AFMSS

U.S. Department of the Interior
Bureau of Land Management

Application for Permit to Drill

APD Package Report

Date Printed:

APD ID:	Well Status:
APD Received Date:	Well Name:
Operator:	Well Number:

APD Package Report Contents

- Form 3160-3

- Operator Certification Report

- Application Report
- Application Attachments
  -- Well Plat: 1 file(s)

- Drilling Plan Report
- Drilling Plan Attachments
  -- Blowout Prevention Choke Diagram Attachment: 1 file(s)
  -- Blowout Prevention BOP Diagram Attachment: 1 file(s)
  -- Casing Spec Documents: 1 file(s)
  -- Casing Design Assumptions and Worksheet(s): 4 file(s)
  -- Hydrogen sulfide drilling operations plan: 1 file(s)
  -- Proposed horizontal/directional/multi-lateral plan submission: 1 file(s)
  -- Other Facets: 4 file(s)
  -- Other Variances: 1 file(s)

- SUPO Report
- SUPO Attachments
  -- Existing Road Map: 1 file(s)
  -- New Road Map: 1 file(s)
  -- Attach Well map: 1 file(s)
  -- Production Facilities map: 1 file(s)
  -- Water source and transportation map: 1 file(s)
  -- Construction Materials source location attachment: 1 file(s)
  -- Well Site Layout Diagram: 1 file(s)
  -- Recontouring attachment: 2 file(s)
  -- Other SUPO Attachment: 1 file(s)

- PWD Report
- PWD Attachments

-- None

- Bond Report
- Bond Attachments
  -- None

Form 3160-3
(June 2015)

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER

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

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

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

8. Lease Name and Well No.

2. Name of Operator

9. API Well No.

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory

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

At surface

At proposed prod. zone

11. Sec., T. R. M. or Blk. and Survey or Area

14. Distance in miles and direction from nearest town or post office*	12. County or Parish	13. State

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date

Title

Approved by *(Signature)*	Name *(Printed/Typed)*	Date

Title	Office

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

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

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 11/06/2020

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 wen, 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 directionany 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 wen 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 win 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 conects this information to anow 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 Conection 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 / 925 FEL / TWSP: 22S / RANGE: 32E / SECTION: 2 / LAT: 32.426335 / LONG: -103.63984 (TVD: 0 feet, MD: 0 feet)

PPP: LOT 1 / 452 FNL / 494 FEL / TWSP: 22S / RANGE: 32E / SECTION: 2 / LAT: 32.4268223 / LONG: -103.6384436 (TVD: 10957 feet, MD: 10977 feet)

PPP: SESE / 0 FSL / 330 FEL / TWSP: 21S / RANGE: 32E / SECTION: 35 / LAT: 32.428086 / LONG: -103.63783 (TVD: 11397 feet, MD: 11702 feet)

PPP: SENE / 0 FSL / 330 FEL / TWSP: 21S / RANGE: 32E / SECTION: 35 / LAT: 32.435348 / LONG: -103.637894 (TVD: 11400 feet, MD: 14335 feet)

BHL: SESE / 1220 FSL / 330 FEL / TWSP: 21S / RANGE: 32E / SECTION: 26 / LAT: 32.445942 / LONG: -103.6379 (TVD: 11400 feet, MD: 18195 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.

☐ **General Provisions**

 Approval Date: 11/06/2020

- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
  - Lesser Prairie-Chicken Timing Stipulations
  - Ground-level Abandoned Well Marker
  - Hydrology
  - Potash Resources
- ☐ **Construction**
  - Notification
  - Topsoil
  - Closed Loop System
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- ☐ **Road Section Diagram**
- ☐ **Production (Post Drilling)**
  - Well Structures & Facilities
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

IV. NOXIOUS WEEDS

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

V. SPECIAL REQUIREMENT(S)

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

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

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

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 2012Secretarial 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

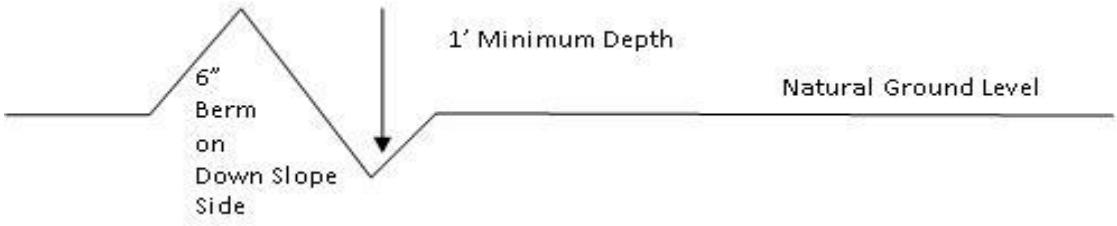
Ditching shall be required on both sides of the road.

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:

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

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

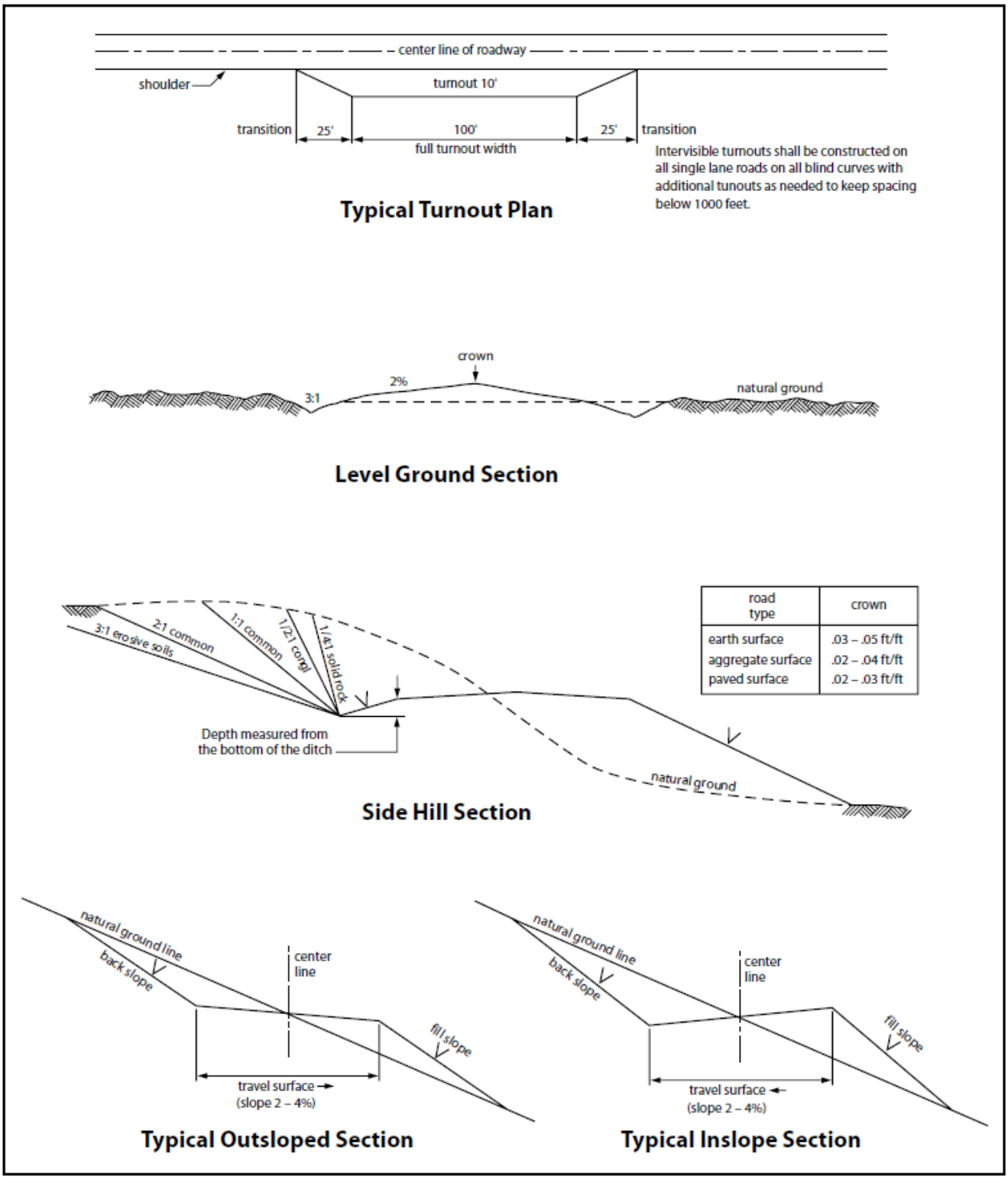


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

Approval Date: 11/06/2020

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).

Approval Date: 11/06/2020

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

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

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

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

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

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

COA

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

A. HYDROGEN SULFIDE

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.

Approval Date: 11/06/2020

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 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

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

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

A. CASING

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

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

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

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

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

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

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

B. PRESSURE CONTROL

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

AFMSS

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

Operator Certification Data Report

11/13/2024

Operator

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: BRIAN WOOD **Signed on:** 09/01/2020

Title: Permitting Agent

Street Address: 37 VERANO LOOP

City: SANTA FE **State:** NM **Zip:** 87508

Phone: (505)466-8120

Email address: AFMSS@PERMITSWEST.COM

Field

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

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

Application Data
11/13/2024

APD ID: 10400061009 **Submission Date:** 09/01/2020

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

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

Highlighted data reflects the most recent changes
Show Final Text

Section 1 - General

APD ID: 10400061009 **Tie to previous NOS?** N **Submission Date:** 09/01/2020

BLM Office: Carlsbad **User:** BRIAN WOOD **Title:** Permitting Agent

Federal/Indian APD: FED **Is the first lease penetrated for production Federal or Indian?** FED

Lease number: NMNM120905 **Lease Acres:**

Surface access agreement in place? **Allotted?** **Reservation:**

Agreement in place? NO **Federal or Indian agreement:**

Agreement number:

Agreement name:

Keep application confidential? N

Permitting Agent? YES **APD Operator:** ADVANCE ENERGY PARTNERS HAT MESA LLC

Operator letter of

Operator Info

Operator Organization Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Operator Address: 11490 Westheimer Rd, Suite 950 **Zip:** 77707

Operator PO Box:

Operator City: Houston **State:** TX

Operator Phone: (346)444-9739

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO **Master Development Plan name:**

Well in Master SUPO? NO **Master SUPO name:**

Well in Master Drilling Plan? NO **Master Drilling Plan name:**

Well Name: ANDERSON FED COM **Well Number:** 558H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** Red Tank **Pool Name:** BONE SPRING

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

Is the proposed well in an area containing other mineral resources? USEABLE WATER,NATURAL GAS,OIL

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** N **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** Anderson Fed Com **Number:** Pad A

Well Class: HORIZONTAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 26 Miles **Distance to nearest well:** 33 FT **Distance to lease line:** 395 FT

Reservoir well spacing assigned acres Measurement: 400 Acres

Well plat: Anderson_558H_Plat_GasCap_Plan_20200827151554.pdf

Well work start Date: 11/01/2020 **Duration:** 90 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 7977 **Reference Datum:** KELLY BUSHING

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this
SHL Leg #1	630	FNL	925	FEL	22S	32E	2	Lot 1	32.426335	-103.63984	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 106696	3657	0	0	N
KOP Leg #1	455	FNL	495	FEL	22S	32E	2	Lot 1	32.4268141	-103.6384468	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 106696	-7258	10935	10915	N
PPP Leg #1-1	0	FSL	330	FEL	21S	32E	35	Aliquot SENE	32.435348	-103.637894	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 120905	-7743	14335	11400	Y

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this
PPP Leg #1-2	0	FSL	330	FEL	21S	32E	35	Aliquot SESE	32.428086	-103.63783	LEA	NEW MEXICO	NEW MEXICO	F	FEE	-7740	11702	11397	Y
PPP Leg #1-3	452	FNL	494	FEL	22S	32E	2	Lot 1	32.4268223	-103.6384436	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 106696	-7300	10977	10957	N
EXIT Leg #1	1220	FSL	330	FEL	21S	32E	26	Aliquot SESE	32.445942	-103.6379	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 126968	-7743	18195	11400	Y
BHL Leg #1	1220	FSL	330	FEL	21S	32E	26	Aliquot SESE	32.445942	-103.6379	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 126968	-7743	18195	11400	Y

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax: (575) 393-0720
DISTRICT II
811 S. First St., Artesia, NM 88210
Phone (575) 748-1283 Fax: (575) 748-9720
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone (505) 334-6178 Fax: (505) 334-6170
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

Form C-102
Revised August 4, 2011

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025-	51683	RED TANK; BONE SPRING

Property Code	Property Name	Well Number
	ANDERSON FED COM	558H

OGRID No.	Operator Name	Elevation
372417	ADVANCE ENERGY PARTNERS HAT MESA, LLC	3657'

Surface Location

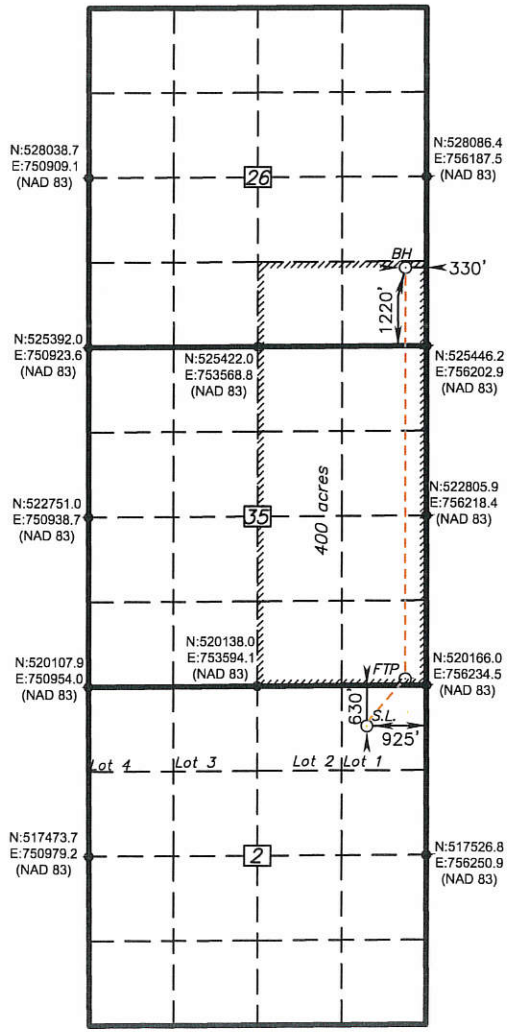
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
LOT 1	2	22 S	32 E		630	NORTH	925	EAST	LEA

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	330	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
400.00		C	

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



PROPOSED BOTTOM HOLE LOCATION
Lat – N 32.445942°
Long – W 103.637900°
NMSPCE– N 526663.2
E 755865.8
(NAD-83)

FIRST TAKE POINT
100' FSL & 330' FEL
Lat – N 32.428348°
Long – W 103.637912°
NMSPCE– N 520262.5
E 755903.9
(NAD-83)

SURFACE LOCATION
Lat – N 32.426335°
Long – W 103.639840°
NMSPCE– N 529526.1
E 755313.7
(NAD-83)

OPERATOR CERTIFICATION

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

8-26-20
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 supervison, and that the same is true and correct to the best of my belief.

JULY 22, 2020
Date Surveyed

Signature & Seal of Professional Surveyor

GARY L. JONES NEW MEXICO 7977 REGISTERED PROFESSIONAL LAND SURVEYOR

Certificate No. Gary L. Jones 7977
BASIN SURVEYS

0' 1500' 3000' 4500' 6000' N
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

GAS CAPTURE PLAN

Date: 8-23-20

X Original
□ Amended - Reason for Amendment: _____

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

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, recomplete 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-	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

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

Drilling Plan Data Report
11/13/2024

APD ID: 10400061009 **Submission Date:** 09/01/2020

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
1137206	QUATERNARY	3657	0	0	OTHER : Caliche	USEABLE WATER	N
1137207	RUSTLER ANHYDRITE	2497	1160	1160	ANHYDRITE	NONE	N
1137208	TOP SALT	2182	1475	1475	SALT	NONE	N
1137210	BELL CANYON	-1153	4810	4810	LIMESTONE	NATURAL GAS, OIL	N
1137209	BASE OF SALT	-1153	4810	4810	SALT	NONE	N
1137211	CHERRY CANYON	-2028	5685	5685	SANDSTONE	NATURAL GAS, OIL	N
1137212	LOWER BRUSHY CANYON 8A	-4727	8384	8396	SANDSTONE	NATURAL GAS, OIL	N
1137213	AVALON SAND	-5247	8904	8918	SHALE	NATURAL GAS, OIL	N
1137214	BONE SPRING 1ST	-6114	9771	9787	SANDSTONE	NATURAL GAS, OIL	N
1137215	BONE SPRING 2ND	-6732	10389	10406	SANDSTONE	NATURAL GAS, OIL	N
1137205	BONE SPRING 3RD	-7300	10957	10977	OTHER : Carbonate	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:** 558H

Choke Diagram Attachment:

Anderson_558H_BOP_Choke_20200828082523.pdf

BOP Diagram Attachment:

Anderson_558H_BOP_Choke_20200828082541.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	3657	2447	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	-343	4000	J-55	40	LT&C	1.125	1.125	DRY	1.6	DRY	1.6
3	INTERMEDIATE	12.25	9.625	NEW	API	N	4000	4815	4000	4815	-343	-1158	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	18195	0	11400	3657	-7743	18195	HCP-110	20	OTHER - CDC-HTQ	1.125	1.125	DRY	1.6	DRY	1.6

Casing Attachments

Casing ID: 1 **String** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Design_Assumptions_20200925104559.pdf

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

Casing Attachments

Casing ID: 2 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Design_Assumptions_20200925104642.pdf

Casing ID: 3 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Design_Assumptions_20200925104731.pdf

Casing ID: 4 **String** PRODUCTION

Inspection Document:

Spec Document:

5.5in_Casing_Spec_HCP110_CDC_HTQ_20200925104807.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Design_Assumptions_20200925104821.pdf

Section 4 - Cement

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

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	10935	885	3.81	10.6	3372	50	PowerCem	5PPS Plexcrete STE + 11% Gypsum + 3% SMS + 0.1% SuspendaCem 6302 + 0.4% R-1300 + 0.005GPS NoFoam V1A
PRODUCTION	Tail		10935	18195	1655	1.21	14.5	2003	20	Di Poz + H	5% SALT + 0.2% C-20 + 0.4% C-47B + 0.005GPS NoFoam V1A

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

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	10							
1210	4815	OTHER : Brine	10	10.5							
4815	10935	OTHER : Cut Brine	9.2	9.5							
10935	18195	OIL-BASED MUD	9.5	9.8							

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

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: 5586 **Anticipated Surface Pressure:** 3078

Anticipated Bottom Hole Temperature(F): 236

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

Anderson_558H_H2S_Plan_20200828083234.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Anderson_558H_Horizontal_Plan_20200828083245.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_20200828083345.pdf

Anderson_558H_Anti_Collision_Report_20200828083350.pdf

Anderson_558H_Drill_Plan_v2_20200925110517.pdf

Wellhead_Diagram_20200925110523.pdf

Other Variance attachment:

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

Anderson_558H_Casing_Cementing_Variance_Request_20200828083448.pdf

Rev. 03/05/18

BOP Testing - BLM

Online BOP (Offline Choke Manifold)

2-String (VBR) Procedure

Job Step List

5000 psi

THESE PROCEDURES WERE DEVELOPED FOR THE HELMERICH & PAYNE FLEX 3 AND FLEX 5 STANDARD CONFIGURATION RIGS. IF THE BOP BEING TESTED IS NOT ON A FLEX 3 OR FLEX 5 STANDARD CONFIGURATION RIG (OR IF YOU DO NOT KNOW HOW THE RIG YOU ARE WORKING ON IS CONFIGURED), YOU ARE REQUIRED TO CONSULT WITH THE RIG MANAGER IN ORDER TO DETERMINE IF CHANGES TO THESE PROCEDURES ARE APPROPRIATE.

Job Steps

Below is a detailed document containing the job steps that need to be taken by H&P personnel overseeing online BOP and Offline Choke testing. While overseeing the project, H&P personnel should take detailed notes and make recommendations to optimize and improve future tests.

Recommended windows to test choke and floor subs offline:

1. Test the floor subs as soon as practical – if there is an issue with the testing unit or any of the tester's equipment, this will allow time to get the new equipment to the rig. This will help to eliminate NPT due to waiting on testing companies.

    a. Recommended times to test floor subs
        i. While pumping cement (ensure to have 1 FOSV on the rig floor while pumping)
        ii. While WOC
        iii. Any time before drilling out shoe track.

    b. Verify floor sub test pressures with company representative.

2. Testing the choke manifold offline:
    a. After casing slips are set and tested, you can either:
        i. Remove coflex choke line from choke manifold side and install a blind flange to test choke manifold against.
        ii. Or leave coflex choke line connected, and test against HCR. The 20' pressure testing buffer zone must still be maintained around **ALL** lines under pressure.

    b. The optimal time to test the choke manifold offline is up to the DSV and rig manager's discretion. Recommended time periods are as follows:
        i. During inflow test, after casing slips are set and tested. Ensure buffer zone is maintained.
        ii. During rig up on new well, as time allows.
        iii. At any point before drilling out cased hole:
            1. While picking up BHA
            2. While tripping in cased hole.

    c. Keep in mind there are 2 tests in the Online BOP Test Procedure that test back to the choke manifold. If you have not finished testing the choke manifold, you can utilize these online tests to test the remaining choke manifold valves.

    d. If ready to perform the Online BOP Test before the choke manifold has been tested, that is ok. Perform the Online BOP Test and then you can finish testing the choke manifold at any point before drilling out the shoe track.

Rig up to Test Choke Manifold Offline:

- Inspect all 3rd party equipment
  - *RM or driller ~ 0.25 hours*
- Rig up test unit to crown valve (choke manifold valve #1)
  - *1 employee ~ 0.25 hours*
- Before beginning test, tester must pump through both super chokes one at a time. This is to verify both super chokes are functioning and neither are plugged.

Test Choke Manifold Offline:

- Test choke manifold per the 5 step test displayed in Figure 1 through 5 in Drawing Appendix. The components being tested are listed beneath each test.
  Note: Never pump down the panic line. Doing so will cause a spill of drilling fluid on side of location.
- **Choke Manifold Test 1** – Figure 1. (Test Valves 10, 11, 12 to 50% of RWP)
  - Choke valves # 3, 10, 11, 12
- **Choke Manifold Test 2** – Figure 2.
  - Choke valves # 3, 8, 9
  - Manual Choke

  Note: Manual choke test done per request of operator only. If not requested close valve 14.
- **Choke Manifold Test 3** – Figure 3.

  Note: Super **choke test done per request of operator only. If not requested skip to test 4.**
  - Hydraulic Super choke #1 & 2
  - Choke valve #14
- **Choke Manifold Test 4** – Figure 4.
  - Choke valve #5, 7, 13
- **Choke Manifold Test 5** – Figure 5.
  - Choke valves # 2, 4, 6

Prep to Test BOP:

- Install test plug in wellhead before skidding and beginning nipple up on new well.
  Note: Confined space entry permit may be required.
  - *2 employees ~ 0.25 hours*
- Inspect all 3rd party equipment.
  - *RM or driller ~ 0.25 hours*
- Spot test unit and load 3rd party equipment to PDS/rig floor.
  - *2 employees ~ 0.25 hours*
- Fill BOP with water and connect test hoses.
  - *2 employees ~ 0.25 hours*
- Verify sequence to open, close, test, and bleed off with tester.
  - *Driller and 1 employee ~ 0.25 hours*

Test BOP:

- Test BOP components per the 7 step test displayed in Figure 6 through 13. The components being tested are listed beneath each test.
  Note: Keep all high pressure areas barricaded and labeled. Always have a knowledgeable rig team member with tester to verify open/close sequence.
  Note: All tests are 10 minutes in duration. Be sure to bleed off completely between each test.

- **High Pressure Mud Line Test** – Figure 6.
  - Upper Hydraulic IBOP
  - Mud pump 4" valves
  - 2" bleed off valve on the rig floor

- Line up to pump water from rig tank with mud pumps. **Set pressure alarm to 150 psi above rig "zero" and fill lines with water through top drive using mud pumps. Do not exceed 15 SPM at any time.** Pump until returns are received down flowline; this will verify the weep hole is not plugged.
  - **BOP Test 1** - Figure 7.
    - Blind rams
    - 2" bleed off valve on rig floor
    - 4" standpipe valve
    - 2" bleed off at mud pump
- Make up pump-in sub to joint of drill pipe and lower joint into test plug. Make up joint to test plug.
  - **BOP Test 2** – Figure 8.
    Note: In Test 2, open crown valve at choke to verify manual gauge, choke panel gauge, and electronic sensor on driller screen. Record on test chart.
    - Upper pipe rams – smaller size of DP
    - Upper Hydraulic IBOP valve
    - Outside kill valve
    - Crown valve gauge on choke manifold (Valve #1)
  - **BOP Test 3** – Figure 9.
    - Inside kill valve
    - Hydraulic HCR
    - Lower Manual IBOP valve
  - **BOP Test 4** – Figure 11.
    - Lower pipe rams
  - **BOP Test 5 –** Figure 10.
    - Annular – smaller size of DP

    Note: Test annular to 50% of RWP of element
  - **BOP Test 6** – Figure 12.
    - Annular – 2nd and larger size of DP

    Note: Install Check valve and cap while change DP sizes
  - **BOP Test 7** – Figure 13.
    - Upper pipe rams (VBR's) – 2nd and larger size of DP
    - Check valve on kill line
    - Inside choke valve (manual HCR)

Rig Down

- R/D and L/D test joint and plug; remove test equipment from rig floor and load 3rd party truck.
  - *3 employees ~ 0.5 hours*
- Close casing valve and re-align / verify correct alignment of all other valves. Verify that check valve on kill side has been re-installed.
  Note: Confined space entry permit may be required.
  - *2 employees ~ 0.25 hours*

Drawing Appendix

OFFLINE CHOKE MANIFOLD TEST

TEST 1

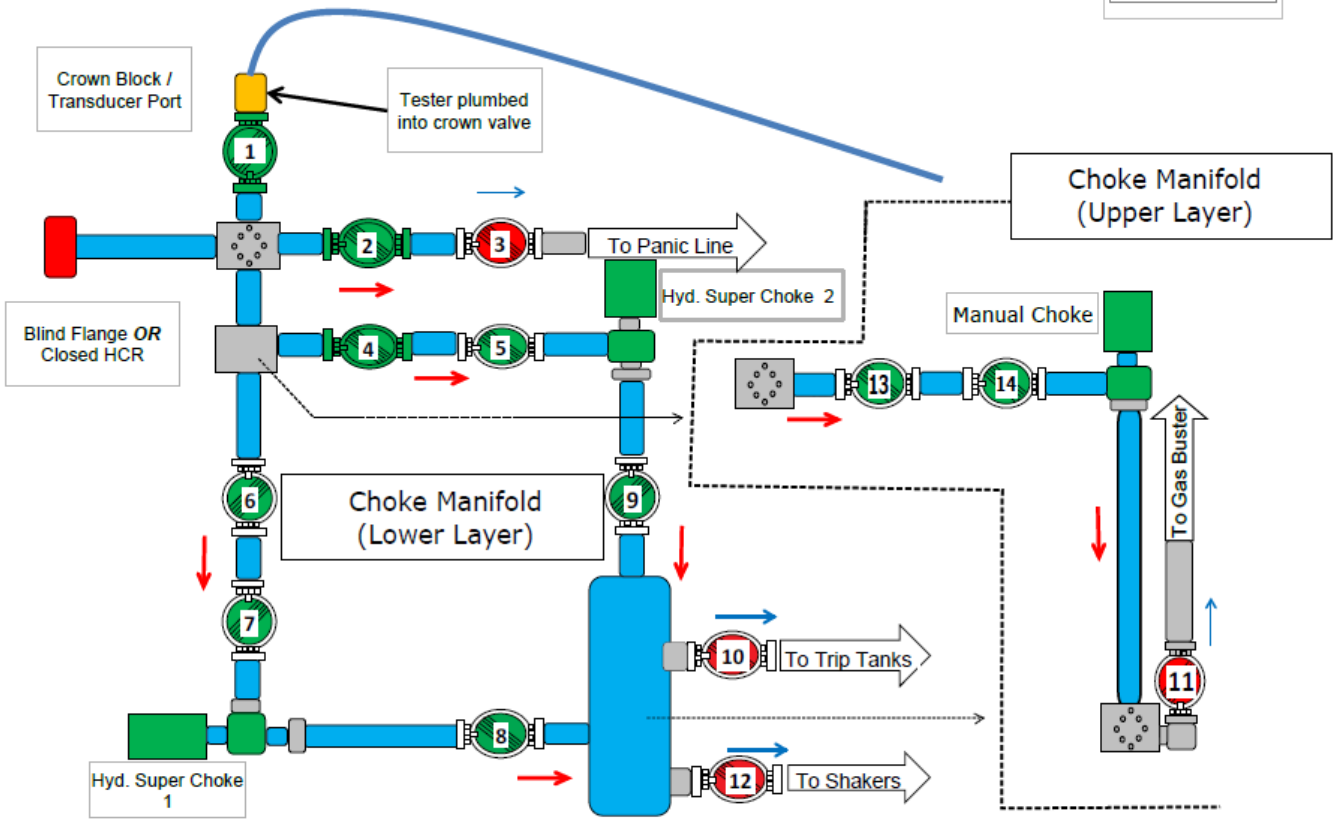
NOTE: Verify Test Pressure With Company Representative. Initial Test to RWP of BOP if utilizing test plug.

Duration:
10 min low
10 min high

KEY

- Applied Pressure
- Pressure Path
- Leak Path
- Open
- Closed
- Test Unit / Test Equipment

Post Test: Close upstream valve in subsequent test, prior to opening previously tested valve.



NOTE: Valves 10, 11 & 12 are 5K valves. Test to 75% RWP.

Closed:

X Choke Manifold Valves 3, 10, 11, 12

Leak Paths:

☐ Gas Buster
☐ Trip Tanks
☐ Shakers
☐ Panic Line

Figure 1: Choke Manifold Test 1

OFFLINE CHOKE MANIFOLD TEST

TEST 2

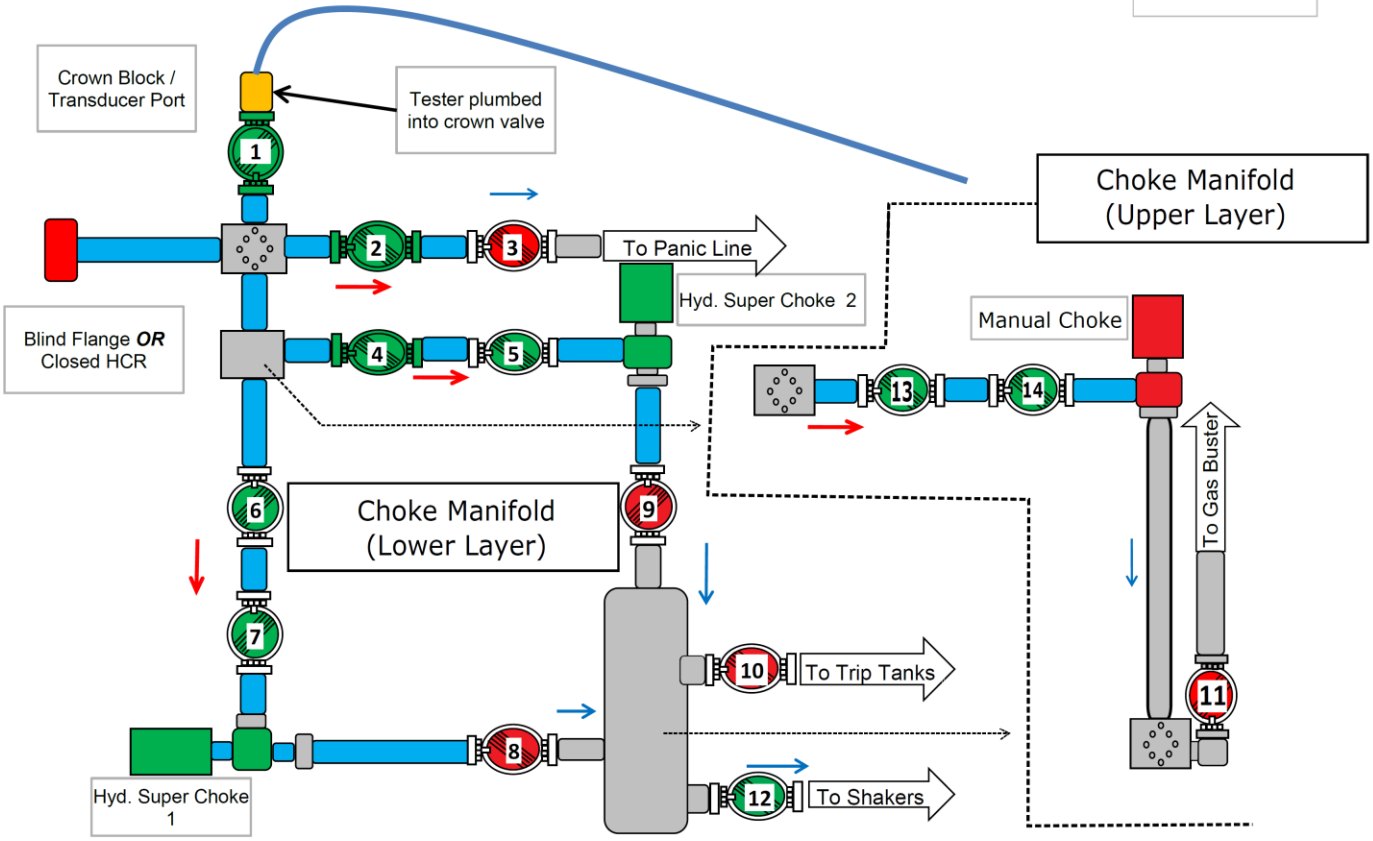
NOTE: Verify Test Pressure With Company Representative. Initial Test to RWP of BOP if utilizing test plug.

Duration:
10 min low
10 min high

KEY

- Applied Pressure
- Pressure Path
- Leak Path
- Open
- Closed
- Test Unit / Test Equipment

Post Test: Close upstream valve in subsequent test, prior to opening previously tested valve.



Closed:
X Choke Manifold Valves 3, 8, 9, 10, 11
X Manual Choke

Leak Paths:
☐ Shakers
☐ Panic Line

**Test Manual Choke only at request of Operator. If not requested, close valve 14.

Figure 2: Choke Manifold Test 2

OFFLINE CHOKE MANIFOLD TEST

TEST 3

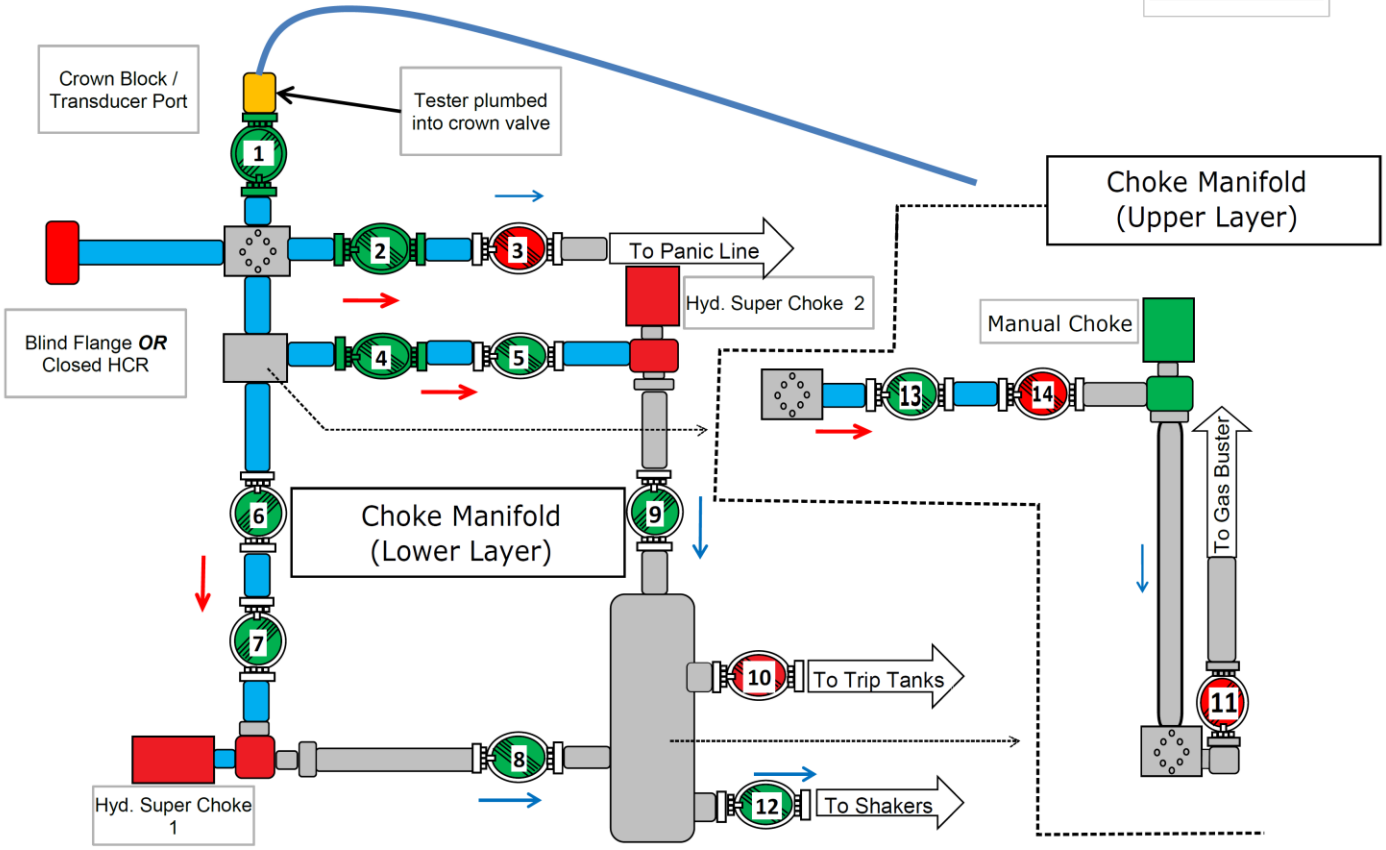
NOTE: Verify Test Pressure With Company Representative. Initial Test to RWP of BOP if utilizing test plug.

Duration:
10 min low
10 min high

KEY

- Applied Pressure
- Pressure Path
- Leak Path
- Open
- Closed
- Test Unit / Test Equipment

Post Test: Close upstream valve in subsequent test, prior to opening previously tested valve.



Closed:
X Choke Manifold Valves 3, 10, 11, 14
X Hydraulic Super Choke 1 and 2

Leak Paths:
☐ Shakers
☐ Panic Line

**Test Hydraulic Chokes only at request of Operator.
If not requested, skip to Test 4.

Figure 3: Choke Manifold Test 3

OFFLINE CHOKE MANIFOLD TEST

TEST 4

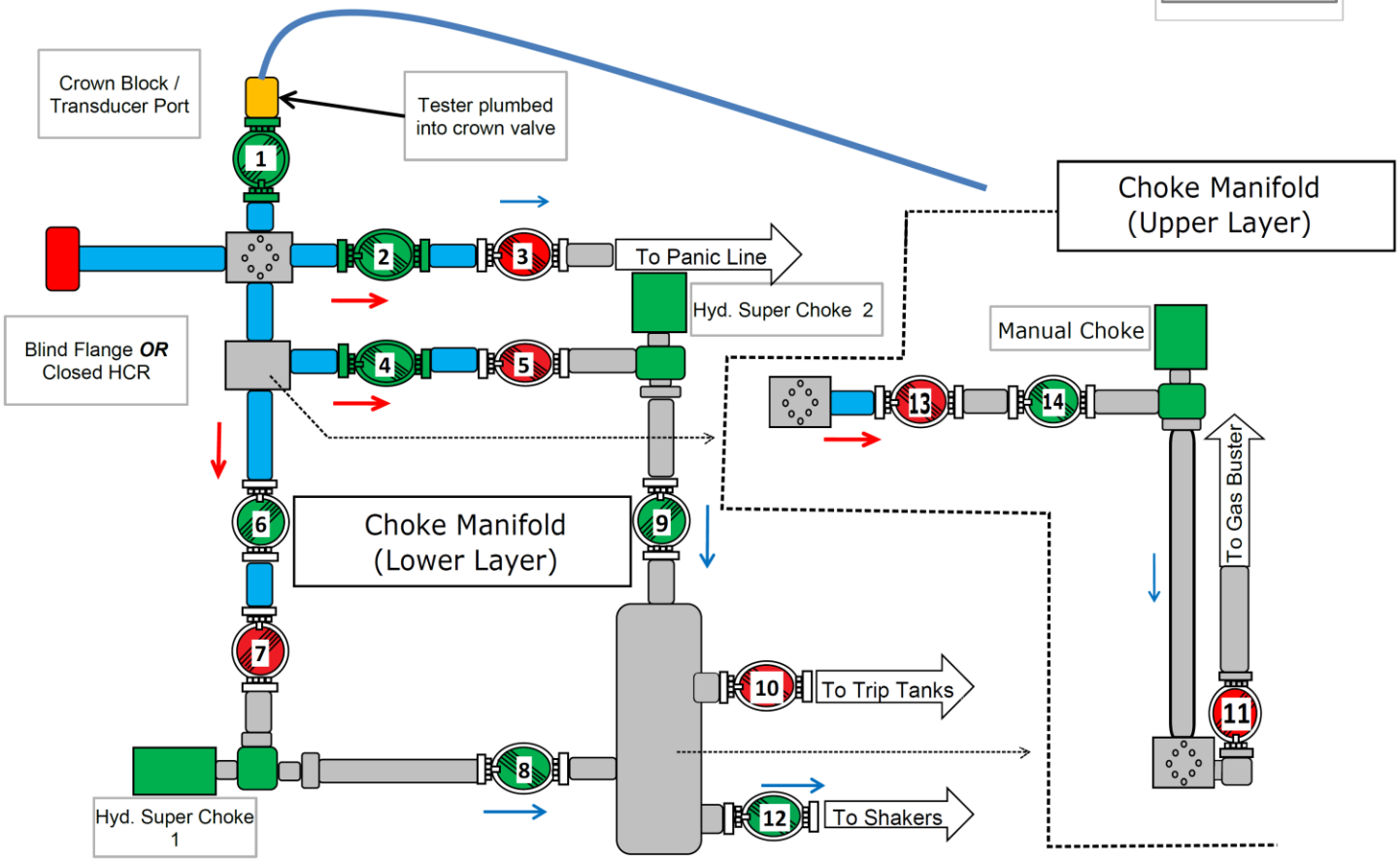
NOTE: Verify Test Pressure With Company Representative. Initial Test to RWP of BOP if utilizing test plug.

Duration:
10 min low
10 min high

KEY

- Applied Pressure
- Pressure Path
- Leak Path
- Open
- Closed
- Test Unit / Test Equipment

Post Test: Close upstream valve in subsequent test, prior to opening previously tested valve.



Closed:
X Choke Manifold Valves 3, 5, 7, 10, 11, 13

Leak Paths:
- Shakers
- Panic Line

Figure 4: Choke Manifold Test 4

OFFLINE CHOKE MANIFOLD TEST

TEST 5

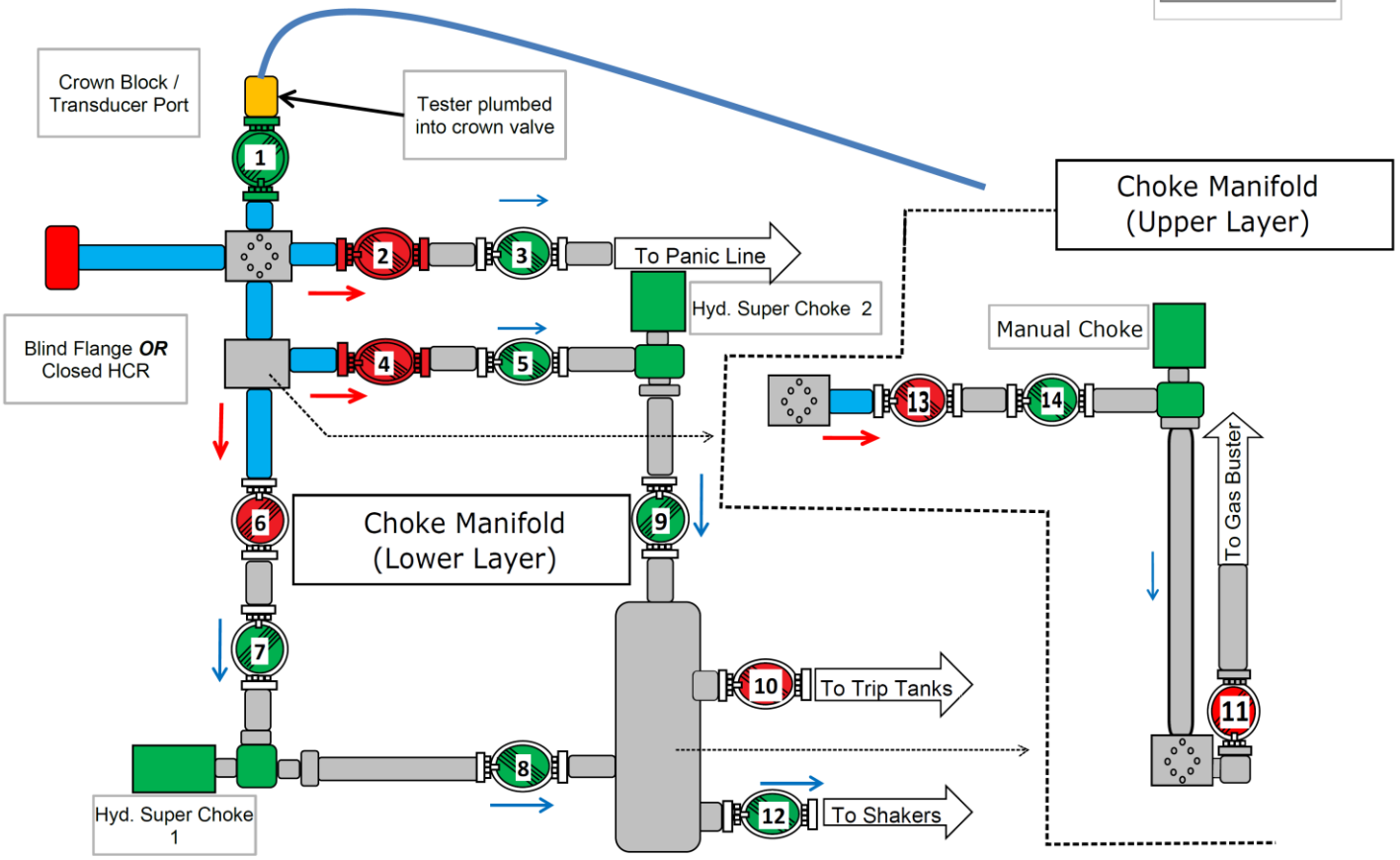
NOTE: Verify Test Pressure With Company Representative. Initial Test to RWP of BOP if utilizing test plug.

Duration:
10 min low
10 min high

KEY

- Applied Pressure
- Pressure Path
- Leak Path
- Open
- Closed
- Test Unit / Test Equipment

Post Test: Close upstream valve in subsequent test, prior to opening previously tested valve.



Closed:
X Choke Manifold Valves 2, 4, 6, 10, 11, 13

Leak Paths:
- Shakers
- Panic Line

Figure 5: Choke Manifold Test 5

OFFLINE MUD LINE TEST

TEST 1

CAN BE PERFORMED DURING NIPPLE UP OPERATIONS

NOTE: Verify Test Pressure With Company Representative.
Initial test to RWP of BOP if utilizing test plug.

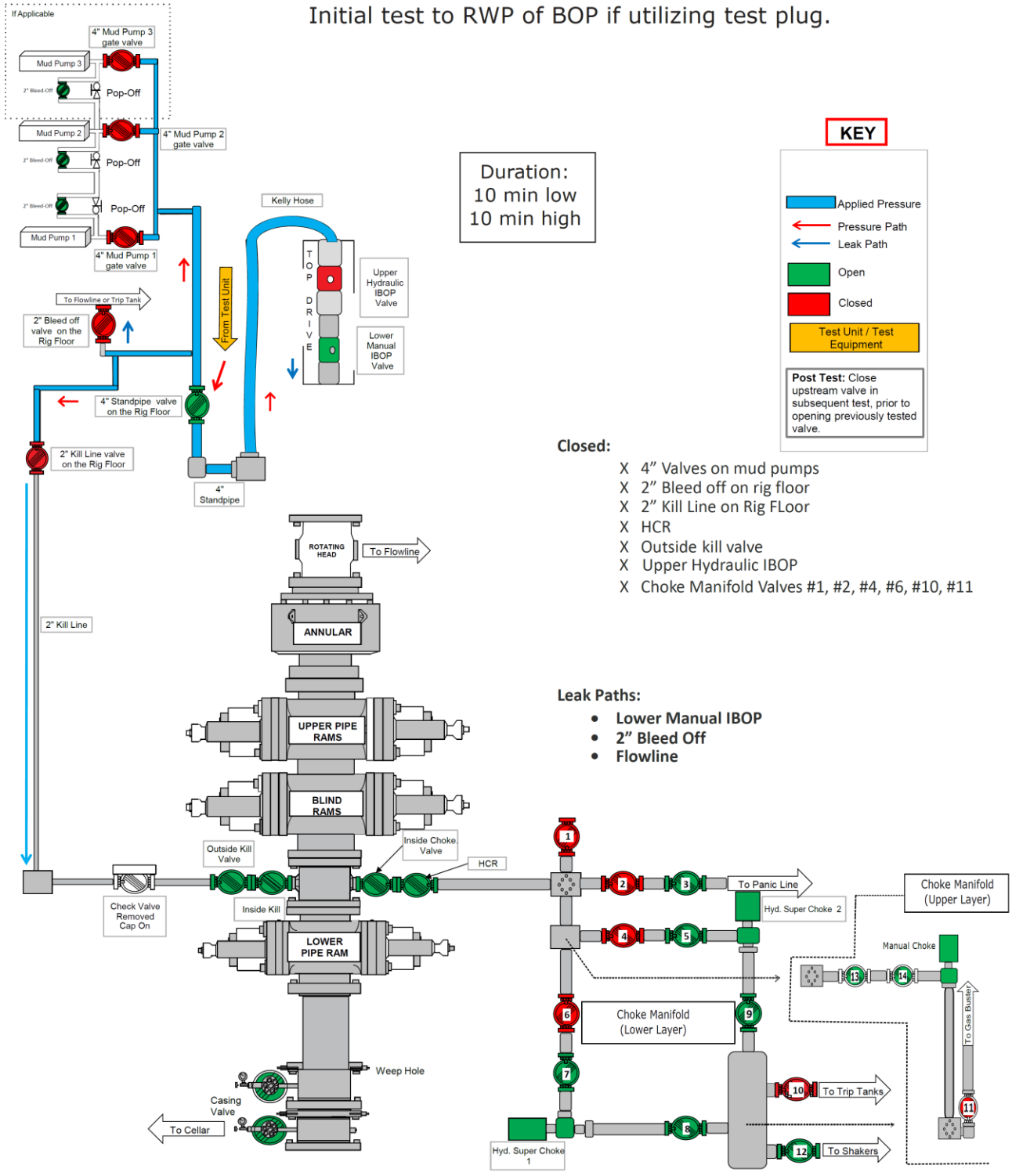


Figure 6: High Pressure Mud Line Test

ONLINE BOP TEST

TEST 1

NOTE: Verify Test Pressure With Company Representative.
Initial test to RWP of BOP if utilizing test plug.

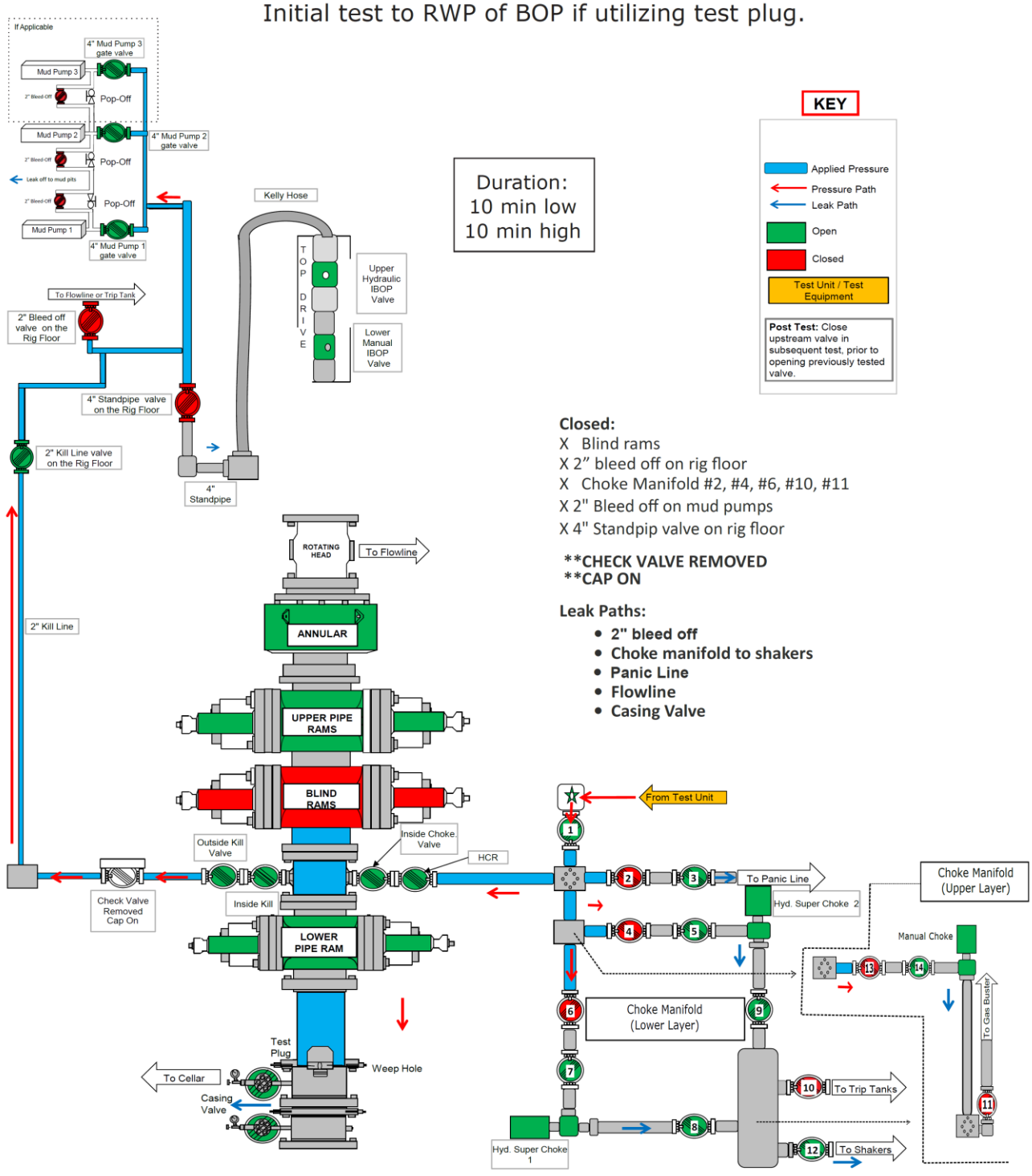


Figure 7: BOP Test 1

ONLINE BOP TEST

TEST 2

NOTE: Verify Test Pressure With Company Representative.
Initial test to RWP of BOP if utilizing test plug.

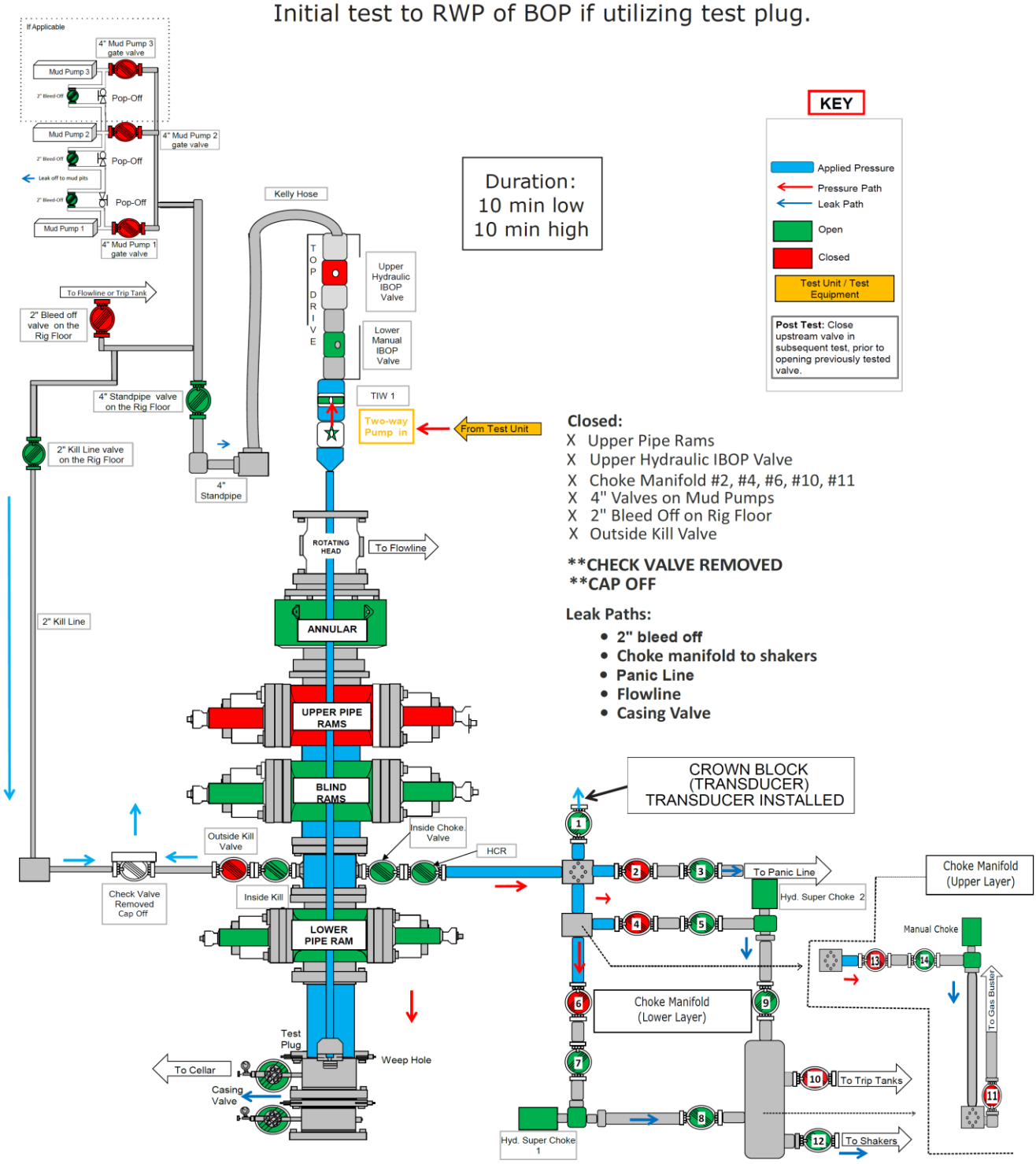


Figure 8: BOP Test 2

ONLINE BOP TEST

TEST 3

NOTE: Verify Test Pressure With Company Representative.
Initial test to RWP of BOP if utilizing test plug.

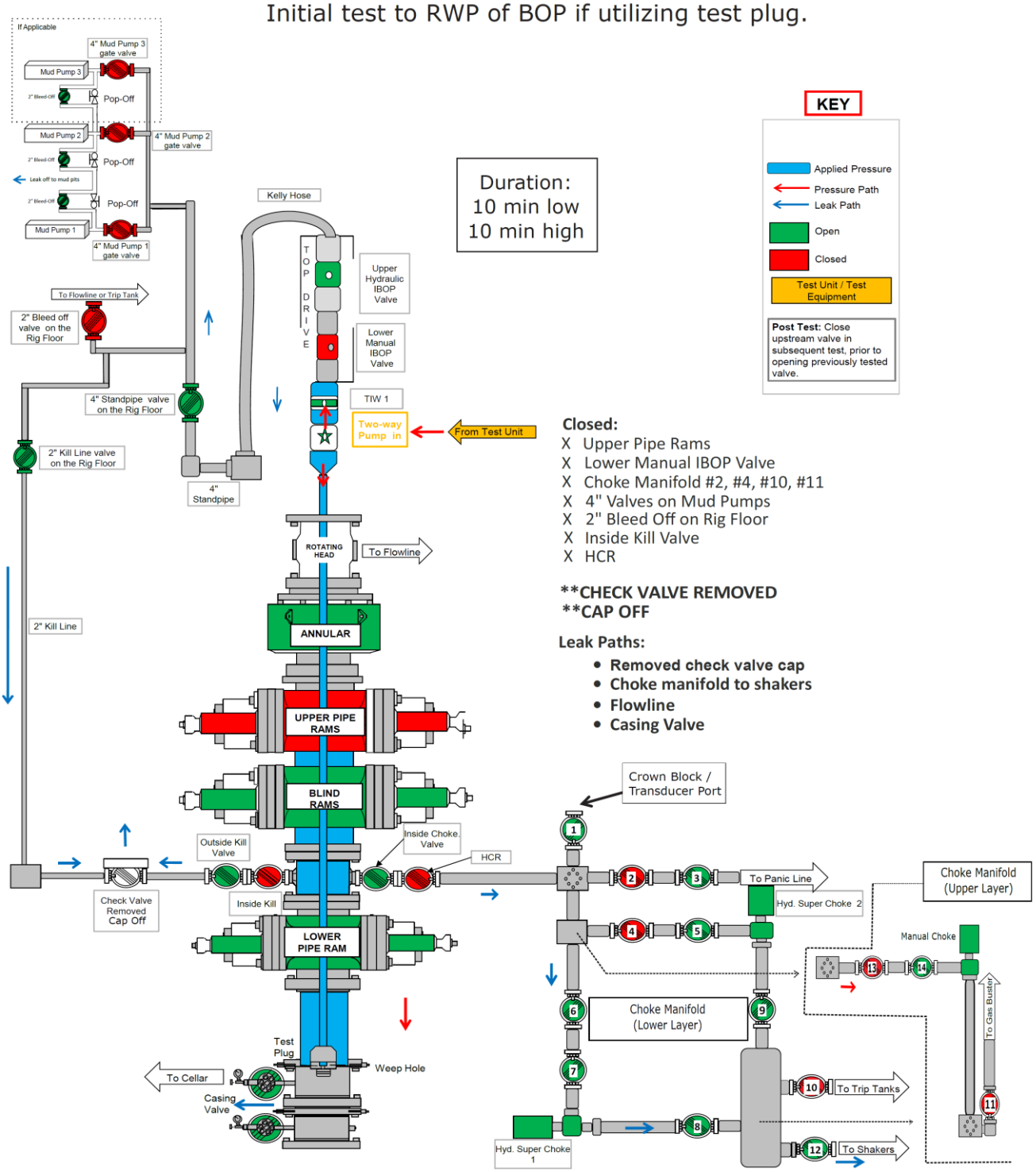


Figure 9: BOP Test 3

ONLINE BOP TEST

TEST 4

NOTE: Verify Test Pressure With Company Representative.
Initial test to RWP of BOP if utilizing test plug.

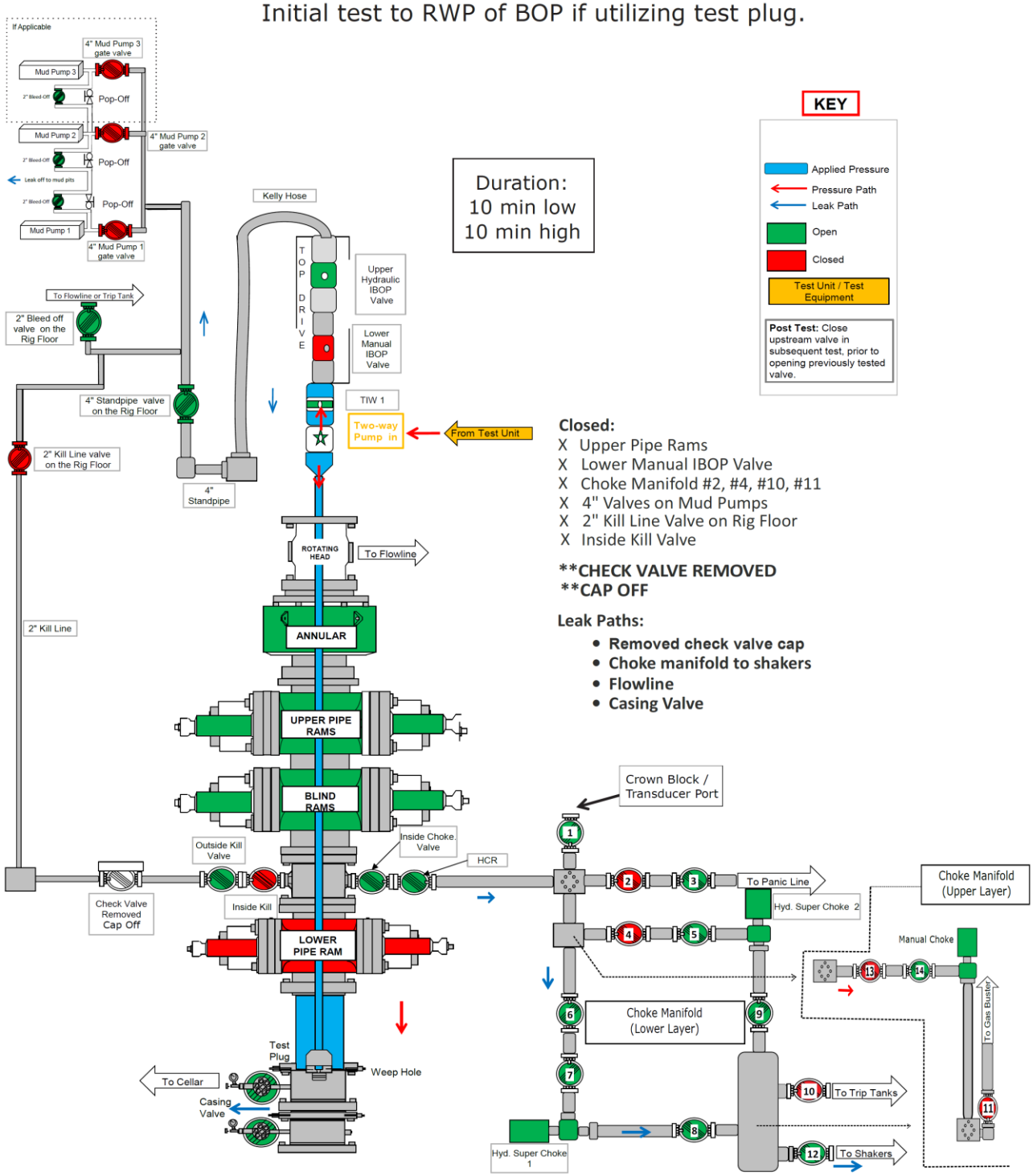


Figure 10: BOP Test 4

ONLINE BOP TEST

TEST 5

NOTE: Verify Test Pressure With Company Representative.
Annular Test to 50% RWP of Annular.

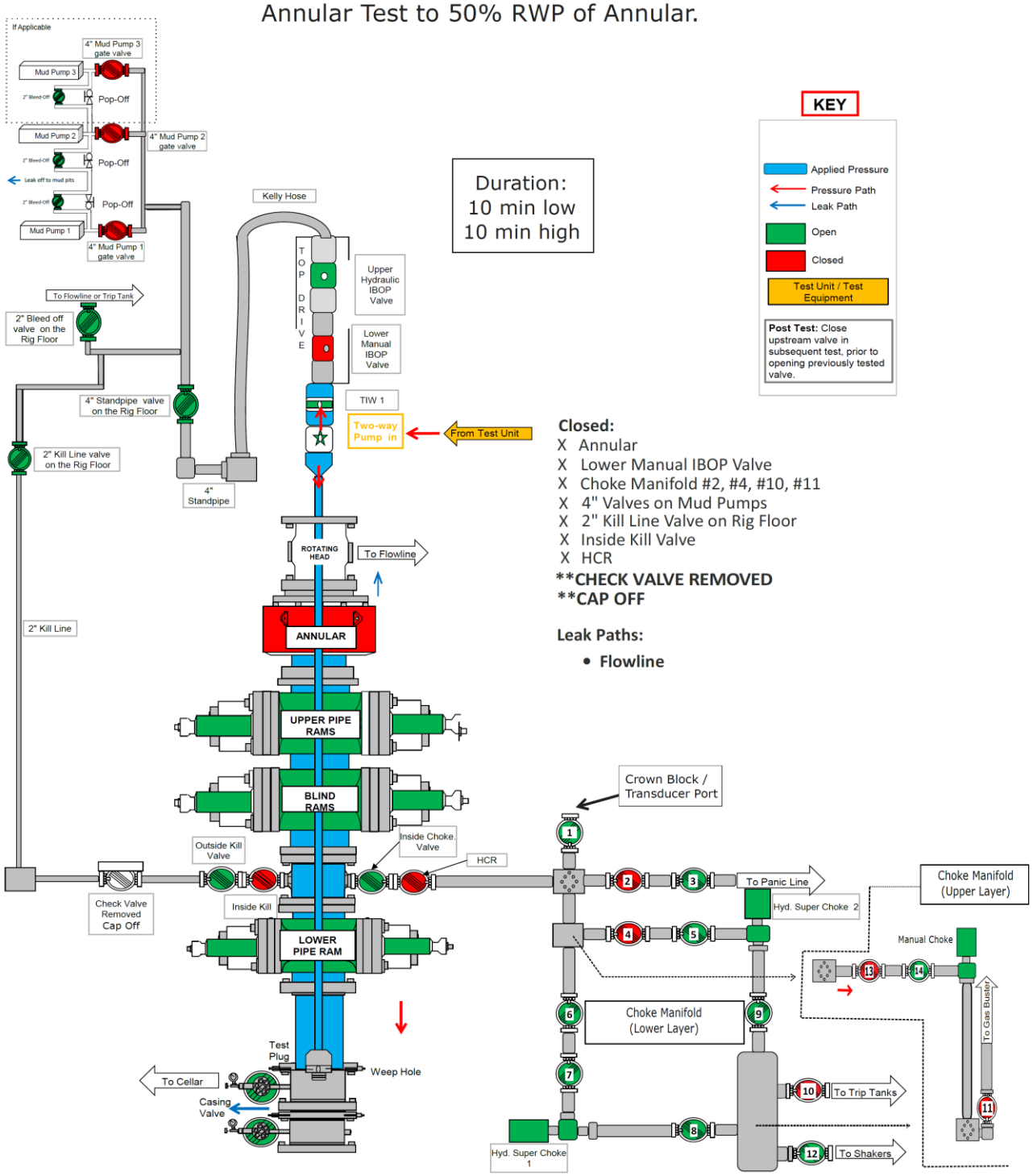


Figure 11: BOP Test 5

ONLINE BOP TEST

TEST 6

Utilize second (larger) size of drill pipe for this test.

NOTE: Verify Test Pressure With Company Representative.
Annular Test to 50% RWP of Annular.

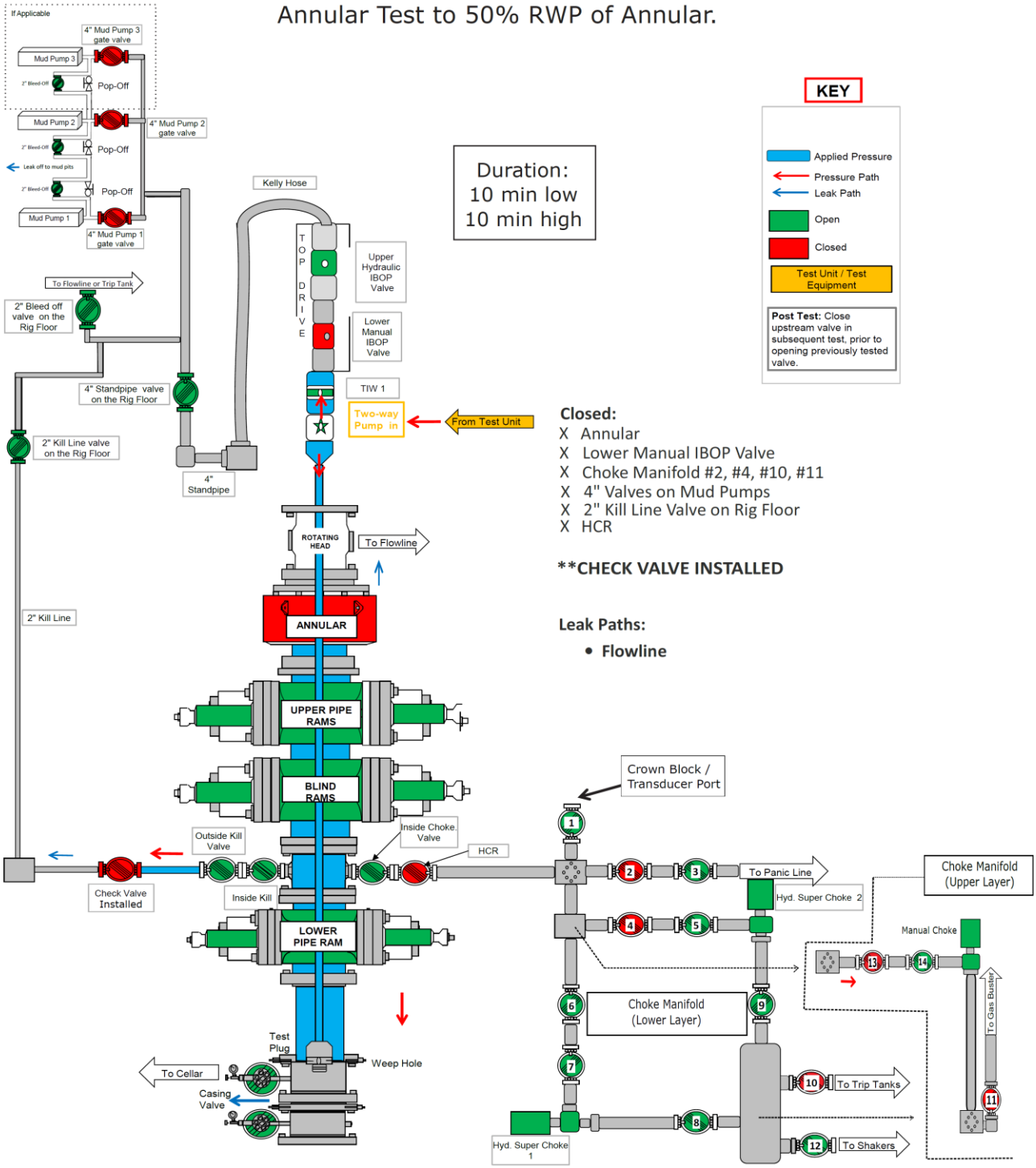


Figure 12: BOP Test 6

ONLINE BOP TEST

TEST 7

Utilize second (larger) size of drill pipe for this test.

NOTE: Verify Test Pressure With Company Representative.
Annular Test to 50% RWP of Annular.

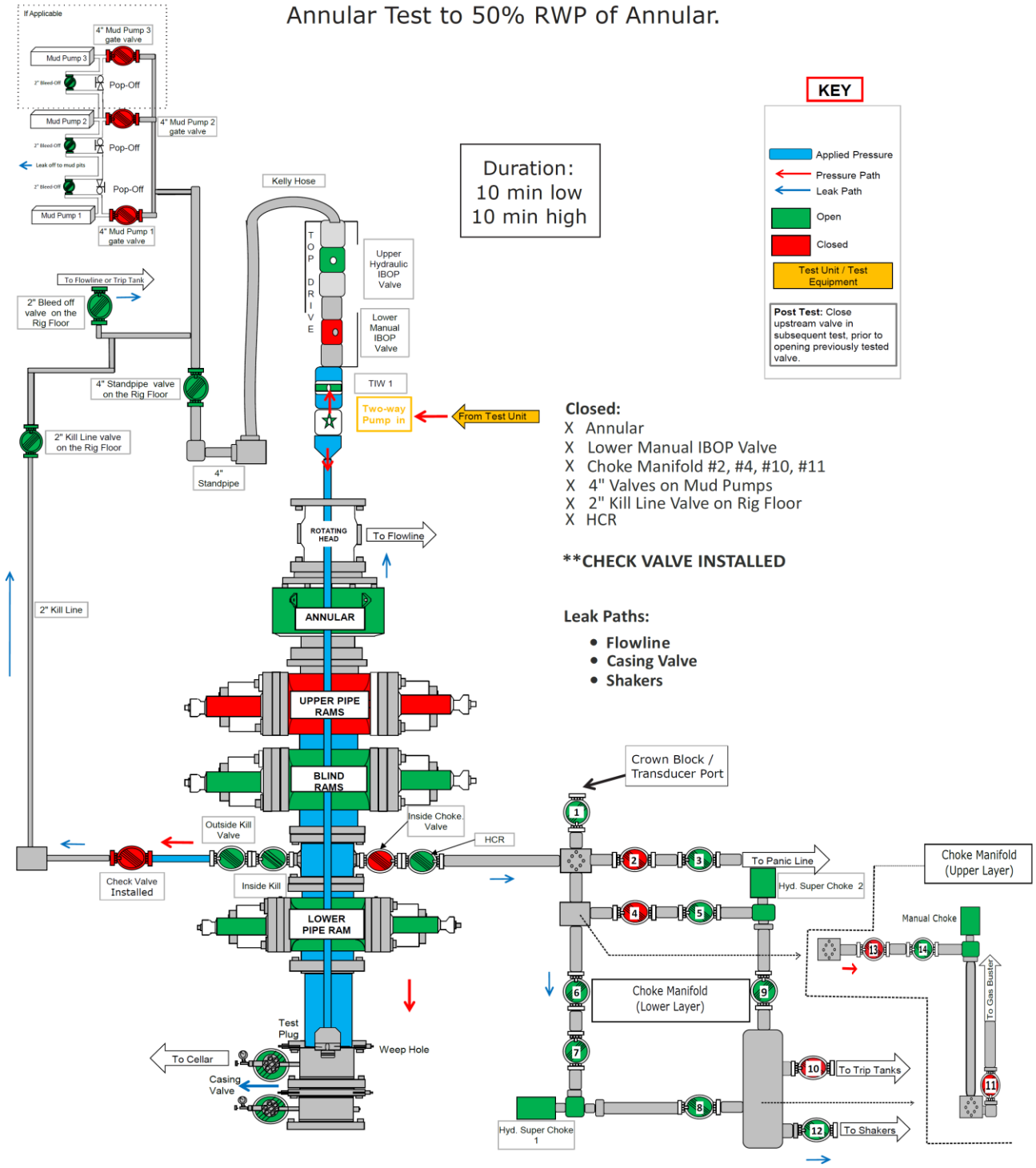


Figure 13: BOP Test 7

Rev. 03/05/18

BOP Testing - BLM

Online BOP (Offline Choke Manifold)

2-String (VBR) Procedure

Job Step List

5000 psi

THESE PROCEDURES WERE DEVELOPED FOR THE HELMERICH & PAYNE FLEX 3 AND FLEX 5 STANDARD CONFIGURATION RIGS. IF THE BOP BEING TESTED IS NOT ON A FLEX 3 OR FLEX 5 STANDARD CONFIGURATION RIG (OR IF YOU DO NOT KNOW HOW THE RIG YOU ARE WORKING ON IS CONFIGURED), YOU ARE REQUIRED TO CONSULT WITH THE RIG MANAGER IN ORDER TO DETERMINE IF CHANGES TO THESE PROCEDURES ARE APPROPRIATE.

Job Steps

Below is a detailed document containing the job steps that need to be taken by H&P personnel overseeing online BOP and Offline Choke testing. While overseeing the project, H&P personnel should take detailed notes and make recommendations to optimize and improve future tests.

Recommended windows to test choke and floor subs offline:

1. Test the floor subs as soon as practical – if there is an issue with the testing unit or any of the tester's equipment, this will allow time to get the new equipment to the rig. This will help to eliminate NPT due to waiting on testing companies.

    a. Recommended times to test floor subs
        i. While pumping cement (ensure to have 1 FOSV on the rig floor while pumping)
        ii. While WOC
        iii. Any time before drilling out shoe track.

    b. Verify floor sub test pressures with company representative.

2. Testing the choke manifold offline:
    a. After casing slips are set and tested, you can either:
        i. Remove coflex choke line from choke manifold side and install a blind flange to test choke manifold against.
        ii. Or leave coflex choke line connected, and test against HCR. The 20' pressure testing buffer zone must still be maintained around **ALL** lines under pressure.

    b. The optimal time to test the choke manifold offline is up to the DSV and rig manager's discretion. Recommended time periods are as follows:
        i. During inflow test, after casing slips are set and tested. Ensure buffer zone is maintained.
        ii. During rig up on new well, as time allows.
        iii. At any point before drilling out cased hole:
            1. While picking up BHA
            2. While tripping in cased hole.

    c. Keep in mind there are 2 tests in the Online BOP Test Procedure that test back to the choke manifold. If you have not finished testing the choke manifold, you can utilize these online tests to test the remaining choke manifold valves.

    d. If ready to perform the Online BOP Test before the choke manifold has been tested, that is ok. Perform the Online BOP Test and then you can finish testing the choke manifold at any point before drilling out the shoe track.

Rig up to Test Choke Manifold Offline:

- Inspect all 3rd party equipment
  - *RM or driller ~ 0.25 hours*
- Rig up test unit to crown valve (choke manifold valve #1)
  - *1 employee ~ 0.25 hours*
- Before beginning test, tester must pump through both super chokes one at a time. This is to verify both super chokes are functioning and neither are plugged.

Test Choke Manifold Offline:

- Test choke manifold per the 5 step test displayed in Figure 1 through 5 in Drawing Appendix. The components being tested are listed beneath each test.
  Note: Never pump down the panic line. Doing so will cause a spill of drilling fluid on side of location.
- **Choke Manifold Test 1** – Figure 1. (Test Valves 10, 11, 12 to 50% of RWP)
  - Choke valves # 3, 10, 11, 12
- **Choke Manifold Test 2** – Figure 2.
  - Choke valves # 3, 8, 9
  - Manual Choke

  Note: Manual choke test done per request of operator only. If not requested close valve 14.
- **Choke Manifold Test 3** – Figure 3.

  Note: Super **choke test done per request of operator only. If not requested skip to test 4.**
  - Hydraulic Super choke #1 & 2
  - Choke valve #14
- **Choke Manifold Test 4** – Figure 4.
  - Choke valve #5, 7, 13
- **Choke Manifold Test 5** – Figure 5.
  - Choke valves # 2, 4, 6

Prep to Test BOP:

- Install test plug in wellhead before skidding and beginning nipple up on new well.
  Note: Confined space entry permit may be required.
  - *2 employees ~ 0.25 hours*
- Inspect all 3rd party equipment.
  - *RM or driller ~ 0.25 hours*
- Spot test unit and load 3rd party equipment to PDS/rig floor.
  - *2 employees ~ 0.25 hours*
- Fill BOP with water and connect test hoses.
  - *2 employees ~ 0.25 hours*
- Verify sequence to open, close, test, and bleed off with tester.
  - *Driller and 1 employee ~ 0.25 hours*

Test BOP:

- Test BOP components per the 7 step test displayed in Figure 6 through 13. The components being tested are listed beneath each test.
  Note: Keep all high pressure areas barricaded and labeled. Always have a knowledgeable rig team member with tester to verify open/close sequence.
  Note: All tests are 10 minutes in duration. Be sure to bleed off completely between each test.

- **High Pressure Mud Line Test** – Figure 6.
  - Upper Hydraulic IBOP
  - Mud pump 4" valves
  - 2" bleed off valve on the rig floor

- Line up to pump water from rig tank with mud pumps. **Set pressure alarm to 150 psi above rig "zero" and fill lines with water through top drive using mud pumps. Do not exceed 15 SPM at any time.** Pump until returns are received down flowline; this will verify the weep hole is not plugged.
  - **BOP Test 1** - Figure 7.
    - Blind rams
    - 2" bleed off valve on rig floor
    - 4" standpipe valve
    - 2" bleed off at mud pump
- Make up pump-in sub to joint of drill pipe and lower joint into test plug. Make up joint to test plug.
  - **BOP Test 2** – Figure 8.
    Note: In Test 2, open crown valve at choke to verify manual gauge, choke panel gauge, and electronic sensor on driller screen. Record on test chart.
    - Upper pipe rams – smaller size of DP
    - Upper Hydraulic IBOP valve
    - Outside kill valve
    - Crown valve gauge on choke manifold (Valve #1)
  - **BOP Test 3** – Figure 9.
    - Inside kill valve
    - Hydraulic HCR
    - Lower Manual IBOP valve
  - **BOP Test 4** – Figure 11.
    - Lower pipe rams
  - **BOP Test 5 –** Figure 10.
    - Annular – smaller size of DP

    Note: Test annular to 50% of RWP of element
  - **BOP Test 6** – Figure 12.
    - Annular – 2nd and larger size of DP

    Note: Install Check valve and cap while change DP sizes
  - **BOP Test 7** – Figure 13.
    - Upper pipe rams (VBR's) – 2nd and larger size of DP
    - Check valve on kill line
    - Inside choke valve (manual HCR)

Rig Down

- R/D and L/D test joint and plug; remove test equipment from rig floor and load 3rd party truck.
  - *3 employees ~ 0.5 hours*
- Close casing valve and re-align / verify correct alignment of all other valves. Verify that check valve on kill side has been re-installed.
  Note: Confined space entry permit may be required.
  - *2 employees ~ 0.25 hours*

Drawing Appendix

OFFLINE CHOKE MANIFOLD TEST

TEST 1

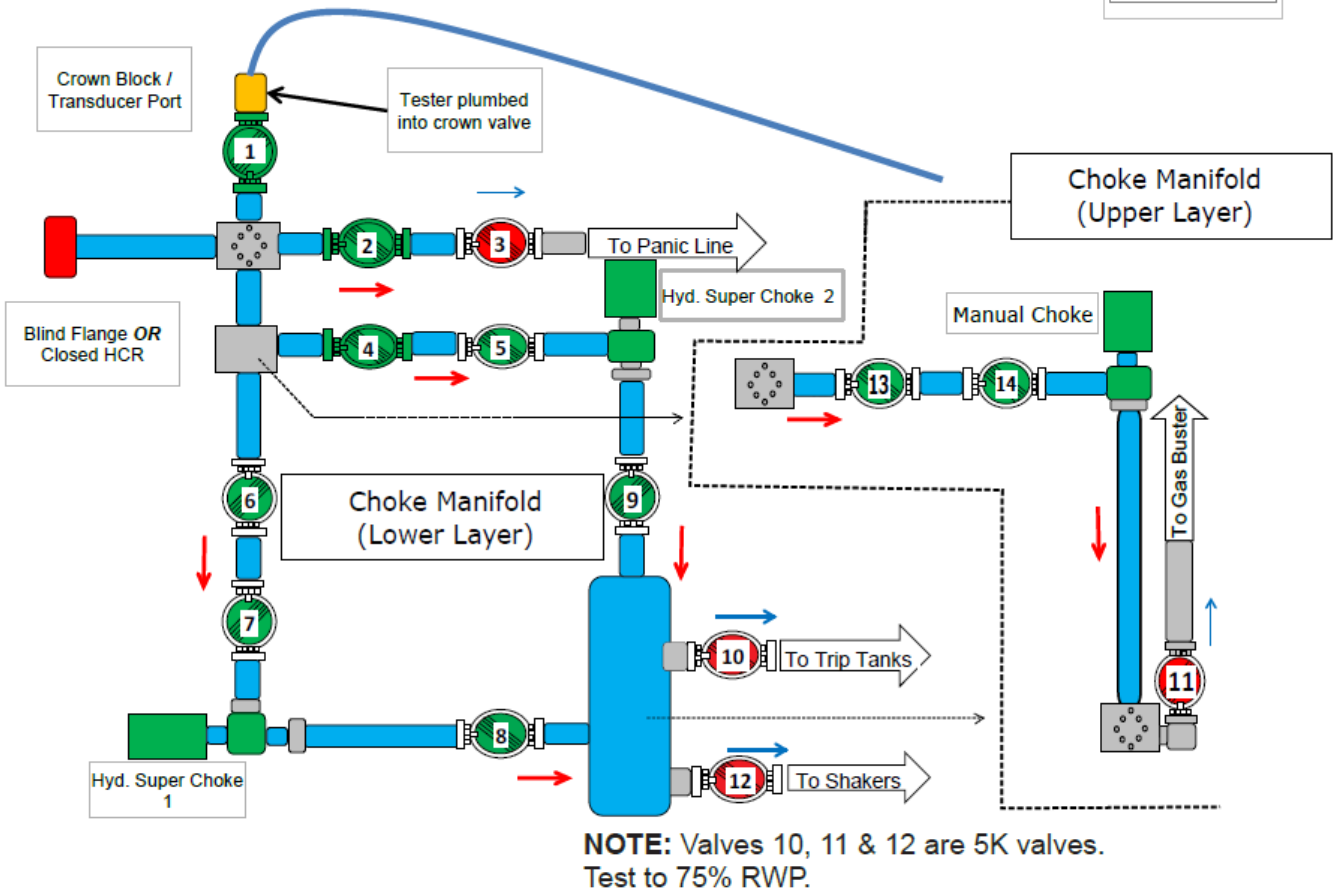
NOTE: Verify Test Pressure With Company Representative. Initial Test to RWP of BOP if utilizing test plug.

Duration:
10 min low
10 min high

KEY

- Applied Pressure
- Pressure Path
- Leak Path
- Open
- Closed
- Test Unit / Test Equipment

Post Test: Close upstream valve in subsequent test, prior to opening previously tested valve.



NOTE: Valves 10, 11 & 12 are 5K valves. Test to 75% RWP.

Closed:

X Choke Manifold Valves 3, 10, 11, 12

Leak Paths:

☐ Gas Buster
☐ Trip Tanks
☐ Shakers
☐ Panic Line

Figure 1: Choke Manifold Test 1

OFFLINE CHOKE MANIFOLD TEST

TEST 2

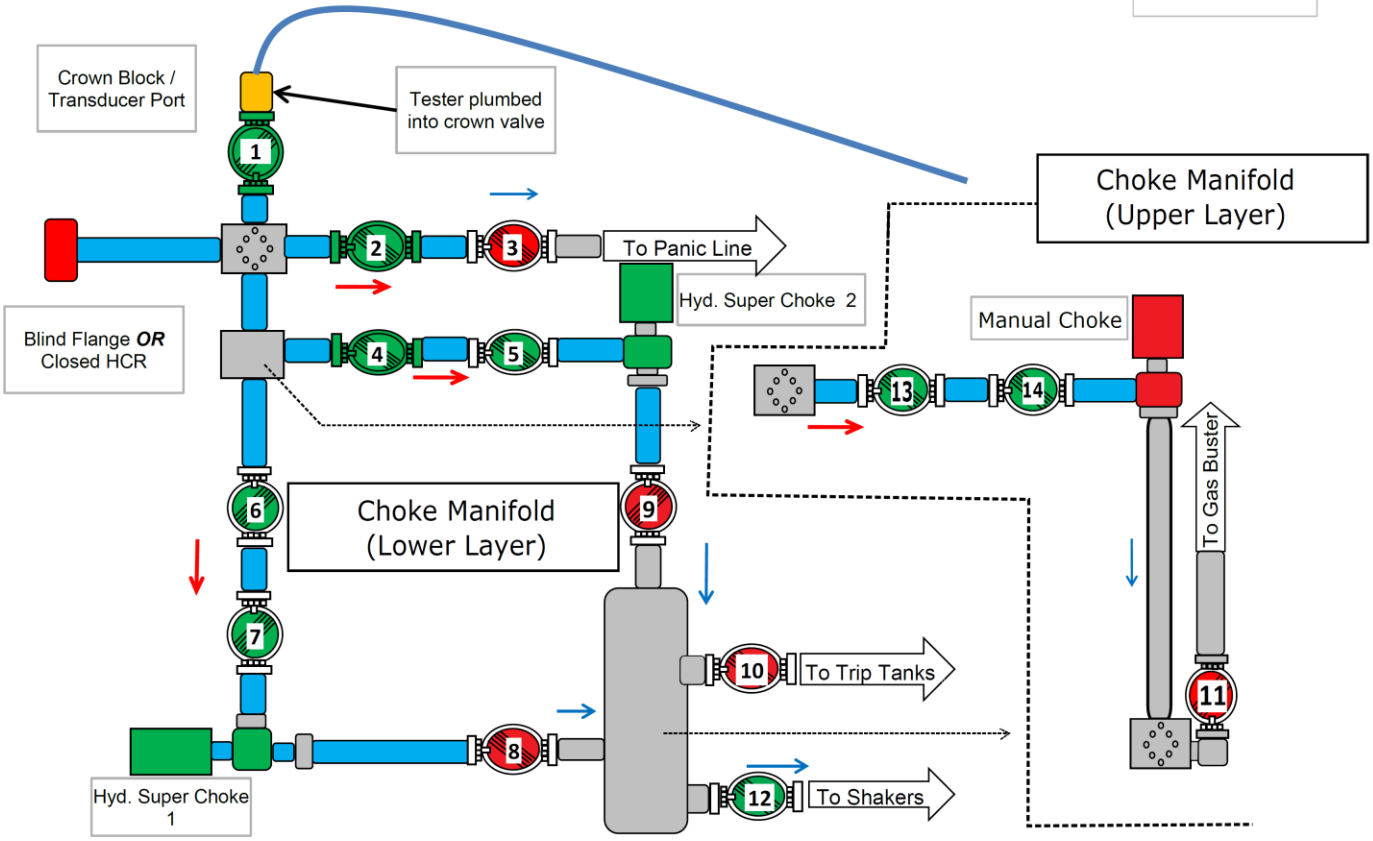
NOTE: Verify Test Pressure With Company Representative. Initial Test to RWP of BOP if utilizing test plug.

Duration:
10 min low
10 min high

KEY

- Applied Pressure
- Pressure Path
- Leak Path
- Open
- Closed
- Test Unit / Test Equipment

Post Test: Close upstream valve in subsequent test, prior to opening previously tested valve.



Closed:
X Choke Manifold Valves 3, 8, 9, 10, 11
X Manual Choke

Leak Paths:
☐ Shakers
☐ Panic Line

**Test Manual Choke only at request of Operator. If not requested, close valve 14.

Figure 2: Choke Manifold Test 2

OFFLINE CHOKE MANIFOLD TEST

TEST 3

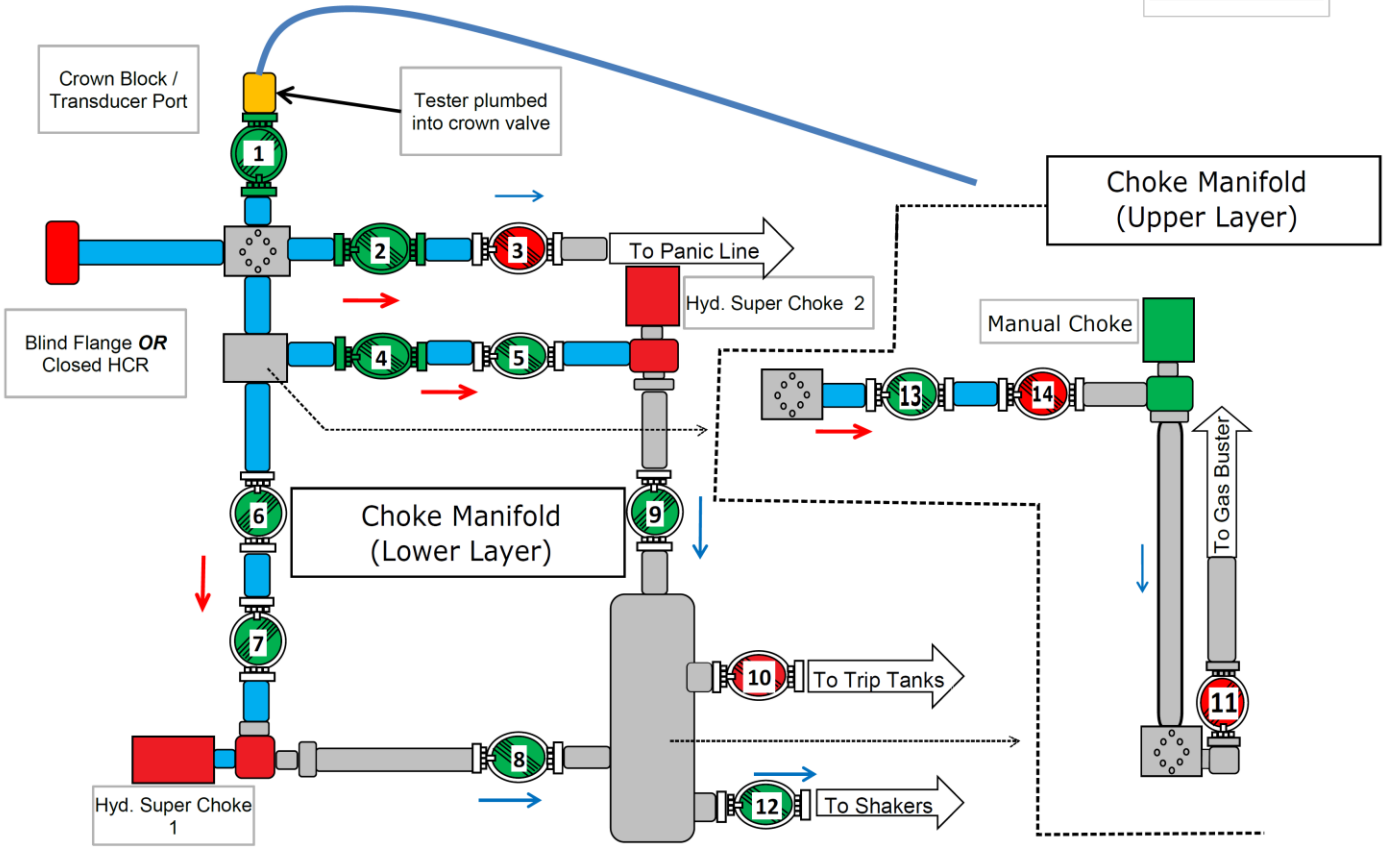
NOTE: Verify Test Pressure With Company Representative. Initial Test to RWP of BOP if utilizing test plug.

Duration:
10 min low
10 min high

KEY

- Applied Pressure
- Pressure Path
- Leak Path
- Open
- Closed
- Test Unit / Test Equipment

Post Test: Close upstream valve in subsequent test, prior to opening previously tested valve.



Closed:
X Choke Manifold Valves 3, 10, 11, 14
X Hydraulic Super Choke 1 and 2

Leak Paths:
☐ Shakers
☐ Panic Line

**Test Hydraulic Chokes only at request of Operator.
If not requested, skip to Test 4.

Figure 3: Choke Manifold Test 3

OFFLINE CHOKE MANIFOLD TEST

TEST 4

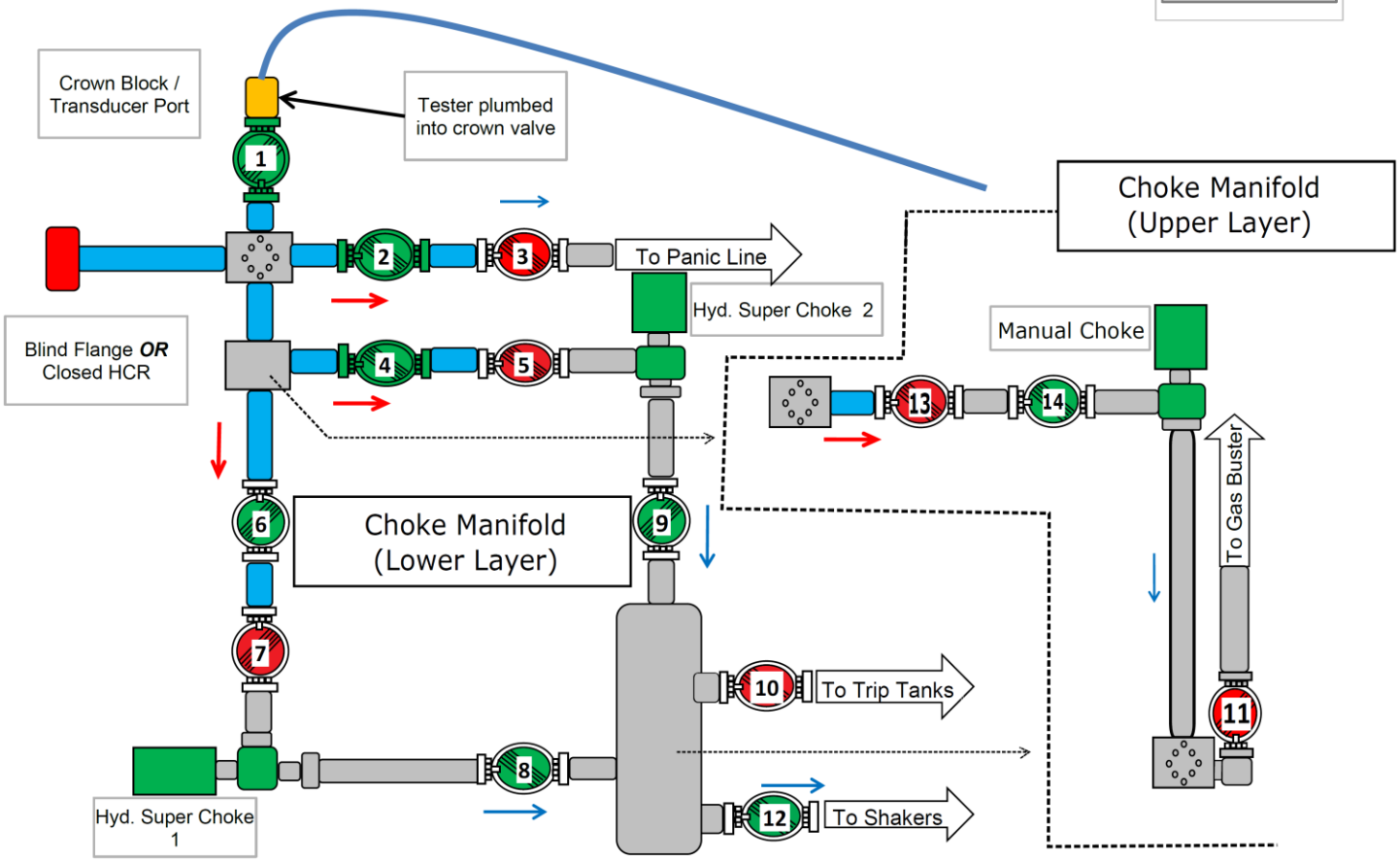
NOTE: Verify Test Pressure With Company Representative. Initial Test to RWP of BOP if utilizing test plug.

Duration:
10 min low
10 min high

KEY

- Applied Pressure
- Pressure Path
- Leak Path
- Open
- Closed
- Test Unit / Test Equipment

Post Test: Close upstream valve in subsequent test, prior to opening previously tested valve.



Closed:
X Choke Manifold Valves 3, 5, 7, 10, 11, 13

Leak Paths:
- Shakers
- Panic Line

Figure 4: Choke Manifold Test 4

OFFLINE CHOKE MANIFOLD TEST

TEST 5

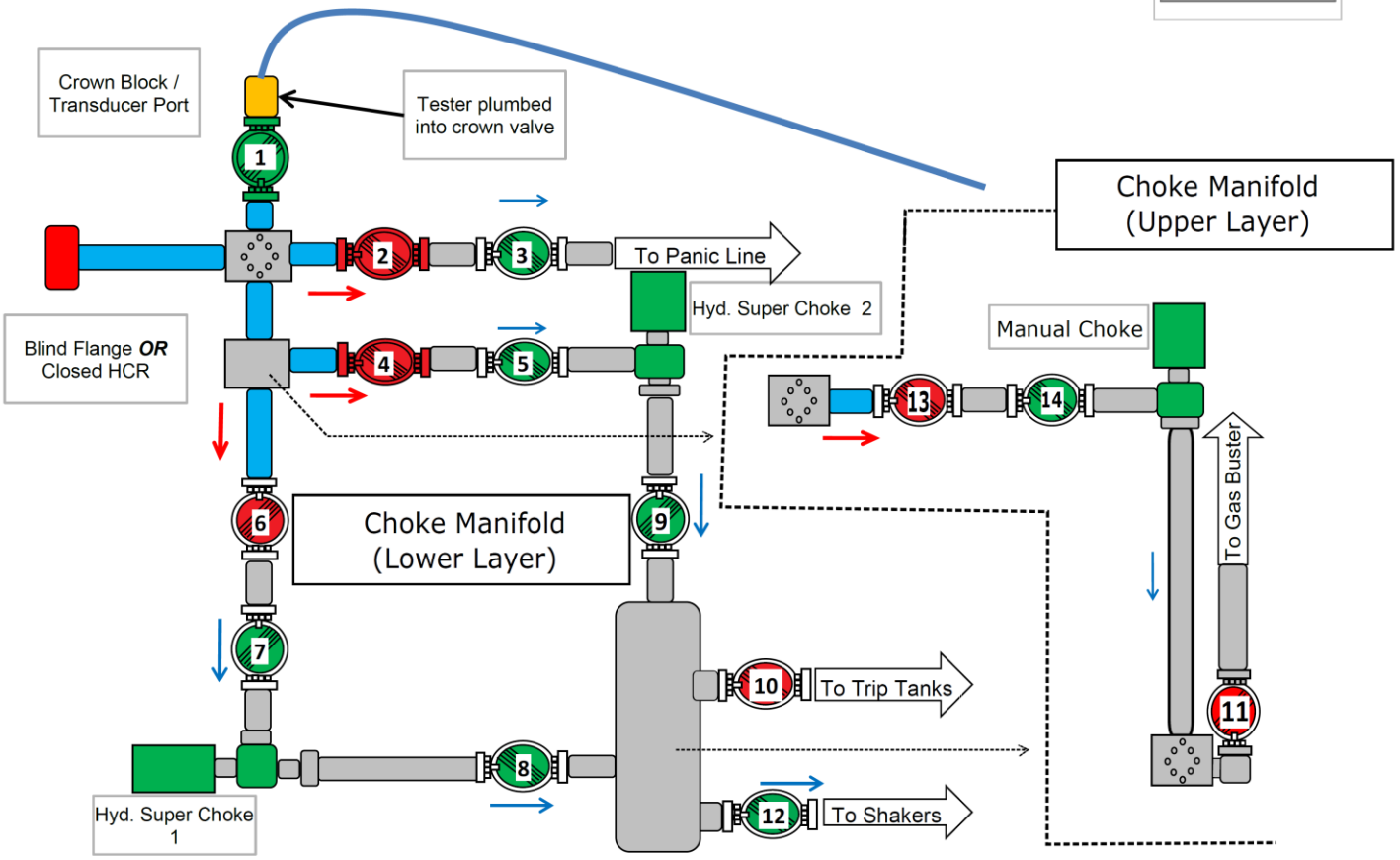
NOTE: Verify Test Pressure With Company Representative. Initial Test to RWP of BOP if utilizing test plug.

Duration:
10 min low
10 min high

KEY

- Applied Pressure
- Pressure Path
- Leak Path
- Open
- Closed
- Test Unit / Test Equipment

Post Test: Close upstream valve in subsequent test, prior to opening previously tested valve.



Closed:
X Choke Manifold Valves 2, 4, 6, 10, 11, 13

Leak Paths:
- Shakers
- Panic Line

Figure 5: Choke Manifold Test 5

OFFLINE MUD LINE TEST

TEST 1

CAN BE PERFORMED DURING NIPPLE UP OPERATIONS

NOTE: Verify Test Pressure With Company Representative.
Initial test to RWP of BOP if utilizing test plug.

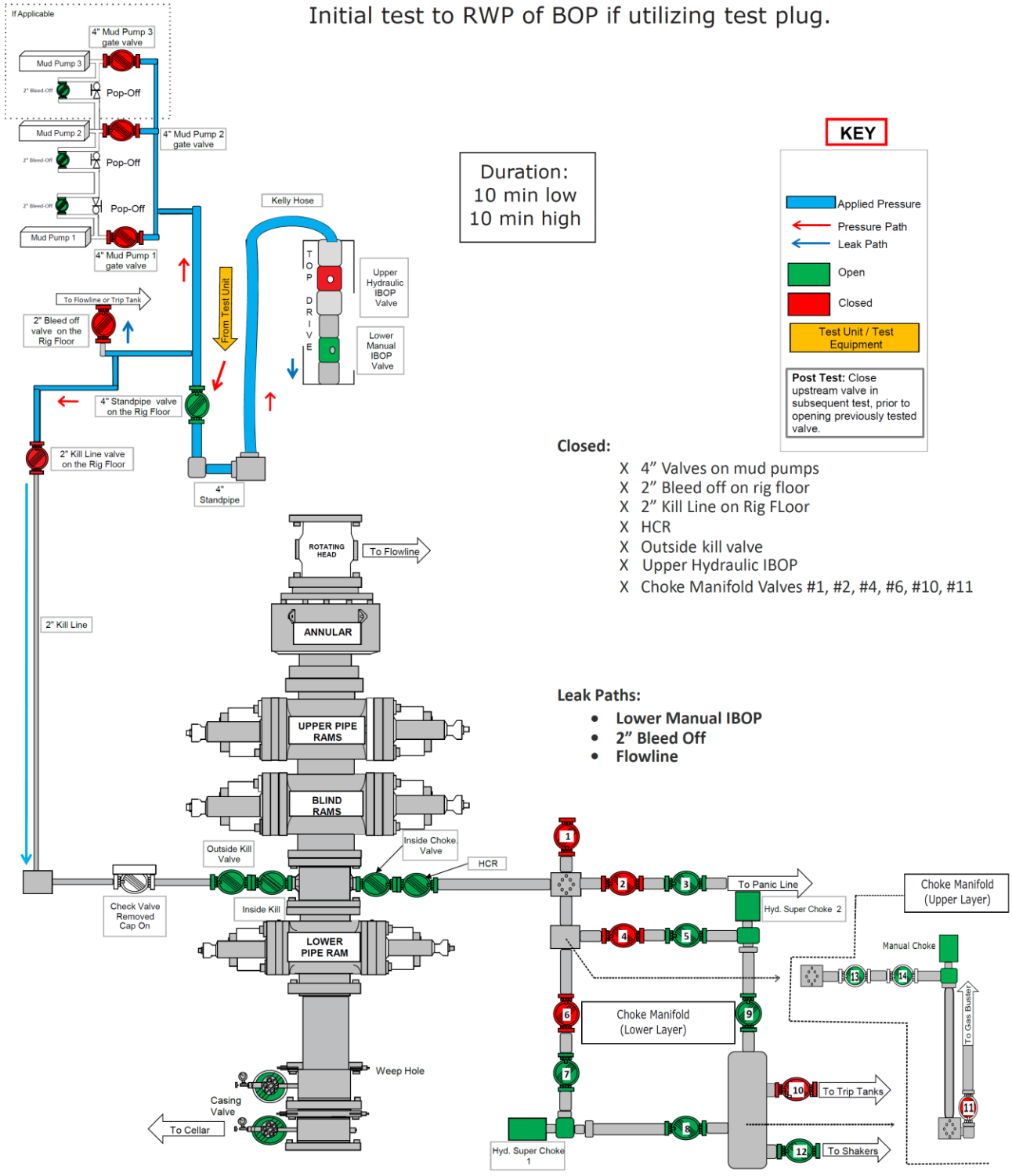


Figure 6: High Pressure Mud Line Test

ONLINE BOP TEST

TEST 1

NOTE: Verify Test Pressure With Company Representative.
Initial test to RWP of BOP if utilizing test plug.

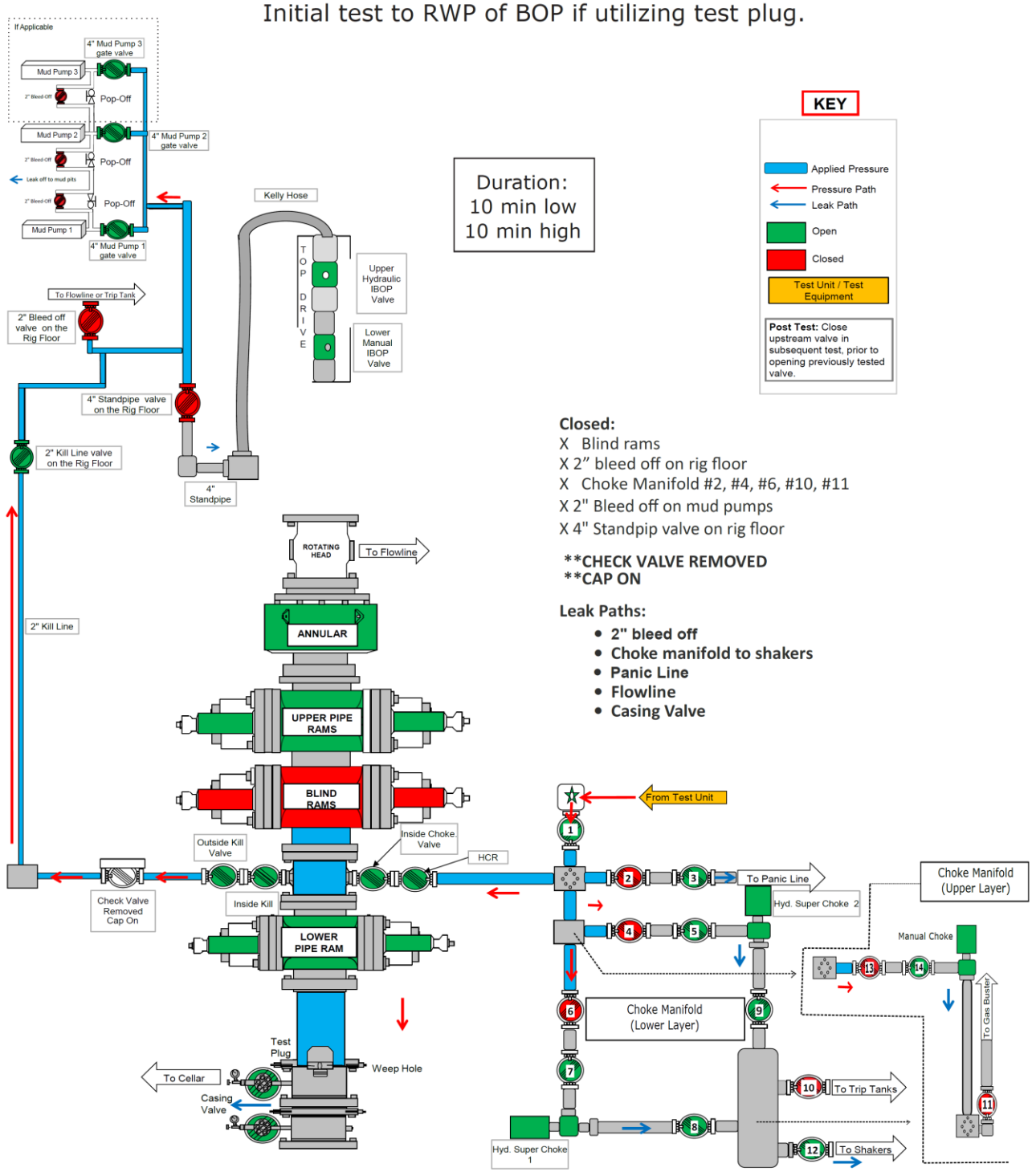


Figure 7: BOP Test 1

ONLINE BOP TEST

TEST 2

NOTE: Verify Test Pressure With Company Representative.
Initial test to RWP of BOP if utilizing test plug.

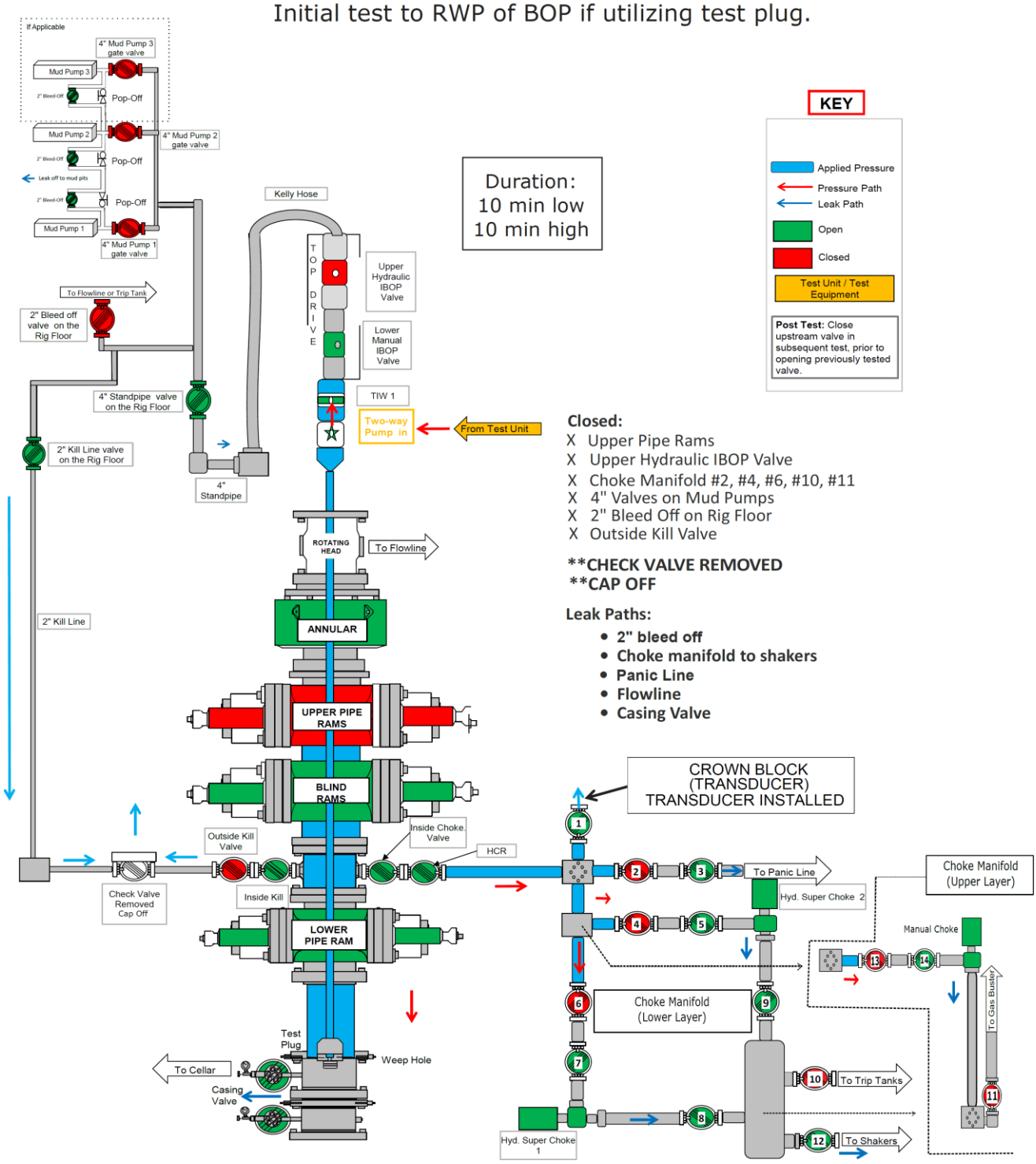


Figure 8: BOP Test 2

ONLINE BOP TEST

TEST 3

NOTE: Verify Test Pressure With Company Representative.
Initial test to RWP of BOP if utilizing test plug.

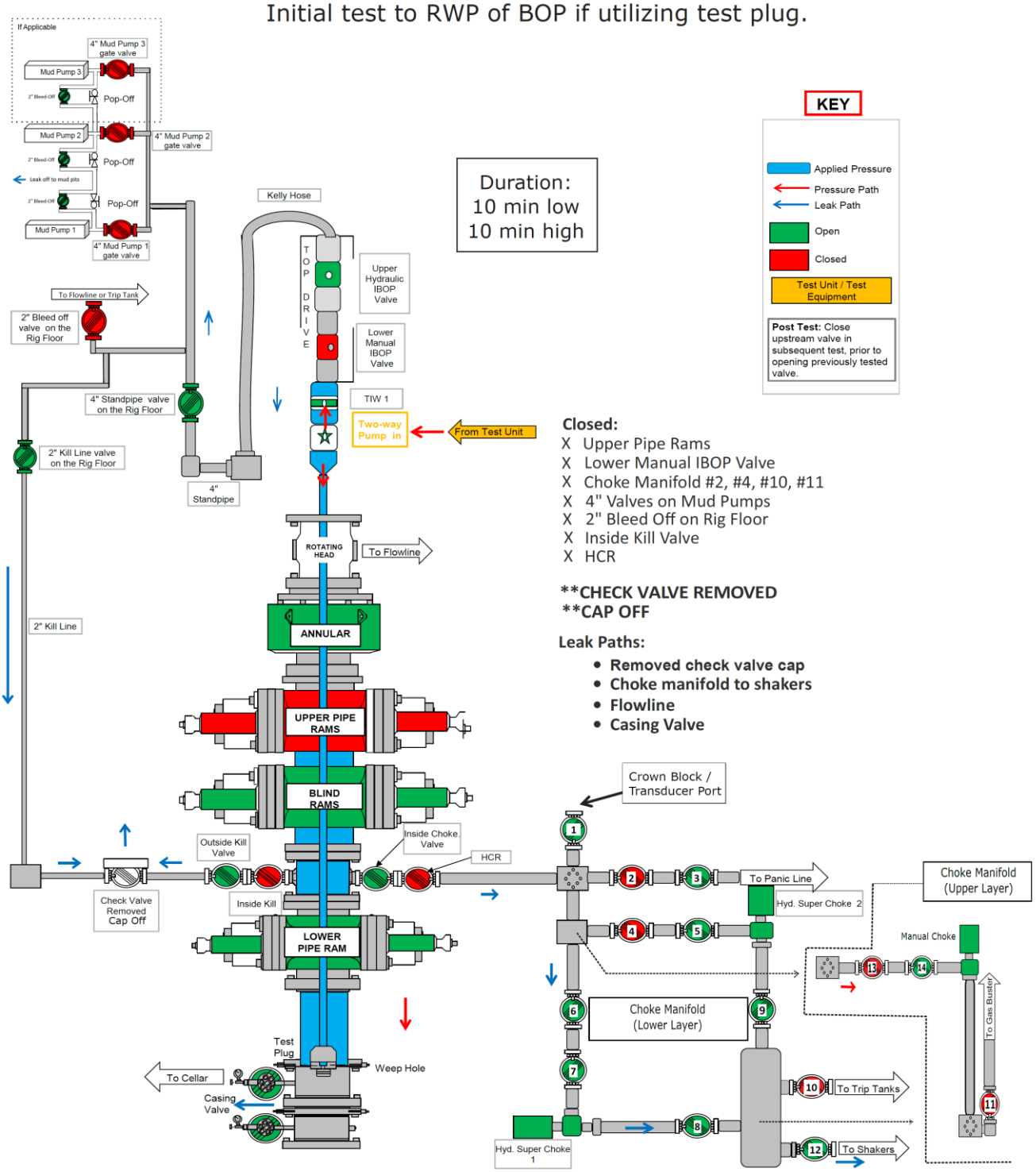


Figure 9: BOP Test 3

ONLINE BOP TEST

TEST 4

NOTE: Verify Test Pressure With Company Representative.
Initial test to RWP of BOP if utilizing test plug.

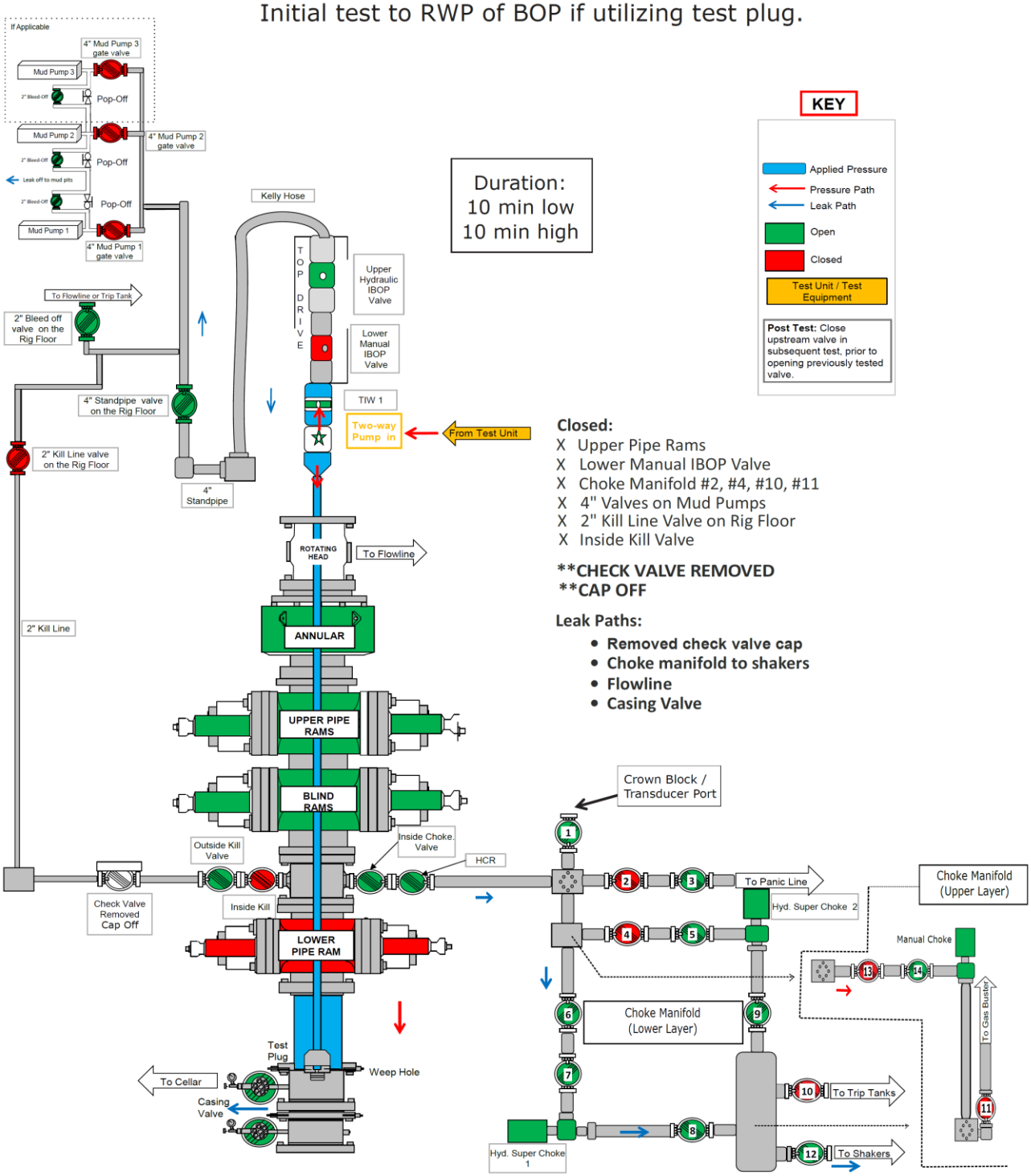


Figure 10: BOP Test 4

ONLINE BOP TEST

TEST 5

NOTE: Verify Test Pressure With Company Representative.
Annular Test to 50% RWP of Annular.

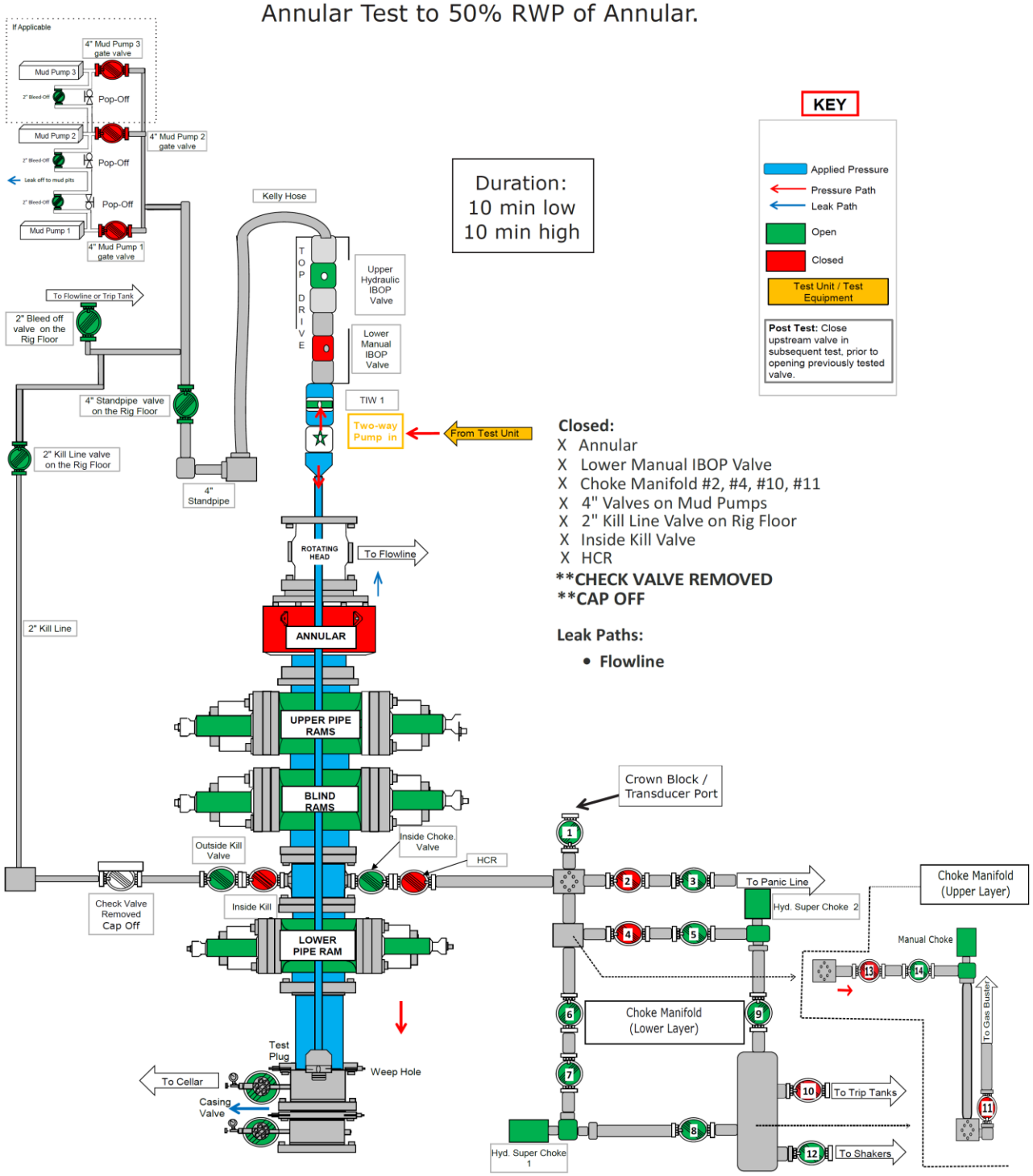


Figure 11: BOP Test 5

ONLINE BOP TEST

TEST 6

Utilize second (larger) size of drill pipe for this test.

NOTE: Verify Test Pressure With Company Representative.
Annular Test to 50% RWP of Annular.

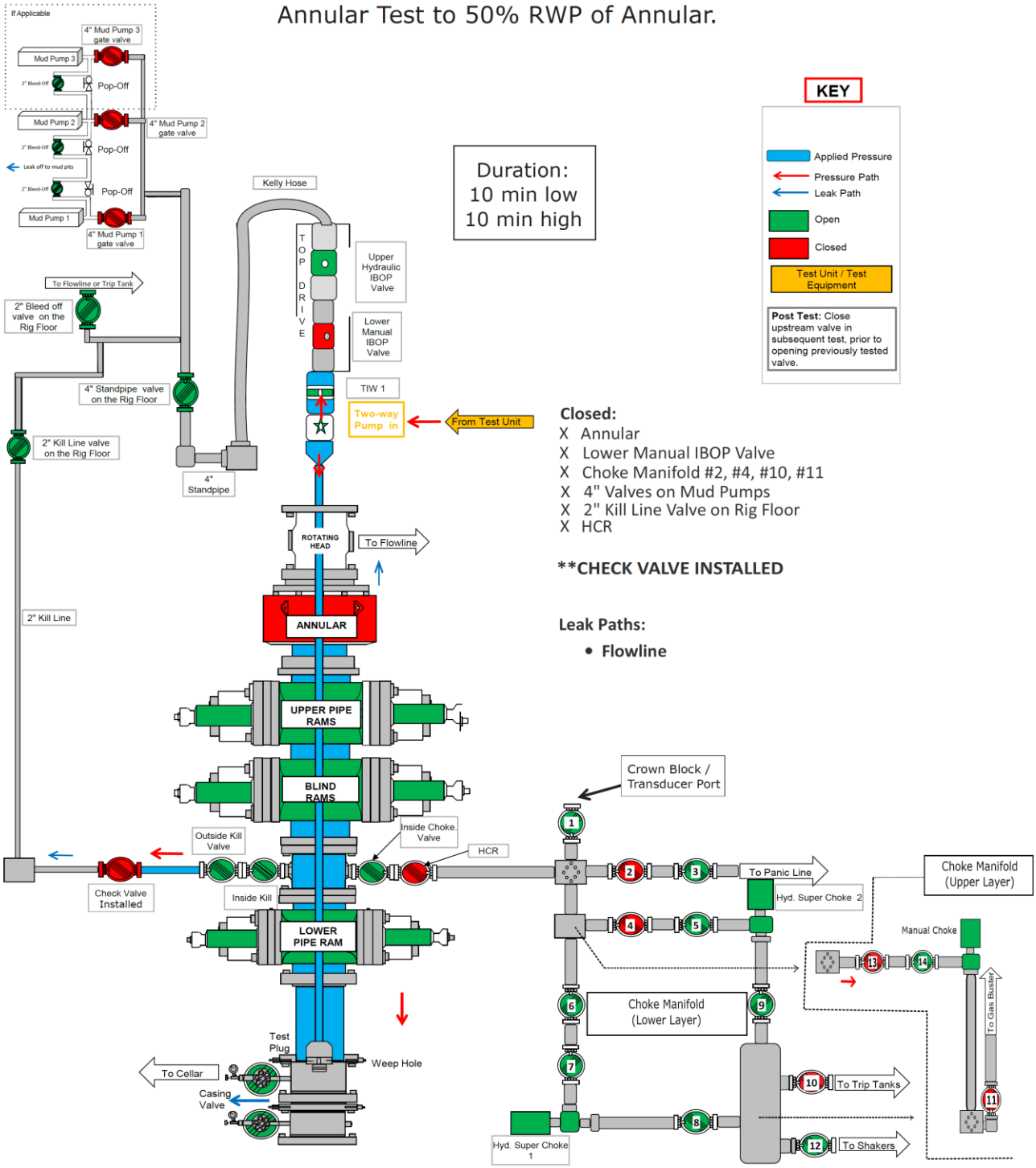


Figure 12: BOP Test 6

ONLINE BOP TEST

TEST 7

Utilize second (larger) size of drill pipe for this test.

NOTE: Verify Test Pressure With Company Representative.
Annular Test to 50% RWP of Annular.

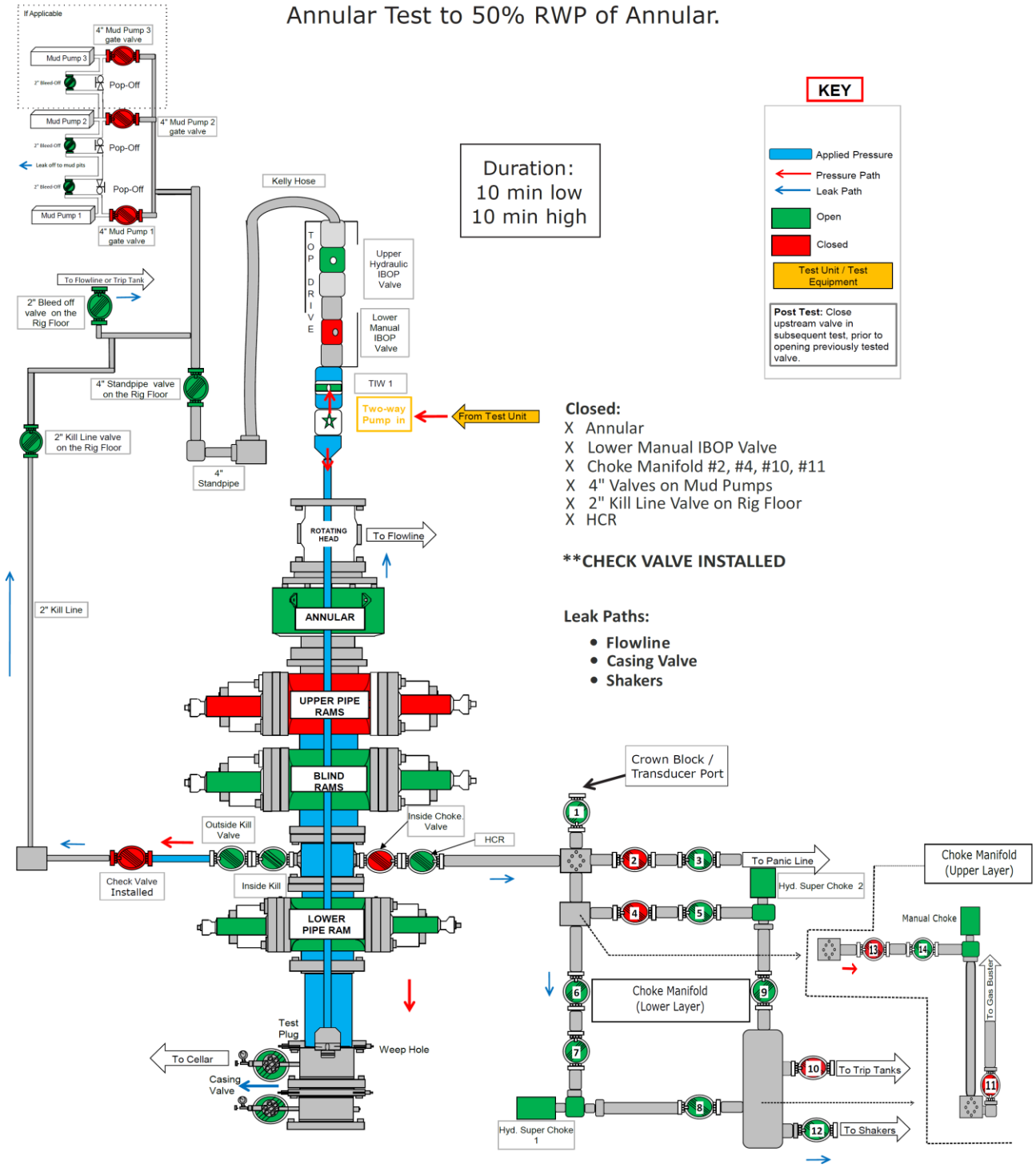


Figure 13: BOP Test 7

U. S. Steel Tubular Products

4/2/2018 10:51:00 AM

5.500" 20.00lbs/ft (0.361" Wall) P110 HC USS-CDC HTQ®

MECHANICAL PROPERTIES	Pipe	USS-CDC HTQ®	
Minimum Yield Strength	110,000	--	psi
Maximum Yield Strength	140,000	--	psi
Minimum Tensile Strength	125,000	--	psi
DIMENSIONS	**Pipe**	**USS-CDC HTQ®**	
Outside Diameter	5.500	6.300	in.
Wall Thickness	0.361	--	in.
Inside Diameter	4.778	4.778	in.
Standard Drift	4.653	4.653	in.
Alternate Drift	--	--	in.
Coupling Length	--	9.250	in.
Nominal Linear Weight, T&C	20.00	--	lbs/ft
Plain End Weight	19.83	--	lbs/ft
SECTION AREA	**Pipe**	**USS-CDC HTQ®**	
Critical Area	5.828	5.828	sq. in.
Joint Efficiency	--	100.0	%
PERFORMANCE	**Pipe**	**USS-CDC HTQ®**	
Minimum Collapse Pressure	12,200	12,200	psi
External Pressure Leak Resistance	--	9,760	psi
Minimum Internal Yield Pressure	12,640	12,640	psi
Minimum Pipe Body Yield Strength	641,000	--	lbs
Joint Strength	--	667,000	lbs
Compression Rating	--	400,000	lbs
Reference Length	--	22,233	ft
Maximum Uniaxial Bend Rating	--	57.2	deg/100 ft
MAKE-UP DATA	**Pipe**	**USS-CDC HTQ®**	
Make-Up Loss	--	4.63	in.
Minimum Make-Up Torque	--	13,000	ft-lbs
Maximum Make-Up Torque	--	18,500	ft-lbs
Connection Yield Torque	--	22,900	ft-lbs

1. Other than proprietary collapse and connection values, performance properties have been calculated using standard equations defined by API 5C3 and do not incorporate any additional design or safety factors. Calculations assume nominal pipe OD, nominal wall thickness and Specified Minimum Yield Strength (SMYS).
2. Uniaxial bending rating shown is structural only, and equal to compression efficiency.
3. Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.).
4. Reference length is calculated by joint strength divided by nominal threaded and coupled weight with 1.5 safety factor.
5. Connection external pressure leak resistance has been verified to 80% API pipe body collapse pressure following the guidelines of API 5C5 Cal II.

U. S. Steel Tubular Products
460 Wildwood Forest Drive, Suite 300S
Spring, Texas 77380

1-877-893-9461
connections@uss.com
www.usstubular.com

CASING DESIGN CRITERIA & LOAD CASE ASSUMPTIONS

SURFACE CASING:

SIZE (in)	SURFACE CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	CONN OD (in)	JOINT STRENGTH (k-lbs)	DEPTHS
20 "	94.0# J-55 BTC	19.124	18.937	2110	520	1480	21.000	1402	0' – 1785'

Collapse: $DF_C = 1.25$

- Full internal evacuation: Collapse force equal to the mud gradient in which the casing will be ran.
- Cementing: Collapse force equal to the gradient of the planned cement slurries to planned depths and an internal force equal to the fluid gradient of displacement fluid.

Burst: $DF_B = 1.25$

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the gradient in which the casing will be ran.

Tension: $DF_T = 1.6$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

INTERMEDIATE 1 CASING:

SIZE (in)	INTERMEDIATE 1 CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	CONN OD (in)	JOINT STRENGTH (k-lbs)	DEPTHS
13-3/8"	54.4# J-55 BTC	12.615	12.459	2740	1130	853	14.375	909	0' – 3600'

Collapse: $DF_C = 1.25$

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be ran.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and an internal force equal to fluid gradient of displacement fluid.

Burst: $DF_B = 1.25$

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be ran.
- Gas Kick Profile: Internal burst force at the shoe will be fracture pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 50 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be ran above that. External force will be equal to the mud gradient in which the casing will be ran.

- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be fracture pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be equal to the mud gradient in which the casing will be ran.

Tension: $DF_T = 1.6$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

INTERMEIDATE 2 CASING:

SIZE (in)	INTERMEDIATE 2 CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	CONN OD (in)	JOINT STRENGTH (k-lbs)	DEPTHS
9-5/8"	40# J-55 LTC	8.835	8.679	3950	2570	630	10.625	520	0' – 4000'
9-5/8"	40# HCL-80 LTC	8.835	8.679	5750	3870	630	10.625	520	4000' – 5500'

Collapse: $DF_C = 1.25$

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be ran.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and an internal force equal to fluid gradient of displacement fluid.

Burst: $DF_B = 1.25$

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be ran.
- Gas Kick Profile: Internal burst force at the shoe will be fracture pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 50 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be ran above that. External force will be equal to the mud gradient in which the casing will be ran.
- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be fracture pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be equal to the mud gradient in which the casing will be ran.

Tension: $DF_T = 1.6$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

PRODUCTION CASING:

SIZE (in)	PRODUCTION CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	CONN OD (in)	JOINT TENSION (k-lbs)	DEPTHS
5-1/2"	20# HCP-110 CDC HTQ	4.778	4.653	12,640	12,200	641	6.300	641	0' – 24,000'

Collapse: $DF_C = 1.25$

- Partial Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be ran. Internal force equal to gas gradient over one-third of setting depth and mud gradient with which the next hole section will be ran below that.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and mud gradient in which the casing will be ran above that and an internal force equal to the fluid gradient of displacement fluid.

Burst: $DF_B = 1.25$

- Pressure Test: 80% of burst casing test with an external force equal to the mud gradient in which the casing will be ran.
- Injection Down Casing: 9800 psi surface injection pressure plus an internal pressure gradient of with an external force equal to the mud gradient in which the casing will be ran.

Tension: $DF_T = 1.6$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

CASING DESIGN CRITERIA & LOAD CASE ASSUMPTIONS

SURFACE CASING:

SIZE (in)	SURFACE CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	CONN OD (in)	JOINT STRENGTH (k-lbs)	DEPTHS
20 "	94.0# J-55 BTC	19.124	18.937	2110	520	1480	21.000	1402	0' – 1785'

Collapse: $DF_C = 1.25$

- Full internal evacuation: Collapse force equal to the mud gradient in which the casing will be ran.
- Cementing: Collapse force equal to the gradient of the planned cement slurries to planned depths and an internal force equal to the fluid gradient of displacement fluid.

Burst: $DF_B = 1.25$

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the gradient in which the casing will be ran.

Tension: $DF_T = 1.6$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

INTERMEDIATE 1 CASING:

SIZE (in)	INTERMEDIATE 1 CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	CONN OD (in)	JOINT STRENGTH (k-lbs)	DEPTHS
13-3/8"	54.4# J-55 BTC	12.615	12.459	2740	1130	853	14.375	909	0' – 3600'

Collapse: $DF_C = 1.25$

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be ran.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and an internal force equal to fluid gradient of displacement fluid.

Burst: $DF_B = 1.25$

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be ran.
- Gas Kick Profile: Internal burst force at the shoe will be fracture pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 50 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be ran above that. External force will be equal to the mud gradient in which the casing will be ran.

- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be fracture pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be equal to the mud gradient in which the casing will be ran.

Tension: $DF_T = 1.6$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

INTERMEIDATE 2 CASING:

SIZE (in)	INTERMEDIATE 2 CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	CONN OD (in)	JOINT STRENGTH (k-lbs)	DEPTHS
9-5/8"	40# J-55 LTC	8.835	8.679	3950	2570	630	10.625	520	0' – 4000'
9-5/8"	40# HCL-80 LTC	8.835	8.679	5750	3870	630	10.625	520	4000' – 5500'

Collapse: $DF_C = 1.25$

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be ran.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and an internal force equal to fluid gradient of displacement fluid.

Burst: $DF_B = 1.25$

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be ran.
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Tension: $DF_T = 1.6$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

PRODUCTION CASING:

SIZE (in)	PRODUCTION CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	CONN OD (in)	JOINT TENSION (k-lbs)	DEPTHS
5-1/2"	20# HCP-110 CDC HTQ	4.778	4.653	12,640	12,200	641	6.300	641	0' – 24,000'

Collapse: $DF_C = 1.25$

- Partial Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be ran. Internal force equal to gas gradient over one-third of setting depth and mud gradient with which the next hole section will be ran below that.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and mud gradient in which the casing will be ran above that and an internal force equal to the fluid gradient of displacement fluid.

Burst: $DF_B = 1.25$

- Pressure Test: 80% of burst casing test with an external force equal to the mud gradient in which the casing will be ran.
- Injection Down Casing: 9800 psi surface injection pressure plus an internal pressure gradient of with an external force equal to the mud gradient in which the casing will be ran.

Tension: $DF_T = 1.6$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

CASING DESIGN CRITERIA & LOAD CASE ASSUMPTIONS

SURFACE CASING:

SIZE (in)	SURFACE CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	CONN OD (in)	JOINT STRENGTH (k-lbs)	DEPTHS
20 "	94.0# J-55 BTC	19.124	18.937	2110	520	1480	21.000	1402	0' – 1785'

Collapse: $DF_C = 1.25$

- Full internal evacuation: Collapse force equal to the mud gradient in which the casing will be ran.
- Cementing: Collapse force equal to the gradient of the planned cement slurries to planned depths and an internal force equal to the fluid gradient of displacement fluid.

Burst: $DF_B = 1.25$

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the gradient in which the casing will be ran.

Tension: $DF_T = 1.6$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

INTERMEDIATE 1 CASING:

SIZE (in)	INTERMEDIATE 1 CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	CONN OD (in)	JOINT STRENGTH (k-lbs)	DEPTHS
13-3/8"	54.4# J-55 BTC	12.615	12.459	2740	1130	853	14.375	909	0' – 3600'

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- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

INTERMEIDATE 2 CASING:

SIZE (in)	INTERMEDIATE 2 CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	CONN OD (in)	JOINT STRENGTH (k-lbs)	DEPTHS
9-5/8"	40# J-55 LTC	8.835	8.679	3950	2570	630	10.625	520	0' – 4000'
9-5/8"	40# HCL-80 LTC	8.835	8.679	5750	3870	630	10.625	520	4000' – 5500'

Collapse: $DF_C = 1.25$

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Tension: $DF_T = 1.6$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

PRODUCTION CASING:

SIZE (in)	PRODUCTION CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	CONN OD (in)	JOINT TENSION (k-lbs)	DEPTHS
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- Partial Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be ran. Internal force equal to gas gradient over one-third of setting depth and mud gradient with which the next hole section will be ran below that.
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SURFACE CASING:

SIZE (in)	SURFACE CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	CONN OD (in)	JOINT STRENGTH (k-lbs)	DEPTHS
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INTERMEDIATE 1 CASING:

SIZE (in)	INTERMEDIATE 1 CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	CONN OD (in)	JOINT STRENGTH (k-lbs)	DEPTHS
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Tension: $DF_T = 1.6$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

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SIZE (in)	INTERMEDIATE 2 CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	CONN OD (in)	JOINT STRENGTH (k-lbs)	DEPTHS
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SIZE (in)	PRODUCTION CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	CONN OD (in)	JOINT TENSION (k-lbs)	DEPTHS
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Tension: $DF_T = 1.6$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

ADVANCE ENERGY PARTNERS

H_2S Drilling Operations Plan

a. All personnel will be trained in H_2S working conditions as required by Onshore Order 6 before drilling out of the surface casing.

b. Two briefing areas will be established. Each briefing area will be ≥150' from the wellhead, perpendicular from one another, and easily entered and exited. See H_2S page 5 for more details.

c. H_2S Safety Equipment/Systems:

i. Well Control Equipment

- Flare line will be ≥150' from the wellhead and ignited by a flare gun.
- Beware of SO_2 created by flaring.
- Choke manifold will have a remotely operated choke.
- Mud gas separator

ii. Protective Equipment for Personnel

- Every person on site will wear a personal H_2S and SO_2 monitor at all times while on site. Monitors will not be worn on hard hats. Monitors will be worn on the front of the waist or chest.
- One self-contained breathing apparatus (SCBA) 30-minute rescue pack will be at each briefing area. Two 30-minute SCBA packs will be stored in the safety trailer.
- Four work/escape packs will be on the rig floor. Each pack will have a sufficiently long hose to allow unimpaired work activity.
- Four emergency escape packs will be in the doghouse for emergency evacuation.
- Hand signals will be used when wearing protective breathing apparatus.
- Stokes litter or stretcher
- Two full OSHA compliant body harnesses
- A 100' long x 5/8" OSHA compliant rope
- One 20-pound ABC fire extinguisher

iii. H_2S Detection & Monitoring Equipment

- Every person on site will wear a personal H_2S and SO_2 monitor at all times while on site. Monitors will not be worn on hard hats. Monitors will be worn on the front of the waist or chest.
- A stationary detector with three sensors will be in the doghouse.
- Sensors will be installed on the rig floor, bell nipple, and at the end of the flow line or where drilling fluids are discharged.
- Visual alarm will be triggered at 10 ppm.
- Audible alarm will be triggered at 10 ppm.
- Calibration will occur at least every 30 days. Gas sample tubes will be kept in the safety trailer.

iv. Visual Warning System

- A color-coded H_2S condition sign will be set at each pad entrance.
- Color-coded condition flag will be installed to indicate current H_2S conditions.
- Two wind socks will be installed that will be visible from all sides.

v. Mud Program

- A water based mud with a pH of $\geq$10 will be maintained to control corrosion, H_2S gas returns to the surface, and minimize sulfide stress cracking and embrittlement.
- Drilling mud containing H_2S gas will be degassed at an optimum location for the rig configuration.
- This gas will be piped into the flare system.
- Enough mud additives will be on location to scavenge and/or neutralize H_2S where formation pressures are unknown.

vi. Metallurgy

- All equipment that has the potential to be exposed to H_2S will be suitable for H_2S service.
- Equipment that will meet these metallurgical standards include the drill string, casing, wellhead, BOP assembly, casing head and spool, rotating head, kill lines, choke, choke manifold and lines, valves, mud-gas separators, DST tools, test units, tubing, flanges, and other related equipment (elastomer packings and seals).

vii. Communication from well site

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

d. A remote-controlled choke, mud-gas separator, and a rotating head will be installed before drilling or testing any formation expected to contain H_2S.

Company Personnel to be Notified

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

Local & County Agencies

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

State Agencies

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

Federal Agencies

BLM Carlsbad Field Office	(575) 234-5972
BLM Hobbs Field Station	(575) 393-3612
National Response Center	(800) 424-8802
US EPA Region 6 (Dallas)	(800) 887-6063
	(214) 665-6444

Veterinarians

Dal Paso Animal Hospital (Hobbs)	(575) 397-2286
Hobbs Animal Clinic & Pet Care (Hobbs)	(575) 392-5563
Great Plains Veterinary Clinic & Hospital (Hobbs)	(575) 392-5513

Residents within 2 miles

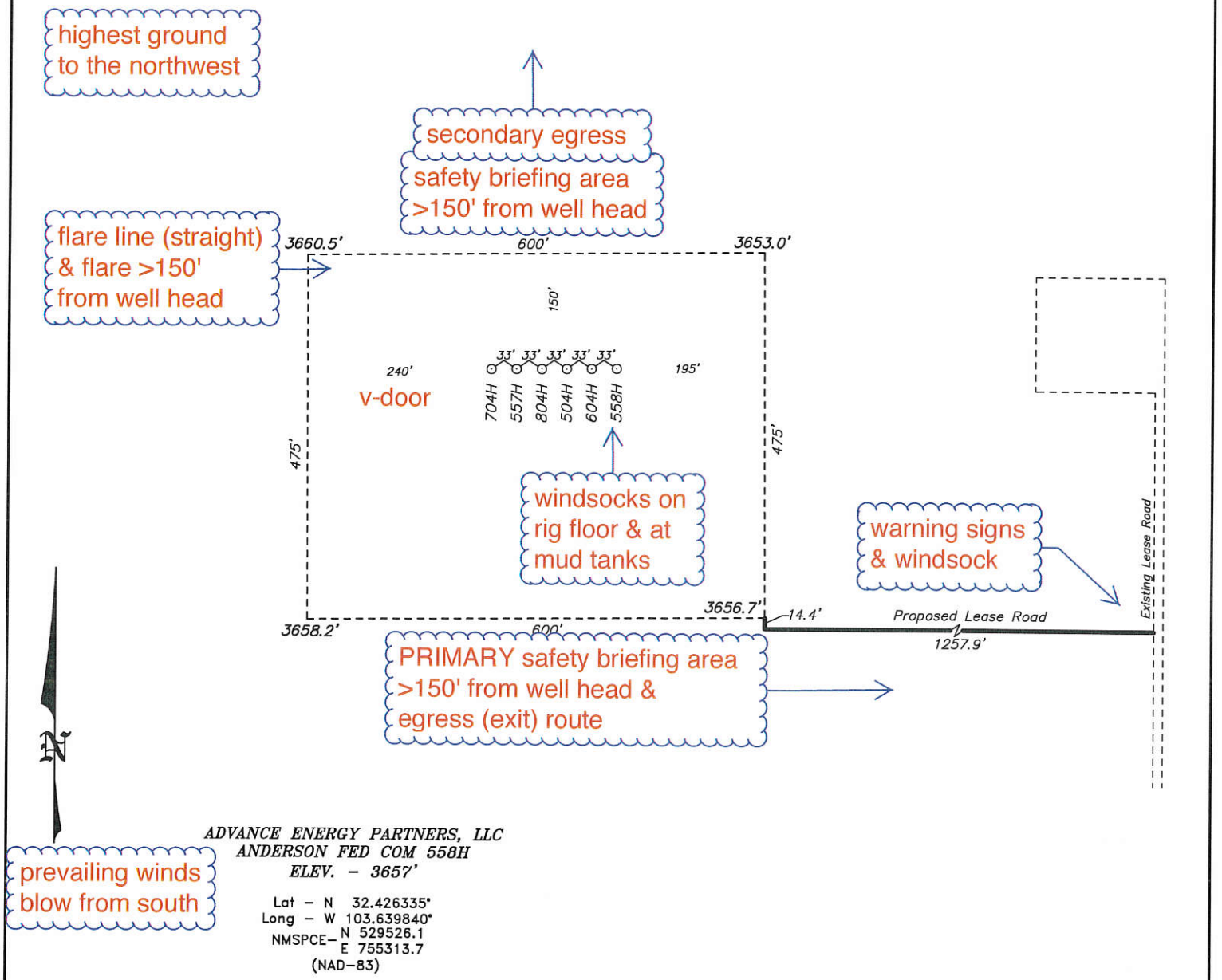
No residents are within 2 miles.

Air Evacuation

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

SECTION 2, TOWNSHIP 22 SOUTH, RANGE 32 EAST. N.M.P.M.,

LEA COUNTY, NEW MEXICO.



ADVANCE ENERGY PARTNERS, LLC
ANDERSON FED COM 558H
ELEV. - 3657'

Lat - N 32.426335°
Long - W 103.639840°
NMSPCE- N 529526.1
E 755313.7
(NAD-83)

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

200 0 200 400 FEET

SCALE: 1" = 200'

ADVANCE ENERGY PARTNERS, LLC

REF: ANDERSON FED COM 558H / WELL PAD TOPO

THE ANDERSON FED COM 558H LOCATED 630' FROM THE NORTH LINE AND 925' FROM THE EAST LINE OF SECTION 2, TOWNSHIP 22 SOUTH, RANGE 32 EAST. N.M.P.M., LEA COUNTY, NEW MEXICO.

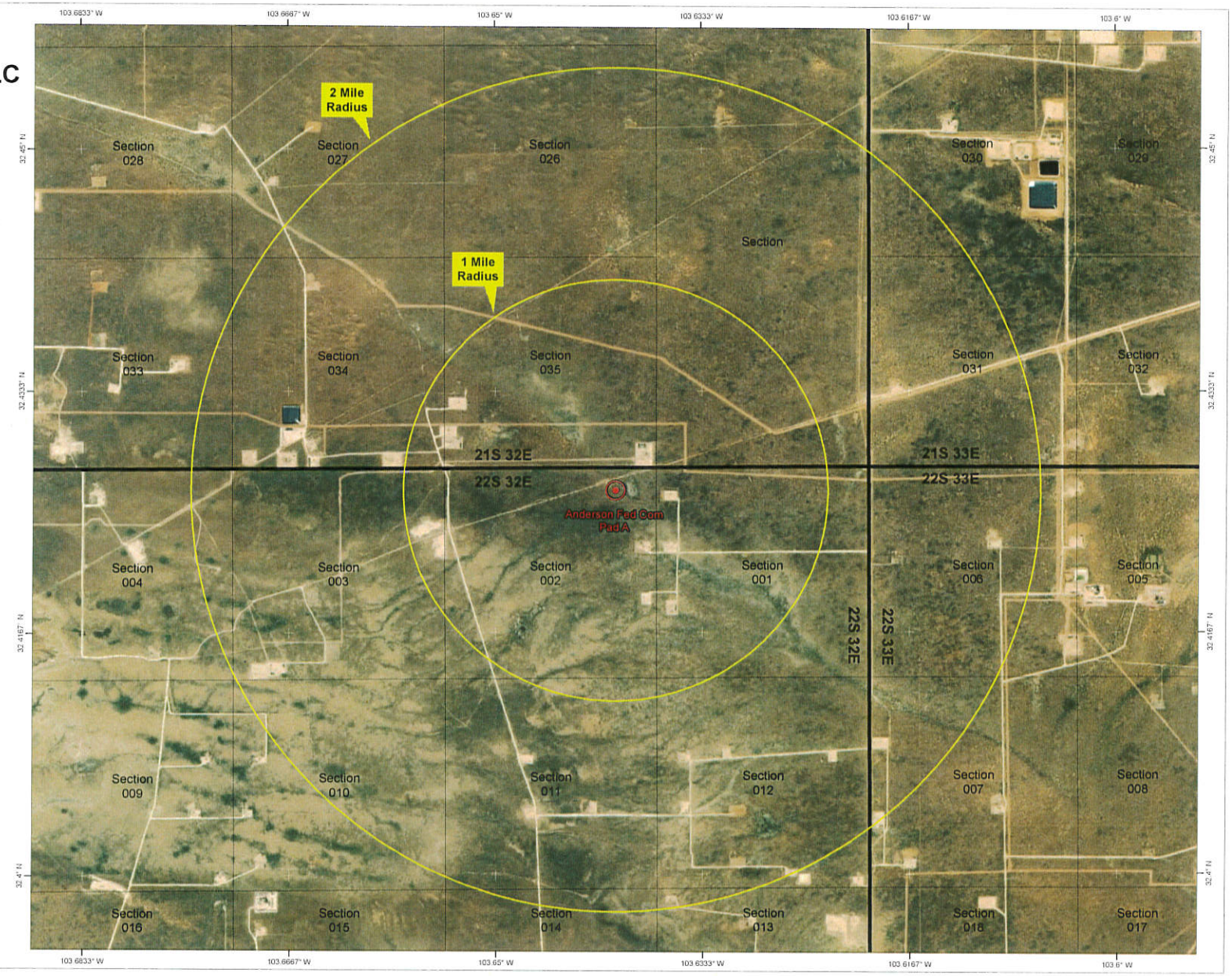
basin surveys
focused on excellence in the oilfield
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2206 - Fax
basinsurveys.com

W.O. Number: 35112	Drawn By: K. GOAD	Date: 07-23-2020	Survey Date: 07-22-2020	Sheet 1 of 1 Sheets

Advance Energy Partners Hat Mesa, LLC

Anderson Fed Com Pad A
H_2S Contingency Plan:
Radius Map

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



Surface Hole Location

1:27,000

0 0.25 0.5 1

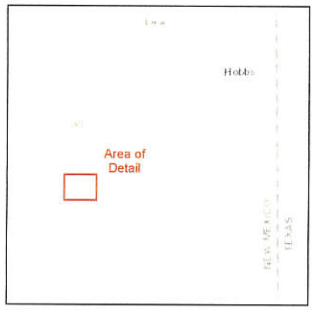
Miles

N

NAD 1983 New Mexico State Plane East
FIPS 3001 Feet

PERMITS WEST

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



ADVANCE ENERGY PARTNERS

WELL DETAILS: Anderson Fed Com 558H

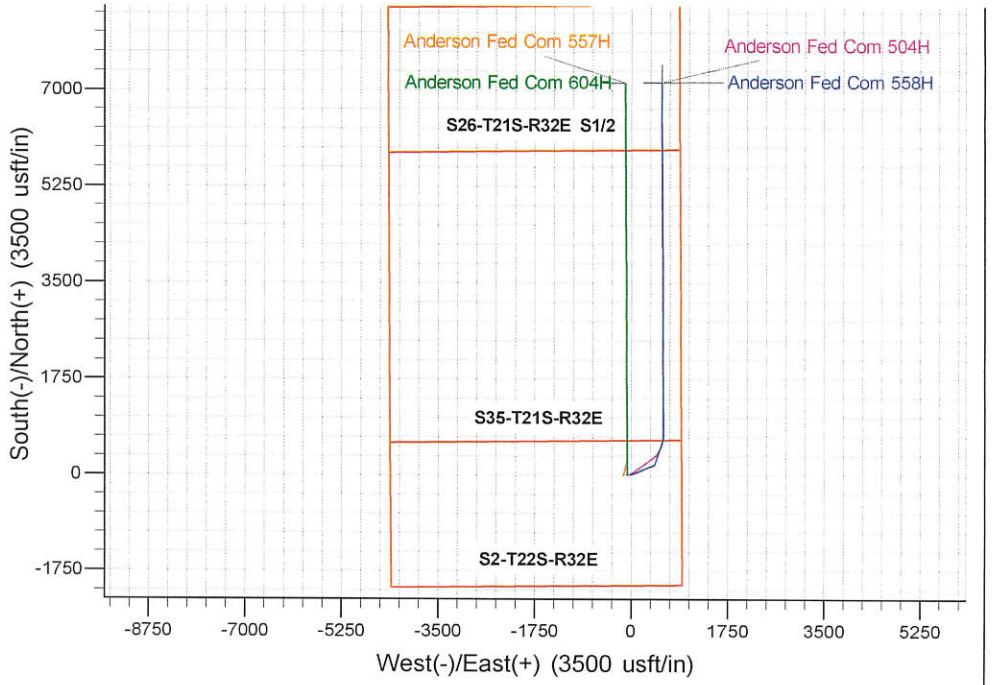
Ground Elev: 3657.0 KB: 3683.5

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0	0.0	519526.22	755313.72	32° 25' 34.806 N	103° 38' 23.424 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

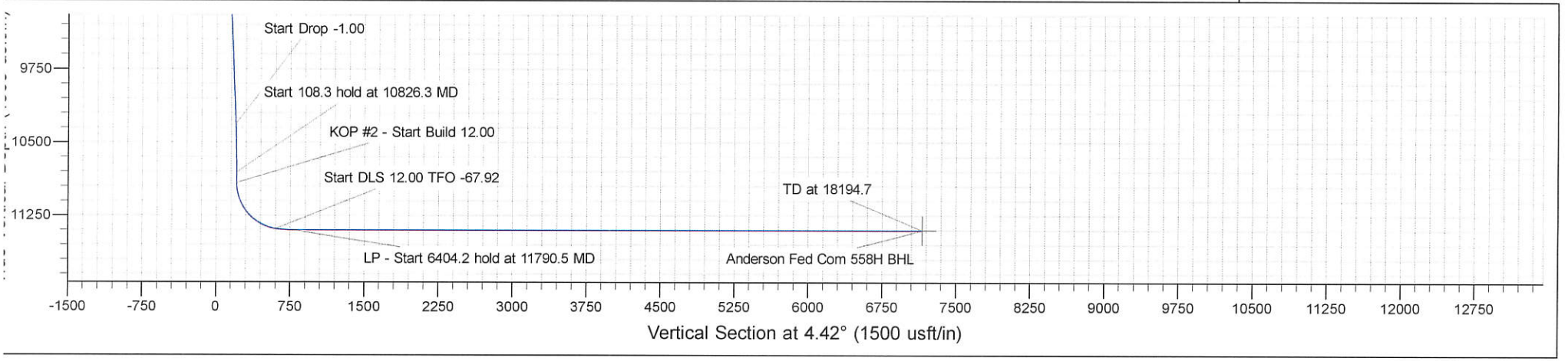


SECTION DETAILS

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	5000.0	0.00	0.00	5000.0	0.0	0.0	0.00	0.00	0.0	KOP - Start Build 1.00
3	5500.0	5.00	67.85	5499.4	8.2	20.2	1.00	67.85	9.8	Start 4826.3 hold at 5500.0 MD
4	10326.3	5.00	67.85	10307.3	166.8	409.8	0.00	0.00	197.9	Start Drop -1.00
5	10826.3	0.00	0.00	10806.7	175.0	430.0	1.00	180.00	207.6	Start 108.3 hold at 10826.3 MD
6	10934.6	0.00	0.00	10915.0	175.0	430.0	0.00	0.00	207.6	KOP #2 - Start Build 12.00
7	11616.9	81.88	18.85	11387.6	563.0	562.5	12.00	18.85	604.7	Start DLS 12.00 TFO -67.92
8	11790.0	90.00	359.67	11400.0	732.5	590.0	12.00	-67.92	775.8	LP - Start 6404.2 hold at 11790.5 MD
9	11790.5	90.00	359.66	11400.0	732.9	590.0	2.00	-90.00	776.3	LP - Start 6404.2 hold at 11790.5 MD
10	18194.7	90.00	359.66	11400.0	7137.0	552.2	0.00	0.00	7158.3	TD at 18194.7

Azimuths to Grid North
True North: -0.37°
Magnetic North: 6.29°

Magnetic Field
Strength: 47726.4nT
Dip Angle: 60.20°
Date: 8/4/2020
Model: IGRF2015



ADVANCE ENERGY PARTNERS

Planning Report

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Company:	Advance Energy Partners	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Project:	Hat Mesa	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site:	Anderson Fed Com - Pad A	**North Reference:**	Grid
Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Anderson Fed Com 558H		
Design:	Anderson Fed Com 558H - Prelim 1		

Project Hat Mesa, Lea County, NM

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

Site Anderson Fed Com - Pad A

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

Well Anderson Fed Com 558H

Well Position	**+N/-S**	0.0 usft	**Northing:**	519,526.22 usft	**Latitude:**	32° 25' 34.806 N
	+E/-W	0.0 usft	**Easting:**	755,313.72 usft	**Longitude:**	103° 38' 23.424 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,657.0 usft
Grid Convergence:		0.37 °				

Wellbore Anderson Fed Com 558H

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/4/2020	6.66	60.20	47,726.41028521

Design Anderson Fed Com 558H - Prelim 1

Audit Notes:				
Version:	**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	4.42

Plan Survey Tool Program **Date** 8/12/2020

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	18,194.7	Anderson Fed Com 558H - Prelim	MWD+HRGM	
				OWSG MWD + HRGM	

ADVANCE ENERGY PARTNERS

Planning Report

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Company:	Advance Energy Partners	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Project:	Hat Mesa	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site:	Anderson Fed Com - Pad A	**North Reference:**	Grid
Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Anderson Fed Com 558H		
Design:	Anderson Fed Com 558H - Prelim 1		

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,500.0	5.00	67.85	5,499.4	8.2	20.2	1.00	1.00	0.00	67.85	
10,326.3	5.00	67.85	10,307.3	166.8	409.8	0.00	0.00	0.00	0.00	
10,826.3	0.00	0.00	10,806.7	175.0	430.0	1.00	-1.00	0.00	180.00	
10,934.6	0.00	0.00	10,915.0	175.0	430.0	0.00	0.00	0.00	0.00	
11,616.9	81.88	18.85	11,387.6	563.0	562.5	12.00	12.00	0.00	18.85	
11,790.0	90.00	359.67	11,400.0	732.5	590.0	12.00	4.69	-11.08	-67.92	
11,790.5	90.00	359.66	11,400.0	732.9	590.0	2.00	0.00	-2.00	-90.00	
18,194.7	90.00	359.66	11,400.0	7,137.0	552.2	0.00	0.00	0.00	0.00	Anderson Fed Com 5

ADVANCE ENERGY PARTNERS

Planning Report

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Project:	Hat Mesa	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site:	Anderson Fed Com - Pad A	**North Reference:**	Grid
Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Anderson Fed Com 558H		
Design:	Anderson Fed Com 558H - 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
KOP - Start Build 1.00									
5,100.0	1.00	67.85	5,100.0	0.3	0.8	0.4	1.00	1.00	0.00
5,200.0	2.00	67.85	5,200.0	1.3	3.2	1.6	1.00	1.00	0.00

ADVANCE ENERGY PARTNERS

Planning Report

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Company:	Advance Energy Partners	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Project:	Hat Mesa	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site:	Anderson Fed Com - Pad A	**North Reference:**	Grid
Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Anderson Fed Com 558H		
Design:	Anderson Fed Com 558H - 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)
5,300.0	3.00	67.85	5,299.9	3.0	7.3	3.5	1.00	1.00	0.00
5,400.0	4.00	67.85	5,399.7	5.3	12.9	6.2	1.00	1.00	0.00
5,500.0	5.00	67.85	5,499.4	8.2	20.2	9.8	1.00	1.00	0.00
Start 4826.3 hold at 5500.0 MD									
5,600.0	5.00	67.85	5,599.0	11.5	28.3	13.7	0.00	0.00	0.00
5,700.0	5.00	67.85	5,698.6	14.8	36.3	17.5	0.00	0.00	0.00
5,800.0	5.00	67.85	5,798.2	18.1	44.4	21.4	0.00	0.00	0.00
5,900.0	5.00	67.85	5,897.8	21.4	52.5	25.3	0.00	0.00	0.00
6,000.0	5.00	67.85	5,997.5	24.6	60.6	29.2	0.00	0.00	0.00
6,100.0	5.00	67.85	6,097.1	27.9	68.6	33.1	0.00	0.00	0.00
6,200.0	5.00	67.85	6,196.7	31.2	76.7	37.0	0.00	0.00	0.00
6,300.0	5.00	67.85	6,296.3	34.5	84.8	40.9	0.00	0.00	0.00
6,400.0	5.00	67.85	6,395.9	37.8	92.8	44.8	0.00	0.00	0.00
6,500.0	5.00	67.85	6,495.6	41.1	100.9	48.7	0.00	0.00	0.00
6,600.0	5.00	67.85	6,595.2	44.4	109.0	52.6	0.00	0.00	0.00
6,700.0	5.00	67.85	6,694.8	47.6	117.1	56.5	0.00	0.00	0.00
6,800.0	5.00	67.85	6,794.4	50.9	125.1	60.4	0.00	0.00	0.00
6,900.0	5.00	67.85	6,894.0	54.2	133.2	64.3	0.00	0.00	0.00
7,000.0	5.00	67.85	6,993.7	57.5	141.3	68.2	0.00	0.00	0.00
7,100.0	5.00	67.85	7,093.3	60.8	149.4	72.1	0.00	0.00	0.00
7,200.0	5.00	67.85	7,192.9	64.1	157.4	76.0	0.00	0.00	0.00
7,300.0	5.00	67.85	7,292.5	67.4	165.5	79.9	0.00	0.00	0.00
7,400.0	5.00	67.85	7,392.1	70.6	173.6	83.8	0.00	0.00	0.00
7,500.0	5.00	67.85	7,491.8	73.9	181.6	87.7	0.00	0.00	0.00
7,600.0	5.00	67.85	7,591.4	77.2	189.7	91.6	0.00	0.00	0.00
7,700.0	5.00	67.85	7,691.0	80.5	197.8	95.5	0.00	0.00	0.00
7,800.0	5.00	67.85	7,790.6	83.8	205.9	99.4	0.00	0.00	0.00
7,900.0	5.00	67.85	7,890.2	87.1	213.9	103.3	0.00	0.00	0.00
8,000.0	5.00	67.85	7,989.9	90.4	222.0	107.2	0.00	0.00	0.00
8,100.0	5.00	67.85	8,089.5	93.6	230.1	111.1	0.00	0.00	0.00
8,200.0	5.00	67.85	8,189.1	96.9	238.2	115.0	0.00	0.00	0.00
8,300.0	5.00	67.85	8,288.7	100.2	246.2	118.9	0.00	0.00	0.00
8,400.0	5.00	67.85	8,388.3	103.5	254.3	122.8	0.00	0.00	0.00
8,500.0	5.00	67.85	8,487.9	106.8	262.4	126.7	0.00	0.00	0.00
8,600.0	5.00	67.85	8,587.6	110.1	270.4	130.6	0.00	0.00	0.00
8,700.0	5.00	67.85	8,687.2	113.4	278.5	134.5	0.00	0.00	0.00
8,800.0	5.00	67.85	8,786.8	116.6	286.6	138.4	0.00	0.00	0.00
8,900.0	5.00	67.85	8,886.4	119.9	294.7	142.3	0.00	0.00	0.00
9,000.0	5.00	67.85	8,986.0	123.2	302.7	146.2	0.00	0.00	0.00
9,100.0	5.00	67.85	9,085.7	126.5	310.8	150.1	0.00	0.00	0.00
9,200.0	5.00	67.85	9,185.3	129.8	318.9	154.0	0.00	0.00	0.00
9,300.0	5.00	67.85	9,284.9	133.1	327.0	157.9	0.00	0.00	0.00
9,400.0	5.00	67.85	9,384.5	136.3	335.0	161.8	0.00	0.00	0.00
9,500.0	5.00	67.85	9,484.1	139.6	343.1	165.7	0.00	0.00	0.00
9,600.0	5.00	67.85	9,583.8	142.9	351.2	169.6	0.00	0.00	0.00
9,700.0	5.00	67.85	9,683.4	146.2	359.2	173.5	0.00	0.00	0.00
9,800.0	5.00	67.85	9,783.0	149.5	367.3	177.4	0.00	0.00	0.00
9,900.0	5.00	67.85	9,882.6	152.8	375.4	181.3	0.00	0.00	0.00
10,000.0	5.00	67.85	9,982.2	156.1	383.5	185.2	0.00	0.00	0.00
10,100.0	5.00	67.85	10,081.9	159.3	391.5	189.1	0.00	0.00	0.00
10,200.0	5.00	67.85	10,181.5	162.6	399.6	193.0	0.00	0.00	0.00
10,300.0	5.00	67.85	10,281.1	165.9	407.7	196.9	0.00	0.00	0.00
10,326.3	5.00	67.85	10,307.3	166.8	409.8	197.9	0.00	0.00	0.00
Start Drop -1.00									

ADVANCE ENERGY PARTNERS

Planning Report

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Wellbore:	Anderson Fed Com 558H		
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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	4.26	67.85	10,380.8	169.0	415.3	200.6	1.00	-1.00	0.00
10,500.0	3.26	67.85	10,480.5	171.5	421.4	203.5	1.00	-1.00	0.00
10,600.0	2.26	67.85	10,580.4	173.3	425.9	205.6	1.00	-1.00	0.00
10,700.0	1.26	67.85	10,680.4	174.5	428.7	207.0	1.00	-1.00	0.00
10,800.0	0.26	67.85	10,780.4	175.0	429.9	207.6	1.00	-1.00	0.00
10,826.3	0.00	0.00	10,806.7	175.0	430.0	207.6	1.00	-1.00	0.00
Start 108.3 hold at 10826.3 MD									
10,900.0	0.00	0.00	10,880.4	175.0	430.0	207.6	0.00	0.00	0.00
10,934.6	0.00	0.00	10,915.0	175.0	430.0	207.6	0.00	0.00	0.00
KOP #2 - Start Build 12.00									
11,000.0	7.84	18.85	10,980.2	179.2	431.4	212.0	12.00	12.00	0.00
11,100.0	19.85	18.85	11,077.1	201.8	439.2	235.1	12.00	12.00	0.00
11,200.0	31.85	18.85	11,166.9	243.0	453.2	277.2	12.00	12.00	0.00
11,300.0	43.85	18.85	11,245.7	301.0	473.0	336.6	12.00	12.00	0.00
11,400.0	55.85	18.85	11,310.1	373.2	497.7	410.4	12.00	12.00	0.00
11,500.0	67.85	18.85	11,357.2	456.5	526.1	495.7	12.00	12.00	0.00
11,600.0	79.85	18.85	11,385.0	547.2	557.1	588.5	12.00	12.00	0.00
11,616.9	81.88	18.85	11,387.6	563.0	562.5	604.7	12.00	12.00	0.00
Start DLS 12.00 TFO -67.92									
11,700.0	85.72	9.60	11,396.6	643.0	582.8	686.0	12.00	4.62	-11.14
11,790.0	90.00	359.67	11,400.0	732.5	590.0	775.8	12.00	4.75	-11.03
11,790.5	90.00	359.66	11,400.0	732.9	590.0	776.3	2.00	0.00	-2.00
LP - Start 6404.2 hold at 11790.5 MD									
11,800.0	90.00	359.66	11,400.0	742.5	589.9	785.8	0.00	0.00	0.00
11,900.0	90.00	359.66	11,400.0	842.5	589.4	885.4	0.00	0.00	0.00
12,000.0	90.00	359.66	11,400.0	942.5	588.8	985.1	0.00	0.00	0.00
12,100.0	90.00	359.66	11,400.0	1,042.5	588.2	1,084.7	0.00	0.00	0.00
12,200.0	90.00	359.66	11,400.0	1,142.5	587.6	1,184.4	0.00	0.00	0.00
12,300.0	90.00	359.66	11,400.0	1,242.5	587.0	1,284.0	0.00	0.00	0.00
12,400.0	90.00	359.66	11,400.0	1,342.5	586.4	1,383.7	0.00	0.00	0.00
12,500.0	90.00	359.66	11,400.0	1,442.5	585.8	1,483.3	0.00	0.00	0.00
12,600.0	90.00	359.66	11,400.0	1,542.5	585.2	1,583.0	0.00	0.00	0.00
12,700.0	90.00	359.66	11,400.0	1,642.5	584.6	1,682.7	0.00	0.00	0.00
12,800.0	90.00	359.66	11,400.0	1,742.5	584.0	1,782.3	0.00	0.00	0.00
12,900.0	90.00	359.66	11,400.0	1,842.5	583.4	1,882.0	0.00	0.00	0.00
13,000.0	90.00	359.66	11,400.0	1,942.4	582.9	1,981.6	0.00	0.00	0.00
13,100.0	90.00	359.66	11,400.0	2,042.4	582.3	2,081.3	0.00	0.00	0.00
13,200.0	90.00	359.66	11,400.0	2,142.4	581.7	2,180.9	0.00	0.00	0.00
13,300.0	90.00	359.66	11,400.0	2,242.4	581.1	2,280.6	0.00	0.00	0.00
13,400.0	90.00	359.66	11,400.0	2,342.4	580.5	2,380.2	0.00	0.00	0.00
13,500.0	90.00	359.66	11,400.0	2,442.4	579.9	2,479.9	0.00	0.00	0.00
13,600.0	90.00	359.66	11,400.0	2,542.4	579.3	2,579.5	0.00	0.00	0.00
13,700.0	90.00	359.66	11,400.0	2,642.4	578.7	2,679.2	0.00	0.00	0.00
13,800.0	90.00	359.66	11,400.0	2,742.4	578.1	2,778.9	0.00	0.00	0.00
13,900.0	90.00	359.66	11,400.0	2,842.4	577.5	2,878.5	0.00	0.00	0.00
14,000.0	90.00	359.66	11,400.0	2,942.4	576.9	2,978.2	0.00	0.00	0.00
14,100.0	90.00	359.66	11,400.0	3,042.4	576.4	3,077.8	0.00	0.00	0.00
14,200.0	90.00	359.66	11,400.0	3,142.4	575.8	3,177.5	0.00	0.00	0.00
14,300.0	90.00	359.66	11,400.0	3,242.4	575.2	3,277.1	0.00	0.00	0.00
14,400.0	90.00	359.66	11,400.0	3,342.4	574.6	3,376.8	0.00	0.00	0.00
14,500.0	90.00	359.66	11,400.0	3,442.4	574.0	3,476.4	0.00	0.00	0.00
14,600.0	90.00	359.66	11,400.0	3,542.4	573.4	3,576.1	0.00	0.00	0.00
14,700.0	90.00	359.66	11,400.0	3,642.4	572.8	3,675.8	0.00	0.00	0.00

ADVANCE ENERGY PARTNERS

Planning Report

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Company:	Advance Energy Partners	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Project:	Hat Mesa	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site:	Anderson Fed Com - Pad A	**North Reference:**	Grid
Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Anderson Fed Com 558H		
Design:	Anderson Fed Com 558H - 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)
14,800.0	90.00	359.66	11,400.0	3,742.4	572.2	3,775.4	0.00	0.00	0.00
14,900.0	90.00	359.66	11,400.0	3,842.4	571.6	3,875.1	0.00	0.00	0.00
15,000.0	90.00	359.66	11,400.0	3,942.4	571.0	3,974.7	0.00	0.00	0.00
15,100.0	90.00	359.66	11,400.0	4,042.4	570.4	4,074.4	0.00	0.00	0.00
15,200.0	90.00	359.66	11,400.0	4,142.4	569.9	4,174.0	0.00	0.00	0.00
15,300.0	90.00	359.66	11,400.0	4,242.4	569.3	4,273.7	0.00	0.00	0.00
15,400.0	90.00	359.66	11,400.0	4,342.4	568.7	4,373.3	0.00	0.00	0.00
15,500.0	90.00	359.66	11,400.0	4,442.4	568.1	4,473.0	0.00	0.00	0.00
15,600.0	90.00	359.66	11,400.0	4,542.4	567.5	4,572.6	0.00	0.00	0.00
15,700.0	90.00	359.66	11,400.0	4,642.4	566.9	4,672.3	0.00	0.00	0.00
15,800.0	90.00	359.66	11,400.0	4,742.4	566.3	4,772.0	0.00	0.00	0.00
15,900.0	90.00	359.66	11,400.0	4,842.4	565.7	4,871.6	0.00	0.00	0.00
16,000.0	90.00	359.66	11,400.0	4,942.4	565.1	4,971.3	0.00	0.00	0.00
16,100.0	90.00	359.66	11,400.0	5,042.4	564.5	5,070.9	0.00	0.00	0.00
16,200.0	90.00	359.66	11,400.0	5,142.4	563.9	5,170.6	0.00	0.00	0.00
16,300.0	90.00	359.66	11,400.0	5,242.4	563.4	5,270.2	0.00	0.00	0.00
16,400.0	90.00	359.66	11,400.0	5,342.4	562.8	5,369.9	0.00	0.00	0.00
16,500.0	90.00	359.66	11,400.0	5,442.4	562.2	5,469.5	0.00	0.00	0.00
16,600.0	90.00	359.66	11,400.0	5,542.4	561.6	5,569.2	0.00	0.00	0.00
16,700.0	90.00	359.66	11,400.0	5,642.4	561.0	5,668.8	0.00	0.00	0.00
16,800.0	90.00	359.66	11,400.0	5,742.4	560.4	5,768.5	0.00	0.00	0.00
16,900.0	90.00	359.66	11,400.0	5,842.4	559.8	5,868.2	0.00	0.00	0.00
17,000.0	90.00	359.66	11,400.0	5,942.4	559.2	5,967.8	0.00	0.00	0.00
17,100.0	90.00	359.66	11,400.0	6,042.4	558.6	6,067.5	0.00	0.00	0.00
17,200.0	90.00	359.66	11,400.0	6,142.4	558.0	6,167.1	0.00	0.00	0.00
17,300.0	90.00	359.66	11,400.0	6,242.4	557.4	6,266.8	0.00	0.00	0.00
17,400.0	90.00	359.66	11,400.0	6,342.4	556.9	6,366.4	0.00	0.00	0.00
17,500.0	90.00	359.66	11,400.0	6,442.4	556.3	6,466.1	0.00	0.00	0.00
17,600.0	90.00	359.66	11,400.0	6,542.4	555.7	6,565.7	0.00	0.00	0.00
17,700.0	90.00	359.66	11,400.0	6,642.4	555.1	6,665.4	0.00	0.00	0.00
17,800.0	90.00	359.66	11,400.0	6,742.4	554.5	6,765.0	0.00	0.00	0.00
17,900.0	90.00	359.66	11,400.0	6,842.4	553.9	6,864.7	0.00	0.00	0.00
18,000.0	90.00	359.66	11,400.0	6,942.4	553.3	6,964.4	0.00	0.00	0.00
18,100.0	90.00	359.66	11,400.0	7,042.4	552.7	7,064.0	0.00	0.00	0.00
18,194.7	90.00	359.66	11,400.0	7,137.0	552.2	7,158.3	0.00	0.00	0.00
TD at 18194.7 - Anderson Fed Com 558H BHL									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Anderson Fed Com 558I - plan hits target center - Point	0.00	0.01	11,400.0	7,137.0	552.2	526,663.23	755,865.87	32° 26' 45.391 N	103° 38' 16.440 W

ADVANCE ENERGY PARTNERS

Planning Report

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Company:	Advance Energy Partners	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Project:	Hat Mesa	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site:	Anderson Fed Com - Pad A	**North Reference:**	Grid
Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Anderson Fed Com 558H		
Design:	Anderson Fed Com 558H - Prelim 1		

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
11,790.0	11,400.0	LP	5-1/2	5-1/2

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
5,000.0	5,000.0	0.0	0.0	KOP - Start Build 1.00
5,500.0	5,499.4	8.2	20.2	Start 4826.3 hold at 5500.0 MD
10,326.3	10,307.3	166.8	409.8	Start Drop -1.00
10,826.3	10,806.7	175.0	430.0	Start 108.3 hold at 10826.3 MD
10,934.6	10,915.0	175.0	430.0	KOP #2 - Start Build 12.00
11,616.9	11,387.6	563.0	562.5	Start DLS 12.00 TFO -67.92
11,790.5	11,400.0	732.9	590.0	LP - Start 6404.2 hold at 11790.5 MD
18,194.7	11,400.0	7,137.0	552.2	TD at 18194.7

Hydrostatic Test Certificate

ContiTech

Certificate Number	COM Order Reference	Customer Name & Address
953233	953233	HELMERICH & PAYNE DRILLING CO 1434 SOUTH BOULDER AVE TULSA, OK 74119 USA
Customer Purchase Order No:	740053080	
Project:		

Test Center Address	Accepted by COM Inspection	Accepted by Client Inspection
ContiTech Oil & Marine Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA	Signed: Roger Suarez Date: 4/21/17	

We certify that the goods detailed hereon have been inspected as described below by our Quality Management System, and to the best of our knowledge are found to conform the requirements of the above referenced purchase order as issued to ContiTech Oil & Marine Corporation.

Item	Part No.	Description	Qnty	Serial Number	Work. Press.	Test Press.	Test Time (minutes)
10		RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL	1	54503	10,000 psi	15,000 psi	60
20		RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL	1	62414	10,000 psi	15,000 psi	60

Certificate of Conformity

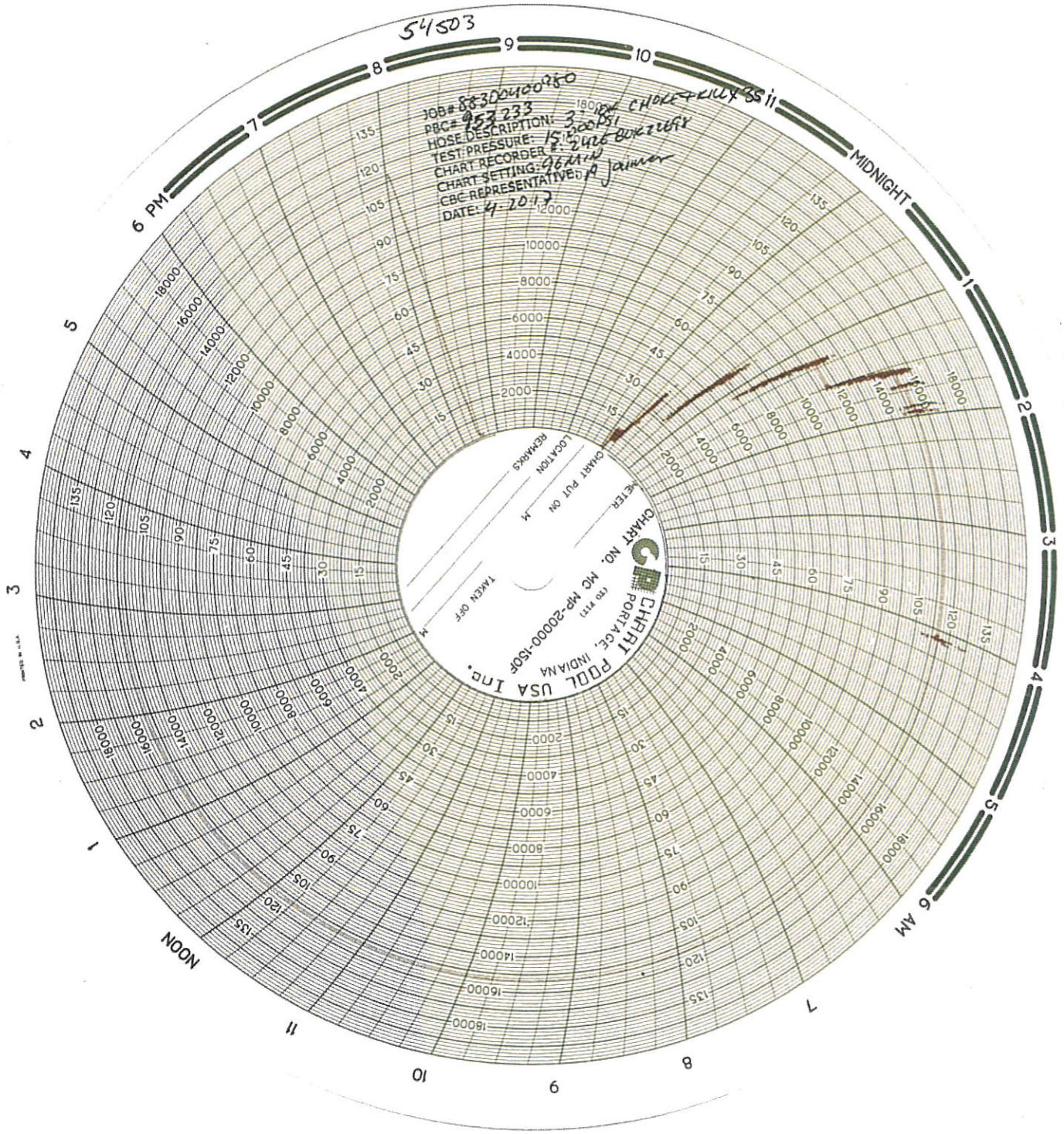
ContiTech

Certificate Number	COM Order Reference	Customer Name & Address
953233	953233	HELMERICH & PAYNE DRILLING CO 1434 SOUTH BOULDER AVE TULSA, OK 74119 USA
Customer Purchase Order No:	740053080	
Project:		

Test Center Address	Accepted by COM Inspection	Accepted by Client Inspection
ContiTech Oil & Marine Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA	Signed: Roger Suarez Date: 4/21/17	

We certify that the items detailed below meet the requirements of the customer's Purchase Order referenced above, and are in conformance with the specifications given below.

Item	Part No.	Description	Qnty	Serial Number	Specifications
10		RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL	1	54503	ContiTech Standard
20		RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL	1	62414	ContiTech Standard


54503
JOB# 8830240035O
PBC# 153233
HOSE DESCRIPTION: 3" 10K CHOKE+KILL SS
TEST PRESSURE: 15,000 PSI
CHART RECORDER #: 2426 BUZZELLI
CHART SETTING: 96 HR
CBC REPRESENTATIVE: A Jaimes
DATE: 4-2017
MIDNIGHT
6 AM
NOON
6 PM
CHART NO. MC MP-20000-150F
CHART POOL USA Inc.
PORTAGE, INDIANA
METER
CHART PUT ON
LOCATION
REMARKS
TAKEN OFF

Hose Inspection Report

ContiTech Oil & Marine

Customer	Customer Reference #	COM Reference #	COM Inspector	Date of Inspection
H&P Drilling	740053080	953233	A. Jaimes	04/20/2017

Hose Manufacturer	Contitech Rubber Industrial

Hose Serial #	54503	**Date of Manufacture**	01/2009
Hose I.D.	3"	**Working Pressure**	10000PSI
Hose Type	Choke and Kill	**Test Pressure**	15000PSI
Manufacturing Standard	API 16C		

Connections

End A: 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange	**End B:** 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange
• No damage	• No damage
Material: Carbon Steel	**Material:** Carbon Steel
Seal Face: BX155	**Seal Face:** BX155
Length Before Hydro Test: 35'	**Length After Hydro test:** 35'

Conclusion: Hose #54503 passed the external inspection with no damage to the hose armor. Internal borescope of the hose showed no damage to the liner. Hose #54503 passed the hydrostatic pressure test by holding a pressure of 15,000PSI for 60 minutes. **Hose #54503 is suitable for continued service.**

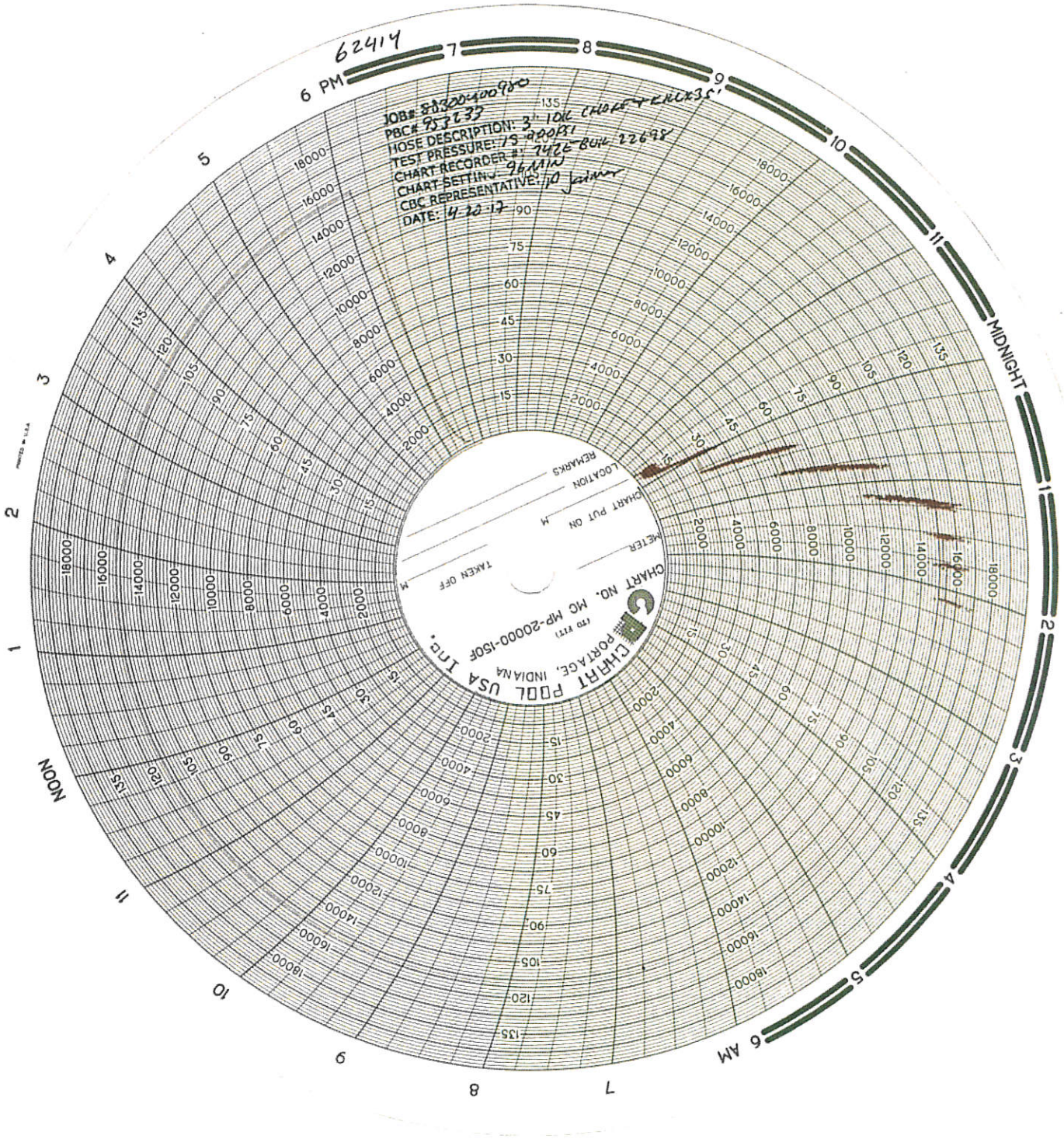
Recommendations: In general the hose should be inspected on a regular on-going basis. The frequency and degree of the inspection should as a minimum follow these guidelines:

Visual inspection: Every 3 to 6 months (or during installation/removal)
Annual: In-situ pressure test (in addition to the 3 to 6 monthly inspections)
Initial 5 years service: Major inspection
2nd Major inspection: Following subsequent 3 year life cycle
(Detailed description of test regime available upon request, QCP 206-1)

**NOTE: There are a number of critical elements in the hose that cannot be thoroughly checked through standard inspection techniques. Away from dissecting the hose body, the best way to evaluate the condition of the hose is through review of the operating conditions recorded during the hose service life, in particular maximums and peak conditions.

Issued By: Alejandro Jaimes
Date: 04/21/2017

Checked By: Gerson Mejia-Lazo
Date: 04/21/2017


62414
JOB# 8032400980
PBC# 953233
HOSE DESCRIPTION: 3" 10K CHOKE + KILL
TEST PRESSURE: 15-20081
CHART RECORDER #: 7426-BUR 22698
CHART SETTING: 9AM/N
CBC REPRESENTATIVE: JO Jaimes
DATE: 4-22-17
CHART POOL USA INC.
PORTAGE, INDIANA
CHART NO. MC MP-20000-150F
(TO FIT)
METER
CHART PUT ON
TAKEN OFF
LOCATION
REMARKS
6 PM
MIDNIGHT
NOON
6 AM

Hose Inspection Report

ContiTech Oil & Marine

Customer	Customer Reference #	COM Reference #	COM Inspector	Date of Inspection
H&P Drilling	740053080	953233	A. Jaimes	04/20/2017

Hose Manufacturer	Contitech Rubber Industrial

Hose Serial #	62414	**Date of Manufacture**	06/2012
Hose I.D.	3"	**Working Pressure**	10000PSI
Hose Type	Choke and Kill	**Test Pressure**	15000PSI
Manufacturing Standard	API 16C		

Connections

End A: 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange	**End B:** 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange
• No damage	• No damage
Material: Carbon Steel	**Material:** Carbon Steel
Seal Face: BX155	**Seal Face:** BX155
Length Before Hydro Test: 35'	**Length After Hydro test:** 35'

Conclusion: Hose #62414 passed the external inspection with no damage to the hose armor. Internal borescope of the hose showed no damage to the liner. Hose #62414 passed the hydrostatic pressure test by holding a pressure of 15,000PSI for 60 minutes. **Hose #62414 is suitable for continued service.**

Recommendations: In general the hose should be inspected on a regular on-going basis. The frequency and degree of the inspection should as a minimum follow these guidelines:

Visual inspection: Every 3 to 6 months (or during installation/removal)
Annual: In-situ pressure test (in addition to the 3 to 6 monthly inspections)
Initial 5 years service: Major inspection
2nd Major inspection: Following subsequent 3 year life cycle
(Detailed description of test regime available upon request, QCP 206-1)

**NOTE: There are a number of critical elements in the hose that cannot be thoroughly checked through standard inspection techniques. Away from dissecting the hose body, the best way to evaluate the condition of the hose is through review of the operating conditions recorded during the hose service life, in particular maximums and peak conditions.

Issued By: Alejandro Jaimes
Date: 04/21/2017

Checked By: Gerson Mejia-Lazo
Date: 04/21/2017

Advance Energy Partners

Hat Mesa
Anderson Fed Com - Pad A
Anderson Fed Com 558H

Anderson Fed Com 558H
Anderson Fed Com 558H - Prelim 1

Anticollision Report

12 August, 2020

ADVANCE ENERGY PARTNERS

Anticollision Report

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Project:	Hat Mesa	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Reference Site:	Anderson Fed Com - Pad A	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.79 sigma
Reference Wellbore	Anderson Fed Com 558H	**Database:**	EDM 5000.16 Single User Db
Reference Design:	Anderson Fed Com 558H - Prelim 1	**Offset TVD Reference:**	Offset Datum

Reference Anderson Fed Com 558H - Prelim 1

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum centre distance of 1,000.0usft	**Error Surface:**	Pedal Curve
Warning Levels Evaluated at:	2.79 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 8/12/2020

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	18,194.7	Anderson Fed Com 558H - Prelim 1 (Ande	MWD+HRGM	OWSG MWD + HRGM

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Anderson Fed Com - Pad A						
Anderson Fed Com 504H - Anderson Fed Com 504H -	5,000.0	5,001.0	33.0	6.9	1.263	Level 3, CC, ES, SF
Anderson Fed Com 557H - Anderson Fed Com 557H - A	5,000.0	5,002.0	132.1	105.9	5.053	CC, ES
Anderson Fed Com 557H - Anderson Fed Com 557H - A	18,194.7	17,829.9	706.6	435.1	2.602	SF
Anderson Fed Com 604H - Anderson Fed Com 604H - A	5,000.0	5,001.0	66.0	39.9	2.526	CC, ES, SF
Anderson Fed Com 704H - Anderson Fed Com 704H - A	5,000.0	4,994.0	149.8	123.7	5.733	CC, ES
Anderson Fed Com 704H - Anderson Fed Com 704H - A	18,000.0	18,500.6	854.1	598.8	3.344	SF

Offset Design: Anderson Fed Com - Pad A - Anderson Fed Com 504H - Anderson Fed Com 504H - Anderson Fed Com 504H - Prelim 1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM

Offset Well Error: 0.0 usft

Rule Assigned:

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	1.0	1.0	0.0	0.0	-91.00	-0.6	-33.0	33.0				
100.0	100.0	101.0	101.0	0.6	0.6	-91.00	-0.6	-33.0	33.0	31.8	1.18	27.983	
200.0	200.0	201.0	201.0	1.7	1.7	-91.00	-0.6	-33.0	33.0	29.5	3.49	9.470	
300.0	300.0	301.0	301.0	2.4	2.4	-91.00	-0.6	-33.0	33.0	28.1	4.87	6.782	
400.0	400.0	401.0	401.0	3.0	3.0	-91.00	-0.6	-33.0	33.0	27.1	5.95	5.553	
500.0	500.0	501.0	501.0	3.4	3.4	-91.00	-0.6	-33.0	33.0	26.2	6.86	4.811	
600.0	600.0	601.0	601.0	3.8	3.8	-91.00	-0.6	-33.0	33.0	25.3	7.68	4.300	
700.0	700.0	701.0	701.0	4.2	4.2	-91.00	-0.6	-33.0	33.0	24.6	8.42	3.921	
800.0	800.0	801.0	801.0	4.6	4.6	-91.00	-0.6	-33.0	33.0	23.9	9.11	3.625	
900.0	900.0	901.0	901.0	4.9	4.9	-91.00	-0.6	-33.0	33.0	23.3	9.75	3.385	
1,000.0	1,000.0	1,001.0	1,001.0	5.2	5.2	-91.00	-0.6	-33.0	33.0	22.7	10.36	3.186	
1,100.0	1,100.0	1,101.0	1,101.0	5.5	5.5	-91.00	-0.6	-33.0	33.0	22.1	10.94	3.017	
1,200.0	1,200.0	1,201.0	1,201.0	5.7	5.8	-91.00	-0.6	-33.0	33.0	21.5	11.50	2.871	
1,300.0	1,300.0	1,301.0	1,301.0	6.0	6.0	-91.00	-0.6	-33.0	33.0	21.0	12.04	2.743	
1,400.0	1,400.0	1,401.0	1,401.0	6.3	6.3	-91.00	-0.6	-33.0	33.0	20.5	12.55	2.631	
1,500.0	1,500.0	1,501.0	1,501.0	6.5	6.5	-91.00	-0.6	-33.0	33.0	20.0	13.05	2.530	
1,600.0	1,600.0	1,601.0	1,601.0	6.8	6.8	-91.00	-0.6	-33.0	33.0	19.5	13.54	2.439	
1,700.0	1,700.0	1,701.0	1,701.0	7.0	7.0	-91.00	-0.6	-33.0	33.0	19.0	14.01	2.357	
1,800.0	1,800.0	1,801.0	1,801.0	7.2	7.2	-91.00	-0.6	-33.0	33.0	18.6	14.47	2.282	
1,900.0	1,900.0	1,901.0	1,901.0	7.5	7.5	-91.00	-0.6	-33.0	33.0	18.1	14.92	2.214	
2,000.0	2,000.0	2,001.0	2,001.0	7.7	7.7	-91.00	-0.6	-33.0	33.0	17.7	15.36	2.150	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

ADVANCE ENERGY PARTNERS

Anticollision Report

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Project:	Hat Mesa	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Reference Site:	Anderson Fed Com - Pad A	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.79 sigma
Reference Wellbore	Anderson Fed Com 558H	**Database:**	EDM 5000.16 Single User Db
Reference Design:	Anderson Fed Com 558H - Prelim 1	**Offset TVD Reference:**	Offset Datum

Offset Design: Anderson Fed Com - Pad A - Anderson Fed Com 504H - Anderson Fed Com 504H - Anderson Fed Com 504H - Prelim 1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,100.0	2,100.0	2,101.0	2,101.0	7.9	7.9	-91.00	-0.6	-33.0	33.0	17.2	15.79	2.092	
2,200.0	2,200.0	2,201.0	2,201.0	8.1	8.1	-91.00	-0.6	-33.0	33.0	16.8	16.21	2.037	
2,300.0	2,300.0	2,301.0	2,301.0	8.3	8.3	-91.00	-0.6	-33.0	33.0	16.4	16.62	1.986	
2,400.0	2,400.0	2,401.0	2,401.0	8.5	8.5	-91.00	-0.6	-33.0	33.0	16.0	17.03	1.939	
2,500.0	2,500.0	2,501.0	2,501.0	8.7	8.7	-91.00	-0.6	-33.0	33.0	15.6	17.43	1.894	
2,600.0	2,600.0	2,601.0	2,601.0	8.9	8.9	-91.00	-0.6	-33.0	33.0	15.2	17.83	1.852	
2,700.0	2,700.0	2,701.0	2,701.0	9.1	9.1	-91.00	-0.6	-33.0	33.0	14.8	18.22	1.813	
2,800.0	2,800.0	2,801.0	2,801.0	9.3	9.3	-91.00	-0.6	-33.0	33.0	14.4	18.60	1.775	
2,900.0	2,900.0	2,901.0	2,901.0	9.5	9.5	-91.00	-0.6	-33.0	33.0	14.0	18.98	1.740	
3,000.0	3,000.0	3,001.0	3,001.0	9.7	9.7	-91.00	-0.6	-33.0	33.0	13.7	19.35	1.706	
3,100.0	3,100.0	3,101.0	3,101.0	9.9	9.9	-91.00	-0.6	-33.0	33.0	13.3	19.72	1.674	
3,200.0	3,200.0	3,201.0	3,201.0	10.0	10.0	-91.00	-0.6	-33.0	33.0	12.9	20.09	1.644	
3,300.0	3,300.0	3,301.0	3,301.0	10.2	10.2	-91.00	-0.6	-33.0	33.0	12.6	20.45	1.615	
3,400.0	3,400.0	3,401.0	3,401.0	10.4	10.4	-91.00	-0.6	-33.0	33.0	12.2	20.81	1.587	
3,500.0	3,500.0	3,501.0	3,501.0	10.6	10.6	-91.00	-0.6	-33.0	33.0	11.9	21.16	1.560	
3,600.0	3,600.0	3,601.0	3,601.0	10.8	10.8	-91.00	-0.6	-33.0	33.0	11.5	21.51	1.535	
3,700.0	3,700.0	3,701.0	3,701.0	10.9	10.9	-91.00	-0.6	-33.0	33.0	11.2	21.86	1.510	
3,800.0	3,800.0	3,801.0	3,801.0	11.1	11.1	-91.00	-0.6	-33.0	33.0	10.8	22.20	1.487	Level 3
3,900.0	3,900.0	3,901.0	3,901.0	11.3	11.3	-91.00	-0.6	-33.0	33.0	10.5	22.55	1.465	Level 3
4,000.0	4,000.0	4,001.0	4,001.0	11.4	11.4	-91.00	-0.6	-33.0	33.0	10.1	22.88	1.443	Level 3
4,100.0	4,100.0	4,101.0	4,101.0	11.6	11.6	-91.00	-0.6	-33.0	33.0	9.8	23.22	1.422	Level 3
4,200.0	4,200.0	4,201.0	4,201.0	11.8	11.8	-91.00	-0.6	-33.0	33.0	9.5	23.55	1.402	Level 3
4,300.0	4,300.0	4,301.0	4,301.0	11.9	11.9	-91.00	-0.6	-33.0	33.0	9.1	23.88	1.382	Level 3
4,400.0	4,400.0	4,401.0	4,401.0	12.1	12.1	-91.00	-0.6	-33.0	33.0	8.8	24.21	1.364	Level 3
4,500.0	4,500.0	4,501.0	4,501.0	12.3	12.3	-91.00	-0.6	-33.0	33.0	8.5	24.54	1.346	Level 3
4,600.0	4,600.0	4,601.0	4,601.0	12.4	12.4	-91.00	-0.6	-33.0	33.0	8.2	24.86	1.328	Level 3
4,700.0	4,700.0	4,701.0	4,701.0	12.6	12.6	-91.00	-0.6	-33.0	33.0	7.8	25.18	1.311	Level 3
4,800.0	4,800.0	4,801.0	4,801.0	12.8	12.8	-91.00	-0.6	-33.0	33.0	7.5	25.50	1.295	Level 3
4,900.0	4,900.0	4,901.0	4,901.0	12.9	12.9	-91.00	-0.6	-33.0	33.0	7.2	25.82	1.279	Level 3
5,000.0	5,000.0	5,001.0	5,001.0	13.1	13.1	-91.00	-0.6	-33.0	33.0	6.9	26.14	1.263	Level 3, CC, ES, SF
5,100.0	5,100.0	5,101.0	5,101.0	13.2	13.2	-159.39	-0.6	-33.0	33.8	7.4	26.43	1.280	Level 3
5,200.0	5,200.0	5,201.0	5,201.0	13.3	13.4	-160.83	-0.6	-33.0	36.3	9.6	26.72	1.358	Level 3
5,300.0	5,299.9	5,301.5	5,301.5	13.5	13.5	-162.23	-0.1	-32.3	39.7	12.7	27.01	1.469	Level 3
5,400.0	5,399.7	5,402.0	5,402.0	13.7	13.7	-162.94	1.4	-30.1	43.2	15.9	27.31	1.581	
5,500.0	5,499.4	5,502.7	5,502.5	13.9	13.8	-163.12	3.9	-26.4	46.9	19.2	27.64	1.695	
5,600.0	5,599.0	5,603.4	5,603.0	14.1	14.0	-162.58	7.4	-21.3	49.8	21.8	28.00	1.780	
5,700.0	5,698.6	5,704.1	5,703.4	14.3	14.2	-161.12	11.9	-14.7	51.3	22.9	28.38	1.807	
5,800.0	5,798.2	5,804.1	5,803.0	14.5	14.4	-159.27	16.8	-7.5	52.1	23.3	28.78	1.810	
5,900.0	5,897.8	5,904.0	5,902.6	14.8	14.6	-157.49	21.8	-0.3	53.0	23.7	29.21	1.813	
6,000.0	5,997.5	6,004.0	6,002.2	15.1	14.9	-155.76	26.7	6.9	53.9	24.2	29.65	1.817	
6,100.0	6,097.1	6,104.0	6,101.8	15.3	15.2	-154.08	31.6	14.1	54.8	24.7	30.10	1.822	
6,200.0	6,196.7	6,204.0	6,201.4	15.7	15.4	-152.47	36.5	21.3	55.8	25.3	30.55	1.827	
6,300.0	6,296.3	6,304.0	6,301.0	16.0	15.7	-150.92	41.4	28.5	56.9	25.9	31.01	1.834	
6,400.0	6,395.9	6,404.0	6,400.7	16.3	16.0	-149.42	46.3	35.6	58.0	26.5	31.48	1.841	
6,500.0	6,495.6	6,503.9	6,500.3	16.6	16.3	-147.98	51.3	42.8	59.1	27.1	31.94	1.850	
6,600.0	6,595.2	6,603.9	6,599.9	17.0	16.7	-146.59	56.2	50.0	60.2	27.8	32.41	1.859	
6,700.0	6,694.8	6,703.9	6,699.5	17.3	17.0	-145.26	61.1	57.2	61.4	28.6	32.88	1.869	
6,800.0	6,794.4	6,803.9	6,799.1	17.7	17.4	-143.98	66.0	64.4	62.7	29.3	33.34	1.880	
6,900.0	6,894.0	6,903.9	6,898.7	18.1	17.7	-142.75	70.9	71.6	63.9	30.1	33.80	1.891	
7,000.0	6,993.7	7,003.9	6,998.3	18.5	18.1	-141.56	75.8	78.8	65.2	30.9	34.26	1.903	
7,100.0	7,093.3	7,103.8	7,097.9	18.9	18.5	-140.42	80.8	86.0	66.5	31.8	34.71	1.916	
7,200.0	7,192.9	7,203.8	7,197.5	19.3	18.8	-139.33	85.7	93.2	67.9	32.7	35.16	1.930	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

ADVANCE ENERGY PARTNERS

Anticollision Report

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Project:	Hat Mesa	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Reference Site:	Anderson Fed Com - Pad A	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.79 sigma
Reference Wellbore	Anderson Fed Com 558H	**Database:**	EDM 5000.16 Single User Db
Reference Design:	Anderson Fed Com 558H - Prelim 1	**Offset TVD Reference:**	Offset Datum

Offset Design: Anderson Fed Com - Pad A - Anderson Fed Com 504H - Anderson Fed Com 504H - Anderson Fed Com 504H - Prelim 1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,300.0	7,292.5	7,303.8	7,297.1	19.7	19.2	-138.28	90.6	100.4	69.2	33.6	35.61	1.944	
7,400.0	7,392.1	7,403.8	7,396.7	20.1	19.6	-137.27	95.5	107.6	70.6	34.6	36.05	1.958	
7,500.0	7,491.8	7,503.8	7,496.3	20.5	20.0	-136.30	100.4	114.8	72.0	35.5	36.49	1.973	
7,600.0	7,591.4	7,603.8	7,595.9	20.9	20.5	-135.37	105.3	122.0	73.4	36.5	36.92	1.989	
7,700.0	7,691.0	7,703.7	7,695.5	21.3	20.9	-134.47	110.3	129.2	74.9	37.5	37.35	2.005	
7,800.0	7,790.6	7,803.7	7,795.1	21.8	21.3	-133.61	115.2	136.4	76.3	38.6	37.77	2.021	
7,900.0	7,890.2	7,903.7	7,894.7	22.2	21.7	-132.77	120.1	143.6	77.8	39.6	38.19	2.037	
8,000.0	7,989.9	8,003.7	7,994.3	22.7	22.2	-131.97	125.0	150.8	79.3	40.7	38.61	2.054	
8,100.0	8,089.5	8,103.7	8,093.9	23.1	22.6	-131.20	129.9	158.0	80.8	41.8	39.02	2.071	
8,200.0	8,189.1	8,203.7	8,193.5	23.6	23.0	-130.46	134.8	165.2	82.3	42.9	39.43	2.088	
8,300.0	8,288.7	8,303.6	8,293.1	24.0	23.5	-129.75	139.8	172.3	83.9	44.0	39.83	2.105	
8,400.0	8,388.3	8,403.6	8,392.7	24.5	23.9	-129.06	144.7	179.5	85.4	45.2	40.24	2.123	
8,500.0	8,487.9	8,503.6	8,492.3	24.9	24.4	-128.39	149.6	186.7	87.0	46.3	40.64	2.140	
8,600.0	8,587.6	8,603.6	8,591.9	25.4	24.8	-127.75	154.5	193.9	88.5	47.5	41.03	2.158	
8,700.0	8,687.2	8,703.6	8,691.5	25.9	25.3	-127.14	159.4	201.1	90.1	48.7	41.43	2.176	
8,800.0	8,786.8	8,803.6	8,791.1	26.3	25.8	-126.54	164.3	208.3	91.7	49.9	41.82	2.193	
8,900.0	8,886.4	8,903.5	8,890.7	26.8	26.2	-125.96	169.2	215.5	93.3	51.1	42.21	2.211	
9,000.0	8,986.0	9,003.5	8,990.3	27.3	26.7	-125.41	174.2	222.7	94.9	52.3	42.59	2.229	
9,100.0	9,085.7	9,103.5	9,089.9	27.8	27.2	-124.87	179.1	229.9	96.6	53.6	42.98	2.247	
9,200.0	9,185.3	9,203.5	9,189.5	28.3	27.7	-124.35	184.0	237.1	98.2	54.8	43.36	2.264	
9,300.0	9,284.9	9,303.5	9,289.1	28.7	28.1	-123.84	188.9	244.3	99.8	56.1	43.74	2.282	
9,400.0	9,384.5	9,403.2	9,388.5	29.2	28.6	-123.41	193.8	251.4	101.5	57.4	44.10	2.301	
9,500.0	9,484.1	9,502.6	9,487.6	29.7	29.0	-123.70	197.8	257.3	103.7	59.0	44.67	2.321	
9,600.0	9,583.8	9,601.8	9,586.7	30.2	29.5	-124.83	200.9	261.9	106.5	61.0	45.50	2.341	
9,700.0	9,683.4	9,700.9	9,685.7	30.7	29.9	-126.72	203.0	265.0	110.1	63.5	46.59	2.363	
9,800.0	9,783.0	9,800.0	9,784.8	31.2	30.2	-129.26	204.2	266.6	114.6	66.6	47.93	2.391	
9,900.0	9,882.6	9,898.9	9,883.6	31.7	30.4	-132.27	204.4	267.0	120.1	70.7	49.40	2.431	
10,000.0	9,982.2	9,998.5	9,983.2	32.2	30.5	-135.20	204.4	267.0	126.1	75.2	50.89	2.478	
10,100.0	10,081.9	10,098.1	10,082.9	32.7	30.5	-137.85	204.4	267.0	132.5	80.1	52.32	2.532	
10,200.0	10,181.5	10,197.7	10,182.5	33.2	30.6	-140.26	204.4	267.0	139.1	85.4	53.68	2.590	
10,300.0	10,281.1	10,297.3	10,282.1	33.7	30.7	-142.44	204.4	267.0	145.9	90.9	54.97	2.654	
10,326.3	10,307.3	10,328.9	10,313.7	33.8	30.8	-142.85	204.9	267.6	147.3	92.0	55.28	2.665	
10,400.0	10,380.8	10,419.4	10,403.0	34.2	31.3	-140.32	213.0	278.7	145.1	90.1	55.00	2.638	
10,500.0	10,480.5	10,532.0	10,507.9	34.6	32.1	-127.72	236.8	311.0	130.9	79.8	51.13	2.560	
10,600.0	10,580.4	10,624.3	10,585.0	35.1	32.7	-106.35	266.7	351.7	119.3	74.2	45.08	2.647	
10,606.3	10,586.7	10,629.4	10,588.9	35.1	32.8	-104.88	268.6	354.3	119.2	74.4	44.87	2.658	
10,700.0	10,680.4	10,695.4	10,636.9	35.5	33.2	-84.83	295.4	390.8	134.3	86.6	47.78	2.812	
10,800.0	10,780.4	10,750.0	10,672.0	35.8	33.5	-70.01	320.9	424.0	182.5	127.4	55.03	3.316	
10,826.3	10,806.7	10,759.5	10,677.8	35.8	33.5	-0.14	325.8	429.6	199.0	142.7	56.28	3.536	
10,900.0	10,880.4	10,790.9	10,696.5	35.9	33.7	6.05	343.2	447.8	250.5	191.7	58.84	4.258	
10,934.6	10,915.0	10,804.7	10,704.5	35.9	33.8	8.25	351.4	455.6	276.6	216.9	59.65	4.636	
10,950.0	10,930.4	10,810.7	10,707.9	35.9	33.8	-9.38	355.1	458.9	288.3	228.3	59.97	4.807	
10,975.0	10,955.3	10,825.0	10,715.9	36.0	33.9	-7.21	364.0	466.7	306.9	246.4	60.52	5.072	
11,000.0	10,980.2	10,831.4	10,719.4	36.1	33.9	-6.20	368.1	470.1	325.1	264.2	60.89	5.339	
11,025.0	11,004.8	10,842.2	10,725.3	36.2	33.9	-4.99	375.2	475.8	342.8	281.5	61.29	5.592	
11,050.0	11,029.2	10,850.0	10,729.4	36.3	34.0	-4.20	380.5	479.8	359.9	298.3	61.61	5.842	
11,075.0	11,053.4	10,864.8	10,737.1	36.4	34.0	-3.11	390.6	487.3	376.5	314.4	62.00	6.072	
11,100.0	11,077.1	10,875.0	10,742.3	36.5	34.1	-2.46	397.9	492.3	392.4	330.1	62.30	6.299	
11,125.0	11,100.4	10,888.5	10,749.0	36.6	34.1	-1.78	407.6	498.7	407.8	345.2	62.61	6.513	
11,150.0	11,123.1	10,900.0	10,754.5	36.8	34.2	-1.30	416.2	504.1	422.5	359.6	62.88	6.719	
11,175.0	11,145.3	10,913.1	10,760.6	36.9	34.2	-0.85	426.2	510.1	436.5	373.4	63.14	6.913	
11,200.0	11,166.9	10,925.0	10,766.0	37.0	34.3	-0.51	435.4	515.3	449.9	386.5	63.37	7.099	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

ADVANCE ENERGY PARTNERS

Anticollision Report

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Project:	Hat Mesa	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Reference Site:	Anderson Fed Com - Pad A	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.79 sigma
Reference Wellbore	Anderson Fed Com 558H	**Database:**	EDM 5000.16 Single User Db
Reference Design:	Anderson Fed Com 558H - Prelim 1	**Offset TVD Reference:**	Offset Datum

Offset Design: Anderson Fed Com - Pad A - Anderson Fed Com 504H - Anderson Fed Com 504H - Anderson Fed Com 504H - Prelim 1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
11,225.0	11,187.8	10,938.6	10,772.0	37.1	34.3	-0.21	446.2	521.1	462.5	398.9	63.60	7.272	
11,250.0	11,207.9	10,950.0	10,776.7	37.3	34.4	0.00	455.4	525.7	474.5	410.7	63.79	7.438	
11,275.0	11,227.3	10,964.9	10,782.8	37.4	34.4	0.20	467.6	531.6	485.7	421.7	64.00	7.589	
11,300.0	11,245.7	10,975.0	10,786.7	37.5	34.4	0.31	476.1	535.4	496.2	432.0	64.14	7.736	
11,325.0	11,263.3	10,991.7	10,793.0	37.6	34.5	0.43	490.4	541.5	505.8	441.5	64.34	7.862	
11,350.0	11,279.9	11,000.0	10,795.9	37.7	34.5	0.47	497.6	544.3	514.8	450.4	64.43	7.990	
11,375.0	11,295.5	11,018.9	10,802.4	37.8	34.6	0.51	514.2	550.6	522.9	458.3	64.62	8.092	
11,400.0	11,310.1	11,032.6	10,806.7	38.0	34.6	0.50	526.5	554.8	530.3	465.5	64.75	8.190	
11,425.0	11,323.6	11,050.0	10,811.9	38.1	34.7	0.45	542.4	559.8	536.9	472.0	64.90	8.273	
11,450.0	11,336.0	11,060.2	10,814.7	38.2	34.7	0.40	551.8	562.5	542.6	477.7	64.95	8.354	
11,475.0	11,347.2	11,075.0	10,818.6	38.3	34.7	0.29	565.6	566.3	547.6	482.5	65.04	8.419	
11,500.0	11,357.2	11,087.8	10,821.6	38.4	34.8	0.17	577.6	569.2	551.8	486.7	65.10	8.475	
11,525.0	11,366.0	11,100.0	10,824.4	38.4	34.8	0.04	589.2	571.9	555.1	490.0	65.14	8.522	
11,550.0	11,373.6	11,115.3	10,827.5	38.5	34.8	-0.15	603.9	574.9	557.7	492.5	65.20	8.554	
11,575.0	11,379.9	11,125.0	10,829.3	38.6	34.9	-0.29	613.3	576.6	559.5	494.3	65.19	8.583	
11,600.0	11,385.0	11,142.5	10,832.2	38.7	34.9	-0.59	630.3	579.4	560.4	495.2	65.24	8.590	
11,616.9	11,387.6	11,150.0	10,833.3	38.7	34.9	-0.72	637.7	580.5	560.7	495.4	65.22	8.597	
11,625.0	11,388.8	11,156.0	10,834.1	38.8	35.0	-0.72	643.5	581.3	560.7	495.5	65.23	8.596	
11,650.0	11,391.9	11,175.0	10,836.3	38.8	35.0	-0.69	662.3	583.5	560.8	495.5	65.27	8.592	
11,657.5	11,392.7	11,175.0	10,836.3	38.9	35.0	-0.59	662.3	583.5	560.8	495.5	65.22	8.597	
11,675.0	11,394.5	11,183.0	10,837.1	38.9	35.0	-0.51	670.2	584.2	560.8	495.6	65.21	8.601	
11,700.0	11,396.6	11,200.0	10,838.5	39.0	35.1	-0.47	687.1	585.5	560.9	495.6	65.24	8.597	
11,704.0	11,396.9	11,200.0	10,838.5	39.0	35.1	-0.44	687.1	585.5	560.9	495.7	65.22	8.600	
11,725.0	11,398.2	11,210.0	10,839.1	39.1	35.1	-0.38	697.1	586.1	560.9	495.7	65.22	8.601	
11,750.0	11,399.3	11,225.0	10,839.7	39.2	35.1	-0.34	712.0	586.7	561.0	495.7	65.25	8.598	
11,751.2	11,399.4	11,225.0	10,839.7	39.2	35.1	-0.34	712.0	586.7	561.0	495.7	65.24	8.598	
11,775.0	11,399.9	11,237.1	10,840.0	39.3	35.2	-0.31	724.1	586.9	561.0	495.7	65.25	8.597	
11,790.0	11,400.0	11,245.5	10,840.0	39.4	35.2	-0.31	732.5	587.0	561.0	495.7	65.27	8.595	
11,790.5	11,400.0	11,245.9	10,840.0	39.4	35.2	-0.31	732.9	587.0	561.0	495.7	65.27	8.595	
11,800.0	11,400.0	11,255.4	10,840.0	39.4	35.2	-0.30	742.5	587.0	561.0	495.7	65.33	8.587	
11,900.0	11,400.0	11,355.4	10,840.0	39.9	35.7	-0.25	842.5	586.9	561.0	495.1	65.94	8.507	
12,000.0	11,400.0	11,455.4	10,840.0	40.5	36.2	-0.20	942.5	586.8	561.0	494.4	66.63	8.420	
12,100.0	11,400.0	11,555.4	10,840.0	41.2	36.9	-0.15	1,042.5	586.7	561.0	493.6	67.38	8.326	
12,200.0	11,400.0	11,655.4	10,840.0	42.0	37.8	-0.10	1,142.5	586.6	561.0	492.8	68.19	8.227	
12,300.0	11,400.0	11,755.4	10,840.0	42.9	38.8	-0.06	1,242.5	586.4	561.0	491.9	69.07	8.122	
12,400.0	11,400.0	11,855.4	10,840.0	43.9	39.9	-0.01	1,342.5	586.3	561.0	491.0	70.01	8.014	
12,425.9	11,400.0	11,881.3	10,840.0	44.2	40.3	0.00	1,368.3	586.2	561.0	490.7	70.26	7.985	
12,500.0	11,400.0	11,955.4	10,840.0	45.0	41.2	0.03	1,442.5	586.1	561.0	490.0	71.00	7.901	
12,600.0	11,400.0	12,055.4	10,840.0	46.2	42.5	0.07	1,542.5	585.9	561.0	489.0	72.05	7.787	
12,700.0	11,400.0	12,155.4	10,840.0	47.5	43.8	0.11	1,642.5	585.7	561.0	487.9	73.15	7.669	
12,800.0	11,400.0	12,255.4	10,840.0	48.8	45.3	0.15	1,742.5	585.5	561.0	486.7	74.30	7.551	
12,900.0	11,400.0	12,355.4	10,840.0	50.1	46.7	0.19	1,842.5	585.3	561.0	485.5	75.49	7.431	
13,000.0	11,400.0	12,455.4	10,840.0	51.5	48.3	0.23	1,942.5	585.1	561.0	484.3	76.74	7.311	
13,100.0	11,400.0	12,555.4	10,840.0	53.0	49.8	0.26	2,042.5	584.8	561.0	483.0	78.02	7.190	
13,200.0	11,400.0	12,655.4	10,840.0	54.5	51.4	0.29	2,142.5	584.5	561.0	481.7	79.35	7.070	
13,300.0	11,400.0	12,755.4	10,840.0	56.0	53.0	0.32	2,242.5	584.2	561.0	480.3	80.71	6.951	
13,400.0	11,400.0	12,855.4	10,840.0	57.6	54.7	0.35	2,342.5	583.9	561.0	478.9	82.11	6.832	
13,500.0	11,400.0	12,955.4	10,840.0	59.2	56.4	0.38	2,442.5	583.6	561.0	477.5	83.55	6.715	
13,600.0	11,400.0	13,055.4	10,840.0	60.8	58.1	0.41	2,542.5	583.3	561.0	476.0	85.01	6.599	
13,700.0	11,400.0	13,155.4	10,840.0	62.5	59.8	0.43	2,642.5	583.0	561.0	474.5	86.51	6.485	
13,800.0	11,400.0	13,255.4	10,840.0	64.2	61.5	0.46	2,742.5	582.6	561.0	473.0	88.04	6.372	
13,900.0	11,400.0	13,355.4	10,840.0	65.8	63.3	0.48	2,842.5	582.2	561.0	471.4	89.59	6.262	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

ADVANCE ENERGY PARTNERS

Anticollision Report

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Project:	Hat Mesa	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Reference Site:	Anderson Fed Com - Pad A	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.79 sigma
Reference Wellbore	Anderson Fed Com 558H	**Database:**	EDM 5000.16 Single User Db
Reference Design:	Anderson Fed Com 558H - Prelim 1	**Offset TVD Reference:**	Offset Datum

Offset Design: Anderson Fed Com - Pad A - Anderson Fed Com 504H - Anderson Fed Com 504H - Anderson Fed Com 504H - Prelim 1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,000.0	11,400.0	13,455.4	10,840.0	67.6	65.0	0.50	2,942.5	581.8	561.0	469.8	91.17	6.153	
14,100.0	11,400.0	13,555.4	10,840.0	69.3	66.8	0.52	3,042.5	581.4	561.0	468.2	92.78	6.047	
14,200.0	11,400.0	13,655.4	10,840.0	71.0	68.6	0.54	3,142.5	581.0	561.0	466.6	94.41	5.942	
14,300.0	11,400.0	13,755.4	10,840.0	72.8	70.4	0.55	3,242.4	580.6	561.0	465.0	96.06	5.840	
14,400.0	11,400.0	13,855.4	10,840.0	74.5	72.2	0.57	3,342.4	580.1	561.0	463.3	97.73	5.740	
14,500.0	11,400.0	13,955.4	10,840.0	76.3	74.1	0.58	3,442.4	579.7	561.0	461.6	99.43	5.643	
14,600.0	11,400.0	14,055.4	10,840.0	78.1	75.9	0.59	3,542.4	579.2	561.0	459.9	101.14	5.547	
14,700.0	11,400.0	14,155.4	10,840.0	79.9	77.7	0.60	3,642.4	578.7	561.0	458.2	102.86	5.454	
14,800.0	11,400.0	14,255.4	10,840.0	81.7	79.6	0.61	3,742.4	578.2	561.0	456.4	104.61	5.363	
14,900.0	11,400.0	14,355.4	10,840.0	83.6	81.5	0.62	3,842.4	577.7	561.0	454.7	106.37	5.274	
15,000.0	11,400.0	14,455.4	10,840.0	85.4	83.3	0.62	3,942.4	577.1	561.0	452.9	108.14	5.188	
15,100.0	11,400.0	14,555.4	10,840.0	87.2	85.2	0.63	4,042.4	576.6	561.0	451.1	109.93	5.103	
15,200.0	11,400.0	14,655.4	10,840.0	89.1	87.1	0.63	4,142.4	576.0	561.0	449.3	111.74	5.021	
15,300.0	11,400.0	14,755.4	10,840.0	90.9	89.0	0.63	4,242.4	575.4	561.0	447.5	113.55	4.941	
15,400.0	11,400.0	14,855.4	10,840.0	92.8	90.8	0.63	4,342.4	574.8	561.0	445.7	115.38	4.862	
15,500.0	11,400.0	14,955.4	10,840.0	94.7	92.7	0.63	4,442.4	574.2	561.0	443.8	117.22	4.786	
15,600.0	11,400.0	15,055.4	10,840.0	96.5	94.6	0.62	4,542.4	573.6	561.0	442.0	119.07	4.712	
15,700.0	11,400.0	15,155.4	10,840.0	98.4	96.5	0.62	4,642.4	572.9	561.0	440.1	120.93	4.639	
15,800.0	11,400.0	15,255.4	10,840.0	100.3	98.5	0.61	4,742.4	572.3	561.0	438.2	122.80	4.569	
15,900.0	11,400.0	15,355.4	10,840.0	102.2	100.4	0.60	4,842.4	571.6	561.0	436.4	124.68	4.500	
16,000.0	11,400.0	15,455.4	10,840.0	104.1	102.3	0.59	4,942.4	570.9	561.0	434.5	126.56	4.433	
16,100.0	11,400.0	15,555.4	10,840.0	106.0	104.2	0.58	5,042.4	570.2	561.0	432.6	128.46	4.367	
16,200.0	11,400.0	15,655.4	10,840.0	107.9	106.1	0.57	5,142.4	569.5	561.0	430.7	130.36	4.304	
16,300.0	11,400.0	15,755.4	10,840.0	109.8	108.1	0.55	5,242.4	568.8	561.0	428.8	132.27	4.241	
16,400.0	11,400.0	15,855.4	10,840.0	111.7	110.0	0.54	5,342.4	568.0	561.0	426.8	134.19	4.181	
16,500.0	11,400.0	15,955.4	10,840.0	113.6	111.9	0.52	5,442.4	567.3	561.0	424.9	136.11	4.122	
16,600.0	11,400.0	16,055.4	10,840.0	115.5	113.8	0.50	5,542.4	566.5	561.0	423.0	138.04	4.064	
16,700.0	11,400.0	16,155.4	10,840.0	117.4	115.8	0.48	5,642.4	565.7	561.0	421.0	139.98	4.008	
16,800.0	11,400.0	16,255.4	10,840.0	119.4	117.7	0.46	5,742.4	564.9	561.0	419.1	141.92	3.953	
16,900.0	11,400.0	16,355.4	10,840.0	121.3	119.7	0.44	5,842.4	564.1	561.0	417.1	143.87	3.899	
17,000.0	11,400.0	16,455.4	10,840.0	123.2	121.6	0.41	5,942.4	563.3	561.0	415.2	145.82	3.847	
17,100.0	11,400.0	16,555.4	10,840.0	125.1	123.6	0.39	6,042.4	562.4	561.0	413.2	147.78	3.796	
17,200.0	11,400.0	16,655.4	10,840.0	127.1	125.5	0.36	6,142.4	561.5	561.0	411.3	149.74	3.747	
17,300.0	11,400.0	16,755.4	10,840.0	129.0	127.5	0.33	6,242.4	560.7	561.0	409.3	151.71	3.698	
17,400.0	11,400.0	16,855.4	10,840.0	130.9	129.4	0.30	6,342.4	559.8	561.0	407.3	153.68	3.651	
17,500.0	11,400.0	16,955.4	10,840.0	132.9	131.4	0.27	6,442.4	558.9	561.0	405.4	155.65	3.604	
17,600.0	11,400.0	17,055.4	10,840.0	134.8	133.3	0.23	6,542.4	557.9	561.0	403.4	157.63	3.559	
17,700.0	11,400.0	17,155.4	10,840.0	136.8	135.3	0.20	6,642.4	557.0	561.0	401.4	159.61	3.515	
17,800.0	11,400.0	17,255.4	10,840.0	138.7	137.2	0.16	6,742.4	556.1	561.0	399.4	161.60	3.472	
17,900.0	11,400.0	17,355.4	10,840.0	140.7	139.2	0.12	6,842.4	555.1	561.0	397.4	163.59	3.429	
18,000.0	11,400.0	17,455.4	10,840.0	142.6	141.2	0.08	6,942.4	554.1	561.0	395.4	165.58	3.388	
18,100.0	11,400.0	17,555.4	10,840.0	144.6	143.1	0.04	7,042.4	553.1	561.0	393.4	167.57	3.348	
18,194.7	11,400.0	17,650.1	10,840.0	146.4	145.0	0.00	7,137.0	552.2	561.0	391.5	169.46	3.310	

ADVANCE ENERGY PARTNERS

Anticollision Report

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Project:	Hat Mesa	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Reference Site:	Anderson Fed Com - Pad A	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.79 sigma
Reference Wellbore	Anderson Fed Com 558H	**Database:**	EDM 5000.16 Single User Db
Reference Design:	Anderson Fed Com 558H - Prelim 1	**Offset TVD Reference:**	Offset Datum

Offset Design: Anderson Fed Com - Pad A - Anderson Fed Com 557H - Anderson Fed Com 557H - Anderson Fed Com 557H - Prelim 1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	2.0	2.0	0.0	0.0	-90.53	-1.2	-132.1	132.1				
100.0	100.0	102.0	102.0	0.6	0.6	-90.53	-1.2	-132.1	132.1	130.9	1.19	110.838	
200.0	200.0	202.0	202.0	1.7	1.8	-90.53	-1.2	-132.1	132.1	128.6	3.49	37.802	
300.0	300.0	302.0	302.0	2.4	2.4	-90.53	-1.2	-132.1	132.1	127.2	4.87	27.095	
400.0	400.0	402.0	402.0	3.0	3.0	-90.53	-1.2	-132.1	132.1	126.1	5.95	22.194	
500.0	500.0	502.0	502.0	3.4	3.4	-90.53	-1.2	-132.1	132.1	125.2	6.87	19.231	
600.0	600.0	602.0	602.0	3.8	3.8	-90.53	-1.2	-132.1	132.1	124.4	7.68	17.191	
700.0	700.0	702.0	702.0	4.2	4.2	-90.53	-1.2	-132.1	132.1	123.6	8.42	15.676	
800.0	800.0	802.0	802.0	4.6	4.6	-90.53	-1.2	-132.1	132.1	123.0	9.11	14.493	
900.0	900.0	902.0	902.0	4.9	4.9	-90.53	-1.2	-132.1	132.1	122.3	9.76	13.535	
1,000.0	1,000.0	1,002.0	1,002.0	5.2	5.2	-90.53	-1.2	-132.1	132.1	121.7	10.37	12.739	
1,100.0	1,100.0	1,102.0	1,102.0	5.5	5.5	-90.53	-1.2	-132.1	132.1	121.1	10.95	12.063	
1,200.0	1,200.0	1,202.0	1,202.0	5.7	5.8	-90.53	-1.2	-132.1	132.1	120.6	11.50	11.481	
1,300.0	1,300.0	1,302.0	1,302.0	6.0	6.0	-90.53	-1.2	-132.1	132.1	120.0	12.04	10.971	
1,400.0	1,400.0	1,402.0	1,402.0	6.3	6.3	-90.53	-1.2	-132.1	132.1	119.5	12.55	10.520	
1,500.0	1,500.0	1,502.0	1,502.0	6.5	6.5	-90.53	-1.2	-132.1	132.1	119.0	13.05	10.118	
1,600.0	1,600.0	1,602.0	1,602.0	6.8	6.8	-90.53	-1.2	-132.1	132.1	118.5	13.54	9.755	
1,700.0	1,700.0	1,702.0	1,702.0	7.0	7.0	-90.53	-1.2	-132.1	132.1	118.1	14.01	9.427	
1,800.0	1,800.0	1,802.0	1,802.0	7.2	7.2	-90.53	-1.2	-132.1	132.1	117.6	14.47	9.127	
1,900.0	1,900.0	1,902.0	1,902.0	7.5	7.5	-90.53	-1.2	-132.1	132.1	117.1	14.92	8.852	
2,000.0	2,000.0	2,002.0	2,002.0	7.7	7.7	-90.53	-1.2	-132.1	132.1	116.7	15.36	8.599	
2,100.0	2,100.0	2,102.0	2,102.0	7.9	7.9	-90.53	-1.2	-132.1	132.1	116.3	15.79	8.365	
2,200.0	2,200.0	2,202.0	2,202.0	8.1	8.1	-90.53	-1.2	-132.1	132.1	115.9	16.21	8.147	
2,300.0	2,300.0	2,302.0	2,302.0	8.3	8.3	-90.53	-1.2	-132.1	132.1	115.4	16.63	7.943	
2,400.0	2,400.0	2,402.0	2,402.0	8.5	8.5	-90.53	-1.2	-132.1	132.1	115.0	17.03	7.753	
2,500.0	2,500.0	2,502.0	2,502.0	8.7	8.7	-90.53	-1.2	-132.1	132.1	114.6	17.43	7.575	
2,600.0	2,600.0	2,602.0	2,602.0	8.9	8.9	-90.53	-1.2	-132.1	132.1	114.2	17.83	7.407	
2,700.0	2,700.0	2,702.0	2,702.0	9.1	9.1	-90.53	-1.2	-132.1	132.1	113.8	18.22	7.249	
2,800.0	2,800.0	2,802.0	2,802.0	9.3	9.3	-90.53	-1.2	-132.1	132.1	113.5	18.60	7.099	
2,900.0	2,900.0	2,902.0	2,902.0	9.5	9.5	-90.53	-1.2	-132.1	132.1	113.1	18.98	6.958	
3,000.0	3,000.0	3,002.0	3,002.0	9.7	9.7	-90.53	-1.2	-132.1	132.1	112.7	19.36	6.823	
3,100.0	3,100.0	3,102.0	3,102.0	9.9	9.9	-90.53	-1.2	-132.1	132.1	112.3	19.72	6.695	
3,200.0	3,200.0	3,202.0	3,202.0	10.0	10.0	-90.53	-1.2	-132.1	132.1	112.0	20.09	6.574	
3,300.0	3,300.0	3,302.0	3,302.0	10.2	10.2	-90.53	-1.2	-132.1	132.1	111.6	20.45	6.457	
3,400.0	3,400.0	3,402.0	3,402.0	10.4	10.4	-90.53	-1.2	-132.1	132.1	111.3	20.81	6.346	
3,500.0	3,500.0	3,502.0	3,502.0	10.6	10.6	-90.53	-1.2	-132.1	132.1	110.9	21.16	6.240	
3,600.0	3,600.0	3,602.0	3,602.0	10.8	10.8	-90.53	-1.2	-132.1	132.1	110.6	21.51	6.139	
3,700.0	3,700.0	3,702.0	3,702.0	10.9	10.9	-90.53	-1.2	-132.1	132.1	110.2	21.86	6.041	
3,800.0	3,800.0	3,802.0	3,802.0	11.1	11.1	-90.53	-1.2	-132.1	132.1	109.9	22.21	5.947	
3,900.0	3,900.0	3,902.0	3,902.0	11.3	11.3	-90.53	-1.2	-132.1	132.1	109.5	22.55	5.857	
4,000.0	4,000.0	4,002.0	4,002.0	11.4	11.4	-90.53	-1.2	-132.1	132.1	109.2	22.89	5.771	
4,100.0	4,100.0	4,102.0	4,102.0	11.6	11.6	-90.53	-1.2	-132.1	132.1	108.8	23.22	5.687	
4,200.0	4,200.0	4,202.0	4,202.0	11.8	11.8	-90.53	-1.2	-132.1	132.1	108.5	23.55	5.607	
4,300.0	4,300.0	4,302.0	4,302.0	11.9	11.9	-90.53	-1.2	-132.1	132.1	108.2	23.88	5.529	
4,400.0	4,400.0	4,402.0	4,402.0	12.1	12.1	-90.53	-1.2	-132.1	132.1	107.9	24.21	5.454	
4,500.0	4,500.0	4,502.0	4,502.0	12.3	12.3	-90.53	-1.2	-132.1	132.1	107.5	24.54	5.382	
4,600.0	4,600.0	4,602.0	4,602.0	12.4	12.4	-90.53	-1.2	-132.1	132.1	107.2	24.86	5.312	
4,700.0	4,700.0	4,702.0	4,702.0	12.6	12.6	-90.53	-1.2	-132.1	132.1	106.9	25.18	5.244	
4,800.0	4,800.0	4,802.0	4,802.0	12.8	12.8	-90.53	-1.2	-132.1	132.1	106.6	25.50	5.178	
4,900.0	4,900.0	4,902.0	4,902.0	12.9	12.9	-90.53	-1.2	-132.1	132.1	106.2	25.82	5.114	
5,000.0	5,000.0	5,002.0	5,002.0	13.1	13.1	-90.53	-1.2	-132.1	132.1	105.9	26.14	5.053	CC, ES
5,100.0	5,100.0	5,102.0	5,102.0	13.2	13.2	-158.52	-1.2	-132.1	132.9	106.4	26.43	5.028	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

ADVANCE ENERGY PARTNERS

Anticollision Report

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Project:	Hat Mesa	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Reference Site:	Anderson Fed Com - Pad A	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.79 sigma
Reference Wellbore	Anderson Fed Com 558H	**Database:**	EDM 5000.16 Single User Db
Reference Design:	Anderson Fed Com 558H - Prelim 1	**Offset TVD Reference:**	Offset Datum

Offset Design: Anderson Fed Com - Pad A - Anderson Fed Com 557H - Anderson Fed Com 557H - Anderson Fed Com 557H - Prelim 1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,200.0	5,202.0	5,202.0	13.3	13.4	-158.92	-1.2	-132.1	135.3	108.6	26.72	5.064	
5,300.0	5,299.9	5,301.9	5,301.9	13.5	13.5	-159.55	-1.2	-132.1	139.4	112.4	27.02	5.158	
5,400.0	5,399.7	5,401.7	5,401.7	13.7	13.7	-160.37	-1.2	-132.1	145.1	117.8	27.34	5.308	
5,500.0	5,499.4	5,501.4	5,501.4	13.9	13.8	-161.34	-1.2	-132.1	152.5	124.9	27.68	5.511	
5,600.0	5,599.0	5,601.0	5,601.0	14.1	14.0	-162.33	-1.2	-132.1	160.8	132.8	28.03	5.737	
5,700.0	5,698.6	5,701.6	5,701.6	14.3	14.2	-162.95	-0.3	-131.8	168.9	140.5	28.40	5.945	
5,800.0	5,798.2	5,802.3	5,802.3	14.5	14.3	-162.96	2.2	-131.2	176.3	147.5	28.79	6.125	
5,900.0	5,897.8	5,903.1	5,903.0	14.8	14.5	-162.46	6.5	-130.1	183.2	154.0	29.18	6.279	
6,000.0	5,997.5	6,003.2	6,002.9	15.1	14.6	-161.59	12.2	-128.6	189.6	160.1	29.53	6.423	
6,100.0	6,097.1	6,103.0	6,102.5	15.3	14.8	-160.76	17.8	-127.2	196.1	166.2	29.93	6.552	
6,200.0	6,196.7	6,202.7	6,202.1	15.7	15.0	-159.98	23.5	-125.7	202.6	172.3	30.36	6.674	
6,300.0	6,296.3	6,302.5	6,301.7	16.0	15.3	-159.26	29.2	-124.3	209.2	178.4	30.79	6.793	
6,400.0	6,395.9	6,402.2	6,401.2	16.3	15.5	-158.57	34.9	-122.8	215.7	184.5	31.24	6.907	
6,500.0	6,495.6	6,502.0	6,500.8	16.6	15.8	-157.93	40.6	-121.4	222.3	190.7	31.69	7.017	
6,600.0	6,595.2	6,601.8	6,600.4	17.0	16.0	-157.32	46.3	-119.9	229.0	196.8	32.14	7.123	
6,700.0	6,694.8	6,701.5	6,700.0	17.3	16.3	-156.74	52.0	-118.5	235.6	203.0	32.61	7.226	
6,800.0	6,794.4	6,801.3	6,799.6	17.7	16.6	-156.20	57.7	-117.0	242.3	209.2	33.08	7.325	
6,900.0	6,894.0	6,901.0	6,899.1	18.1	16.9	-155.69	63.4	-115.6	249.0	215.4	33.55	7.421	
7,000.0	6,993.7	7,000.8	6,998.7	18.5	17.2	-155.20	69.1	-114.1	255.7	221.7	34.04	7.513	
7,100.0	7,093.3	7,100.5	7,098.3	18.9	17.5	-154.74	74.8	-112.7	262.4	227.9	34.52	7.602	
7,200.0	7,192.9	7,200.3	7,197.9	19.3	17.8	-154.31	80.4	-111.2	269.2	234.2	35.01	7.689	
7,300.0	7,292.5	7,300.0	7,297.5	19.7	18.1	-153.89	86.1	-109.8	275.9	240.4	35.50	7.772	
7,400.0	7,392.1	7,399.8	7,397.0	20.1	18.5	-153.49	91.8	-108.3	282.7	246.7	36.00	7.853	
7,500.0	7,491.8	7,499.5	7,496.6	20.5	18.8	-153.12	97.5	-106.9	289.5	253.0	36.50	7.931	
7,600.0	7,591.4	7,599.3	7,596.2	20.9	19.2	-152.76	103.2	-105.4	296.3	259.3	37.01	8.007	
7,700.0	7,691.0	7,699.0	7,695.8	21.3	19.5	-152.41	108.9	-104.0	303.1	265.6	37.52	8.080	
7,800.0	7,790.6	7,798.8	7,795.3	21.8	19.9	-152.08	114.6	-102.5	310.0	271.9	38.03	8.151	
7,900.0	7,890.2	7,898.5	7,894.9	22.2	20.3	-151.77	120.3	-101.1	316.8	278.2	38.54	8.220	
8,000.0	7,989.9	7,998.3	7,994.5	22.7	20.6	-151.46	126.0	-99.6	323.6	284.6	39.05	8.287	
8,100.0	8,089.5	8,098.0	8,094.1	23.1	21.0	-151.18	131.7	-98.2	330.5	290.9	39.57	8.352	
8,200.0	8,189.1	8,197.8	8,193.7	23.6	21.4	-150.90	137.3	-96.7	337.3	297.2	40.09	8.414	
8,300.0	8,288.7	8,297.5	8,293.2	24.0	21.8	-150.63	143.0	-95.3	344.2	303.6	40.61	8.475	
8,400.0	8,388.3	8,397.3	8,392.8	24.5	22.2	-150.38	148.7	-93.8	351.1	309.9	41.14	8.534	
8,500.0	8,487.9	8,497.0	8,492.4	24.9	22.6	-150.13	154.4	-92.4	358.0	316.3	41.66	8.592	
8,600.0	8,587.6	8,596.8	8,592.0	25.4	22.9	-149.89	160.1	-90.9	364.8	322.6	42.19	8.648	
8,700.0	8,687.2	8,696.5	8,691.6	25.9	23.3	-149.66	165.8	-89.5	371.7	329.0	42.72	8.702	
8,800.0	8,786.8	8,796.3	8,791.1	26.3	23.8	-149.45	171.5	-88.0	378.6	335.4	43.25	8.755	
8,900.0	8,886.4	8,896.0	8,890.7	26.8	24.2	-149.23	177.2	-86.6	385.5	341.8	43.78	8.806	
9,000.0	8,986.0	8,995.8	8,990.3	27.3	24.6	-149.03	182.9	-85.1	392.4	348.1	44.31	8.856	
9,100.0	9,085.7	9,095.5	9,089.9	27.8	25.0	-148.83	188.6	-83.7	399.4	354.5	44.85	8.904	
9,200.0	9,185.3	9,195.3	9,189.4	28.3	25.4	-148.64	194.2	-82.2	406.3	360.9	45.38	8.952	
9,300.0	9,284.9	9,295.0	9,289.0	28.7	25.8	-148.46	199.9	-80.8	413.2	367.3	45.92	8.998	
9,400.0	9,384.5	9,394.8	9,388.6	29.2	26.2	-148.28	205.6	-79.3	420.1	373.7	46.46	9.043	
9,500.0	9,484.1	9,494.5	9,488.2	29.7	26.7	-148.11	211.3	-77.9	427.0	380.0	47.00	9.086	
9,600.0	9,583.8	9,594.3	9,587.8	30.2	27.1	-147.94	217.0	-76.4	434.0	386.4	47.54	9.129	
9,700.0	9,683.4	9,694.0	9,687.3	30.7	27.5	-147.78	222.7	-75.0	440.9	392.8	48.08	9.170	
9,800.0	9,783.0	9,793.8	9,786.9	31.2	28.0	-147.62	228.4	-73.5	447.9	399.2	48.62	9.211	
9,900.0	9,882.6	9,893.5	9,886.5	31.7	28.4	-147.47	234.1	-72.1	454.8	405.6	49.17	9.250	
10,000.0	9,982.2	9,993.3	9,986.1	32.2	28.8	-147.32	239.8	-70.6	461.7	412.0	49.71	9.288	
10,100.0	10,081.9	10,092.9	10,085.5	32.7	29.2	-147.18	245.4	-69.2	468.7	418.5	50.23	9.331	
10,200.0	10,181.5	10,192.2	10,184.6	33.2	29.6	-147.20	249.9	-68.1	475.7	424.9	50.79	9.367	
10,300.0	10,281.1	10,291.3	10,283.8	33.7	30.0	-147.41	252.6	-67.4	482.9	431.5	51.39	9.396	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

ADVANCE ENERGY PARTNERS

Anticollision Report

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Project:	Hat Mesa	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Reference Site:	Anderson Fed Com - Pad A	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.79 sigma
Reference Wellbore	Anderson Fed Com 558H	**Database:**	EDM 5000.16 Single User Db
Reference Design:	Anderson Fed Com 558H - Prelim 1	**Offset TVD Reference:**	Offset Datum

Offset Design: Anderson Fed Com - Pad A - Anderson Fed Com 557H - Anderson Fed Com 557H - Anderson Fed Com 557H - Prelim 1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,326.3	10,307.3	10,317.4	10,309.9	33.8	30.1	-147.50	253.1	-67.2	484.8	433.2	51.55	9.404	
10,400.0	10,380.8	10,390.4	10,382.9	34.2	30.3	-147.82	253.8	-67.1	489.8	437.8	52.01	9.417	
10,500.0	10,480.5	10,490.1	10,482.5	34.6	30.4	-148.25	253.8	-67.1	495.3	442.7	52.62	9.414	
10,600.0	10,580.4	10,590.0	10,582.4	35.1	30.5	-148.56	253.8	-67.1	499.4	446.3	53.18	9.391	
10,700.0	10,680.4	10,688.5	10,680.9	35.5	30.6	-148.75	253.9	-67.1	502.1	448.4	53.67	9.355	
10,800.0	10,780.4	10,772.7	10,764.6	35.8	31.0	-147.84	262.7	-67.1	505.1	451.2	53.82	9.385	
10,826.3	10,806.7	10,794.1	10,785.5	35.8	31.1	-79.48	267.3	-67.1	506.2	452.4	53.76	9.415	
10,900.0	10,880.4	10,850.0	10,838.9	35.9	31.5	-77.67	283.7	-67.2	510.8	457.3	53.53	9.543	
10,934.6	10,915.0	10,875.0	10,862.1	35.9	31.6	-76.65	293.0	-67.3	514.0	460.6	53.41	9.624	
10,950.0	10,930.4	10,887.8	10,873.8	35.9	31.7	-94.75	298.3	-67.3	515.7	462.4	53.35	9.667	
10,975.0	10,955.3	10,905.6	10,889.7	36.0	31.8	-93.64	306.0	-67.4	518.9	465.6	53.31	9.733	
11,000.0	10,980.2	10,925.0	10,906.8	36.1	32.0	-92.43	315.2	-67.4	522.5	469.2	53.28	9.806	
11,025.0	11,004.8	10,940.4	10,920.1	36.2	32.1	-91.37	323.0	-67.5	526.6	473.3	53.33	9.874	
11,050.0	11,029.2	10,957.6	10,934.7	36.3	32.2	-90.23	332.2	-67.5	531.1	477.7	53.39	9.947	
11,075.0	11,053.4	10,975.0	10,949.0	36.4	32.3	-89.07	342.0	-67.6	536.0	482.5	53.48	10.023	
11,100.0	11,077.1	10,991.5	10,962.3	36.5	32.4	-87.94	351.8	-67.6	541.3	487.7	53.60	10.097	
11,125.0	11,100.4	11,008.2	10,975.4	36.6	32.5	-86.80	362.1	-67.7	546.8	493.1	53.75	10.173	
11,150.0	11,123.1	11,025.0	10,988.2	36.8	32.6	-85.66	373.0	-67.8	552.7	498.8	53.92	10.250	
11,175.0	11,145.3	11,041.2	11,000.2	36.9	32.7	-84.55	383.9	-67.8	558.8	504.7	54.12	10.326	
11,200.0	11,166.9	11,057.5	11,011.9	37.0	32.8	-83.45	395.4	-67.9	565.2	510.9	54.33	10.402	
11,225.0	11,187.8	11,075.0	11,023.9	37.1	32.9	-82.35	408.0	-68.0	571.8	517.2	54.55	10.481	
11,250.0	11,207.9	11,089.8	11,033.8	37.3	33.0	-81.32	419.1	-68.0	578.5	523.7	54.82	10.552	
11,275.0	11,227.3	11,105.8	11,044.1	37.4	33.1	-80.28	431.3	-68.1	585.4	530.3	55.09	10.627	
11,300.0	11,245.7	11,125.0	11,055.8	37.5	33.2	-79.25	446.5	-68.2	592.4	537.1	55.32	10.709	
11,325.0	11,263.3	11,137.5	11,063.1	37.6	33.2	-78.31	456.7	-68.3	599.5	543.8	55.65	10.772	
11,350.0	11,279.9	11,150.0	11,070.2	37.7	33.3	-77.37	466.9	-68.3	606.7	550.7	56.00	10.834	
11,375.0	11,295.5	11,168.9	11,080.3	37.8	33.4	-76.45	482.9	-68.4	613.9	557.6	56.26	10.912	
11,400.0	11,310.1	11,184.5	11,088.2	38.0	33.5	-75.58	496.3	-68.5	621.2	564.6	56.58	10.979	
11,425.0	11,323.6	11,200.0	11,095.6	38.1	33.5	-74.74	510.0	-68.6	628.4	571.5	56.89	11.046	
11,450.0	11,336.0	11,215.5	11,102.6	38.2	33.6	-73.94	523.8	-68.7	635.7	578.5	57.22	11.110	
11,475.0	11,347.2	11,230.9	11,109.0	38.3	33.7	-73.18	537.7	-68.7	642.9	585.4	57.55	11.172	
11,500.0	11,357.2	11,250.0	11,116.4	38.4	33.7	-72.50	555.4	-68.9	650.2	592.3	57.84	11.241	
11,525.0	11,366.0	11,261.5	11,120.6	38.4	33.8	-71.78	566.2	-68.9	657.3	599.1	58.22	11.290	
11,550.0	11,373.6	11,275.0	11,125.0	38.5	33.8	-71.11	578.9	-69.0	664.4	605.8	58.58	11.341	
11,575.0	11,379.9	11,292.1	11,130.2	38.6	33.9	-70.53	595.2	-69.1	671.3	612.4	58.90	11.397	
11,600.0	11,385.0	11,307.4	11,134.3	38.7	33.9	-69.97	609.9	-69.2	678.2	619.0	59.25	11.447	
11,616.9	11,387.6	11,317.7	11,136.8	38.7	33.9	-69.61	619.9	-69.2	682.8	623.3	59.48	11.480	
11,625.0	11,388.8	11,325.0	11,138.5	38.8	33.9	-69.60	627.0	-69.3	685.0	625.4	59.57	11.498	
11,650.0	11,391.9	11,338.1	11,141.2	38.8	34.0	-69.43	639.8	-69.4	690.9	631.0	59.95	11.526	
11,675.0	11,394.5	11,350.0	11,143.3	38.9	34.0	-69.28	651.5	-69.4	696.0	635.6	60.34	11.534	
11,700.0	11,396.6	11,369.8	11,146.2	39.0	34.0	-69.23	671.1	-69.5	700.0	639.3	60.68	11.536	
11,725.0	11,398.2	11,385.9	11,148.0	39.1	34.0	-69.17	687.1	-69.6	703.1	642.0	61.05	11.516	
11,750.0	11,399.3	11,400.0	11,149.1	39.2	34.1	-69.11	701.2	-69.7	705.1	643.7	61.44	11.478	
11,775.0	11,399.9	11,418.5	11,149.9	39.3	34.1	-69.10	719.7	-69.8	706.2	644.4	61.79	11.428	
11,790.0	11,400.0	11,428.3	11,150.0	39.4	34.1	-69.10	729.5	-69.9	706.4	644.4	62.01	11.391	
11,790.5	11,400.0	11,428.6	11,150.0	39.4	34.1	-69.10	729.8	-69.9	706.4	644.4	62.02	11.390	
11,792.8	11,400.0	11,430.2	11,150.0	39.4	34.1	-69.10	731.3	-69.9	706.4	644.3	62.05	11.384	
11,800.0	11,400.0	11,437.4	11,150.0	39.4	34.1	-69.10	738.5	-69.9	706.4	644.2	62.14	11.368	
11,900.0	11,400.0	11,537.4	11,150.0	39.9	34.1	-69.10	838.5	-70.5	706.4	642.9	63.49	11.126	
12,000.0	11,400.0	11,637.4	11,150.0	40.5	34.2	-69.10	938.5	-71.1	706.4	641.4	65.04	10.862	
12,100.0	11,400.0	11,737.4	11,150.0	41.2	34.4	-69.10	1,038.5	-71.7	706.4	639.6	66.77	10.580	
12,200.0	11,400.0	11,837.4	11,150.0	42.0	34.5	-69.10	1,138.5	-72.3	706.4	637.7	68.67	10.287	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

ADVANCE ENERGY PARTNERS

Anticollision Report

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Project:	Hat Mesa	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Reference Site:	Anderson Fed Com - Pad A	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.79 sigma
Reference Wellbore	Anderson Fed Com 558H	**Database:**	EDM 5000.16 Single User Db
Reference Design:	Anderson Fed Com 558H - Prelim 1	**Offset TVD Reference:**	Offset Datum

Offset Design: Anderson Fed Com - Pad A - Anderson Fed Com 557H - Anderson Fed Com 557H - Anderson Fed Com 557H - Prelim 1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,300.0	11,400.0	11,937.4	11,150.0	42.9	34.8	-69.10	1,238.5	-72.9	706.4	635.7	70.73	9.988	
12,400.0	11,400.0	12,037.4	11,150.0	43.9	35.3	-69.10	1,338.5	-73.5	706.4	633.5	72.92	9.687	
12,500.0	11,400.0	12,137.4	11,150.0	45.0	36.2	-69.10	1,438.5	-74.1	706.4	631.2	75.25	9.388	
12,600.0	11,400.0	12,237.4	11,150.0	46.2	37.4	-69.10	1,538.5	-74.7	706.4	628.7	77.69	9.093	
12,700.0	11,400.0	12,337.4	11,150.0	47.5	38.8	-69.10	1,638.5	-75.3	706.4	626.2	80.24	8.804	
12,800.0	11,400.0	12,437.4	11,150.0	48.8	40.3	-69.10	1,738.5	-75.9	706.4	623.5	82.89	8.523	
12,900.0	11,400.0	12,537.4	11,150.0	50.1	41.9	-69.10	1,838.5	-76.5	706.4	620.8	85.62	8.251	
13,000.0	11,400.0	12,637.4	11,150.0	51.5	43.6	-69.10	1,938.5	-77.1	706.4	618.0	88.43	7.988	
13,100.0	11,400.0	12,737.4	11,150.0	53.0	45.3	-69.10	2,038.5	-77.7	706.4	615.1	91.32	7.736	
13,200.0	11,400.0	12,837.4	11,150.0	54.5	47.1	-69.10	2,138.5	-78.3	706.4	612.2	94.28	7.493	
13,300.0	11,400.0	12,937.4	11,150.0	56.0	48.8	-69.10	2,238.5	-78.9	706.4	609.1	97.29	7.261	
13,400.0	11,400.0	13,037.4	11,150.0	57.6	50.6	-69.10	2,338.5	-79.5	706.4	606.1	100.36	7.039	
13,500.0	11,400.0	13,137.4	11,150.0	59.2	52.4	-69.10	2,438.5	-80.1	706.4	603.0	103.48	6.827	
13,600.0	11,400.0	13,237.4	11,150.0	60.8	54.3	-69.10	2,538.5	-80.7	706.5	599.8	106.65	6.624	
13,700.0	11,400.0	13,337.4	11,150.0	62.5	56.1	-69.10	2,638.5	-81.3	706.5	596.6	109.86	6.430	
13,800.0	11,400.0	13,437.4	11,150.0	64.2	58.0	-69.10	2,738.5	-81.8	706.5	593.3	113.11	6.246	
13,900.0	11,400.0	13,537.4	11,150.0	65.8	59.8	-69.10	2,838.5	-82.4	706.5	590.1	116.39	6.070	
14,000.0	11,400.0	13,637.4	11,150.0	67.6	61.7	-69.10	2,938.5	-83.0	706.5	586.8	119.71	5.901	
14,100.0	11,400.0	13,737.4	11,150.0	69.3	63.6	-69.10	3,038.5	-83.6	706.5	583.4	123.06	5.741	
14,200.0	11,400.0	13,837.4	11,150.0	71.0	65.5	-69.10	3,138.5	-84.2	706.5	580.0	126.43	5.588	
14,300.0	11,400.0	13,937.4	11,150.0	72.8	67.4	-69.10	3,238.5	-84.8	706.5	576.6	129.84	5.441	
14,400.0	11,400.0	14,037.4	11,150.0	74.5	69.3	-69.10	3,338.5	-85.4	706.5	573.2	133.26	5.302	
14,500.0	11,400.0	14,137.4	11,150.0	76.3	71.2	-69.10	3,438.5	-86.0	706.5	569.8	136.71	5.168	
14,600.0	11,400.0	14,237.4	11,150.0	78.1	73.1	-69.10	3,538.5	-86.6	706.5	566.3	140.17	5.040	
14,700.0	11,400.0	14,337.4	11,150.0	79.9	75.0	-69.10	3,638.5	-87.2	706.5	562.8	143.66	4.918	
14,800.0	11,400.0	14,437.4	11,150.0	81.7	77.0	-69.10	3,738.5	-87.8	706.5	559.3	147.17	4.801	
14,900.0	11,400.0	14,537.4	11,150.0	83.6	78.9	-69.10	3,838.5	-88.4	706.5	555.8	150.69	4.689	
15,000.0	11,400.0	14,637.4	11,150.0	85.4	80.8	-69.10	3,938.5	-89.0	706.5	552.3	154.22	4.581	
15,100.0	11,400.0	14,737.4	11,150.0	87.2	82.8	-69.10	4,038.5	-89.6	706.5	548.7	157.77	4.478	
15,200.0	11,400.0	14,837.4	11,150.0	89.1	84.7	-69.10	4,138.5	-90.2	706.5	545.2	161.34	4.379	
15,300.0	11,400.0	14,937.4	11,150.0	90.9	86.7	-69.10	4,238.5	-90.8	706.5	541.6	164.91	4.284	
15,400.0	11,400.0	15,037.4	11,150.0	92.8	88.6	-69.10	4,338.5	-91.4	706.5	538.0	168.50	4.193	
15,500.0	11,400.0	15,137.4	11,150.0	94.7	90.6	-69.10	4,438.5	-92.0	706.5	534.4	172.10	4.105	
15,600.0	11,400.0	15,237.4	11,150.0	96.5	92.5	-69.10	4,538.5	-92.6	706.5	530.8	175.71	4.021	
15,700.0	11,400.0	15,337.4	11,150.0	98.4	94.5	-69.10	4,638.5	-93.2	706.5	527.2	179.33	3.940	
15,800.0	11,400.0	15,437.4	11,150.0	100.3	96.5	-69.10	4,738.5	-93.8	706.5	523.6	182.96	3.862	
15,900.0	11,400.0	15,537.4	11,150.0	102.2	98.4	-69.10	4,838.5	-94.3	706.5	519.9	186.60	3.787	
16,000.0	11,400.0	15,637.4	11,150.0	104.1	100.4	-69.10	4,938.5	-94.9	706.5	516.3	190.24	3.714	
16,100.0	11,400.0	15,737.4	11,150.0	106.0	102.3	-69.10	5,038.5	-95.5	706.6	512.7	193.89	3.644	
16,200.0	11,400.0	15,837.4	11,150.0	107.9	104.3	-69.10	5,138.5	-96.1	706.6	509.0	197.55	3.577	
16,300.0	11,400.0	15,937.4	11,150.0	109.8	106.3	-69.10	5,238.5	-96.7	706.6	505.3	201.22	3.511	
16,400.0	11,400.0	16,037.4	11,150.0	111.7	108.3	-69.11	5,338.5	-97.3	706.6	501.7	204.89	3.448	
16,500.0	11,400.0	16,137.4	11,150.0	113.6	110.2	-69.11	5,438.5	-97.9	706.6	498.0	208.57	3.388	
16,600.0	11,400.0	16,237.4	11,150.0	115.5	112.2	-69.11	5,538.5	-98.5	706.6	494.3	212.26	3.329	
16,700.0	11,400.0	16,337.4	11,150.0	117.4	114.2	-69.11	5,638.5	-99.1	706.6	490.6	215.95	3.272	
16,800.0	11,400.0	16,437.4	11,150.0	119.4	116.2	-69.11	5,738.5	-99.7	706.6	486.9	219.65	3.217	
16,900.0	11,400.0	16,537.4	11,150.0	121.3	118.1	-69.11	5,838.5	-100.3	706.6	483.2	223.35	3.164	
17,000.0	11,400.0	16,637.4	11,150.0	123.2	120.1	-69.11	5,938.4	-100.9	706.6	479.5	227.05	3.112	
17,100.0	11,400.0	16,737.4	11,150.0	125.1	122.1	-69.11	6,038.4	-101.5	706.6	475.8	230.77	3.062	
17,200.0	11,400.0	16,837.4	11,150.0	127.1	124.1	-69.11	6,138.4	-102.1	706.6	472.1	234.48	3.013	
17,300.0	11,400.0	16,937.4	11,150.0	129.0	126.1	-69.11	6,238.4	-102.7	706.6	468.4	238.20	2.966	
17,400.0	11,400.0	17,037.4	11,150.0	130.9	128.1	-69.11	6,338.4	-103.3	706.6	464.7	241.92	2.921	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

ADVANCE ENERGY PARTNERS

Anticollision Report

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Project:	Hat Mesa	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Reference Site:	Anderson Fed Com - Pad A	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.79 sigma
Reference Wellbore	Anderson Fed Com 558H	**Database:**	EDM 5000.16 Single User Db
Reference Design:	Anderson Fed Com 558H - Prelim 1	**Offset TVD Reference:**	Offset Datum

Offset Design: Anderson Fed Com - Pad A - Anderson Fed Com 557H - Anderson Fed Com 557H - Anderson Fed Com 557H - Prelim 1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,500.0	11,400.0	17,137.4	11,150.0	132.9	130.0	-69.11	6,438.4	-103.9	706.6	461.0	245.65	2.876	
17,600.0	11,400.0	17,237.4	11,150.0	134.8	132.0	-69.11	6,538.4	-104.5	706.6	457.2	249.38	2.833	
17,700.0	11,400.0	17,337.4	11,150.0	136.8	134.0	-69.11	6,638.4	-105.1	706.6	453.5	253.11	2.792	
17,800.0	11,400.0	17,437.4	11,150.0	138.7	136.0	-69.11	6,738.4	-105.7	706.6	449.8	256.85	2.751	
17,900.0	11,400.0	17,537.4	11,150.0	140.7	138.0	-69.11	6,838.4	-106.3	706.6	446.0	260.59	2.712	
18,000.0	11,400.0	17,637.4	11,150.0	142.6	140.0	-69.11	6,938.4	-106.9	706.6	442.3	264.33	2.673	
18,100.0	11,400.0	17,737.4	11,150.0	144.6	142.0	-69.11	7,038.4	-107.4	706.6	438.6	268.08	2.636	
18,109.2	11,400.0	17,746.6	11,150.0	144.7	142.2	-69.11	7,047.6	-107.5	706.6	438.2	268.42	2.633	
18,194.7	11,400.0	17,829.9	11,150.0	146.4	143.8	-69.11	7,130.9	-108.0	706.6	435.1	271.55	2.602 SF	

ADVANCE ENERGY PARTNERS

Anticollision Report

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Project:	Hat Mesa	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Reference Site:	Anderson Fed Com - Pad A	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.79 sigma
Reference Wellbore	Anderson Fed Com 558H	**Database:**	EDM 5000.16 Single User Db
Reference Design:	Anderson Fed Com 558H - Prelim 1	**Offset TVD Reference:**	Offset Datum

Offset Design: Anderson Fed Com - Pad A - Anderson Fed Com 604H - Anderson Fed Com 604H - Anderson Fed Com 604H - Prelim 1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	1.0	1.0	0.0	0.0	-90.69	-0.8	-66.0	66.0				
100.0	100.0	101.0	101.0	0.6	0.6	-90.69	-0.8	-66.0	66.0	64.9	1.18	55.963	
200.0	200.0	201.0	201.0	1.7	1.7	-90.69	-0.8	-66.0	66.0	62.5	3.49	18.939	
300.0	300.0	301.0	301.0	2.4	2.4	-90.69	-0.8	-66.0	66.0	61.2	4.87	13.563	
400.0	400.0	401.0	401.0	3.0	3.0	-90.69	-0.8	-66.0	66.0	60.1	5.95	11.106	
500.0	500.0	501.0	501.0	3.4	3.4	-90.69	-0.8	-66.0	66.0	59.2	6.86	9.621	
600.0	600.0	601.0	601.0	3.8	3.8	-90.69	-0.8	-66.0	66.0	58.4	7.68	8.600	
700.0	700.0	701.0	701.0	4.2	4.2	-90.69	-0.8	-66.0	66.0	57.6	8.42	7.841	
800.0	800.0	801.0	801.0	4.6	4.6	-90.69	-0.8	-66.0	66.0	56.9	9.11	7.249	
900.0	900.0	901.0	901.0	4.9	4.9	-90.69	-0.8	-66.0	66.0	56.3	9.75	6.770	
1,000.0	1,000.0	1,001.0	1,001.0	5.2	5.2	-90.69	-0.8	-66.0	66.0	55.7	10.36	6.371	
1,100.0	1,100.0	1,101.0	1,101.0	5.5	5.5	-90.69	-0.8	-66.0	66.0	55.1	10.94	6.033	
1,200.0	1,200.0	1,201.0	1,201.0	5.7	5.8	-90.69	-0.8	-66.0	66.0	54.5	11.50	5.742	
1,300.0	1,300.0	1,301.0	1,301.0	6.0	6.0	-90.69	-0.8	-66.0	66.0	54.0	12.04	5.487	
1,400.0	1,400.0	1,401.0	1,401.0	6.3	6.3	-90.69	-0.8	-66.0	66.0	53.5	12.55	5.261	
1,500.0	1,500.0	1,501.0	1,501.0	6.5	6.5	-90.69	-0.8	-66.0	66.0	53.0	13.05	5.060	
1,600.0	1,600.0	1,601.0	1,601.0	6.8	6.8	-90.69	-0.8	-66.0	66.0	52.5	13.54	4.879	
1,700.0	1,700.0	1,701.0	1,701.0	7.0	7.0	-90.69	-0.8	-66.0	66.0	52.0	14.01	4.714	
1,800.0	1,800.0	1,801.0	1,801.0	7.2	7.2	-90.69	-0.8	-66.0	66.0	51.6	14.47	4.564	
1,900.0	1,900.0	1,901.0	1,901.0	7.5	7.5	-90.69	-0.8	-66.0	66.0	51.1	14.92	4.427	
2,000.0	2,000.0	2,001.0	2,001.0	7.7	7.7	-90.69	-0.8	-66.0	66.0	50.7	15.36	4.300	
2,100.0	2,100.0	2,101.0	2,101.0	7.9	7.9	-90.69	-0.8	-66.0	66.0	50.2	15.79	4.183	
2,200.0	2,200.0	2,201.0	2,201.0	8.1	8.1	-90.69	-0.8	-66.0	66.0	49.8	16.21	4.074	
2,300.0	2,300.0	2,301.0	2,301.0	8.3	8.3	-90.69	-0.8	-66.0	66.0	49.4	16.62	3.972	
2,400.0	2,400.0	2,401.0	2,401.0	8.5	8.5	-90.69	-0.8	-66.0	66.0	49.0	17.03	3.877	
2,500.0	2,500.0	2,501.0	2,501.0	8.7	8.7	-90.69	-0.8	-66.0	66.0	48.6	17.43	3.788	
2,600.0	2,600.0	2,601.0	2,601.0	8.9	8.9	-90.69	-0.8	-66.0	66.0	48.2	17.83	3.704	
2,700.0	2,700.0	2,701.0	2,701.0	9.1	9.1	-90.69	-0.8	-66.0	66.0	47.8	18.22	3.625	
2,800.0	2,800.0	2,801.0	2,801.0	9.3	9.3	-90.69	-0.8	-66.0	66.0	47.4	18.60	3.550	
2,900.0	2,900.0	2,901.0	2,901.0	9.5	9.5	-90.69	-0.8	-66.0	66.0	47.1	18.98	3.479	
3,000.0	3,000.0	3,001.0	3,001.0	9.7	9.7	-90.69	-0.8	-66.0	66.0	46.7	19.35	3.412	
3,100.0	3,100.0	3,101.0	3,101.0	9.9	9.9	-90.69	-0.8	-66.0	66.0	46.3	19.72	3.348	
3,200.0	3,200.0	3,201.0	3,201.0	10.0	10.0	-90.69	-0.8	-66.0	66.0	45.9	20.09	3.287	
3,300.0	3,300.0	3,301.0	3,301.0	10.2	10.2	-90.69	-0.8	-66.0	66.0	45.6	20.45	3.229	
3,400.0	3,400.0	3,401.0	3,401.0	10.4	10.4	-90.69	-0.8	-66.0	66.0	45.2	20.81	3.174	
3,500.0	3,500.0	3,501.0	3,501.0	10.6	10.6	-90.69	-0.8	-66.0	66.0	44.9	21.16	3.120	
3,600.0	3,600.0	3,601.0	3,601.0	10.8	10.8	-90.69	-0.8	-66.0	66.0	44.5	21.51	3.070	
3,700.0	3,700.0	3,701.0	3,701.0	10.9	10.9	-90.69	-0.8	-66.0	66.0	44.2	21.86	3.021	
3,800.0	3,800.0	3,801.0	3,801.0	11.1	11.1	-90.69	-0.8	-66.0	66.0	43.8	22.20	2.974	
3,900.0	3,900.0	3,901.0	3,901.0	11.3	11.3	-90.69	-0.8	-66.0	66.0	43.5	22.55	2.929	
4,000.0	4,000.0	4,001.0	4,001.0	11.4	11.4	-90.69	-0.8	-66.0	66.0	43.1	22.88	2.886	
4,100.0	4,100.0	4,101.0	4,101.0	11.6	11.6	-90.69	-0.8	-66.0	66.0	42.8	23.22	2.844	
4,200.0	4,200.0	4,201.0	4,201.0	11.8	11.8	-90.69	-0.8	-66.0	66.0	42.5	23.55	2.804	
4,300.0	4,300.0	4,301.0	4,301.0	11.9	11.9	-90.69	-0.8	-66.0	66.0	42.1	23.88	2.765	
4,400.0	4,400.0	4,401.0	4,401.0	12.1	12.1	-90.69	-0.8	-66.0	66.0	41.8	24.21	2.727	
4,500.0	4,500.0	4,501.0	4,501.0	12.3	12.3	-90.69	-0.8	-66.0	66.0	41.5	24.54	2.691	
4,600.0	4,600.0	4,601.0	4,601.0	12.4	12.4	-90.69	-0.8	-66.0	66.0	41.2	24.86	2.656	
4,700.0	4,700.0	4,701.0	4,701.0	12.6	12.6	-90.69	-0.8	-66.0	66.0	40.8	25.18	2.622	
4,800.0	4,800.0	4,801.0	4,801.0	12.8	12.8	-90.69	-0.8	-66.0	66.0	40.5	25.50	2.589	
4,900.0	4,900.0	4,901.0	4,901.0	12.9	12.9	-90.69	-0.8	-66.0	66.0	40.2	25.82	2.557	
5,000.0	5,000.0	5,001.0	5,001.0	13.1	13.1	-90.69	-0.8	-66.0	66.0	39.9	26.14	2.526	CC, ES, SF
5,100.0	5,100.0	5,101.0	5,101.0	13.2	13.2	-158.81	-0.8	-66.0	66.8	40.4	26.43	2.529	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

ADVANCE ENERGY PARTNERS

Anticollision Report

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Project:	Hat Mesa	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Reference Site:	Anderson Fed Com - Pad A	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.79 sigma
Reference Wellbore	Anderson Fed Com 558H	**Database:**	EDM 5000.16 Single User Db
Reference Design:	Anderson Fed Com 558H - Prelim 1	**Offset TVD Reference:**	Offset Datum

Offset Design: Anderson Fed Com - Pad A - Anderson Fed Com 604H - Anderson Fed Com 604H - Anderson Fed Com 604H - Prelim 1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,200.0	5,201.0	5,201.0	13.3	13.4	-159.59	-0.8	-66.0	69.3	42.6	26.72	2.593	
5,300.0	5,299.9	5,300.9	5,300.9	13.5	13.5	-160.76	-0.8	-66.0	73.4	46.4	27.02	2.716	
5,400.0	5,399.7	5,400.7	5,400.7	13.7	13.7	-162.20	-0.8	-66.0	79.2	51.8	27.34	2.896	
5,500.0	5,499.4	5,500.5	5,500.5	13.9	13.8	-163.18	0.1	-66.0	86.6	58.9	27.68	3.129	
5,600.0	5,599.0	5,600.3	5,600.3	14.1	14.0	-163.13	2.7	-66.0	94.7	66.7	28.03	3.378	
5,700.0	5,698.6	5,700.1	5,700.0	14.3	14.1	-162.15	7.0	-66.0	102.7	74.3	28.35	3.621	
5,800.0	5,798.2	5,799.8	5,799.5	14.5	14.3	-161.09	11.7	-66.0	110.6	81.9	28.71	3.853	
5,900.0	5,897.8	5,899.4	5,899.1	14.8	14.5	-160.17	16.4	-66.0	118.6	89.5	29.10	4.077	
6,000.0	5,997.5	5,999.1	5,998.6	15.1	14.7	-159.37	21.2	-66.0	126.6	97.1	29.50	4.293	
6,100.0	6,097.1	6,098.8	6,098.2	15.3	15.0	-158.66	25.9	-66.0	134.7	104.8	29.90	4.503	
6,200.0	6,196.7	6,198.4	6,197.7	15.7	15.2	-158.03	30.6	-66.0	142.7	112.4	30.32	4.707	
6,300.0	6,296.3	6,298.1	6,297.3	16.0	15.4	-157.47	35.3	-66.0	150.8	120.1	30.75	4.904	
6,400.0	6,395.9	6,397.8	6,396.8	16.3	15.7	-156.97	40.0	-66.0	158.9	127.7	31.19	5.094	
6,500.0	6,495.6	6,497.4	6,496.4	16.6	16.0	-156.51	44.8	-66.0	167.0	135.4	31.64	5.278	
6,600.0	6,595.2	6,597.1	6,595.9	17.0	16.2	-156.10	49.5	-66.0	175.1	143.0	32.09	5.456	
6,700.0	6,694.8	6,696.7	6,695.5	17.3	16.5	-155.72	54.2	-66.0	183.2	150.7	32.56	5.628	
6,800.0	6,794.4	6,796.4	6,795.0	17.7	16.8	-155.38	58.9	-66.0	191.3	158.3	33.03	5.793	
6,900.0	6,894.0	6,896.1	6,894.6	18.1	17.1	-155.06	63.6	-66.0	199.5	166.0	33.50	5.954	
7,000.0	6,993.7	6,995.7	6,994.1	18.5	17.4	-154.77	68.4	-66.0	207.6	173.6	33.99	6.108	
7,100.0	7,093.3	7,095.4	7,093.7	18.9	17.7	-154.50	73.1	-66.0	215.7	181.3	34.47	6.258	
7,200.0	7,192.9	7,195.1	7,193.2	19.3	18.1	-154.25	77.8	-66.0	223.9	188.9	34.97	6.402	
7,300.0	7,292.5	7,294.7	7,292.8	19.7	18.4	-154.02	82.5	-66.0	232.0	196.6	35.47	6.541	
7,400.0	7,392.1	7,394.4	7,392.3	20.1	18.7	-153.80	87.2	-66.0	240.2	204.2	35.98	6.676	
7,500.0	7,491.8	7,494.0	7,491.9	20.5	19.1	-153.60	92.0	-66.0	248.3	211.8	36.49	6.806	
7,600.0	7,591.4	7,593.7	7,591.5	20.9	19.4	-153.41	96.7	-66.0	256.5	219.5	37.00	6.932	
7,700.0	7,691.0	7,693.4	7,691.0	21.3	19.8	-153.23	101.4	-66.0	264.6	227.1	37.52	7.054	
7,800.0	7,790.6	7,793.0	7,790.6	21.8	20.1	-153.06	106.1	-66.0	272.8	234.8	38.04	7.171	
7,900.0	7,890.2	7,892.7	7,890.1	22.2	20.5	-152.91	110.8	-66.0	281.0	242.4	38.57	7.285	
8,000.0	7,989.9	7,992.4	7,989.7	22.7	20.8	-152.76	115.5	-66.0	289.1	250.0	39.10	7.395	
8,100.0	8,089.5	8,092.0	8,089.2	23.1	21.2	-152.62	120.3	-66.0	297.3	257.7	39.64	7.501	
8,200.0	8,189.1	8,191.7	8,188.8	23.6	21.6	-152.48	125.0	-66.0	305.5	265.3	40.17	7.604	
8,300.0	8,288.7	8,291.4	8,288.3	24.0	22.0	-152.36	129.7	-66.0	313.7	272.9	40.72	7.703	
8,400.0	8,388.3	8,391.0	8,387.9	24.5	22.3	-152.24	134.4	-66.0	321.8	280.6	41.26	7.800	
8,500.0	8,487.9	8,490.7	8,487.4	24.9	22.7	-152.12	139.1	-66.0	330.0	288.2	41.81	7.893	
8,600.0	8,587.6	8,590.3	8,587.0	25.4	23.1	-152.02	143.9	-66.0	338.2	295.8	42.36	7.984	
8,700.0	8,687.2	8,690.0	8,686.5	25.9	23.5	-151.91	148.6	-66.0	346.3	303.4	42.91	8.072	
8,800.0	8,786.8	8,789.7	8,786.1	26.3	23.9	-151.81	153.3	-66.0	354.5	311.1	43.46	8.157	
8,900.0	8,886.4	8,889.3	8,885.6	26.8	24.3	-151.72	158.0	-66.0	362.7	318.7	44.02	8.239	
9,000.0	8,986.0	8,989.0	8,985.2	27.3	24.7	-151.63	162.7	-66.0	370.9	326.3	44.58	8.319	
9,100.0	9,085.7	9,088.7	9,084.7	27.8	25.1	-151.55	167.5	-66.0	379.1	333.9	45.14	8.397	
9,200.0	9,185.3	9,188.3	9,184.3	28.3	25.5	-151.46	172.2	-66.0	387.2	341.5	45.71	8.472	
9,300.0	9,284.9	9,288.0	9,283.8	28.7	25.9	-151.38	176.9	-66.0	395.4	349.2	46.27	8.545	
9,400.0	9,384.5	9,387.6	9,383.4	29.2	26.3	-151.31	181.6	-66.0	403.6	356.8	46.84	8.617	
9,500.0	9,484.1	9,487.3	9,482.9	29.7	26.7	-151.24	186.3	-66.0	411.8	364.4	47.41	8.686	
9,600.0	9,583.8	9,587.0	9,582.5	30.2	27.1	-151.17	191.1	-66.0	420.0	372.0	47.98	8.753	
9,700.0	9,683.4	9,686.6	9,682.0	30.7	27.5	-151.10	195.8	-66.0	428.2	379.6	48.55	8.818	
9,800.0	9,783.0	9,786.3	9,781.6	31.2	27.9	-151.03	200.5	-66.0	436.3	387.2	49.13	8.882	
9,900.0	9,882.6	9,886.0	9,881.1	31.7	28.3	-150.97	205.2	-66.0	444.5	394.8	49.71	8.943	
10,000.0	9,982.2	9,985.6	9,980.7	32.2	28.7	-150.91	209.9	-66.0	452.7	402.4	50.28	9.003	
10,100.0	10,081.9	10,085.3	10,080.2	32.7	29.2	-150.85	214.7	-66.0	460.9	410.0	50.86	9.062	
10,200.0	10,181.5	10,185.0	10,179.8	33.2	29.6	-150.80	219.4	-66.0	469.1	417.6	51.44	9.119	
10,300.0	10,281.1	10,284.6	10,279.3	33.7	30.0	-150.74	224.1	-66.0	477.3	425.3	52.02	9.174	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

ADVANCE ENERGY PARTNERS

Anticollision Report

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Project:	Hat Mesa	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Reference Site:	Anderson Fed Com - Pad A	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.79 sigma
Reference Wellbore	Anderson Fed Com 558H	**Database:**	EDM 5000.16 Single User Db
Reference Design:	Anderson Fed Com 558H - Prelim 1	**Offset TVD Reference:**	Offset Datum

Offset Design: Anderson Fed Com - Pad A - Anderson Fed Com 604H - Anderson Fed Com 604H - Anderson Fed Com 604H - Prelim 1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,326.3	10,307.3	10,310.8	10,305.5	33.8	30.1	-150.73	225.3	-66.0	479.4	427.3	52.17	9.190	
10,400.0	10,380.8	10,384.3	10,378.9	34.2	30.4	-150.69	228.8	-66.0	485.1	432.5	52.58	9.226	
10,500.0	10,480.5	10,484.1	10,478.6	34.6	30.8	-150.55	233.6	-66.0	491.4	438.3	53.11	9.251	
10,600.0	10,580.4	10,584.0	10,578.3	35.1	31.3	-150.30	238.3	-66.0	496.2	442.6	53.62	9.254	
10,700.0	10,680.4	10,683.9	10,678.1	35.5	31.7	-149.96	243.0	-66.0	499.5	445.4	54.07	9.237	
10,800.0	10,780.4	10,783.8	10,777.9	35.8	32.1	-149.51	247.7	-66.0	501.3	446.9	54.44	9.208	
10,826.3	10,806.7	10,810.4	10,804.5	35.8	32.2	-81.52	248.9	-66.0	501.5	447.0	54.49	9.204	
10,900.0	10,880.4	10,885.0	10,879.1	35.9	32.5	-81.21	251.7	-66.0	501.9	447.3	54.60	9.193	
10,934.6	10,915.0	10,920.1	10,914.2	35.9	32.6	-81.11	252.6	-66.0	502.1	447.4	54.65	9.187	
10,950.0	10,930.4	10,935.7	10,929.7	35.9	32.7	-99.94	252.9	-66.0	502.2	447.5	54.68	9.184	
10,975.0	10,955.3	10,961.0	10,955.0	36.0	32.8	-100.02	253.4	-66.0	502.5	447.7	54.76	9.176	
11,000.0	10,980.2	10,986.2	10,980.3	36.1	32.9	-100.22	253.8	-66.0	503.0	448.2	54.86	9.169	
11,025.0	11,004.8	11,011.2	11,005.3	36.2	32.9	-100.56	254.0	-66.0	503.8	448.8	54.99	9.162	
11,050.0	11,029.2	11,036.0	11,030.0	36.3	33.0	-101.01	254.2	-66.0	504.8	449.7	55.13	9.157	
11,075.0	11,053.4	11,060.3	11,054.4	36.4	33.0	-101.56	254.2	-66.0	506.2	450.9	55.30	9.153	
11,100.0	11,077.1	11,084.0	11,078.1	36.5	33.0	-102.19	254.2	-66.0	507.9	452.4	55.50	9.152	
11,125.0	11,100.4	11,107.3	11,101.4	36.6	33.1	-102.88	254.2	-66.0	510.0	454.3	55.72	9.153	
11,150.0	11,123.1	11,130.1	11,124.1	36.8	33.1	-103.60	254.2	-66.0	512.6	456.6	55.98	9.157	
11,175.0	11,145.3	11,152.3	11,146.3	36.9	33.1	-104.35	254.2	-66.0	515.7	459.4	56.27	9.165	
11,200.0	11,166.9	11,173.9	11,167.9	37.0	33.1	-105.10	254.2	-66.0	519.4	462.8	56.58	9.179	
11,225.0	11,187.8	11,194.7	11,188.8	37.1	33.1	-105.82	254.2	-66.0	523.7	466.8	56.93	9.199	
11,250.0	11,207.9	11,214.9	11,208.9	37.3	33.2	-106.51	254.2	-66.0	528.7	471.4	57.30	9.227	
11,275.0	11,227.3	11,234.2	11,228.3	37.4	33.2	-107.12	254.2	-66.0	534.5	476.8	57.70	9.264	
11,300.0	11,245.7	11,252.7	11,246.7	37.5	33.2	-107.65	254.2	-66.0	541.1	483.0	58.12	9.310	
11,325.0	11,263.3	11,270.2	11,264.3	37.6	33.2	-108.08	254.2	-66.0	548.5	489.9	58.56	9.367	
11,350.0	11,279.9	11,286.9	11,280.9	37.7	33.2	-108.37	254.2	-66.0	556.8	497.8	59.01	9.435	
11,375.0	11,295.5	11,302.5	11,296.5	37.8	33.2	-108.51	254.2	-66.0	566.0	506.5	59.47	9.517	
11,400.0	11,310.1	11,317.0	11,311.1	38.0	33.2	-108.48	254.2	-66.0	576.1	516.2	59.94	9.612	
11,425.0	11,323.6	11,331.3	11,325.4	38.1	33.2	-108.34	254.2	-66.0	587.2	526.8	60.40	9.721	
11,450.0	11,336.0	11,349.9	11,343.9	38.2	33.3	-108.45	254.7	-66.0	599.0	538.2	60.89	9.838	
11,475.0	11,347.2	11,369.1	11,363.1	38.3	33.4	-108.50	255.9	-66.0	611.7	550.3	61.38	9.966	
11,500.0	11,357.2	11,389.2	11,383.1	38.4	33.5	-108.50	258.1	-66.1	625.0	563.2	61.86	10.104	
11,525.0	11,366.0	11,410.4	11,404.0	38.4	33.6	-108.46	261.2	-66.1	639.0	576.7	62.34	10.250	
11,550.0	11,373.6	11,432.9	11,426.1	38.5	33.8	-108.42	265.6	-66.1	653.6	590.8	62.82	10.404	
11,575.0	11,379.9	11,457.1	11,449.6	38.6	33.9	-108.40	271.4	-66.1	668.7	605.4	63.30	10.564	
11,600.0	11,385.0	11,483.6	11,474.9	38.7	34.1	-108.44	279.2	-66.2	684.3	620.5	63.78	10.729	
11,616.9	11,387.6	11,503.2	11,493.4	38.7	34.2	-108.53	285.8	-66.2	695.1	631.0	64.10	10.843	
11,625.0	11,388.8	11,513.3	11,502.7	38.8	34.3	-108.73	289.5	-66.2	700.2	635.9	64.26	10.896	
11,650.0	11,391.9	11,549.2	11,535.4	38.8	34.6	-109.66	304.3	-66.3	715.6	650.8	64.78	11.047	
11,675.0	11,394.5	11,594.6	11,575.1	38.9	34.9	-111.12	326.5	-66.5	730.0	664.6	65.34	11.172	
11,700.0	11,396.6	11,653.6	11,623.1	39.0	35.3	-113.15	360.7	-66.7	743.2	677.2	65.96	11.267	
11,725.0	11,398.2	11,716.7	11,669.3	39.1	35.7	-115.02	403.6	-66.9	754.6	688.0	66.57	11.336	
11,750.0	11,399.3	11,817.0	11,730.0	39.2	36.2	-117.86	483.1	-67.4	763.6	696.4	67.21	11.360	
11,775.0	11,399.9	11,969.5	11,787.6	39.3	36.7	-120.61	623.6	-68.3	769.1	701.4	67.65	11.368	
11,790.0	11,400.0	12,041.1	11,798.4	39.4	36.8	-121.09	694.3	-68.7	770.2	702.5	67.77	11.366	
11,790.5	11,400.0	12,041.5	11,798.4	39.4	36.8	-121.10	694.7	-68.7	770.3	702.5	67.77	11.365	
11,800.0	11,400.0	12,085.3	11,800.0	39.4	36.9	-121.20	738.4	-69.0	770.3	702.5	67.80	11.361	
11,900.0	11,400.0	12,185.3	11,800.0	39.9	36.9	-121.20	838.4	-69.6	770.3	700.8	69.50	11.084	
12,000.0	11,400.0	12,285.3	11,800.0	40.5	36.9	-121.19	938.4	-70.2	770.4	699.0	71.36	10.796	
12,100.0	11,400.0	12,385.3	11,800.0	41.2	37.0	-121.19	1,038.4	-70.8	770.4	697.0	73.35	10.503	
12,200.0	11,400.0	12,485.3	11,800.0	42.0	37.0	-121.19	1,138.4	-71.4	770.4	694.9	75.46	10.209	
12,300.0	11,400.0	12,585.3	11,800.0	42.9	37.0	-121.19	1,238.4	-72.0	770.4	692.7	77.70	9.916	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

ADVANCE ENERGY PARTNERS

Anticollision Report

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Project:	Hat Mesa	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Reference Site:	Anderson Fed Com - Pad A	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.79 sigma
Reference Wellbore	Anderson Fed Com 558H	**Database:**	EDM 5000.16 Single User Db
Reference Design:	Anderson Fed Com 558H - Prelim 1	**Offset TVD Reference:**	Offset Datum

Offset Design: Anderson Fed Com - Pad A - Anderson Fed Com 604H - Anderson Fed Com 604H - Anderson Fed Com 604H - Prelim 1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,400.0	11,400.0	12,685.3	11,800.0	43.9	37.1	-121.19	1,338.4	-72.6	770.4	690.4	80.03	9.626	
12,500.0	11,400.0	12,785.3	11,800.0	45.0	37.1	-121.19	1,438.4	-73.3	770.4	688.0	82.46	9.343	
12,600.0	11,400.0	12,885.3	11,800.0	46.2	37.1	-121.19	1,538.4	-73.9	770.5	685.5	84.98	9.066	
12,700.0	11,400.0	12,985.3	11,800.0	47.5	38.4	-121.19	1,638.4	-74.5	770.5	682.9	87.58	8.797	
12,800.0	11,400.0	13,085.3	11,800.0	48.8	40.0	-121.19	1,738.4	-75.1	770.5	680.2	90.25	8.537	
12,900.0	11,400.0	13,185.3	11,800.0	50.1	41.7	-121.19	1,838.4	-75.7	770.5	677.5	92.99	8.286	
13,000.0	11,400.0	13,285.3	11,800.0	51.5	43.5	-121.19	1,938.4	-76.3	770.5	674.7	95.78	8.044	
13,100.0	11,400.0	13,385.3	11,800.0	53.0	45.2	-121.19	2,038.4	-76.9	770.5	671.9	98.64	7.812	
13,200.0	11,400.0	13,485.3	11,800.0	54.5	47.0	-121.19	2,138.4	-77.5	770.6	669.0	101.54	7.589	
13,300.0	11,400.0	13,585.3	11,800.0	56.0	48.8	-121.18	2,238.4	-78.1	770.6	666.1	104.48	7.375	
13,400.0	11,400.0	13,685.3	11,800.0	57.6	50.6	-121.18	2,338.4	-78.7	770.6	663.1	107.47	7.170	
13,500.0	11,400.0	13,785.3	11,800.0	59.2	52.4	-121.18	2,438.4	-79.4	770.6	660.1	110.50	6.974	
13,600.0	11,400.0	13,885.3	11,800.0	60.8	54.2	-121.18	2,538.4	-80.0	770.6	657.1	113.57	6.786	
13,700.0	11,400.0	13,985.3	11,800.0	62.5	56.1	-121.18	2,638.4	-80.6	770.6	654.0	116.66	6.606	
13,800.0	11,400.0	14,085.3	11,800.0	64.2	57.9	-121.18	2,738.4	-81.2	770.7	650.9	119.79	6.434	
13,900.0	11,400.0	14,185.3	11,800.0	65.8	59.8	-121.18	2,838.4	-81.8	770.7	647.7	122.94	6.269	
14,000.0	11,400.0	14,285.3	11,800.0	67.6	61.7	-121.18	2,938.4	-82.4	770.7	644.6	126.12	6.111	
14,100.0	11,400.0	14,385.3	11,800.0	69.3	63.6	-121.18	3,038.4	-83.0	770.7	641.4	129.32	5.959	
14,200.0	11,400.0	14,485.3	11,800.0	71.0	65.5	-121.18	3,138.4	-83.6	770.7	638.2	132.55	5.815	
14,300.0	11,400.0	14,585.3	11,800.0	72.8	67.4	-121.18	3,238.4	-84.2	770.7	634.9	135.80	5.676	
14,400.0	11,400.0	14,685.3	11,800.0	74.5	69.3	-121.18	3,338.4	-84.9	770.8	631.7	139.06	5.543	
14,500.0	11,400.0	14,785.3	11,800.0	76.3	71.2	-121.18	3,438.4	-85.5	770.8	628.4	142.34	5.415	
14,600.0	11,400.0	14,885.3	11,800.0	78.1	73.1	-121.17	3,538.4	-86.1	770.8	625.1	145.64	5.292	
14,700.0	11,400.0	14,985.3	11,800.0	79.9	75.0	-121.17	3,638.4	-86.7	770.8	621.8	148.96	5.175	
14,800.0	11,400.0	15,085.3	11,800.0	81.7	76.9	-121.17	3,738.4	-87.3	770.8	618.5	152.29	5.062	
14,900.0	11,400.0	15,185.3	11,800.0	83.6	78.9	-121.17	3,838.4	-87.9	770.8	615.2	155.63	4.953	
15,000.0	11,400.0	15,285.3	11,800.0	85.4	80.8	-121.17	3,938.4	-88.5	770.9	611.9	158.98	4.849	
15,100.0	11,400.0	15,385.3	11,800.0	87.2	82.7	-121.17	4,038.4	-89.1	770.9	608.5	162.35	4.748	
15,200.0	11,400.0	15,485.3	11,800.0	89.1	84.7	-121.17	4,138.4	-89.7	770.9	605.2	165.73	4.652	
15,300.0	11,400.0	15,585.3	11,800.0	90.9	86.6	-121.17	4,238.4	-90.3	770.9	601.8	169.12	4.558	
15,400.0	11,400.0	15,685.3	11,800.0	92.8	88.6	-121.17	4,338.4	-91.0	770.9	598.4	172.52	4.469	
15,500.0	11,400.0	15,785.3	11,800.0	94.7	90.5	-121.17	4,438.4	-91.6	770.9	595.0	175.92	4.382	
15,600.0	11,400.0	15,885.3	11,800.0	96.5	92.5	-121.17	4,538.4	-92.2	771.0	591.6	179.34	4.299	
15,700.0	11,400.0	15,985.3	11,800.0	98.4	94.5	-121.17	4,638.4	-92.8	771.0	588.2	182.77	4.218	
15,800.0	11,400.0	16,085.3	11,800.0	100.3	96.4	-121.17	4,738.4	-93.4	771.0	584.8	186.20	4.141	
15,900.0	11,400.0	16,185.3	11,800.0	102.2	98.4	-121.17	4,838.4	-94.0	771.0	581.4	189.64	4.066	
16,000.0	11,400.0	16,285.3	11,800.0	104.1	100.3	-121.16	4,938.4	-94.6	771.0	577.9	193.09	3.993	
16,100.0	11,400.0	16,385.3	11,800.0	106.0	102.3	-121.16	5,038.4	-95.2	771.0	574.5	196.54	3.923	
16,200.0	11,400.0	16,485.3	11,800.0	107.9	104.3	-121.16	5,138.4	-95.8	771.1	571.1	200.00	3.855	
16,300.0	11,400.0	16,585.3	11,800.0	109.8	106.2	-121.16	5,238.4	-96.4	771.1	567.6	203.47	3.790	
16,400.0	11,400.0	16,685.3	11,800.0	111.7	108.2	-121.16	5,338.4	-97.1	771.1	564.1	206.94	3.726	
16,500.0	11,400.0	16,785.3	11,800.0	113.6	110.2	-121.16	5,438.4	-97.7	771.1	560.7	210.42	3.665	
16,600.0	11,400.0	16,885.3	11,800.0	115.5	112.2	-121.16	5,538.4	-98.3	771.1	557.2	213.90	3.605	
16,700.0	11,400.0	16,985.3	11,800.0	117.4	114.1	-121.16	5,638.4	-98.9	771.1	553.8	217.39	3.547	
16,800.0	11,400.0	17,085.3	11,800.0	119.4	116.1	-121.16	5,738.4	-99.5	771.2	550.3	220.88	3.491	
16,900.0	11,400.0	17,185.3	11,800.0	121.3	118.1	-121.16	5,838.4	-100.1	771.2	546.8	224.37	3.437	
17,000.0	11,400.0	17,285.3	11,800.0	123.2	120.1	-121.16	5,938.4	-100.7	771.2	543.3	227.87	3.384	
17,100.0	11,400.0	17,385.3	11,800.0	125.1	122.1	-121.16	6,038.3	-101.3	771.2	539.8	231.38	3.333	
17,200.0	11,400.0	17,485.3	11,800.0	127.1	124.0	-121.16	6,138.3	-101.9	771.2	536.3	234.89	3.283	
17,300.0	11,400.0	17,585.3	11,800.0	129.0	126.0	-121.15	6,238.3	-102.5	771.2	532.8	238.40	3.235	
17,400.0	11,400.0	17,685.3	11,800.0	130.9	128.0	-121.15	6,338.3	-103.2	771.3	529.3	241.92	3.188	
17,500.0	11,400.0	17,785.3	11,800.0	132.9	130.0	-121.15	6,438.3	-103.8	771.3	525.8	245.44	3.142	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

ADVANCE ENERGY PARTNERS

Anticollision Report

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Project:	Hat Mesa	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Reference Site:	Anderson Fed Com - Pad A	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.79 sigma
Reference Wellbore	Anderson Fed Com 558H	**Database:**	EDM 5000.16 Single User Db
Reference Design:	Anderson Fed Com 558H - Prelim 1	**Offset TVD Reference:**	Offset Datum

Offset Design: Anderson Fed Com - Pad A - Anderson Fed Com 604H - Anderson Fed Com 604H - Anderson Fed Com 604H - Prelim 1

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,600.0	11,400.0	17,885.3	11,800.0	134.8	132.0	-121.15	6,538.3	-104.4	771.3	522.3	248.96	3.098	
17,700.0	11,400.0	17,985.3	11,800.0	136.8	134.0	-121.15	6,638.3	-105.0	771.3	518.8	252.49	3.055	
17,800.0	11,400.0	18,085.3	11,800.0	138.7	136.0	-121.15	6,738.3	-105.6	771.3	515.3	256.01	3.013	
17,900.0	11,400.0	18,185.3	11,800.0	140.7	138.0	-121.15	6,838.3	-106.2	771.3	511.8	259.55	2.972	
18,000.0	11,400.0	18,285.3	11,800.0	142.6	139.9	-121.15	6,938.3	-106.8	771.4	508.3	263.08	2.932	
18,100.0	11,400.0	18,385.3	11,800.0	144.6	141.9	-121.15	7,038.3	-107.4	771.4	504.8	266.62	2.893	
18,106.7	11,400.0	18,391.9	11,800.0	144.7	142.1	-121.15	7,045.0	-107.5	771.4	504.5	266.85	2.891	
18,194.7	11,400.0	18,477.8	11,800.0	146.4	143.8	-121.15	7,130.9	-108.0	771.4	501.5	269.93	2.858	

ADVANCE ENERGY PARTNERS

Anticollision Report

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Project:	Hat Mesa	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Reference Site:	Anderson Fed Com - Pad A	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.79 sigma
Reference Wellbore	Anderson Fed Com 558H	**Database:**	EDM 5000.16 Single User Db
Reference Design:	Anderson Fed Com 558H - Prelim 1	**Offset TVD Reference:**	Offset Datum

Offset Design: Anderson Fed Com - Pad A - Anderson Fed Com 704H - Anderson Fed Com 704H - Anderson Fed Com 704H

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-69.30	52.9	-140.1	149.9				
100.0	100.0	94.0	94.0	0.6	0.6	-69.30	52.9	-140.1	149.8	148.6	1.14	131.169	
200.0	200.0	194.0	194.0	1.7	1.7	-69.30	52.9	-140.1	149.8	146.4	3.42	43.855	
300.0	300.0	294.0	294.0	2.4	2.4	-69.30	52.9	-140.1	149.8	145.0	4.83	31.042	
400.0	400.0	394.0	394.0	3.0	2.9	-69.30	52.9	-140.1	149.8	143.9	5.91	25.337	
500.0	500.0	494.0	494.0	3.4	3.4	-69.30	52.9	-140.1	149.8	143.0	6.83	21.918	
600.0	600.0	594.0	594.0	3.8	3.8	-69.30	52.9	-140.1	149.8	142.1	7.65	19.574	
700.0	700.0	694.0	694.0	4.2	4.2	-69.30	52.9	-140.1	149.8	141.4	8.40	17.837	
800.0	800.0	794.0	794.0	4.6	4.5	-69.30	52.9	-140.1	149.8	140.7	9.09	16.483	
900.0	900.0	894.0	894.0	4.9	4.9	-69.30	52.9	-140.1	149.8	140.1	9.73	15.389	
1,000.0	1,000.0	994.0	994.0	5.2	5.2	-69.30	52.9	-140.1	149.8	139.4	10.34	14.480	
1,100.0	1,100.0	1,094.0	1,094.0	5.5	5.5	-69.30	52.9	-140.1	149.8	138.9	10.93	13.709	
1,200.0	1,200.0	1,194.0	1,194.0	5.7	5.7	-69.30	52.9	-140.1	149.8	138.3	11.48	13.045	
1,300.0	1,300.0	1,294.0	1,294.0	6.0	6.0	-69.30	52.9	-140.1	149.8	137.8	12.02	12.464	
1,400.0	1,400.0	1,394.0	1,394.0	6.3	6.3	-69.30	52.9	-140.1	149.8	137.3	12.53	11.950	
1,500.0	1,500.0	1,494.0	1,494.0	6.5	6.5	-69.30	52.9	-140.1	149.8	136.8	13.03	11.492	
1,600.0	1,600.0	1,594.0	1,594.0	6.8	6.8	-69.30	52.9	-140.1	149.8	136.3	13.52	11.079	
1,700.0	1,700.0	1,694.0	1,694.0	7.0	7.0	-69.30	52.9	-140.1	149.8	135.8	13.99	10.705	
1,800.0	1,800.0	1,794.0	1,794.0	7.2	7.2	-69.30	52.9	-140.1	149.8	135.3	14.45	10.364	
1,900.0	1,900.0	1,894.0	1,894.0	7.5	7.4	-69.30	52.9	-140.1	149.8	134.9	14.90	10.052	
2,000.0	2,000.0	1,994.0	1,994.0	7.7	7.7	-69.30	52.9	-140.1	149.8	134.4	15.34	9.764	
2,100.0	2,100.0	2,094.0	2,094.0	7.9	7.9	-69.30	52.9	-140.1	149.8	134.0	15.77	9.497	
2,200.0	2,200.0	2,194.0	2,194.0	8.1	8.1	-69.30	52.9	-140.1	149.8	133.6	16.20	9.249	
2,300.0	2,300.0	2,294.0	2,294.0	8.3	8.3	-69.30	52.9	-140.1	149.8	133.2	16.61	9.018	
2,400.0	2,400.0	2,394.0	2,394.0	8.5	8.5	-69.30	52.9	-140.1	149.8	132.8	17.02	8.802	
2,500.0	2,500.0	2,494.0	2,494.0	8.7	8.7	-69.30	52.9	-140.1	149.8	132.4	17.42	8.599	
2,600.0	2,600.0	2,594.0	2,594.0	8.9	8.9	-69.30	52.9	-140.1	149.8	132.0	17.81	8.408	
2,700.0	2,700.0	2,694.0	2,694.0	9.1	9.1	-69.30	52.9	-140.1	149.8	131.6	18.20	8.228	
2,800.0	2,800.0	2,794.0	2,794.0	9.3	9.3	-69.30	52.9	-140.1	149.8	131.2	18.59	8.058	
2,900.0	2,900.0	2,894.0	2,894.0	9.5	9.5	-69.30	52.9	-140.1	149.8	130.8	18.97	7.897	
3,000.0	3,000.0	2,994.0	2,994.0	9.7	9.7	-69.30	52.9	-140.1	149.8	130.4	19.34	7.745	
3,100.0	3,100.0	3,094.0	3,094.0	9.9	9.9	-69.30	52.9	-140.1	149.8	130.1	19.71	7.599	
3,200.0	3,200.0	3,194.0	3,194.0	10.0	10.0	-69.30	52.9	-140.1	149.8	129.7	20.08	7.461	
3,300.0	3,300.0	3,294.0	3,294.0	10.2	10.2	-69.30	52.9	-140.1	149.8	129.4	20.44	7.329	
3,400.0	3,400.0	3,394.0	3,394.0	10.4	10.4	-69.30	52.9	-140.1	149.8	129.0	20.80	7.203	
3,500.0	3,500.0	3,494.0	3,494.0	10.6	10.6	-69.30	52.9	-140.1	149.8	128.6	21.15	7.082	
3,600.0	3,600.0	3,594.0	3,594.0	10.8	10.7	-69.30	52.9	-140.1	149.8	128.3	21.50	6.967	
3,700.0	3,700.0	3,694.0	3,694.0	10.9	10.9	-69.30	52.9	-140.1	149.8	127.9	21.85	6.856	
3,800.0	3,800.0	3,794.0	3,794.0	11.1	11.1	-69.30	52.9	-140.1	149.8	127.6	22.19	6.750	
3,900.0	3,900.0	3,894.0	3,894.0	11.3	11.3	-69.30	52.9	-140.1	149.8	127.3	22.53	6.647	
4,000.0	4,000.0	3,994.0	3,994.0	11.4	11.4	-69.30	52.9	-140.1	149.8	126.9	22.87	6.549	
4,100.0	4,100.0	4,094.0	4,094.0	11.6	11.6	-69.30	52.9	-140.1	149.8	126.6	23.21	6.454	
4,200.0	4,200.0	4,194.0	4,194.0	11.8	11.8	-69.30	52.9	-140.1	149.8	126.2	23.54	6.363	
4,300.0	4,300.0	4,294.0	4,294.0	11.9	11.9	-69.30	52.9	-140.1	149.8	125.9	23.87	6.275	
4,400.0	4,400.0	4,394.0	4,394.0	12.1	12.1	-69.30	52.9	-140.1	149.8	125.6	24.20	6.189	
4,500.0	4,500.0	4,494.0	4,494.0	12.3	12.3	-69.30	52.9	-140.1	149.8	125.3	24.53	6.107	
4,600.0	4,600.0	4,594.0	4,594.0	12.4	12.4	-69.30	52.9	-140.1	149.8	124.9	24.85	6.027	
4,700.0	4,700.0	4,694.0	4,694.0	12.6	12.6	-69.30	52.9	-140.1	149.8	124.6	25.17	5.950	
4,800.0	4,800.0	4,794.0	4,794.0	12.8	12.7	-69.30	52.9	-140.1	149.8	124.3	25.49	5.876	
4,900.0	4,900.0	4,894.0	4,894.0	12.9	12.9	-69.30	52.9	-140.1	149.8	124.0	25.81	5.803	
5,000.0	5,000.0	4,994.0	4,994.0	13.1	13.1	-69.30	52.9	-140.1	149.8	123.7	26.13	5.733	CC, ES
5,100.0	5,100.0	5,094.0	5,094.0	13.2	13.2	-137.38	52.9	-140.1	150.4	124.0	26.42	5.694	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

ADVANCE ENERGY PARTNERS

Anticollision Report

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Project:	Hat Mesa	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Reference Site:	Anderson Fed Com - Pad A	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.79 sigma
Reference Wellbore	Anderson Fed Com 558H	**Database:**	EDM 5000.16 Single User Db
Reference Design:	Anderson Fed Com 558H - Prelim 1	**Offset TVD Reference:**	Offset Datum

Offset Design: Anderson Fed Com - Pad A - Anderson Fed Com 704H - Anderson Fed Com 704H - Anderson Fed Com 704H

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,200.0	5,194.0	5,194.0	13.3	13.4	-138.03	52.9	-140.1	152.4	125.7	26.71	5.705	
5,300.0	5,299.9	5,293.9	5,293.9	13.5	13.5	-139.09	52.9	-140.1	155.6	128.6	27.00	5.764	
5,400.0	5,399.7	5,393.7	5,393.7	13.7	13.7	-140.48	52.9	-140.1	160.3	133.0	27.31	5.870	
5,500.0	5,499.4	5,493.4	5,493.4	13.9	13.8	-142.16	52.9	-140.1	166.4	138.8	27.63	6.024	
5,600.0	5,599.0	5,593.0	5,593.0	14.1	14.0	-143.93	52.9	-140.1	173.4	145.4	27.97	6.200	
5,700.0	5,698.6	5,692.6	5,692.6	14.3	14.1	-145.55	52.9	-140.1	180.5	152.2	28.32	6.375	
5,800.0	5,798.2	5,792.2	5,792.2	14.5	14.3	-147.06	52.9	-140.1	187.8	159.1	28.69	6.546	
5,900.0	5,897.8	5,891.8	5,891.8	14.8	14.4	-148.45	52.9	-140.1	195.2	166.1	29.07	6.714	
6,000.0	5,997.5	5,991.5	5,991.5	15.1	14.6	-149.74	52.9	-140.1	202.7	173.2	29.47	6.877	
6,100.0	6,097.1	6,091.1	6,091.1	15.3	14.7	-150.93	52.9	-140.1	210.2	180.4	29.88	7.036	
6,200.0	6,196.7	6,190.7	6,190.7	15.7	14.9	-152.04	52.9	-140.1	217.9	187.6	30.31	7.189	
6,300.0	6,296.3	6,290.3	6,290.3	16.0	15.0	-153.08	52.9	-140.1	225.7	194.9	30.75	7.338	
6,400.0	6,395.9	6,389.9	6,389.9	16.3	15.2	-154.05	52.9	-140.1	233.5	202.3	31.21	7.482	
6,500.0	6,495.6	6,489.6	6,489.6	16.6	15.3	-154.95	52.9	-140.1	241.3	209.7	31.67	7.620	
6,600.0	6,595.2	6,589.2	6,589.2	17.0	15.5	-155.80	52.9	-140.1	249.3	217.1	32.15	7.753	
6,700.0	6,694.8	6,688.8	6,688.8	17.3	15.6	-156.60	52.9	-140.1	257.2	224.6	32.64	7.882	
6,800.0	6,794.4	6,788.4	6,788.4	17.7	15.8	-157.34	52.9	-140.1	265.3	232.1	33.14	8.005	
6,900.0	6,894.0	6,888.0	6,888.0	18.1	15.9	-158.05	52.9	-140.1	273.3	239.7	33.65	8.124	
7,000.0	6,993.7	6,987.7	6,987.7	18.5	16.1	-158.71	52.9	-140.1	281.4	247.3	34.16	8.238	
7,100.0	7,093.3	7,087.3	7,087.3	18.9	16.2	-159.34	52.9	-140.1	289.6	254.9	34.69	8.348	
7,200.0	7,192.9	7,186.9	7,186.9	19.3	16.3	-159.93	52.9	-140.1	297.8	262.5	35.22	8.454	
7,300.0	7,292.5	7,286.5	7,286.5	19.7	16.5	-160.49	52.9	-140.1	306.0	270.2	35.76	8.555	
7,400.0	7,392.1	7,386.1	7,386.1	20.1	16.6	-161.02	52.9	-140.1	314.2	277.9	36.31	8.653	
7,500.0	7,491.8	7,485.8	7,485.8	20.5	16.8	-161.52	52.9	-140.1	322.5	285.6	36.87	8.746	
7,600.0	7,591.4	7,585.4	7,585.4	20.9	16.9	-162.00	52.9	-140.1	330.7	293.3	37.43	8.836	
7,700.0	7,691.0	7,685.0	7,685.0	21.3	17.0	-162.45	52.9	-140.1	339.0	301.0	37.99	8.923	
7,800.0	7,790.6	7,784.6	7,784.6	21.8	17.2	-162.89	52.9	-140.1	347.4	308.8	38.57	9.007	
7,900.0	7,890.2	7,884.2	7,884.2	22.2	17.3	-163.30	52.9	-140.1	355.7	316.6	39.14	9.087	
8,000.0	7,989.9	7,983.9	7,983.9	22.7	17.5	-163.70	52.9	-140.1	364.1	324.3	39.72	9.165	
8,100.0	8,089.5	8,083.5	8,083.5	23.1	17.6	-164.07	52.9	-140.1	372.4	332.1	40.31	9.239	
8,200.0	8,189.1	8,183.1	8,183.1	23.6	17.7	-164.43	52.9	-140.1	380.8	339.9	40.90	9.311	
8,300.0	8,288.7	8,282.7	8,282.7	24.0	17.9	-164.78	52.9	-140.1	389.2	347.7	41.49	9.381	
8,400.0	8,388.3	8,382.3	8,382.3	24.5	18.0	-165.11	52.9	-140.1	397.7	355.6	42.09	9.448	
8,500.0	8,487.9	8,481.9	8,481.9	24.9	18.2	-165.42	52.9	-140.1	406.1	363.4	42.69	9.512	
8,600.0	8,587.6	8,581.6	8,581.6	25.4	18.3	-165.72	52.9	-140.1	414.5	371.2	43.29	9.575	
8,700.0	8,687.2	8,681.2	8,681.2	25.9	18.4	-166.02	52.9	-140.1	423.0	379.1	43.90	9.635	
8,800.0	8,786.8	8,780.8	8,780.8	26.3	18.6	-166.30	52.9	-140.1	431.4	386.9	44.51	9.693	
8,900.0	8,886.4	8,880.4	8,880.4	26.8	18.7	-166.56	52.9	-140.1	439.9	394.8	45.12	9.750	
9,000.0	8,986.0	8,980.0	8,980.0	27.3	18.8	-166.82	52.9	-140.1	448.4	402.7	45.74	9.804	
9,100.0	9,085.7	9,079.7	9,079.7	27.8	19.0	-167.07	52.9	-140.1	456.9	410.5	46.35	9.857	
9,200.0	9,185.3	9,179.3	9,179.3	28.3	19.1	-167.31	52.9	-140.1	465.4	418.4	46.97	9.908	
9,300.0	9,284.9	9,278.9	9,278.9	28.7	19.3	-167.54	52.9	-140.1	473.9	426.3	47.59	9.958	
9,400.0	9,384.5	9,378.5	9,378.5	29.2	19.4	-167.77	52.9	-140.1	482.4	434.2	48.21	10.006	
9,500.0	9,484.1	9,478.1	9,478.1	29.7	19.5	-167.98	52.9	-140.1	490.9	442.1	48.84	10.053	
9,600.0	9,583.8	9,577.8	9,577.8	30.2	19.7	-168.19	52.9	-140.1	499.5	450.0	49.46	10.098	
9,700.0	9,683.4	9,677.4	9,677.4	30.7	19.8	-168.39	52.9	-140.1	508.0	457.9	50.09	10.142	
9,800.0	9,783.0	9,777.0	9,777.0	31.2	19.9	-168.59	52.9	-140.1	516.5	465.8	50.72	10.184	
9,900.0	9,882.6	9,876.6	9,876.6	31.7	20.1	-168.77	52.9	-140.1	525.1	473.7	51.35	10.226	
10,000.0	9,982.2	9,976.2	9,976.2	32.2	20.2	-168.96	52.9	-140.1	533.6	481.7	51.98	10.266	
10,100.0	10,081.9	10,075.9	10,075.9	32.7	20.3	-169.13	52.9	-140.1	542.2	489.6	52.62	10.305	
10,200.0	10,181.5	10,175.5	10,175.5	33.2	20.5	-169.30	52.9	-140.1	550.8	497.5	53.25	10.343	
10,300.0	10,281.1	10,275.1	10,275.1	33.7	20.6	-169.47	52.9	-140.1	559.3	505.4	53.89	10.380	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

ADVANCE ENERGY PARTNERS

Anticollision Report

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Project:	Hat Mesa	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Reference Site:	Anderson Fed Com - Pad A	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.79 sigma
Reference Wellbore	Anderson Fed Com 558H	**Database:**	EDM 5000.16 Single User Db
Reference Design:	Anderson Fed Com 558H - Prelim 1	**Offset TVD Reference:**	Offset Datum

Offset Design: Anderson Fed Com - Pad A - Anderson Fed Com 704H - Anderson Fed Com 704H - Anderson Fed Com 704H

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,326.3	10,307.3	10,301.3	10,301.3	33.8	20.6	-169.51	52.9	-140.1	561.6	507.5	54.04	10.391	
10,400.0	10,380.8	10,374.8	10,374.8	34.2	20.7	-169.63	52.9	-140.1	567.4	512.9	54.49	10.413	
10,500.0	10,480.5	10,474.5	10,474.5	34.6	20.9	-169.76	52.9	-140.1	573.9	518.8	55.10	10.416	
10,600.0	10,580.4	10,574.4	10,574.4	35.1	21.0	-169.85	52.9	-140.1	578.6	523.0	55.67	10.394	
10,700.0	10,680.4	10,674.4	10,674.4	35.5	21.1	-169.91	52.9	-140.1	581.7	525.5	56.20	10.350	
10,800.0	10,780.4	10,774.4	10,774.4	35.8	21.3	-169.94	52.9	-140.1	583.0	526.3	56.66	10.290	
10,826.3	10,806.7	10,800.7	10,800.7	35.8	21.3	-102.08	52.9	-140.1	583.0	526.3	56.73	10.278	
10,900.0	10,880.4	10,874.4	10,874.4	35.9	21.4	-102.08	52.9	-140.1	583.0	526.2	56.86	10.253	
10,934.6	10,915.0	10,909.0	10,909.0	35.9	21.4	-102.08	52.9	-140.1	583.0	526.1	56.92	10.243	
10,950.0	10,930.4	10,924.4	10,924.4	35.9	21.4	-120.95	52.9	-140.1	583.2	526.2	56.96	10.238	
10,975.0	10,955.3	10,949.3	10,949.3	36.0	21.5	-120.99	52.9	-140.1	583.9	526.9	57.07	10.232	
11,000.0	10,980.2	10,974.2	10,974.2	36.1	21.5	-121.08	52.9	-140.1	585.4	528.2	57.19	10.235	
11,025.0	11,004.8	10,998.8	10,998.8	36.2	21.5	-121.19	52.9	-140.1	587.5	530.1	57.33	10.247	
11,050.0	11,029.2	11,023.2	11,023.2	36.3	21.6	-121.34	52.9	-140.1	590.3	532.8	57.49	10.268	
11,075.0	11,053.4	11,047.4	11,047.4	36.4	21.6	-121.50	52.9	-140.1	593.8	536.2	57.65	10.301	
11,100.0	11,077.1	11,071.1	11,071.1	36.5	21.6	-121.68	52.9	-140.1	598.1	540.3	57.82	10.344	
11,125.0	11,100.4	11,094.4	11,094.4	36.6	21.7	-121.86	52.9	-140.1	603.2	545.2	58.01	10.398	
11,150.0	11,123.1	11,117.1	11,117.1	36.8	21.7	-122.02	52.9	-140.1	609.0	550.8	58.19	10.465	
11,175.0	11,145.3	11,139.3	11,139.3	36.9	21.7	-122.16	52.9	-140.1	615.6	557.2	58.38	10.545	
11,200.0	11,166.9	11,160.9	11,160.9	37.0	21.8	-122.26	52.9	-140.1	623.1	564.5	58.57	10.637	
11,225.0	11,187.8	11,181.8	11,181.8	37.1	21.8	-122.31	52.9	-140.1	631.3	572.6	58.76	10.744	
11,250.0	11,207.9	11,201.9	11,201.9	37.3	21.8	-122.29	52.9	-140.1	640.5	581.5	58.95	10.865	
11,275.0	11,227.3	11,221.3	11,221.3	37.4	21.8	-122.18	52.9	-140.1	650.5	591.4	59.13	11.001	
11,300.0	11,245.7	11,239.7	11,239.7	37.5	21.9	-121.98	52.9	-140.1	661.4	602.1	59.31	11.152	
11,325.0	11,263.3	11,257.3	11,257.3	37.6	21.9	-121.65	52.9	-140.1	673.2	613.7	59.47	11.319	
11,350.0	11,279.9	11,273.9	11,273.9	37.7	21.9	-121.18	52.9	-140.1	685.8	626.2	59.63	11.502	
11,375.0	11,295.5	11,289.5	11,289.5	37.8	21.9	-120.56	52.9	-140.1	699.3	639.6	59.77	11.700	
11,400.0	11,310.1	11,304.1	11,304.1	38.0	21.9	-119.75	52.9	-140.1	713.7	653.8	59.90	11.915	
11,425.0	11,323.6	11,318.4	11,318.4	38.1	22.0	-118.80	52.9	-140.1	728.8	668.8	60.01	12.145	
11,450.0	11,336.0	11,351.9	11,351.9	38.2	22.0	-119.16	54.0	-140.1	744.6	684.4	60.20	12.368	
11,475.0	11,347.2	11,389.0	11,388.8	38.3	22.2	-119.64	57.5	-140.1	760.7	700.3	60.48	12.579	
11,500.0	11,357.2	11,431.0	11,430.3	38.4	22.6	-120.30	64.2	-140.1	777.2	716.3	60.83	12.775	
11,525.0	11,366.0	11,479.6	11,477.5	38.4	23.0	-121.21	75.9	-140.1	793.7	732.4	61.29	12.949	
11,550.0	11,373.6	11,537.5	11,532.1	38.5	23.4	-122.42	94.9	-140.1	810.3	748.4	61.90	13.090	
11,575.0	11,379.9	11,608.6	11,596.2	38.6	23.9	-123.98	125.6	-140.1	826.7	763.9	62.71	13.183	
11,600.0	11,385.0	11,698.7	11,671.1	38.7	24.5	-125.80	175.4	-140.1	842.4	778.7	63.78	13.209	
11,616.9	11,387.6	11,732.8	11,696.9	38.7	24.7	-125.70	197.7	-140.1	852.4	788.2	64.19	13.279	
11,625.0	11,388.8	11,781.1	11,731.6	38.8	24.9	-126.47	231.2	-140.2	856.8	792.1	64.75	13.234	
11,650.0	11,391.9	11,931.0	11,819.6	38.8	25.5	-127.52	351.9	-140.2	868.5	802.2	66.25	13.110	
11,675.0	11,394.5	12,157.1	11,886.8	38.9	25.9	-126.75	566.1	-140.2	875.7	808.4	67.35	13.002	
11,700.0	11,396.6	12,233.9	11,890.0	39.0	25.9	-125.42	642.8	-140.2	878.7	811.1	67.56	13.005	
11,725.0	11,398.2	12,258.6	11,890.0	39.1	25.9	-124.82	667.5	-140.2	880.7	812.8	67.88	12.973	
11,750.0	11,399.3	12,283.5	11,890.0	39.2	25.9	-124.41	692.4	-140.2	882.0	813.8	68.22	12.928	
11,775.0	11,399.9	12,308.5	11,890.0	39.3	25.9	-124.21	717.3	-140.2	882.7	814.1	68.59	12.869	
11,790.0	11,400.0	12,323.5	11,890.0	39.4	25.9	-124.18	732.4	-140.2	882.7	813.9	68.82	12.826	
11,790.5	11,400.0	12,323.9	11,890.0	39.4	25.9	-124.18	732.8	-140.2	882.7	813.9	68.83	12.825	
11,800.0	11,400.0	12,333.4	11,890.0	39.4	25.9	-124.19	742.3	-140.2	882.7	813.7	68.98	12.797	
11,900.0	11,400.0	12,433.4	11,890.0	39.9	26.7	-124.21	842.3	-140.3	882.2	811.6	70.59	12.498	
12,000.0	11,400.0	12,533.4	11,890.0	40.5	27.8	-124.23	942.3	-140.3	881.7	809.4	72.35	12.186	
12,100.0	11,400.0	12,633.4	11,890.0	41.2	29.1	-124.25	1,042.3	-140.3	881.3	807.0	74.25	11.869	
12,200.0	11,400.0	12,733.4	11,890.0	42.0	30.4	-124.27	1,142.3	-140.3	880.8	804.5	76.26	11.549	
12,300.0	11,400.0	12,833.4	11,890.0	42.9	31.8	-124.29	1,242.3	-140.3	880.3	801.9	78.39	11.230	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

ADVANCE ENERGY PARTNERS

Anticollision Report

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Project:	Hat Mesa	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Reference Site:	Anderson Fed Com - Pad A	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.79 sigma
Reference Wellbore	Anderson Fed Com 558H	**Database:**	EDM 5000.16 Single User Db
Reference Design:	Anderson Fed Com 558H - Prelim 1	**Offset TVD Reference:**	Offset Datum

Offset Design: Anderson Fed Com - Pad A - Anderson Fed Com 704H - Anderson Fed Com 704H - Anderson Fed Com 704H

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,400.0	11,400.0	12,933.4	11,890.0	43.9	33.3	-124.31	1,342.3	-140.3	879.8	799.2	80.62	10.914	
12,500.0	11,400.0	13,033.4	11,890.0	45.0	34.8	-124.33	1,442.3	-140.4	879.4	796.4	82.94	10.603	
12,600.0	11,400.0	13,133.4	11,890.0	46.2	36.4	-124.35	1,542.3	-140.4	878.9	793.6	85.34	10.299	
12,700.0	11,400.0	13,233.4	11,890.0	47.5	38.0	-124.37	1,642.3	-140.4	878.4	790.6	87.82	10.002	
12,800.0	11,400.0	13,333.4	11,890.0	48.8	39.6	-124.40	1,742.3	-140.4	878.0	787.6	90.38	9.714	
12,900.0	11,400.0	13,433.4	11,890.0	50.1	41.3	-124.42	1,842.3	-140.4	877.5	784.5	93.00	9.436	
13,000.0	11,400.0	13,533.4	11,890.0	51.5	43.0	-124.44	1,942.3	-140.5	877.0	781.3	95.67	9.167	
13,100.0	11,400.0	13,633.4	11,890.0	53.0	44.7	-124.46	2,042.3	-140.5	876.5	778.1	98.41	8.907	
13,200.0	11,400.0	13,733.4	11,890.0	54.5	46.5	-124.48	2,142.3	-140.5	876.1	774.9	101.19	8.658	
13,300.0	11,400.0	13,833.4	11,890.0	56.0	48.3	-124.50	2,242.3	-140.5	875.6	771.6	104.02	8.418	
13,400.0	11,400.0	13,933.4	11,890.0	57.6	50.0	-124.52	2,342.3	-140.5	875.1	768.2	106.89	8.187	
13,500.0	11,400.0	14,033.4	11,890.0	59.2	51.9	-124.54	2,442.3	-140.5	874.6	764.9	109.80	7.966	
13,600.0	11,400.0	14,133.4	11,890.0	60.8	53.7	-124.57	2,542.3	-140.6	874.2	761.4	112.74	7.754	
13,700.0	11,400.0	14,233.4	11,890.0	62.5	55.5	-124.59	2,642.3	-140.6	873.7	758.0	115.71	7.551	
13,800.0	11,400.0	14,333.4	11,890.0	64.2	57.4	-124.61	2,742.3	-140.6	873.2	754.5	118.72	7.355	
13,900.0	11,400.0	14,433.4	11,890.0	65.8	59.2	-124.63	2,842.3	-140.6	872.8	751.0	121.75	7.168	
14,000.0	11,400.0	14,533.4	11,890.0	67.6	61.1	-124.65	2,942.3	-140.6	872.3	747.5	124.81	6.989	
14,100.0	11,400.0	14,633.4	11,890.0	69.3	63.0	-124.67	3,042.3	-140.6	871.8	743.9	127.89	6.817	
14,200.0	11,400.0	14,733.4	11,890.0	71.0	64.9	-124.69	3,142.3	-140.7	871.3	740.3	130.99	6.652	
14,300.0	11,400.0	14,833.4	11,890.0	72.8	66.8	-124.72	3,242.3	-140.7	870.9	736.8	134.12	6.493	
14,400.0	11,400.0	14,933.4	11,890.0	74.5	68.7	-124.74	3,342.3	-140.7	870.4	733.1	137.26	6.341	
14,500.0	11,400.0	15,033.4	11,890.0	76.3	70.6	-124.76	3,442.3	-140.7	869.9	729.5	140.42	6.195	
14,600.0	11,400.0	15,133.4	11,890.0	78.1	72.5	-124.78	3,542.3	-140.7	869.5	725.9	143.59	6.055	
14,700.0	11,400.0	15,233.4	11,890.0	79.9	74.4	-124.80	3,642.3	-140.8	869.0	722.2	146.78	5.920	
14,800.0	11,400.0	15,333.4	11,890.0	81.7	76.3	-124.82	3,742.3	-140.8	868.5	718.5	149.98	5.791	
14,900.0	11,400.0	15,433.4	11,890.0	83.6	78.2	-124.84	3,842.3	-140.8	868.0	714.8	153.20	5.666	
15,000.0	11,400.0	15,533.4	11,890.0	85.4	80.2	-124.87	3,942.3	-140.8	867.6	711.1	156.43	5.546	
15,100.0	11,400.0	15,633.4	11,890.0	87.2	82.1	-124.89	4,042.3	-140.8	867.1	707.4	159.67	5.431	
15,200.0	11,400.0	15,733.4	11,890.0	89.1	84.0	-124.91	4,142.3	-140.8	866.6	703.7	162.92	5.319	
15,300.0	11,400.0	15,833.4	11,890.0	90.9	86.0	-124.93	4,242.3	-140.9	866.2	700.0	166.18	5.212	
15,400.0	11,400.0	15,933.4	11,890.0	92.8	87.9	-124.95	4,342.3	-140.9	865.7	696.2	169.45	5.109	
15,500.0	11,400.0	16,033.4	11,890.0	94.7	89.9	-124.98	4,442.3	-140.9	865.2	692.5	172.72	5.009	
15,600.0	11,400.0	16,133.4	11,890.0	96.5	91.8	-125.00	4,542.3	-140.9	864.8	688.7	176.01	4.913	
15,700.0	11,400.0	16,233.4	11,890.0	98.4	93.8	-125.02	4,642.3	-140.9	864.3	685.0	179.30	4.820	
15,800.0	11,400.0	16,333.4	11,890.0	100.3	95.7	-125.04	4,742.3	-140.9	863.8	681.2	182.60	4.731	
15,900.0	11,400.0	16,433.4	11,890.0	102.2	97.7	-125.06	4,842.3	-141.0	863.3	677.4	185.90	4.644	
16,000.0	11,400.0	16,533.4	11,890.0	104.1	99.7	-125.08	4,942.3	-141.0	862.9	673.7	189.22	4.560	
16,100.0	11,400.0	16,633.4	11,890.0	106.0	101.6	-125.11	5,042.3	-141.0	862.4	669.9	192.53	4.479	
16,200.0	11,400.0	16,733.4	11,890.0	107.9	103.6	-125.13	5,142.3	-141.0	861.9	666.1	195.86	4.401	
16,300.0	11,400.0	16,833.4	11,890.0	109.8	105.6	-125.15	5,242.3	-141.0	861.5	662.3	199.18	4.325	
16,400.0	11,400.0	16,933.4	11,890.0	111.7	107.5	-125.17	5,342.3	-141.0	861.0	658.5	202.52	4.251	
16,500.0	11,400.0	17,033.4	11,890.0	113.6	109.5	-125.19	5,442.3	-141.1	860.5	654.7	205.85	4.180	
16,600.0	11,400.0	17,133.4	11,890.0	115.5	111.5	-125.22	5,542.3	-141.1	860.1	650.9	209.20	4.111	
16,700.0	11,400.0	17,233.4	11,890.0	117.4	113.4	-125.24	5,642.3	-141.1	859.6	647.1	212.54	4.044	
16,800.0	11,400.0	17,333.4	11,890.0	119.4	115.4	-125.26	5,742.3	-141.1	859.1	643.2	215.89	3.979	
16,900.0	11,400.0	17,433.4	11,890.0	121.3	117.4	-125.28	5,842.3	-141.1	858.7	639.4	219.24	3.916	
17,000.0	11,400.0	17,533.4	11,890.0	123.2	119.4	-125.30	5,942.3	-141.2	858.2	635.6	222.60	3.855	
17,100.0	11,400.0	17,633.4	11,890.0	125.1	121.3	-125.33	6,042.3	-141.2	857.7	631.8	225.96	3.796	
17,200.0	11,400.0	17,733.4	11,890.0	127.1	123.3	-125.35	6,142.3	-141.2	857.3	627.9	229.32	3.738	
17,300.0	11,400.0	17,833.4	11,890.0	129.0	125.3	-125.37	6,242.3	-141.2	856.8	624.1	232.68	3.682	
17,400.0	11,400.0	17,933.4	11,890.0	130.9	127.3	-125.39	6,342.2	-141.2	856.3	620.3	236.05	3.628	
17,500.0	11,400.0	18,033.4	11,890.0	132.9	129.3	-125.42	6,442.2	-141.2	855.9	616.4	239.42	3.575	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

ADVANCE ENERGY PARTNERS

Anticollision Report

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Project:	Hat Mesa	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Reference Site:	Anderson Fed Com - Pad A	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.79 sigma
Reference Wellbore	Anderson Fed Com 558H	**Database:**	EDM 5000.16 Single User Db
Reference Design:	Anderson Fed Com 558H - Prelim 1	**Offset TVD Reference:**	Offset Datum

Offset Design: Anderson Fed Com - Pad A - Anderson Fed Com 704H - Anderson Fed Com 704H - Anderson Fed Com 704H

Offset Site Error: 0.0 usft

Survey Program: 0-MWD+HRGM

Rule Assigned:

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,600.0	11,400.0	18,133.4	11,890.0	134.8	131.2	-125.44	6,542.2	-141.3	855.4	612.6	242.79	3.523	
17,700.0	11,400.0	18,233.4	11,890.0	136.8	133.2	-125.46	6,642.2	-141.3	854.9	608.8	246.16	3.473	
17,800.0	11,400.0	18,333.4	11,890.0	138.7	135.2	-125.48	6,742.2	-141.3	854.5	604.9	249.53	3.424	
17,900.0	11,400.0	18,433.3	11,890.0	140.7	137.2	-125.50	6,842.2	-141.3	854.0	601.1	252.91	3.377	
17,971.2	11,400.0	18,500.6	11,890.0	142.1	138.5	-125.52	6,909.5	-141.3	853.7	598.4	255.22	3.345	
18,000.0	11,400.0	18,500.6	11,890.0	142.6	138.5	-125.52	6,909.5	-141.3	854.1	598.8	255.39	3.344	SF
18,100.0	11,400.0	18,500.6	11,890.0	144.6	138.5	-125.52	6,909.5	-141.3	863.3	609.4	253.89	3.400	
18,194.7	11,400.0	18,500.6	11,890.0	146.4	138.5	-125.52	6,909.5	-141.3	882.4	632.7	249.73	3.533	

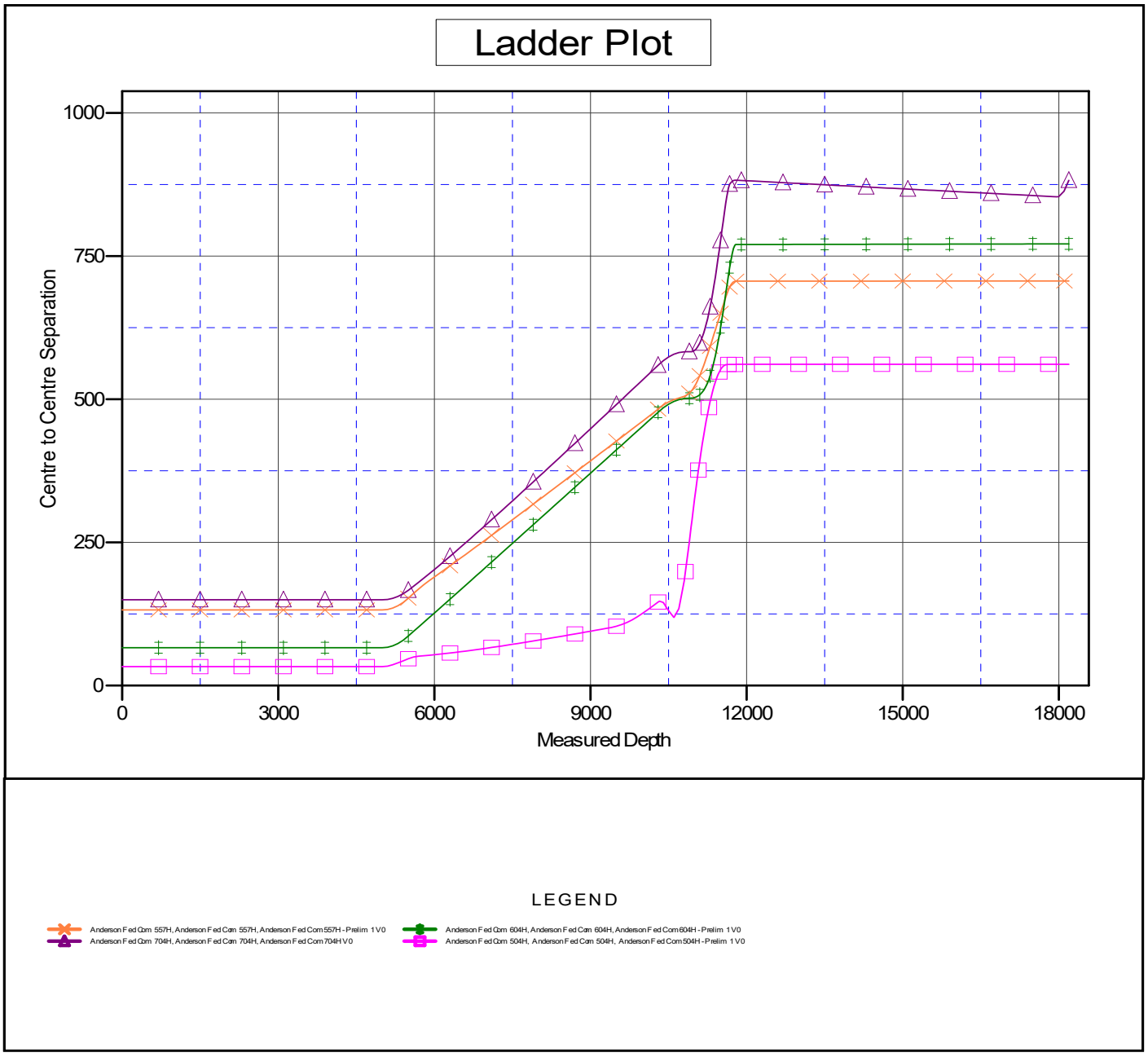
ADVANCE ENERGY PARTNERS

Anticollision Report

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Project:	Hat Mesa	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Reference Site:	Anderson Fed Com - Pad A	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.79 sigma
Reference Wellbore	Anderson Fed Com 558H	**Database:**	EDM 5000.16 Single User Db
Reference Design:	Anderson Fed Com 558H - Prelim 1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 3683.5usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: Anderson Fed Com 558H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.37°



ADVANCE ENERGY PARTNERS

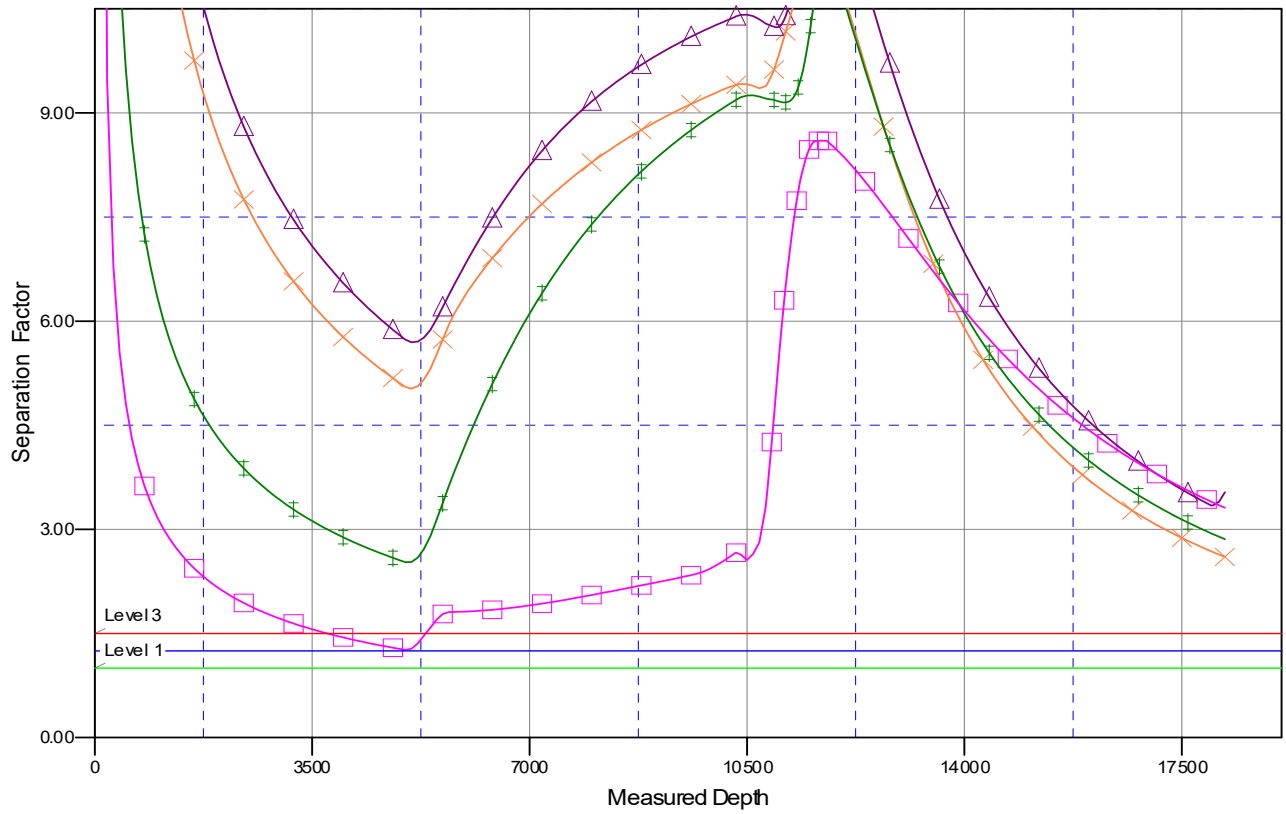
Anticollision Report

Company:	Advance Energy Partners	**Local Co-ordinate Reference:**	Well Anderson Fed Com 558H
Project:	Hat Mesa	**TVD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Reference Site:	Anderson Fed Com - Pad A	**MD Reference:**	WELL @ 3683.5usft (Original Well Elev)
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	Anderson Fed Com 558H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.79 sigma
Reference Wellbore	Anderson Fed Com 558H	**Database:**	EDM 5000.16 Single User Db
Reference Design:	Anderson Fed Com 558H - Prelim 1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 3683.5usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: Anderson Fed Com 558H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.37°

Separation Factor Plot



LEGEND

Anderson Fed Com 557H, Anderson Fed Com 557H, Anderson Fed Com 557H - Prelim 1 V0
Anderson Fed Com 704H, Anderson Fed Com 704H, Anderson Fed Com 704H V0
Anderson Fed Com 604H, Anderson Fed Com 604H, Anderson Fed Com 604H - Prelim 1 V0
Anderson Fed Com 504H, Anderson Fed Com 504H, Anderson Fed Com 504H - Prelim 1 V0

Advance Energy Partners Hat Mesa, LLC DRILL PLAN PAGE 1
Anderson Fed Com 558H
SHL 630' FNL & 925' FEL Sec. 2, T. 22 S., R. 32 E.
BHL 1220' FSL & 330' 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	8384'	8396'	hydrocarbons
Avalon shale	8904'	8918'	hydrocarbons
1st Bone Spring sandstone	9771'	9787'	hydrocarbons
2nd Bone Spring sandstone	10389'	10406'	hydrocarbons
(KOP	10915'	10935'	hydrocarbons)
3rd Bone Spring carbonate	10957'	10977'	
TD	11400'	18195'	hydrocarbons

2. NOTABLE ZONES

Third Bone Spring 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 DRILL PLAN PAGE 2
Anderson Fed Com 558H
SHL 630' FNL & 925' FEL Sec. 2, T. 22 S., R. 32 E.
BHL 1220' FSL & 330' 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 O.D.	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' – 18195'	0' – 11400'	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.

Advance Energy Partners Hat Mesa, LLC DRILL PLAN PAGE 3
Anderson Fed Com 558H
SHL 630' FNL & 925' FEL Sec. 2, T. 22 S., R. 32 E.
BHL 1220' FSL & 330' FEL Sec. 26, T 21 S., R. 32 E.
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	885	3.81	3372	10.6	50%	PowerCem	5PPS Plexcrete STE + 11% Gypsum + 3% SMS + 0.1% SuspendaCem 6302 + 0.4% R-1300 + 0.005GPS NoFoam V1A
	Tail	10935	1655	1.21	2003	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.

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' – 10935'	9.2 – 9.5	28 – 30	N/C
OBM	10935' – 18195'	9.5 – 9.8	55 - 65	<8

6. CORES, TESTS, & LOGS

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

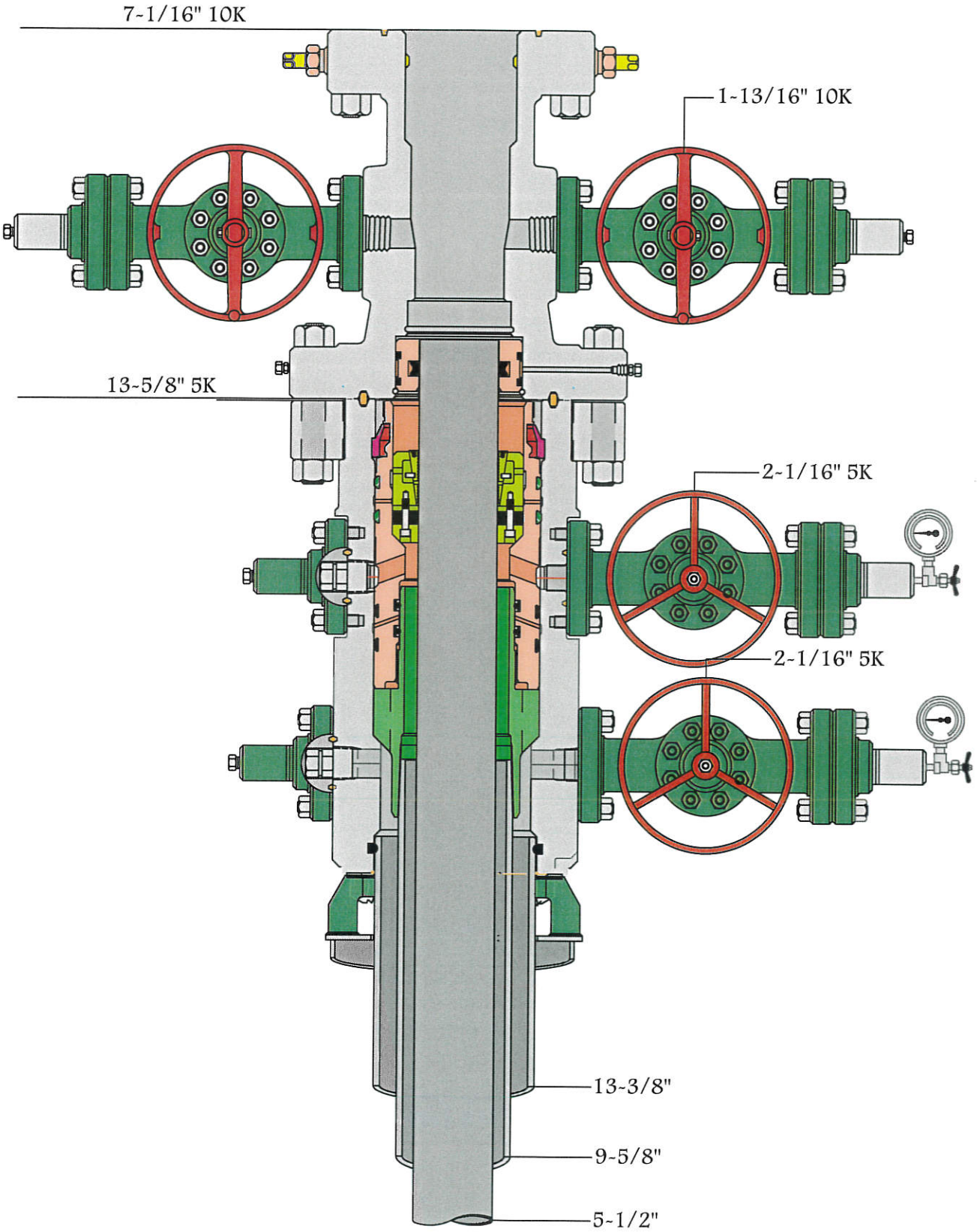
7. DOWN HOLE CONDITIONS

No abnormal pressure or temperature is expected. Maximum expected bottom hole pressure is ≈5586 psi. Expected bottom hole temperature is ≈236˚ 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 ≈3 months to drill and complete the well.



Advance Energy
13-5/8" 5K MN-DS

CAMERON
A Schlumberger Company

Name:	Huy	Date:	1-24-18	Working Pressure:	#	1575558

Casing/Cementing Variance Request

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

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

SUPO Data Report
11/13/2024

APD ID: 10400061009 **Submission Date:** 09/01/2020

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

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

Highlighted data reflects the most recent changes
Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Anderson_558H_Road_Map_20200828083507.pdf

Existing Road Purpose: ACCESS **Row(s) Exist?** NO

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

Anderson_558H_New_Road_Map_20200828083612.pdf

New road type: RESOURCE

Length: 1272.3 Feet **Width (ft.):** 30

Max slope (%): 0 **Max grade (%):** 2

Army Corp of Engineers (ACOE) permit required? N

ACOE Permit Number(s):

New road travel width: 14

New road access erosion control: Crowned and ditched

New road access plan or profile prepared? N

New road access plan

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

Access road engineering design? N

Access road engineering design

Turnout? N

Access surfacing type: OTHER

Access topsoil source: ONSITE

Access surfacing type description: Caliche

Access onsite topsoil source depth: 6

Offsite topsoil source description:

Onsite topsoil removal process: Grader

Access other construction information: Upgrading will consist of draining with a culvert and/or filling with caliche a 150' long low spot midway along the 0.9 mile road segment in 1-22s-32e.
Access miscellaneous information:

Number of access turnouts: **Access turnout map:**

Drainage Control

New road drainage crossing: CULVERT

Drainage Control comments: Crowned and ditched

Road Drainage Control Structures (DCS) description: None

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Anderson_558H_Well_Map_20200828083623.pdf

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: Process equipment and tanks will be set on the south side of the pad. Flare and/or CBU will be set on the northeast corner of the pad. No power line or off pad pipeline is planned at this time.

Production Facilities map:

Anderson_558H_Production_Facilities_20200828083633.pdf

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: GW WELL

Water source use type: DUST CONTROL

SURFACE CASING

INTERMEDIATE/PRODUCTION CASING

STIMULATION

Source latitude: **Source longitude:**

Source datum:

Water source permit type: WATER WELL

Water source transport method: TRUCKING

Source land ownership: PRIVATE

Source transportation land ownership: PRIVATE

Water source volume (barrels): 18000 **Source volume (acre-feet):** 2.32007573

Source volume (gal): 756000

Water source and transportation

Anderson_558H_Water_Source_Map_20200828083645.pdf

Water source comments: Water will be trucked from an existing water station on private land. Berrys water station (CP 00802) is in NWNE 2-21s-33e.
New water well? N

New Water Well Info

Well latitude: **Well Longitude:** **Well datum:**

Well target aquifer:

Est. depth to top of aquifer(ft): **Est thickness of aquifer:**

Aquifer comments:

Aquifer documentation:

Well depth (ft): **Well casing type:**

Well casing outside diameter (in.): **Well casing inside diameter (in.):**

New water well casing? **Used casing source:**

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

Drilling method:

Drill material:

Grout material:

Grout depth:

Casing length (ft.):

Casing top depth (ft.):

Well Production type:

Completion Method:

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Using any construction materials: YES

Construction Materials description: NM One Call (811) and Oxy USA Inc. will be notified before construction starts. Top 6" of soil and brush will be stockpiled east and west of the well pad. V-door will face west. Closed loop drilling system will be used. Caliche will be hauled from an existing caliche pit on private (Berry) land in E2NE4 35-20s-34e.

Construction Materials source location

Anderson_558H_Construction_Methods_20200828083704.pdf

Section 7 - Methods for Handling

Waste type: DRILLING

Waste content description: Drill cuttings, mud, salts, and other chemicals

Amount of waste: 550 barrels

Waste disposal frequency : Daily

Safe containment description: Steel mud tanks

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** PRIVATE

Disposal type description:

Disposal location description: Mud tanks will be hauled to R360s state approved (NM-01-0006) disposal site at Halfway, NM.

Waste type: SEWAGE

Waste content description: Black and grey water

Amount of waste: 5 barrels

Waste disposal frequency : Daily

Safe containment description: Plastic holding tanks and chemical toilets

Safe containmant attachment:

Waste disposal type: OTHER **Disposal location ownership:** OTHER

Disposal type description: Public

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

Disposal location description: Hobbs wastewater treatment plant

Waste type: GARBAGE

Waste content description: Trash

Amount of waste: 10 barrels

Waste disposal frequency : Daily

Safe containment description: Portable trash cage

Safe containmant attachment:

Waste disposal type: OTHER **Disposal location ownership:** OTHER

Disposal type description: Public

Disposal location description: Lea County landfill

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit? NO

Reserve pit length (ft.) **Reserve pit width (ft.)**

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? Y

Description of cuttings location Steel tanks on pad

Cuttings area length (ft.) **Cuttings area width (ft.)**

Cuttings area depth (ft.) **Cuttings area volume (cu. yd.)**

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

Section 8 - Ancillary

Are you requesting any Ancillary Facilities?: N

Ancillary Facilities

Comments:

Section 9 - Well Site

Well Site Layout Diagram:

Anderson_PadA_Well_Site_Layout_v2_20200925110544.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance **Multiple Well Pad Name:** Anderson Fed Com

Multiple Well Pad Number: Pad A

Recontouring

Anderson_558H_Interim_Reclamation_Diagram_20200828083735.pdf

Anderson_558H_Recontour_Plats_20200828083742.pdf

Drainage/Erosion control construction: Crowned and ditched

Drainage/Erosion control reclamation: Harrowed on the contour

Well pad proposed disturbance (acres): 6.54	**Well pad interim reclamation (acres):** 1.09	**Well pad long term disturbance (acres):** 5.45
Road proposed disturbance (acres): 0.88	**Road interim reclamation (acres):** 0	**Road long term disturbance (acres):** 0.88
Powerline proposed disturbance (acres): 0	**Powerline interim reclamation (acres):** 0	**Powerline long term disturbance (acres):** 0
Pipeline proposed disturbance (acres): 0	**Pipeline interim reclamation (acres):** 0	**Pipeline long term disturbance (acres):** 0
Other proposed disturbance (acres): 0	**Other interim reclamation (acres):** 0	**Other long term disturbance (acres):** 0
Total proposed disturbance: 7.42	**Total interim reclamation:** 1.09	**Total long term disturbance:** 6.33

Disturbance Comments:

Reconstruction method: Interim reclamation will consist of reclaiming a 100' wide swath on the west side of the pad. Once the well is plugged, then the pad and new road will be reclaimed within 6 months of plugging. Disturbed areas will be contoured to match pre-construction grades.
Topsoil redistribution: Soil and brush will be evenly spread over disturbed areas and harrowed on the contour. Disturbed areas will be seeded in accordance with BLM requirements. Road will be blocked. Noxious weeds will be controlled.

Soil treatment: None

Existing Vegetation at the well pad: Mesquite and/or Creosote bush

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

Existing Vegetation at the well pad

Existing Vegetation Community at the road: Mesquite and/or Creosote bush

Existing Vegetation Community at the road

Existing Vegetation Community at the pipeline: Mesquite and/or Creosote bush

Existing Vegetation Community at the pipeline

Existing Vegetation Community at other disturbances: Mesquite and/or Creosote bush

Existing Vegetation Community at other disturbances

Non native seed used? N

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? N

Seedling transplant description

Will seed be harvested for use in site reclamation? N

Seed harvest description:

Seed harvest description attachment:

Seed

Seed Table

Seed Summary

Total pounds/Acre:

Seed Type	Pounds/Acre

Seed reclamation

Operator Contact/Responsible Official

First Name: **Last Name:**

Phone: **Email:**

Seedbed prep:

Seed BMP:

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

Seed method:

Existing invasive species? N

Existing invasive species treatment description:

Existing invasive species treatment

Weed treatment plan description: To BLM standards

Weed treatment plan

Monitoring plan description: To BLM standards

Monitoring plan

Success standards: To BLM satisfaction

Pit closure description: No pit

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

Disturbance type: EXISTING ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

Section 12 - Other

Right of Way needed? N **Use APD as ROW?**

ROW Type(s):

ROW

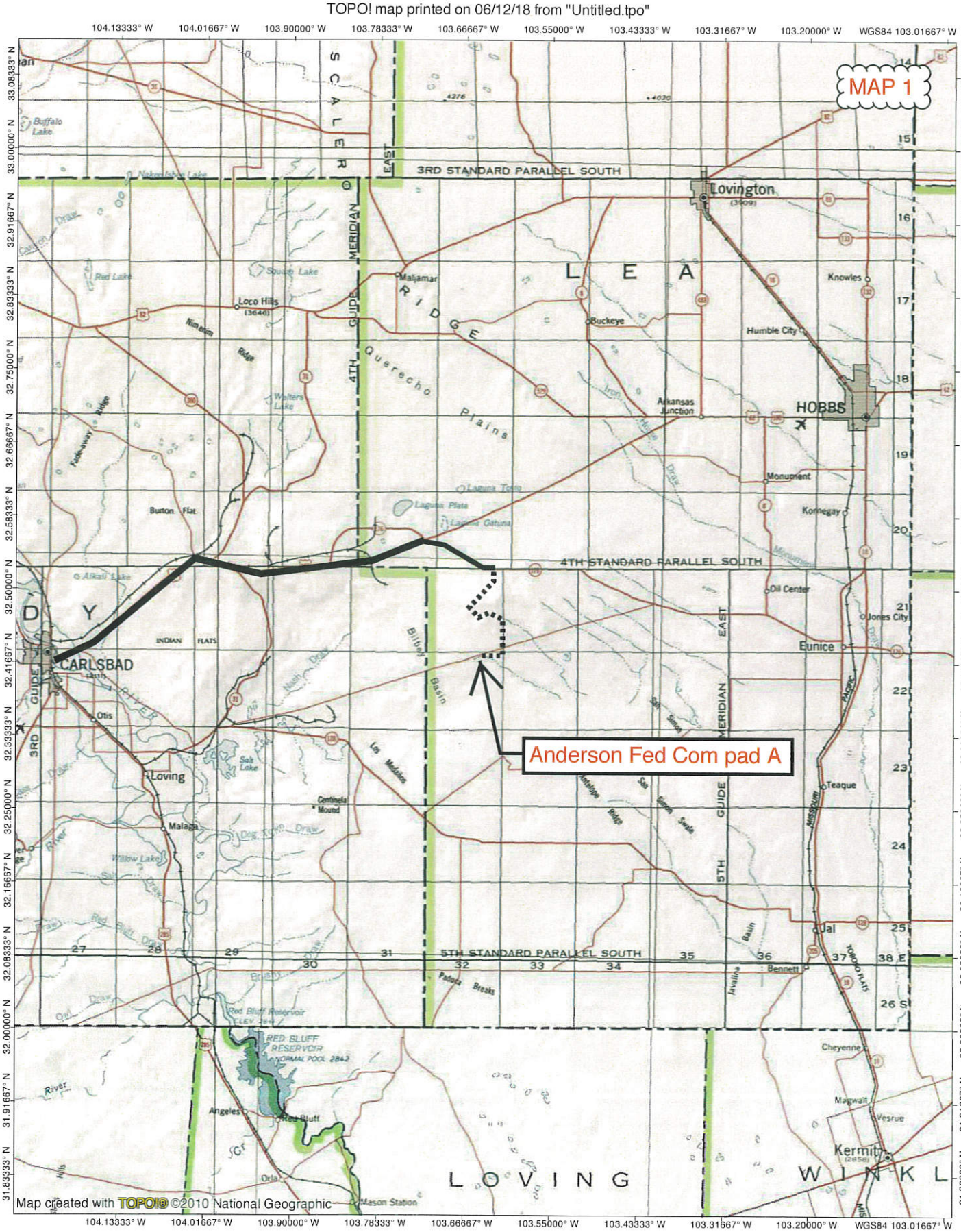
SUPO Additional Information:

Use a previously conducted onsite? Y

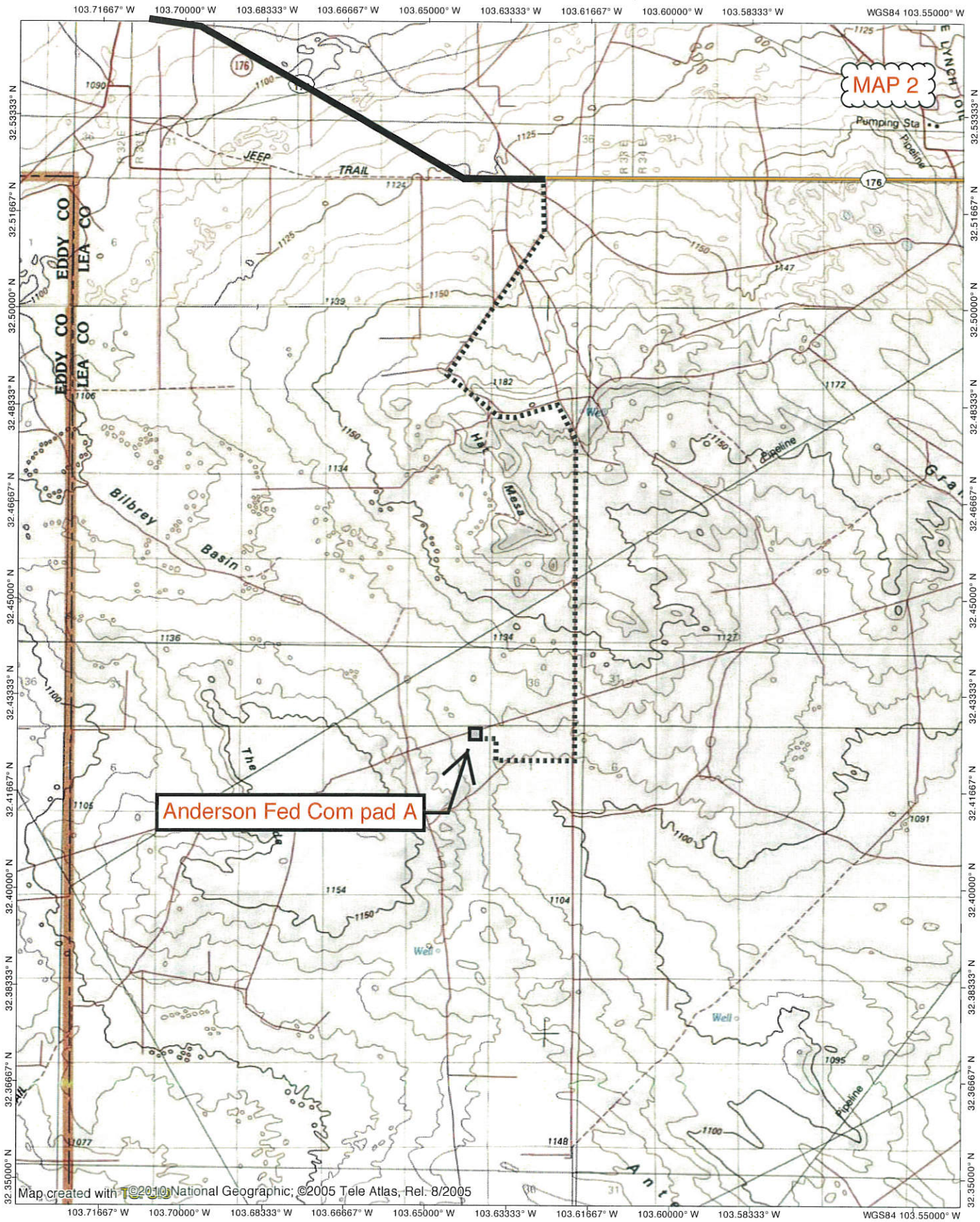
Previous Onsite information: On-site inspection was held with Jim Rutley (BLM) in January 2018. Ascent contributed to the archaeology fund during the 704H approval process. Anderson Fed Com 704H was approved (30-025-46532) by BLM on November 14, 2019. Pad has since been rotated and reduced in size.

Other SUPO

Anderson_558H_SUPO_20200828083806.pdf


TOPO! map printed on 06/12/18 from "Untitled.tpo"
MAP 1
Anderson Fed Com pad A
3RD STANDARD PARALLEL SOUTH
4TH STANDARD PARALLEL SOUTH
5TH STANDARD PARALLEL SOUTH
SCALERO MERIDIAN EAST
GUIDE MERIDIAN
LEA
DY
LOVING
WINKL
CARLSBAD
HOBBS
Lovington
Maljamar
Loco Hills
Buckeye
Knowles
Humble City
Arkansas Junction
Monument
Kornegay
Oil Center
Jones City
Eunice
Teague
Jal
Bennett
Cheyenne
Monument
Vesrue
Kermit
Loving
Malaga
Otis
Orla
Angeles
Red Bluff
Mason Station
Red Bluff Reservoir
RED BLUFF RESERVOIR
NORMAL POOL 2842
Buffalo Lake
Red Lake
Laguna Plata
Burton Flat
Walters Lake
Salt Lake
Willow Lake
Centinela Mound
Bilbrey Basin
Quercho Plains
Ridge
Pecos River
Delaware River
Mississippi Chalk
Teague Flats
Bennett Basin
Padasa Breaks
Map created with TOPO!® ©2010 National Geographic
NATIONAL GEOGRAPHIC
0 5 10 15 20 miles
0 5 10 15 20 25 30 km
TN + MN
7°
06/12/18

TOPO! map printed on 06/12/18 from "Untitled.tpo"

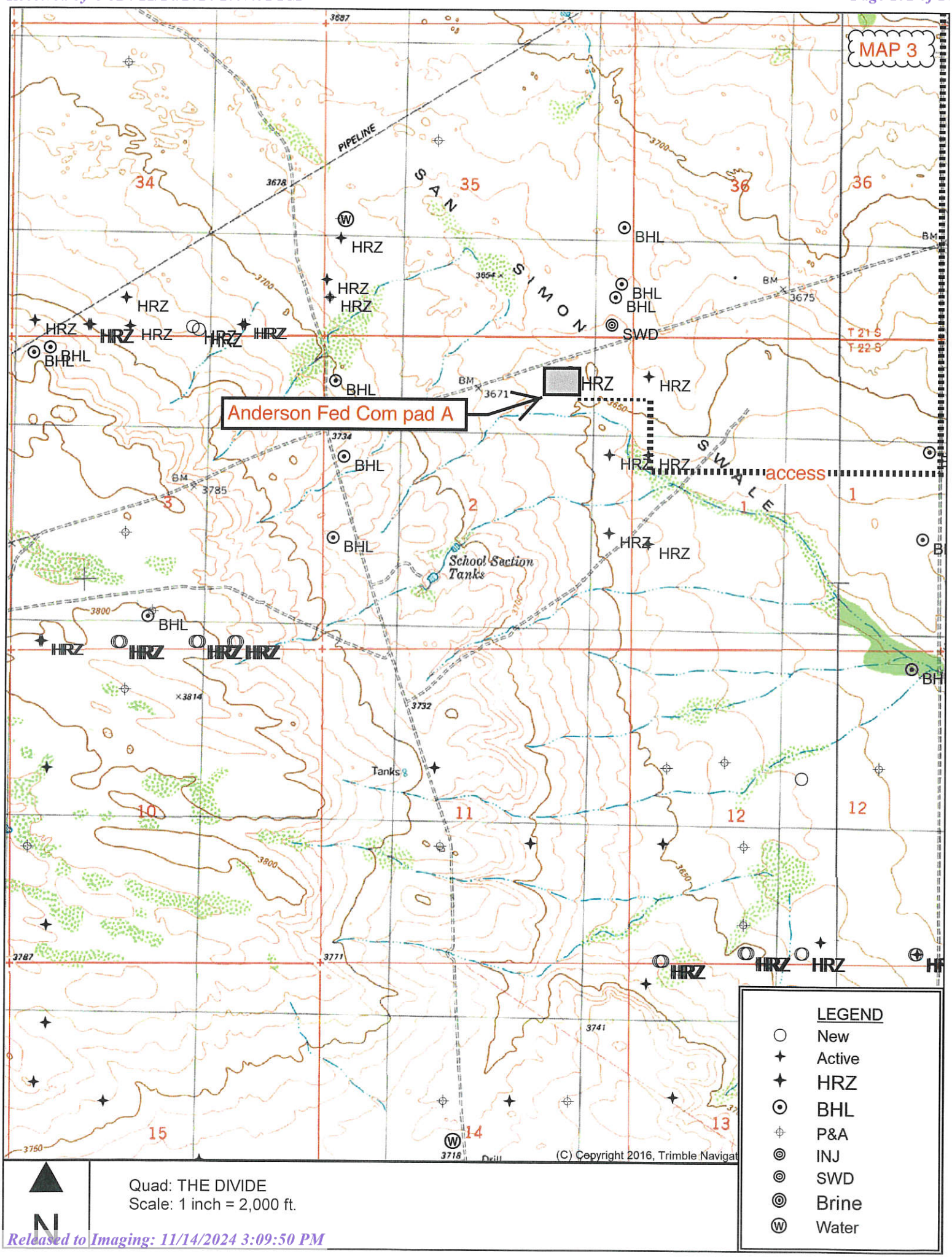


Map created with TOPO! ©2010 National Geographic; ©2005 Tele Atlas, Rel. 8/2005

NATIONAL GEOGRAPHIC

0.0 0.5 1.0 1.5 2.0 2.5 3.0 miles
0 1 2 3 4 5 km

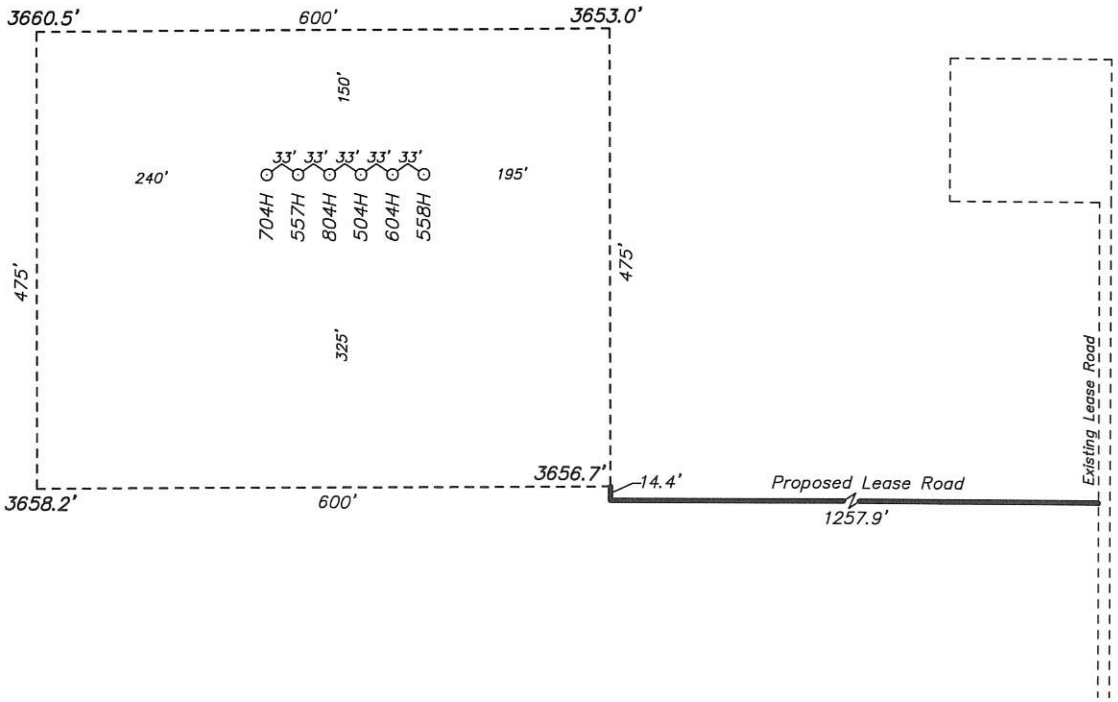
TN MN 7° 06/12/18


MAP 3
Anderson Fed Com pad A
access
PIPELINE
SAN SIMON
SWALE
School Section Tanks
Tanks
HRZ
BHL
SWD
LEGEND
New
Active
HRZ
BHL
P&A
INJ
SWD
Brine
Water
Quad: THE DIVIDE
Scale: 1 inch = 2,000 ft.
N
(C) Copyright 2016, Trimble Navigat

SECTION 2, TOWNSHIP 22 SOUTH, RANGE 32 EAST. N.M.P.M.,

LEA COUNTY, NEW MEXICO.

MAP 4



ADVANCE ENERGY PARTNERS, LLC
ANDERSON FED COM 558H
ELEV. – 3657'

Lat – N 32.426335°
Long – W 103.639840°
NMSPCE– N 529526.1
E 755313.7
(NAD–83)

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

200 0 200 400 FEET

SCALE: 1" = 200'

ADVANCE ENERGY PARTNERS, LLC

REF: ANDERSON FED COM 558H / WELL PAD TOPO

THE ANDERSON FED COM 558H LOCATED 630' FROM THE NORTH LINE AND 925' FROM THE EAST LINE OF SECTION 2, TOWNSHIP 22 SOUTH, RANGE 32 EAST. N.M.P.M., LEA COUNTY, NEW MEXICO.

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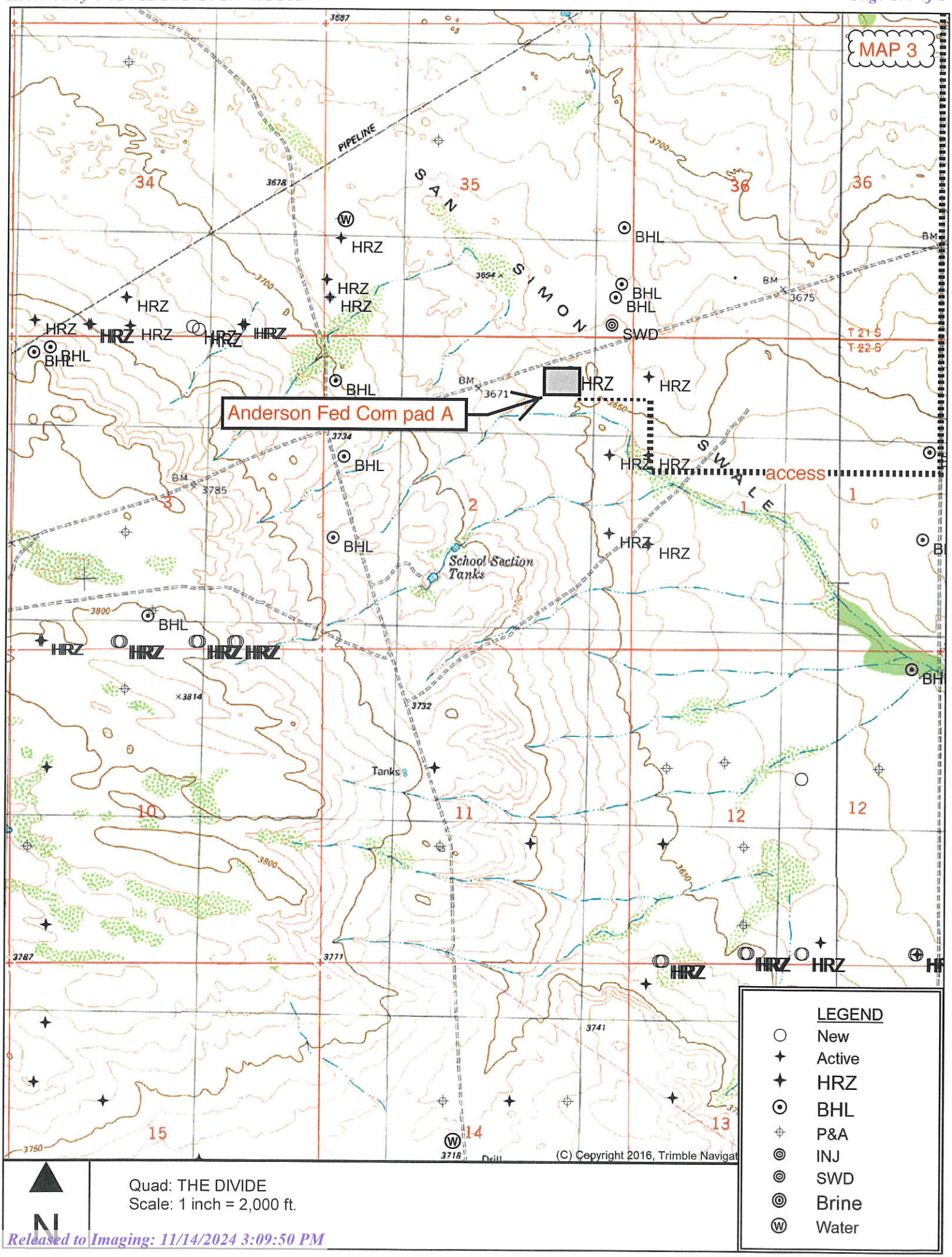
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 – Office
(575) 392-2206 – Fax
basinsurveys.com

W.O. Number: 35112	Drawn By: K. GOAD	Date: 07–23–2020	Survey Date: 07–22–2020	Sheet 1 of 1 Sheets


MAP 3
Anderson Fed Com pad A
access
PIPELINE
SAN SIMON
SWALE
School Section Tanks
Tanks
SWD
BHL
HRZ
LEGEND
New
Active
HRZ
BHL
P&A
INJ
SWD
Brine
Water
Quad: THE DIVIDE
Scale: 1 inch = 2,000 ft.
N
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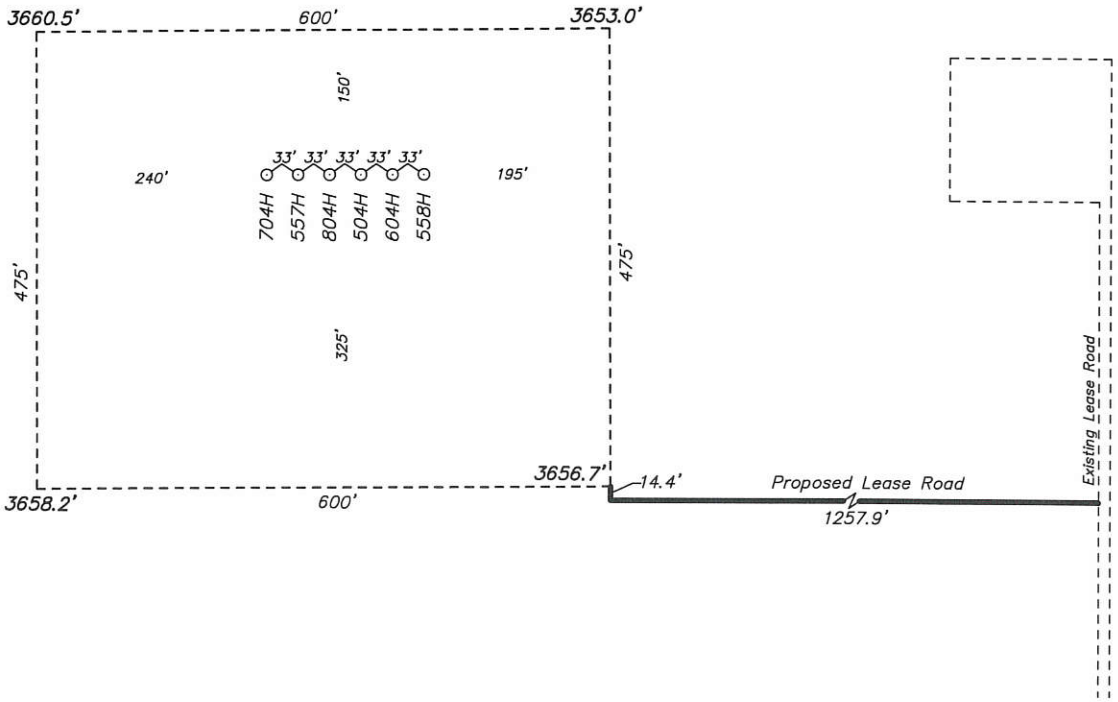
SECTION 2, TOWNSHIP 22 SOUTH, RANGE 32 EAST. N.M.P.M.,

LEA COUNTY, NEW MEXICO.

MAP 4



ADVANCE ENERGY PARTNERS, LLC
ANDERSON FED COM 558H
ELEV. – 3657'

Lat – N 32.426335°
Long – W 103.639840°
NMSPCE– N 529526.1
E 755313.7
(NAD–83)

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

200 0 200 400 FEET

SCALE: 1" = 200'

ADVANCE ENERGY PARTNERS, LLC

REF: ANDERSON FED COM 558H / WELL PAD TOPO

THE ANDERSON FED COM 558H LOCATED 630' FROM THE NORTH LINE AND 925' FROM THE EAST LINE OF SECTION 2, TOWNSHIP 22 SOUTH, RANGE 32 EAST. N.M.P.M., LEA COUNTY, NEW MEXICO.

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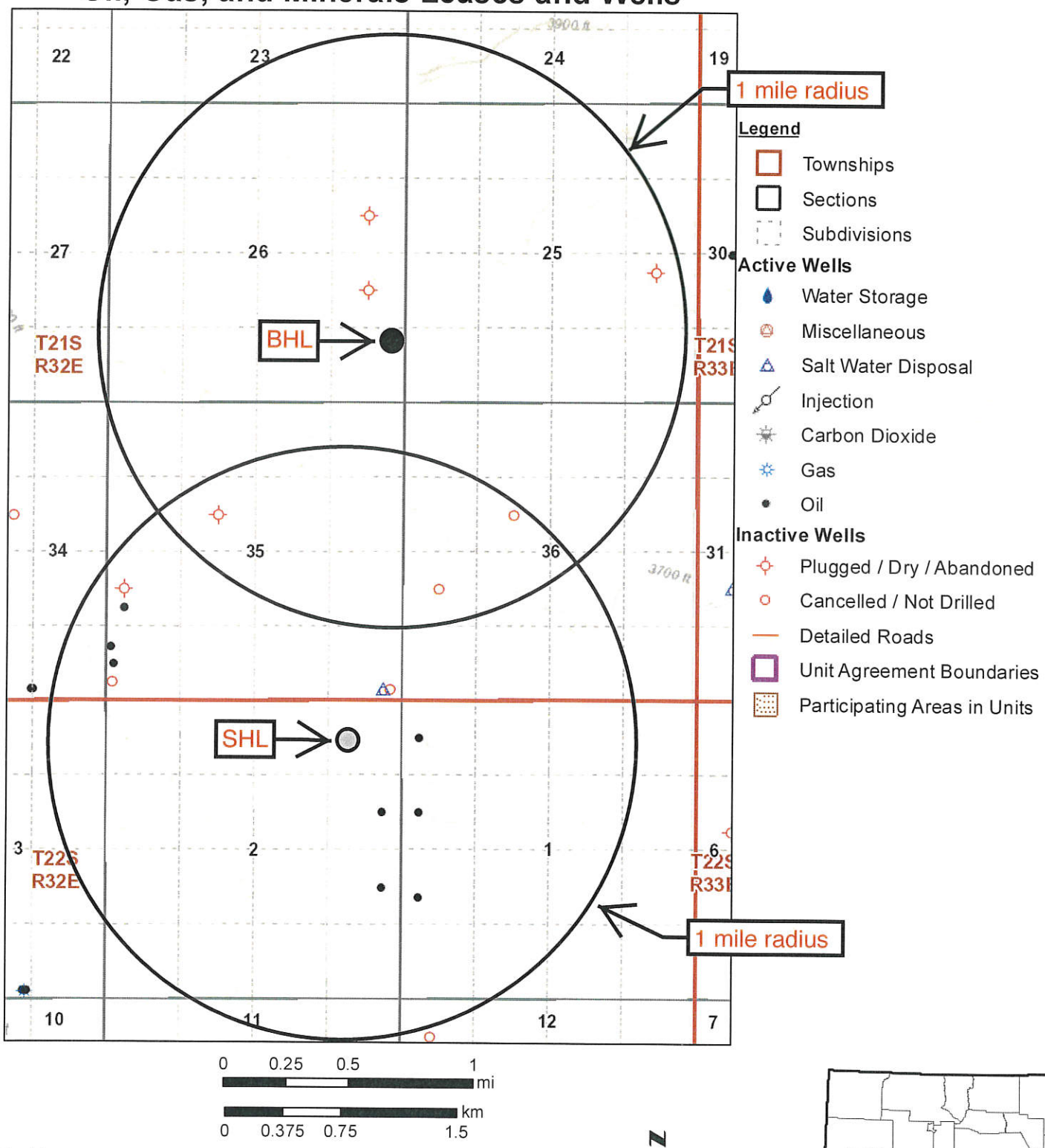
W.O. Number: 35112	Drawn By: K. GOAD	Date: 07–23–2020	Survey Date: 07–22–2020	Sheet 1 of 1 Sheets

New Mexico State Land Office

MAP 6

Oil, Gas, and Minerals Leases and Wells



Disclaimer:
The New Mexico State Land Office assumes no responsibility or liability for, or in connection with the accuracy, reliability or use of the information provided herein with respect to State Land Office data or data from other sources.

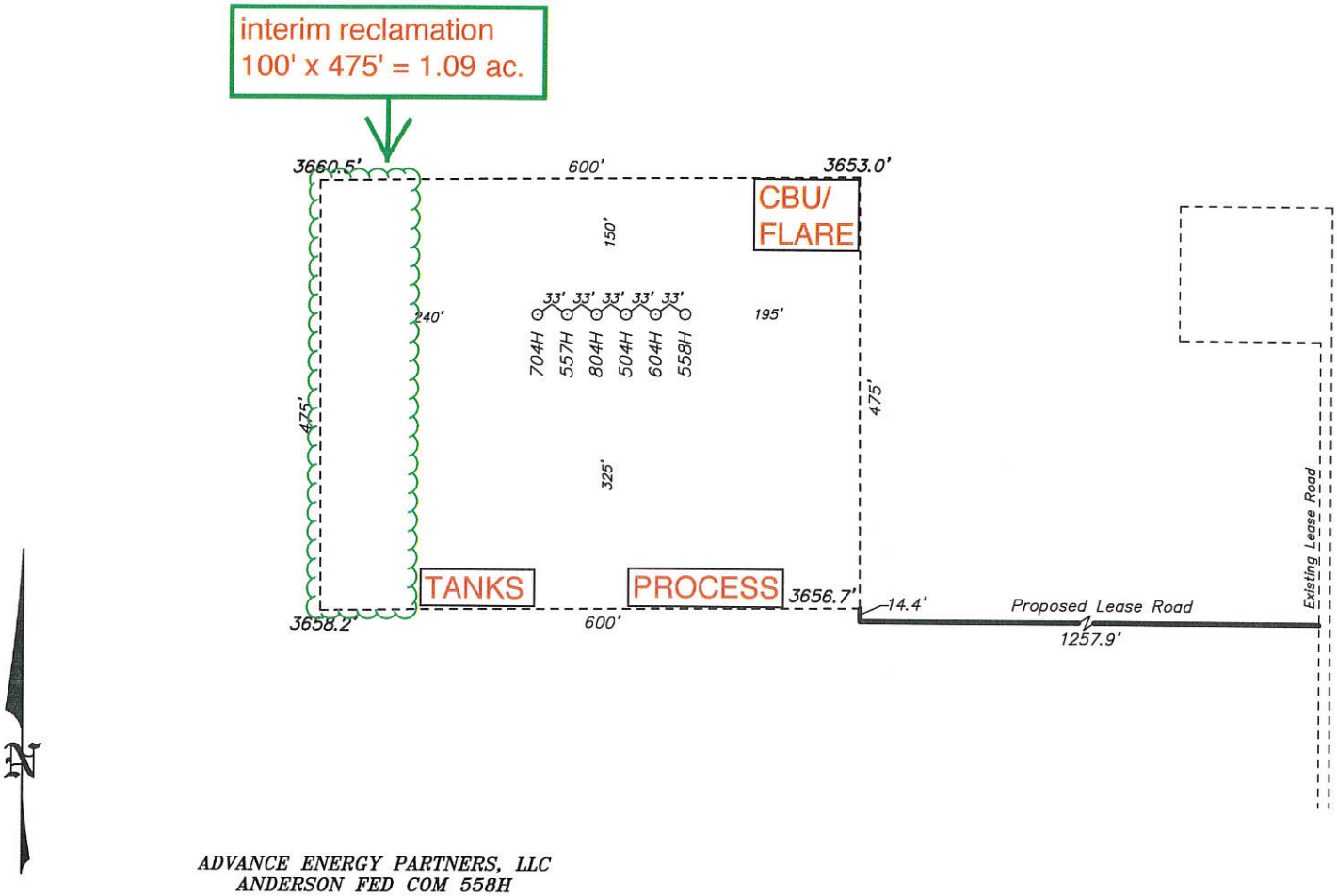
Data pertaining to New Mexico State Trust Lands are provisional and subject to revision, and do not constitute an official record of title. Official records may be reviewed at the New Mexico State Land Office in Santa Fe, New Mexico.

Map Created: 8/26/2020

SECTION 2, TOWNSHIP 22 SOUTH, RANGE 32 EAST. N.M.P.M.,

LEA COUNTY, NEW MEXICO.

MAP 7



ADVANCE ENERGY PARTNERS, LLC
ANDERSON FED COM 558H
ELEV. – 3657'

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Long – W 103.639840°
NMSPCE– N 529526.1
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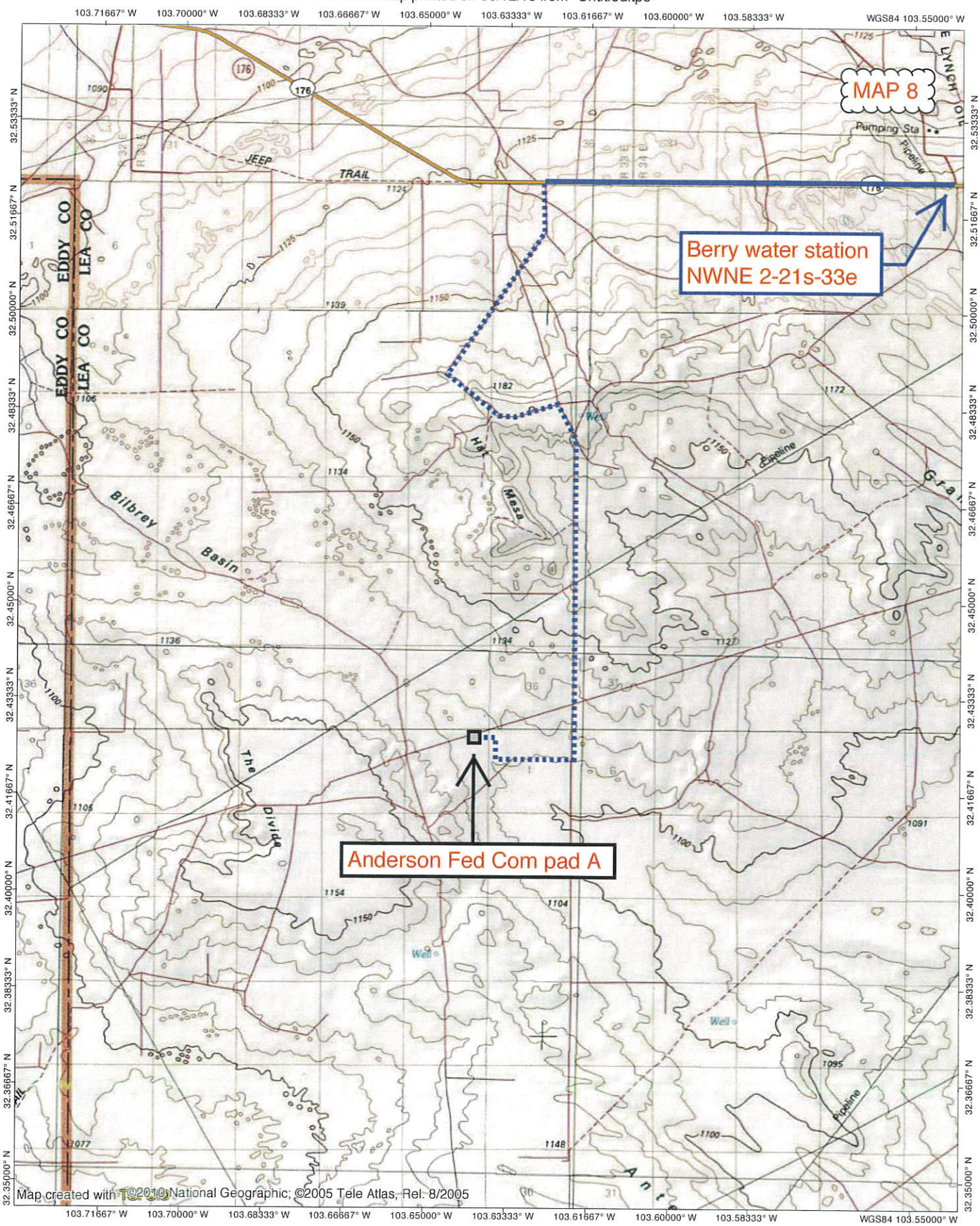
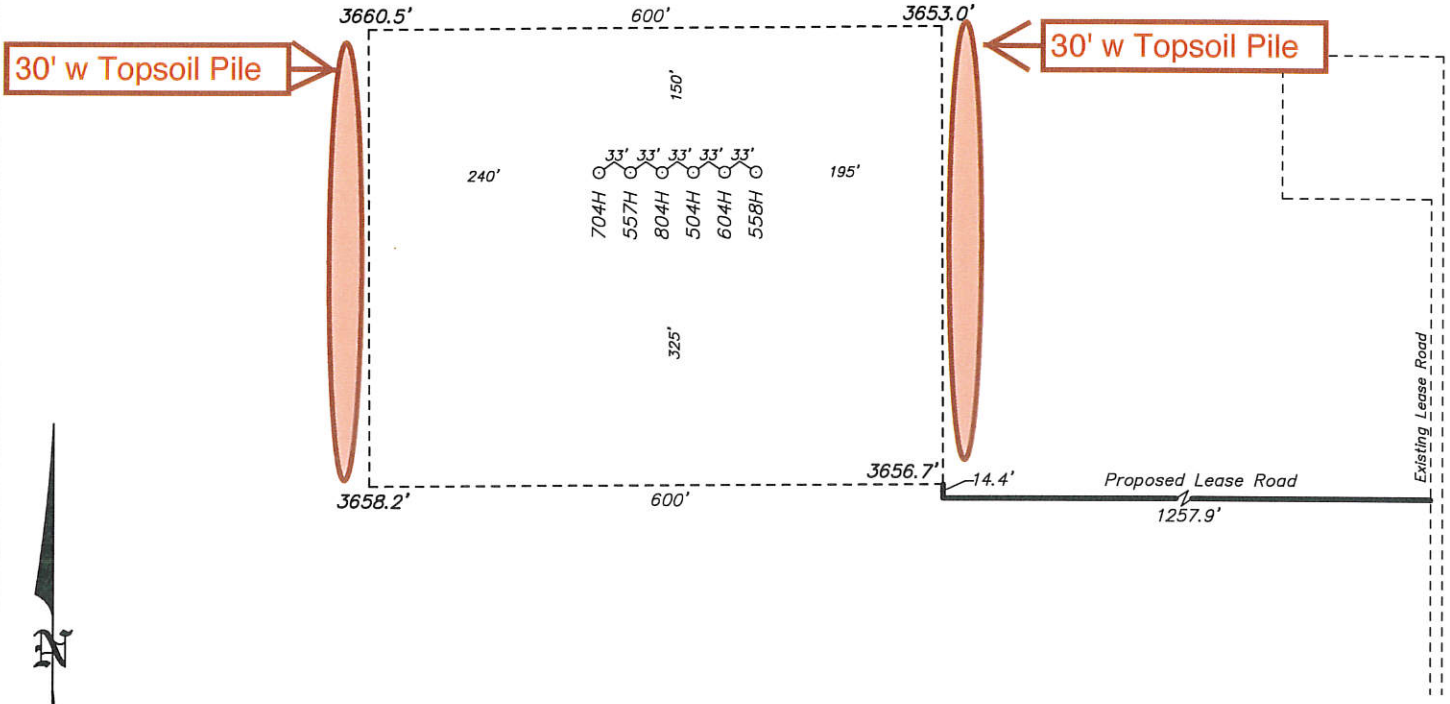
TOPO! map printed on 06/12/18 from "Untitled.tpo"



SECTION 2, TOWNSHIP 22 SOUTH, RANGE 32 EAST. N.M.P.M.,

LEA COUNTY, NEW MEXICO.

MAP 9a



ADVANCE ENERGY PARTNERS, LLC
ANDERSON FED COM 558H
ELEV. – 3657'

Lat – N 32.426335°
Long – W 103.639840°
NMSPCE– N 529526.1
E 755313.7
(NAD–83)

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

200 0 200 400 FEET

SCALE: 1" = 200'

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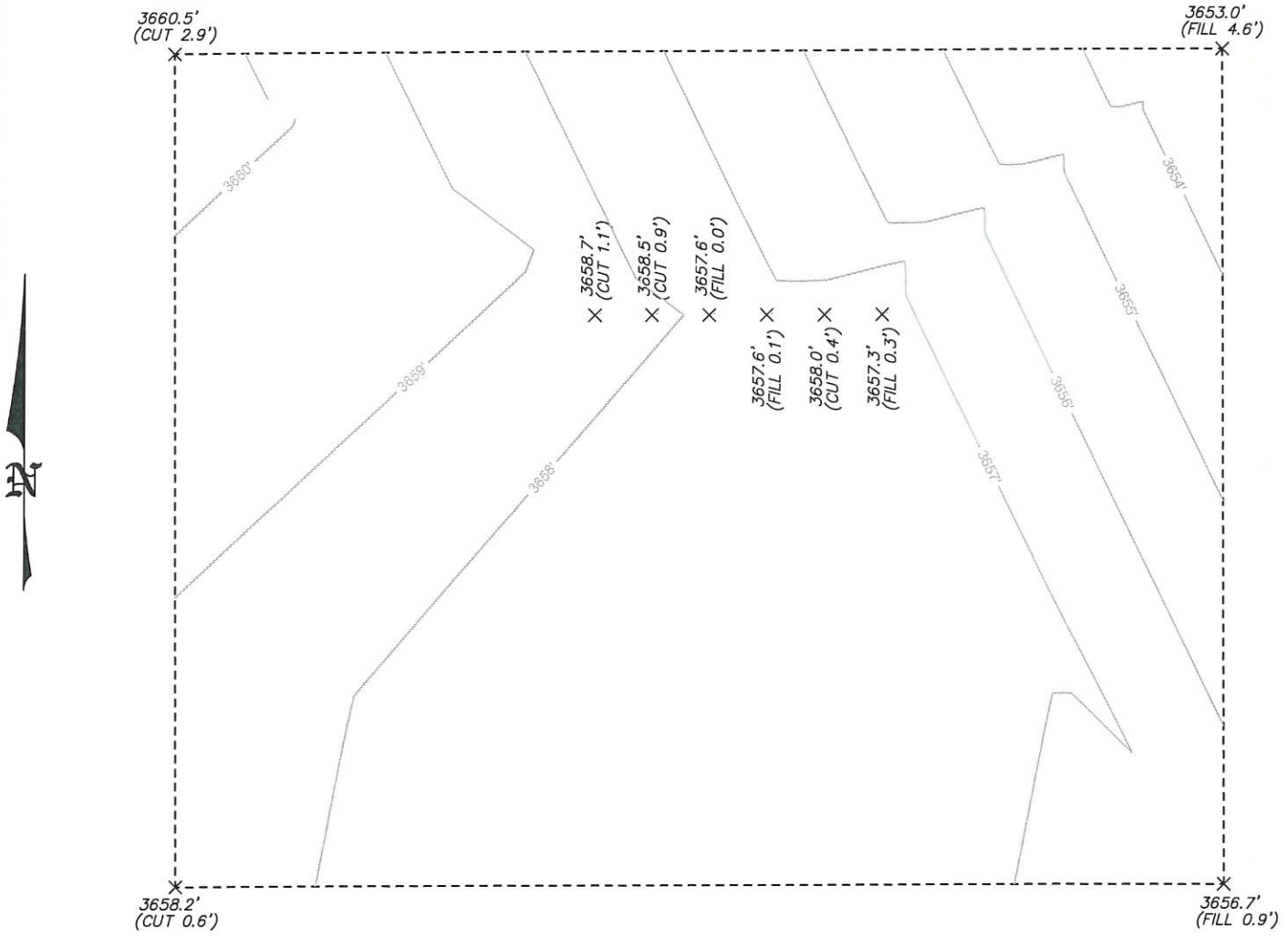
W.O. Number: 35112	Drawn By: K. GOAD	Date: 07–23–2020	Survey Date: 07–22–2020	Sheet 1 of 1 Sheets

SECTION 2, TOWNSHIP 22 SOUTH, RANGE 32 EAST. N.M.P.M.,

LEA COUNTY, NEW MEXICO.

MAP 9b



100 0 100 200 FEET

SCALE: 1" = 100'

ADVANCE ENERGY PARTNERS, LLC

REF: ANDERSON FED COM PAD A / CUT & FILL

THE ANDERSON FED COM PAD A LOCATED IN

SECTION 2, TOWNSHIP 22 SOUTH, RANGE 32 EAST.

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

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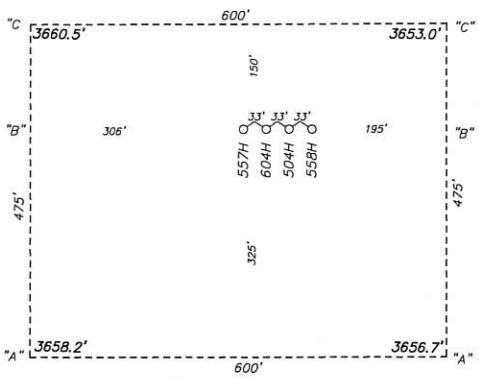
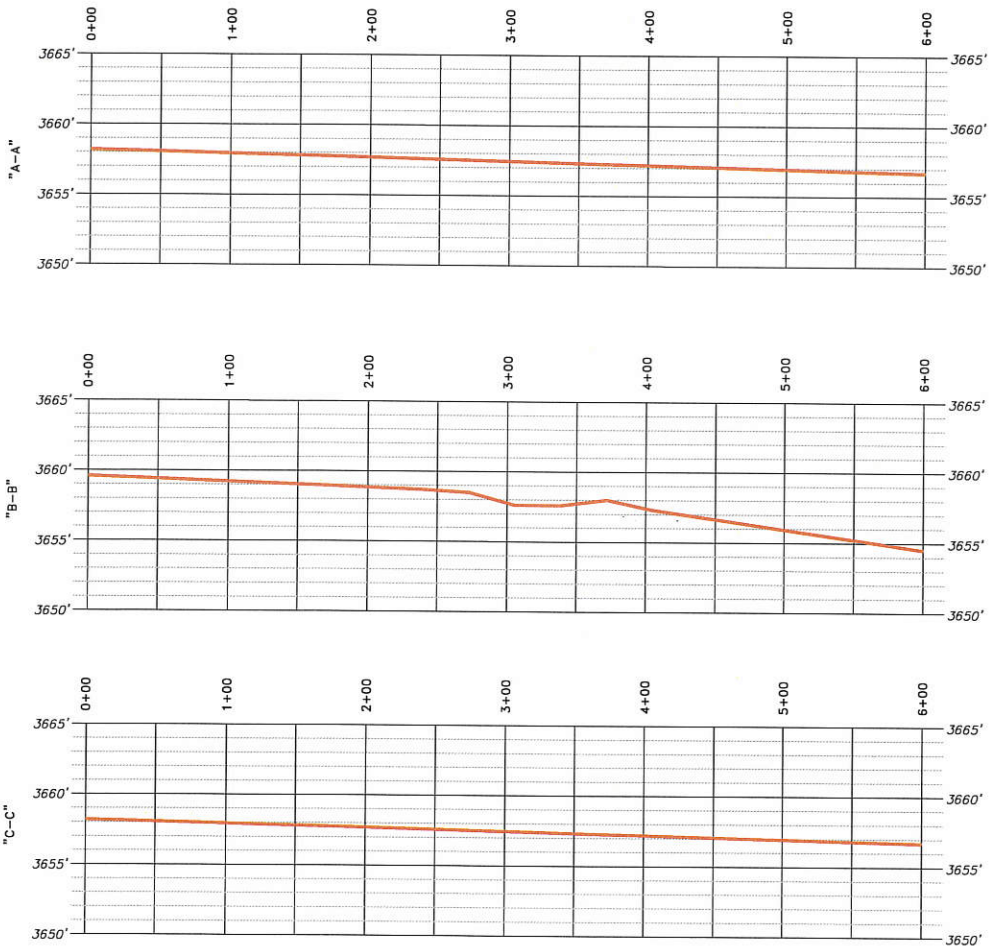
SECTION 2, TOWNSHIP 22 SOUTH, RANGE 32 EAST. N.M.P.M.,

LEA COUNTY, NEW MEXICO.

MAP 9c



SCALE: 1" = 200'



CROSS SECTION
HORIZONTAL 1"=100'
VERTICAL 1"=50'

I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD NOTES OF AN ACTUAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.

GARY L. JONES NEW MEXICO 7977 REGISTERED PROFESSIONAL LAND SURVEYOR

GARY L. JONES, N.M. P.S. No. 7977
TEXAS P.S. No. 5074

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ADVANCE ENERGY PARTNERS HAT MESA

REF: ANDERSON FED COM PAD A / CROSS-SECTION

THE ANDERSON FED COM PAD A LOCATED IN
SECTION 2, TOWNSHIP 22 SOUTH, RANGE 32 EAST.
N.M.P.M., LEA COUNTY, NEW MEXICO.

W.O. Number: 35112	Drawn By: K. GOAD	Date: 07-23-2020	Survey Date: 07-22-2020	Sheet 1 of 1 Sheets

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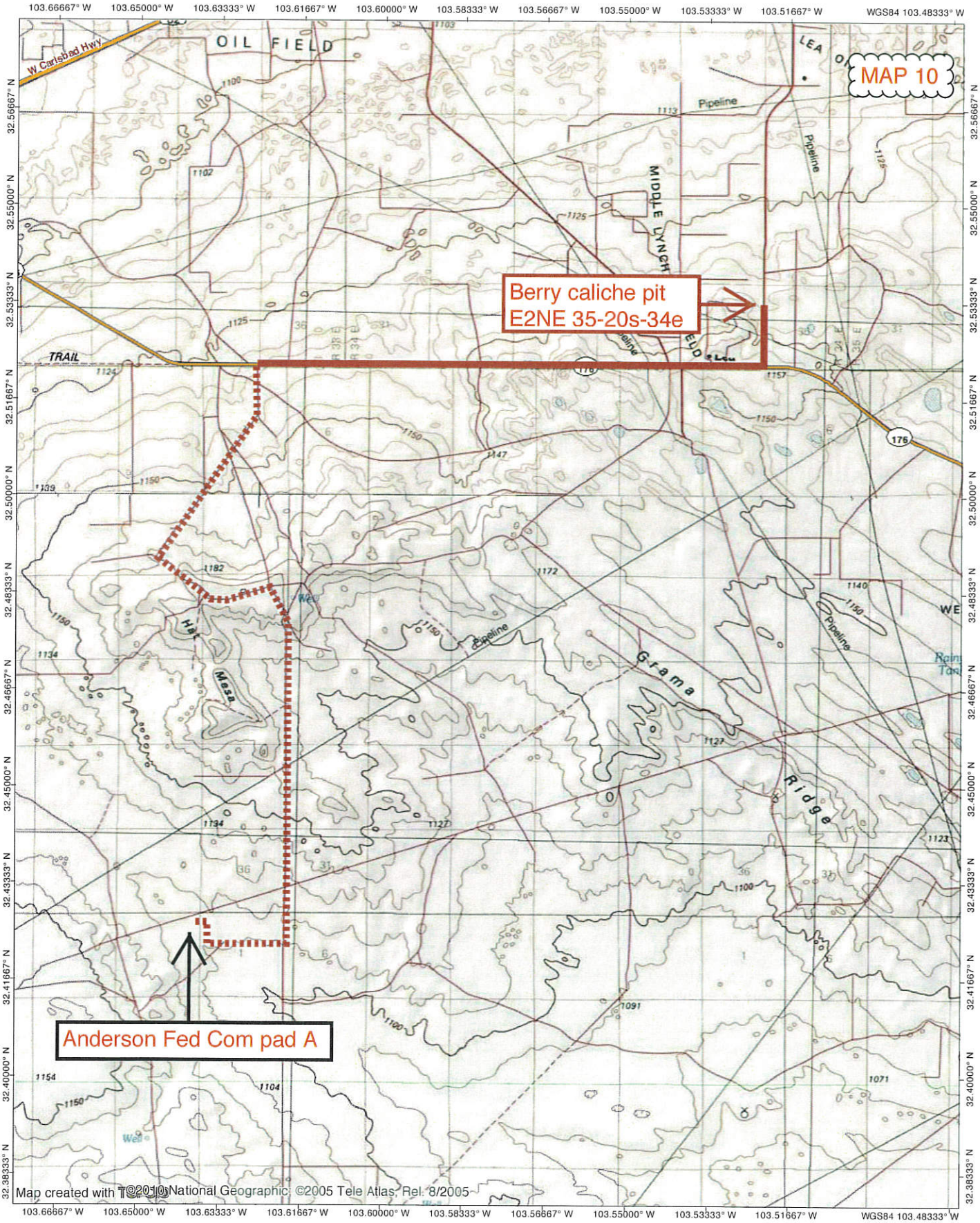


Map created with TOPO! ©2010 National Geographic. ©2005 Tele Atlas, Rel. 8/2005

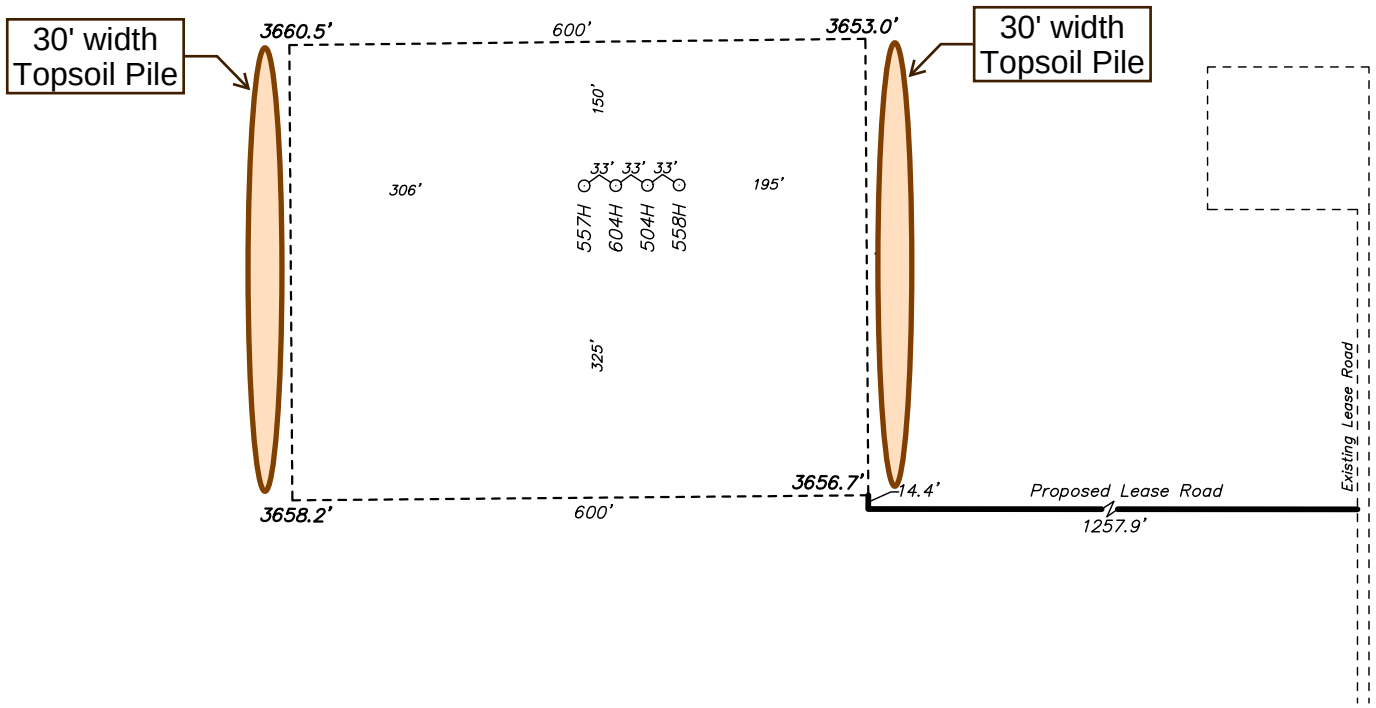
NATIONAL GEOGRAPHIC

0.0 0.5 1.0 1.5 2.0 2.5 3.0 miles
0 1 2 3 4 5 km

TN MN 7° 06/14/18

SECTION 2, TOWNSHIP 22 SOUTH, RANGE 32 EAST. N.M.P.M.,

LEA COUNTY, NEW MEXICO.



N

ADVANCE ENERGY PARTNERS HAT MESA, LLC
ANDERSON FED COM 504H
ELEV. – 3658'

Lat – N 32.426334°
Long – W 103.639947°
NMSPCE– N 519525.8
E 755280.7
(NAD–83)

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

200 0 200 400 FEET

SCALE: 1" = 200'

GARY L. JONES NEW MEXICO 7977 REGISTERED PROFESSIONAL LAND SURVEYOR

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ADVANCE ENERGY PARTNERS HAT MESA, LLC

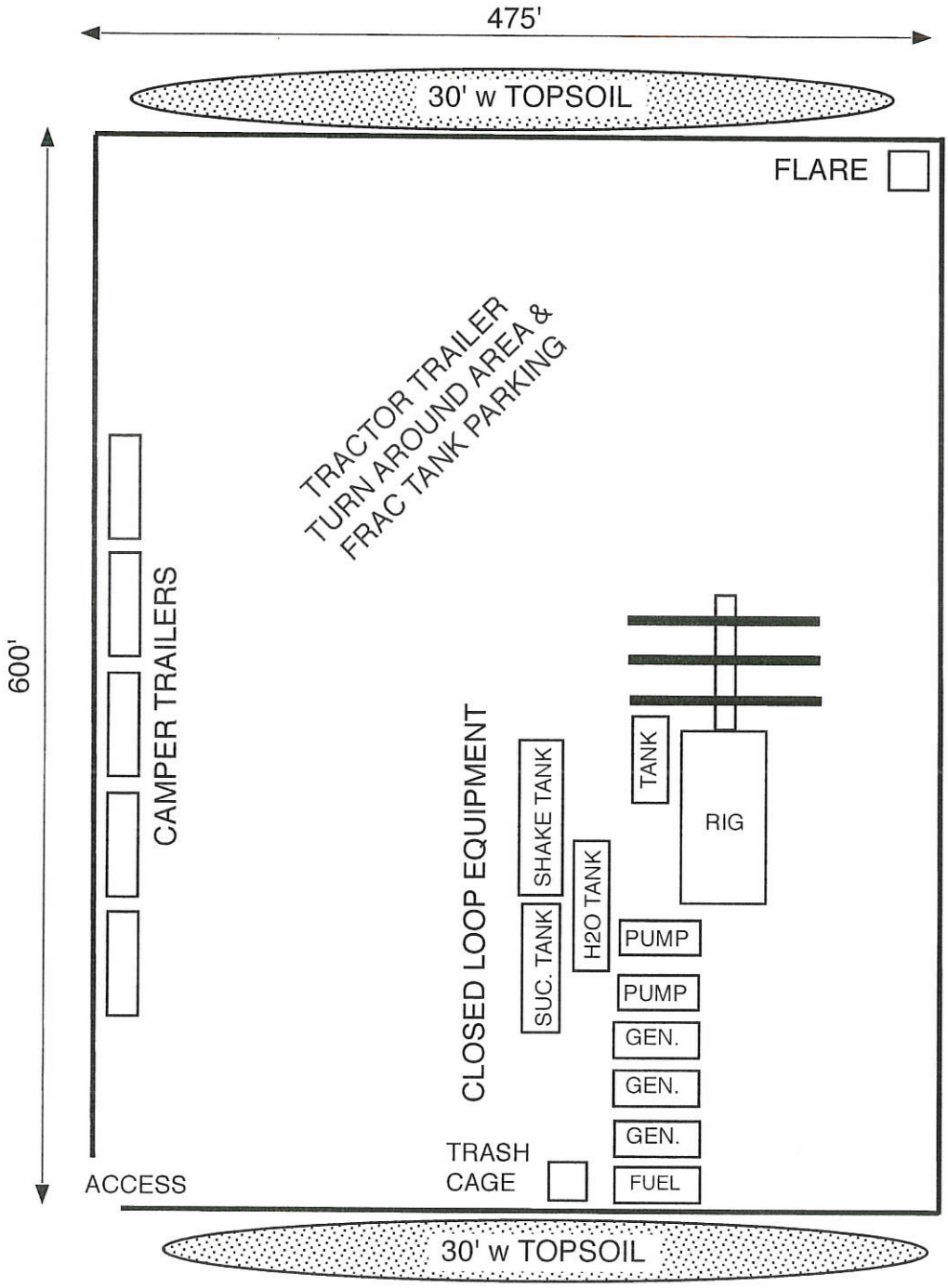
REF: ANDERSON FED COM 504H / WELL PAD TOPO

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.

W.O. Number: 35112	Drawn By: K. GOAD	Date: 07–23–2020	Survey Date: 07–22–2020	Sheet 1 of 1 Sheets

Adavance Energy's
Anderson Fed Com
rig diagram

1" = 100'
NORTH

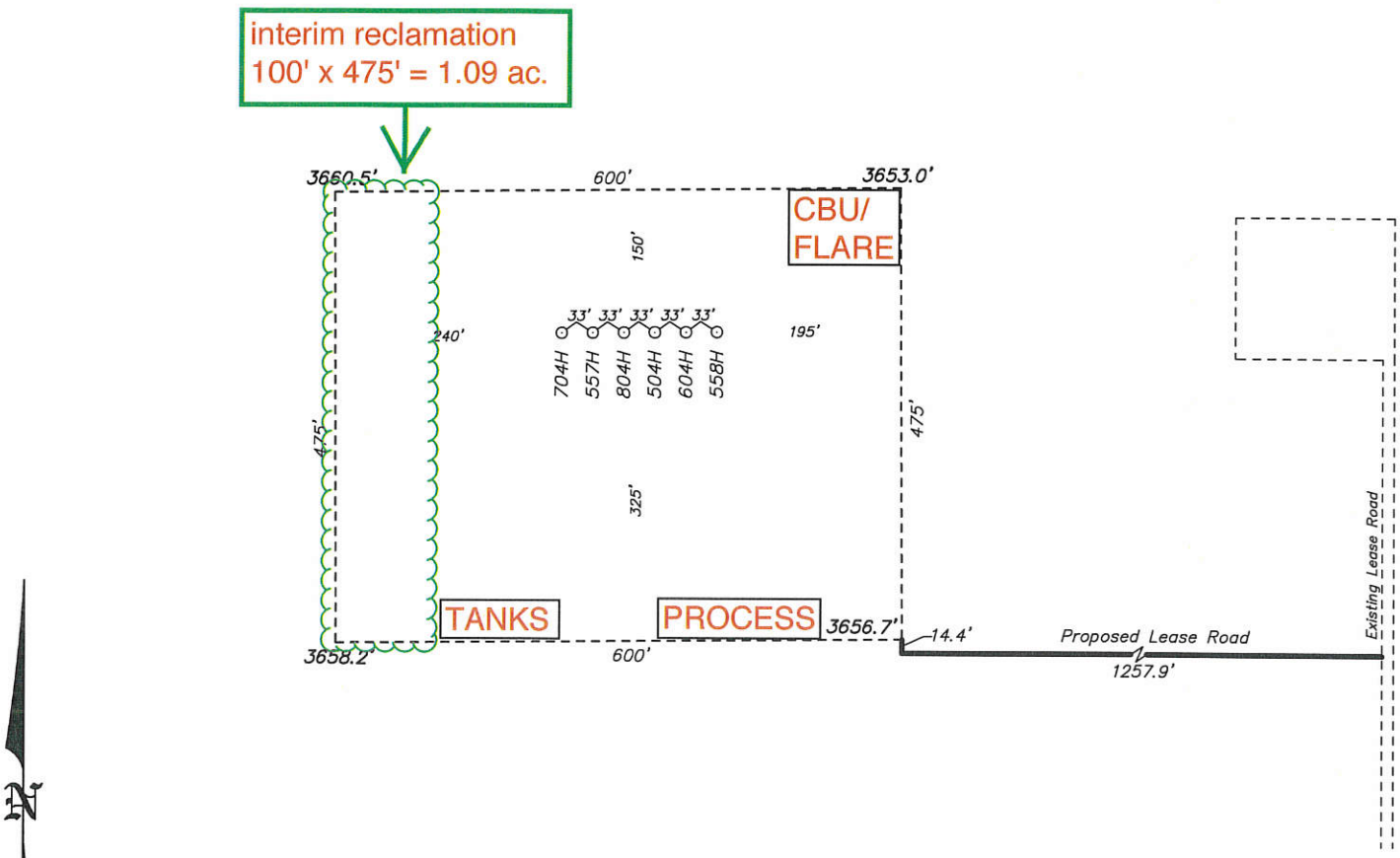


PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS

SECTION 2, TOWNSHIP 22 SOUTH, RANGE 32 EAST. N.M.P.M.,

LEA COUNTY, NEW MEXICO.

MAP 11



ADVANCE ENERGY PARTNERS, LLC
ANDERSON FED COM 558H
ELEV. – 3657'

Lat – N 32.426335°
Long – W 103.639840°
NMSPCE– N 529526.1
E 755313.7
(NAD–83)

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200 0 200 400 FEET

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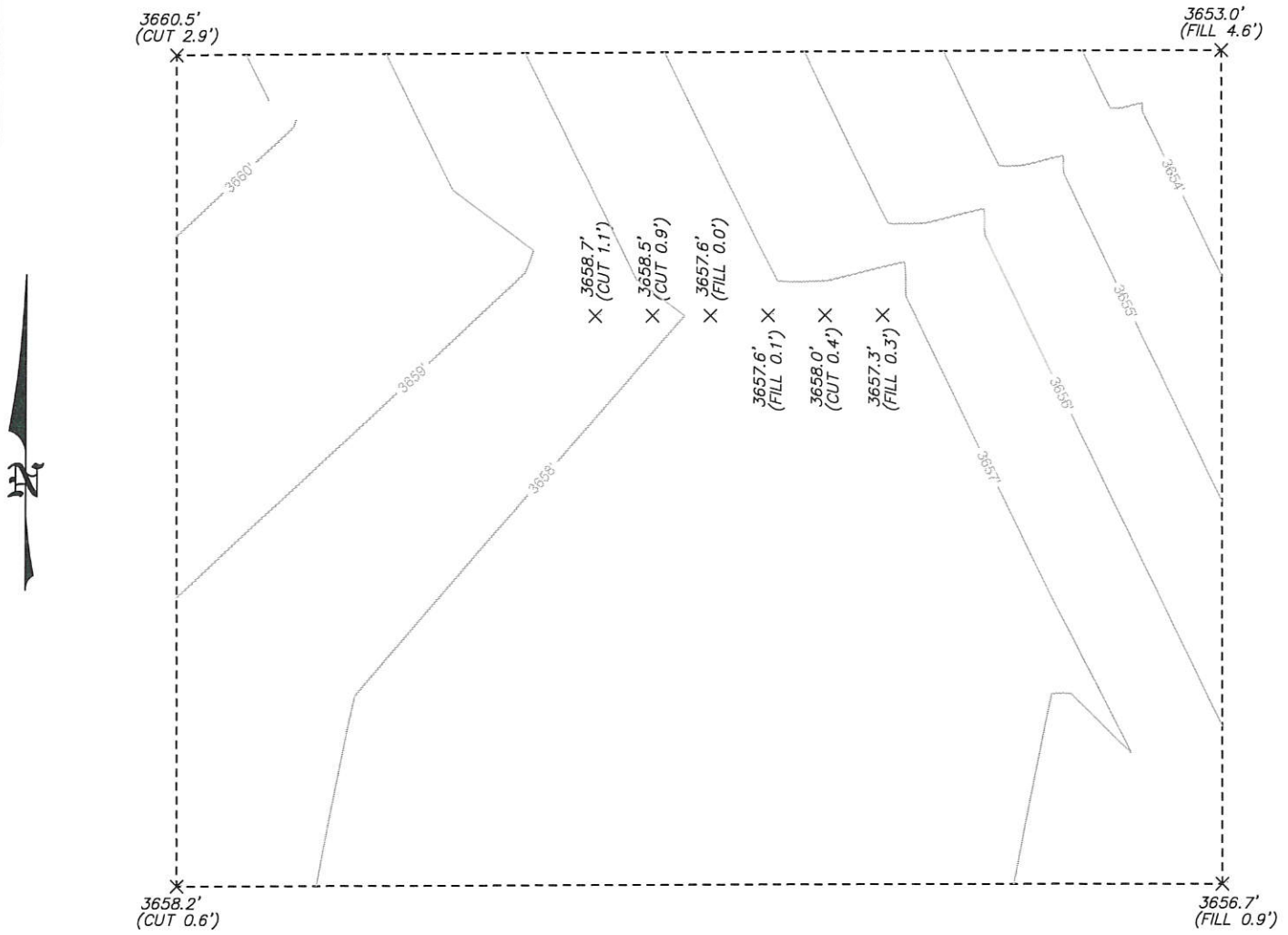
W.O. Number: 35112	Drawn By: K. GOAD	Date: 07–23–2020	Survey Date: 07–22–2020	Sheet 1 of 1 Sheets

SECTION 2, TOWNSHIP 22 SOUTH, RANGE 32 EAST. N.M.P.M.,

LEA COUNTY, NEW MEXICO.

MAP 12



100 0 100 200 FEET

SCALE: 1" = 100'

ADVANCE ENERGY PARTNERS, LLC

REF: ANDERSON FED COM PAD A / CUT & FILL

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SECTION 2, TOWNSHIP 22 SOUTH, RANGE 32 EAST.

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

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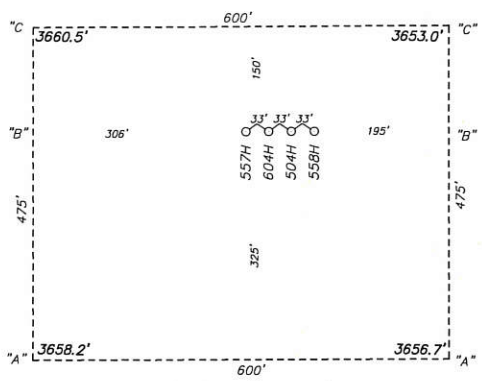
W.O. Number: 35112	Drawn By: K. GOAD	Date: 07-23-2020	Survey Date: 07-22-2020	Sheet 1 of 1 Sheets

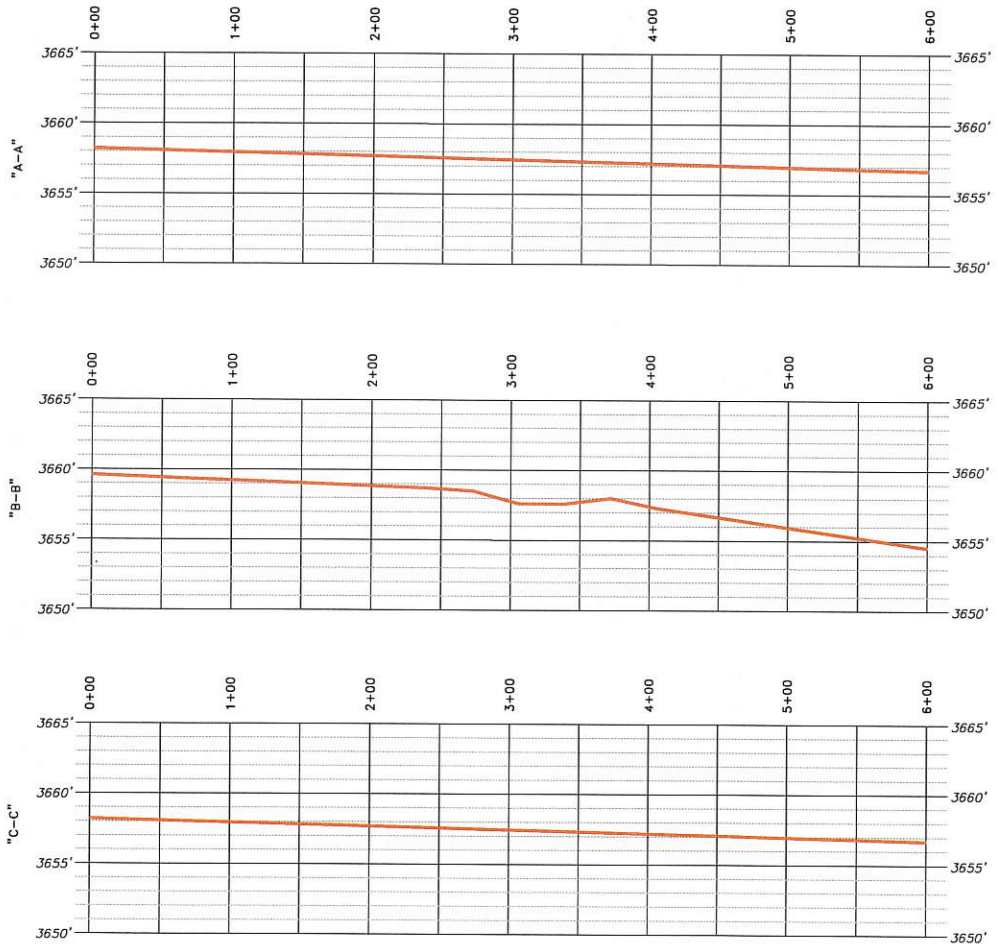
SECTION 2, TOWNSHIP 22 SOUTH, RANGE 32 EAST. N.M.P.M.,

LEA COUNTY, NEW MEXICO.

MAP 13



SCALE: 1" = 200'



N

CROSS SECTION
HORIZONTAL 1"=100'
VERTICAL 1"=50'

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ADVANCE ENERGY PARTNERS HAT MESA

REF: ANDERSON FED COM PAD A / CROSS-SECTION

THE ANDERSON FED COM PAD A LOCATED IN SECTION 2, TOWNSHIP 22 SOUTH, RANGE 32 EAST. N.M.P.M., LEA COUNTY, NEW MEXICO.

W.O. Number: 35112	Drawn By: K. GOAD	Date: 07-23-2020	Survey Date: 07-22-2020	Sheet 1 of 1 Sheets

Advance Energy Partners Hat Mesa, LLC
Anderson Fed Com 558H
SHL: 630' FNL & 925' FEL Sec. 2
T. 22 S., R. 32 E., Lea County, NM

SURFACE PLAN PAGE 1

"Anderson Fed Com pad A"

Surface Use Plan

1. ROAD DIRECTIONS & DESCRIPTIONS (See MAPS 1 – 5)

From the junction of US 285 and US 62/180 in Carlsbad...
Go NE 32.8 miles on US 62/180 to the equivalent of Mile Post 67.8
Then turn right and go East 6.4 miles on paved NM 176
Then turn right and go South 0.6 mile on a caliche road to a junction
Then bear right and go SW 1.6 miles on a caliche road
Then turn left and go SE 0.85 mile on a caliche road
Then turn left at a caliche pit and go E 1.3 miles on a caliche road
Then bear right and go S 3.9 miles on a caliche road
Then turn right and go West 0.9 mile on a caliche road
Then turn right and go N ¼ mile on a caliche road to just before an Oxy pad
Then turn left and go West 1272.3' cross-country to the proposed pad

Non-state roads will be maintained as needed to Gold Book standards. This includes pulling ditches, preserving the crown, and cleaning culverts. This will be done at least once a year, and more often as needed.

2. ROAD TO BE BUILT OR UPGRADED (See MAPS 3 - 5)

The 1272.3' of new resource road will be crowned and ditched, have a 14' wide driving surface, and be surfaced with caliche. Maximum disturbed width = 30'. Maximum grade = 2%. Maximum cut or fill = 3'. No culvert, cattle guard, or vehicle turn out is needed. Upgrading will consist of draining with a culvert and/or filling with caliche a 150' long low spot midway along the 0.9 mile road segment in 1-22s-32e.

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS

Advance Energy Partners Hat Mesa, LLC
Anderson Fed Com 558H
SHL: 630' FNL & 925' FEL Sec. 2
T. 22 S., R. 32 E., Lea County, NM

SURFACE PLAN PAGE 2

"Anderson Fed Com pad A"

3. EXISTING WELLS (See MAP 6)

Existing oil, gas, SWD, water, and P & A wells are within a mile. No injection well is within a mile radius.

4. PROPOSED PRODUCTION FACILITIES (See MAP 7)

Process equipment and tanks will be set on the south side of the pad. Flare and/or CBU will be set on the northeast corner of the pad. No power line or off pad pipeline is planned at this time.

5. WATER SUPPLY (See MAP 8)

Water will be trucked from an existing water station on private land. Berry's water station (CP 00802) is in NWNE 2-21s-33e.

6. CONSTRUCTION MATERIALS & METHODS (See MAPS 9 & 10)

NM One Call (811) and Oxy USA Inc. will be notified before construction starts. Top ≈6" of soil and brush will be stockpiled east and west of the well pad. V-door will face west. Closed loop drilling system will be used. Caliche will be hauled from an existing caliche pit on private (Berry) land in E2NE4 35-20s-34e.

7. WASTE DISPOSAL

All trash will be placed in a portable trash cage. It will be hauled to the Lea County landfill. There will be no trash burning. Contents (drill cuttings, mud, salts, and other chemicals) of the mud tanks will be hauled to R360's state approved (NM-01-0006) disposal site at Halfway. Human waste will be disposed of in chemical toilets and hauled to the Hobbs wastewater treatment plant.

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8. ANCILLARY FACILITIES

There will be no airstrip or camp. Camper trailers will be on location for the company man, tool pusher, and mud logger.

9. WELL SITE LAYOUT (See MAP 11)

Also see Rig Layout diagram for depictions of the well pad, trash cage, access onto the location, parking, living facilities, and rig orientation.

10. RECLAMATION (See MAPS 11 - 13)

Interim reclamation will consist of reclaiming a 100' wide swath on the west side of the pad. Once the well is plugged, then the pad and new road will be reclaimed within 6 months of plugging. Disturbed areas will be contoured to match pre-construction grades. Soil and brush will be evenly spread over disturbed areas and harrowed on the contour. Disturbed areas will be seeded in accordance with BLM requirements. Road will be blocked. Noxious weeds will be controlled.

Land use:

30' x 1272.3' road = 0.88 acre
+ 475' x 600' pad = 6.54 acres
7.42 acres short term
- 100' x 475' = 1.09 acres interim reclamation
6.33 acres long term

11. SURFACE OWNER

All construction will be on BLM. BLM office is the Carlsbad Field Office, 620 E. Greene, Carlsbad NM 88220. Phone is 575 234-5972.

Advance Energy Partners Hat Mesa, LLC
Anderson Fed Com 558H
SHL: 630' FNL & 925' FEL Sec. 2
T. 22 S., R. 32 E., Lea County, NM

SURFACE PLAN PAGE 4

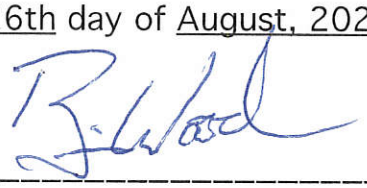
"Anderson Fed Com pad A"

12. OTHER INFORMATION

On-site inspection was held with Jim Rutley (BLM) in January 2018. Ascent contributed to the archaeology fund during the 704H approval process. Anderson Fed Com 704H was approved (30-025-46532) by BLM on November 14, 2019. Pad has since been rotated and reduced in size.

CERTIFICATION

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U. S. C. 1001 for the filing of false statements. Executed this 26th day of August, 2020.



Brian Wood, Consultant
Permits West, Inc.
37 Verano Loop, Santa Fe, NM 87508
(505) 466-8120 FAX: (505) 466-9682 Cellular: (505) 699-2276

Field representative will be:
Braden Harris, Drilling Manager
Advance Energy Partners Hat Mesa, LLC
11490 Westheimer Rd., Suite 950, Houston TX 77077
Office: (832) 672-4700 Cell: (406) 600-3310

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS

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

PWD Data Report
11/13/2024

APD ID: 10400061009 **Submission Date:** 09/01/2020

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

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

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined

Would you like to utilize Lined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit

Pit liner description:

Pit liner manufacturers

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule

Lined pit reclamation description:

Lined pit reclamation

Leak detection system description:

Leak detection system

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

Lined pit Monitor description:

Lined pit Monitor

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information

Section 3 - Unlined

Would you like to utilize Unlined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD disturbance (acres): **PWD surface owner:**

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule

Unlined pit reclamation description:

Unlined pit reclamation

Unlined pit Monitor description:

Unlined pit Monitor

Do you propose to put the produced water to beneficial use?

Beneficial use user

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic

State

Unlined Produced Water Pit Estimated

Unlined pit: do you have a reclamation bond for the pit?

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information

Section 4 -

Would you like to utilize Injection PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: **Injection well name:**

Assigned injection well API number? **Injection well API number:**

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection

Underground Injection Control (UIC) Permit?

UIC Permit

Section 5 - Surface

Would you like to utilize Surface Discharge PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 -

Would you like to utilize Other PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Other PWD discharge volume (bbl/day):

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

Other PWD type description:

Other PWD type

Have other regulatory requirements been met?

Other regulatory requirements

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

Bond Info Data

11/13/2024

APD ID: 10400061009 **Submission Date:** 09/01/2020

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: ANDERSON FED COM **Well Number:** 558H

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

Highlighted data reflects the most recent changes

Show Final Text

Bond

Federal/Indian APD: FED

BLM Bond number:

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

CONDITIONS

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 403467
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
matthew.gomez	None	11/14/2024