Form 3160-3
(March 2012)

OCD – HOBBS
05/27/2020
RECEIVED

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM-014155 / NMNM-112934

6. If Indian, Allotee or Tribe Name: N/A

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

8. Lease Name and Well No. [328246]: MARGARITA FEDERAL COM 13 8H

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

9. API Well No.: 30-025- 47202

3a. Address: 11490 WESTHEIMER RD., SUITE 950, HOUSTON TX 77077

3b. Phone No. *(include area code)*: 832 672-4700

10. Field and Pool, or Exploratory [97895]: WILDCAT; BONE SPRING

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

At surface: 745' FNL & 645' FEL 13-21S-32E / LAT 32.484131 / LONG -103.622055

At proposed prod. zone: 2540' FNL & 330' FEL 25-21S-32E/ LAT 32.450172 / LONG -103.623049

11. Sec., T. R. M. or Blk. and Survey or Area: SHL: NENE 13-21S-32E NMPM; BHL: SENE 25-21S-32E NMPM

14. Distance in miles and direction from nearest town or post office*: 23 AIR MILES SW OF MONUMENT, NM

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): SHL: 645' BHL: 100'

16. No. of acres in lease: SHL: 600.00 BHL: 320.00

17. Spacing Unit dedicated to this well: SENE & E2SE4 SEC. 13; E2E2 SEC. 24; & E2NE4 SEC. 25; 21S-32E (360 acres)

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: SHL: 30' (Margarita Fed'l Com 7H)

19. Proposed Depth: TVD: 10730' MD: 22830'

20. BLM/BIA Bond No. on file: BLM NMB001444

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3906' UNGRADED

22. Approximate date work will start*: 09/01/2019

23. Estimated duration: 3 MONTHS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

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 required by the BLM.

25. Signature

Name *(Printed/Typed)*: BRIAN WOOD (PHONE: 505 466-8120)

Date: 05/19/2019

Title: CONSULTANT (FAX: 505 466-9682)

Approved by *(Signature)*: Cody R. Layton

Name *(Printed/Typed)*: Cody R. Layton

Date: 05/21/2020

Title: AFM - LM

Office: CFO

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.

(Continued on page 2)

*(Instructions on page 2)

GCP Rec 05/27/2020

KZ
05/28/2020

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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 1: 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.

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 collects this information to allow 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 Collection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Advance Energy Partners Hat Mesa LLC**
LEASE NO.:	**NMNM014155**
LOCATION:	Section 13, T.21 S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	Margarita Federal Com 13 7H
SURFACE HOLE FOOTAGE:	745'/N & 675'/E
BOTTOM HOLE FOOTAGE	2540'/N & 990'/E

WELL NAME & NO.:	Margarita Federal Com 13 8H
SURFACE HOLE FOOTAGE:	745'/N & 645'/E
BOTTOM HOLE FOOTAGE	2540'/N & 330'/E

COA

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 **Hat Mesa Morrow** pool. 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

Surface casing must be kept fluid filled to meet BLM minimum collapse requirement.

1. The **20** inch surface casing shall be set at approximately **1765 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.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The minimum required fill of cement behind the **13-3/8** inch intermediate casing shall be set at approximately **3500 feet** is:

- 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.**

❖ In R111 Potash Areas if cement does not circulate to surface on the first two salt protection casing strings, the cement on the 3rd casing string must come to surface.

❖ In Capitan Reef 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.

❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:

- Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.

- Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per

shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

3. The minimum required fill of cement behind the **9-5/8** inch intermediate casing shall be set at approximately **5725 feet** is:

    - 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. Cement excess is less than 25%, more cement might be required.**

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

    - Cement should tie-back at least **50 feet** on top of Capitan Reef top. 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. Cement excess is less than 25%, more cement might be required.**

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.

Option 1:

a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.

b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13-3/8** inch intermediate casing shoe shall be **2000 (2M)** psi.

c. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** inch intermediate casing shoe shall be **5000 (5M)** psi.

Option 2:

1. 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 **13-5/8** inch intermediate casing shoe shall be **5000 (5M)** psi.

    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.

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

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.

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

Margarita Fed Com 1-8H MW
Lease Number NMNM014155
8 wells for 4 pads, access roads.
Advance Energy Partners

Well Pad 1

Margarita Fed Com 13 1H
Surface Hole Location: 1046' FNL & 645' FWL, Section 13, T. 21 S., R. 32 E.
Bottom Hole Location: 2540' FNL & 330' FWL, Section 25, T. 21 S, R 32 E.

Margarita Fed Com 13 2H
Surface Hole Location: 1046' FNL & 675' FWL, Section 13, T. 21 S., R. 32 E.
Bottom Hole Location: 2540' FNL & 990' FWL, Section 25, T. 21 S, R 32 E.

Well Pad 2

Margarita Fed Com 13 3H
Surface Hole Location: 1210' FNL & 1917' FWL, Section 13, T. 21 S., R. 32 E.
Bottom Hole Location: 2540' FNL & 330' FWL, Section 25, T. 21 S, R 32 E.

Margarita Fed Com 13 4H
Surface Hole Location: 1046' FNL & 675' FWL, Section 13, T. 21 S., R. 32 E.
Bottom Hole Location: 2540' FNL & 1650' FWL, Section 25, T. 21 S, R 32 E.

Well Pad 3

Margarita Fed Com 13 5H
Surface Hole Location: 229' FNL & 2372' FEL, Section 13, T. 21 S., R. 32 E.
Bottom Hole Location: 2540' FNL & 2310' FEL, Section 25, T. 21 S, R 32 E.

Margarita Fed Com 13 6H
Surface Hole Location: 229' FNL & 2342' FEL, Section 13, T. 21 S., R. 32 E.
Bottom Hole Location: 2540' FNL & 1650' FEL, Section 25, T. 21 S, R 32 E.

Well Pad 4

Margarita Fed Com 13 7H
Surface Hole Location: 745' FNL & 675' FEL, Section 13, T. 21 S., R. 32 E.
Bottom Hole Location: 2540' FNL & 990' FEL, Section 25, T. 21 S, R 32 E.

Margarita Fed Com 13 8H
Surface Hole Location: 745' FNL & 675' FEL, Section 13, T. 21 S., R. 32 E.
Bottom Hole Location: 2540' FNL & 990' FEL, Section 25, T. 21 S, R 32 E.

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Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

☐ **Permit Expiration**
☐ **Archaeology, Paleontology, and Historical Sites**
☐ **Noxious Weeds**
☒ **Special Requirements**
Lesser Prairie-Chicken Timing Stipulations
Ground-level Abandoned Well Marker
Hydrology

☐ **Construction**
Notification
Topsoil
Closed Loop System
Federal Mineral Material Pits
Well Pads
Roads
☐ **Road Section Diagram**
☐ **Production (Post Drilling)**
Well Structures & Facilities
☐ **Interim Reclamation**
☐ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

Timing Limitation Exceptions:
The Carlsbad Field Office will publish an annual map of where the LPC timing and noise stipulations and conditions of approval (Limitations) will apply for the identified year (between March 1 and June 15) based on the latest survey information. The LPC Timing Area map will identify areas which are Habitat Areas (HA), Isolated Population Area (IPA), and Primary Population Area (PPA). The LPC Timing Area map will also have an area in red crosshatch. The red crosshatch area is the only area where an operator is required to submit a request for exception to the LPC Limitations. If an operator is operating outside the red crosshatch area, the LPC Limitations do not apply for that year and an exception to LPC Limitations is not required.

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

Hydrology:

The entire well pad(s) will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The compacted berm shall be constructed at a minimum of 12 inches with impermeable mineral material (e.g. caliche). Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The top soil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control. If fluid collects

within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

Surface disturbance near playas should be avoided to maintain the integrity of the recharge zone and the resource for water infiltration and wildlife habitat.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching
Ditching shall be required on both sides of the road.

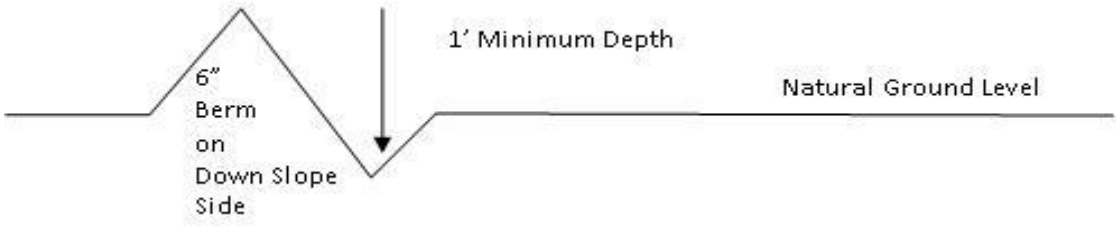
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ lead-off ditch interval

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

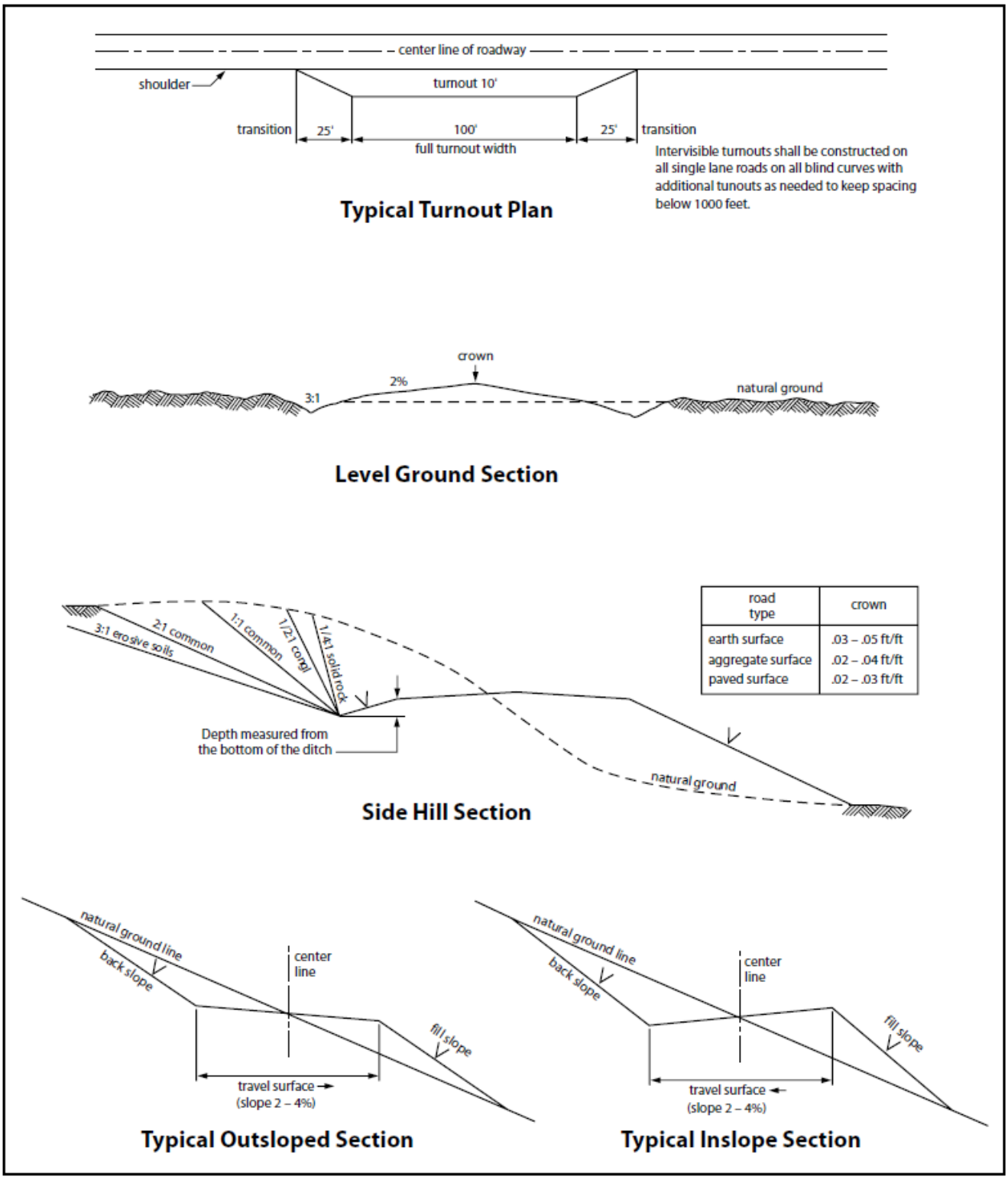


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone*.) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

VIII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

IX. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory

revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture for LPC Sand/Shinnery Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed

APD ID: 10400041978 **Submission Date:** 05/21/2019

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: MARGARITA FEDERAL COM 13 **Well Number:** 8H

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
459753	QUATERNARY	3906	0	0	OTHER : Caliche	USEABLE WATER	N
459754	RUSTLER ANHYDRITE	2191	1715	1715		NONE	N
707256	TANSILL	613	3293	3293	DOLOMITE	NONE	N
707257	YATES	570	3336	3336	SANDSTONE	NONE	N
707258	SEVEN RIVERS	366	3540	3540	GYPSUM	NONE	N
610786	CAPITAN REEF	-1686	5592	5592	LIMESTONE	USEABLE WATER	N
459755	BELL CANYON	-1769	5675	5675	LIMESTONE	NATURAL GAS, OIL	N
459756	CHERRY CANYON	-1770	5676	5676	OTHER : Shale	NATURAL GAS, OIL	N
459757	BRUSHY CANYON LOWER	-4707	8613	8623	SANDSTONE	NATURAL GAS, OIL	N
459758	AVALON SAND	-5131	9037	9048		NATURAL GAS, OIL	N
459759	BONE SPRING 1ST	-6080	9986	9999	SANDSTONE	NATURAL GAS, OIL	N
459760	BONE SPRING 2ND	-6627	10533	10608	SANDSTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M **Rating Depth:** 12000

Equipment: See attached Helmerich and Payne BOP Testing – BLM manual for equipment and procedures.

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. Variance is requested to use a sacrificial wellhead instead of a diverter. Advance will run surface casing with a sacrificial head so BOPE can be nipped up and tested as required by Onshore Order 2 before drilling out the surface casing. Once the intermediate 1 hole is drilled, cased, and cemented; then the sacrificial wellhead will be cut off and the 13.625" 5K MN-DS WH will be installed. BOPE will then be nipped up and tested as required by Onshore Order 2 before drilling out the intermediate 1 casing.
Testing Procedure: See attached Helmerich and Payne BOP Testing – BLM manual for equipment and procedures.

Choke Diagram Attachment:

Margarita_8H_Choke_20190520112328.pdf

BOP Diagram Attachment:

Margarita_8H_BOP_20190520112341.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	24	20.0	NEW	API	N	0	1785	0	1785	3906		1785	J-55	94	BUTT	1.125	1.125	DRY	1.6	DRY	1.6
2	INTERMEDIATE	17.5	13.375	NEW	API	N	0	3600	0	3600	3906		3600	J-55	54.5	BUTT	1.125	1.125	DRY	1.6	DRY	1.6
3	INTERMEDIATE	12.25	9.625	NEW	API	Y	0	4000	0	4000	3906		4000	J-55	40	LT&C	1.125	1.125	DRY	1.6	DRY	1.6
4	INTERMEDIATE	12.25	9.625	NEW	API	Y	4000	5692	4000	5692			1692	HCL-80	40	LT&C	1.125	1.125	DRY	1.6	DRY	1.6
5	PRODUCTION	8.75	5.5	NEW	API	N	0	12138	0	10730	3906		12138	HCP-110	20	OTHER - CDC-HTQ	1.125	1.125	DRY	1.6	DRY	1.6
6	PRODUCTION	8.5	5.5	NEW	API	Y	12138	22830	10730	10730			10692	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: MARGARITA FEDERAL COM 13 **Well Number:** 8H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Margarita_8H_Casing_Design_Assumptions_Revised_20200304105837.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Margarita_8H_Casing_Design_Assumptions_20190520114112.pdf

Casing Design Assumptions and Worksheet(s):

Margarita_8H_Casing_Design_Assumptions_Revised_20200304105901.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Margarita_8H_Casing_Design_Assumptions_Revised_20200304105921.pdf

Casing Design Assumptions and Worksheet(s):

Margarita_8H_Casing_Design_Assumptions_Revised_20200304105941.pdf

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: MARGARITA FEDERAL COM 13 **Well Number:** 8H

Casing Attachments

Casing ID: 4 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Margarita_8H_Casing_Design_Assumptions_Revised_20200304110003.pdf

Casing Design Assumptions and Worksheet(s):

Margarita_8H_Casing_Design_Assumptions_Revised_20200304110024.pdf

Casing ID: 5 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Margarita_8H_5.5in_Casing_Spec_20190520113344.pdf

Margarita_8H_Casing_Design_Assumptions_Revised_20200304110050.pdf

Casing ID: 6 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Margarita_8H_5.5in_Casing_Spec_20191216103634.pdf

Casing Design Assumptions and Worksheet(s):

Margarita_8H_Casing_Design_Assumptions_Revised_20200304110112.pdf

Section 4 - Cement

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: MARGARITA FEDERAL COM 13 **Well Number:** 8H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1785	1180	1.8	13.5	2124	45	Class C	4% gel + 5% salt + ¼ pound per sack poly flake + 0.005 gallon per sack No Foam V1A
SURFACE	Tail		0	1785	370	1.34	14.8	495	45	Class C	None
INTERMEDIATE	Lead		0	3600	1355	2.19	12.7	2967	50	Class C	6% gel + 5% salt + 0.3% C-20 + ¼ pound per sack poly flake + 0.005 gallon per sack No Foam V1A
INTERMEDIATE	Tail		0	3600	480	1.33	14.8	638	50	Class C	None
INTERMEDIATE	Lead		0	4000	810	2.19	12.7	1773	20	Class C	6% gel + 5% salt + 0.4% C-20 + 0.005 gallon per sack No Foam V1A
INTERMEDIATE	Tail		0	4000	340	1.33	14.8	452	20	Class C	0.2% C-20 + 0.005 gallon per sack No Foam V1A
INTERMEDIATE	Lead		4000	5692	810	2.19	12.7	1773	20	Class C	6% gel + 5% salt + 0.4% C-20 + 0.005 gallon per sack No Foam V1A
INTERMEDIATE	Tail		4000	5692	340	1.33	14.8	452	20	Class C	+ 0.2% C-20 + 0.005 gallon per sack No Foam V1A
PRODUCTION	Lead		5642	22830	740	2.46	11.8	1820	30	50% B Poz	50% Class H + 10% gel + 5% salt + 0.05% SuspendaCem 6302 + 0.4% C-20 + 0.005 gallon per sack No Foam V1A
PRODUCTION	Tail		5642	22830	2505	1.33	14.8	3331	30	Class H	SuspendaCem 6302 + 0.25% C-20 + 0.4% C-47B + 0.005 gallon per sack No Foam V1A
PRODUCTION	Lead		5642	22830	740	2.46	11.8	1820	30	50% B Poz	50% Class H + 10% gel + 5% salt + 0.05% SuspendaCem 6302 + 0.4% C-20 + 0.005 gallon per sack No Foam V1A
PRODUCTION	Tail		5642	22830	2505	1.33	14.8	3331	30	Class H	0.1% + SuspendaCem 6302 + 0.25% C-20 + 0.4% C-47B + 0.005 gallon per sack No

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: MARGARITA FEDERAL COM 13 **Well Number:** 8H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
											Foam V1A

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
5745	11152	OTHER : Cut brine	8.9	9.2							
0	1785	OTHER : Fresh water	8.4	9.8							
1785	3600	OTHER : Brine	10	10.5							
3600	5745	OTHER : Fresh water	8.4	8.6							
11152	22830	OIL-BASED MUD	9.2	9.5							

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: MARGARITA FEDERAL COM 13 **Well Number:** 8H

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

None

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

OTH

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: 5257 **Anticipated Surface Pressure:** 2859

Anticipated Bottom Hole Temperature(F): 135

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:

Margarita_8H_H2S_Plan_20190520115042.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Margarita_8H_Horizontal_Drill_Plan_20190520115103.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

CoFlex_Certs_20190520115127.pdf
Margarita_8H_Speedhead_Specs_20190520115137.pdf
Margarita_8H_Sacrificial_Wellhead_20200403165018.pdf
Sacrificial_Wellhead_Spec_20200423152825.pdf
Margarita_8H_Drill_Plan_Revised_Final_20200429085629.pdf

Other Variance attachment:

Margarita_8H_Casing_Cementing_Variance_Request_20190520115115.pdf

Drilling Program

1. ESTIMATED TOPS

Formation Name	TVD	MD	Bearing
Quaternary caliche	000'	000'	water
Rustler anhydrite	1715'	1715'	N/A
Tansill dolomite	3293'	3293'	N/A
Yates sandstone	3336'	3336'	N/A
Seven Rivers gypsum	3540'	3540'	N/A
Capitan Reef base	5592'	5592'	water
Bell Canyon limestone base	5675'	5675'	hydrocarbons
Cherry Canyon shale	5676'	5676'	hydrocarbons
Lower Brushy Canyon sandstone	8613'	8623'	hydrocarbons
Avalon shale	9037'	9048'	hydrocarbons
1st Bone Spring sandstone	9986'	9999'	hydrocarbons
(KOP	10014'	10027'	hydrocarbons
2nd Bone Spring sandstone	10533'	10608'	hydrocarbons
TD	10730'	22830'	hydrocarbons

2. NOTABLE ZONES

Second Bone Spring sandstone is the goal. Closest water well (CP 00794 POD 1) is 0.31 miles east. Depth to water was not reported in the 160' deep well.

3. PRESSURE CONTROL

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

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.

Variance is requested to use a sacrificial wellhead instead of a diverter. Advance will run surface casing with a sacrificial head so BOPE can be nippled up and tested as required by Onshore Order 2 before drilling out the surface casing. Once the intermediate 1 hole is drilled, cased, and cemented; then the sacrificial wellhead will be cut off and the 13.625" 5K MN-DS WH will be installed. BOPE will then be nippled up and tested as required by Onshore Order 2 before drilling out the intermediate 1 casing.

4. CASING & CEMENT

All casing will be API and new. See attached casing assumption worksheet.

Advance Energy Partners Hat Mesa, LLC
Margarita Federal Com 13 8H
SHL 745' FNL & 645' FEL Section 13
BHL 2540' FNL & 990' FEL Section 25
T. 21 S., R. 32 E., Lea County, NM

Hole OD	Set MD	Set TVD	Casing OD	Weight (lb/ft)	Grade	Joint	Collapse	Burst	Tension
24"	0' - 1785'	0' - 1785'	Surface 20"	94	J-55	BTC	1.125	1.125	1.6
17.5"	0' - 3600'	0' - 3600'	Intermed. 1 13.375"	54.5	J-55	BTC	1.125	1.125	1.6
12.25"	0' - 4000'	0' - 4000'	Intermed. 2 9.625"	40	J-55	LTC	1.125	1.125	1.6
12.25"	4000' - 5692'	4000' - 5692'	Intermed. 2 9.625"	40	HCL-80	LTC	1.125	1.125	1.6
8.75"	0' - 12138'	0' - 10730'	Product. 5.5"	20	HCP-110	CDC-HTQ	1.125	1.125	1.6
8.5"	12138' - 22830'	10730' - 10730'	Product. 5.5"	20	HCP-110	CDC-HTQ	1.125	1.125	1.6

Bow spring centralizers will be installed on every fourth joint of the surface (≈13-14 centralizers) and intermediate (≈40) casing strings.

Approximately 35 single bow centralizers will be installed on the production casing from 5592' to 10813' (TVD). Approximately 36 double box centralizers will be installed from 10813' to 12338'; Approximately 127 solid body centralizers will be installed from 12338' to TD.

Variance is requested for an option to use a surface rig to drill the surface hole and set and cement the surface casing. If time between rigs would not be allow presetting the surface casing, then the primary rig will drill all of the well.

Name	Type	Sacks	Yield	Cu. Ft.	Weight	Blend
Surface	Lead	1180	1.8	2124	13.5	Class C + 4% gel + 5% salt + ¼ pound per sack poly flake + 0.005 gallon per sack No Foam V1A
	Tail	370	1.34	495	14.8	Class C + 1% $CaCl_2$ + 0.005 gallon per sack No Foam V1A
TOC = GL		45% Excess				
1st Intermediate	Lead	1355	2.19	2967	12.7	Class C + 6% gel + 5% salt + 0.3% C-20 + ¼ pound per sack poly flake + 0.005 gallon per sack No Foam V1A
	Tail	480	1.33	638	14.8	Class C + 0.005 gallon per sack No Foam V1A
TOC = GL		50% Excess				
2nd Intermediate	Lead	810	2.19	1773	12.7	Class C + 6% gel + 5% salt + 0.4% C-20 + 0.005 gallon per sack No Foam V1A
	Tail	340	1.33	452	14.8	Class C + 0.2% C-20 + 0.005 gallon per sack No Foam V1A
TOC = GL		20% excess				
Production	Lead	740	2.46	1820	11.8	50% B Poz + 50% Class H + 10% gel + 5% salt + 0.05% SuspendaCem 6302 + 0.4% C-20 + 0.005 gallon per sack No Foam V1A
	Tail	2505	1.33	3331	14.8	Class H + 0.1% + SuspendaCem 6302 + 0.25% C-20 + 0.4% C-47B + 0.005 gallon per sack No Foam V1A
TOC = 5642'		30% Excess				

5. MUD PROGRAM

An electronic pit volume totalizer (PVT) will be used to monitor volume, flow rate, pump pressure, and stroke rate. 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. A closed loop system will be used.

Type	Interval (MD)	lb/gal	Viscosity	Fluid Loss
fresh water	0' - 1785'	8.4 – 9.8	28 - 36	N/C
brine	1785' - 3600'	10.0 – 10.5	28 - 29	N/C (6-8 @ TD)
fresh water	3600' - 5745'	8.4 – 8.6	50 - 60	N/C (6-8 @ TD)
Cut brine	5745' – 11152'	8.9 – 9.2	28 - 30	N/C
OBM	11152' – 22830'	9.2 – 9.5	55 - 65	6 - 8

6. CORES, TESTS, & LOGS

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

7. DOWN HOLE CONDITIONS

No abnormal pressure or temperature is expected. Maximum expected bottom hole pressure is ≈5257 psi. Expected bottom hole temperature is ≈135° F. H2S monitoring and detection equipment will be used from surface casing point to TD.

8. OTHER INFORMATION

Anticipated spud date is upon approval. It is expected it will take ≈3-4 months to drill and complete the well.

Margarita Federal Com 13 8H Casing/Cementing Variance Request

A variance is requested for an option to use a surface rig to drill the surface hole and set and cement the surface casing. If time between rigs would not be allow presetting the surface casing, then the primary rig will drill all of the well.

Advance Energy Partners, LLC

Margarita FED COM 13-8H
Lea County, New Mexico
Plan 0.1

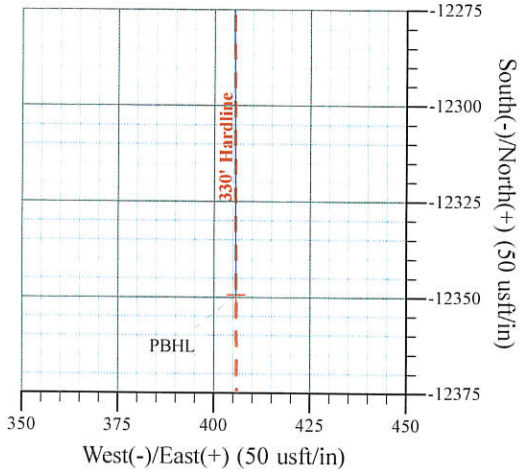
SITE DETAILS: Margarita FED COM 13-8H	
Site Centre Northing:	540589.00
Easting:	760691.20
Positional Uncertainity:	0.00
Convergence:	0.38
Local North:	Grid

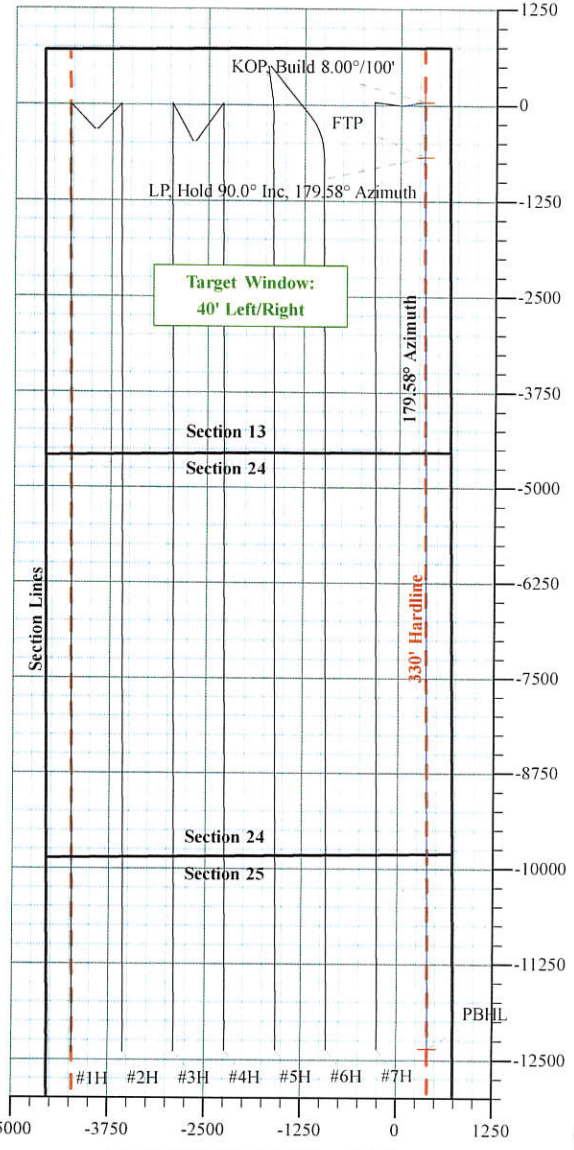
Azimuths to Grid North
True North: -0.38°
Magnetic North: 6.33°

Magnetic Field
Strength: 48154.0nT
Dip Angle: 60.32°
Date: 3/19/2019
Model: MVHD

Magnetic North: 6.33° to Grid North

PROJECT DETAILS:	Lea County, New Mexico
Geodetic System:	US State Plane 1983
Datum:	North American Datum 1983
Ellipsoid:	GRS 1980
Zone:	New Mexico Eastern Zone
System Datum:	Mean Sea Level
Depth Reference:	Est.3906'GL+27'KB @ 3933.00usft





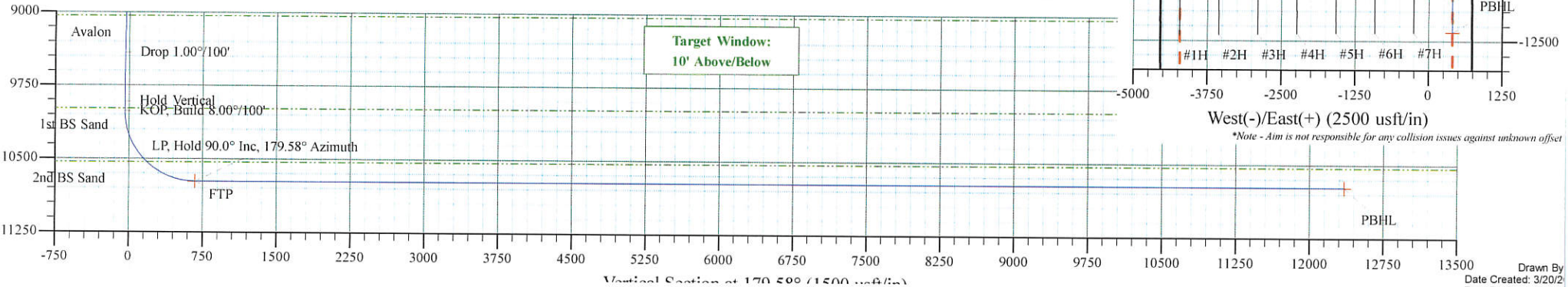
*Note - Aim is not responsible for any collision issues against unknown offset

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	5779.86	0.00	0.00	5779.86	0.00	0.00	0.00	0.00	0.00	Build 1.00°/100'
3	6279.86	5.00	81.86	6279.22	3.09	21.58	1.00	81.86	-2.93	Hold 5.0° Inc, 81.86° Azimuth
4	9427.04	5.00	81.86	9414.43	41.91	293.12	0.00	0.00	-39.76	Drop 1.00°/100'
5	9927.04	0.00	0.00	9913.80	45.00	314.70	1.00	180.00	-42.69	Hold Vertical
6	10027.04	0.00	0.00	10013.80	45.00	314.70	0.00	0.00	-42.69	KOP, Build 8.00°/100'
7	11152.04	90.00	179.58	10730.00	-671.18	319.96	8.00	179.58	673.51	LP, Hold 90.0° Inc, 179.58° Azimuth
8	22830.48	90.00	179.58	10730.00	-12349.30	405.80	0.00	0.00	12351.94	PBHL

DESIGN TARGET DETAILS

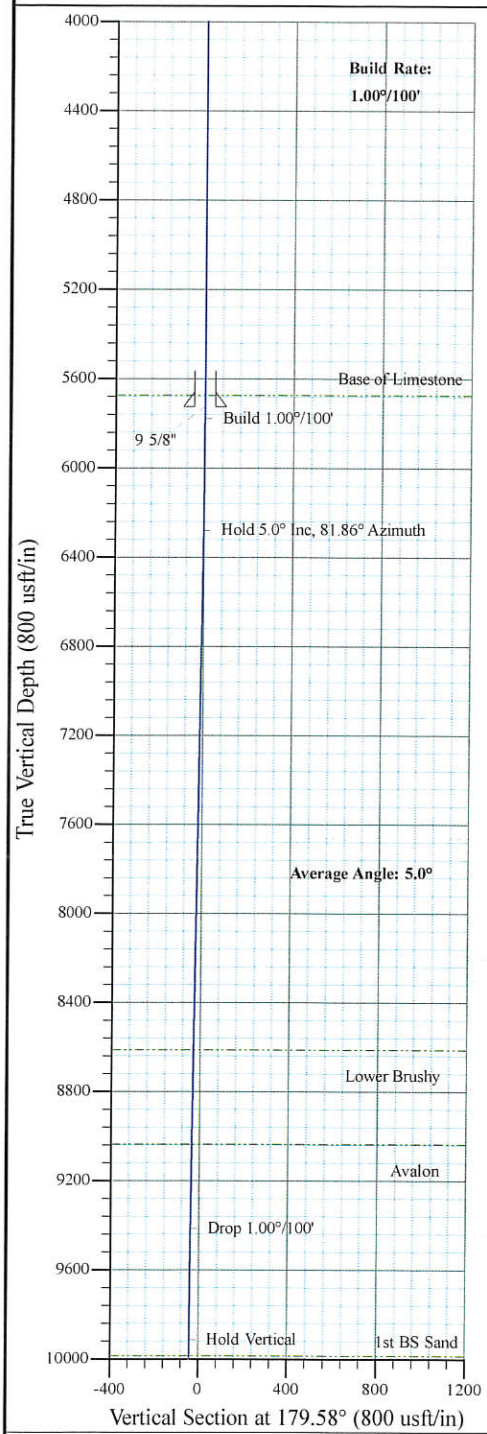
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
KOP (Margarita8H)	0.00	45.00	314.70	540634.00	761005.90	32° 29' 3.296 N	103° 37' 15.371 W
FTP (Margarita8H)	10730.00	-671.00	319.40	539918.00	761010.60	32° 28' 56.211 N	103° 37' 15.372 W
PBHL (Margarita8H)	10730.00	-12349.30	405.80	528239.70	761097.00	32° 27' 0.649 N	103° 37' 15.274 W

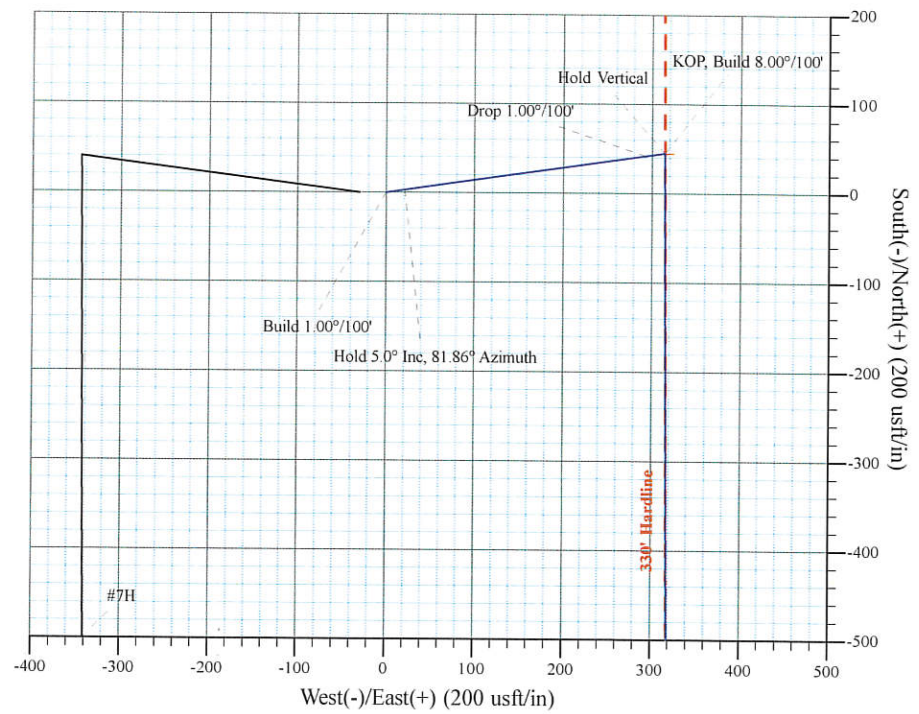


Drawn By
Date Created: 3/20/2

Advance Energy Partners, LLC

Margarita FED COM 13-8H
Lea County, New Mexico
Plan 0.1





Azimuths to Grid North
True North: -0.38°
Magnetic North: 6.33°

Magnetic Field
Strength: 48154.0nT
Dip Angle: 60.32°
Date: 3/19/2019
Model: MVHD

Magnetic North: 6.33° to Grid North

SITE DETAILS: Margarita FED COM 13-8H	
Site Centre Northing:	540589.00
Easting:	760691.20
Positional Uncertainity:	0.00
Convergence:	0.38
Local North:	Grid
Depth Reference:	Est.3906'GL+27'KB @ 3933.00usft

CASING DETAILS

TVD	MD	Name
1765.00	1765.00	13 3/8"
5725.00	5725.00	9 5/8"

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

SLOTS

Slot Name	+N/-S	+E/-W
1H	-331.60	-3973.30
2H	-331.40	-3943.40
3H	-484.70	-2700.40
4H	-484.30	-2670.40
5H	504.30	-1730.40
6H	504.30	-1700.20
7H	-0.10	-30.00
8H	0.00	0.00

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

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP (Margarita8H)	10730.00	-671.00	319.40	539918.00	761010.60	32° 28' 56.211 N	103° 37' 15.372 W
KOP (Margarita8H)	0.00	45.00	314.70	540634.00	761005.90	32° 29' 3.296 N	103° 37' 15.371 W
PBHL (Margarita8H)	10730.00	-12349.30	405.80	528239.70	761097.00	32° 27' 0.649 N	103° 37' 15.274 W

Drawn By: IG
Date Created: 3/20/2019
Date Revised: 3/20/2019
File: Advance Energy - Margarita FED COM 13-8H Plan 0.1 Surface.wpc

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	5779.86	0.00	0.00	5779.86	0.00	0.00	0.00	0.00	0.00	Build 1.00°/100'
3	6279.86	5.00	81.86	6279.22	3.09	21.58	1.00	81.86	-2.93	Hold 5.0° Inc, 81.86° Azimuth
4	9427.04	5.00	81.86	9414.43	41.91	293.12	0.00	0.00	-39.76	Drop 1.00°/100'
5	9927.04	0.00	0.00	9913.80	45.00	314.70	1.00	180.00	-42.69	Hold Vertical
6	10027.04	0.00	0.00	10013.80	45.00	314.70	0.00	0.00	-42.69	KOP, Build 8.00°/100'
7	11152.04	90.00	179.58	10730.00	-671.18	319.96	8.00	179.58	673.51	LP, Hold 90.0° Inc, 179.58° Azimuth
8	22830.48	90.00	179.58	10730.00	-12349.30	405.80	0.00	0.00	12351.94	PBHL

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	**Local Co-ordinate Reference:**	Site Margarita FED COM 13-8H
Project:	Lea County, New Mexico	**TVD Reference:**	Est.3906'GL+27'KB @ 3933.00usft
Site:	Margarita FED COM 13-8H	**MD Reference:**	Est.3906'GL+27'KB @ 3933.00usft
Well:	#8H	**North Reference:**	Grid
Wellbore:	Lateral 1r0	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 0.1	**Database:**	EDM 5000.14 Single User Db

Project Lea County, New Mexico

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Margarita FED COM 13-8H

Site Position:		**Northing:**	540,589.00 usft	**Latitude:**	32° 29' 2.871 N
From:	Map	**Easting:**	760,691.20 usft	**Longitude:**	103° 37' 19.049 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.38 °

Well #8H - Slot 8H

Well Position	**+N/-S**	0.00 usft	**Northing:**	540,589.00 usft	**Latitude:**	32° 29' 2.871 N
	+E/-W	0.00 usft	**Easting:**	760,691.20 usft	**Longitude:**	103° 37' 19.049 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,906.00 usft

Wellbore Lateral 1r0

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	3/19/2019	6.72	60.32	48,153.96472825

Design Plan 0.1

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	179.58

Survey Tool Program **Date** 3/26/2019

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	22,830.48	Plan 0.1 (Lateral 1r0)	B001Mb_MWD+HRGM	OWSG MWD + HRGM

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP (Margarita8H)									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	**Local Co-ordinate Reference:**	Site Margarita FED COM 13-8H
Project:	Lea County, New Mexico	**TVD Reference:**	Est.3906'GL+27'KB @ 3933.00usft
Site:	Margarita FED COM 13-8H	**MD Reference:**	Est.3906'GL+27'KB @ 3933.00usft
Well:	#8H	**North Reference:**	Grid
Wellbore:	Lateral 1r0	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 0.1	**Database:**	EDM 5000.14 Single User Db

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,715.00	0.00	0.00	1,715.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,765.00	0.00	0.00	1,765.00	0.00	0.00	0.00	0.00	0.00	0.00
13 3/8"									
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	**Local Co-ordinate Reference:**	Site Margarita FED COM 13-8H
Project:	Lea County, New Mexico	**TVD Reference:**	Est.3906'GL+27'KB @ 3933.00usft
Site:	Margarita FED COM 13-8H	**MD Reference:**	Est.3906'GL+27'KB @ 3933.00usft
Well:	#8H	**North Reference:**	Grid
Wellbore:	Lateral 1r0	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 0.1	**Database:**	EDM 5000.14 Single User Db

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,675.00	0.00	0.00	5,675.00	0.00	0.00	0.00	0.00	0.00	0.00
Base of Limestone									
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,725.00	0.00	0.00	5,725.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
5,779.86	0.00	0.00	5,779.86	0.00	0.00	0.00	0.00	0.00	0.00
Build 1.00°/100'									
5,800.00	0.20	81.86	5,800.00	0.01	0.04	0.00	1.00	1.00	0.00
5,900.00	1.20	81.86	5,899.99	0.18	1.25	-0.17	1.00	1.00	0.00
6,000.00	2.20	81.86	5,999.95	0.60	4.19	-0.57	1.00	1.00	0.00
6,100.00	3.20	81.86	6,099.83	1.27	8.85	-1.20	1.00	1.00	0.00
6,200.00	4.20	81.86	6,199.62	2.18	15.24	-2.07	1.00	1.00	0.00
6,279.86	5.00	81.86	6,279.22	3.09	21.58	-2.93	1.00	1.00	0.00
Hold 5.0° Inc, 81.86° Azimuth									
6,300.00	5.00	81.86	6,299.29	3.33	23.32	-3.16	0.00	0.00	0.00
6,400.00	5.00	81.86	6,398.91	4.57	31.95	-4.33	0.00	0.00	0.00
6,500.00	5.00	81.86	6,498.53	5.80	40.58	-5.50	0.00	0.00	0.00
6,600.00	5.00	81.86	6,598.15	7.04	49.20	-6.68	0.00	0.00	0.00
6,700.00	5.00	81.86	6,697.77	8.27	57.83	-7.85	0.00	0.00	0.00
6,800.00	5.00	81.86	6,797.39	9.50	66.46	-9.02	0.00	0.00	0.00
6,900.00	5.00	81.86	6,897.01	10.74	75.09	-10.19	0.00	0.00	0.00
7,000.00	5.00	81.86	6,996.63	11.97	83.72	-11.36	0.00	0.00	0.00
7,100.00	5.00	81.86	7,096.24	13.20	92.34	-12.53	0.00	0.00	0.00
7,200.00	5.00	81.86	7,195.86	14.44	100.97	-13.70	0.00	0.00	0.00
7,300.00	5.00	81.86	7,295.48	15.67	109.60	-14.87	0.00	0.00	0.00
7,400.00	5.00	81.86	7,395.10	16.91	118.23	-16.04	0.00	0.00	0.00
7,500.00	5.00	81.86	7,494.72	18.14	126.85	-17.21	0.00	0.00	0.00
7,600.00	5.00	81.86	7,594.34	19.37	135.48	-18.38	0.00	0.00	0.00
7,700.00	5.00	81.86	7,693.96	20.61	144.11	-19.55	0.00	0.00	0.00
7,800.00	5.00	81.86	7,793.58	21.84	152.74	-20.72	0.00	0.00	0.00
7,900.00	5.00	81.86	7,893.20	23.07	161.37	-21.89	0.00	0.00	0.00
8,000.00	5.00	81.86	7,992.82	24.31	169.99	-23.06	0.00	0.00	0.00
8,100.00	5.00	81.86	8,092.44	25.54	178.62	-24.23	0.00	0.00	0.00
8,200.00	5.00	81.86	8,192.06	26.78	187.25	-25.40	0.00	0.00	0.00
8,300.00	5.00	81.86	8,291.68	28.01	195.88	-26.57	0.00	0.00	0.00
8,400.00	5.00	81.86	8,391.30	29.24	204.51	-27.74	0.00	0.00	0.00

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	**Local Co-ordinate Reference:**	Site Margarita FED COM 13-8H
Project:	Lea County, New Mexico	**TVD Reference:**	Est.3906'GL+27'KB @ 3933.00usft
Site:	Margarita FED COM 13-8H	**MD Reference:**	Est.3906'GL+27'KB @ 3933.00usft
Well:	#8H	**North Reference:**	Grid
Wellbore:	Lateral 1r0	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 0.1	**Database:**	EDM 5000.14 Single User Db

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,500.00	5.00	81.86	8,490.92	30.48	213.13	-28.91	0.00	0.00	0.00
8,600.00	5.00	81.86	8,590.54	31.71	221.76	-30.08	0.00	0.00	0.00
8,622.55	5.00	81.86	8,613.00	31.99	223.71	-30.35	0.00	0.00	0.00
Lower Brushy									
8,700.00	5.00	81.86	8,690.16	32.94	230.39	-31.25	0.00	0.00	0.00
8,800.00	5.00	81.86	8,789.78	34.18	239.02	-32.42	0.00	0.00	0.00
8,900.00	5.00	81.86	8,889.40	35.41	247.64	-33.60	0.00	0.00	0.00
9,000.00	5.00	81.86	8,989.01	36.65	256.27	-34.77	0.00	0.00	0.00
9,048.17	5.00	81.86	9,037.00	37.24	260.43	-35.33	0.00	0.00	0.00
Avalon									
9,100.00	5.00	81.86	9,088.63	37.88	264.90	-35.94	0.00	0.00	0.00
9,200.00	5.00	81.86	9,188.25	39.11	273.53	-37.11	0.00	0.00	0.00
9,300.00	5.00	81.86	9,287.87	40.35	282.16	-38.28	0.00	0.00	0.00
9,400.00	5.00	81.86	9,387.49	41.58	290.78	-39.45	0.00	0.00	0.00
9,427.04	5.00	81.86	9,414.43	41.91	293.12	-39.76	0.00	0.00	0.00
Drop 1.00°/100'									
9,500.00	4.27	81.86	9,487.15	42.75	298.95	-40.56	1.00	-1.00	0.00
9,600.00	3.27	81.86	9,586.93	43.68	305.46	-41.44	1.00	-1.00	0.00
9,700.00	2.27	81.86	9,686.81	44.36	310.25	-42.09	1.00	-1.00	0.00
9,800.00	1.27	81.86	9,786.77	44.80	313.31	-42.50	1.00	-1.00	0.00
9,900.00	0.27	81.86	9,886.76	44.99	314.64	-42.68	1.00	-1.00	0.00
9,927.04	0.00	0.00	9,913.80	45.00	314.70	-42.69	1.00	-1.00	-302.69
Hold Vertical									
9,999.24	0.00	0.00	9,986.00	45.00	314.70	-42.69	0.00	0.00	0.00
1st BS Sand									
10,000.00	0.00	0.00	9,986.76	45.00	314.70	-42.69	0.00	0.00	0.00
10,027.04	0.00	0.00	10,013.80	45.00	314.70	-42.69	0.00	0.00	0.00
KOP, Build 8.00°/100'									
10,050.00	1.84	179.58	10,036.75	44.63	314.70	-42.32	8.00	8.00	0.00
10,100.00	5.84	179.58	10,086.63	41.29	314.73	-38.98	8.00	8.00	0.00
10,150.00	9.84	179.58	10,136.15	34.47	314.78	-32.16	8.00	8.00	0.00
10,200.00	13.84	179.58	10,185.08	24.22	314.85	-21.91	8.00	8.00	0.00
10,250.00	17.84	179.58	10,233.17	10.58	314.95	-8.27	8.00	8.00	0.00
10,300.00	21.84	179.58	10,280.20	-6.39	315.08	8.70	8.00	8.00	0.00
10,350.00	25.84	179.58	10,325.92	-26.59	315.23	28.90	8.00	8.00	0.00
10,400.00	29.84	179.58	10,370.13	-49.93	315.40	52.24	8.00	8.00	0.00
10,450.00	33.84	179.58	10,412.60	-76.30	315.59	78.61	8.00	8.00	0.00
10,500.00	37.84	179.58	10,453.12	-105.57	315.81	107.88	8.00	8.00	0.00
10,550.00	41.84	179.58	10,491.51	-137.59	316.04	139.90	8.00	8.00	0.00
10,600.00	45.84	179.58	10,527.57	-172.21	316.30	174.52	8.00	8.00	0.00
10,607.84	46.46	179.58	10,533.00	-177.87	316.34	180.18	8.00	8.00	0.00
2nd BS Sand									
10,650.00	49.84	179.58	10,561.12	-209.26	316.57	211.58	8.00	8.00	0.00
10,700.00	53.84	179.58	10,592.01	-248.57	316.86	250.88	8.00	8.00	0.00
10,750.00	57.84	179.58	10,620.08	-289.93	317.16	292.25	8.00	8.00	0.00

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	**Local Co-ordinate Reference:**	Site Margarita FED COM 13-8H
Project:	Lea County, New Mexico	**TVD Reference:**	Est.3906'GL+27'KB @ 3933.00usft
Site:	Margarita FED COM 13-8H	**MD Reference:**	Est.3906'GL+27'KB @ 3933.00usft
Well:	#8H	**North Reference:**	Grid
Wellbore:	Lateral 1r0	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 0.1	**Database:**	EDM 5000.14 Single User Db

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,800.00	61.84	179.58	10,645.20	-333.15	317.48	335.47	8.00	8.00	0.00
10,850.00	65.84	179.58	10,667.24	-378.02	317.81	380.33	8.00	8.00	0.00
10,900.00	69.84	179.58	10,686.10	-424.31	318.15	426.63	8.00	8.00	0.00
10,950.00	73.84	179.58	10,701.69	-471.81	318.50	474.13	8.00	8.00	0.00
11,000.00	77.84	179.58	10,713.92	-520.28	318.85	522.60	8.00	8.00	0.00
11,050.00	81.84	179.58	10,722.74	-569.48	319.22	571.81	8.00	8.00	0.00
11,100.00	85.84	179.58	10,728.11	-619.18	319.58	621.51	8.00	8.00	0.00
11,151.86	89.99	179.58	10,730.00	-671.00	319.96	673.32	8.00	8.00	0.00
FTP (Margarita8H)									
11,152.04	90.00	179.58	10,730.00	-671.18	319.96	673.51	8.00	8.00	0.00
LP, Hold 90.0° Inc, 179.58° Azimuth									
11,200.00	90.00	179.58	10,730.00	-719.13	320.32	721.46	0.00	0.00	0.00
11,300.00	90.00	179.58	10,730.00	-819.13	321.05	821.46	0.00	0.00	0.00
11,400.00	90.00	179.58	10,730.00	-919.13	321.79	921.46	0.00	0.00	0.00
11,500.00	90.00	179.58	10,730.00	-1,019.12	322.52	1,021.46	0.00	0.00	0.00
11,600.00	90.00	179.58	10,730.00	-1,119.12	323.26	1,121.46	0.00	0.00	0.00
11,700.00	90.00	179.58	10,730.00	-1,219.12	323.99	1,221.46	0.00	0.00	0.00
11,800.00	90.00	179.58	10,730.00	-1,319.12	324.73	1,321.46	0.00	0.00	0.00
11,900.00	90.00	179.58	10,730.00	-1,419.11	325.46	1,421.46	0.00	0.00	0.00
12,000.00	90.00	179.58	10,730.00	-1,519.11	326.20	1,521.46	0.00	0.00	0.00
12,100.00	90.00	179.58	10,730.00	-1,619.11	326.93	1,621.46	0.00	0.00	0.00
12,200.00	90.00	179.58	10,730.00	-1,719.10	327.67	1,721.46	0.00	0.00	0.00
12,300.00	90.00	179.58	10,730.00	-1,819.10	328.40	1,821.46	0.00	0.00	0.00
12,400.00	90.00	179.58	10,730.00	-1,919.10	329.14	1,921.46	0.00	0.00	0.00
12,500.00	90.00	179.58	10,730.00	-2,019.10	329.87	2,021.46	0.00	0.00	0.00
12,600.00	90.00	179.58	10,730.00	-2,119.09	330.61	2,121.46	0.00	0.00	0.00
12,700.00	90.00	179.58	10,730.00	-2,219.09	331.34	2,221.46	0.00	0.00	0.00
12,800.00	90.00	179.58	10,730.00	-2,319.09	332.08	2,321.46	0.00	0.00	0.00
12,900.00	90.00	179.58	10,730.00	-2,419.09	332.81	2,421.46	0.00	0.00	0.00
13,000.00	90.00	179.58	10,730.00	-2,519.08	333.55	2,521.46	0.00	0.00	0.00
13,100.00	90.00	179.58	10,730.00	-2,619.08	334.28	2,621.46	0.00	0.00	0.00
13,200.00	90.00	179.58	10,730.00	-2,719.08	335.02	2,721.46	0.00	0.00	0.00
13,300.00	90.00	179.58	10,730.00	-2,819.08	335.75	2,821.46	0.00	0.00	0.00
13,400.00	90.00	179.58	10,730.00	-2,919.07	336.49	2,921.46	0.00	0.00	0.00
13,500.00	90.00	179.58	10,730.00	-3,019.07	337.22	3,021.46	0.00	0.00	0.00
13,600.00	90.00	179.58	10,730.00	-3,119.07	337.96	3,121.46	0.00	0.00	0.00
13,700.00	90.00	179.58	10,730.00	-3,219.06	338.69	3,221.46	0.00	0.00	0.00
13,800.00	90.00	179.58	10,730.00	-3,319.06	339.43	3,321.46	0.00	0.00	0.00
13,900.00	90.00	179.58	10,730.00	-3,419.06	340.16	3,421.46	0.00	0.00	0.00
14,000.00	90.00	179.58	10,730.00	-3,519.06	340.90	3,521.46	0.00	0.00	0.00
14,100.00	90.00	179.58	10,730.00	-3,619.05	341.63	3,621.46	0.00	0.00	0.00
14,200.00	90.00	179.58	10,730.00	-3,719.05	342.37	3,721.46	0.00	0.00	0.00
14,300.00	90.00	179.58	10,730.00	-3,819.05	343.10	3,821.46	0.00	0.00	0.00

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	**Local Co-ordinate Reference:**	Site Margarita FED COM 13-8H
Project:	Lea County, New Mexico	**TVD Reference:**	Est.3906'GL+27'KB @ 3933.00usft
Site:	Margarita FED COM 13-8H	**MD Reference:**	Est.3906'GL+27'KB @ 3933.00usft
Well:	#8H	**North Reference:**	Grid
Wellbore:	Lateral 1r0	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 0.1	**Database:**	EDM 5000.14 Single User Db

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,400.00	90.00	179.58	10,730.00	-3,919.05	343.84	3,921.46	0.00	0.00	0.00
14,500.00	90.00	179.58	10,730.00	-4,019.04	344.57	4,021.46	0.00	0.00	0.00
14,600.00	90.00	179.58	10,730.00	-4,119.04	345.31	4,121.46	0.00	0.00	0.00
14,700.00	90.00	179.58	10,730.00	-4,219.04	346.04	4,221.46	0.00	0.00	0.00
14,800.00	90.00	179.58	10,730.00	-4,319.03	346.78	4,321.46	0.00	0.00	0.00
14,900.00	90.00	179.58	10,730.00	-4,419.03	347.51	4,421.46	0.00	0.00	0.00
15,000.00	90.00	179.58	10,730.00	-4,519.03	348.25	4,521.46	0.00	0.00	0.00
15,100.00	90.00	179.58	10,730.00	-4,619.03	348.98	4,621.46	0.00	0.00	0.00
15,200.00	90.00	179.58	10,730.00	-4,719.02	349.72	4,721.46	0.00	0.00	0.00
15,300.00	90.00	179.58	10,730.00	-4,819.02	350.45	4,821.46	0.00	0.00	0.00
15,400.00	90.00	179.58	10,730.00	-4,919.02	351.19	4,921.46	0.00	0.00	0.00
15,500.00	90.00	179.58	10,730.00	-5,019.02	351.92	5,021.46	0.00	0.00	0.00
15,600.00	90.00	179.58	10,730.00	-5,119.01	352.66	5,121.46	0.00	0.00	0.00
15,700.00	90.00	179.58	10,730.00	-5,219.01	353.39	5,221.46	0.00	0.00	0.00
15,800.00	90.00	179.58	10,730.00	-5,319.01	354.13	5,321.46	0.00	0.00	0.00
15,900.00	90.00	179.58	10,730.00	-5,419.01	354.86	5,421.46	0.00	0.00	0.00
16,000.00	90.00	179.58	10,730.00	-5,519.00	355.60	5,521.46	0.00	0.00	0.00
16,100.00	90.00	179.58	10,730.00	-5,619.00	356.33	5,621.46	0.00	0.00	0.00
16,200.00	90.00	179.58	10,730.00	-5,719.00	357.07	5,721.46	0.00	0.00	0.00
16,300.00	90.00	179.58	10,730.00	-5,818.99	357.80	5,821.46	0.00	0.00	0.00
16,400.00	90.00	179.58	10,730.00	-5,918.99	358.54	5,921.46	0.00	0.00	0.00
16,500.00	90.00	179.58	10,730.00	-6,018.99	359.27	6,021.46	0.00	0.00	0.00
16,600.00	90.00	179.58	10,730.00	-6,118.99	360.01	6,121.46	0.00	0.00	0.00
16,700.00	90.00	179.58	10,730.00	-6,218.98	360.74	6,221.46	0.00	0.00	0.00
16,800.00	90.00	179.58	10,730.00	-6,318.98	361.48	6,321.46	0.00	0.00	0.00
16,900.00	90.00	179.58	10,730.00	-6,418.98	362.21	6,421.46	0.00	0.00	0.00
17,000.00	90.00	179.58	10,730.00	-6,518.98	362.95	6,521.46	0.00	0.00	0.00
17,100.00	90.00	179.58	10,730.00	-6,618.97	363.68	6,621.46	0.00	0.00	0.00
17,200.00	90.00	179.58	10,730.00	-6,718.97	364.42	6,721.46	0.00	0.00	0.00
17,300.00	90.00	179.58	10,730.00	-6,818.97	365.15	6,821.46	0.00	0.00	0.00
17,400.00	90.00	179.58	10,730.00	-6,918.96	365.89	6,921.46	0.00	0.00	0.00
17,500.00	90.00	179.58	10,730.00	-7,018.96	366.62	7,021.46	0.00	0.00	0.00
17,600.00	90.00	179.58	10,730.00	-7,118.96	367.36	7,121.46	0.00	0.00	0.00
17,700.00	90.00	179.58	10,730.00	-7,218.96	368.09	7,221.46	0.00	0.00	0.00
17,800.00	90.00	179.58	10,730.00	-7,318.95	368.83	7,321.46	0.00	0.00	0.00
17,900.00	90.00	179.58	10,730.00	-7,418.95	369.56	7,421.46	0.00	0.00	0.00
18,000.00	90.00	179.58	10,730.00	-7,518.95	370.30	7,521.46	0.00	0.00	0.00
18,100.00	90.00	179.58	10,730.00	-7,618.95	371.03	7,621.46	0.00	0.00	0.00
18,200.00	90.00	179.58	10,730.00	-7,718.94	371.77	7,721.46	0.00	0.00	0.00
18,300.00	90.00	179.58	10,730.00	-7,818.94	372.50	7,821.46	0.00	0.00	0.00
18,400.00	90.00	179.58	10,730.00	-7,918.94	373.24	7,921.46	0.00	0.00	0.00
18,500.00	90.00	179.58	10,730.00	-8,018.93	373.97	8,021.46	0.00	0.00	0.00
18,600.00	90.00	179.58	10,730.00	-8,118.93	374.71	8,121.46	0.00	0.00	0.00
18,700.00	90.00	179.58	10,730.00	-8,218.93	375.44	8,221.46	0.00	0.00	0.00

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	**Local Co-ordinate Reference:**	Site Margarita FED COM 13-8H
Project:	Lea County, New Mexico	**TVD Reference:**	Est.3906'GL+27'KB @ 3933.00usft
Site:	Margarita FED COM 13-8H	**MD Reference:**	Est.3906'GL+27'KB @ 3933.00usft
Well:	#8H	**North Reference:**	Grid
Wellbore:	Lateral 1r0	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 0.1	**Database:**	EDM 5000.14 Single User Db

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)
18,800.00	90.00	179.58	10,730.00	-8,318.93	376.18	8,321.46	0.00	0.00	0.00
18,900.00	90.00	179.58	10,730.00	-8,418.92	376.91	8,421.46	0.00	0.00	0.00
19,000.00	90.00	179.58	10,730.00	-8,518.92	377.65	8,521.46	0.00	0.00	0.00
19,100.00	90.00	179.58	10,730.00	-8,618.92	378.38	8,621.46	0.00	0.00	0.00
19,200.00	90.00	179.58	10,730.00	-8,718.92	379.12	8,721.46	0.00	0.00	0.00
19,300.00	90.00	179.58	10,730.00	-8,818.91	379.85	8,821.46	0.00	0.00	0.00
19,400.00	90.00	179.58	10,730.00	-8,918.91	380.59	8,921.46	0.00	0.00	0.00
19,500.00	90.00	179.58	10,730.00	-9,018.91	381.32	9,021.46	0.00	0.00	0.00
19,600.00	90.00	179.58	10,730.00	-9,118.91	382.06	9,121.46	0.00	0.00	0.00
19,700.00	90.00	179.58	10,730.00	-9,218.90	382.79	9,221.46	0.00	0.00	0.00
19,800.00	90.00	179.58	10,730.00	-9,318.90	383.53	9,321.46	0.00	0.00	0.00
19,900.00	90.00	179.58	10,730.00	-9,418.90	384.26	9,421.46	0.00	0.00	0.00
20,000.00	90.00	179.58	10,730.00	-9,518.89	385.00	9,521.46	0.00	0.00	0.00
20,100.00	90.00	179.58	10,730.00	-9,618.89	385.73	9,621.46	0.00	0.00	0.00
20,200.00	90.00	179.58	10,730.00	-9,718.89	386.47	9,721.46	0.00	0.00	0.00
20,300.00	90.00	179.58	10,730.00	-9,818.89	387.20	9,821.46	0.00	0.00	0.00
20,400.00	90.00	179.58	10,730.00	-9,918.88	387.94	9,921.46	0.00	0.00	0.00
20,500.00	90.00	179.58	10,730.00	-10,018.88	388.67	10,021.46	0.00	0.00	0.00
20,600.00	90.00	179.58	10,730.00	-10,118.88	389.41	10,121.46	0.00	0.00	0.00
20,700.00	90.00	179.58	10,730.00	-10,218.88	390.14	10,221.46	0.00	0.00	0.00
20,800.00	90.00	179.58	10,730.00	-10,318.87	390.88	10,321.46	0.00	0.00	0.00
20,900.00	90.00	179.58	10,730.00	-10,418.87	391.61	10,421.46	0.00	0.00	0.00
21,000.00	90.00	179.58	10,730.00	-10,518.87	392.35	10,521.46	0.00	0.00	0.00
21,100.00	90.00	179.58	10,730.00	-10,618.86	393.08	10,621.46	0.00	0.00	0.00
21,200.00	90.00	179.58	10,730.00	-10,718.86	393.82	10,721.46	0.00	0.00	0.00
21,300.00	90.00	179.58	10,730.00	-10,818.86	394.55	10,821.46	0.00	0.00	0.00
21,400.00	90.00	179.58	10,730.00	-10,918.86	395.29	10,921.46	0.00	0.00	0.00
21,500.00	90.00	179.58	10,730.00	-11,018.85	396.02	11,021.46	0.00	0.00	0.00
21,600.00	90.00	179.58	10,730.00	-11,118.85	396.76	11,121.46	0.00	0.00	0.00
21,700.00	90.00	179.58	10,730.00	-11,218.85	397.49	11,221.46	0.00	0.00	0.00
21,800.00	90.00	179.58	10,730.00	-11,318.85	398.23	11,321.46	0.00	0.00	0.00
21,900.00	90.00	179.58	10,730.00	-11,418.84	398.96	11,421.46	0.00	0.00	0.00
22,000.00	90.00	179.58	10,730.00	-11,518.84	399.70	11,521.46	0.00	0.00	0.00
22,100.00	90.00	179.58	10,730.00	-11,618.84	400.43	11,621.46	0.00	0.00	0.00
22,200.00	90.00	179.58	10,730.00	-11,718.83	401.17	11,721.46	0.00	0.00	0.00
22,300.00	90.00	179.58	10,730.00	-11,818.83	401.90	11,821.46	0.00	0.00	0.00
22,400.00	90.00	179.58	10,730.00	-11,918.83	402.64	11,921.46	0.00	0.00	0.00
22,500.00	90.00	179.58	10,730.00	-12,018.83	403.37	12,021.46	0.00	0.00	0.00
22,600.00	90.00	179.58	10,730.00	-12,118.82	404.11	12,121.46	0.00	0.00	0.00
22,700.00	90.00	179.58	10,730.00	-12,218.82	404.84	12,221.46	0.00	0.00	0.00
22,800.00	90.00	179.58	10,730.00	-12,318.82	405.58	12,321.46	0.00	0.00	0.00
22,830.48	90.00	179.58	10,730.00	-12,349.30	405.80	12,351.94	0.00	0.00	0.00
PBHL - PBHL (Margarita8H)									

Aim Directional Services, LLC

Survey Report

Company:	Advance Energy Partners, LLC	**Local Co-ordinate Reference:**	Site Margarita FED COM 13-8H
Project:	Lea County, New Mexico	**TVD Reference:**	Est.3906'GL+27'KB @ 3933.00usft
Site:	Margarita FED COM 13-8H	**MD Reference:**	Est.3906'GL+27'KB @ 3933.00usft
Well:	#8H	**North Reference:**	Grid
Wellbore:	Lateral 1r0	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 0.1	**Database:**	EDM 5000.14 Single User Db

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 - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
KOP (Margarita8H)	0.00	0.00	0.00	45.00	314.70	540,634.00	761,005.90	32° 29' 3.296 N	103° 37' 15.371 W
- plan misses target center by 317.90usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
FTP (Margarita8H)	0.00	0.00	10,730.00	-671.00	319.40	539,918.00	761,010.60	32° 28' 56.211 N	103° 37' 15.372 W
- plan misses target center by 0.56usft at 11151.86usft MD (10730.00 TVD, -671.00 N, 319.96 E)									
- Point									
PBHL (Margarita8H)	0.00	0.00	10,730.00	-12,349.30	405.80	528,239.70	761,097.00	32° 27' 0.649 N	103° 37' 15.274 W
- plan hits target center									
- Point									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,765.00	1,765.00	13 3/8"	13-3/8	17-1/2
5,725.00	5,725.00	9 5/8"	9-5/8	12-1/4

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,715.00	1,715.00	Rustler		0.00	
5,675.00	5,675.00	Base of Limestone		0.00	
8,622.55	8,613.00	Lower Brushy		0.00	
9,048.17	9,037.00	Avalon		0.00	
9,999.24	9,986.00	1st BS Sand		0.00	
10,607.84	10,533.00	2nd BS Sand		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
5780	5780	0	0	Build 1.00°/100'
6280	6279	3	22	Hold 5.0° Inc, 81.86° Azimuth
9427	9414	42	293	Drop 1.00°/100'
9927	9914	45	315	Hold Vertical
10,027	10,014	45	315	KOP, Build 8.00°/100'
11,152	10,730	-671	320	LP, Hold 90.0° Inc, 179.58° Azimuth
22,830	10,730	-12,349	406	PBHL

ADVANCE ENERGY PARTNERS

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

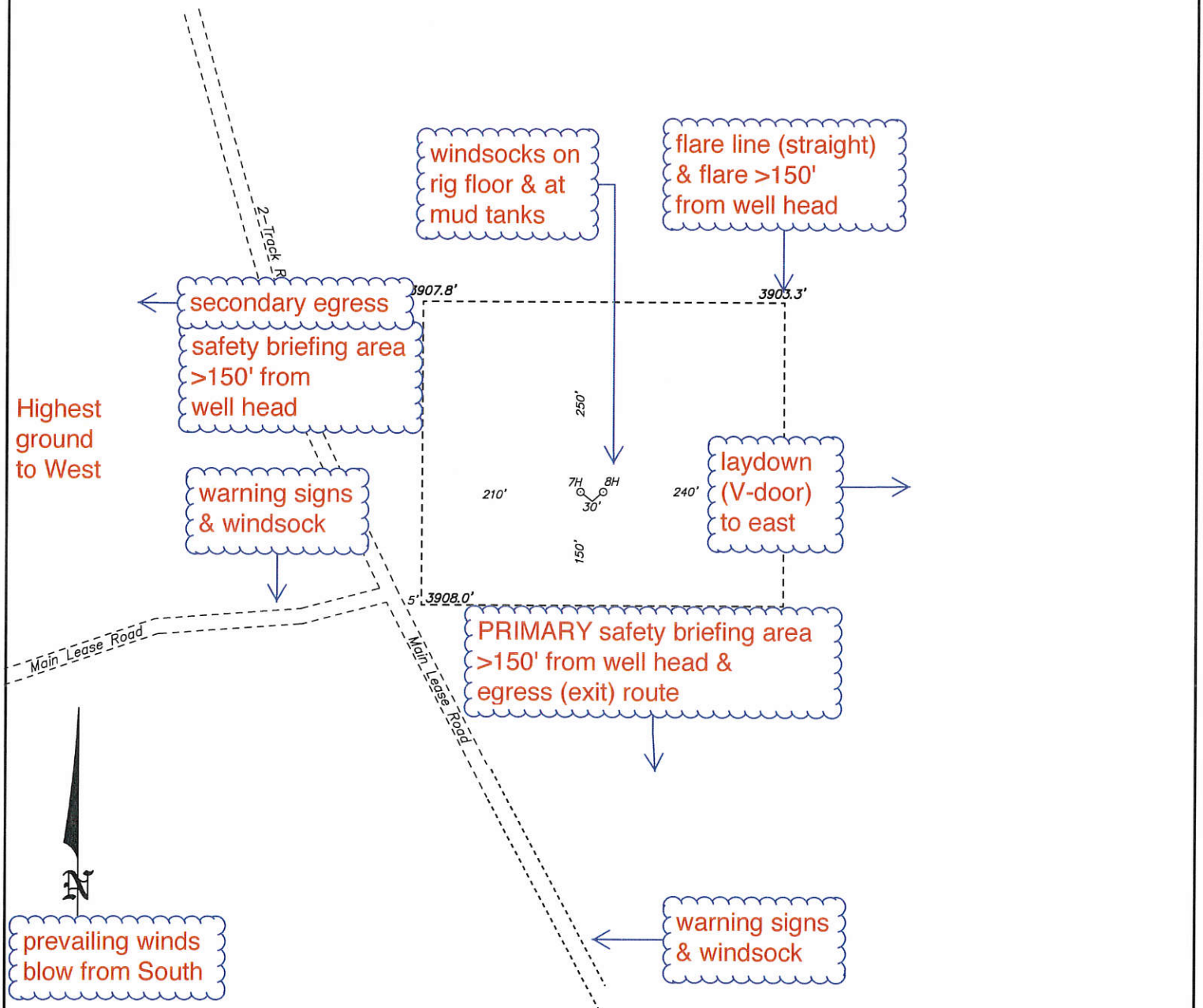
No residents are within 2 miles.

Air Evacuation

Med Flight Air Ambulance (Albuquerque)	(800) 842-4431
Lifeguard (Albuquerque)	(888) 866-7256

SECTION 13, TOWNSHIP 21 SOUTH, RANGE 32 EAST. N.M.P.M.,

LEA COUNTY, NEW MEXICO.



ADVANCE ENERGY PARTNERS HAT MESA
MARGARITA FEDERAL COM 13 #8H
ELEV. – 3906'

Lat – N 32.484249°
Long – W 103.620936°
NMSPCE– N 540634.0
E 761005.9
(NAD–83)

EUNICE, NM IS ±25 MILES TO THE EAST OF LOCATION.

200 0 200 400 FEET

SCALE: 1" = 200'

ADVANCE ENERGY PARTNERS HAT MESA

REF: MARGARITA FEDERAL COM 13 #8H / WELL PAD TOPO

THE MARGARITA FEDERAL COM 13 #8H LOCATED 745' FROM THE NORTH LINE AND 645' FROM THE EAST LINE OF SECTION 13, TOWNSHIP 21 SOUTH, RANGE 32 EAST. N.M.P.M., LEA COUNTY, NEW MEXICO.

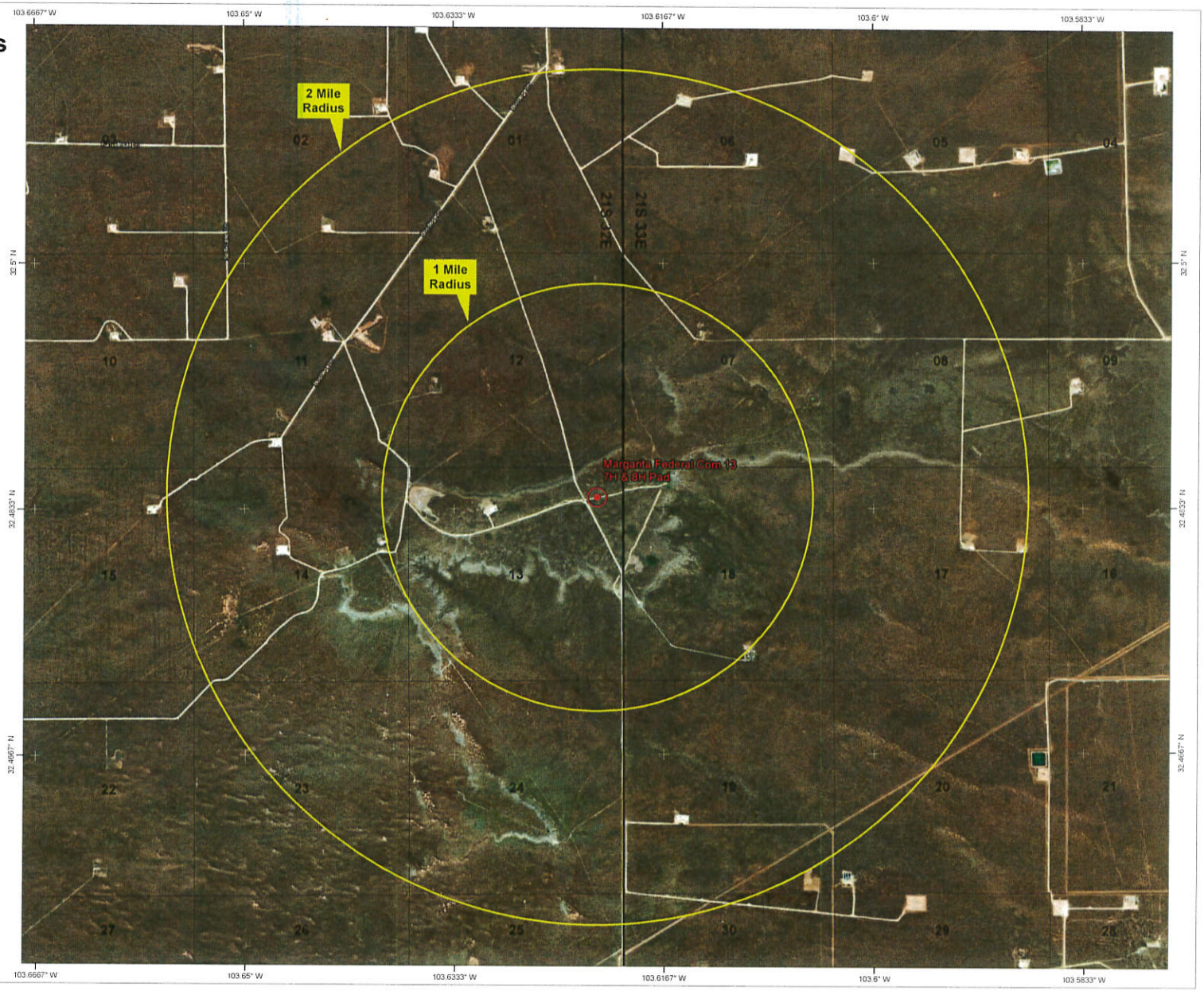
basin surveys
focused on excellence in the oilfield
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393–7316 – Office
(575) 392–2206 – Fax
basinsurveys.com

W.O. Number: 34387	Drawn By: K. GOAD	Date: 03–12–2019	Survey Date: 03–01–2019	Sheet 1 of 1 Sheets

Advance Energy Partners Hat Mesa, LLC

Margarita Federal Com 13
7H & 8H
H2S Contingency Plan:
Radius Map

Section 13, Township 21S, Range 32E
Lea County, New Mexico



Pad Center

1:27,000

0 0.25 0.5 1

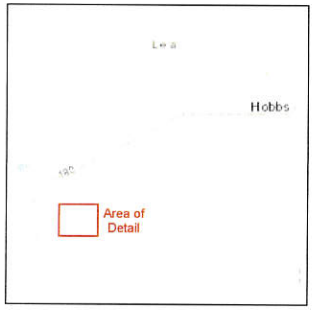
Miles

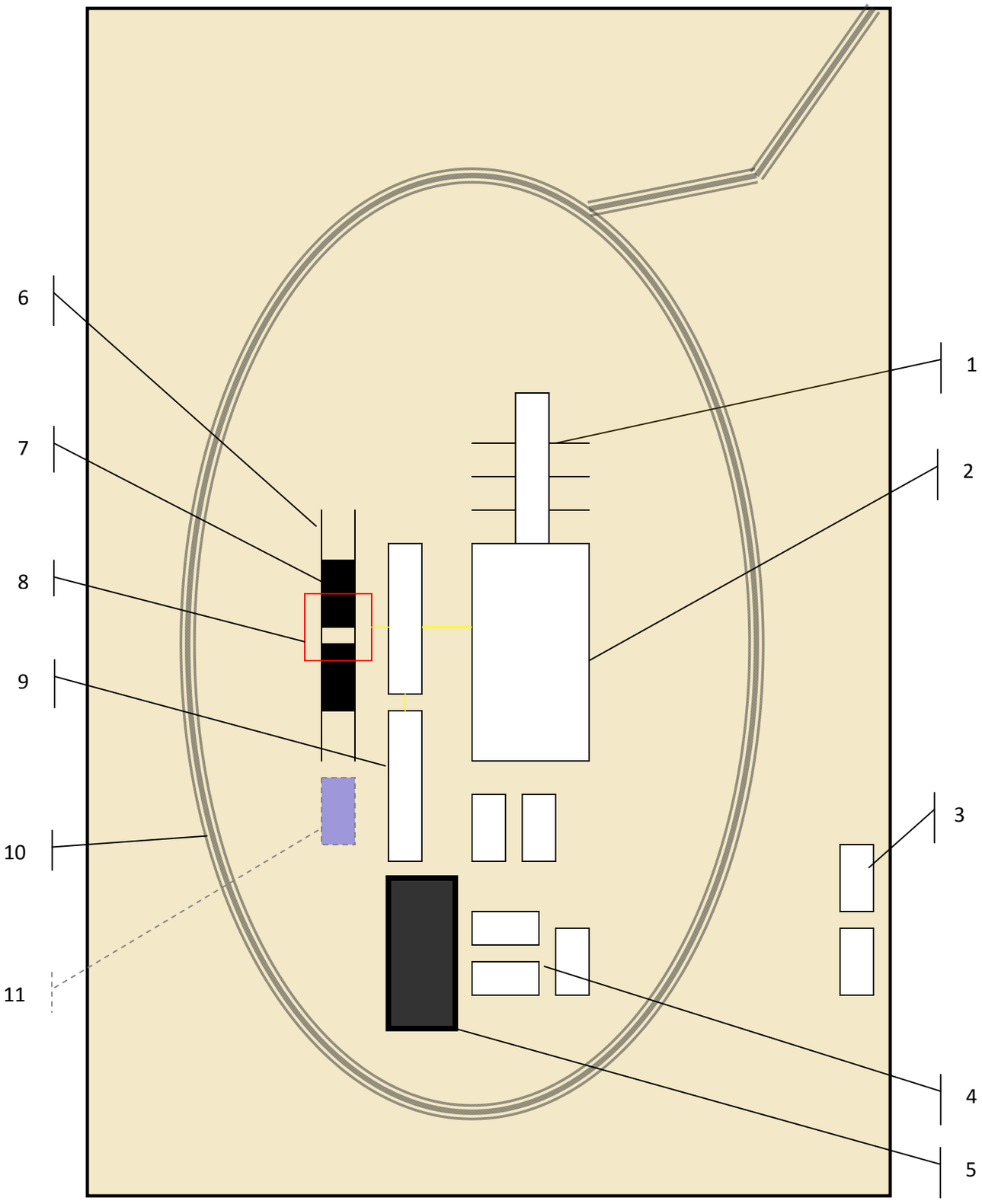
N

NAD 1983 New Mexico State Plane East
FIPS 3001 Feet

PERMITS WEST

Prepared by Permits West, Inc., May 15, 2019
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)**

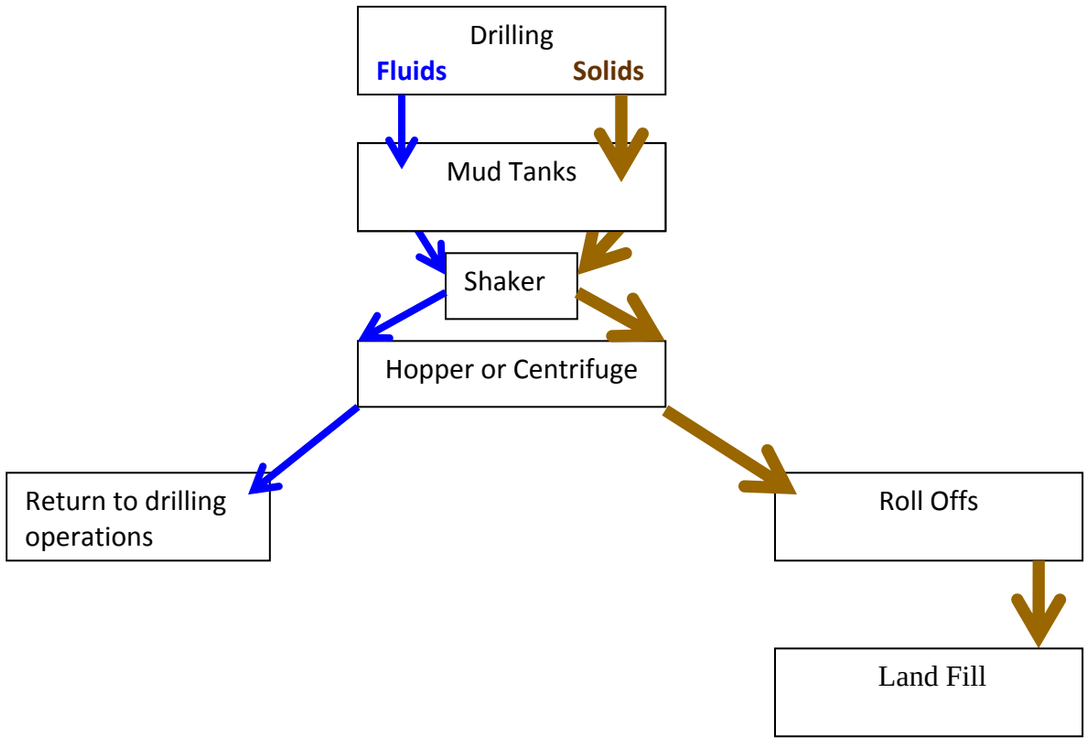
***Not drawn to scale: Closed loop system requires at least 30 feet beyond mud tanks. Ideally 60 feet would be available**

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