

Form 3160-3
(June 2015)FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. <div style="text-align: center;">[330795]</div>
2. Name of Operator <div style="text-align: center;">[372417]</div>		9. API Well No. 30-025-48830
3a. Address	3b. Phone No. (include area code)	10. Field and Pool, or Exploratory [51687]
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish 13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- | | |
|---|---|
| 1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM. |
|---|---|

25. Signature	Name (Printed/Typed)	Date
Title		
Approved by (Signature)	Name (Printed/Typed)	Date
Title	Office	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
 Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

GCP Rec 04/21/2021

SL

(Continued on page 2)


 KZ
 05/10/2021

*(Instructions on page 2)

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM I: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

ROUTINE USE: Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM connects this information to an evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Connection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

Additional Operator Remarks

Location of Well

0. SHL: SESE / 558 FSL / 608 FEL / TWSP: 22S / RANGE: 33E / SECTION: 8 / LAT: 32.400624 / LONG: -103.588002 (TVD: 0 feet, MD: 0 feet)

PPP: SESE / 98 FSL / 457 FEL / TWSP: 22S / RANGE: 33E / SECTION: 8 / LAT: 32.3993645 / LONG: -103.5875128 (TVD: 10524 feet, MD: 10550 feet)

BHL: NESE / 2540 FSL / 330 FEL / TWSP: 22S / RANGE: 33E / SECTION: 5 / LAT: 32.420562 / LONG: -103.58707 (TVD: 10930 feet, MD: 18480 feet)

BLM Point of Contact

Name: Priscilla Perez

Title: Legal Instruments Examiner

Phone: (575) 234-5934

Email: pperez@blm.gov

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

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) 476-3480 Fax: (505) 476-3482

State 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 30-025-48830	Pool Code 51687	Pool Name RED TANK; BONE SPRING EAST
Property Code 330795	Property Name DAGGER LAKE SOUTH 8 FED COM	Well Number 516H
OGRID No. 372417	Operator Name ADVANCE ENERGY PARTNERS HAT MESA	Elevation 3598'

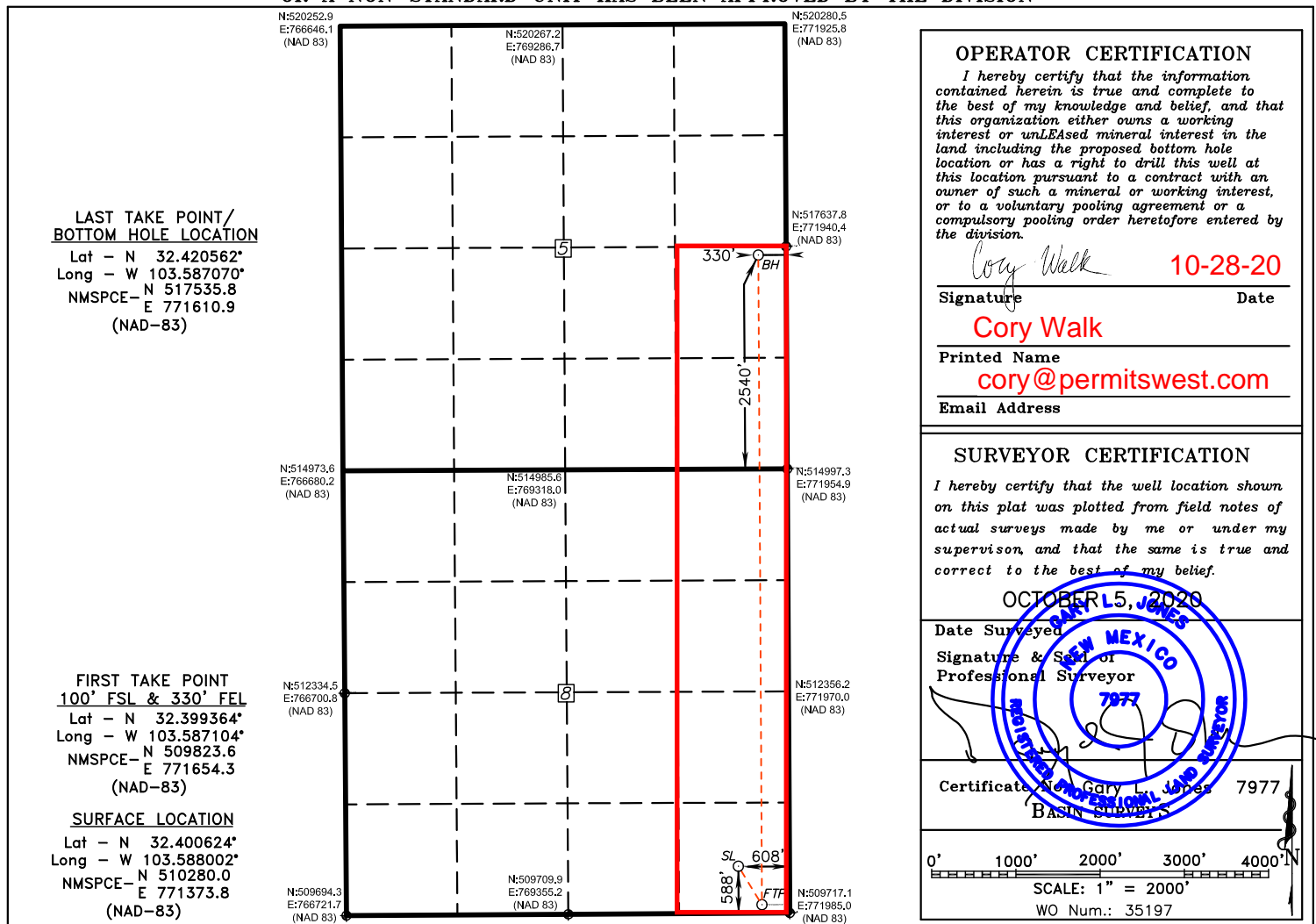
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
P	8	22 S	33 E		558	SOUTH	608	EAST	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
I	5	22 S	33 E		2540	SOUTH	330	EAST	LEA
Dedicated Acres 240	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



District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Submit Original
to Appropriate
District Office

GAS CAPTURE PLAN

Date: 10-28-20

☒ Original

Operator & OGRID No.: Advance Energy Partners Hat Mesa, LLC (372417)

☐ Amended - Reason for Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Advance Energy Partners Hat Mesa, LLC 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	SHL (ULSTR)	SHL Footages	Expected MCF/D	Flared or Vented	Comments
Dagger Lake South 8 Fed Com 514H	30-025-	P-8-22s-33e	539' FSL & 635' FEL	500	≈30 days	flare until well clean, then connect
Dagger Lake South 8 Fed Com 516H	30-025-30-025-48830	P-8-22s-33e	558' FSL & 608' FEL	500	≈30 days	flare until well clean, then connect
Dagger Lake South 8 Fed Com 558H	30-025-	P-8-22s-33e	520' FSL & 662' FEL	500	≈30 days	flare until well clean, then connect
Dagger Lake South 8 Fed Com 608H	30-025-	P-8-22s-33e	577' FSL & 581' FEL	500	≈30 days	flare until well clean, then connect

Gathering System and Pipeline Notification

Well will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. Gas produced from this production facility has not yet been dedicated. One possible outlet is Lucid. Lucid has an existing pipeline that serves a well in P-8-22s-33e. Advance Energy Partners Hat Mesa, LLC will provide (periodically) to Lucid or other transporter 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 Lucid or other transporter will have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at a Lucid or other transporter processing plant at an as yet undetermined location. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, fluids and sand content will be monitored. When 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 Lucid or other transporter system at that time. Based on current information, it is Advance Energy Partners Hat Mesa, LLC 's belief the system ultimately can take this gas upon completion of the well.

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



U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Drilling Plan Data Report

04/21/2021

APD ID: 10400064611

Submission Date: 10/29/2020

Highlighted data
reflects the most
recent changes

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: DAGGER LAKE SOUTH 8 FED COM

Well Number: 516H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1117663	QUATERNARY	3598	0	0	OTHER : Caliche	USEABLE WATER	N
1117664	RUSTLER ANHYDRITE	2580	1018	1018	ANHYDRITE	NONE	N
1117665	BELL CANYON	-1190	4788	4788	LIMESTONE	NATURAL GAS, OIL	N
1117666	CHERRY CANYON	-1190	4788	4788	SHALE	NATURAL GAS, OIL	N
1117667	LOWER BRUSHY CANYON 8A	-4856	8454	8471	SANDSTONE	NATURAL GAS, OIL	N
1117668	AVALON SAND	-5366	8964	8984	SHALE	OIL	N
1117669	BONE SPRING 1ST	-6395	9993	10018	SANDSTONE	NATURAL GAS, OIL	N
1117670	BONE SPRING 2ND	-6926	10524	10550	SANDSTONE	NATURAL GAS, OIL	Y
1117671		0					

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M

Rating Depth: 15000

Equipment: See attached Helmerich & Payne BOP Testing BLM manual for equipment and procedures for a 5000-psi system.

Requesting Variance? YES

Variance request: Variance is requested to use a co-flex hose between the BOP and choke instead of a steel line. See attached 3" I. D. x 10K test certificate. If this hose is unavailable, then a hose of equal or higher-pressure rating will be used. Variance is requested to use a speed head (aka, multi-bowl wellhead) after setting intermediate 1. Advance has drilled >50 wells in immediate area to depths >5,000' and never encountered any type of flows. This will allow Advance to land the intermediate 1 and use the current proposed wellhead design. Advance will then NU BOPE on the 13.375" and continue using the BOPE to the completion of the well.

Testing Procedure: See attached Helmerich & Payne BOP Testing BLM manual for equipment and procedures for a 5000-psi system.

Choke Diagram Attachment:

Choke_Diagram_20201029142957.pdf

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC**Well Name:** DAGGER LAKE SOUTH 8 FED COM**Well Number:** 516H

Choke_Diagram_20201029142957.pdf

BOP Diagram Attachment:

BOP_Diagram_20201029143005.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	1043	0	1043	3598	2555	1043	J-55	54.5	BUTT	1.125	1.125	DRY	1.6	DRY	1.6
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4000	0	4000	3597	-402	4000	J-55	40	LT&C	1.125	1.125	DRY	1.6	DRY	1.6
3	INTERMEDIATE	12.25	9.625	NEW	API	N	4000	4815	4000	4815	-403	-1217	815	HCL-80	40	LT&C	1.125	1.125	DRY	1.6	DRY	1.6
4	PRODUCTION	8.5	5.5	NEW	API	N	0	18480	0	10930	3597	-7332	18480	HCP-110	20	OTHER - CDC-HTQ	1.125	1.125	DRY	1.6	DRY	1.6

Casing Attachments**Casing ID:** 1 **String Type:** SURFACE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

Casing_Design_Assumptions_20201029143028.pdf

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC**Well Name:** DAGGER LAKE SOUTH 8 FED COM**Well Number:** 516H**Casing Attachments**

Casing ID: 2 **String Type:** INTERMEDIATE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**Casing_Design_Assumptions_20201029143051.pdf

Casing ID: 3 **String Type:** INTERMEDIATE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**Casing_Design_Assumptions_20201029143107.pdf

Casing ID: 4 **String Type:** PRODUCTION**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

5.5in_CDC_HTQ_Casing_Spec_20201029143136.pdf

Casing_Design_Assumptions_20201029143140.pdf

Section 4 - Cement

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC**Well Name:** DAGGER LAKE SOUTH 8 FED COM**Well Number:** 516H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	743	390	1.99	12.8	776	50	Class C	2% Gypsum + 2% SMS + 0.25PPS Pol-EFlake + 0.005GPS NoFoam V1A
SURFACE	Tail		743	1043	215	1.34	14.8	288	20	Class C	1% CaCl ₂ + 0.005GPS NoFoam V1A
INTERMEDIATE	Lead	2800	0	2380	435	3.13	11	1362	134	PowerCem	5PPS Plexcrete STE + 8% Gypsum + 1.5% SMS + 0.25% R-1300 + 0.25PPS Pol-E-Flake + 0.005GPS NoFoam V1A
INTERMEDIATE	Tail		2380	2800	100	1.33	14.8	133	0	Class C	0.005GPS NoFoam V1A
INTERMEDIATE	Lead	2800	2800	3852	1380	1.83	12.8	2525	666	Di Poz + C	2% Gel + 5% SALT + 0.25PPS Pol-EFlake + 0.005GPS NoFoam V1A
INTERMEDIATE	Tail		3852	4000	285	1.33	14.8	379	20	Class C	0.15% C-20 + 0.005GPS NoFoam
PRODUCTION	Lead		0	1047 8	840	3.81	10.6	3200	50	PowerCem	5PPS Plexcrete STE + 11% Gypsum + 3% SMS + 0.1% SuspendaCem 6302 + 0.4% R-1300 + 0.005GPS NoFoam
PRODUCTION	Tail		1047 8	1848 0	1825	1.21	14.5	2208	20	DI Poz + H	5% SALT + 0.2% C-20 + 0.4% C-47B + 0.005GPS NoFoam

Section 5 - Circulating Medium

Mud System Type: Closed**Will an air or gas system be Used?** NO**Description of the equipment for the circulating system in accordance with Onshore Order #2:****Diagram of the equipment for the circulating system in accordance with Onshore Order #2:**

Describe what will be on location to control well or mitigate other conditions: All necessary additives (e. g., barite, bentonite, LCM) to maintain mud properties and meet minimum lost circulation and weight increase needs will be on site at all times. Mud program may change due to hole conditions.

Describe the mud monitoring system utilized: An electronic pit volume totalizer (PVT) will be used to monitor volume, flow rate, pump pressure, and stroke rate.

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC**Well Name:** DAGGER LAKE SOUTH 8 FED COM**Well Number:** 516H**Circulating Medium Table**

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	1043	OTHER : Fresh Water Spud Mud	8.4	10							
1043	4815	OTHER : Brine Water	10	10.5							
4815	10478	OTHER : Cut Brine	9.2	9.5							
10478	18480	OIL-BASED MUD	9.5	9.8							

Section 6 - Test, Logging, Coring**List of production tests including testing procedures, equipment and safety measures:**

No core, drill stem test, or open hole log is planned.

List of open and cased hole logs run in the well:

OTHER,

Other log type(s):

None

Coring operation description for the well:

No core, drill stem test, or open hole log is planned.

Section 7 - Pressure**Anticipated Bottom Hole Pressure:** 5770**Anticipated Surface Pressure:** 3365**Anticipated Bottom Hole Temperature(F):** 229**Anticipated abnormal pressures, temperatures, or potential geologic hazards?** NO**Describe:****Contingency Plans geohazards description:****Contingency Plans geohazards attachment:****Hydrogen Sulfide drilling operations plan required?** YES

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: DAGGER LAKE SOUTH 8 FED COM

Well Number: 516H

Hydrogen sulfide drilling operations plan:

Dagger_PadA_H2S_Plan_20201029143432.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Dagger_516H_Horizontal_Plan_20201029143442.pdf

Other proposed operations facets description:

Single bow centralizer will be installed on every fourth joint of the surface and intermediate casing strings.

Single bow centralizers will be installed from 200' above the KOP up to 600' inside the previous casing shoe. Double bows will be installed from 200' above the KOP to 200' past the EOC. Solid bodies will be installed one per joint from 200' past EOC to TD.

Other proposed operations facets attachment:

Dagger_516H_Drill_Plan_20201029143447.pdf

CoFlex_Certs_20201029143457.pdf

Dagger_516H_Anticollision_Report_20201029143513.pdf

Speedhead_Specs_20201029143519.pdf

Other Variance attachment:

Casing_Cementing_Variance_Request_20201029143544.pdf

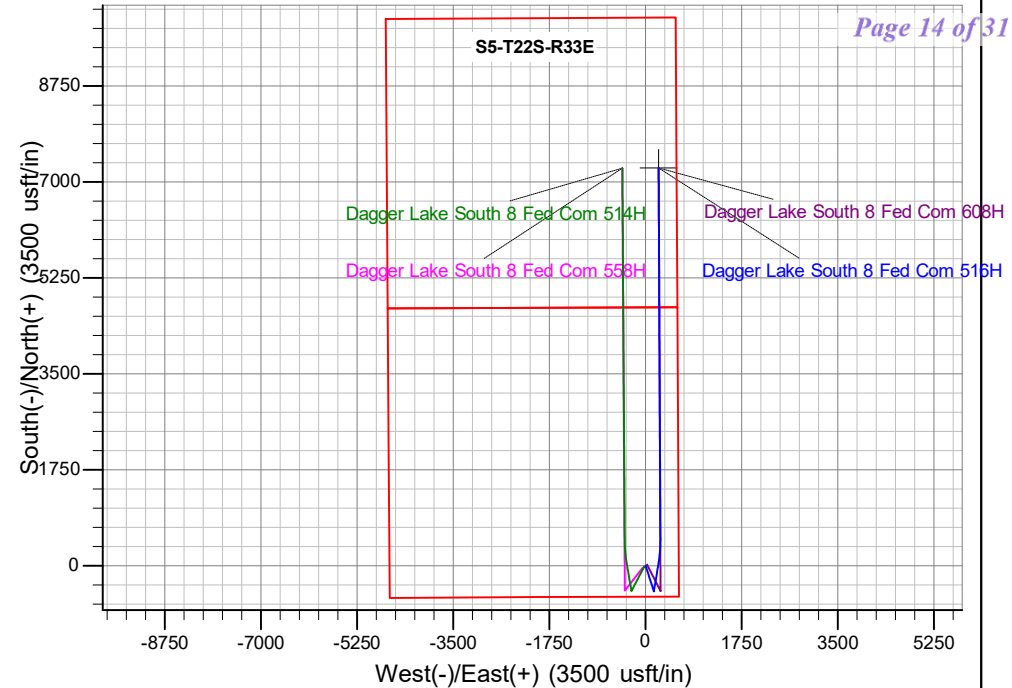
**WELL DETAILS: Dagger Lake South 8 Fed Com 516H****Ground Elev: 3598.0 KB: 3623.0**

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	510280.12	771373.85	32° 24' 2.246 N	103° 35' 16.807 W

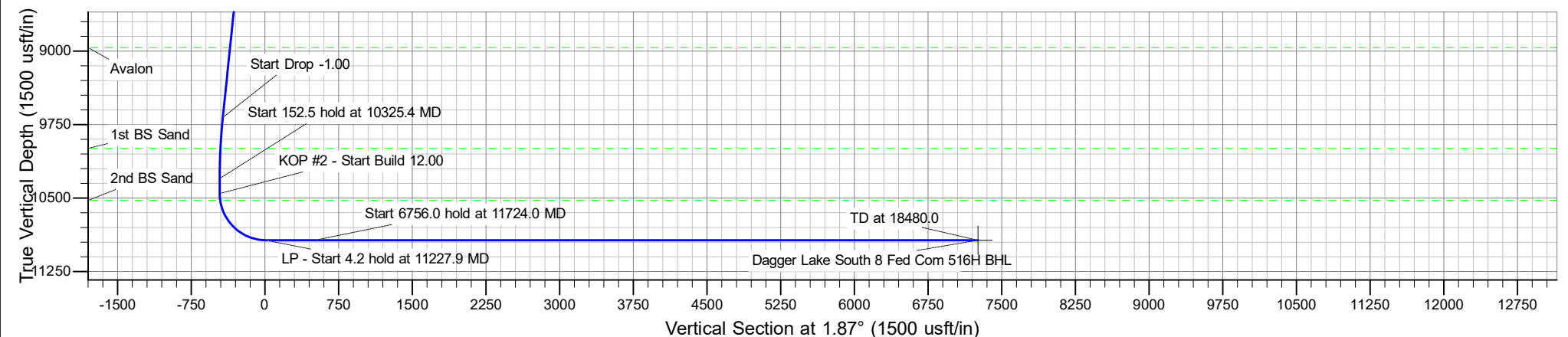
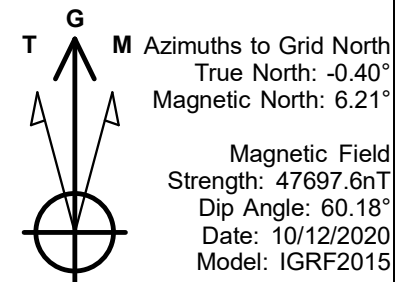
PROJECT DETAILS: Hat Mesa

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

System Datum: Mean Sea Level

**SECTION DETAILS**

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	5200.0	0.00	0.00	5200.0	0.0	0.0	0.00	0.00	0.0	KOP - Start Build 1.00
3	5822.9	6.23	162.12	5821.7	-32.2	10.4	1.00	162.12	-31.8	Start 3879.6 hold at 5822.9 MD
4	9702.5	6.23	162.12	9678.3	-432.8	139.6	0.00	0.00	-428.0	Start Drop -1.00
5	10325.4	0.00	0.00	10300.0	-465.0	150.0	1.00	180.00	-459.9	Start 152.5 hold at 10325.4 MD
6	10477.9	0.00	0.00	10452.5	-465.0	150.0	0.00	0.00	-459.9	KOP #2 - Start Build 12.00
7	11227.9	90.00	9.56	10930.0	5.8	229.3	12.00	9.56	13.3	LP - Start 4.2 hold at 11227.9 MD
8	11232.1	90.00	9.56	10930.0	10.0	230.0	0.00	0.00	17.5	Start DLS 2.00 TFO -90.00
9	11724.0	90.00	359.72	10930.0	499.7	269.8	2.00	-90.00	508.2	Start 6756.0 hold at 11724.0 MD
10	18480.0	90.00	359.72	10930.0	7255.5	237.0	0.00	0.00	7259.4	TD at 18480.0





Advance Energy Partners

Hat Mesa

Dagger Lake South 8 Fed Com - Pad A

Dagger Lake South 8 Fed Com 516H

Dagger Lake South 8 Fed Com 516H

Plan: Dagger Lake South 8 Fed Com 516H

Standard Planning Report

18 October, 2020



Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Dagger Lake South 8 Fed Com 516H
Company:	Advance Energy Partners	TVD Reference:	WELL @ 3623.0usft (Original Well Elev)
Project:	Hat Mesa	MD Reference:	WELL @ 3623.0usft (Original Well Elev)
Site:	Dagger Lake South 8 Fed Com - Pad A	North Reference:	Grid
Well:	Dagger Lake South 8 Fed Com 516H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Dagger Lake South 8 Fed Com 516H		
Design:	Dagger Lake South 8 Fed Com 516H		

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

Site	Dagger Lake South 8 Fed Com - Pad A			
Site Position:		Northing:	510,299.99 usft	Latitude: 32° 24' 2.488 N
From:	Lat/Long	Easting:	770,726.14 usft	Longitude: 103° 35' 24.360 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	

Well	Dagger Lake South 8 Fed Com 516H			
Well Position	+N/-S	0.0 usft	Northing:	510,280.12 usft
	+E/-W	0.0 usft	Easting:	771,373.84 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level: 3,598.0 usft
Grid Convergence:	0.40 °			

Wellbore	Dagger Lake South 8 Fed Com 516H				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/12/2020	6.61	60.18	47,697.64680505

Design	Dagger Lake South 8 Fed Com 516H			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	1.87

Plan Survey Tool Program	Date	10/18/2020		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	18,480.0	Dagger Lake South 8 Fed Com 5	MWD+HRGM
				OWSG MWD + HRGM



Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Dagger Lake South 8 Fed Com 516H
Company:	Advance Energy Partners	TVD Reference:	WELL @ 3623.0usft (Original Well Elev)
Project:	Hat Mesa	MD Reference:	WELL @ 3623.0usft (Original Well Elev)
Site:	Dagger Lake South 8 Fed Com - Pad A	North Reference:	Grid
Well:	Dagger Lake South 8 Fed Com 516H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Dagger Lake South 8 Fed Com 516H		
Design:	Dagger Lake South 8 Fed Com 516H		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,822.9	6.23	162.12	5,821.7	-32.2	10.4	1.00	1.00	0.00	162.12	
9,702.5	6.23	162.12	9,678.3	-432.8	139.6	0.00	0.00	0.00	0.00	
10,325.4	0.00	0.00	10,300.0	-465.0	150.0	1.00	-1.00	0.00	180.00	
10,477.9	0.00	0.00	10,452.5	-465.0	150.0	0.00	0.00	0.00	0.00	
11,227.9	90.00	9.56	10,930.0	5.8	229.3	12.00	12.00	0.00	9.56	
11,232.1	90.00	9.56	10,930.0	10.0	230.0	0.00	0.00	0.00	0.00	
11,724.0	90.00	359.72	10,930.0	499.7	269.8	2.00	0.00	-2.00	-90.00	
18,480.0	90.00	359.72	10,930.0	7,255.5	237.0	0.00	0.00	0.00	0.00	Dagger Lake South 8



Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Dagger Lake South 8 Fed Com 516H
Company:	Advance Energy Partners	TVD Reference:	WELL @ 3623.0usft (Original Well Elev)
Project:	Hat Mesa	MD Reference:	WELL @ 3623.0usft (Original Well Elev)
Site:	Dagger Lake South 8 Fed Com - Pad A	North Reference:	Grid
Well:	Dagger Lake South 8 Fed Com 516H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Dagger Lake South 8 Fed Com 516H		
Design:	Dagger Lake South 8 Fed Com 516H		

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,018.0	0.00	0.00	1,018.0	0.0	0.0	0.0	0.00	0.00	0.00
Rustler									
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,788.0	0.00	0.00	4,788.0	0.0	0.0	0.0	0.00	0.00	0.00
Base of Limestone									
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Dagger Lake South 8 Fed Com 516H
Company:	Advance Energy Partners	TVD Reference:	WELL @ 3623.0usft (Original Well Elev)
Project:	Hat Mesa	MD Reference:	WELL @ 3623.0usft (Original Well Elev)
Site:	Dagger Lake South 8 Fed Com - Pad A	North Reference:	Grid
Well:	Dagger Lake South 8 Fed Com 516H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Dagger Lake South 8 Fed Com 516H		
Design:	Dagger Lake South 8 Fed Com 516H		

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)
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 1.00									
5,300.0	1.00	162.12	5,300.0	-0.8	0.3	-0.8	1.00	1.00	0.00
5,400.0	2.00	162.12	5,400.0	-3.3	1.1	-3.3	1.00	1.00	0.00
5,500.0	3.00	162.12	5,499.9	-7.5	2.4	-7.4	1.00	1.00	0.00
5,600.0	4.00	162.12	5,599.7	-13.3	4.3	-13.1	1.00	1.00	0.00
5,700.0	5.00	162.12	5,699.4	-20.7	6.7	-20.5	1.00	1.00	0.00
5,800.0	6.00	162.12	5,798.9	-29.9	9.6	-29.5	1.00	1.00	0.00
5,822.9	6.23	162.12	5,821.7	-32.2	10.4	-31.8	1.00	1.00	0.00
Start 3879.6 hold at 5822.9 MD									
5,900.0	6.23	162.12	5,898.3	-40.2	13.0	-39.7	0.00	0.00	0.00
6,000.0	6.23	162.12	5,997.7	-50.5	16.3	-49.9	0.00	0.00	0.00
6,100.0	6.23	162.12	6,097.1	-60.8	19.6	-60.1	0.00	0.00	0.00
6,200.0	6.23	162.12	6,196.5	-71.1	22.9	-70.3	0.00	0.00	0.00
6,300.0	6.23	162.12	6,296.0	-81.5	26.3	-80.6	0.00	0.00	0.00
6,400.0	6.23	162.12	6,395.4	-91.8	29.6	-90.8	0.00	0.00	0.00
6,500.0	6.23	162.12	6,494.8	-102.1	32.9	-101.0	0.00	0.00	0.00
6,600.0	6.23	162.12	6,594.2	-112.4	36.3	-111.2	0.00	0.00	0.00
6,700.0	6.23	162.12	6,693.6	-122.8	39.6	-121.4	0.00	0.00	0.00
6,800.0	6.23	162.12	6,793.0	-133.1	42.9	-131.6	0.00	0.00	0.00
6,900.0	6.23	162.12	6,892.4	-143.4	46.3	-141.8	0.00	0.00	0.00
7,000.0	6.23	162.12	6,991.8	-153.7	49.6	-152.0	0.00	0.00	0.00
7,100.0	6.23	162.12	7,091.2	-164.1	52.9	-162.3	0.00	0.00	0.00
7,200.0	6.23	162.12	7,190.6	-174.4	56.3	-172.5	0.00	0.00	0.00
7,300.0	6.23	162.12	7,290.1	-184.7	59.6	-182.7	0.00	0.00	0.00
7,400.0	6.23	162.12	7,389.5	-195.0	62.9	-192.9	0.00	0.00	0.00
7,500.0	6.23	162.12	7,488.9	-205.4	66.3	-203.1	0.00	0.00	0.00
7,600.0	6.23	162.12	7,588.3	-215.7	69.6	-213.3	0.00	0.00	0.00
7,700.0	6.23	162.12	7,687.7	-226.0	72.9	-223.5	0.00	0.00	0.00
7,800.0	6.23	162.12	7,787.1	-236.4	76.2	-233.7	0.00	0.00	0.00
7,900.0	6.23	162.12	7,886.5	-246.7	79.6	-244.0	0.00	0.00	0.00
8,000.0	6.23	162.12	7,985.9	-257.0	82.9	-254.2	0.00	0.00	0.00
8,100.0	6.23	162.12	8,085.3	-267.3	86.2	-264.4	0.00	0.00	0.00
8,200.0	6.23	162.12	8,184.7	-277.7	89.6	-274.6	0.00	0.00	0.00
8,300.0	6.23	162.12	8,284.1	-288.0	92.9	-284.8	0.00	0.00	0.00
8,400.0	6.23	162.12	8,383.6	-298.3	96.2	-295.0	0.00	0.00	0.00
8,470.9	6.23	162.12	8,454.0	-305.6	98.6	-302.2	0.00	0.00	0.00
Lower Brushy									
8,500.0	6.23	162.12	8,483.0	-308.6	99.6	-305.2	0.00	0.00	0.00
8,600.0	6.23	162.12	8,582.4	-319.0	102.9	-315.4	0.00	0.00	0.00
8,700.0	6.23	162.12	8,681.8	-329.3	106.2	-325.6	0.00	0.00	0.00
8,800.0	6.23	162.12	8,781.2	-339.6	109.6	-335.9	0.00	0.00	0.00
8,900.0	6.23	162.12	8,880.6	-349.9	112.9	-346.1	0.00	0.00	0.00
8,983.9	6.23	162.12	8,964.0	-358.6	115.7	-354.6	0.00	0.00	0.00
Avalon									
9,000.0	6.23	162.12	8,980.0	-360.3	116.2	-356.3	0.00	0.00	0.00
9,100.0	6.23	162.12	9,079.4	-370.6	119.5	-366.5	0.00	0.00	0.00
9,200.0	6.23	162.12	9,178.8	-380.9	122.9	-376.7	0.00	0.00	0.00
9,300.0	6.23	162.12	9,278.2	-391.2	126.2	-386.9	0.00	0.00	0.00
9,400.0	6.23	162.12	9,377.7	-401.6	129.5	-397.1	0.00	0.00	0.00
9,500.0	6.23	162.12	9,477.1	-411.9	132.9	-407.3	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Dagger Lake South 8 Fed Com 516H
Company:	Advance Energy Partners	TVD Reference:	WELL @ 3623.0usft (Original Well Elev)
Project:	Hat Mesa	MD Reference:	WELL @ 3623.0usft (Original Well Elev)
Site:	Dagger Lake South 8 Fed Com - Pad A	North Reference:	Grid
Well:	Dagger Lake South 8 Fed Com 516H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Dagger Lake South 8 Fed Com 516H		
Design:	Dagger Lake South 8 Fed Com 516H		

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)	
9,600.0	6.23	162.12	9,576.5	-422.2	136.2	-417.6	0.00	0.00	0.00	
9,700.0	6.23	162.12	9,675.9	-432.6	139.5	-427.8	0.00	0.00	0.00	
9,702.5	6.23	162.12	9,678.3	-432.8	139.6	-428.0	0.00	0.00	0.00	
Start Drop -1.00										
9,800.0	5.25	162.12	9,775.4	-442.1	142.6	-437.2	1.00	-1.00	0.00	
9,900.0	4.25	162.12	9,875.0	-450.0	145.2	-445.0	1.00	-1.00	0.00	
10,000.0	3.25	162.12	9,974.8	-456.2	147.2	-451.2	1.00	-1.00	0.00	
10,018.2	3.07	162.12	9,993.0	-457.2	147.5	-452.1	1.00	-1.00	0.00	
1st BS Sand										
10,100.0	2.25	162.12	10,074.7	-460.8	148.6	-455.7	1.00	-1.00	0.00	
10,200.0	1.25	162.12	10,174.7	-463.7	149.6	-458.6	1.00	-1.00	0.00	
10,300.0	0.25	162.12	10,274.6	-464.9	150.0	-459.8	1.00	-1.00	0.00	
10,325.4	0.00	0.00	10,300.0	-465.0	150.0	-459.9	1.00	-1.00	0.00	
Start 152.5 hold at 10325.4 MD										
10,400.0	0.00	0.00	10,374.6	-465.0	150.0	-459.9	0.00	0.00	0.00	
10,477.9	0.00	0.00	10,452.5	-465.0	150.0	-459.9	0.00	0.00	0.00	
KOP #2 - Start Build 12.00										
10,500.0	2.65	9.56	10,474.6	-464.5	150.1	-459.3	12.00	12.00	0.00	
10,549.6	8.61	9.56	10,524.0	-459.7	150.9	-454.5	12.00	12.00	0.00	
2nd BS Sand										
10,600.0	14.65	9.56	10,573.3	-449.7	152.6	-444.5	12.00	12.00	0.00	
10,700.0	26.65	9.56	10,666.7	-415.0	158.4	-409.6	12.00	12.00	0.00	
10,800.0	38.65	9.56	10,750.8	-361.9	167.4	-356.2	12.00	12.00	0.00	
10,900.0	50.65	9.56	10,821.8	-292.7	179.0	-286.7	12.00	12.00	0.00	
11,000.0	62.65	9.56	10,876.6	-210.5	192.9	-204.0	12.00	12.00	0.00	
11,100.0	74.65	9.56	10,913.0	-118.8	208.3	-111.9	12.00	12.00	0.00	
11,200.0	86.65	9.56	10,929.2	-21.7	224.7	-14.3	12.00	12.00	0.00	
11,227.9	90.00	9.56	10,930.0	5.8	229.3	13.3	12.00	12.00	0.00	
LP - Start 4.2 hold at 11227.9 MD										
11,232.1	90.00	9.56	10,930.0	10.0	230.0	17.5	0.00	0.00	0.00	
Start DLS 2.00 TFO -90.00										
11,300.0	90.00	8.20	10,930.0	77.1	240.5	84.9	2.00	0.00	-2.00	
11,400.0	90.00	6.20	10,930.0	176.3	253.0	184.4	2.00	0.00	-2.00	
11,500.0	90.00	4.20	10,930.0	275.9	262.1	284.3	2.00	0.00	-2.00	
11,600.0	90.00	2.20	10,930.0	375.7	267.7	384.2	2.00	0.00	-2.00	
11,700.0	90.00	0.20	10,930.0	475.7	269.8	484.2	2.00	0.00	-2.00	
11,724.0	90.00	359.72	10,930.0	499.7	269.8	508.2	2.00	0.00	-2.00	
Start 6756.0 hold at 11724.0 MD										
11,800.0	90.00	359.72	10,930.0	575.7	269.4	584.2	0.00	0.00	0.00	
11,900.0	90.00	359.72	10,930.0	675.7	268.9	684.1	0.00	0.00	0.00	
12,000.0	90.00	359.72	10,930.0	775.7	268.4	784.0	0.00	0.00	0.00	
12,100.0	90.00	359.72	10,930.0	875.7	267.9	883.9	0.00	0.00	0.00	
12,200.0	90.00	359.72	10,930.0	975.7	267.4	983.9	0.00	0.00	0.00	
12,300.0	90.00	359.72	10,930.0	1,075.7	267.0	1,083.8	0.00	0.00	0.00	
12,400.0	90.00	359.72	10,930.0	1,175.7	266.5	1,183.7	0.00	0.00	0.00	
12,500.0	90.00	359.72	10,930.0	1,275.7	266.0	1,283.7	0.00	0.00	0.00	
12,600.0	90.00	359.72	10,930.0	1,375.7	265.5	1,383.6	0.00	0.00	0.00	
12,700.0	90.00	359.72	10,930.0	1,475.7	265.0	1,483.5	0.00	0.00	0.00	
12,800.0	90.00	359.72	10,930.0	1,575.7	264.5	1,583.5	0.00	0.00	0.00	
12,900.0	90.00	359.72	10,930.0	1,675.7	264.1	1,683.4	0.00	0.00	0.00	
13,000.0	90.00	359.72	10,930.0	1,775.7	263.6	1,783.3	0.00	0.00	0.00	
13,100.0	90.00	359.72	10,930.0	1,875.7	263.1	1,883.2	0.00	0.00	0.00	
13,200.0	90.00	359.72	10,930.0	1,975.7	262.6	1,983.2	0.00	0.00	0.00	



Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Dagger Lake South 8 Fed Com 516H
Company:	Advance Energy Partners	TVD Reference:	WELL @ 3623.0usft (Original Well Elev)
Project:	Hat Mesa	MD Reference:	WELL @ 3623.0usft (Original Well Elev)
Site:	Dagger Lake South 8 Fed Com - Pad A	North Reference:	Grid
Well:	Dagger Lake South 8 Fed Com 516H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Dagger Lake South 8 Fed Com 516H		
Design:	Dagger Lake South 8 Fed Com 516H		

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)
13,300.0	90.00	359.72	10,930.0	2,075.6	262.1	2,083.1	0.00	0.00	0.00
13,400.0	90.00	359.72	10,930.0	2,175.6	261.6	2,183.0	0.00	0.00	0.00
13,500.0	90.00	359.72	10,930.0	2,275.6	261.1	2,283.0	0.00	0.00	0.00
13,600.0	90.00	359.72	10,930.0	2,375.6	260.7	2,382.9	0.00	0.00	0.00
13,700.0	90.00	359.72	10,930.0	2,475.6	260.2	2,482.8	0.00	0.00	0.00
13,800.0	90.00	359.72	10,930.0	2,575.6	259.7	2,582.7	0.00	0.00	0.00
13,900.0	90.00	359.72	10,930.0	2,675.6	259.2	2,682.7	0.00	0.00	0.00
14,000.0	90.00	359.72	10,930.0	2,775.6	258.7	2,782.6	0.00	0.00	0.00
14,100.0	90.00	359.72	10,930.0	2,875.6	258.2	2,882.5	0.00	0.00	0.00
14,200.0	90.00	359.72	10,930.0	2,975.6	257.8	2,982.5	0.00	0.00	0.00
14,300.0	90.00	359.72	10,930.0	3,075.6	257.3	3,082.4	0.00	0.00	0.00
14,400.0	90.00	359.72	10,930.0	3,175.6	256.8	3,182.3	0.00	0.00	0.00
14,500.0	90.00	359.72	10,930.0	3,275.6	256.3	3,282.3	0.00	0.00	0.00
14,600.0	90.00	359.72	10,930.0	3,375.6	255.8	3,382.2	0.00	0.00	0.00
14,700.0	90.00	359.72	10,930.0	3,475.6	255.3	3,482.1	0.00	0.00	0.00
14,800.0	90.00	359.72	10,930.0	3,575.6	254.8	3,582.0	0.00	0.00	0.00
14,900.0	90.00	359.72	10,930.0	3,675.6	254.4	3,682.0	0.00	0.00	0.00
15,000.0	90.00	359.72	10,930.0	3,775.6	253.9	3,781.9	0.00	0.00	0.00
15,100.0	90.00	359.72	10,930.0	3,875.6	253.4	3,881.8	0.00	0.00	0.00
15,200.0	90.00	359.72	10,930.0	3,975.6	252.9	3,981.8	0.00	0.00	0.00
15,300.0	90.00	359.72	10,930.0	4,075.6	252.4	4,081.7	0.00	0.00	0.00
15,400.0	90.00	359.72	10,930.0	4,175.6	251.9	4,181.6	0.00	0.00	0.00
15,500.0	90.00	359.72	10,930.0	4,275.6	251.5	4,281.6	0.00	0.00	0.00
15,600.0	90.00	359.72	10,930.0	4,375.6	251.0	4,381.5	0.00	0.00	0.00
15,700.0	90.00	359.72	10,930.0	4,475.6	250.5	4,481.4	0.00	0.00	0.00
15,800.0	90.00	359.72	10,930.0	4,575.6	250.0	4,581.3	0.00	0.00	0.00
15,900.0	90.00	359.72	10,930.0	4,675.6	249.5	4,681.3	0.00	0.00	0.00
16,000.0	90.00	359.72	10,930.0	4,775.6	249.0	4,781.2	0.00	0.00	0.00
16,100.0	90.00	359.72	10,930.0	4,875.6	248.5	4,881.1	0.00	0.00	0.00
16,200.0	90.00	359.72	10,930.0	4,975.6	248.1	4,981.1	0.00	0.00	0.00
16,300.0	90.00	359.72	10,930.0	5,075.6	247.6	5,081.0	0.00	0.00	0.00
16,400.0	90.00	359.72	10,930.0	5,175.6	247.1	5,180.9	0.00	0.00	0.00
16,500.0	90.00	359.72	10,930.0	5,275.6	246.6	5,280.9	0.00	0.00	0.00
16,600.0	90.00	359.72	10,930.0	5,375.6	246.1	5,380.8	0.00	0.00	0.00
16,700.0	90.00	359.72	10,930.0	5,475.6	245.6	5,480.7	0.00	0.00	0.00
16,800.0	90.00	359.72	10,930.0	5,575.6	245.2	5,580.6	0.00	0.00	0.00
16,900.0	90.00	359.72	10,930.0	5,675.6	244.7	5,680.6	0.00	0.00	0.00
17,000.0	90.00	359.72	10,930.0	5,775.6	244.2	5,780.5	0.00	0.00	0.00
17,100.0	90.00	359.72	10,930.0	5,875.6	243.7	5,880.4	0.00	0.00	0.00
17,200.0	90.00	359.72	10,930.0	5,975.6	243.2	5,980.4	0.00	0.00	0.00
17,300.0	90.00	359.72	10,930.0	6,075.6	242.7	6,080.3	0.00	0.00	0.00
17,400.0	90.00	359.72	10,930.0	6,175.6	242.2	6,180.2	0.00	0.00	0.00
17,500.0	90.00	359.72	10,930.0	6,275.6	241.8	6,280.1	0.00	0.00	0.00
17,600.0	90.00	359.72	10,930.0	6,375.6	241.3	6,380.1	0.00	0.00	0.00
17,700.0	90.00	359.72	10,930.0	6,475.6	240.8	6,480.0	0.00	0.00	0.00
17,800.0	90.00	359.72	10,930.0	6,575.6	240.3	6,579.9	0.00	0.00	0.00
17,900.0	90.00	359.72	10,930.0	6,675.6	239.8	6,679.9	0.00	0.00	0.00
18,000.0	90.00	359.72	10,930.0	6,775.6	239.3	6,779.8	0.00	0.00	0.00
18,100.0	90.00	359.72	10,930.0	6,875.6	238.9	6,879.7	0.00	0.00	0.00
18,200.0	90.00	359.72	10,930.0	6,975.6	238.4	6,979.7	0.00	0.00	0.00
18,300.0	90.00	359.72	10,930.0	7,075.6	237.9	7,079.6	0.00	0.00	0.00
18,400.0	90.00	359.72	10,930.0	7,175.6	237.4	7,179.5	0.00	0.00	0.00
18,480.0	90.00	359.72	10,930.0	7,255.5	237.0	7,259.4	0.00	0.00	0.00
TD at 18480.0 - Dagger Lake South 8 Fed Com 516H BHL									



Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Dagger Lake South 8 Fed Com 516H
Company:	Advance Energy Partners	TVD Reference:	WELL @ 3623.0usft (Original Well Elev)
Project:	Hat Mesa	MD Reference:	WELL @ 3623.0usft (Original Well Elev)
Site:	Dagger Lake South 8 Fed Com - Pad A	North Reference:	Grid
Well:	Dagger Lake South 8 Fed Com 516H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Dagger Lake South 8 Fed Com 516H		
Design:	Dagger Lake South 8 Fed Com 516H		

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)

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Dagger Lake South 8 Fe	0.00	0.01	10,930.0	7,255.5	237.0	517,535.67	771,610.86	32° 25' 14.023 N	103° 35' 13.452 W
- plan hits target center									
- Point									

Casing Points									
Measured Depth (usft)	Vertical Depth (usft)	Name			Casing Diameter (")	Hole Diameter (")			
11,226.4	10,930.0	LP			5-1/2	4-25/32			

Formations									
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)				
1,018.0	1,018.0	Rustler		0.00					
4,788.0	4,788.0	Base of Limestone		0.00					
8,470.9	8,454.0	Lower Brushy		0.00					
8,983.9	8,964.0	Avalon		0.00					
10,018.2	9,993.0	1st BS Sand		0.00					
10,549.6	10,524.0	2nd BS Sand		0.00					

Plan Annotations									
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates				Comment			
		+N/-S (usft)	+E/-W (usft)						
5,200.0	5,200.0	0.0	0.0			KOP - Start Build 1.00			
5,822.9	5,821.7	-32.2	10.4			Start 3879.6 hold at 5822.9 MD			
9,702.5	9,678.3	-432.8	139.6			Start Drop -1.00			
10,325.4	10,300.0	-465.0	150.0			Start 152.5 hold at 10325.4 MD			
10,477.9	10,452.5	-465.0	150.0			KOP #2 - Start Build 12.00			
11,227.9	10,930.0	5.8	229.3			LP - Start 4.2 hold at 11227.9 MD			
11,232.1	10,930.0	10.0	230.0			Start DLS 2.00 TFO -90.00			
11,724.0	10,930.0	499.7	269.8			Start 6756.0 hold at 11724.0 MD			
18,480.0	10,930.0	7,255.5	237.0			TD at 18480.0			



H₂S Drilling Operations Plan

- a. All personnel will be trained in H₂S working conditions as required by Onshore Order 6 before drilling out of the surface casing.
- b. Two briefing areas will be established. Each briefing area will be $\geq 150'$ from the wellhead, perpendicular from one another, and easily entered and exited. See H₂S page 5 for more details.
- c. H₂S Safety Equipment/Systems:
 - i. Well Control Equipment
 - Flare line will be $\geq 150'$ from the wellhead and ignited by a flare gun.
 - Beware of SO₂ created by flaring.
 - Choke manifold will have a remotely operated choke.
 - Mud gas separator
 - ii. Protective Equipment for Personnel
 - Every person on site will wear a personal H₂S and SO₂ monitor at all times while on site. Monitors will not be worn on hard hats. Monitors will be worn on the front of the waist or chest.
 - One self-contained breathing apparatus (SCBA) 30-minute rescue pack will be at each briefing area. Two 30-minute SCBA packs will be stored in the safety trailer.
 - Four work/escape packs will be on the rig floor. Each pack will have a sufficiently long hose to allow unimpaired work activity.
 - Four emergency escape packs will be in the doghouse for emergency evacuation.
 - Hand signals will be used when wearing protective breathing apparatus.
 - Stokes litter or stretcher
 - Two full OSHA compliant body harnesses
 - A 100' long x 5/8" OSHA compliant rope
 - One 20-pound ABC fire extinguisher

iii. H₂S Detection & Monitoring Equipment

- Every person on site will wear a personal H₂S and SO₂ monitor at all times while on site. Monitors will not be worn on hard hats. Monitors will be worn on the front of the waist or chest.
- A stationary detector with three sensors will be in the doghouse.
- Sensors will be installed on the rig floor, bell nipple, and at the end of the flow line or where drilling fluids are discharged.
- Visual alarm will be triggered at 10 ppm.
- Audible alarm will be triggered at 10 ppm.
- Calibration will occur at least every 30 days. Gas sample tubes will be kept in the safety trailer.

iv. Visual Warning System

- A color-coded H₂S condition sign will be set at each pad entrance.
- Color-coded condition flag will be installed to indicate current H₂S conditions.
- Two wind socks will be installed that will be visible from all sides.

v. Mud Program

- A water based mud with a pH of ≥ 10 will be maintained to control corrosion, H₂S gas returns to the surface, and minimize sulfide stress cracking and embrittlement.
- Drilling mud containing H₂S gas will be degassed at an optimum location for the rig configuration.
- This gas will be piped into the flare system.
- Enough mud additives will be on location to scavenge and/or neutralize H₂S where formation pressures are unknown.

vi. Metallurgy

- All equipment that has the potential to be exposed to H₂S will be suitable for H₂S service.
- Equipment that will meet these metallurgical standards include the drill string, casing, wellhead, BOP assembly, casing head and spool, rotating head, kill lines, choke, choke manifold and lines, valves, mud-gas separators, DST tools, test units, tubing, flanges, and other related equipment (elastomer packings and seals).

vii. Communication from well site

- Cell phones and/or two-way radios will be used to communicate from the well site.

- d. A remote-controlled choke, mud-gas separator, and a rotating head will be installed before drilling or testing any formation expected to contain H₂S.

Company Personnel to be Notified

Braden Harris, Drilling Manager	Office: (832) 672-4700
	Mobile: (406) 600-3310

Local & County Agencies

Monument Fire Department	911 or (575) 393-4339
Eunice Fire & Ambulance Dept.	(575) 394-3258
Hobbs Fire Marshal	(575) 391-8185
Lea County Sheriff (Lovington)	911 or (575) 396-3611
Lea County Emergency Management (Lovington)	(575) 396-8602
Lea Regional Medical Center Hospital (Hobbs)	(575) 492-5000

State Agencies

NM State Police (Hobbs)	(575) 392-5588
NM Oil Conservation (Hobbs)	(575) 370-3186
NM Oil Conservation (Santa Fe)	(505) 476-3440
NM Dept. of Transportation (Roswell)	(575) 637-7201

Federal Agencies

BLM Carlsbad Field Office	(575) 234-5972
---------------------------	----------------

BLM Hobbs Field Station (575) 393-3612

National Response Center (800) 424-8802

US EPA Region 6 (Dallas) (800) 887-6063

(214) 665-6444

Veterinarians

Dal Paso Animal Hospital (Hobbs) (575) 397-2286

Hobbs Animal Clinic & Pet Care (Hobbs) (575) 392-5563

Great Plains Veterinary Clinic & Hospital (Hobbs) (575) 392-5513

Residents within 2 miles

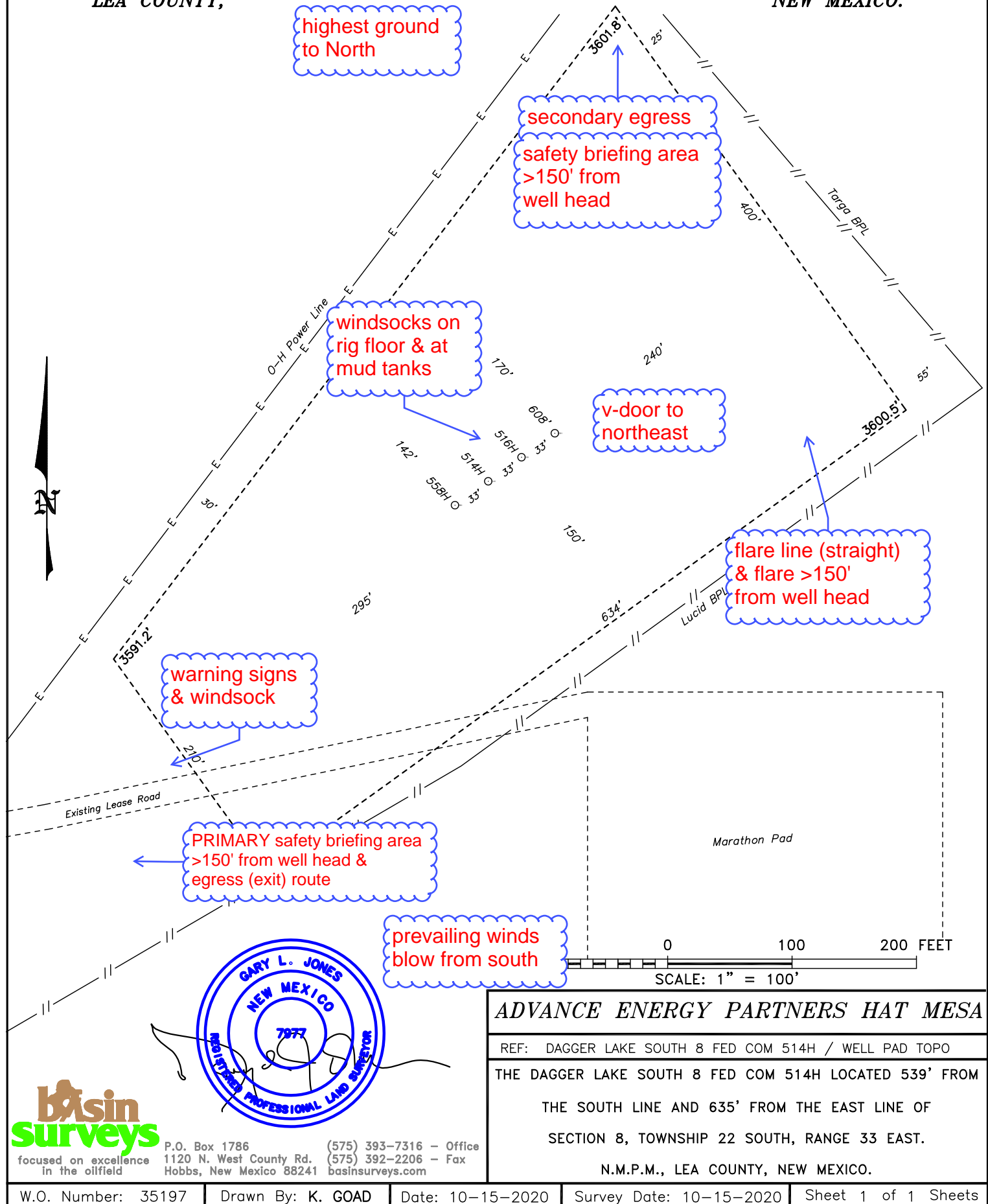
No residents are within 2 miles.

Air Evacuation

Med Flight Air Ambulance (Albuquerque) (800) 842-4431

Lifeguard (Albuquerque) (888) 866-7256

**SECTION 8, TOWNSHIP 22 SOUTH, RANGE 33 EAST. N.M.P.M.,
LEA COUNTY,
NEW MEXICO.**



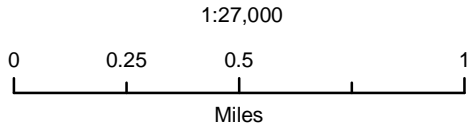
Advance Energy Partners Hat Mesa, LLC

Dagger Lake South 8 Fed Com
Pad A
H2S Contingency Plan:
Radius Map

Section 8, Township 22S, Range 33E
Lea County, New Mexico



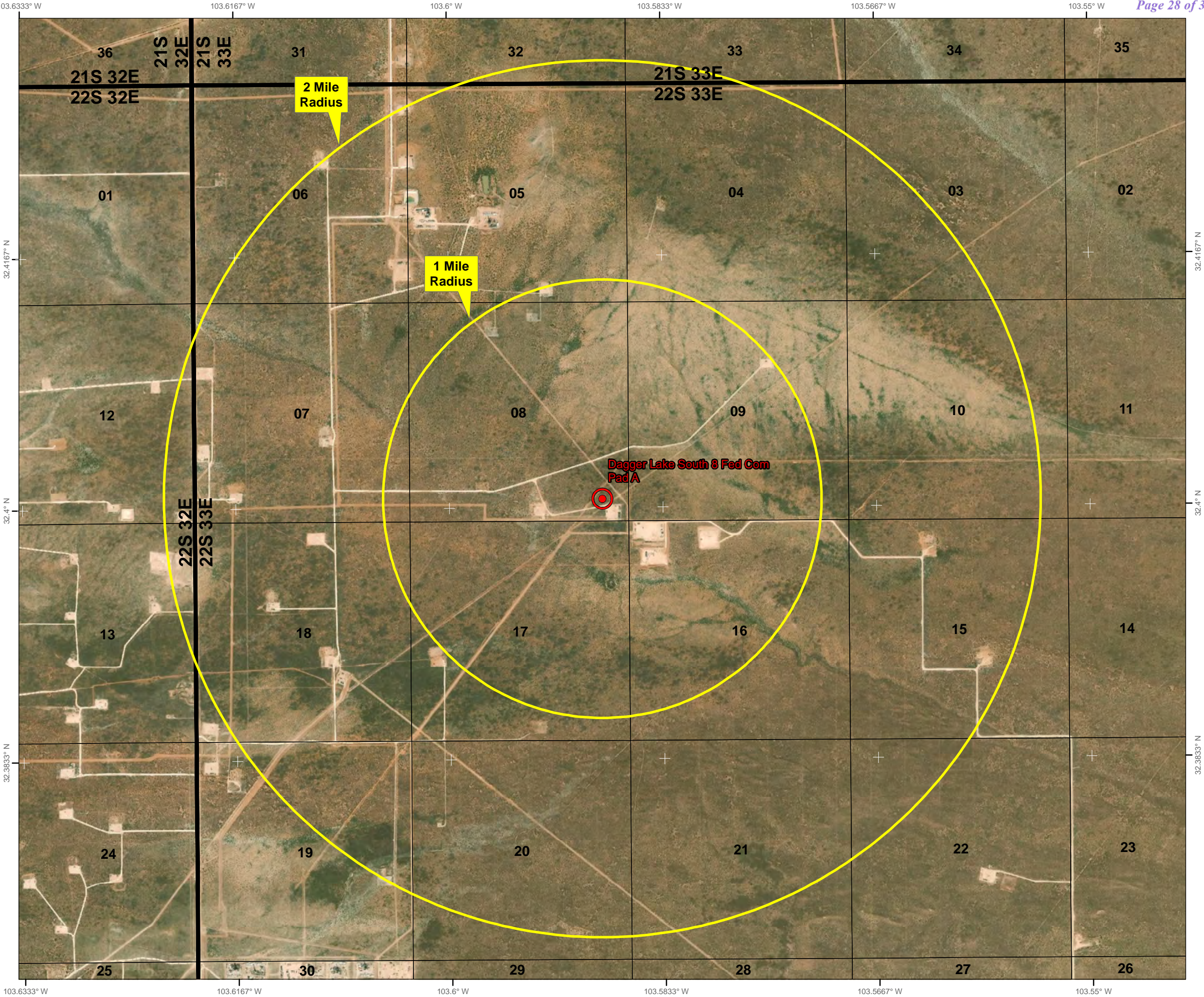
Pad Center



NAD 1983 New Mexico State Plane East
FIPS 3001 Feet



Prepared by Permits West, Inc., October 26, 2020
for Advance Energy Partners Hat Mesa, LLC





Schematic Closed Loop Drilling Rig*

1. Pipe Rack
2. Drill Rig
3. House Trailers/ Offices
4. Generator/Fuel/Storage
5. Overflow-Frac Tank
6. Skids
7. Roll Offs
8. Hopper or Centrifuge
9. Mud Tanks
10. Loop Drive
11. Generator (only for use with centrifuge)

*Not drawn to scale: Closed loop system requires at least 30 feet beyond mud tanks. Ideally 60 feet would be available

PERMITS WEST, INC.
 PROVIDING PERMITS for LAND USERS
 37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120



Above: Centrifugal Closed Loop System



Closed Loop Drilling System: Mud tanks to right (1)
 Hopper in air to settle out solids (2)
 Water return pipe (3)
 Shaker between hopper and mud tanks (4)
 Roll offs on skids (5)

Flow Chart for Drilling Fluids and Solids



Photos Courtesy of Gandy Corporation Oil
 Field Service

PERMITS WEST, INC.
 PROVIDING PERMITS for LAND USERS
 37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

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

CONDITIONS

Action 25048

CONDITIONS OF APPROVAL

Operator:			OGRID:	Action Number:	Action Type:
ADVANCE ENERGY PARTNERS HAT ME			372417	25048	FORM 3160-3
OCD Reviewer	Condition				
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104				
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string				