6.83	114	6.00	1.00	
Total BTX	<0.300	0.300	10/05/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	10/06/2020	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/05/2020	ND	229	114	200	5.73	
DRO >C10-C28*	<10.0	10.0	10/05/2020	ND	226	113	200	7.69	
EXT DRO >C28-C36	<10.0	10.0	10/05/2020	ND					

Surrogate: 1-Chlorooctane 104 % 44.3-144

Surrogate: 1-Chlorooctadecane 101 % 42.2-156

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### Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in cursive script, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



**(575) 393-2326 FAX (575) 393-2476**

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

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811 S. First St., Artesia, NM 88210  
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**District III**  
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Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS  
  
Action 10799

CONDITIONS OF APPROVAL

Operator: ADVANCE ENERGY PARTNERS HAT ME			11490 Westheimer Rd., Ste 950	Houston, TX77077	OGRID: 372417	Action Number: 10799	Action Type: C-141
OCD Reviewer					Condition		
ceads					None		