

**OCB - HOBBS**  
**11/30/2020**  
**RECEIVED**

UNITED STATES  
 DEPARTMENT OF THE INTERIOR  
 BUREAU OF LAND MANAGEMENT

**APPLICATION FOR PERMIT TO DRILL OR REENTER**

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. <b>NMNM120905</b>
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator <b>ADVANCE ENERGY PARTNERS HAT MESA LLC [372417]</b>		8. Lease Name and Well No. <b>ANDERSON FED COM [326484] 604H</b>
3a. Address <b>11490 Westheimer Rd, Suite 950, Houston, TX 77707</b>	3b. Phone No. (include area code) <b>(346) 444-9739</b>	9. API Well No. <b>30-025-48077</b>
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface <b>LOT 1 / 630 FNL / 991 FEL / LAT 32.426334 / LONG -103.640054</b> At proposed prod. zone <b>SESE / 1220 FSL / 1020 FEL / LAT 32.445937 / LONG -103.640137</b>		10. Field and Pool, or Exploratory <b>[51683] RED TANK BONE SPRING</b>
14. Distance in miles and direction from nearest town or post office* <b>26 miles</b>		12. County or Parish <b>LEA</b>
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) <b>329 feet</b>		13. State <b>NM</b>
16. No of acres in lease		17. Spacing Unit dedicated to this well <b>400.0</b>
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>33 feet</b>		20. BLM/BIA Bond No. in file <b>FED: NMB001444</b>
21. Elevations (Show whether DF, KDB, RT, GL, etc.) <b>3658 feet</b>		22. Approximate date work will start* <b>11/01/2020</b>
		23. Estimated duration <b>90 days</b>

24. Attachments

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

- |   |   |
|---|---|
| 1. Well plat certified by a registered surveyor.<br>2. A Drilling Plan.<br>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).<br>5. Operator certification.<br>6. Such other site specific information and/or plans as may be requested by the BLM. |
|---|---|

25. Signature (Electronic Submission)	Name (Printed/Typed) <b>BRIAN WOOD / Ph: (346) 444-9739</b>	Date <b>09/01/2020</b>
Title <b>President</b>		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) <b>Cody Layton / Ph: (575) 234-5959</b>	Date <b>11/30/2020</b>
Title <b>Assistant Field Manager Lands &amp; Minerals</b>		
Office <b>Carlsbad Field Office</b>		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

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

**GCP Rec 11/30/2020**

**SL**

**APPROVED WITH CONDITIONS**  
**Approval Date: 11/30/2020**

**Kz**  
**12/01/2020**

## INSTRUCTIONS

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

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

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

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

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

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

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

## NOTICES

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

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

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

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

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

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

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

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

## **Additional Operator Remarks**

### **Location of Well**

0. SHL: LOT 1 / 630 FNL / 991 FEL / TWSP: 22S / RANGE: 32E / SECTION: 2 / LAT: 32.426334 / LONG: -103.640054 ( TVD: 0 feet, MD: 0 feet )

PPP: SENE / 2640 FNL / 1020 FEL / TWSP: 21S / RANGE: 32E / SECTION: 35 / LAT: 32.435384 / LONG: -103.640132 ( TVD: 11800 feet, MD: 14639 feet )

PPP: SESE / 0 FSL / 1020 FEL / TWSP: 21S / RANGE: 32E / SECTION: 35 / LAT: 32.428099 / LONG: -103.640147 ( TVD: 11791 feet, MD: 11989 feet )

PPP: LOT 1 / 3223 FNL / 991 FEL / TWSP: 22S / RANGE: 32E / SECTION: 2 / LAT: 32.4271745 / LONG: -103.640054 ( TVD: 11535 feet, MD: 11550 feet )

BHL: SESE / 1220 FSL / 1020 FEL / TWSP: 21S / RANGE: 32E / SECTION: 26 / LAT: 32.445937 / LONG: -103.640137 ( TVD: 11800 feet, MD: 18478 feet )

### **BLM Point of Contact**

Name: Priscilla Perez

Title: Legal Instruments Examiner

Phone: (575) 234-5934

Email: pperez@blm.gov

**Review and Appeal Rights**

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

**PECOS DISTRICT  
SURFACE USE  
CONDITIONS OF APPROVAL**

**Environmental Assessment DOI-BLM-NM-P020-2021-0006-EA**

**Anderson Federal Com 704H, 804H, 557H, 604H, 504H,  
and 558H Wells and Access Road  
Advance Energy Partners, LLC  
Serial Lease Nos. NMNM 106696/NMNM 12968**

**Anderson Federal Com 704H**

Surface Hole Location: 580 ft. FNL and 1030 ft. FEL; Section 2, T. 22 S., R. 32 E.

Bottom Hole Location: 990 ft. FSL and 990 ft. FEL; Section 26, T. 21 S., R. 32 E.

**Anderson Federal Com 604H**

Surface Hole Location: 630 ft. FNL and 991 ft. FEL; Section 2, T. 22 S., R. 32 E.

Bottom Hole Location: 1220 ft. FSL and 1020 ft. FEL; Section 26, T. 21 S., R. 32 E.

**Anderson Federal Com 558H**

Surface Hole Location: 630 ft. FNL and 925 ft. FEL; Section 2, T. 22 S., R. 32 E.

Bottom Hole Location: 1220 ft. FSL and 330 ft. FEL; Section 26, T. 21 S., R. 32 E.

**Anderson Federal Com 557H**

Surface Hole Location: 630 ft. FNL and 1024 ft. FEL; Section 2, T. 22 S., R. 32 E.

Bottom Hole Location: 1220 ft. FSL and 1020 ft. FEL; Section 26, T. 21 S., R. 32 E.

**Anderson Federal Com 504H**

Surface Hole Location: 630 ft. FNL and 958 ft. FEL; Section 2, T. 22 S., R. 32 E.

Bottom Hole Location: 1220 ft. FSL and 330 ft. FEL; Section 26, 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.

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- Noxious Weeds**
- Special Requirements**
  - Lesser Prairie-Chicken Timing Stipulations
  - Ground-level Abandoned Well Marker
  - Hydrology
  - Potash Resources
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  - Notification
  - Topsoil
  - Closed Loop System
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- 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.

### **Avian Power line Protection:**

Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006. The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all power line structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. The holder without liability or expense shall make such modifications and/or additions to the United States.

**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.

Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank or 24 hour production, whichever is greater. Automatic shut off, check valves, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

When crossing ephemeral drainages the pipeline(s) will be buried to a minimum depth of 48 inches from the top of pipe to ground level. Erosion control methods such as gabions and/or rock aprons should be placed on both up and downstream sides of the pipeline crossing. In addition, curled (weed free) wood/straw fiber wattles/logs and/or silt fences should be placed on the downstream side for sediment control during construction and maintained until soils and vegetation have stabilized. Water bars should be placed within the ROW to divert and dissipate surface runoff. A pipeline access road is not permitted to cross these ephemeral drainages. Traffic should be diverted to a preexisting route. Additional seeding may be required in floodplains and drainages to restore energy dissipating vegetation.

Prior to pipeline installation/construction a leak detection plan will be developed. The method(s) could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

Any water erosion that may occur due to the construction of overhead electric line and during the life of the power line will be quickly corrected and proper measures will be taken to prevent future erosion. A power pole should not be placed in drainages, playas, wetlands, riparian areas, or floodplains and must span across the features at a distance away that would not promote further erosion.

### **Potash Resources**

Lessees must comply with the 2012 Secretarial Potash Order. The Order is designed to manage the efficient development of oil, gas, and potash resources. Section 6 of the Order provides general provisions which must be followed to minimize conflict between the industries and ensure the safety of operations.

To minimize impacts to potash resources, the proposed well is confined within the boundaries of the established Anderson Ranch Drill Island.

## **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 (24) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) 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 24' 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**

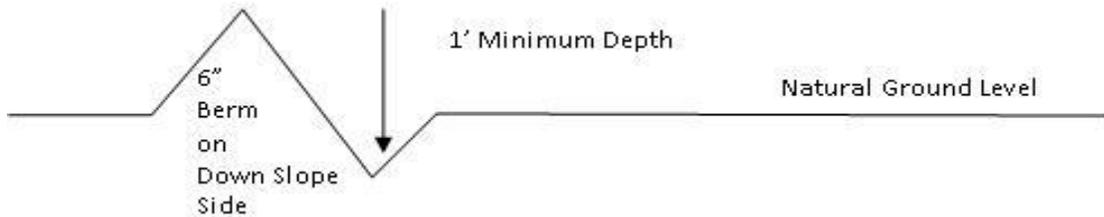
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

**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:

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

**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

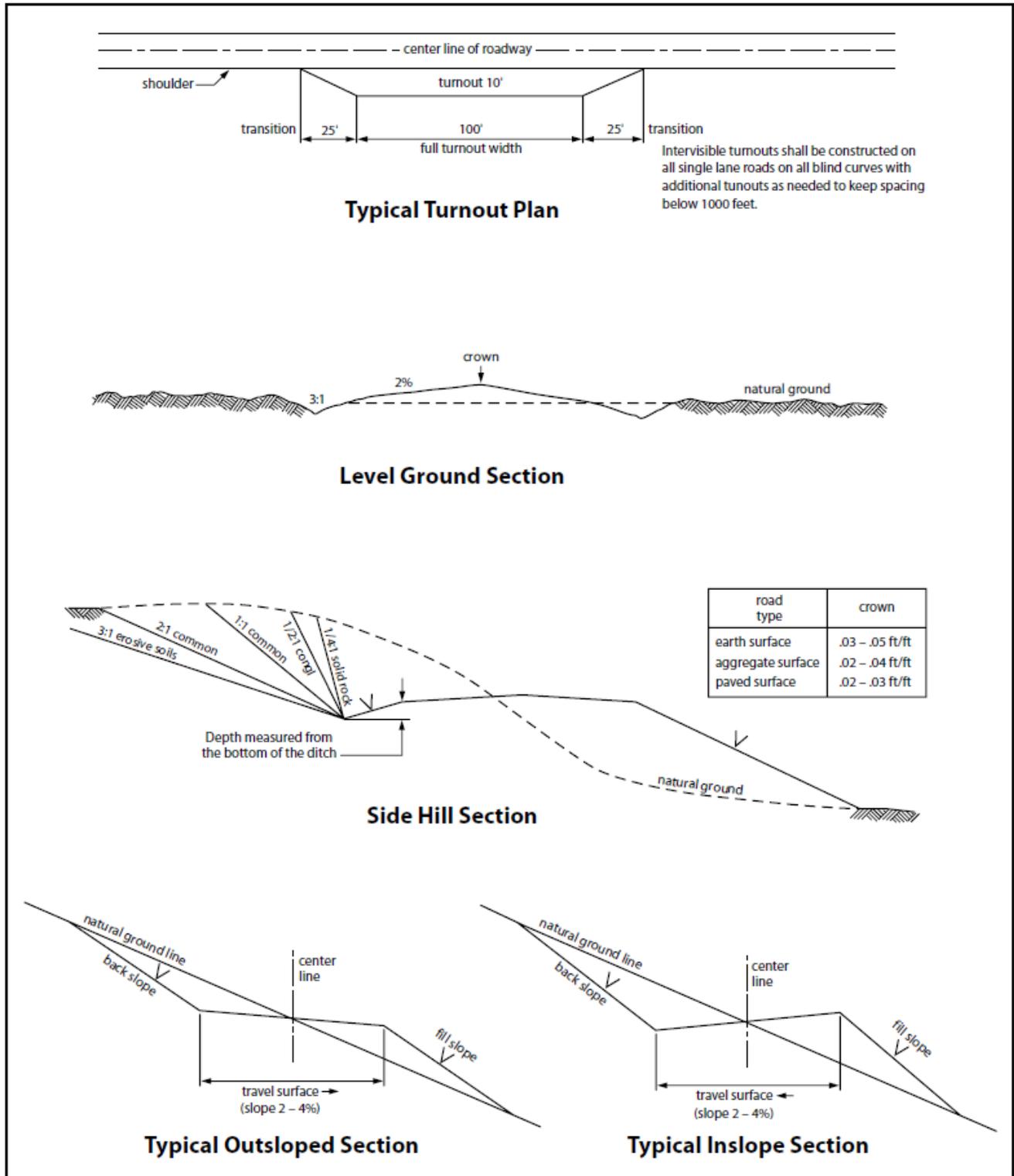


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

## **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).

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	<b>Anderson Fed Com 504H</b>
<b>LEASE NO.:</b>	<b>NMNM120905</b>
<b>LOCATION:</b>	Section 2, T.22 S., R.32 E., NMPM
<b>COUNTY:</b>	Lea County, New Mexico

<b>WELL NAME &amp; NO.:</b>	Anderson Fed Com 504H
<b>SURFACE HOLE FOOTAGE:</b>	630'/N & 958'/E
<b>BOTTOM HOLE FOOTAGE:</b>	1220'/S & 330'/E

<b>WELL NAME &amp; NO.:</b>	Anderson Fed Com 557H
<b>SURFACE HOLE FOOTAGE:</b>	630'/N & 1024'/E
<b>BOTTOM HOLE FOOTAGE:</b>	1220'/S & 1020'/E

<b>WELL NAME &amp; NO.:</b>	Anderson Fed Com 558H
<b>SURFACE HOLE FOOTAGE:</b>	630'/N & 925'/E
<b>BOTTOM HOLE FOOTAGE:</b>	1220'/S & 330'/E

<b>WELL NAME &amp; NO.:</b>	Anderson Fed Com 604H
<b>SURFACE HOLE FOOTAGE:</b>	630'/N & 991'/E
<b>BOTTOM HOLE FOOTAGE:</b>	1220'/S & 1020'/E

COA

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

### A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

## B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1200 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.
2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

### **Option 1 (Single Stage):**

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

### **Option 2:**

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

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
- b. Second stage above DV tool:
  - Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

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

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

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

### **C. PRESSURE CONTROL**

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

2.

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 surface 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 2<sup>nd</sup> 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 integrity 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 integrity 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.

**APD ID:** 10400061074

**Submission Date:** 09/01/2020

Highlighted data reflects the most recent changes

**Operator Name:** ADVANCE ENERGY PARTNERS HAT MESA LLC

**Well Name:** ANDERSON FED COM

**Well Number:** 604H

[Show Final Text](#)

**Well Type:** OIL WELL

**Well Work Type:** Drill

## Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
845133	QUATERNARY	3658	0	0	OTHER : Caliche	USEABLE WATER	N
845134	RUSTLER ANHYDRITE	2498	1160	1160	ANHYDRITE	NONE	N
845135	TOP SALT	2183	1475	1475	SALT	NONE	N
845136	BASE OF SALT	-1152	4810	4810	SALT	NONE	N
845137	BELL CANYON	-1152	4810	4810	LIMESTONE	NATURAL GAS, OIL	N
845138	CHERRY CANYON	-2027	5685	5685	SANDSTONE	NATURAL GAS, OIL	N
845139	LOWER BRUSHY CANYON 8A	-4727	8385	8389	SANDSTONE	NATURAL GAS, OIL	N
845140	AVALON SAND	-5247	8905	8910	SHALE	NATURAL GAS, OIL	N
845141	BONE SPRING 1ST	-6114	9772	9779	SANDSTONE	NATURAL GAS, OIL	N
845142	BONE SPRING 2ND	-6732	10390	10406	SANDSTONE	NATURAL GAS, OIL	N
845132	BONE SPRING 3RD	-7301	10959	10988	OTHER : Carbonate	NATURAL GAS, OIL	N
845143	BONE SPRING 3RD	-7877	11535	11550	SANDSTONE	NATURAL GAS, OIL	Y

## Section 2 - Blowout Prevention

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

**Rating Depth:** 15000

**Equipment:** See attached 5000 psi Helmerich & 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). Diagram is attached.

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

**Operator Name:** ADVANCE ENERGY PARTNERS HAT MESA LLC

**Well Name:** ANDERSON FED COM

**Well Number:** 604H

**Choke Diagram Attachment:**

Anderson\_604H\_BOP\_Choke\_20200830140025.pdf

**BOP Diagram Attachment:**

Anderson\_604H\_BOP\_Choke\_20200830140040.pdf

**Section 3 - Casing**

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	1210	0	1210	3658	2448	1210	J-55	54.5	BUTT	1.125	1.125	DRY	1.6	DRY	1.6
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4000	0	4000	3658	-342	4000	J-55	29.7	LT&C	1.125	1.125	DRY	1.6	DRY	1.6
3	INTERMEDIATE	12.25	9.625	NEW	API	N	4000	4815	4000	4815	-342	-1157	815	HCL-80	40	LT&C	1.125	1.125	DRY	1.6	DRY	1.6
4	PRODUCTION	8.5	5.5	NEW	NON API	N	0	18478	0	11800	3658	-8142	18478	HCP-110	20	OTHER - CDC-HTQ	1.125	1.125	DRY	1.6	DRY	1.6

**Casing Attachments**

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Casing\_Design\_Assumptions\_20200925111221.pdf

**Operator Name:** ADVANCE ENERGY PARTNERS HAT MESA LLC

**Well Name:** ANDERSON FED COM

**Well Number:** 604H

### Casing Attachments

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Casing\_Design\_Assumptions\_20200925111259.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Casing\_Design\_Assumptions\_20200925111345.pdf

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**Casing ID:** 4      **String Type:** PRODUCTION

**Inspection Document:**

**Spec Document:**

5.5in\_Casing\_Spec\_HCP110\_CDC\_HTQ\_20200925111419.pdf

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Casing\_Design\_Assumptions\_20200925111434.pdf

---

## Section 4 - Cement

**Operator Name:** ADVANCE ENERGY PARTNERS HAT MESA LLC

**Well Name:** ANDERSON FED COM

**Well Number:** 604H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Lead		0	0	0	0	0	0	0	None	None

SURFACE	Lead		0	910	475	1.99	12.8	945	50	Class C	2% Gypsum + 2% SMS + 0.25PPS Pol-E-Flake + 0.005GPS NoFoam V1A
SURFACE	Tail		910	1210	215	1.34	14.8	288	20	Class C	1% CaCl2 + 0.005GPS NoFoam V1A
INTERMEDIATE	Lead	2800	0	2380	405	3.13	11	1268	123	PowerCem	5PPS Plexcrete STE + 8% Gypsum + 1.5% SMS + 0.25% R-1300 + 0.25PPS Pol-E-Flake + 0.005GPS NoFoam V1A
INTERMEDIATE	Tail		2380	2800	100	1.33	14.8	133	0	Class C	0.005GPS NoFoam V1A
INTERMEDIATE	Lead	2800	2800	3852	1380	1.83	12.8	2525	667	Di Poz + C	2% Gel + 5% SALT + 0.25PPS Pol-E-Flake + 0.005GPS NoFoam V1A
INTERMEDIATE	Tail		3852	4815	285	1.33	14.8	379	20	Class C	0.15% C-20 + 0.005GPS NoFoam
PRODUCTION	Lead		0	1132 9	920	3.81	10.6	3505	50	PowerCem	5PPS Plexcrete STE + 11% Gypsum + 3% SMS + 0.1% SuspendaCem 6302 + 0.4% R-1300 + 0.005GPS NoFoam
PRODUCTION	Tail		1132 9	1847 8	1630	1.21	14.5	1972	20	Di Poz + H	5% SALT + 0.2% C-20 + 0.4% C-47B + 0.005GPS NoFoam

**Operator Name:** ADVANCE ENERGY PARTNERS HAT MESA LLC

**Well Name:** ANDERSON FED COM

**Well Number:** 604H

## 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. Mud system is based on system used by Advance at its nearby (2.6 miles northeast) deeper Dagger State Com 701H (0-025-43565). That well has a TVD of 11924.

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

## Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	1210	OTHER : Fresh water	8.4	9.8							
1210	4815	OTHER : Brine	10	10.5							
4815	1132 9	OTHER : Cut Brine	9.2	9.5							
1132 9	1847 8	OIL-BASED MUD	9.5	9.8							

**Operator Name:** ADVANCE ENERGY PARTNERS HAT MESA LLC

**Well Name:** ANDERSON FED COM

**Well Number:** 604H

## Section 6 - Test, Logging, Coring

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

No drill stem test or open hole log is planned.

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

OTHER,

**Other log type(s):**

None

**Coring operation description for the well:**

No core test is planned.

## Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 5782

**Anticipated Surface Pressure:** 3186

**Anticipated Bottom Hole Temperature(F):** 242

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

**Describe:**

**Contingency Plans geohazards description:**

**Contingency Plans geohazards attachment:**

**Hydrogen Sulfide drilling operations plan required?** YES

**Hydrogen sulfide drilling operations plan:**

Anderson\_604H\_H2S\_Plan\_20200830140537.pdf

## Section 8 - Other Information

**Proposed horizontal/directional/multi-lateral plan submission:**

Anderson\_604H\_Horizontal\_Plan\_20200830140555.pdf

**Other proposed operations facets description:**

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

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

**Other proposed operations facets attachment:**

CoFlex\_Certs\_20200830140617.pdf

Anderson\_604H\_Anti\_Collision\_Report\_20200830140624.pdf

Anderson\_604H\_Drill\_Plan\_v2\_20200925112327.pdf

Wellhead\_Diagram\_20200925112333.pdf

**Other Variance attachment:**

**Operator Name:** ADVANCE ENERGY PARTNERS HAT MESA LLC

**Well Name:** ANDERSON FED COM

**Well Number:** 604H

Anderson\_604H\_Casing\_Cementing\_Variance\_Request\_20200830140641.pdf

Advance Energy Partners Hat Mesa, LLC  
 Anderson Fed Com 604H  
 SHL 630' FNL & 991' FEL Sec. 2, T. 22 S., R. 32 E.  
 BHL 1220' FSL & 1020' FEL Sec. 26, T 21 S., R. 32 E.  
 Lea County, NM

"Anderson Fed Com pad A"

Drilling Program

1. ESTIMATED TOPS

Formation	TVD	MD	Bearing
Quaternary caliche	000'	000'	water
Rustler anhydrite	1160'	1160'	N/A
Top salt	1475'	1475'	N/A
Base salt	4810'	4810'	N/A
Bell Canyon limestone	4810'	4810'	hydrocarbons
Cherry Canyon sandstone	5685'	5685'	hydrocarbons
Lower Brushy Canyon sandstone	8385'	8389'	hydrocarbons
Avalon shale	8905'	8910'	hydrocarbons
1 <sup>st</sup> Bone Spring sandstone	9772'	9779'	hydrocarbons
2 <sup>nd</sup> Bone Spring sandstone	10390'	10406'	hydrocarbons
3 <sup>rd</sup> Bone Spring carbonate	10959'	10988'	hydrocarbons
(KOP	11323'	11329'	hydrocarbons)
3 <sup>rd</sup> Bone Spring sandstone	11535'	11550'	hydrocarbons
TD	11800'	18478'	hydrocarbons

2. NOTABLE ZONES

Third Bone sandstone is the goal. Closest water well (CP 01701 POD 1) is 0.89-mile northwest. Water bearing strata were reported at 560' in this 840' deep well.

3. PRESSURE CONTROL

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

Advance Energy Partners Hat Mesa, LLC  
 Anderson Fed Com 604H  
 SHL 630' FNL & 991' FEL Sec. 2, T. 22 S., R. 32 E.  
 BHL 1220' FSL & 1020' FEL Sec. 26, T 21 S., R. 32 E.  
 Lea County, NM

"Anderson Fed Com pad A"

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). Diagram is attached.

4. CASING & CEMENT

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

Hole OD	Set MD	Set TVD	Casing OD	Weight (lb/ft)	Grade	Joint	Collapse	Burst	Tension
17.5"	0' - 1210'	0' - 1210'	Surface 13.375"	54.5	J-55	BTC	1.125	1.125	1.6
12.25"	0' - 4000'	0' - 4000'	Intermed. 9.625"	40	J-55	LTC	1.125	1.125	1.6
12.25"	4000' - 4815'	4000' - 4815'	Intermed. 9.625"	40	HCL-80	LTC	1.125	1.125	1.6
8.5"	0' - 18478'	0' - 11800'	Product. 5.5"	20	HCP-110	CDC-HTQ	1.125	1.125	1.6

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

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

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 allow presetting the surface casing, then the primary rig will drill all of the well.

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 Anderson Fed Com 604H  
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 Lea County, NM

"Anderson Fed Com pad A"

Name	Type	Top MD	Sacks	Yield	Cu. Ft	Weight	Excess	Cement	Additives
Surface	Lead	0	475	1.99	945	12.8	50%	C	2% Gypsum + 2% SMS + 0.25PPS Pol-E-Flake + 0.005GPS NoFoam V1A
	Tail	910	215	1.34	288	14.8	20%	C	1% CaCl2 + 0.005GPS NoFoam V1A
1st Intermediate (stage 1)	Lead	2800	1380	1.83	2525	12.8	667%	Di Poz + C	2% Gel + 5% SALT + 0.25PPS Pol-E-Flake + 0.005GPS NoFoam V1A
	Tail	3852	285	1.33	379	14.8	20%	C	0.15% C-20 + 0.005GPS NoFoam V1A
1st Intermediate (stage 2)	Lead	0	405	3.13	1268	11	123%	PowerCem	5PPS Plexcrete STE + 8% Gypsum + 1.5% SMS + 0.25% R-1300 + 0.25PPS Pol-E-Flake + 0.005GPS NoFoam V1A
	Tail	2380	100	1.33	133	14.8	0%	C	0.005GPS NoFoam V1A
Production	Lead	0	920	3.81	3505	10.6	50%	PowerCem	5PPS Plexcrete STE + 11% Gypsum + 3% SMS + 0.1% SuspendedCem 6302 + 0.4% R-1300 + 0.005GPS NoFoam V1A
	Tail	11329	1630	1.21	1972	14.5	20%	Di Poz + H	5% SALT + 0.2% C-20 + 0.4% C-47B + 0.005GPS NoFoam V1A

Note: Intermediate 1 is a two-stage cement job. DVT will be placed at approximately 2,800'.

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.

Advance Energy Partners Hat Mesa, LLC  
Anderson Fed Com 604H  
SHL 630' FNL & 991' FEL Sec. 2, T. 22 S., R. 32 E.  
BHL 1220' FSL & 1020' FEL Sec. 26, T 21 S., R. 32 E.  
Lea County, NM

DRILL PLAN PAGE 4

"Anderson Fed Com pad A"

Type	Interval (MD)	lb/gal	Viscosity	Fluid Loss ml/30 mins
fresh water	0' - 1210'	8.4 - 10.0	28 - 36	N/C
Brine	1210' - 4815'	10.0 - 10.5	28 - 29	N/C
Cut Brine	4815' - 11329'	9.2 - 9.5	28 - 30	N/C
OBM	11329' - 18478'	9.5 - 9.8	55 - 65	<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  $\approx 5782$  psi. Expected bottom hole temperature is  $\approx 242^\circ$  F.

H2S monitors and detectors will be used from surface casing point to TD.

#### 8. OTHER INFORMATION

Anticipated spud date is upon approval. It is expected it will take  $\approx 3$  months to drill and complete the well.

## WELL DETAILS: Anderson Fed Com 604H

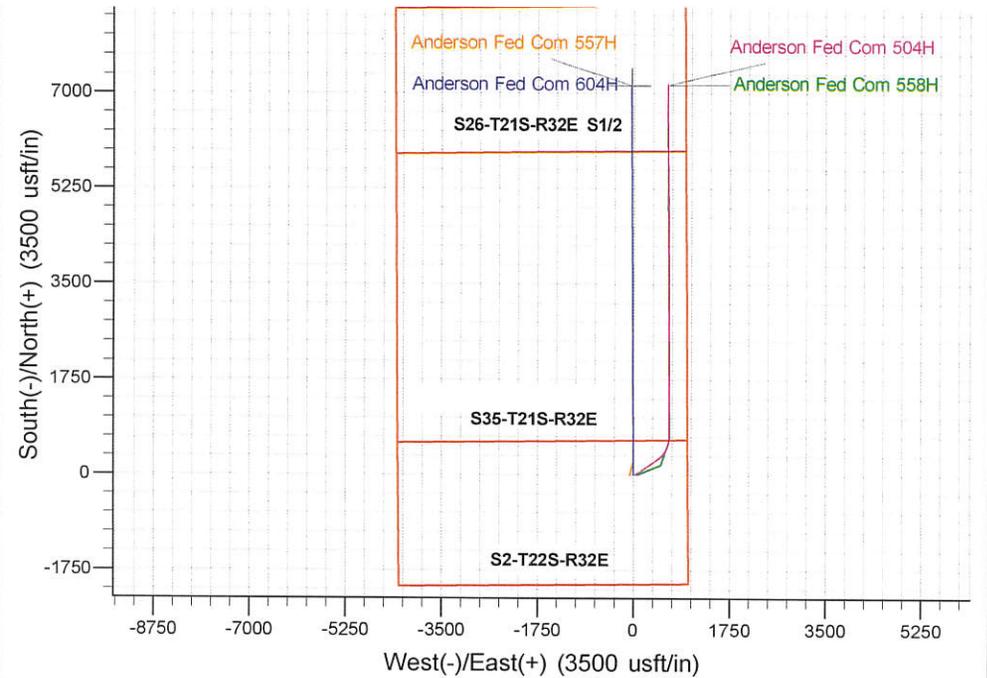
Ground Elev: 3658.0 KB: 3684.5

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	519525.42	755247.69	32° 25' 34.802 N	103° 38' 24.194 W

## PROJECT DETAILS: Hat Mesa

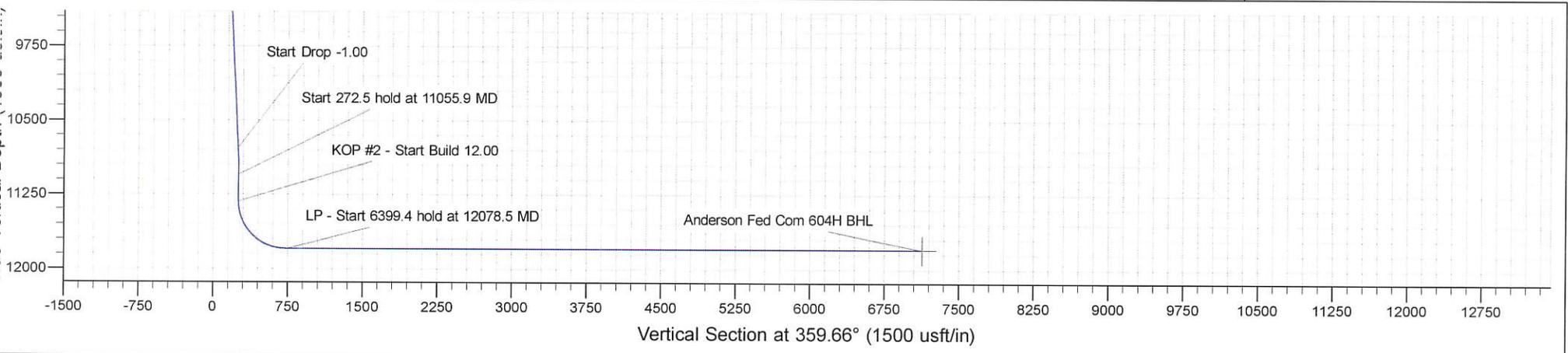
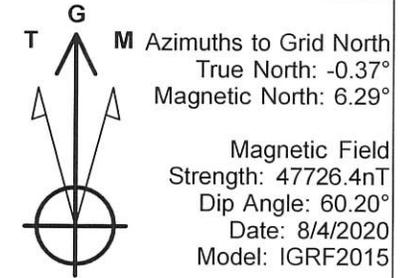
Geodetic System: US State Plane 1983  
 Datum: North American Datum 1983  
 Ellipsoid: GRS 1980  
 Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level



## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	5400.0	0.00	0.00	5400.0	0.0	0.0	0.00	0.00	0.0	KOP - Start Build 1.00
3	5671.4	2.71	360.00	5671.3	6.4	0.0	1.00	360.00	6.4	Start 5113.1 hold at 5671.4 MD
4	10784.5	2.71	360.00	10778.7	248.6	0.0	0.00	0.00	248.6	Start Drop -1.00
5	11055.9	0.00	0.00	11050.0	255.0	0.0	1.00	180.00	255.0	Start 272.5 hold at 11055.9 MD
6	11328.5	0.00	0.00	11322.5	255.0	0.0	0.00	0.00	255.0	KOP #2 - Start Build 12.00
7	12078.5	90.00	359.65	11800.0	732.5	-2.9	12.00	359.65	732.5	LP - Start 6399.4 hold at 12078.5 MD
8	18477.8	90.00	359.65	11800.0	7131.7	-42.0	0.00	0.00	7131.8	TD at 18477.8



<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Anderson Fed Com 604H
<b>Company:</b>	Advance Energy Partners	<b>TVD Reference:</b>	WELL @ 3684.5usft (Original Well Elev)
<b>Project:</b>	Hat Mesa	<b>MD Reference:</b>	WELL @ 3684.5usft (Original Well Elev)
<b>Site:</b>	Anderson Fed Com - Pad A	<b>North Reference:</b>	Grid
<b>Well:</b>	Anderson Fed Com 604H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Anderson Fed Com 604H		
<b>Design:</b>	Anderson Fed Com 604H - Prelim 1		

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

<b>Site</b>	Anderson Fed Com - Pad A				
<b>Site Position:</b>		<b>Northing:</b>	519,525.43 usft	<b>Latitude:</b>	32° 25' 34.802 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	755,247.69 usft	<b>Longitude:</b>	103° 38' 24.194 W
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "		

<b>Well</b>	Anderson Fed Com 604H					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	519,525.43 usft	<b>Latitude:</b>	32° 25' 34.802 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	755,247.69 usft	<b>Longitude:</b>	103° 38' 24.194 W
<b>Position Uncertainty</b>	0.0 usft		<b>Wellhead Elevation:</b>	usft	<b>Ground Level:</b>	3,658.0 usft
<b>Grid Convergence:</b>	0.37 °					

<b>Wellbore</b>	Anderson Fed Com 604H				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	8/4/2020	6.66	60.20	47,726.38029730

<b>Design</b>	Anderson Fed Com 604H - Prelim 1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	359.66

<b>Plan Survey Tool Program</b>	<b>Date</b>	8/11/2020		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.0	18,477.6	Anderson Fed Com 604H - Prelim	MWD+HRGM OWSG MWD + HRGM

<b>Plan Sections</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,671.4	2.71	360.00	5,671.3	6.4	0.0	1.00	1.00	0.00	360.00	
10,784.5	2.71	360.00	10,778.7	248.6	0.0	0.00	0.00	0.00	0.00	
11,055.9	0.00	0.00	11,050.0	255.0	0.0	1.00	-1.00	0.00	180.00	
11,328.5	0.00	0.00	11,322.5	255.0	0.0	0.00	0.00	0.00	0.00	
12,078.5	90.00	359.65	11,800.0	732.5	-2.9	12.00	12.00	0.00	359.65	
18,477.8	90.00	359.65	11,800.0	7,131.7	-42.0	0.00	0.00	0.00	0.00	Anderson Fed Com 6



Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Anderson Fed Com 604H
<b>Company:</b>	Advance Energy Partners	<b>TVD Reference:</b>	WELL @ 3684.5usft (Original Well Elev)
<b>Project:</b>	Hat Mesa	<b>MD Reference:</b>	WELL @ 3684.5usft (Original Well Elev)
<b>Site:</b>	Anderson Fed Com - Pad A	<b>North Reference:</b>	Grid
<b>Well:</b>	Anderson Fed Com 604H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Anderson Fed Com 604H		
<b>Design:</b>	Anderson Fed Com 604H - Prelim 1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00	

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Anderson Fed Com 604H
<b>Company:</b>	Advance Energy Partners	<b>TVD Reference:</b>	WELL @ 3684.5usft (Original Well Elev)
<b>Project:</b>	Hat Mesa	<b>MD Reference:</b>	WELL @ 3684.5usft (Original Well Elev)
<b>Site:</b>	Anderson Fed Com - Pad A	<b>North Reference:</b>	Grid
<b>Well:</b>	Anderson Fed Com 604H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Anderson Fed Com 604H		
<b>Design:</b>	Anderson Fed Com 604H - Prelim 1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
<b>KOP - Start Build 1.00</b>										
5,500.0	1.00	360.00	5,500.0	0.9	0.0	0.9	1.00	1.00	0.00	
5,600.0	2.00	360.00	5,600.0	3.5	0.0	3.5	1.00	1.00	0.00	
5,671.4	2.71	360.00	5,671.3	6.4	0.0	6.4	1.00	1.00	0.00	
<b>Start 5113.1 hold at 5671.4 MD</b>										
5,700.0	2.71	360.00	5,699.9	7.8	0.0	7.8	0.00	0.00	0.00	
5,800.0	2.71	360.00	5,799.8	12.5	0.0	12.5	0.00	0.00	0.00	
5,900.0	2.71	360.00	5,899.6	17.3	0.0	17.3	0.00	0.00	0.00	
6,000.0	2.71	360.00	5,999.5	22.0	0.0	22.0	0.00	0.00	0.00	
6,100.0	2.71	360.00	6,099.4	26.7	0.0	26.7	0.00	0.00	0.00	
6,200.0	2.71	360.00	6,199.3	31.5	0.0	31.5	0.00	0.00	0.00	
6,300.0	2.71	360.00	6,299.2	36.2	0.0	36.2	0.00	0.00	0.00	
6,400.0	2.71	360.00	6,399.1	40.9	0.0	40.9	0.00	0.00	0.00	
6,500.0	2.71	360.00	6,499.0	45.7	0.0	45.7	0.00	0.00	0.00	
6,600.0	2.71	360.00	6,598.9	50.4	0.0	50.4	0.00	0.00	0.00	
6,700.0	2.71	360.00	6,698.7	55.1	0.0	55.1	0.00	0.00	0.00	
6,800.0	2.71	360.00	6,798.6	59.9	0.0	59.9	0.00	0.00	0.00	
6,900.0	2.71	360.00	6,898.5	64.6	0.0	64.6	0.00	0.00	0.00	
7,000.0	2.71	360.00	6,998.4	69.3	0.0	69.3	0.00	0.00	0.00	
7,100.0	2.71	360.00	7,098.3	74.1	0.0	74.1	0.00	0.00	0.00	
7,200.0	2.71	360.00	7,198.2	78.8	0.0	78.8	0.00	0.00	0.00	
7,300.0	2.71	360.00	7,298.1	83.6	0.0	83.6	0.00	0.00	0.00	
7,400.0	2.71	360.00	7,398.0	88.3	0.0	88.3	0.00	0.00	0.00	
7,500.0	2.71	360.00	7,497.8	93.0	0.0	93.0	0.00	0.00	0.00	
7,600.0	2.71	360.00	7,597.7	97.8	0.0	97.8	0.00	0.00	0.00	
7,700.0	2.71	360.00	7,697.6	102.5	0.0	102.5	0.00	0.00	0.00	
7,800.0	2.71	360.00	7,797.5	107.2	0.0	107.2	0.00	0.00	0.00	
7,900.0	2.71	360.00	7,897.4	112.0	0.0	112.0	0.00	0.00	0.00	
8,000.0	2.71	360.00	7,997.3	116.7	0.0	116.7	0.00	0.00	0.00	
8,100.0	2.71	360.00	8,097.2	121.4	0.0	121.4	0.00	0.00	0.00	
8,200.0	2.71	360.00	8,197.1	126.2	0.0	126.2	0.00	0.00	0.00	
8,300.0	2.71	360.00	8,296.9	130.9	0.0	130.9	0.00	0.00	0.00	
8,400.0	2.71	360.00	8,396.8	135.6	0.0	135.6	0.00	0.00	0.00	
8,500.0	2.71	360.00	8,496.7	140.4	0.0	140.4	0.00	0.00	0.00	
8,600.0	2.71	360.00	8,596.6	145.1	0.0	145.1	0.00	0.00	0.00	
8,700.0	2.71	360.00	8,696.5	149.9	0.0	149.9	0.00	0.00	0.00	
8,800.0	2.71	360.00	8,796.4	154.6	0.0	154.6	0.00	0.00	0.00	
8,900.0	2.71	360.00	8,896.3	159.3	0.0	159.3	0.00	0.00	0.00	
9,000.0	2.71	360.00	8,996.2	164.1	0.0	164.1	0.00	0.00	0.00	
9,100.0	2.71	360.00	9,096.1	168.8	0.0	168.8	0.00	0.00	0.00	
9,200.0	2.71	360.00	9,195.9	173.5	0.0	173.5	0.00	0.00	0.00	
9,300.0	2.71	360.00	9,295.8	178.3	0.0	178.3	0.00	0.00	0.00	
9,400.0	2.71	360.00	9,395.7	183.0	0.0	183.0	0.00	0.00	0.00	
9,500.0	2.71	360.00	9,495.6	187.7	0.0	187.7	0.00	0.00	0.00	
9,600.0	2.71	360.00	9,595.5	192.5	0.0	192.5	0.00	0.00	0.00	
9,700.0	2.71	360.00	9,695.4	197.2	0.0	197.2	0.00	0.00	0.00	
9,800.0	2.71	360.00	9,795.3	201.9	0.0	201.9	0.00	0.00	0.00	
9,900.0	2.71	360.00	9,895.2	206.7	0.0	206.7	0.00	0.00	0.00	
10,000.0	2.71	360.00	9,995.0	211.4	0.0	211.4	0.00	0.00	0.00	
10,100.0	2.71	360.00	10,094.9	216.2	0.0	216.2	0.00	0.00	0.00	
10,200.0	2.71	360.00	10,194.8	220.9	0.0	220.9	0.00	0.00	0.00	
10,300.0	2.71	360.00	10,294.7	225.6	0.0	225.6	0.00	0.00	0.00	

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Anderson Fed Com 604H
<b>Company:</b>	Advance Energy Partners	<b>TVD Reference:</b>	WELL @ 3684.5usft (Original Well Elev)
<b>Project:</b>	Hat Mesa	<b>MD Reference:</b>	WELL @ 3684.5usft (Original Well Elev)
<b>Site:</b>	Anderson Fed Com - Pad A	<b>North Reference:</b>	Grid
<b>Well:</b>	Anderson Fed Com 604H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Anderson Fed Com 604H		
<b>Design:</b>	Anderson Fed Com 604H - Prelim 1		

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)
10,400.0	2.71	360.00	10,394.6	230.4	0.0	230.4	0.00	0.00	0.00
10,500.0	2.71	360.00	10,494.5	235.1	0.0	235.1	0.00	0.00	0.00
10,600.0	2.71	360.00	10,594.4	239.8	0.0	239.8	0.00	0.00	0.00
10,700.0	2.71	360.00	10,694.3	244.6	0.0	244.6	0.00	0.00	0.00
10,784.5	2.71	360.00	10,778.7	248.6	0.0	248.6	0.00	0.00	0.00
<b>Start Drop -1.00</b>									
10,800.0	2.56	360.00	10,794.1	249.3	0.0	249.3	1.00	-1.00	0.00
10,900.0	1.56	360.00	10,894.1	252.9	0.0	252.9	1.00	-1.00	0.00
11,000.0	0.56	360.00	10,994.1	254.7	0.0	254.7	1.00	-1.00	0.00
11,055.9	0.00	0.00	11,050.0	255.0	0.0	255.0	1.00	-1.00	0.00
<b>Start 272.5 hold at 11055.9 MD</b>									
11,100.0	0.00	0.00	11,094.1	255.0	0.0	255.0	0.00	0.00	0.00
11,200.0	0.00	0.00	11,194.1	255.0	0.0	255.0	0.00	0.00	0.00
11,300.0	0.00	0.00	11,294.1	255.0	0.0	255.0	0.00	0.00	0.00
11,328.5	0.00	0.00	11,322.5	255.0	0.0	255.0	0.00	0.00	0.00
<b>KOP #2 - Start Build 12.00</b>									
11,400.0	8.58	359.65	11,393.8	260.3	0.0	260.3	12.00	12.00	0.00
11,500.0	20.58	359.65	11,490.4	285.5	-0.2	285.5	12.00	12.00	0.00
11,600.0	32.58	359.65	11,579.7	330.1	-0.5	330.1	12.00	12.00	0.00
11,700.0	44.58	359.65	11,657.7	392.4	-0.8	392.4	12.00	12.00	0.00
11,800.0	56.58	359.65	11,721.1	469.5	-1.3	469.5	12.00	12.00	0.00
11,900.0	68.58	359.65	11,767.0	558.1	-1.8	558.1	12.00	12.00	0.00
12,000.0	80.58	359.65	11,793.6	654.3	-2.4	654.3	12.00	12.00	0.00
12,078.5	90.00	359.65	11,800.0	732.5	-2.9	732.5	12.00	12.00	0.00
<b>LP - Start 6399.4 hold at 12078.5 MD</b>									
12,100.0	90.00	359.65	11,800.0	754.0	-3.0	754.0	0.00	0.00	0.00
12,200.0	90.00	359.65	11,800.0	854.0	-3.7	854.0	0.00	0.00	0.00
12,300.0	90.00	359.65	11,800.0	954.0	-4.3	954.0	0.00	0.00	0.00
12,400.0	90.00	359.65	11,800.0	1,054.0	-4.9	1,054.0	0.00	0.00	0.00
12,500.0	90.00	359.65	11,800.0	1,154.0	-5.5	1,154.0	0.00	0.00	0.00
12,600.0	90.00	359.65	11,800.0	1,254.0	-6.1	1,254.0	0.00	0.00	0.00
12,700.0	90.00	359.65	11,800.0	1,354.0	-6.7	1,354.0	0.00	0.00	0.00
12,800.0	90.00	359.65	11,800.0	1,454.0	-7.3	1,454.0	0.00	0.00	0.00
12,900.0	90.00	359.65	11,800.0	1,554.0	-7.9	1,554.0	0.00	0.00	0.00
13,000.0	90.00	359.65	11,800.0	1,654.0	-8.5	1,654.0	0.00	0.00	0.00
13,100.0	90.00	359.65	11,800.0	1,754.0	-9.1	1,754.0	0.00	0.00	0.00
13,200.0	90.00	359.65	11,800.0	1,854.0	-9.8	1,854.0	0.00	0.00	0.00
13,300.0	90.00	359.65	11,800.0	1,954.0	-10.4	1,954.0	0.00	0.00	0.00
13,400.0	90.00	359.65	11,800.0	2,054.0	-11.0	2,054.0	0.00	0.00	0.00
13,500.0	90.00	359.65	11,800.0	2,154.0	-11.6	2,154.0	0.00	0.00	0.00
13,600.0	90.00	359.65	11,800.0	2,254.0	-12.2	2,254.0	0.00	0.00	0.00
13,700.0	90.00	359.65	11,800.0	2,354.0	-12.8	2,354.0	0.00	0.00	0.00
13,800.0	90.00	359.65	11,800.0	2,453.9	-13.4	2,454.0	0.00	0.00	0.00
13,900.0	90.00	359.65	11,800.0	2,553.9	-14.0	2,554.0	0.00	0.00	0.00
14,000.0	90.00	359.65	11,800.0	2,653.9	-14.6	2,654.0	0.00	0.00	0.00
14,100.0	90.00	359.65	11,800.0	2,753.9	-15.3	2,754.0	0.00	0.00	0.00
14,200.0	90.00	359.65	11,800.0	2,853.9	-15.9	2,854.0	0.00	0.00	0.00
14,300.0	90.00	359.65	11,800.0	2,953.9	-16.5	2,954.0	0.00	0.00	0.00
14,400.0	90.00	359.65	11,800.0	3,053.9	-17.1	3,054.0	0.00	0.00	0.00
14,500.0	90.00	359.65	11,800.0	3,153.9	-17.7	3,154.0	0.00	0.00	0.00
14,600.0	90.00	359.65	11,800.0	3,253.9	-18.3	3,254.0	0.00	0.00	0.00
14,700.0	90.00	359.65	11,800.0	3,353.9	-18.9	3,354.0	0.00	0.00	0.00
14,800.0	90.00	359.65	11,800.0	3,453.9	-19.5	3,454.0	0.00	0.00	0.00
14,900.0	90.00	359.65	11,800.0	3,553.9	-20.1	3,554.0	0.00	0.00	0.00

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Anderson Fed Com 604H
<b>Company:</b>	Advance Energy Partners	<b>TVD Reference:</b>	WELL @ 3684.5usft (Original Well Elev)
<b>Project:</b>	Hat Mesa	<b>MD Reference:</b>	WELL @ 3684.5usft (Original Well Elev)
<b>Site:</b>	Anderson Fed Com - Pad A	<b>North Reference:</b>	Grid
<b>Well:</b>	Anderson Fed Com 604H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Anderson Fed Com 604H		
<b>Design:</b>	Anderson Fed Com 604H - Prelim 1		

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)
15,000.0	90.00	359.65	11,800.0	3,653.9	-20.7	3,654.0	0.00	0.00	0.00
15,100.0	90.00	359.65	11,800.0	3,753.9	-21.4	3,754.0	0.00	0.00	0.00
15,200.0	90.00	359.65	11,800.0	3,853.9	-22.0	3,854.0	0.00	0.00	0.00
15,300.0	90.00	359.65	11,800.0	3,953.9	-22.6	3,954.0	0.00	0.00	0.00
15,400.0	90.00	359.65	11,800.0	4,053.9	-23.2	4,054.0	0.00	0.00	0.00
15,500.0	90.00	359.65	11,800.0	4,153.9	-23.8	4,154.0	0.00	0.00	0.00
15,600.0	90.00	359.65	11,800.0	4,253.9	-24.4	4,254.0	0.00	0.00	0.00
15,700.0	90.00	359.65	11,800.0	4,353.9	-25.0	4,354.0	0.00	0.00	0.00
15,800.0	90.00	359.65	11,800.0	4,453.9	-25.6	4,454.0	0.00	0.00	0.00
15,900.0	90.00	359.65	11,800.0	4,553.9	-26.2	4,554.0	0.00	0.00	0.00
16,000.0	90.00	359.65	11,800.0	4,653.9	-26.8	4,654.0	0.00	0.00	0.00
16,100.0	90.00	359.65	11,800.0	4,753.9	-27.5	4,754.0	0.00	0.00	0.00
16,200.0	90.00	359.65	11,800.0	4,853.9	-28.1	4,854.0	0.00	0.00	0.00
16,300.0	90.00	359.65	11,800.0	4,953.9	-28.7	4,954.0	0.00	0.00	0.00
16,400.0	90.00	359.65	11,800.0	5,053.9	-29.3	5,054.0	0.00	0.00	0.00
16,500.0	90.00	359.65	11,800.0	5,153.9	-29.9	5,154.0	0.00	0.00	0.00
16,600.0	90.00	359.65	11,800.0	5,253.9	-30.5	5,254.0	0.00	0.00	0.00
16,700.0	90.00	359.65	11,800.0	5,353.9	-31.1	5,354.0	0.00	0.00	0.00
16,800.0	90.00	359.65	11,800.0	5,453.9	-31.7	5,454.0	0.00	0.00	0.00
16,900.0	90.00	359.65	11,800.0	5,553.9	-32.3	5,554.0	0.00	0.00	0.00
17,000.0	90.00	359.65	11,800.0	5,653.9	-32.9	5,654.0	0.00	0.00	0.00
17,100.0	90.00	359.65	11,800.0	5,753.9	-33.6	5,754.0	0.00	0.00	0.00
17,200.0	90.00	359.65	11,800.0	5,853.9	-34.2	5,854.0	0.00	0.00	0.00
17,300.0	90.00	359.65	11,800.0	5,953.9	-34.8	5,954.0	0.00	0.00	0.00
17,400.0	90.00	359.65	11,800.0	6,053.9	-35.4	6,054.0	0.00	0.00	0.00
17,500.0	90.00	359.65	11,800.0	6,153.9	-36.0	6,154.0	0.00	0.00	0.00
17,600.0	90.00	359.65	11,800.0	6,253.9	-36.6	6,254.0	0.00	0.00	0.00
17,700.0	90.00	359.65	11,800.0	6,353.9	-37.2	6,354.0	0.00	0.00	0.00
17,800.0	90.00	359.65	11,800.0	6,453.9	-37.8	6,454.0	0.00	0.00	0.00
17,900.0	90.00	359.65	11,800.0	6,553.9	-38.4	6,554.0	0.00	0.00	0.00
18,000.0	90.00	359.65	11,800.0	6,653.9	-39.1	6,654.0	0.00	0.00	0.00
18,100.0	90.00	359.65	11,800.0	6,753.9	-39.7	6,754.0	0.00	0.00	0.00
18,200.0	90.00	359.65	11,800.0	6,853.9	-40.3	6,854.0	0.00	0.00	0.00
18,300.0	90.00	359.65	11,800.0	6,953.9	-40.9	6,954.0	0.00	0.00	0.00
18,400.0	90.00	359.65	11,800.0	7,053.9	-41.5	7,054.0	0.00	0.00	0.00
18,477.8	90.00	359.65	11,800.0	7,131.7	-42.0	7,131.8	0.00	0.00	0.00

TD at 18477.8 - Anderson Fed Com 604H BHL

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Anderson Fed Com 604I - hit/miss target - Shape - Point	0.00	0.01	11,800.0	7,131.7	-42.0	526,657.12	755,205.72	32° 26' 45.373 N	103° 38' 24.144 W

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Anderson Fed Com 604H
<b>Company:</b>	Advance Energy Partners	<b>TVD Reference:</b>	WELL @ 3684.5usft (Original Well Elev)
<b>Project:</b>	Hat Mesa	<b>MD Reference:</b>	WELL @ 3684.5usft (Original Well Elev)
<b>Site:</b>	Anderson Fed Com - Pad A	<b>North Reference:</b>	Grid
<b>Well:</b>	Anderson Fed Com 604H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Anderson Fed Com 604H		
<b>Design:</b>	Anderson Fed Com 604H - Prelim 1		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
12,076.7	11,800.0	LP	5-1/2	4-25/32	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
5,400.0	5,400.0	0.0	0.0	KOP - Start Build 1.00	
5,671.4	5,671.3	6.4	0.0	Start 5113.1 hold at 5671.4 MD	
10,784.5	10,778.7	248.6	0.0	Start Drop -1.00	
11,055.9	11,050.0	255.0	0.0	Start 272.5 hold at 11055.9 MD	
11,328.5	11,322.5	255.0	0.0	KOP #2 - Start Build 12.00	
12,078.5	11,800.0	732.5	-2.9	LP - Start 6399.4 hold at 12078.5 MD	
18,477.8	11,800.0	7,131.7	-42.0	TD at 18477.8	



### H<sub>2</sub>S Drilling Operations Plan

- a. All personnel will be trained in H<sub>2</sub>S working conditions as required by Onshore Order 6 before drilling out of the surface casing.
- b. Two briefing areas will be established. Each briefing area will be  $\geq 150'$  from the wellhead, perpendicular from one another, and easily entered and exited. See H<sub>2</sub>S page 5 for more details.
- c. H<sub>2</sub>S Safety Equipment/Systems:
  - i. Well Control Equipment
    - Flare line will be  $\geq 150'$  from the wellhead and ignited by a flare gun.
    - Beware of SO<sub>2</sub> 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<sub>2</sub>S and SO<sub>2</sub> 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<sub>2</sub>S Detection & Monitoring Equipment
  - Every person on site will wear a personal H<sub>2</sub>S and SO<sub>2</sub> 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<sub>2</sub>S condition sign will be set at each pad entrance.
  - Color-coded condition flag will be installed to indicate current H<sub>2</sub>S 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<sub>2</sub>S gas returns to the surface, and minimize sulfide stress cracking and embrittlement.
  - Drilling mud containing H<sub>2</sub>S 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<sub>2</sub>S where formation pressures are unknown.
  
- vi. Metallurgy
  - All equipment that has the potential to be exposed to H<sub>2</sub>S will be suitable for H<sub>2</sub>S 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<sub>2</sub>S.

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

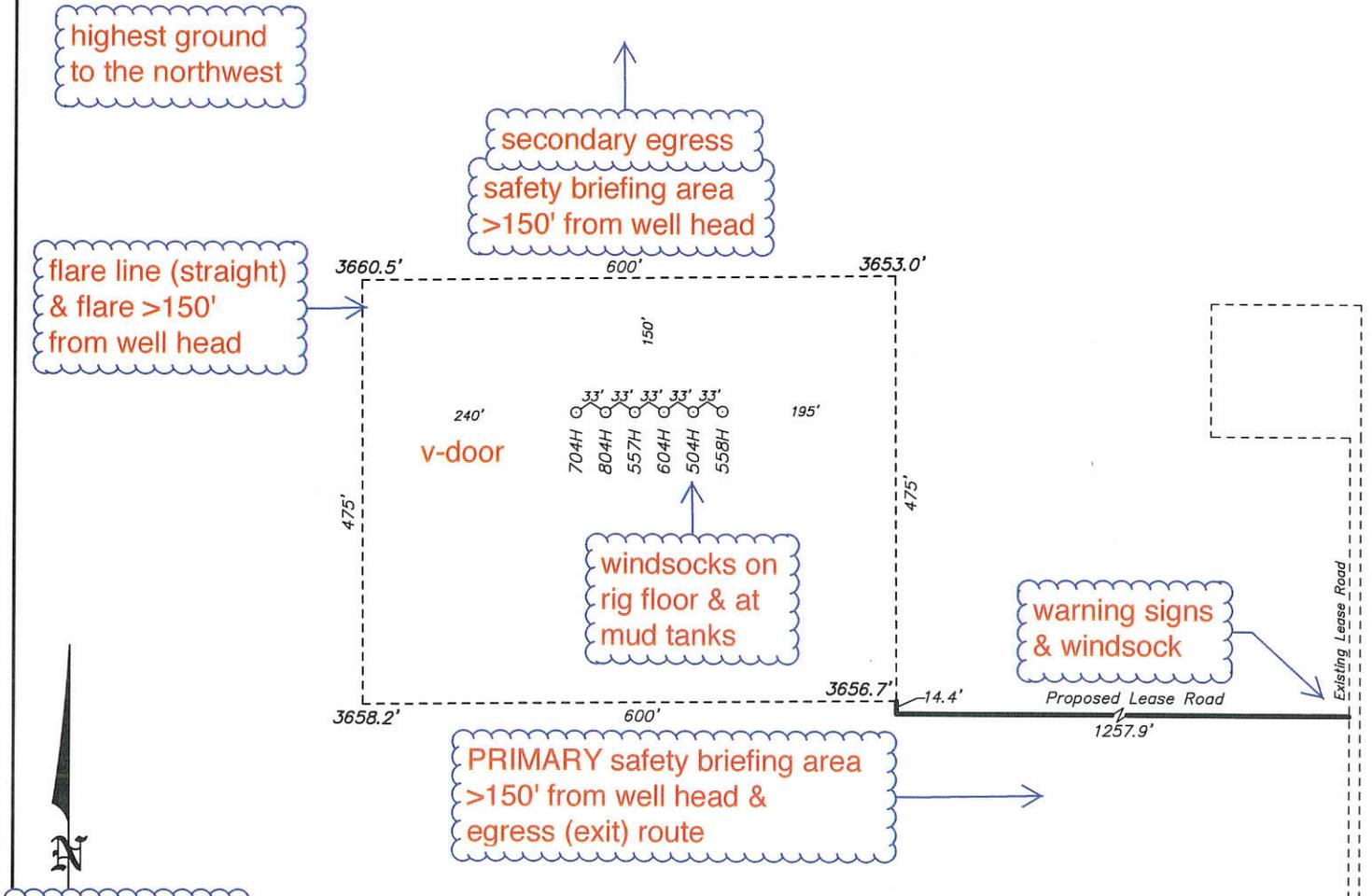
Residents within 2 miles

No residents are within 2 miles.

Air Evacuation

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

SECTION 2, TOWNSHIP 22 SOUTH, RANGE 32 EAST. N.M.P.M.,  
LEA COUNTY, NEW MEXICO.

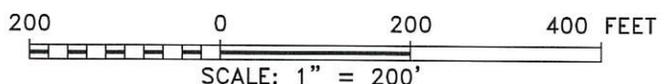


prevailing winds  
blow from south

ADVANCE ENERGY PARTNERS, LLC  
ANDERSON FED COM 504H  
ELEV. - 3658'

Lat - N 32.426334°  
Long - W 103.639947°  
NMSPC E 519525.8  
E 755280.7  
(NAD-83)

EUNICE, NM IS ±28 MILES TO THE EAST OF LOCATION.



**ADVANCE ENERGY PARTNERS, LLC**

REF: ANDERSON FED COM 504H / WELL PAD TOPO

THE ANDERSON FED COM 504H LOCATED 630' FROM  
THE NORTH LINE AND 958' FROM THE EAST LINE OF  
SECTION 2, TOWNSHIP 22 SOUTH, RANGE 32 EAST.  
N.M.P.M., LEA COUNTY, NEW MEXICO.



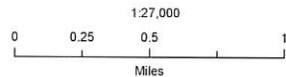
P.O. Box 1786 (575) 393-7316 - Office  
1120 N. West County Rd. (575) 392-2206 - Fax  
Hobbs, New Mexico 88241 basin-surveys.com

# Advance Energy Partners Hat Mesa, LLC

Anderson Fed Com Pad A  
H<sub>2</sub>S Contingency Plan:  
Radius Map

Section 02, Township 22S, Range 32E  
Lea County, New Mexico

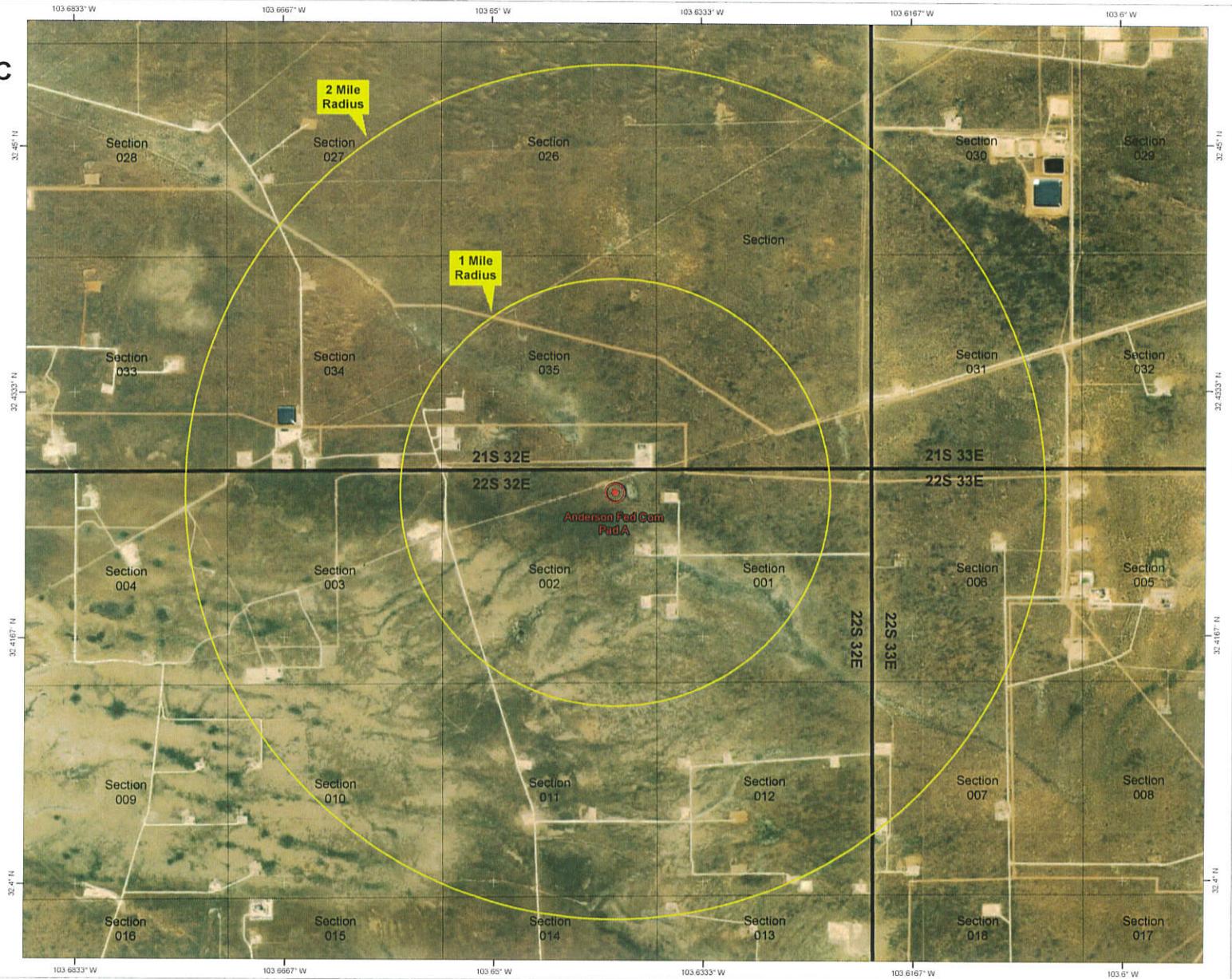
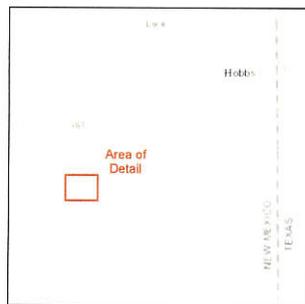
 Surface Hole Location

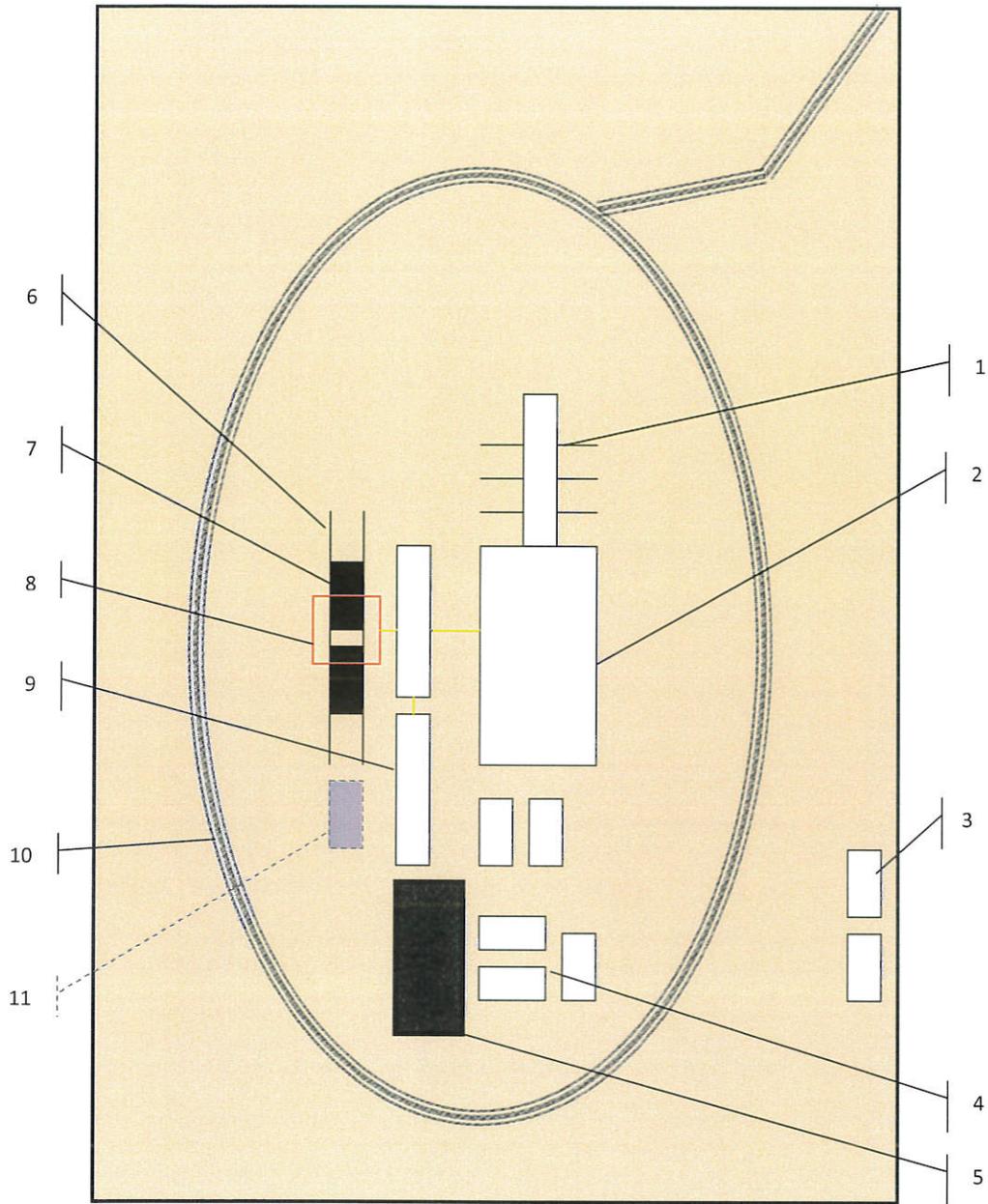


NAD 1983 New Mexico State Plane East  
FIPS 3001 Feet



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





**Schematic Closed Loop Drilling Rig\***

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

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



Above: Centrifugal Closed Loop System

**PERMITS WEST**, INC.

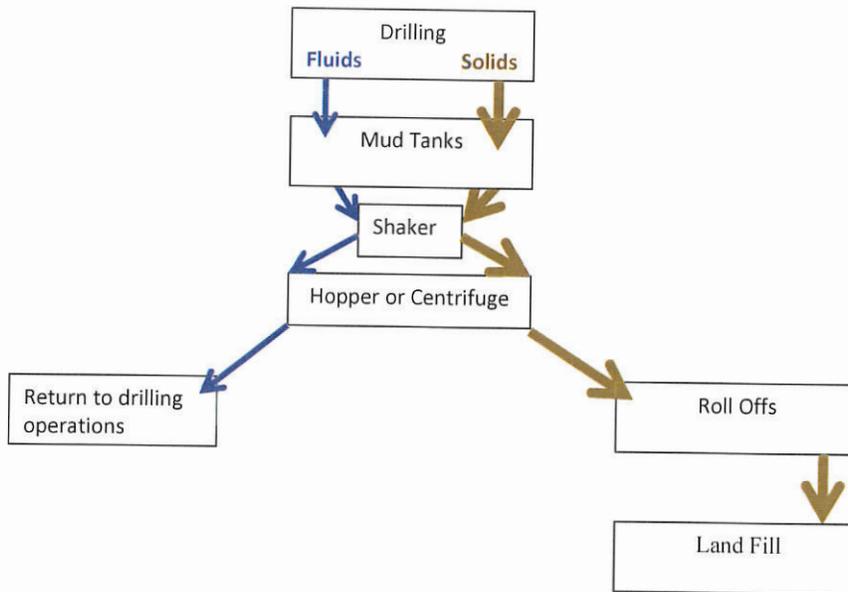
PROVIDING PERMITS for LAND USERS

37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120



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

#### Flow Chart for Drilling Fluids and Solids



Photos Courtesy of Gandy Corporation Oil Field Service

DISTRICT I  
1825 N. French Dr., Hobbs, NM 88240  
Phone (575) 393-8161 Fax: (575) 393-0720

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

DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone (505) 384-8178 Fax: (505) 334-6170

DISTRICT IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505  
Phone (505) 476-3460 Fax: (505) 476-3462

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised August 4, 2011

Submit one copy to appropriate  
District Office

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

OCD-HOBBS  
11/30/2020  
RECEIVED

WELL LOCATION AND ACREAGE DEDICATION PLAN  AMENDED REPORT

API Number <b>30-025-48077</b>	Pool Code <b>51683</b>	Pool Name <b>RED TANK; BONE SPRING</b>
Property Code <b>326484</b>	Property Name <b>ANDERSON FED COM</b>	Well Number <b>604H</b>
OGRID No. <b>372417</b>	Operator Name <b>ADVANCE ENERGY PARTNERS HAT MESA, LLC</b>	Elevation <b>3658'</b>

Surface Location

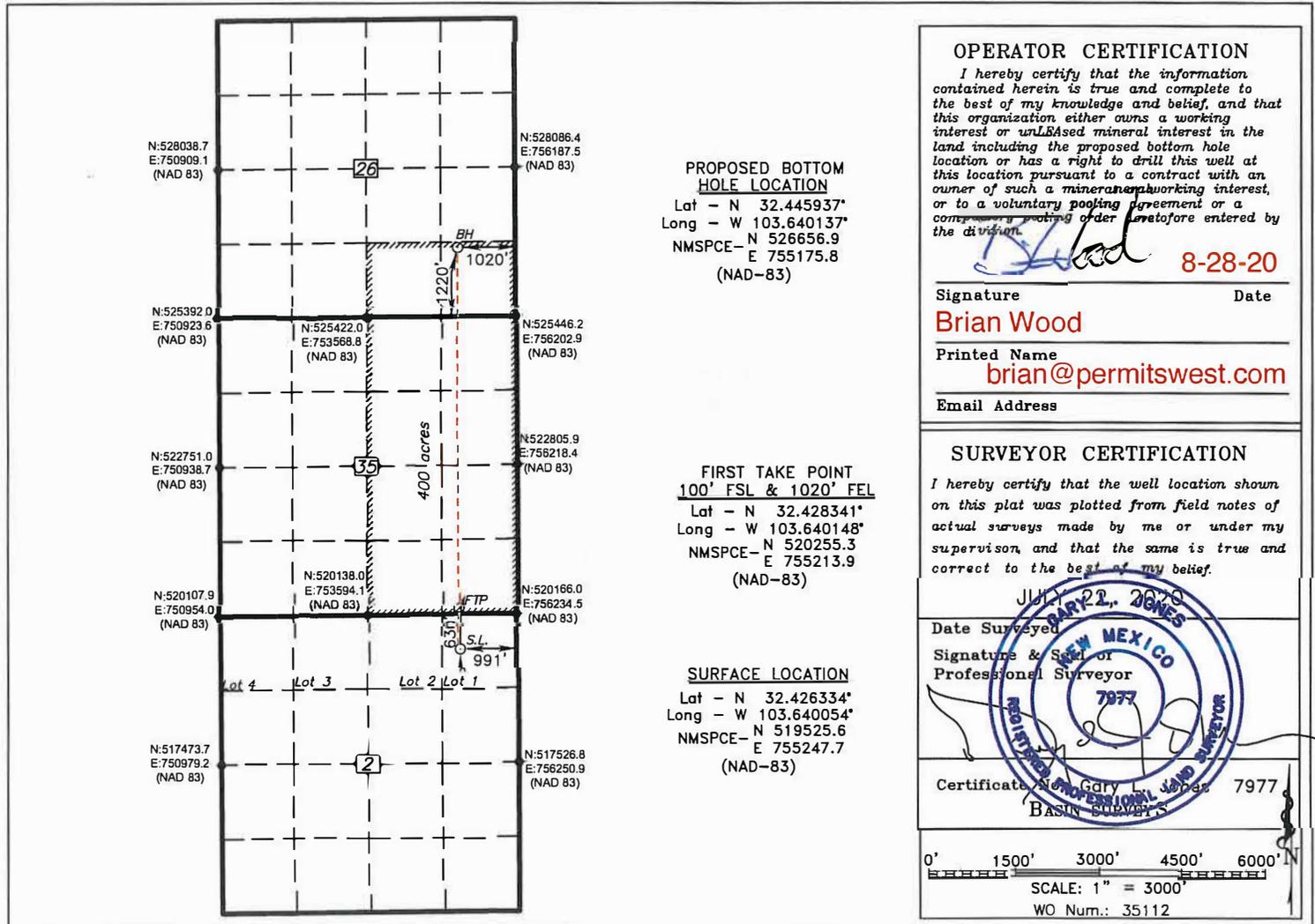
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
LOT 1	2	22 S	32 E		630	NORTH	991	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
P	26	21 S	32 E		1220	SOUTH	1020	EAST	LEA

Dedicated Acres <b>400.00</b>	Joint or Infill	Consolidation Code <b>C</b>	Order No.
----------------------------------	-----------------	--------------------------------	-----------

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



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

*Brian Wood* **8-28-20**  
 Signature Date  
**Brian Wood**  
 Printed Name  
**brian@permitswest.com**  
 Email Address

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

JLH  
 Date Surveyed  
 Signature & Seal of Professional Surveyor  
**7977**  
 Certificate No. Gary L. Jones 7977  
 BASIN SURVEYS

0' 1500' 3000' 4500' 6000'  
 SCALE: 1" = 3000'  
 WO Num.: 35112

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

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

Submit Original  
to Appropriate  
District Office

OCD - HOBBS  
11/30/2020  
RECEIVED

**GAS CAPTURE PLAN**

Date: 8-23-20

X Original Operator & OGRID No.: Advance Energy Partners Hat Mesa, LLC (372417)  
 Amended - Reason for Amendment: \_\_\_\_\_

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

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

**Well(s)/Production Facility – Name of facility**

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

Well Name	API	SHL (ULSTR)	SHL Footages	Expected MCF/D	Flared or Vented	Comments
Anderson Fed Com 504H	30-025-	A-2-22s-32e	630' FNL & 958' FEL	350	≈30 days	flare until well clean, then connect
Anderson Fed Com 557H	30-025-	A-2-22s-32e	630' FNL & 1024' FEL	350	≈30 days	flare until well clean, then connect
Anderson Fed Com 558H	30-025-	A-2-22s-32e	630' FNL & 925' FEL	350	≈30 days	flare until well clean, then connect
Anderson Fed Com 604H	30-025- <b>30-025-48077</b>	A-2-22s-32e	630' FNL & 991' FEL	350	≈30 days	flare until well clean, then connect

**Gathering System and Pipeline Notification**

Well will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. Gas produced from this production facility has not yet been dedicated. One possible outlet is DCP Operating Company, LP (36785). DCP connects existing wells ¼ mile east and ¼ mile south. Targa Midstream is also an option. Targa Midstream connects Advance Energy Partners Hat Mesa, LLC wells 5 miles away in 35-21s-33e. Advance Energy Partners Hat Mesa, LLC will provide (periodically) to DCP or other transporter a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Advance Energy Partners Hat Mesa, LLC and DCP or other transporter will have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at a DCP or other transporter processing plant at an as yet undetermined location. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

**Flowback Strategy**

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

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

### **Alternatives to Reduce Flaring**

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

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