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

5. Lease Serial No.: NMNM096244

6. If Indian, Allotee or Tribe Name:

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☑ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.:

8. Lease Name and Well No.: DAGGER LAKE SOUTH 8 FED COM **[330795]** 510H

2. Name of Operator: ADVANCE ENERGY PARTNERS HAT MESA LLC **[372417]**

9. API Well No.: **30-025-49271**

3a. Address: 11490 Westheimer Rd, Suite 950, Houston, TX 77707

3b. Phone No. *(include area code)*: (346) 444-9739

10. Field and Pool, or Exploratory: RED TANK BONE SPRING EAST **[51687]**

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface: SWSE / 280 FSL / 1642 FEL / LAT 32.399862 / LONG -103.591354

At proposed prod. zone: NWSE / 2540 FSL / 2310 FEL / LAT 32.420576 / LONG -103.593486

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 8/T22S/R33E/NMP

14. Distance in miles and direction from nearest town or post office*: 24 miles

12. County or Parish: LEA

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 280 feet

16. No of acres in lease:

17. Spacing Unit dedicated to this well: 240.0

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 33 feet

19. Proposed Depth: 10636 feet / 17996 feet

20. BLM/BIA Bond No. in file: FED: NMB001444

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3576 feet

22. Approximate date work will start*: 01/04/2021

23. Estimated duration: 90 days

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
(Electronic Submission)	BRIAN WOOD / Ph: (346) 444-9739	10/30/2020

Title: President

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575) 234-5959	07/23/2021

Title	Office
Assistant Field Manager Lands & Minerals	Carlsbad Field 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.

NGMP Rec 07/28/2021

KZ
08/02/2021

SL

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 07/23/2021

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) 476-3460 Fax: (505) 476-3462

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025-49271	51687	RED TANK; BONE SPRING EAST

Property Code	Property Name	Well Number
330795	DAGGER LAKE SOUTH 8 FED COM	510H

OGRID No.	Operator Name	Elevation
372417	ADVANCE ENERGY PARTNERS HAT MESA	3576'

Surface Location

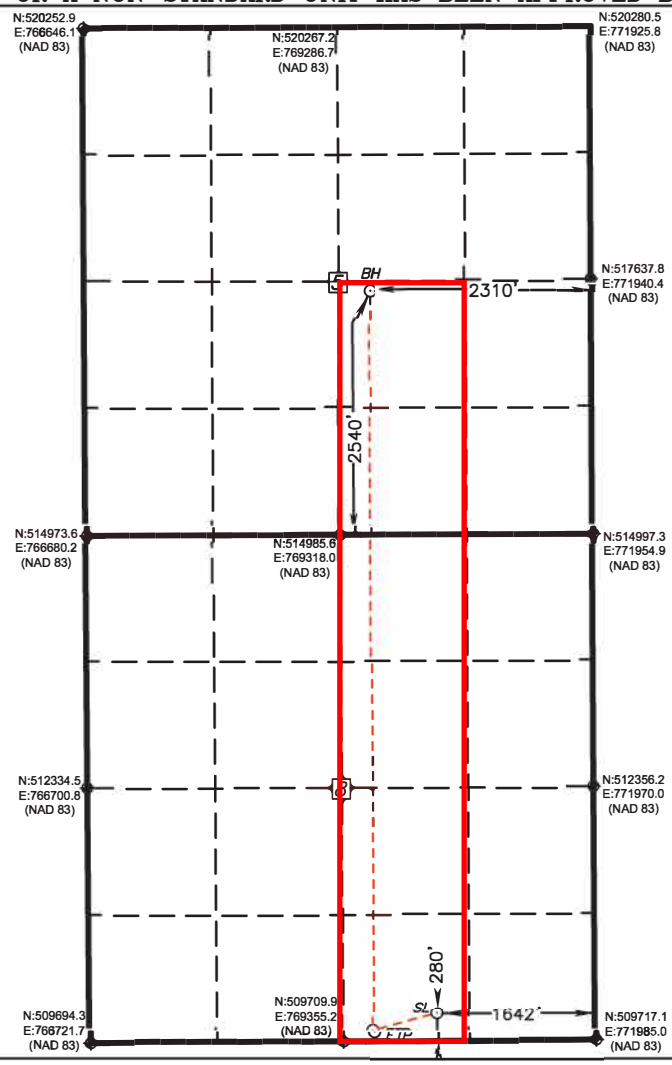
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
O	8	22 S	33 E		280	SOUTH	1642	EAST	LEA

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
J	5	22 S	33 E		2540	SOUTH	2310	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
240			

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



LAST TAKE POINT/
BOTTOM HOLE LOCATION
Lat – N 32.420576°
Long – W 103.593486°
NMSPCE– N 517527.0
E 769631.0
(NAD-83)

FIRST TAKE POINT
100' FSL & 2310' FEL
Lat – N 32.399369°
Long – W 103.593518°
NMSPCE– N 509811.8
E 769674.4
(NAD-83)

SURFACE LOCATION
Lat – N 32.399862°
Long – W 103.591354°
NMSPCE– N 509995.8
E 770341.3
(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.

Cory Walk 10-28-20
Signature Date

Cory Walk
Printed Name

cory@permitswest.com
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 supervison, and that the same is true and correct to the best of my belief.

OCTOBER 15, 2020
Date Surveyed

Signature & Seal of Professional Surveyor

GARY L. JONES NEW MEXICO 7977 REGISTERED PROFESSIONAL LAND SURVEYOR

Certificate No. Gary L. Jones 7977
BASIN SURVEYS

0' 1000' 2000' 3000' 4000'
SCALE: 1" = 2000'
WO Num.: 35198

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: _Advance Energy Partners Hat Mesa, LLC___ **OGRID:** __372417_____ **Date:** 7/26/2021

II. Type: ☒ Original ☐Amendment due to ☐19.15.27.9.D(6)(a) NMAC ☐19.15.27.9.D(6)(b) NMAC ☐Other.
If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Dagger Lake South 8 Fed Com 510H	30-025-49271	O-8-22S-33E	280 FSL & 1682 FEL	1050	1590	3100
Dagger Lake South 8 Fed Com 512H		O-8-22S-33E	280 FSL & 1609 FEL	1050	1590	3100
Dagger Lake South 8 Fed Com 556H		O-8-22S-33E	280 FSL & 1675 FEL	1050	1590	3100
Dagger Lake South 8 Fed Com 564H		O-8-22S-33E	280 FSL & 1543 FEL	1050	1590	3100
Dagger Lake South 8 Fed Com 606H		O-8-22S-33E	280 FSL & 1576 FEL	1050	1590	3100
Dagger Lake South 8 Fed Com 706H		O-8-22S-33E	280 FSL & 1708 FEL	1050	1590	3100

IV. Central Delivery Point Name: ___Dagger Lake South 8 Fed Com Pad B_____[See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Dagger Lake South 8 Fed Com 510H	30-025-49271	8-12-21	10-7-21	12-15-21	1-30-22	3-1-22
Dagger Lake South 8 Fed Com 512H		8-12-21	10-7-21	12-15-21	1-30-22	3-1-22
Dagger Lake South 8 Fed Com 556H		8-12-21	10-7-21	12-15-21	1-30-22	3-1-22
Dagger Lake South 8 Fed Com 564H		8-12-21	10-7-21	12-15-21	1-30-22	3-1-22

Dagger Lake South 8 Fed Com 606H		8-12-21	10-7-21	12-15-21	1-30-22	3-1-22
Dagger Lake South 8 Fed Com 706H		8-12-21	10-7-21	12-15-21	1-30-22	3-1-22

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☐ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system. ***If Operator checks this box, Operator will select one of the following:***

Well Shut-In. ☐Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- **(a)** power generation on lease;
- **(b)** power generation for grid;
- **(c)** compression on lease;
- **(d)** liquids removal on lease;
- **(e)** reinjection for underground storage;
- **(f)** reinjection for temporary storage;
- **(g)** reinjection for enhanced oil recovery;
- **(h)** fuel cell production; and
- **(i)** other alternative beneficial uses approved by the division.

Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature:	
Printed Name:	Brian Wood
Title:	Consultant
E-mail Address:	brian@permitswest.com
Date:	7/27/21
Phone:	(505) 466-8120

OIL CONSERVATION DIVISION **(Only applicable when submitted as a standalone form)**
Approved By:
Title:
Approval Date:
Conditions of Approval:

Natural Gas Management Plan - Attachment

VI. Separation equipment will be sized by construction engineering staff based on stated manufacturer daily throughput capacities and anticipated daily production rates to ensure adequate capacity. Closed vent system piping, compression needs, and VRUs will be sized utilizing ProMax modelling software to ensure adequate capacity for anticipated production volumes and conditions.

VII. Advance Energy Partners Hat Mesa, LLC (AEP) will take the following actions to comply with the regulations listed in 19.15.27.8:

A. AEP will maximize the recovery of natural gas by minimizing the waste, as defined by 19.15.2 NMAC, of natural gas through venting and flaring. AEP will ensure that well(s) will be connected to a natural gas gathering system with sufficient capacity to transport natural gas. If there is no adequate takeaway for the gas, well(s) will be shut in until the natural gas gathering system is available.

B. All drilling operations will be equipped with a rig flare located at least 100' from the nearest surface hole. Rig flare will be utilized to combust any natural gas that is brought to surface during normal drilling operations. In the case of emergency venting or flaring the volumes will be estimated and repo1ted appropriately.

C. During completion operations any natural gas brought to smface will be flared. Immediately following the finish of completion operations, all well flowback will be directed to permanent separation equipment. Produced natural gas from separation equipment will be sent to sales. It is not anticipated that gas will not meet pipeline standards. However, if natural gas does not meet gathering pipeline quality specifications, AEP will flare the natural gas for 60 days or until the natural gas meets the pipeline quality specifications, whichever is sooner. AEP will ensure that the flare is sized properly and is equipped with automatic igniter or continuous pilot. The gas sample will be analyzed twice per week and the gas will be routed into a gathering system as soon as pipeline specifications are met.

D. Natural gas will not be flared with the exceptions and provisions listed in the 19.15.27.8 D.(I) through (4). If there is no adequate takeaway for the separator gas, well(s) will be shut in until the natural gas gathering system is available with exception of emergency or malfunction situations. Venting and/or flaring volumes will be estimated and repo1ted appropriately.

E. AEP will comply with the performance standards requirements and provisions listed in 19.15.27.8 E.(l)through (8). All equipment will be designed and sized to handle maximum anticipated pressures and throughputs to minimize the waste. Production storage tanks constructed after May 25, 2021, will be equipped with automatic gauging system. Flares constructed after May 25, 2021, will be equipped with automatic igniter or continuous pilot. Flares will be located at least 100' from the well and storage tanks unless otherwise approved by the division. AEP will conduct AVO inspections as described in 19.15.27.8 E (5) (a) with frequencies specified in 19.15.27.8 E (5) (b) and (c). All emergencies will be resolved as quickly and safely as feasible to minimize waste.

F. The volume of natural gas that is vented or flared as the result of malfunction or emergency during drilling and completions operations will be estimated. The volume of natural gas that is vented, flared, or beneficially used during production operations, will be measured, or estimated. AEP will install equipment to measure

the volume of natural gas flared from existing process piping, or a flowline piped from equipment such as high-pressure separators, heater treaters, or vapor recovery units associated with a well or facility associated with a well authorized by an APD issued after May 25, 2021, that has an average daily production greater than 60 Mcf/day. If metering is not practicable due to circumstances such as low flow rate or low pressure venting and flaring, AEP will estimate the volume of vented or flared natural gas. Measuring equipment will conform to industry standards and will not be designed or equipped with a manifold that allows the diversion of natural gas around the metering element except for the sole purpose of inspecting and servicing the measurement equipment.

VIII. For maintenance activities involving production equipment and compression, venting will be limited to the depressurization of the subject equipment to ensure safe working conditions. For maintenance of production and compression equipment the associated producing wells will be shut in to eliminate venting. For maintenance of VRUs all gas normally routed to the VRU will be routed to flare to eliminate venting.

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

Drilling Plan Data Report
07/24/2021

APD ID: 10400064626 **Submission Date:** 10/30/2020

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: DAGGER LAKE SOUTH 8 FED COM **Well Number:** 510H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1118210	QUATERNARY	3576	0	0	OTHER : Caliche	USEABLE WATER	N
1118211	RUSTLER ANHYDRITE	2566	1010	1010	ANHYDRITE	NONE	N
1510328	SALADO	1861	1715	1715	SALT	OTHER : Salt	N
1510329	CAPITAN REEF	156	3420	3420	LIMESTONE	NONE	N
1118213	LAMAR	-1184	4760	4760	LIMESTONE	NONE	N
1510330	UNKNOWN	-1184	4760	4760	LIMESTONE, OTHER : Base of Capitan Reef	NONE	N
1118212	BELL CANYON	-1290	4866	4866	SANDSTONE	NATURAL GAS, OIL	N
1510369	CHERRY CANYON	-3339	6915	6926	SANDSTONE	NATURAL GAS, OIL	N
1118214	LOWER BRUSHY CANYON 8A	-4827	8403	8414	SANDSTONE	NATURAL GAS, OIL	N
1510370	BONE SPRING LIME	-5063	8639	8651	LIMESTONE	NATURAL GAS, OIL	N
1118215	AVALON SAND	-5292	8868	8881	SHALE	OIL	N
1118216	BONE SPRING 1ST	-6366	9942	9957	SANDSTONE	NATURAL GAS, OIL	N
1118217	BONE SPRING 2ND	-6940	10516	10629	SANDSTONE	NATURAL GAS, OIL	Y
1118218		0					

Section 2 - Blowout Prevention

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: DAGGER LAKE SOUTH 8 FED COM **Well Number:** 510H

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_20201030065922.pdf

BOP Diagram Attachment:

BOP_Diagram_20201030065935.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	1035	0	1035	3576	2541	1035	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	-424	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	-1239	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	17996	0	10636	3597	-7060	17996	HCP-110	20	OTHER - CDC-HTQ	1.125	1.125	DRY	1.6	DRY	1.6

Casing Attachments

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: DAGGER LAKE SOUTH 8 FED COM **Well Number:** 510H

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Design_Assumptions_20201030070534.pdf

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Design_Assumptions_20201030070552.pdf

Casing ID: 3 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Design_Assumptions_20201030070612.pdf

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: DAGGER LAKE SOUTH 8 FED COM **Well Number:** 510H

Casing Attachments

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_20201030070647.pdf

Casing_Design_Assumptions_20201030070653.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	735	385	1.99	12.8	766	50	Class C	2% Gypsum + 2% SMS + 0.25PPS Pol-EFlake + 0.005GPS NoFoam V1A
SURFACE	Tail		735	1035	215	1.34	14.8	288	20	Class C	1% CaCl2 + 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	10090	805	3.81	10.6	3067	50	PowerCem	5PPS Plexcrete STE + 11% Gypsum + 3% SMS + 0.1% SuspendaCem 6302 +

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: DAGGER LAKE SOUTH 8 FED COM **Well Number:** 510H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
											0.4% R-1300 + 0.005GPS NoFoam
PRODUCTION	Tail		10090	17996	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.

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	1035	OTHER : Fresh Water Spud Mud	8.4	10							
1035	4815	OTHER : Brine Water	10	10.5							
4815	10090	OTHER : Cut Brine	9.2	9.5							
10090	17996	OIL-BASED MUD	9.5	9.8							

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: DAGGER LAKE SOUTH 8 FED COM **Well Number:** 510H

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: 5427 **Anticipated Surface Pressure:** 3087

Anticipated Bottom Hole Temperature(F): 225

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Dagger_PadB_H2S_Plan_20201030071025.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Dagger_510H_Horizontal_Plan_20201030071045.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:

CoFlex_Certs_20201030071105.pdf

Dagger_510H_Anticollision_Report_20201030071114.pdf

Speedhead_Specs_20201030071122.pdf

Dagger_510H_Drill_Plan_v3_011921_20210122142725.pdf

Other Variance attachment:

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

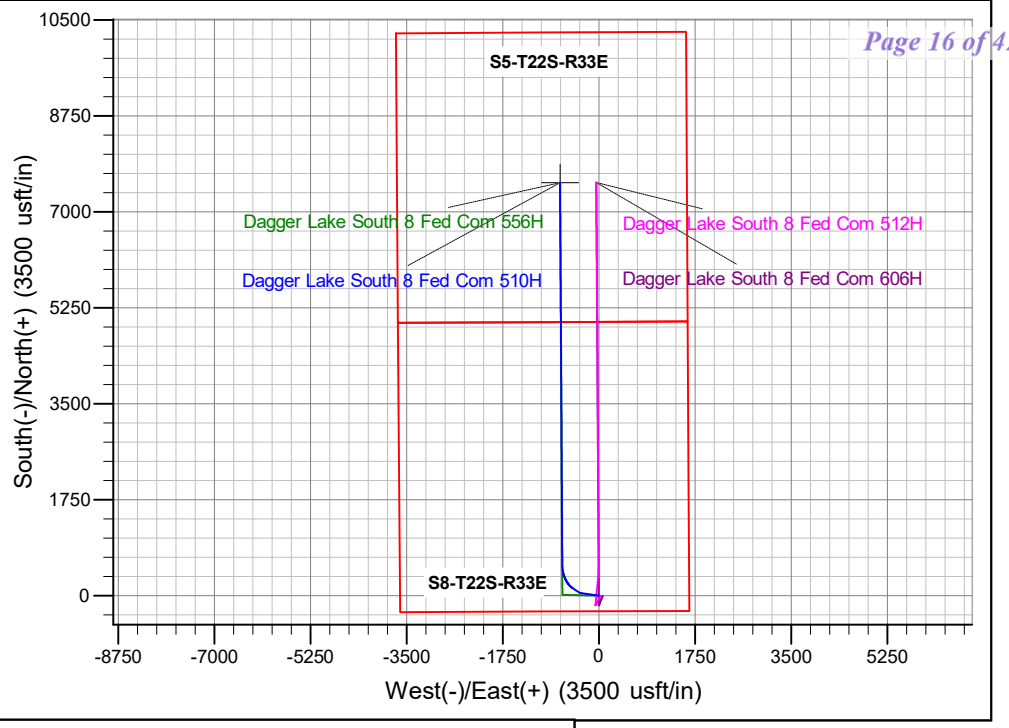
Well Name: DAGGER LAKE SOUTH 8 FED COM **Well Number:** 510H

Casing_Cementing_Variance_Request_20201030071157.pdf

ADVANCE ENERGY PARTNERS

WELL DETAILS: Dagger Lake South 8 Fed Com 510H					
Ground Elev: 3576.0		KB: 3601.0			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	509995.71	770341.20	32° 23' 59.503 N	103° 35' 28.874 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

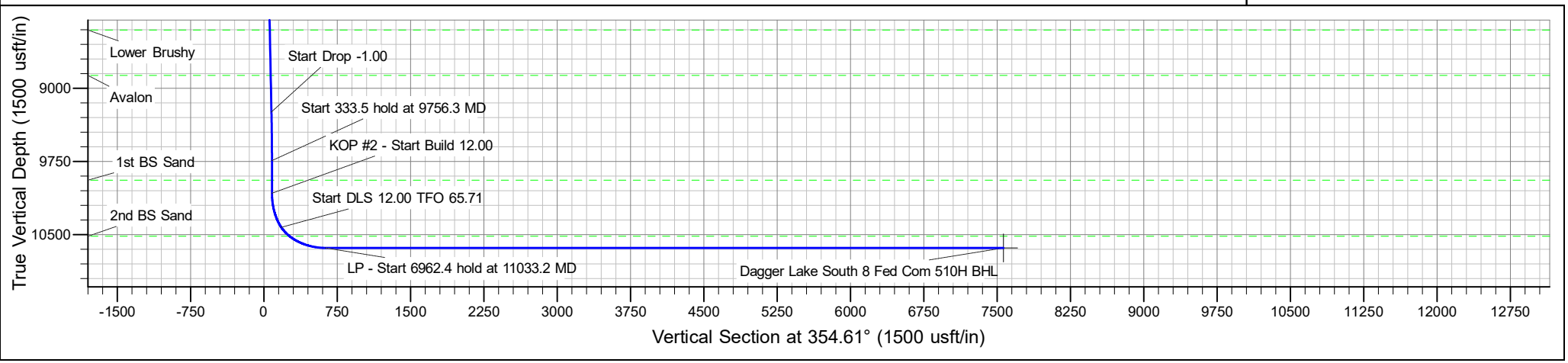


SECTION DETAILS

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	5700.0	5.00	278.13	5699.4	3.1	-21.6	1.00	278.13	5.1	Start 3556.3 hold at 5700.0 MD
4	9256.3	5.00	278.13	9242.1	46.9	-328.4	0.00	0.00	77.5	Start Drop -1.00
5	9756.3	0.00	0.00	9741.5	50.0	-350.0	1.00	180.00	82.6	Start 333.5 hold at 9756.3 MD
6	10089.8	0.00	0.00	10075.0	50.0	-350.0	0.00	0.00	82.6	KOP #2 - Start Build 12.00
7	10482.9	47.19	303.26	10425.2	133.9	-477.9	12.00	303.26	178.2	Start DLS 12.00 TFO 65.71
8	11033.2	90.00	359.67	10636.0	569.0	-670.0	12.00	65.71	629.4	LP - Start 6962.4 hold at 11033.2 MD
9	17995.6	90.00	359.67	10636.0	7531.3	-710.2	0.00	0.00	7564.7	TD at 17995.6

Azimuths to Grid North
True North: -0.40°
Magnetic North: 6.22°

Magnetic Field
Strength: 47697.9nT
Dip Angle: 60.18°
Date: 10/9/2020
Model: IGRF2015



Advance Energy Partners

Hat Mesa
Dagger Lake South 8 Fed Com - Pad B
Dagger Lake South 8 Fed Com 510H

Dagger Lake South 8 Fed Com 510H

Plan: Dagger Lake South 8 Fed Com 510H

Standard Planning Report

19 October, 2020

ADVANCE ENERGY PARTNERS

Planning Report

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Dagger Lake South 8 Fed Com 510H
Company:	Advance Energy Partners	**TVD Reference:**	WELL @ 3601.0usft (Original Well Elev)
Project:	Hat Mesa	**MD Reference:**	WELL @ 3601.0usft (Original Well Elev)
Site:	Dagger Lake South 8 Fed Com - Pad B	**North Reference:**	Grid
Well:	Dagger Lake South 8 Fed Com 510H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Dagger Lake South 8 Fed Com 510H		
Design:	Dagger Lake South 8 Fed Com 510H		

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 B

Site Position:		**Northing:**	509,934.70 usft	**Latitude:**	32° 23' 58.949 N
From:	Lat/Long	**Easting:**	769,622.13 usft	**Longitude:**	103° 35' 37.266 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "		

Well Dagger Lake South 8 Fed Com 510H

Well Position	**+N/-S**	0.0 usft	**Northing:**	509,995.71 usft	**Latitude:**	32° 23' 59.503 N
	+E/-W	0.0 usft	**Easting:**	770,341.19 usft	**Longitude:**	103° 35' 28.874 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,576.0 usft
Grid Convergence:		0.40 °				

Wellbore Dagger Lake South 8 Fed Com 510H

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/9/2020	6.62	60.18	47,697.86178589

Design Dagger Lake South 8 Fed Com 510H

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	354.61

Plan Survey Tool Program **Date** 10/19/2020

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	17,995.2	Dagger Lake South 8 Fed Com 5	MWD+HRGM	
				OWSG MWD + HRGM	

ADVANCE ENERGY PARTNERS

Planning Report

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Project:	Hat Mesa	**MD Reference:**	WELL @ 3601.0usft (Original Well Elev)
Site:	Dagger Lake South 8 Fed Com - Pad B	**North Reference:**	Grid
Well:	Dagger Lake South 8 Fed Com 510H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Dagger Lake South 8 Fed Com 510H		
Design:	Dagger Lake South 8 Fed Com 510H		

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	
5,700.0	5.00	278.13	5,699.4	3.1	-21.6	1.00	1.00	0.00	278.13	
9,256.3	5.00	278.13	9,242.1	46.9	-328.4	0.00	0.00	0.00	0.00	
9,756.3	0.00	0.00	9,741.5	50.0	-350.0	1.00	-1.00	0.00	180.00	
10,089.8	0.00	0.00	10,075.0	50.0	-350.0	0.00	0.00	0.00	0.00	
10,482.9	47.19	303.26	10,425.2	133.9	-477.9	12.00	12.00	0.00	303.26	
11,033.2	90.00	359.67	10,636.0	569.0	-670.0	12.00	7.78	10.25	65.71	
17,995.6	90.00	359.67	10,636.0	7,531.3	-710.2	0.00	0.00	0.00	0.00	Dagger Lake South 8

ADVANCE ENERGY PARTNERS

Planning Report

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Project:	Hat Mesa	**MD Reference:**	WELL @ 3601.0usft (Original Well Elev)
Site:	Dagger Lake South 8 Fed Com - Pad B	**North Reference:**	Grid
Well:	Dagger Lake South 8 Fed Com 510H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Dagger Lake South 8 Fed Com 510H		
Design:	Dagger Lake South 8 Fed Com 510H		

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
1,010.0	0.00	0.00	1,010.0	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
4,760.0	0.00	0.00	4,760.0	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

ADVANCE ENERGY PARTNERS

Planning Report

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Dagger Lake South 8 Fed Com 510H
Company:	Advance Energy Partners	**TVD Reference:**	WELL @ 3601.0usft (Original Well Elev)
Project:	Hat Mesa	**MD Reference:**	WELL @ 3601.0usft (Original Well Elev)
Site:	Dagger Lake South 8 Fed Com - Pad B	**North Reference:**	Grid
Well:	Dagger Lake South 8 Fed Com 510H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Dagger Lake South 8 Fed Com 510H		
Design:	Dagger Lake South 8 Fed Com 510H		

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	278.13	5,300.0	0.1	-0.9	0.2	1.00	1.00	0.00
5,400.0	2.00	278.13	5,400.0	0.5	-3.5	0.8	1.00	1.00	0.00
5,500.0	3.00	278.13	5,499.9	1.1	-7.8	1.8	1.00	1.00	0.00
5,600.0	4.00	278.13	5,599.7	2.0	-13.8	3.3	1.00	1.00	0.00
5,700.0	5.00	278.13	5,699.4	3.1	-21.6	5.1	1.00	1.00	0.00
Start 3556.3 hold at 5700.0 MD									
5,800.0	5.00	278.13	5,799.0	4.3	-30.2	7.1	0.00	0.00	0.00
5,900.0	5.00	278.13	5,898.6	5.5	-38.8	9.2	0.00	0.00	0.00
6,000.0	5.00	278.13	5,998.2	6.8	-47.5	11.2	0.00	0.00	0.00
6,100.0	5.00	278.13	6,097.8	8.0	-56.1	13.2	0.00	0.00	0.00
6,200.0	5.00	278.13	6,197.5	9.2	-64.7	15.3	0.00	0.00	0.00
6,300.0	5.00	278.13	6,297.1	10.5	-73.4	17.3	0.00	0.00	0.00
6,400.0	5.00	278.13	6,396.7	11.7	-82.0	19.4	0.00	0.00	0.00
6,500.0	5.00	278.13	6,496.3	12.9	-90.6	21.4	0.00	0.00	0.00
6,600.0	5.00	278.13	6,595.9	14.2	-99.2	23.4	0.00	0.00	0.00
6,700.0	5.00	278.13	6,695.6	15.4	-107.9	25.5	0.00	0.00	0.00
6,800.0	5.00	278.13	6,795.2	16.6	-116.5	27.5	0.00	0.00	0.00
6,900.0	5.00	278.13	6,894.8	17.9	-125.1	29.5	0.00	0.00	0.00
7,000.0	5.00	278.13	6,994.4	19.1	-133.7	31.6	0.00	0.00	0.00
7,100.0	5.00	278.13	7,094.0	20.3	-142.4	33.6	0.00	0.00	0.00
7,200.0	5.00	278.13	7,193.7	21.6	-151.0	35.7	0.00	0.00	0.00
7,300.0	5.00	278.13	7,293.3	22.8	-159.6	37.7	0.00	0.00	0.00
7,400.0	5.00	278.13	7,392.9	24.0	-168.3	39.7	0.00	0.00	0.00
7,500.0	5.00	278.13	7,492.5	25.3	-176.9	41.8	0.00	0.00	0.00
7,600.0	5.00	278.13	7,592.1	26.5	-185.5	43.8	0.00	0.00	0.00
7,700.0	5.00	278.13	7,691.8	27.7	-194.1	45.8	0.00	0.00	0.00
7,800.0	5.00	278.13	7,791.4	29.0	-202.8	47.9	0.00	0.00	0.00
7,900.0	5.00	278.13	7,891.0	30.2	-211.4	49.9	0.00	0.00	0.00
8,000.0	5.00	278.13	7,990.6	31.4	-220.0	52.0	0.00	0.00	0.00
8,100.0	5.00	278.13	8,090.2	32.7	-228.7	54.0	0.00	0.00	0.00
8,200.0	5.00	278.13	8,189.9	33.9	-237.3	56.0	0.00	0.00	0.00
8,300.0	5.00	278.13	8,289.5	35.1	-245.9	58.1	0.00	0.00	0.00
8,400.0	5.00	278.13	8,389.1	36.4	-254.5	60.1	0.00	0.00	0.00
8,414.0	5.00	278.13	8,403.0	36.5	-255.7	60.4	0.00	0.00	0.00
Lower Brushy									
8,500.0	5.00	278.13	8,488.7	37.6	-263.2	62.1	0.00	0.00	0.00
8,600.0	5.00	278.13	8,588.3	38.8	-271.8	64.2	0.00	0.00	0.00
8,700.0	5.00	278.13	8,687.9	40.1	-280.4	66.2	0.00	0.00	0.00
8,800.0	5.00	278.13	8,787.6	41.3	-289.1	68.2	0.00	0.00	0.00
8,880.7	5.00	278.13	8,868.0	42.3	-296.0	69.9	0.00	0.00	0.00
Avalon									
8,900.0	5.00	278.13	8,887.2	42.5	-297.7	70.3	0.00	0.00	0.00
9,000.0	5.00	278.13	8,986.8	43.8	-306.3	72.3	0.00	0.00	0.00
9,100.0	5.00	278.13	9,086.4	45.0	-314.9	74.4	0.00	0.00	0.00
9,200.0	5.00	278.13	9,186.0	46.2	-323.6	76.4	0.00	0.00	0.00
9,256.3	5.00	278.13	9,242.1	46.9	-328.4	77.5	0.00	0.00	0.00
Start Drop -1.00									
9,300.0	4.56	278.13	9,285.7	47.4	-332.0	78.4	1.00	-1.00	0.00
9,400.0	3.56	278.13	9,385.4	48.4	-339.0	80.1	1.00	-1.00	0.00

ADVANCE ENERGY PARTNERS

Planning Report

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Dagger Lake South 8 Fed Com 510H
Company:	Advance Energy Partners	**TVD Reference:**	WELL @ 3601.0usft (Original Well Elev)
Project:	Hat Mesa	**MD Reference:**	WELL @ 3601.0usft (Original Well Elev)
Site:	Dagger Lake South 8 Fed Com - Pad B	**North Reference:**	Grid
Well:	Dagger Lake South 8 Fed Com 510H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Dagger Lake South 8 Fed Com 510H		
Design:	Dagger Lake South 8 Fed Com 510H		

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)
9,500.0	2.56	278.13	9,485.3	49.2	-344.3	81.3	1.00	-1.00	0.00
9,600.0	1.56	278.13	9,585.2	49.7	-347.9	82.1	1.00	-1.00	0.00
9,700.0	0.56	278.13	9,685.2	50.0	-349.7	82.6	1.00	-1.00	0.00
9,756.3	0.00	0.00	9,741.5	50.0	-350.0	82.6	1.00	-1.00	0.00
Start 333.5 hold at 9756.3 MD									
9,800.0	0.00	0.00	9,785.2	50.0	-350.0	82.6	0.00	0.00	0.00
9,900.0	0.00	0.00	9,885.2	50.0	-350.0	82.6	0.00	0.00	0.00
9,956.8	0.00	0.00	9,942.0	50.0	-350.0	82.6	0.00	0.00	0.00
1st BS Sand									
10,000.0	0.00	0.00	9,985.2	50.0	-350.0	82.6	0.00	0.00	0.00
10,089.8	0.00	0.00	10,075.0	50.0	-350.0	82.6	0.00	0.00	0.00
KOP #2 - Start Build 12.00									
10,100.0	1.22	303.26	10,085.2	50.1	-350.1	82.7	12.00	12.00	0.00
10,200.0	13.23	303.26	10,184.2	56.9	-360.6	90.5	12.00	12.00	0.00
10,300.0	25.23	303.26	10,278.5	75.0	-388.1	111.1	12.00	12.00	0.00
10,400.0	37.24	303.26	10,363.8	103.4	-431.4	143.4	12.00	12.00	0.00
10,482.9	47.19	303.26	10,425.2	133.9	-477.9	178.2	12.00	12.00	0.00
Start DLS 12.00 TFO 65.71									
10,500.0	48.06	305.78	10,436.7	141.0	-488.3	186.3	12.00	5.10	14.71
10,600.0	54.13	319.11	10,499.6	193.6	-545.2	243.9	12.00	6.07	13.34
10,628.7	56.12	322.53	10,516.0	211.8	-560.0	263.5	12.00	6.95	11.93
2nd BS Sand									
10,700.0	61.45	330.38	10,553.0	262.7	-593.6	317.2	12.00	7.47	11.00
10,800.0	69.58	340.11	10,594.5	345.2	-631.4	403.0	12.00	8.12	9.73
10,900.0	78.18	348.83	10,622.3	437.6	-656.9	497.4	12.00	8.61	8.72
11,000.0	87.04	357.01	10,635.1	535.9	-669.0	596.3	12.00	8.86	8.18
11,033.2	90.00	359.67	10,636.0	569.0	-670.0	629.4	12.00	8.92	8.03
LP - Start 6962.4 hold at 11033.2 MD									
11,100.0	90.00	359.67	10,636.0	635.8	-670.4	696.0	0.00	0.00	0.00
11,200.0	90.00	359.67	10,636.0	735.8	-671.0	795.6	0.00	0.00	0.00
11,300.0	90.00	359.67	10,636.0	835.8	-671.5	895.2	0.00	0.00	0.00
11,400.0	90.00	359.67	10,636.0	935.8	-672.1	994.8	0.00	0.00	0.00
11,500.0	90.00	359.67	10,636.0	1,035.8	-672.7	1,094.4	0.00	0.00	0.00
11,600.0	90.00	359.67	10,636.0	1,135.8	-673.3	1,194.0	0.00	0.00	0.00
11,700.0	90.00	359.67	10,636.0	1,235.8	-673.8	1,293.6	0.00	0.00	0.00
11,800.0	90.00	359.67	10,636.0	1,335.8	-674.4	1,393.2	0.00	0.00	0.00
11,900.0	90.00	359.67	10,636.0	1,435.8	-675.0	1,492.8	0.00	0.00	0.00
12,000.0	90.00	359.67	10,636.0	1,535.8	-675.5	1,592.5	0.00	0.00	0.00
12,100.0	90.00	359.67	10,636.0	1,635.8	-676.1	1,692.1	0.00	0.00	0.00
12,200.0	90.00	359.67	10,636.0	1,735.8	-676.7	1,791.7	0.00	0.00	0.00
12,300.0	90.00	359.67	10,636.0	1,835.8	-677.3	1,891.3	0.00	0.00	0.00
12,400.0	90.00	359.67	10,636.0	1,935.8	-677.8	1,990.9	0.00	0.00	0.00
12,500.0	90.00	359.67	10,636.0	2,035.8	-678.4	2,090.5	0.00	0.00	0.00
12,600.0	90.00	359.67	10,636.0	2,135.8	-679.0	2,190.1	0.00	0.00	0.00
12,700.0	90.00	359.67	10,636.0	2,235.8	-679.6	2,289.7	0.00	0.00	0.00
12,800.0	90.00	359.67	10,636.0	2,335.8	-680.1	2,389.3	0.00	0.00	0.00
12,900.0	90.00	359.67	10,636.0	2,435.8	-680.7	2,489.0	0.00	0.00	0.00
13,000.0	90.00	359.67	10,636.0	2,535.8	-681.3	2,588.6	0.00	0.00	0.00
13,100.0	90.00	359.67	10,636.0	2,635.8	-681.9	2,688.2	0.00	0.00	0.00
13,200.0	90.00	359.67	10,636.0	2,735.8	-682.4	2,787.8	0.00	0.00	0.00
13,300.0	90.00	359.67	10,636.0	2,835.8	-683.0	2,887.4	0.00	0.00	0.00
13,400.0	90.00	359.67	10,636.0	2,935.8	-683.6	2,987.0	0.00	0.00	0.00
13,500.0	90.00	359.67	10,636.0	3,035.8	-684.2	3,086.6	0.00	0.00	0.00

ADVANCE ENERGY PARTNERS

Planning Report

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Company:	Advance Energy Partners	**TVD Reference:**	WELL @ 3601.0usft (Original Well Elev)
Project:	Hat Mesa	**MD Reference:**	WELL @ 3601.0usft (Original Well Elev)
Site:	Dagger Lake South 8 Fed Com - Pad B	**North Reference:**	Grid
Well:	Dagger Lake South 8 Fed Com 510H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Dagger Lake South 8 Fed Com 510H		
Design:	Dagger Lake South 8 Fed Com 510H		

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)
13,600.0	90.00	359.67	10,636.0	3,135.8	-684.7	3,186.2	0.00	0.00	0.00
13,700.0	90.00	359.67	10,636.0	3,235.8	-685.3	3,285.8	0.00	0.00	0.00
13,800.0	90.00	359.67	10,636.0	3,335.8	-685.9	3,385.5	0.00	0.00	0.00
13,900.0	90.00	359.67	10,636.0	3,435.8	-686.5	3,485.1	0.00	0.00	0.00
14,000.0	90.00	359.67	10,636.0	3,535.8	-687.0	3,584.7	0.00	0.00	0.00
14,100.0	90.00	359.67	10,636.0	3,635.8	-687.6	3,684.3	0.00	0.00	0.00
14,200.0	90.00	359.67	10,636.0	3,735.8	-688.2	3,783.9	0.00	0.00	0.00
14,300.0	90.00	359.67	10,636.0	3,835.8	-688.8	3,883.5	0.00	0.00	0.00
14,400.0	90.00	359.67	10,636.0	3,935.8	-689.3	3,983.1	0.00	0.00	0.00
14,500.0	90.00	359.67	10,636.0	4,035.8	-689.9	4,082.7	0.00	0.00	0.00
14,600.0	90.00	359.67	10,636.0	4,135.8	-690.5	4,182.3	0.00	0.00	0.00
14,700.0	90.00	359.67	10,636.0	4,235.8	-691.0	4,281.9	0.00	0.00	0.00
14,800.0	90.00	359.67	10,636.0	4,335.8	-691.6	4,381.6	0.00	0.00	0.00
14,900.0	90.00	359.67	10,636.0	4,435.8	-692.2	4,481.2	0.00	0.00	0.00
15,000.0	90.00	359.67	10,636.0	4,535.8	-692.8	4,580.8	0.00	0.00	0.00
15,100.0	90.00	359.67	10,636.0	4,635.8	-693.3	4,680.4	0.00	0.00	0.00
15,200.0	90.00	359.67	10,636.0	4,735.8	-693.9	4,780.0	0.00	0.00	0.00
15,300.0	90.00	359.67	10,636.0	4,835.8	-694.5	4,879.6	0.00	0.00	0.00
15,400.0	90.00	359.67	10,636.0	4,935.8	-695.1	4,979.2	0.00	0.00	0.00
15,500.0	90.00	359.67	10,636.0	5,035.8	-695.6	5,078.8	0.00	0.00	0.00
15,600.0	90.00	359.67	10,636.0	5,135.8	-696.2	5,178.4	0.00	0.00	0.00
15,700.0	90.00	359.67	10,636.0	5,235.8	-696.8	5,278.1	0.00	0.00	0.00
15,800.0	90.00	359.67	10,636.0	5,335.8	-697.4	5,377.7	0.00	0.00	0.00
15,900.0	90.00	359.67	10,636.0	5,435.8	-697.9	5,477.3	0.00	0.00	0.00
16,000.0	90.00	359.67	10,636.0	5,535.8	-698.5	5,576.9	0.00	0.00	0.00
16,100.0	90.00	359.67	10,636.0	5,635.8	-699.1	5,676.5	0.00	0.00	0.00
16,200.0	90.00	359.67	10,636.0	5,735.8	-699.7	5,776.1	0.00	0.00	0.00
16,300.0	90.00	359.67	10,636.0	5,835.8	-700.2	5,875.7	0.00	0.00	0.00
16,400.0	90.00	359.67	10,636.0	5,935.7	-700.8	5,975.3	0.00	0.00	0.00
16,500.0	90.00	359.67	10,636.0	6,035.7	-701.4	6,074.9	0.00	0.00	0.00
16,600.0	90.00	359.67	10,636.0	6,135.7	-702.0	6,174.5	0.00	0.00	0.00
16,700.0	90.00	359.67	10,636.0	6,235.7	-702.5	6,274.2	0.00	0.00	0.00
16,800.0	90.00	359.67	10,636.0	6,335.7	-703.1	6,373.8	0.00	0.00	0.00
16,900.0	90.00	359.67	10,636.0	6,435.7	-703.7	6,473.4	0.00	0.00	0.00
17,000.0	90.00	359.67	10,636.0	6,535.7	-704.2	6,573.0	0.00	0.00	0.00
17,100.0	90.00	359.67	10,636.0	6,635.7	-704.8	6,672.6	0.00	0.00	0.00
17,200.0	90.00	359.67	10,636.0	6,735.7	-705.4	6,772.2	0.00	0.00	0.00
17,300.0	90.00	359.67	10,636.0	6,835.7	-706.0	6,871.8	0.00	0.00	0.00
17,400.0	90.00	359.67	10,636.0	6,935.7	-706.5	6,971.4	0.00	0.00	0.00
17,500.0	90.00	359.67	10,636.0	7,035.7	-707.1	7,071.0	0.00	0.00	0.00
17,600.0	90.00	359.67	10,636.0	7,135.7	-707.7	7,170.7	0.00	0.00	0.00
17,700.0	90.00	359.67	10,636.0	7,235.7	-708.3	7,270.3	0.00	0.00	0.00
17,800.0	90.00	359.67	10,636.0	7,335.7	-708.8	7,369.9	0.00	0.00	0.00
17,900.0	90.00	359.67	10,636.0	7,435.7	-709.4	7,469.5	0.00	0.00	0.00
17,995.6	90.00	359.67	10,636.0	7,531.3	-710.0	7,564.7	0.00	0.00	0.00
TD at 17995.6 - Dagger Lake South 8 Fed Com 510H BHL									

ADVANCE ENERGY PARTNERS

Planning Report

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Project:	Hat Mesa	**MD Reference:**	WELL @ 3601.0usft (Original Well Elev)
Site:	Dagger Lake South 8 Fed Com - Pad B	**North Reference:**	Grid
Well:	Dagger Lake South 8 Fed Com 510H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Dagger Lake South 8 Fed Com 510H		
Design:	Dagger Lake South 8 Fed Com 510H		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Dagger Lake South 8 Fe	0.00	0.00	10,636.0	7,531.3	-710.2	517,527.00	769,631.00	32° 25' 14.074 N	103° 35' 36.550 W
- plan misses target center by 0.2usft at 17995.6usft MD (10636.0 TVD, 7531.3 N, -710.0 E)									
- Point									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
11,033.2	10,636.0	LP	5-1/2	4-25/32

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,010.0	1,010.0	Rustler		0.00	
4,760.0	4,760.0	Base of Limestone		0.00	
8,414.0	8,403.0	Lower Brushy		0.00	
8,880.7	8,868.0	Avalon		0.00	
9,956.8	9,942.0	1st BS Sand		0.00	
10,628.7	10,516.0	2nd BS Sand		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
5,200.0	5,200.0	0.0	0.0	KOP - Start Build 1.00
5,700.0	5,699.4	3.1	-21.6	Start 3556.3 hold at 5700.0 MD
9,256.3	9,242.1	46.9	-328.4	Start Drop -1.00
9,756.3	9,741.5	50.0	-350.0	Start 333.5 hold at 9756.3 MD
10,089.8	10,075.0	50.0	-350.0	KOP #2 - Start Build 12.00
10,482.9	10,425.2	133.9	-477.9	Start DLS 12.00 TFO 65.71
11,033.2	10,636.0	569.0	-670.0	LP - Start 6962.4 hold at 11033.2 MD
17,995.6	10,636.0	7,531.3	-710.2	TD at 17995.6

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Advance Energy Partners Hat Mesa LLC**
LEASE NO.:	**NMNM096244**
LOCATION:	Section 8, T.22 S., R.33 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	Dagger Lake South 8 Fed Com 510H
SURFACE HOLE FOOTAGE:	280'/S & 1642'/E
BOTTOM HOLE FOOTAGE	2540'/S & 2310'/E

WELL NAME & NO.:	Dagger Lake South 8 Fed Com 512H
SURFACE HOLE FOOTAGE:	280'/S & 1609'/E
BOTTOM HOLE FOOTAGE	2540'/S & 1650'/E

WELL NAME & NO.:	Dagger Lake South 8 Fed Com 514H
SURFACE HOLE FOOTAGE:	539'/S & 635'/E
BOTTOM HOLE FOOTAGE	2540'/S & 990'/E

WELL NAME & NO.:	Dagger Lake South 8 Fed Com 556H
SURFACE HOLE FOOTAGE:	280'/S & 1675'/E
BOTTOM HOLE FOOTAGE	2540'/S & 2310'/E

WELL NAME & NO.:	Dagger Lake South 8 Fed Com 558H
SURFACE HOLE FOOTAGE:	520'/S & 662'/E
BOTTOM HOLE FOOTAGE	2540'/S & 990'/E

WELL NAME & NO.:	Dagger Lake South 8 Fed Com 606H
SURFACE HOLE FOOTAGE:	280'/S & 1576'/E
BOTTOM HOLE FOOTAGE	2540'/S & 1650'/E

WELL NAME & NO.:	Dagger Lake South 8 Fed Com 608H
SURFACE HOLE FOOTAGE:	577'/S & 581'/E
BOTTOM HOLE FOOTAGE	2540'/S & 330'/E

COA

Approval Date: 07/23/2021

H2S	☉ Yes	☐ No	
Potash	☐ None	☉ Secretary	☐ R-111-P
Cave/Karst Potential	☉ Low	☐ Medium	☐ High
Cave/Karst Potential	☐ Critical		
Variance	☐ None	☉ Flex Hose	☐ Other
Wellhead	☐ Conventional	☉ Multibowl	☐ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Morrow** formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1042 feet** (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **24 hours in the Potash Area** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

Approval Date: 07/23/2021

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing shall be set at approximately **4815 feet** is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office.
  Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

❖ In Secretary Potash Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

- Cement should tie-back at least **500 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'

2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

Approval Date: 07/23/2021

a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
c. Manufacturer representative shall install the test plug for the initial BOP test.
d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

Approval Date: 07/23/2021

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
    e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not

Approval Date: 07/23/2021

hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. The results of the test shall be reported to the appropriate BLM office.

f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

H_2S Drilling Operations Plan

a. All personnel will be trained in H_2S 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 ≥150' from the wellhead, perpendicular from one another, and easily entered and exited. See H_2S page 5 for more details.

c. H_2S Safety Equipment/Systems:

i. Well Control Equipment

- Flare line will be ≥150' from the wellhead and ignited by a flare gun.
- Beware of SO_2 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 H_2S and SO_2 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. H_2S Detection & Monitoring Equipment

- Every person on site will wear a personal H_2S and SO_2 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 H_2S condition sign will be set at each pad entrance.
- Color-coded condition flag will be installed to indicate current H_2S 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 $\geq$10 will be maintained to control corrosion, H_2S gas returns to the surface, and minimize sulfide stress cracking and embrittlement.
- Drilling mud containing H_2S 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 H_2S where formation pressures are unknown.

vi. Metallurgy

- All equipment that has the potential to be exposed to H_2S will be suitable for H_2S 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 H_2S.

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

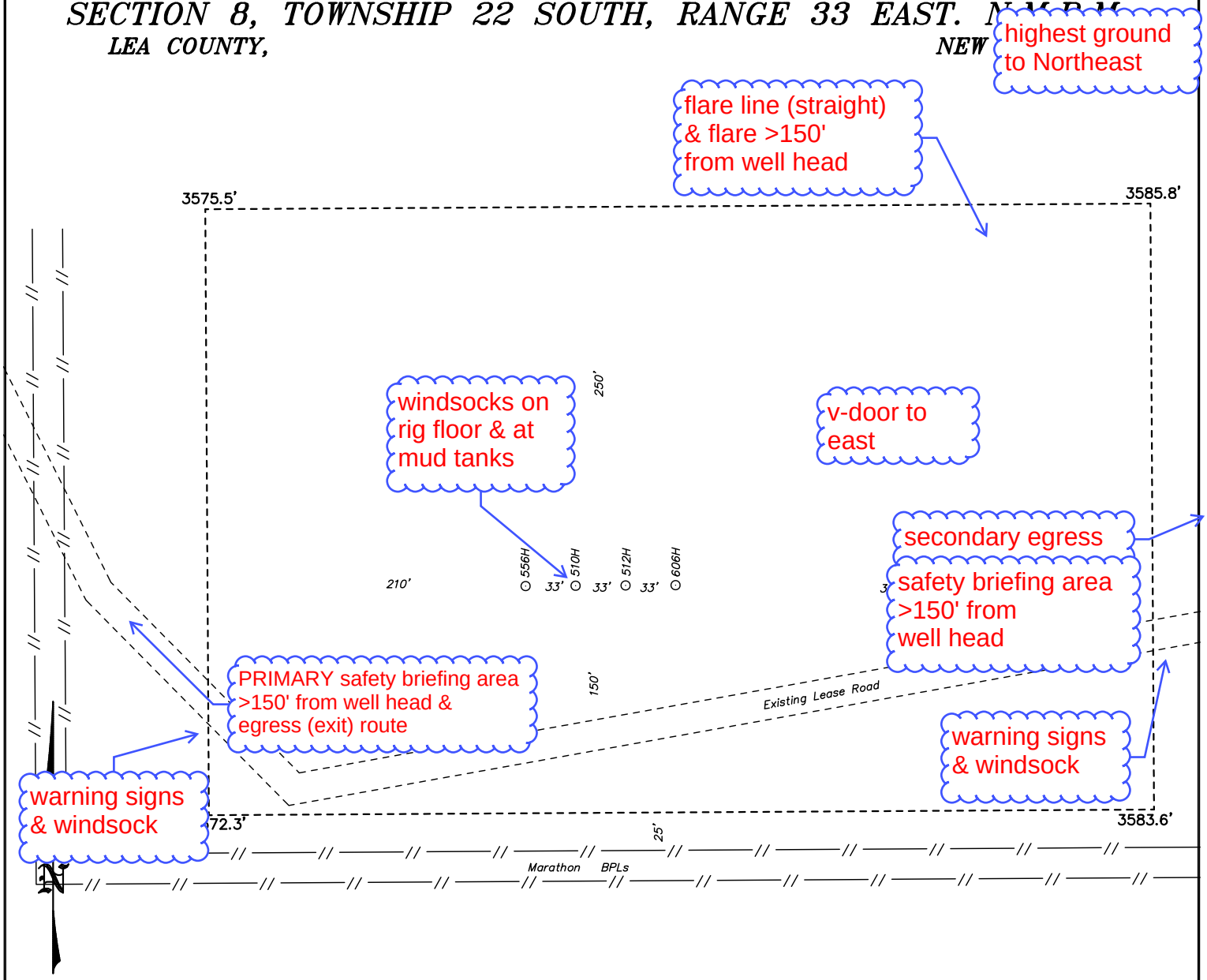
No residents are within 2 miles.

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



GARY L. JONES
NEW MEXICO
7977
REGISTERED PROFESSIONAL LAND SURVEYOR

100 0 100 200 FEET

SCALE: 1" = 100'

ADVANCE ENERGY PARTNERS HAT MESA

REF: DAGGER LAKE SOUTH 8 FED COM 510H / WELL PAD TOPO

THE DAGGER LAKE SOUTH 8 FED COM 510H LOCATED 280' FROM THE SOUTH LINE AND 1642' FROM THE EAST LINE OF SECTION 8, TOWNSHIP 22 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: 35198	Drawn By: K. GOAD	Date: 10-15-2020	Survey Date: 10-15-2020	Sheet 1 of 1 Sheets

Advance Energy Partners Hat Mesa, LLC

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

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

Pad Center

1:27,000

0 0.25 0.5 1

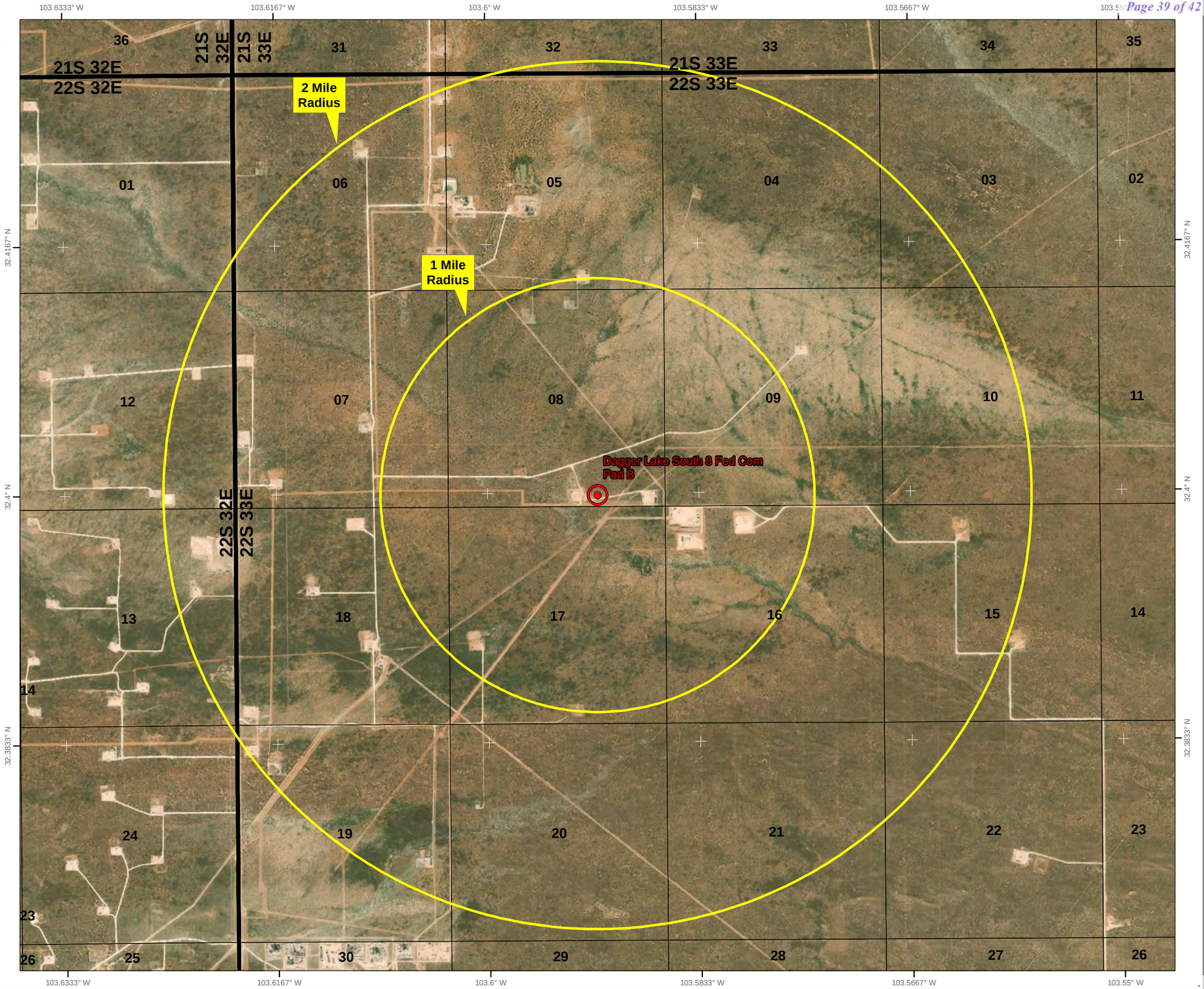
Miles

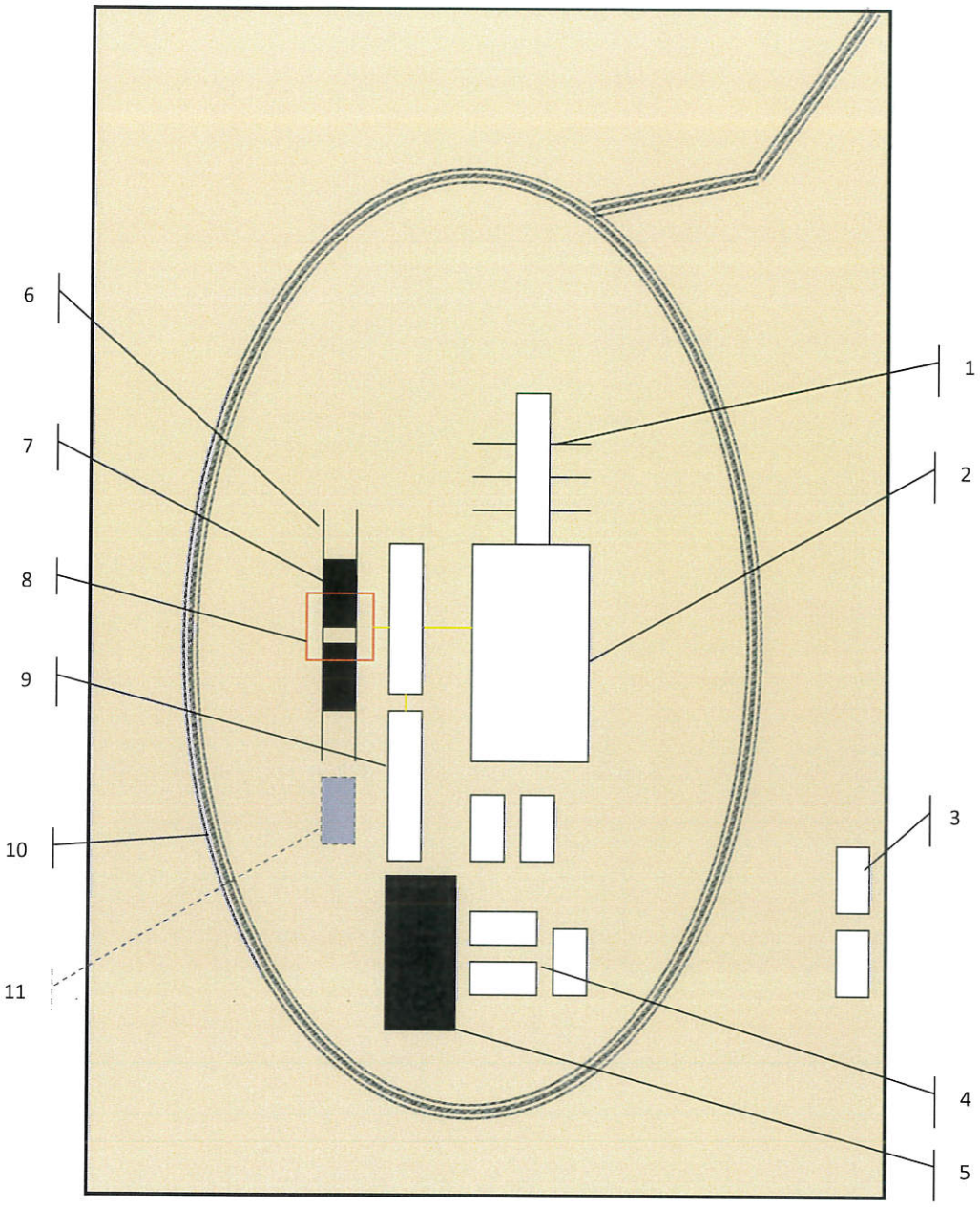
N

NAD 1983 New Mexico State Plane East
FIPS 3001 Feet

PERMITS WEST

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)

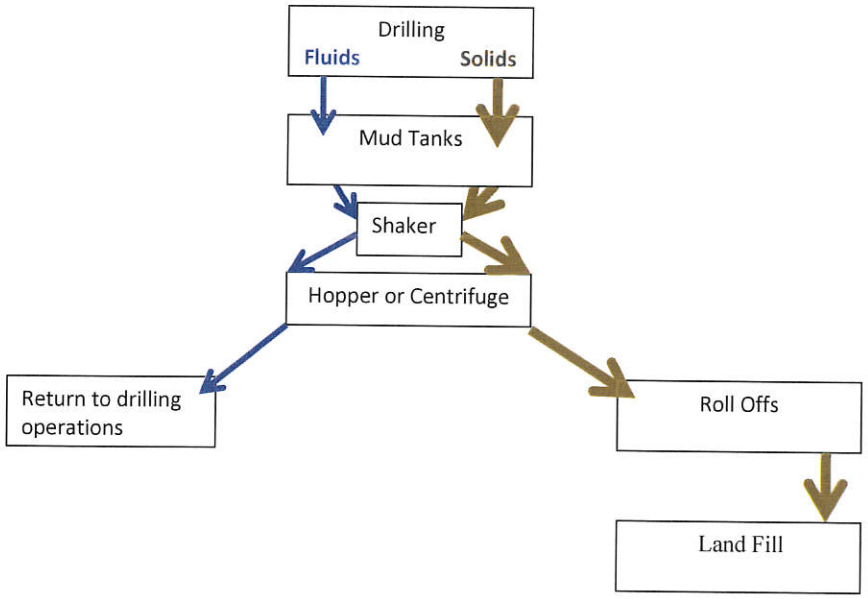
*Not drawn to scale: Closed loop system requires at least 30 feet beyond mud tanks. Ideally 60 feet would be available

Above: Centrifugal Closed Loop System

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

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
37 Verano 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 38524

CONDITIONS

Operator: ADVANCE ENERGY PARTNERS HAT MESA, LLC 11490 Westheimer Rd., Ste 950 Houston, TX 77077	OGRID: 372417
	Action Number: 38524
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	8/2/2021
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	8/2/2021