

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
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

Form C-101
August 1, 2011

Permit 276407

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address ADVANCE ENERGY PARTNERS HAT MESA, LLC 11490 Westheimer Rd., Ste 950 Houston, TX 77077		2. OGRID Number 372417
4. Property Code 319603		3. API Number 30-025-46696
5. Property Name MERCHANT STATE UNIT		6. Well No. 509H

7. Surface Location

UL - Lot D	Section 35	Township 21S	Range 33E	Lot Idn D	Feet From 200	N/S Line N	Feet From 830	E/W Line W	County Lea
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8. Proposed Bottom Hole Location

UL - Lot M	Section 2	Township 22S	Range 33E	Lot Idn M	Feet From 100	N/S Line S	Feet From 330	E/W Line W	County Lea
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9. Pool Information

WC-025 G-06 S213326D;BONE SPRING	97929
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Additional Well Information

11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3685
16. Multiple N	17. Proposed Depth 20665	18. Formation Bone Spring	19. Contractor	20. Spud Date 1/6/2020
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ We will be using a closed-loop system in lieu of lined pits

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17.5	13.375	54.5	1600	500	0
Int1	12.25	9.625	40	4000	950	0
Int1	12.25	9.625	40	5300	330	4000
Prod	8.5	5.5	20	20665	2300	0

Casing/Cement Program: Additional Comments

--

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	5000	5000	

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒ if applicable.	OIL CONSERVATION DIVISION	
Signature:		
Printed Name: Electronically filed by David C Harwell	Approved By: Paul F Kautz	
Title: VP Engineering	Title: Geologist	
Email Address: dharwell@advanceenergypartners.com	Approved Date: 1/9/2020	Expiration Date: 1/9/2022
Date: 1/2/2020	Phone: 832-672-4604	Conditions of Approval Attached

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DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3480 Fax: (505) 476-3482State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102

Revised August 4, 2011

Submit one copy to appropriate
District Office

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-025-46696	Pool Code XXXXX 97929	Pool Name WC-025 G-06 S213326D; BONE SPRING
Property Code 319603	Property Name MERCHANT STATE UNIT	Well Number 509H
OGRID No. 372417	Operator Name ADVANCE ENERGY PARTNERS HAT MESA	Elevation 3685'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
D	35	21 S	33 E		200	NORTH	830	WEST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
M	2	22 S	33 E		100	SOUTH	330	WEST	LEA
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.						

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

SURFACE LOCATION
Lat - N 32.442001°
Long - W 103.549079°
NMSPCE- N 525419.4
E 783276.6
(NAD-83)

FIRST TAKE POINT
100' FNL & 330' FWL
Lat - N 32.442279°
Long - W 103.550701°
NMSPCE- N 525516.8
E 782775.7
(NAD-83)

BOTTOM HOLE LOCATION
Lat - N 32.413824°
Long - W 103.550688°
NMSPCE- N 515164.8
E 782855.5
(NAD-83)

OPERATOR CERTIFICATION
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unLEASEd mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature _____ Date _____

Printed Name _____

Email Address _____

SURVEYOR CERTIFICATION
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

DECEMBER 11 2019

Date Surveyed _____

Signature & Seal of Professional Surveyor _____

Certificate No. Gary L. Jones 7977

Basin Surveyors

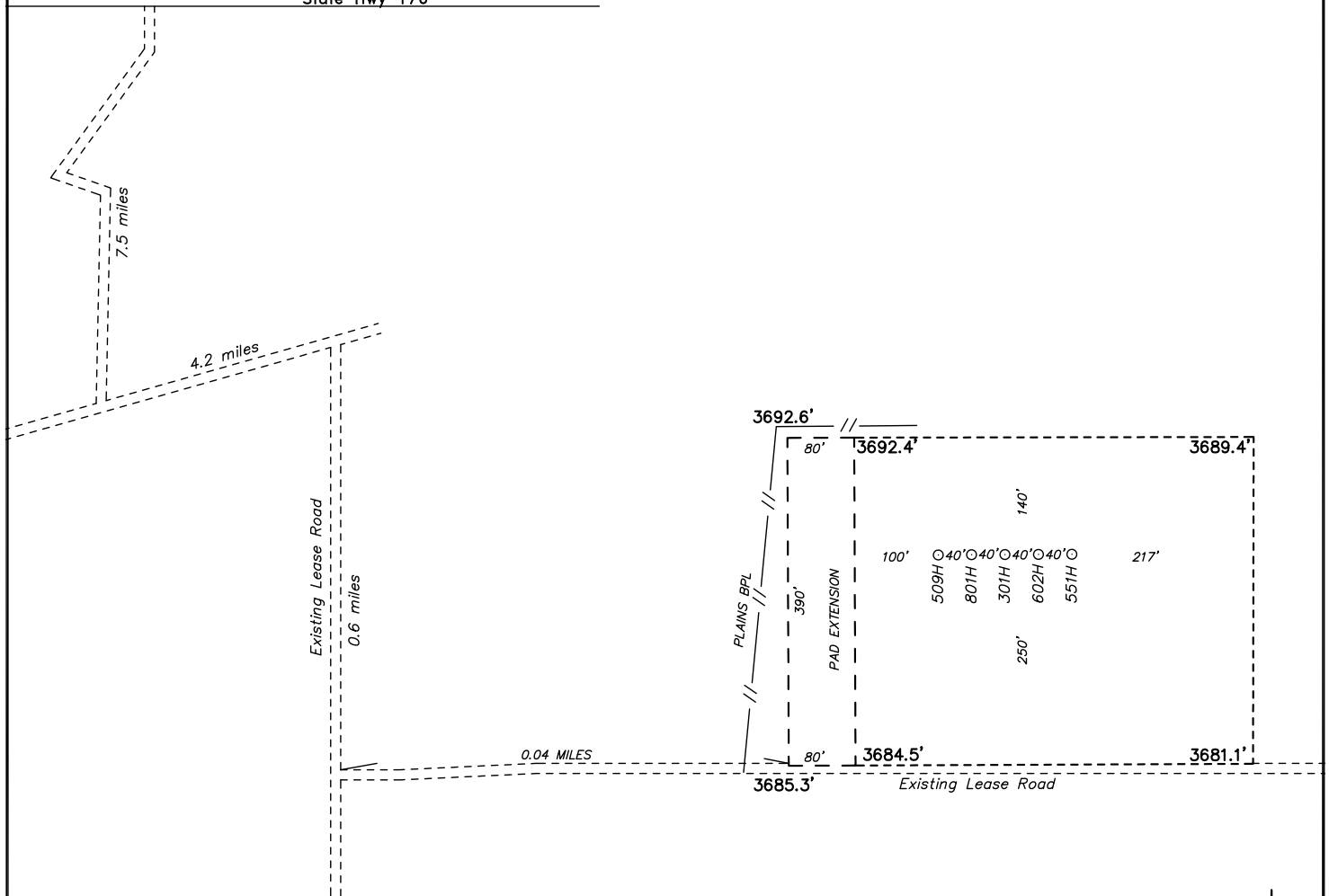
0' 1000' 2000' 3000' 4000'

SCALE: 1" = 2000'

WO Num.: 34964

**SECTION 35, TOWNSHIP 21 SOUTH, RANGE 33 EAST. N.M.P.M.,
LEA COUNTY,
NEW MEXICO.**

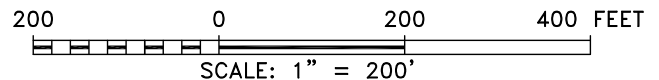
State Hwy 176



**ADVANCE ENERGY PARTNERS HAT MESA
MERCHANT STATE UNIT 509H
ELEV. - 3685'**

Lat - N 32.442001°
Long - W 103.549079°
NMSPCE - N 525419.4
E 783276.6
(NAD-83)

EUNICE, NM IS ±22 MILES TO THE EAST OF LOCATION.



ADVANCE ENERGY PARTNERS HAT MESA

REF: MERCHANT STATE UNIT 509H / WELL PAD TOPO

THE MERCHANT STATE UNIT 509H LOCATED 200' FROM
THE NORTH LINE AND 830' FROM THE WEST LINE OF
SECTION 35, TOWNSHIP 21 SOUTH, RANGE 33 EAST.

N.M.P.M., LEA COUNTY, NEW MEXICO.

**basin
surveys**
focused on excellence
in the oilfield

P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2206 - Fax
basinsurveys.com

W.O. Number: 34964

Drawn By: J. GOAD

Date: 12-30-2019

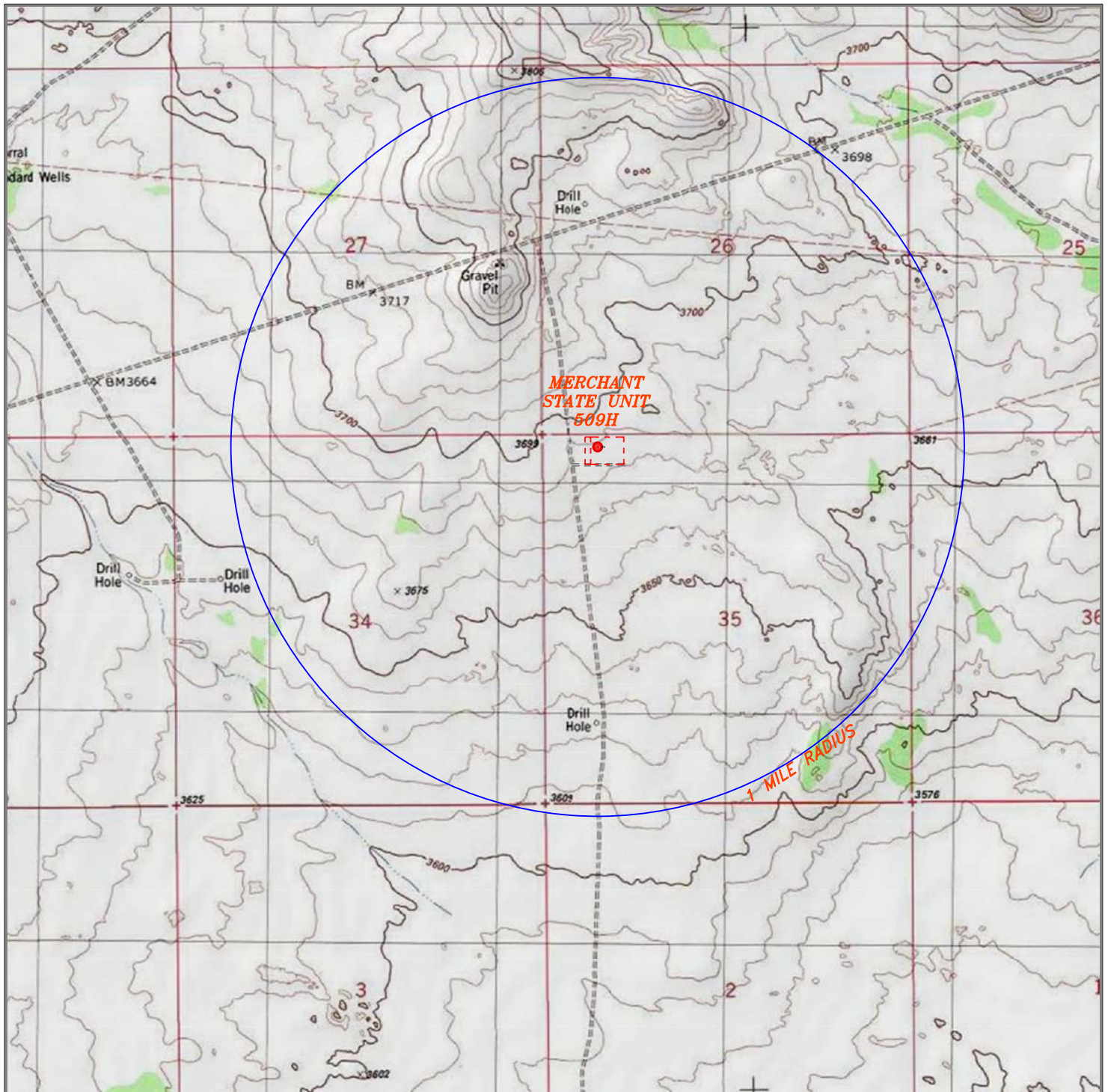
Survey Date: 12-11-2019

Sheet 1 of 1 Sheets

Site plan showing the proposed addition and existing building footprint. The existing building is 100' wide and 40' deep. The proposed addition is 140' wide and 250' deep. The addition is divided into five sections, each 40' deep. The sections are labeled 509H, 801H, 301H, 602H, and 551H. The plan also shows the existing lease road to the south and the proposed extension of the lease road. The plan includes a north arrow and a scale bar.



P.O. Box 1786 (575) 393-7316 - Office
1120 N. West County Rd. (575) 392-2206 - Fax
Hobbs, New Mexico 88241 basinsurveys.com



MERCHANT STATE UNIT 509H

Located 200' FNL and 830' FWL
 Section 35, Township 21 South, Range 33 East,
 N.M.P.M., Lea County, New Mexico.



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0' 1000' 2000' 3000' 1500'
 SCALE: 1" = 2000'

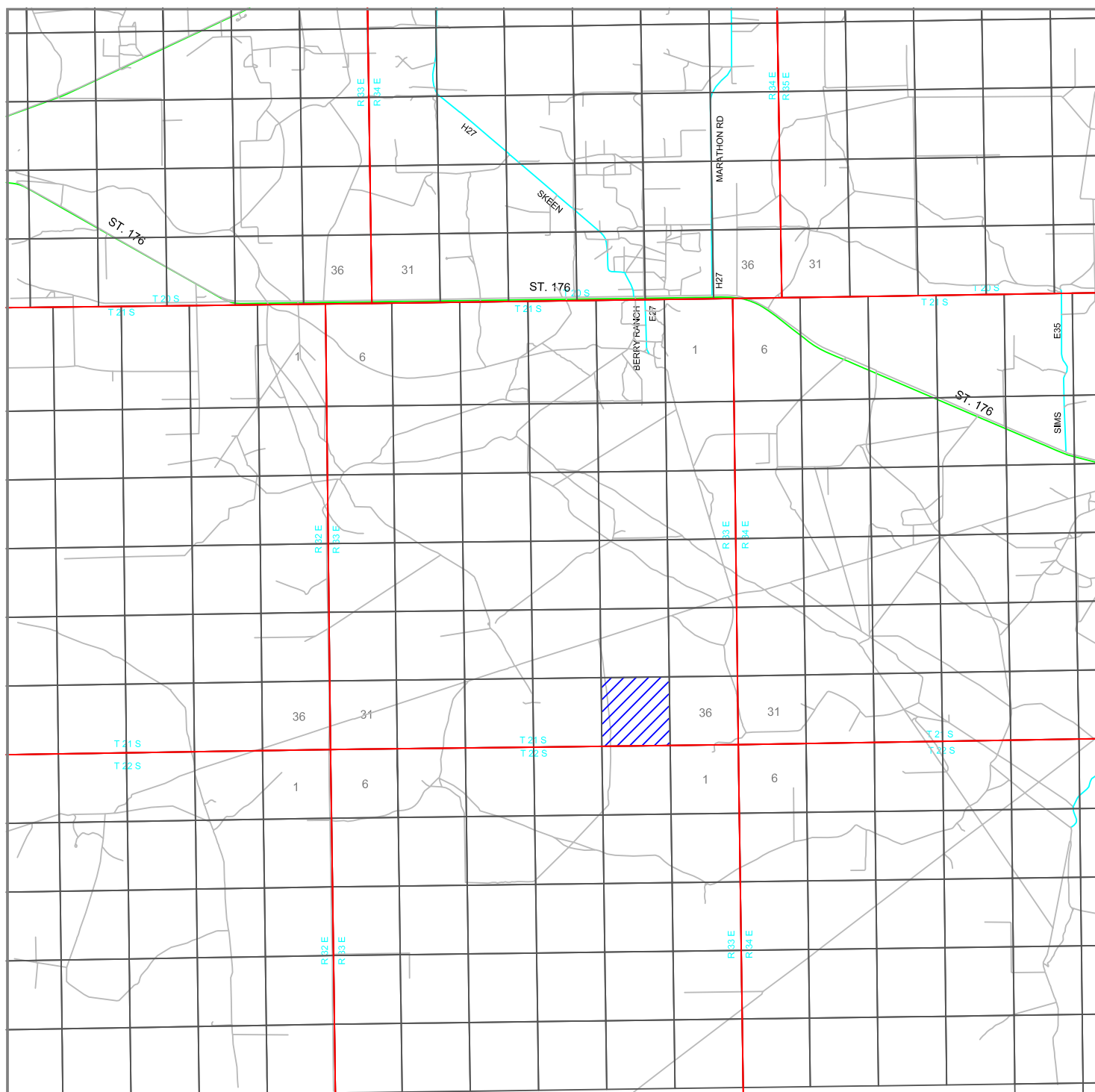
W.O. Number: JG 34964

Survey Date: 12-11-2019

YELLOW TINT - USA LAND
 BLUE TINT - STATE LAND
 NATURAL COLOR - FEE LAND



**ADVANCE
 ENERGY
 PARTNERS
 HAT MESA**



MERCHANT STATE UNIT 509H

Located 200' FNL and 830' FWL
 Section 35, Township 21 South, Range 33 East,
 N.M.P.M., Lea County, New Mexico.



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0 1 MI 2 MI 3 MI 4 MI
 SCALE: 1" = 2 MILES

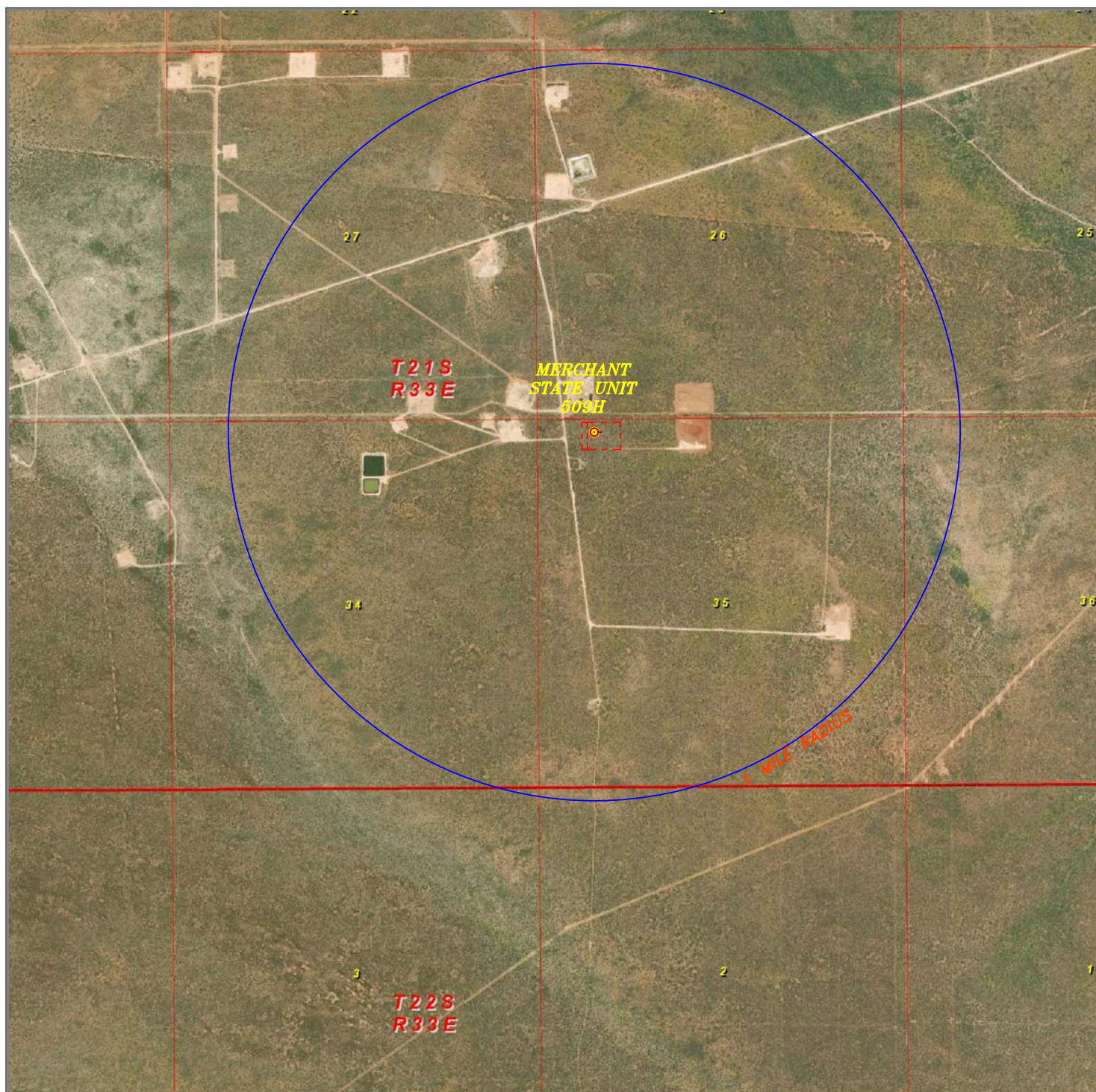
W.O. Number: JG 34964

Survey Date: 12-11-2019

YELLOW TINT - USA LAND
 BLUE TINT - STATE LAND
 NATURAL COLOR - FEE LAND



**ADVANCE
 ENERGY
 PARTNERS
 HAT MESA**



MERCHANT STATE UNIT 509H

Located 200' FNL and 830' FWL
 Section 35, Township 21 South, Range 33 East,
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0' 1000' 2000' 3000' 1500'
 SCALE: 1" = 2000'

W.O. Number: JG 34964

Survey Date: 12-11-2019

YELLOW TINT - USA LAND
 BLUE TINT - STATE LAND
 NATURAL COLOR - FEE LAND



**ADVANCE
 ENERGY
 PARTNERS
 HAT MESA**

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

GAS CAPTURE PLAN

Date: 1/9/2020

☒ Original

Operator & OGRID No.: [372417] ADVANCE ENERGY PARTNERS HAT MESA, LLC

☐ Amended - Reason for
Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
MERCHANT STATE UNIT #509H	30-025-46696	D-35-21S-33E	0200N 0830W	1500	Flared	Flared during initial testing and cleanup.

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to TARGA MIDSTREAM SERVICES LLC and will be connected to TARGA MIDSTREAM SERVICES LLC Low Pressure gathering system located in Lea County, New Mexico. It will require 200' of pipeline to connect the facility to Low Pressure gathering system. ADVANCE ENERGY PARTNERS HAT MESA, LLC provides (periodically) to TARGA MIDSTREAM SERVICES LLC a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, ADVANCE ENERGY PARTNERS HAT MESA, LLC and TARGA MIDSTREAM SERVICES LLC have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at TARGA MIDSTREAM SERVICES LLC Processing Plant located in Sec. 36, Twn. 19S, Rng. 36E, Lea County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on TARGA MIDSTREAM SERVICES LLC system at that time. Based on current information, it is ADVANCE ENERGY PARTNERS HAT MESA, LLC's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
 - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
 - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
 - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

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Energy, Minerals and Natural Resources
Oil Conservation Division
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Santa Fe, NM 87505

Form APD Comments

Permit 276407

PERMIT COMMENTS

Operator Name and Address: ADVANCE ENERGY PARTNERS HAT MESA, LLC [372417] 11490 Westheimer Rd., Ste 950 Houston, TX 77077		API Number: 30-025-46696
		Well: MERCHANT STATE UNIT #509H

Created By	Comment	Comment Date
pkautz	Forms for Potash Review sent to BLM & SLO by Paul Kautz on 01032020	1/3/2020
pkautz	Received letter of inquiry concerning potash LMR and buffer zone from SLO. Outside LMR & buffer zone. 01/03/2020	1/3/2020

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Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form APD Conditions

Permit 276407

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: ADVANCE ENERGY PARTNERS HAT MESA, LLC [372417] 11490 Westheimer Rd., Ste 950 Houston, TX 77077	API Number: 30-025-46696
	Well: MERCHANT STATE UNIT #509H

OCD Reviewer	Condition
pkautz	Will require a directional survey with the C-104
pkautz	Potash Area - Three String Casing Program - In accordance with R-111-P all strings shall be cemented to surface. Salt Protection String - If the cement fails to reach the surface or the bottom of the cellar, where required, the top of the cement shall be located by a temperature or other survey and additional cementing shall be done until the cement is brought to the surface.
pkautz	Surface casing must be set 25' below top of Rustler Anhydrite in order to seal off protectable water
pkautz	If cement does not circulate to surface, must run temperature survey or other log to determine top of cement
pkautz	1)- The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud 2)- Drilling Sundries Form C-103 (Casing and Cement test are to be submitted within 10 days 3)- Completion Reports & Logs are to be submitted within 45 days 4)- Deviation / Directional Drill Survey are to be filed with or prior to C-104
pkautz	It is the operator's responsibility to monitor cancellation dates of approved APDs. APD's are good for 2 years and may be extended for one year. Only one 1 year extension will be granted if submitted by C-103 before expiration date. After expiration date or after a 1 year extension must submit new APD. If an APD expires and if site construction has occurred, site remediation is required.
pkautz	Stage Tool 1) Must notify OCD Hobbs Office prior to running Stage Tool at 5753703186 2) If using Stage Tool on Surface casing, Stage Tool must be set greater than 350' from surface and a minimum of 200 feet above surface shoe. 3) When using a Stage Tool on Intermediate or Production Casing Stage must be a minimum of 50 feet below previous casing shoe.



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

January 2, 2020

Oil Conservation Division
Energy Minerals and Natural Resources Department
1625 N. French Dr.
Hobbs, New Mexico 88240

Attn: Mr. Paul Kautz

**Re: Application for Merchant State Unit 509H
Unit D, Section 35-T21S-R33E
Lea County, New Mexico**

Dear Mr. Kautz,

I am providing answers to you questions and requests for additional information about any potash leases within 1 mile of the referenced Section 35.

This letter is to confirm there are no potash leases within 1 mile of Section 35, Township 21 South, Range 33 East, Lea County, NM.

Sincerely,

A handwritten signature in cursive script that reads 'Paul J. Burdick'.

Paul J. Burdick
Land Advisor
Advance Energy Partners Hat Mesa, LLC
Email: PBurdick@Advanceenergypartners.com
Office Telephone: 832-672-4623
Cell Telephone: 713-228-7320



Merchant State Unit 509H
Lea County, New Mexico
H&P 389
Plan 0.1



Azimuths to Grid North
True North: -0.42°
Magnetic North: 6.15°

Magnetic Field
Strength: 48034.4nT
Dip Angle: 60.19°
Date: 1/1/2020
Model: MVHD

Magnetic North: 6.15° to Grid North

SITE DETAILS: Merchant State Unit 509H

Site Centre Northing: 525419.40
Easting: 783276.60

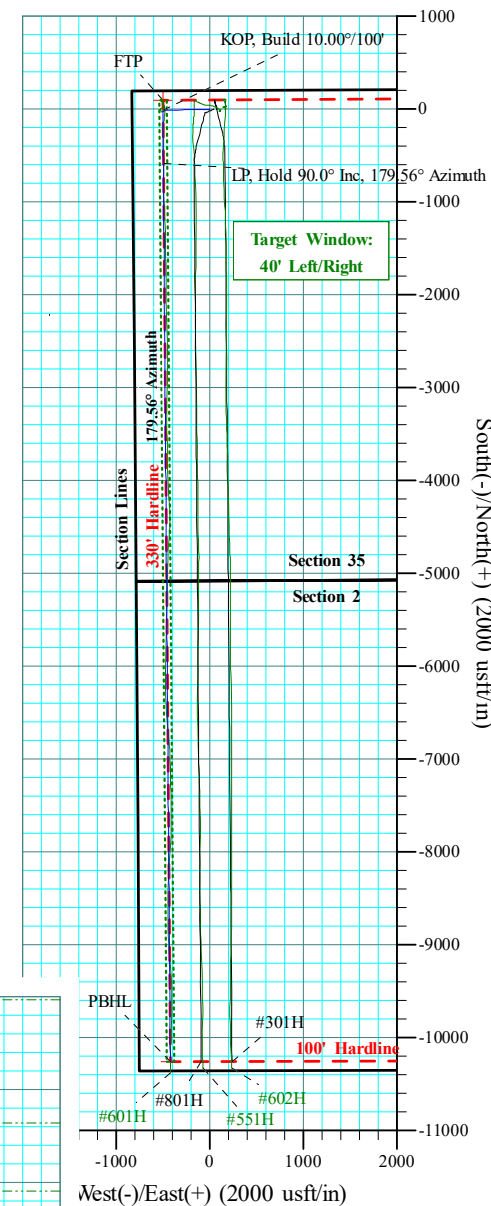
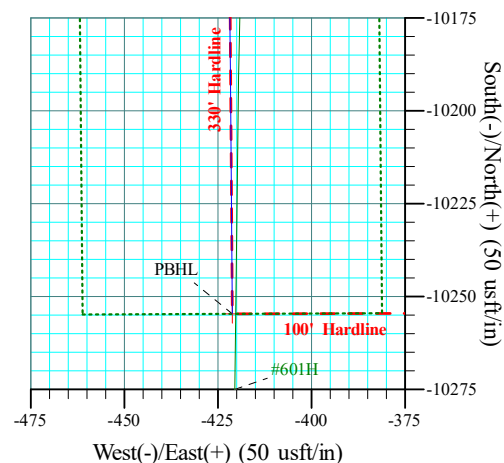
Positional Uncertainty: 0.00
Convergence: 0.42
Local North: Grid

PROJECT DETAILS: Lea County, New Mexico

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

Depth Reference:
3685'GL+25.5'KB @ 3710.50usft (H&P 389)

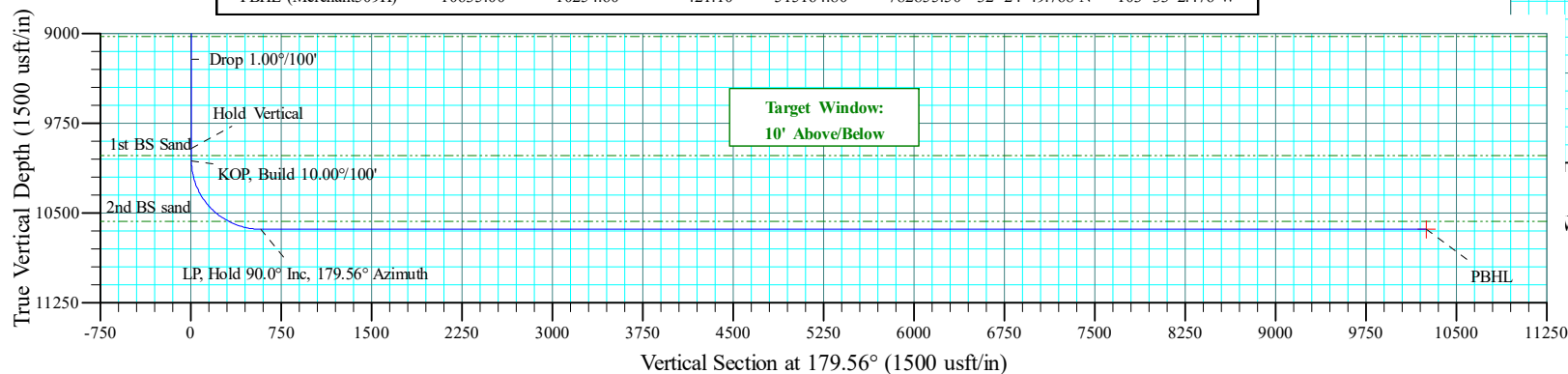


SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	5400.00	0.00	0.00	5400.00	0.00	0.00	0.00	0.00	0.00	Build 1.00°/100'
3	6147.02	7.47	268.85	6144.91	-0.97	-48.62	1.00	268.85	0.60	Hold 7.47° Inc, 268.85° Azimuth
4	9245.55	7.47	268.85	9217.13	-9.03	-451.38	0.00	0.00	5.56	Drop 1.00°/100'
5	9992.57	0.00	0.00	9962.04	-10.00	-500.00	1.00	180.00	6.16	Hold Vertical
6	10092.57	0.00	0.00	10062.04	-10.00	-500.00	0.00	0.00	6.16	KOP, Build 10.00°/100'
7	10992.57	90.00	179.56	10635.00	-582.94	-495.59	10.00	179.56	579.12	LP, Hold 90.0° Inc, 179.56° Azimuth
8	20664.51	90.00	179.56	10635.00	-10254.60	-421.10	0.00	0.00	10251.06	PBHL

DESIGN TARGET DETAILS

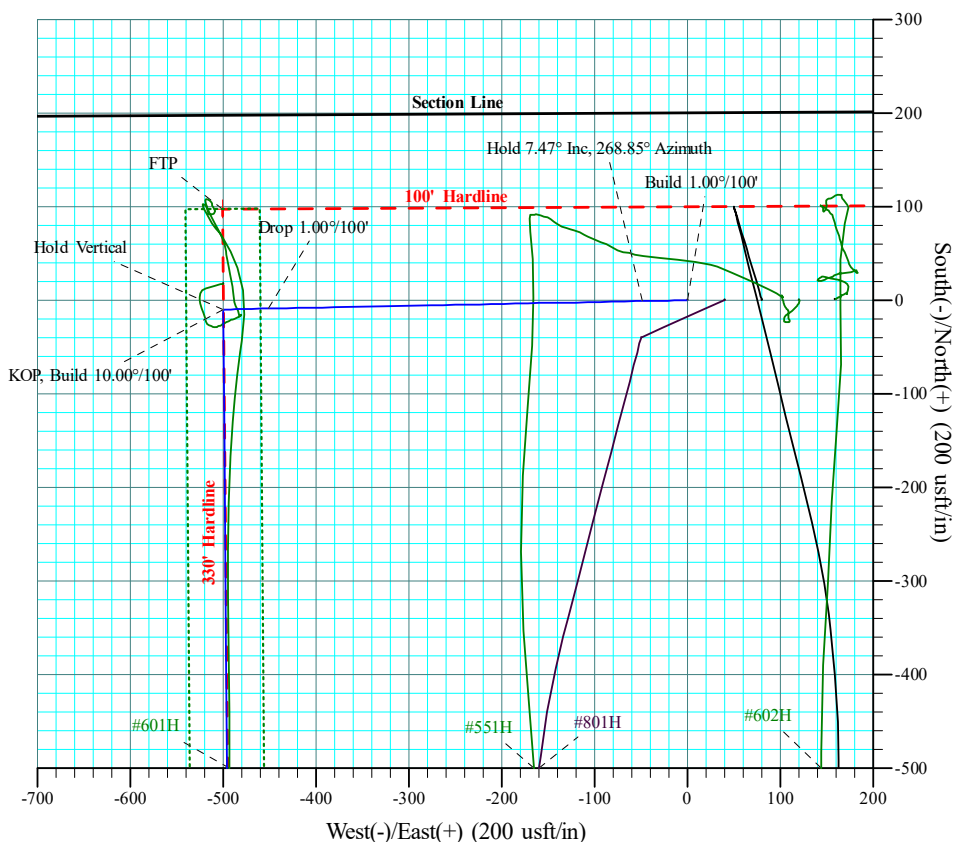
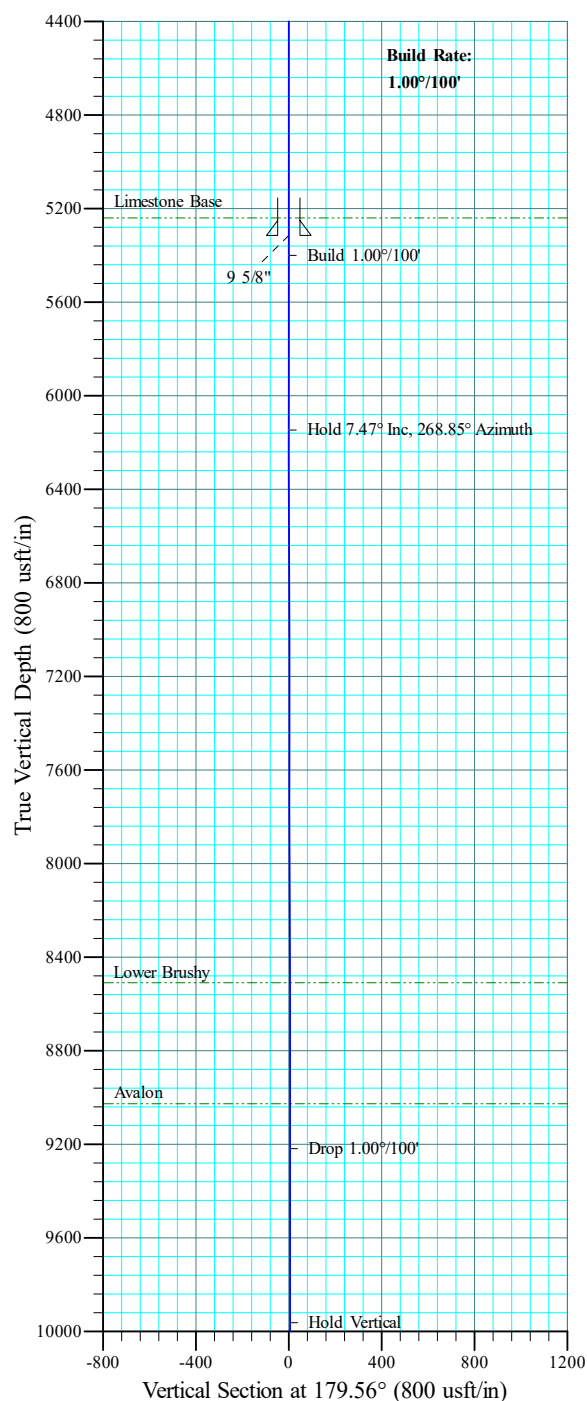
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP (Merchant509H)	0.00	97.40	-500.90	525516.80	782775.70	32° 26' 32.205 N	103° 33' 2.522 W
PBHL (Merchant509H)	10635.00	-10254.60	-421.10	515164.80	782855.50	32° 24' 49.768 N	103° 33' 2.476 W



*Note - Aim is not responsible for any collision issues against unknown offset wells.



Merchant State Unit 509H
Lea County, New Mexico
H&P 389
Plan 0.1



Azimuths to Grid North
True North: -0.42°
Magnetic North: 6.15°
Magnetic Field
Strength: 48034.4nT
Dip Angle: 60.19°
Date: 1/1/2020
Model: MVHD

Magnetic North: 6.15° to Grid North

SITE DETAILS: Merchant State Unit 509H

Site Centre Northing: 525419.40
Easting: 783276.60

Positional Uncertainty: 0.00
Convergence: 0.42
Local North: Grid

Depth Reference:
3685°GL+25.5°KB @ 3710.50usft (H&P 389)

SLOTS

Slot Name	+N/-S	+E/-W
301H	0.40	79.80
509H	0.00	0.00
551H	0.60	120.00
601H	17.50	-499.90
602H	0.90	159.10
801H	0.20	39.80

CASING DETAILS

MD	Name
1750.00	13 3/8"
5315.00	9 5/8"

PROJECT DETAILS: Lea County, New Mexico

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

*Note - Aim is not responsible for collision issues against any unknown offset wells.

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP (Merchant509H)	0.00	97.40	-500.90	525516.80	782775.70	32° 26' 32.205 N	103° 33' 2.522 W
PBHL (Merchant509H)	10635.00	-10254.60	-421.10	515164.80	782855.50	32° 24' 49.768 N	103° 33' 2.476 W

Drawn By: IG

Date Created: 1/2/2020

Date Revised: 1/2/2020

File: Advance Energy - Merchant State Unit 509H Plan 0.1 Surface.wpc

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	5400.00	0.00	0.00	5400.00	0.00	0.00	0.00	0.00	0.00	Build 1.00°/100'
3	6147.02	7.47	268.85	6144.91	-0.97	-48.62	1.00	268.85	0.60	Hold 7.47° Inc, 268.85° Azimuth
4	9245.55	7.47	268.85	9217.13	-9.03	-451.38	0.00	0.00	5.56	Drop 1.00°/100'
5	9992.57	0.00	0.00	9962.04	-10.00	-500.00	1.00	180.00	6.16	Hold Vertical
6	10092.57	0.00	0.00	10062.04	-10.00	-500.00	0.00	0.00	6.16	KOP, Build 10.00°/100'
7	10992.57	90.00	179.56	10635.00	-582.94	-495.59	10.00	179.56	579.12	LP, Hold 90.0° Inc, 179.56° Azimuth
8	20664.51	90.00	179.56	10635.00	-10254.60	-421.10	0.00	0.00	10251.06	PBHL

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 509H
Project:	Lea County, New Mexico	TVD Reference:	3685'GL+25.5'KB @ 3710.50usft (H&P 389)
Site:	Merchant State Unit 509H	MD Reference:	3685'GL+25.5'KB @ 3710.50usft (H&P 389)
Well:	#509H	North Reference:	Grid
Wellbore:	Lateral 1r0	Survey Calculation Method:	Minimum Curvature
Design:	Plan 0.1	Database:	EDM 5000.1 Aim Database

Project	Lea County, New Mexico		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Merchant State Unit 509H		
Site Position:		Northing:	525,419.40 usft
From:	Map	Easting:	783,276.60 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 26' 31.205 N
		Longitude:	103° 32' 56.686 W
		Grid Convergence:	0.42 °

Well	#509H - Slot 509H		
Well Position	+N/-S	0.00 usft	Northing: 525,419.40 usft
	+E/-W	0.00 usft	Easting: 783,276.60 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 26' 31.205 N
		Longitude:	103° 32' 56.686 W
		Ground Level:	3,685.00 usft

Wellbore	Lateral 1r0				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	1/1/2020	6.57	60.19	48,034.36284094

Design	Plan 0.1				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	179.56	

Survey Tool Program	Date	1/2/2020			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	20,664.51	Plan 0.1 (Lateral 1r0)	B001Mb_MWD+HRGM	OWSG MWD + HRGM	

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FTP (Merchant509H)										
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 509H
Project:	Lea County, New Mexico	TVD Reference:	3685'GL+25.5'KB @ 3710.50usft (H&P 389)
Site:	Merchant State Unit 509H	MD Reference:	3685'GL+25.5'KB @ 3710.50usft (H&P 389)
Well:	#509H	North Reference:	Grid
Wellbore:	Lateral 1r0	Survey Calculation Method:	Minimum Curvature
Design:	Plan 0.1	Database:	EDM 5000.1 Aim Database

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,676.00	0.00	0.00	1,676.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,750.00	0.00	0.00	1,750.00	0.00	0.00	0.00	0.00	0.00	0.00
13 3/8"									
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 509H
Project:	Lea County, New Mexico	TVD Reference:	3685'GL+25.5'KB @ 3710.50usft (H&P 389)
Site:	Merchant State Unit 509H	MD Reference:	3685'GL+25.5'KB @ 3710.50usft (H&P 389)
Well:	#509H	North Reference:	Grid
Wellbore:	Lateral 1r0	Survey Calculation Method:	Minimum Curvature
Design:	Plan 0.1	Database:	EDM 5000.1 Aim Database

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,240.00	0.00	0.00	5,240.00	0.00	0.00	0.00	0.00	0.00	0.00
Limestone Base									
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,315.00	0.00	0.00	5,315.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
Build 1.00°/100'									
5,500.00	1.00	268.85	5,500.00	-0.02	-0.87	0.01	1.00	1.00	0.00
5,600.00	2.00	268.85	5,599.96	-0.07	-3.49	0.04	1.00	1.00	0.00
5,700.00	3.00	268.85	5,699.86	-0.16	-7.85	0.10	1.00	1.00	0.00
5,800.00	4.00	268.85	5,799.68	-0.28	-13.95	0.17	1.00	1.00	0.00
5,900.00	5.00	268.85	5,899.37	-0.44	-21.80	0.27	1.00	1.00	0.00
6,000.00	6.00	268.85	5,998.90	-0.63	-31.38	0.39	1.00	1.00	0.00
6,100.00	7.00	268.85	6,098.26	-0.85	-42.70	0.53	1.00	1.00	0.00
6,147.02	7.47	268.85	6,144.91	-0.97	-48.62	0.60	1.00	1.00	0.00
Hold 7.47° Inc, 268.85° Azimuth									
6,200.00	7.47	268.85	6,197.44	-1.11	-55.51	0.68	0.00	0.00	0.00
6,300.00	7.47	268.85	6,296.59	-1.37	-68.50	0.84	0.00	0.00	0.00
6,400.00	7.47	268.85	6,395.74	-1.63	-81.50	1.00	0.00	0.00	0.00
6,500.00	7.47	268.85	6,494.89	-1.89	-94.50	1.16	0.00	0.00	0.00
6,600.00	7.47	268.85	6,594.04	-2.15	-107.50	1.32	0.00	0.00	0.00
6,700.00	7.47	268.85	6,693.19	-2.41	-120.50	1.48	0.00	0.00	0.00
6,800.00	7.47	268.85	6,792.34	-2.67	-133.50	1.64	0.00	0.00	0.00
6,900.00	7.47	268.85	6,891.49	-2.93	-146.50	1.80	0.00	0.00	0.00
7,000.00	7.47	268.85	6,990.65	-3.19	-159.49	1.96	0.00	0.00	0.00
7,100.00	7.47	268.85	7,089.80	-3.45	-172.49	2.13	0.00	0.00	0.00
7,200.00	7.47	268.85	7,188.95	-3.71	-185.49	2.29	0.00	0.00	0.00
7,300.00	7.47	268.85	7,288.10	-3.97	-198.49	2.45	0.00	0.00	0.00
7,400.00	7.47	268.85	7,387.25	-4.23	-211.49	2.61	0.00	0.00	0.00
7,500.00	7.47	268.85	7,486.40	-4.49	-224.49	2.77	0.00	0.00	0.00
7,600.00	7.47	268.85	7,585.55	-4.75	-237.48	2.93	0.00	0.00	0.00
7,700.00	7.47	268.85	7,684.70	-5.01	-250.48	3.09	0.00	0.00	0.00
7,800.00	7.47	268.85	7,783.86	-5.27	-263.48	3.25	0.00	0.00	0.00
7,900.00	7.47	268.85	7,883.01	-5.53	-276.48	3.41	0.00	0.00	0.00
8,000.00	7.47	268.85	7,982.16	-5.79	-289.48	3.57	0.00	0.00	0.00
8,100.00	7.47	268.85	8,081.31	-6.05	-302.48	3.73	0.00	0.00	0.00
8,200.00	7.47	268.85	8,180.46	-6.31	-315.48	3.89	0.00	0.00	0.00
8,300.00	7.47	268.85	8,279.61	-6.57	-328.47	4.05	0.00	0.00	0.00
8,400.00	7.47	268.85	8,378.76	-6.83	-341.47	4.21	0.00	0.00	0.00
8,500.00	7.47	268.85	8,477.91	-7.09	-354.47	4.37	0.00	0.00	0.00

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 509H
Project:	Lea County, New Mexico	TVD Reference:	3685'GL+25.5'KB @ 3710.50usft (H&P 389)
Site:	Merchant State Unit 509H	MD Reference:	3685'GL+25.5'KB @ 3710.50usft (H&P 389)
Well:	#509H	North Reference:	Grid
Wellbore:	Lateral 1r0	Survey Calculation Method:	Minimum Curvature
Design:	Plan 0.1	Database:	EDM 5000.1 Aim Database

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,530.34	7.47	268.85	8,508.00	-7.17	-358.41	4.42	0.00	0.00	0.00
Lower Brushy									
8,600.00	7.47	268.85	8,577.07	-7.35	-367.47	4.53	0.00	0.00	0.00
8,700.00	7.47	268.85	8,676.22	-7.61	-380.47	4.69	0.00	0.00	0.00
8,800.00	7.47	268.85	8,775.37	-7.87	-393.47	4.85	0.00	0.00	0.00
8,900.00	7.47	268.85	8,874.52	-8.13	-406.46	5.01	0.00	0.00	0.00
9,000.00	7.47	268.85	8,973.67	-8.39	-419.46	5.17	0.00	0.00	0.00
9,051.77	7.47	268.85	9,025.00	-8.52	-426.19	5.25	0.00	0.00	0.00
Avalon									
9,100.00	7.47	268.85	9,072.82	-8.65	-432.46	5.33	0.00	0.00	0.00
9,200.00	7.47	268.85	9,171.97	-8.91	-445.46	5.49	0.00	0.00	0.00
9,245.55	7.47	268.85	9,217.13	-9.03	-451.38	5.56	0.00	0.00	0.00
Drop 1.00°/100'									
9,300.00	6.93	268.85	9,271.16	-9.16	-458.20	5.65	1.00	-1.00	0.00
9,400.00	5.93	268.85	9,370.53	-9.39	-469.39	5.78	1.00	-1.00	0.00
9,500.00	4.93	268.85	9,470.08	-9.58	-478.84	5.90	1.00	-1.00	0.00
9,600.00	3.93	268.85	9,569.78	-9.73	-486.56	5.99	1.00	-1.00	0.00
9,700.00	2.93	268.85	9,669.60	-9.85	-492.53	6.07	1.00	-1.00	0.00
9,800.00	1.93	268.85	9,769.51	-9.94	-496.76	6.12	1.00	-1.00	0.00
9,900.00	0.93	268.85	9,869.48	-9.99	-499.25	6.15	1.00	-1.00	0.00
9,992.57	0.00	0.00	9,962.04	-10.00	-500.00	6.16	1.00	-1.00	98.46
Hold Vertical									
10,000.00	0.00	0.00	9,969.47	-10.00	-500.00	6.16	0.00	0.00	0.00
10,050.53	0.00	0.00	10,020.00	-10.00	-500.00	6.16	0.00	0.00	0.00
1st BS Sand									
10,092.57	0.00	0.00	10,062.04	-10.00	-500.00	6.16	0.00	0.00	0.00
KOP, Build 10.00°/100'									
10,100.00	0.74	179.56	10,069.47	-10.05	-500.00	6.21	10.00	10.00	0.00
10,150.00	5.74	179.56	10,119.38	-12.88	-499.98	9.04	10.00	10.00	0.00
10,200.00	10.74	179.56	10,168.84	-20.04	-499.92	16.20	10.00	10.00	0.00
10,250.00	15.74	179.56	10,217.50	-31.49	-499.83	27.65	10.00	10.00	0.00
10,300.00	20.74	179.56	10,264.97	-47.14	-499.71	43.30	10.00	10.00	0.00
10,350.00	25.74	179.56	10,310.90	-66.86	-499.56	63.03	10.00	10.00	0.00
10,400.00	30.74	179.56	10,354.93	-90.52	-499.38	86.68	10.00	10.00	0.00
10,450.00	35.74	179.56	10,396.74	-117.92	-499.17	114.08	10.00	10.00	0.00
10,500.00	40.74	179.56	10,435.99	-148.86	-498.93	145.02	10.00	10.00	0.00
10,550.00	45.74	179.56	10,472.40	-183.10	-498.67	179.26	10.00	10.00	0.00
10,600.00	50.74	179.56	10,505.69	-220.39	-498.38	216.55	10.00	10.00	0.00
10,650.00	55.74	179.56	10,535.60	-260.43	-498.07	256.60	10.00	10.00	0.00
10,700.00	60.74	179.56	10,561.91	-302.93	-497.74	299.10	10.00	10.00	0.00
10,719.18	62.66	179.56	10,571.00	-319.81	-497.61	315.98	10.00	10.00	0.00
2nd BS sand									
10,750.00	65.74	179.56	10,584.41	-347.56	-497.40	343.73	10.00	10.00	0.00
10,800.00	70.74	179.56	10,602.94	-393.98	-497.04	390.16	10.00	10.00	0.00
10,850.00	75.74	179.56	10,617.35	-441.84	-496.67	438.02	10.00	10.00	0.00

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 509H
Project:	Lea County, New Mexico	TVD Reference:	3685'GL+25.5'KB @ 3710.50usft (H&P 389)
Site:	Merchant State Unit 509H	MD Reference:	3685'GL+25.5'KB @ 3710.50usft (H&P 389)
Well:	#509H	North Reference:	Grid
Wellbore:	Lateral 1r0	Survey Calculation Method:	Minimum Curvature
Design:	Plan 0.1	Database:	EDM 5000.1 Aim Database

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
10,900.00	80.74	179.56	10,627.54	-490.78	-496.30	486.95	10.00	10.00	0.00	
10,950.00	85.74	179.56	10,633.42	-540.41	-495.91	536.59	10.00	10.00	0.00	
10,992.57	90.00	179.56	10,635.00	-582.94	-495.59	579.12	10.00	10.00	0.00	
LP, Hold 90.0° Inc, 179.56° Azimuth										
11,000.00	90.00	179.56	10,635.00	-590.37	-495.53	586.55	0.00	0.00	0.00	
11,100.00	90.00	179.56	10,635.00	-690.37	-494.76	686.55	0.00	0.00	0.00	
11,200.00	90.00	179.56	10,635.00	-790.37	-493.99	786.55	0.00	0.00	0.00	
11,300.00	90.00	179.56	10,635.00	-890.36	-493.22	886.55	0.00	0.00	0.00	
11,400.00	90.00	179.56	10,635.00	-990.36	-492.45	986.55	0.00	0.00	0.00	
11,500.00	90.00	179.56	10,635.00	-1,090.36	-491.68	1,086.55	0.00	0.00	0.00	
11,600.00	90.00	179.56	10,635.00	-1,190.36	-490.91	1,186.55	0.00	0.00	0.00	
11,700.00	90.00	179.56	10,635.00	-1,290.35	-490.14	1,286.55	0.00	0.00	0.00	
11,800.00	90.00	179.56	10,635.00	-1,390.35	-489.37	1,386.55	0.00	0.00	0.00	
11,900.00	90.00	179.56	10,635.00	-1,490.35	-488.60	1,486.55	0.00	0.00	0.00	
12,000.00	90.00	179.56	10,635.00	-1,590.34	-487.83	1,586.55	0.00	0.00	0.00	
12,100.00	90.00	179.56	10,635.00	-1,690.34	-487.06	1,686.55	0.00	0.00	0.00	
12,200.00	90.00	179.56	10,635.00	-1,790.34	-486.29	1,786.55	0.00	0.00	0.00	
12,300.00	90.00	179.56	10,635.00	-1,890.33	-485.52	1,886.55	0.00	0.00	0.00	
12,400.00	90.00	179.56	10,635.00	-1,990.33	-484.75	1,986.55	0.00	0.00	0.00	
12,500.00	90.00	179.56	10,635.00	-2,090.33	-483.98	2,086.55	0.00	0.00	0.00	
12,600.00	90.00	179.56	10,635.00	-2,190.33	-483.21	2,186.55	0.00	0.00	0.00	
12,700.00	90.00	179.56	10,635.00	-2,290.32	-482.44	2,286.55	0.00	0.00	0.00	
12,800.00	90.00	179.56	10,635.00	-2,390.32	-481.67	2,386.55	0.00	0.00	0.00	
12,900.00	90.00	179.56	10,635.00	-2,490.32	-480.90	2,486.55	0.00	0.00	0.00	
13,000.00	90.00	179.56	10,635.00	-2,590.31	-480.13	2,586.55	0.00	0.00	0.00	
13,100.00	90.00	179.56	10,635.00	-2,690.31	-479.36	2,686.55	0.00	0.00	0.00	
13,200.00	90.00	179.56	10,635.00	-2,790.31	-478.59	2,786.55	0.00	0.00	0.00	
13,300.00	90.00	179.56	10,635.00	-2,890.30	-477.82	2,886.55	0.00	0.00	0.00	
13,400.00	90.00	179.56	10,635.00	-2,990.30	-477.05	2,986.55	0.00	0.00	0.00	
13,500.00	90.00	179.56	10,635.00	-3,090.30	-476.28	3,086.55	0.00	0.00	0.00	
13,600.00	90.00	179.56	10,635.00	-3,190.30	-475.51	3,186.55	0.00	0.00	0.00	
13,700.00	90.00	179.56	10,635.00	-3,290.29	-474.74	3,286.55	0.00	0.00	0.00	
13,800.00	90.00	179.56	10,635.00	-3,390.29	-473.97	3,386.55	0.00	0.00	0.00	
13,900.00	90.00	179.56	10,635.00	-3,490.29	-473.20	3,486.55	0.00	0.00	0.00	
14,000.00	90.00	179.56	10,635.00	-3,590.28	-472.43	3,586.55	0.00	0.00	0.00	
14,100.00	90.00	179.56	10,635.00	-3,690.28	-471.66	3,686.55	0.00	0.00	0.00	
14,200.00	90.00	179.56	10,635.00	-3,790.28	-470.89	3,786.55	0.00	0.00	0.00	
14,300.00	90.00	179.56	10,635.00	-3,890.28	-470.12	3,886.55	0.00	0.00	0.00	
14,400.00	90.00	179.56	10,635.00	-3,990.27	-469.35	3,986.55	0.00	0.00	0.00	
14,500.00	90.00	179.56	10,635.00	-4,090.27	-468.58	4,086.55	0.00	0.00	0.00	
14,600.00	90.00	179.56	10,635.00	-4,190.27	-467.81	4,186.55	0.00	0.00	0.00	
14,700.00	90.00	179.56	10,635.00	-4,290.26	-467.04	4,286.55	0.00	0.00	0.00	
14,800.00	90.00	179.56	10,635.00	-4,390.26	-466.26	4,386.55	0.00	0.00	0.00	

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 509H
Project:	Lea County, New Mexico	TVD Reference:	3685'GL+25.5'KB @ 3710.50usft (H&P 389)
Site:	Merchant State Unit 509H	MD Reference:	3685'GL+25.5'KB @ 3710.50usft (H&P 389)
Well:	#509H	North Reference:	Grid
Wellbore:	Lateral 1r0	Survey Calculation Method:	Minimum Curvature
Design:	Plan 0.1	Database:	EDM 5000.1 Aim Database

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,900.00	90.00	179.56	10,635.00	-4,490.26	-465.49	4,486.55	0.00	0.00	0.00
15,000.00	90.00	179.56	10,635.00	-4,590.25	-464.72	4,586.55	0.00	0.00	0.00
15,100.00	90.00	179.56	10,635.00	-4,690.25	-463.95	4,686.55	0.00	0.00	0.00
15,200.00	90.00	179.56	10,635.00	-4,790.25	-463.18	4,786.55	0.00	0.00	0.00
15,300.00	90.00	179.56	10,635.00	-4,890.25	-462.41	4,886.55	0.00	0.00	0.00
15,400.00	90.00	179.56	10,635.00	-4,990.24	-461.64	4,986.55	0.00	0.00	0.00
15,500.00	90.00	179.56	10,635.00	-5,090.24	-460.87	5,086.55	0.00	0.00	0.00
15,600.00	90.00	179.56	10,635.00	-5,190.24	-460.10	5,186.55	0.00	0.00	0.00
15,700.00	90.00	179.56	10,635.00	-5,290.23	-459.33	5,286.55	0.00	0.00	0.00
15,800.00	90.00	179.56	10,635.00	-5,390.23	-458.56	5,386.55	0.00	0.00	0.00
15,900.00	90.00	179.56	10,635.00	-5,490.23	-457.79	5,486.55	0.00	0.00	0.00
16,000.00	90.00	179.56	10,635.00	-5,590.22	-457.02	5,586.55	0.00	0.00	0.00
16,100.00	90.00	179.56	10,635.00	-5,690.22	-456.25	5,686.55	0.00	0.00	0.00
16,200.00	90.00	179.56	10,635.00	-5,790.22	-455.48	5,786.55	0.00	0.00	0.00
16,300.00	90.00	179.56	10,635.00	-5,890.22	-454.71	5,886.55	0.00	0.00	0.00
16,400.00	90.00	179.56	10,635.00	-5,990.21	-453.94	5,986.55	0.00	0.00	0.00
16,500.00	90.00	179.56	10,635.00	-6,090.21	-453.17	6,086.55	0.00	0.00	0.00
16,600.00	90.00	179.56	10,635.00	-6,190.21	-452.40	6,186.55	0.00	0.00	0.00
16,700.00	90.00	179.56	10,635.00	-6,290.20	-451.63	6,286.55	0.00	0.00	0.00
16,800.00	90.00	179.56	10,635.00	-6,390.20	-450.86	6,386.55	0.00	0.00	0.00
16,900.00	90.00	179.56	10,635.00	-6,490.20	-450.09	6,486.55	0.00	0.00	0.00
17,000.00	90.00	179.56	10,635.00	-6,590.20	-449.32	6,586.55	0.00	0.00	0.00
17,100.00	90.00	179.56	10,635.00	-6,690.19	-448.55	6,686.55	0.00	0.00	0.00
17,200.00	90.00	179.56	10,635.00	-6,790.19	-447.78	6,786.55	0.00	0.00	0.00
17,300.00	90.00	179.56	10,635.00	-6,890.19	-447.01	6,886.55	0.00	0.00	0.00
17,400.00	90.00	179.56	10,635.00	-6,990.18	-446.24	6,986.55	0.00	0.00	0.00
17,500.00	90.00	179.56	10,635.00	-7,090.18	-445.47	7,086.55	0.00	0.00	0.00
17,600.00	90.00	179.56	10,635.00	-7,190.18	-444.70	7,186.55	0.00	0.00	0.00
17,700.00	90.00	179.56	10,635.00	-7,290.17	-443.93	7,286.55	0.00	0.00	0.00
17,800.00	90.00	179.56	10,635.00	-7,390.17	-443.16	7,386.55	0.00	0.00	0.00
17,900.00	90.00	179.56	10,635.00	-7,490.17	-442.39	7,486.55	0.00	0.00	0.00
18,000.00	90.00	179.56	10,635.00	-7,590.17	-441.62	7,586.55	0.00	0.00	0.00
18,100.00	90.00	179.56	10,635.00	-7,690.16	-440.85	7,686.55	0.00	0.00	0.00
18,200.00	90.00	179.56	10,635.00	-7,790.16	-440.08	7,786.55	0.00	0.00	0.00
18,300.00	90.00	179.56	10,635.00	-7,890.16	-439.31	7,886.55	0.00	0.00	0.00
18,400.00	90.00	179.56	10,635.00	-7,990.15	-438.54	7,986.55	0.00	0.00	0.00
18,500.00	90.00	179.56	10,635.00	-8,090.15	-437.77	8,086.55	0.00	0.00	0.00
18,600.00	90.00	179.56	10,635.00	-8,190.15	-437.00	8,186.55	0.00	0.00	0.00
18,700.00	90.00	179.56	10,635.00	-8,290.14	-436.23	8,286.55	0.00	0.00	0.00
18,800.00	90.00	179.56	10,635.00	-8,390.14	-435.46	8,386.55	0.00	0.00	0.00
18,900.00	90.00	179.56	10,635.00	-8,490.14	-434.69	8,486.55	0.00	0.00	0.00
19,000.00	90.00	179.56	10,635.00	-8,590.14	-433.92	8,586.55	0.00	0.00	0.00
19,100.00	90.00	179.56	10,635.00	-8,690.13	-433.15	8,686.55	0.00	0.00	0.00
19,200.00	90.00	179.56	10,635.00	-8,790.13	-432.38	8,786.55	0.00	0.00	0.00

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 509H
Project:	Lea County, New Mexico	TVD Reference:	3685'GL+25.5'KB @ 3710.50usft (H&P 389)
Site:	Merchant State Unit 509H	MD Reference:	3685'GL+25.5'KB @ 3710.50usft (H&P 389)
Well:	#509H	North Reference:	Grid
Wellbore:	Lateral 1r0	Survey Calculation Method:	Minimum Curvature
Design:	Plan 0.1	Database:	EDM 5000.1 Aim Database

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
19,300.00	90.00	179.56	10,635.00	-8,890.13	-431.61	8,886.55	0.00	0.00	0.00
19,400.00	90.00	179.56	10,635.00	-8,990.12	-430.84	8,986.55	0.00	0.00	0.00
19,500.00	90.00	179.56	10,635.00	-9,090.12	-430.07	9,086.55	0.00	0.00	0.00
19,600.00	90.00	179.56	10,635.00	-9,190.12	-429.30	9,186.55	0.00	0.00	0.00
19,700.00	90.00	179.56	10,635.00	-9,290.12	-428.53	9,286.55	0.00	0.00	0.00
19,800.00	90.00	179.56	10,635.00	-9,390.11	-427.76	9,386.55	0.00	0.00	0.00
19,900.00	90.00	179.56	10,635.00	-9,490.11	-426.99	9,486.55	0.00	0.00	0.00
20,000.00	90.00	179.56	10,635.00	-9,590.11	-426.22	9,586.55	0.00	0.00	0.00
20,100.00	90.00	179.56	10,635.00	-9,690.10	-425.45	9,686.55	0.00	0.00	0.00
20,200.00	90.00	179.56	10,635.00	-9,790.10	-424.68	9,786.55	0.00	0.00	0.00
20,300.00	90.00	179.56	10,635.00	-9,890.10	-423.91	9,886.55	0.00	0.00	0.00
20,400.00	90.00	179.56	10,635.00	-9,990.09	-423.14	9,986.55	0.00	0.00	0.00
20,500.00	90.00	179.56	10,635.00	-10,090.09	-422.37	10,086.55	0.00	0.00	0.00
20,600.00	90.00	179.56	10,635.00	-10,190.09	-421.60	10,186.55	0.00	0.00	0.00
20,664.51	90.00	179.56	10,635.00	-10,254.60	-421.10	10,251.06	0.00	0.00	0.00
PBHL - PBHL (Merchant509H)									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP (Merchant509H)	0.00	0.00	0.00	97.40	-500.90	525,516.80	782,775.70	32° 26' 32.205 N	103° 33' 2.522 W
- hit/miss target									
- plan misses target center by 510.28usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
PBHL (Merchant509H)	0.00	0.00	10,635.00	-10,254.60	-421.10	515,164.80	782,855.50	32° 24' 49.768 N	103° 33' 2.476 W
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,750.00	1,750.00	13 3/8"	13-3/8	17-1/2	
5,315.00	5,315.00	9 5/8"	9-5/8	12-1/4	

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	Local Co-ordinate Reference:	Site Merchant State Unit 509H
Project:	Lea County, New Mexico	TVD Reference:	3685'GL+25.5'KB @ 3710.50usft (H&P 389)
Site:	Merchant State Unit 509H	MD Reference:	3685'GL+25.5'KB @ 3710.50usft (H&P 389)
Well:	#509H	North Reference:	Grid
Wellbore:	Lateral 1r0	Survey Calculation Method:	Minimum Curvature
Design:	Plan 0.1	Database:	EDM 5000.1 Aim Database

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,676.00	1,676.00	Rustler		0.00		
5,240.00	5,240.00	Limestone Base		0.00		
8,530.34	8,508.00	Lower Brushy		0.00		
9,051.77	9,025.00	Avalon		0.00		
10,050.53	10,020.00	1st BS Sand		0.00		
10,719.18	10,571.00	2nd BS sand		0.00		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
5400	5400	0	0	Build 1.00°/100'	
6147	6145	-1	-49	Hold 7.47° Inc, 268.85° Azimuth	
9246	9217	-9	-451	Drop 1.00°/100'	
9993	9962	-10	-500	Hold Vertical	
10,093	10,062	-10	-500	KOP, Build 10.00°/100'	
10,993	10,635	-583	-496	LP, Hold 90.0° Inc, 179.56° Azimuth	
20,665	10,635	-10,255	-421	PBHL	