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

HOBBS OCD
DEC 30 2019
RECEIVED

5. Lease Serial No. NMNM0160973	
6. If Indian, Allotee or Tribe Name	
1a. Type of work: ☑ DRILL ☐ REENTER	7. If Unit or CA Agreement, Name and No. NMNM082045
1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other	8. Lease Name and Well No. MESA B 8115 FED COM 17H (326144)
1c. Type of Completion: ☐ Hydraulic Fracturing ☑ Single Zone ☐ Multiple Zone	
2. Name of Operator BTA OIL PRODUCERS LLC (260297)	9. API Well No. 30-025-46667
3a. Address 104 S. Pecos Midland TX 79701	3b. Phone No. *(include area code)* (432)682-3753
4. Location of Well *(Report location clearly and in accordance with any State requirements.*)* At surface NENE / 490 FNL / 800 FEL / LAT 32.06395 / LONG -103.60543 At proposed prod. zone SWSE / 50 FSL / 2310 FEL / LAT 32.050924 / LONG -103.610292	10. Field and Pool, or Exploratory (98097) SANDERS TANK / UPPER WOLFCAMP
	11. Sec., T. R. M. or Blk. and Survey or Area SEC 7 / T26S / R33E / NMP
14. Distance in miles and direction from nearest town or post office* 30 miles	12. County or Parish LEA / 13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 490 feet	16. No of acres in lease 1238.72 / 17. Spacing Unit dedicated to this well 160
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 2570 feet	19. Proposed Depth 12700 feet / 17789 feet / 20. BLM/BIA Bond No. in file FED: NMB001711
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3283 feet	22. Approximate date work will start* 05/10/2019 / 23. Estimated duration 30 days

24. Attachments

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

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

25. Signature (Electronic Submission)	Name *(Printed/Typed)* Sammy Hajar / Ph: (432)682-3753	Date 12/10/2018
Title Regulatory Analyst		
Approved by *(Signature)* (Electronic Submission)	Name *(Printed/Typed)* Cody Layton / Ph: (575)234-5959	Date 12/13/2019
Title Assistant Field Manager Lands & Minerals	Office CARLSBAD	

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.

OCD Rec'd 12/30/19

KZ 01/02/20

APPROVED WITH CONDITIONS

Approval Date: 12/13/2019

(Continued on page 2)

*(Instructions on page 2)

INSTRUCTIONS

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

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

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

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the 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.

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Additional Operator Remarks

Location of Well

1. SHL: NENE / 490 FNL / 800 FEL / TWSP: 26S / RANGE: 33E / SECTION: 7 / LAT: 32.06395 / LONG: -103.60543 (TVD: 0 feet, MD: 0 feet)
   PPP: NWNE / 100 FNL / 2310 FEL / TWSP: 26S / RANGE: 33E / SECTION: 7 / LAT: 32.065019 / LONG: -103.610305 (TVD: 12030 feet, MD: 12146 feet)
   BHL: SWSE / 50 FSL / 2310 FEL / TWSP: 26S / RANGE: 33E / SECTION: 7 / LAT: 32.050924 / LONG: -103.610292 (TVD: 12700 feet, MD: 17789 feet)

BLM Point of Contact

Name: Tanja Baca
Title: Admin Support Assistant
Phone: 5752345940
Email: tabaca@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
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	BTA OIL PRODUCERS, LLC
LEASE NO.:	NMNM0160973
WELL NAME & NO.:	17H – MESA B 8115 FED COM
SURFACE HOLE FOOTAGE:	505'/N & 1340'/E
BOTTOM HOLE FOOTAGE	50'/S & 2310'/E
LOCATION:	SECTION 7, T26S, R33E, NMPM
COUNTY:	LEA

COA

H2S	○ Yes	◉ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	○ Low	◉ Medium	○ High
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.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **875 feet** (a minimum of 25 feet 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 **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

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

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

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing shall be set at approximately **4730 feet** is:

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

❖ In Medium Cave/Karst 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 **7** inch production casing is:

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

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

- Cement should tie-back **100 feet** into the previous casing. 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.

Option 1:

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

b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing

shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

Option 2:

1. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 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 Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, 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)

☒ Chaves and Roosevelt Counties
Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
During office hours call (575) 627-0272.
After office hours call (575)

☒ 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.

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.

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: 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.

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

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

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

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

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

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

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	BTA Oil Producers LLC
LEASE NO.:	NMNM082045
COUNTY:	Lea County, NM

Wells:

Mesa B 8115 Fed Com 14H
Surface Hole Location: 400' FNL & 800' FEL, Section 7, T. 26 S., R. 33 E.
Bottom Hole Location: 50' FSL & 330' FEL, Section 7, T. 26 S, R 33 E.

Mesa B 8115 Fed Com 15H
Surface Hole Location: 430' FNL & 800' FEL, Section 7, T. 26 S., R. 33 E.
Bottom Hole Location: 50' FSL & 990' FEL, Section 7, T. 26 S, R 33 E.

Mesa B 8115 Fed Com 16H
Surface Hole Location: 460' FNL & 800' FEL, Section 7, T. 26 S., R. 33 E.
Bottom Hole Location: 50' FSL & 1650' FEL, Section 7, T. 26 S, R 33 E.

Mesa B 8115 Fed Com 17H
Surface Hole Location: 490' FNL & 800' FEL, Section 7, T. 26 S., R. 33 E.
Bottom Hole Location: 50' FSL & 2310' FEL, Section 7, T. 26 S, R 33 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.

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 resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder 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 will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See information below discussing NAGPRA.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder 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 will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

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)

Watershed:
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.

Karst:

CONSTRUCTION MITIGATION

In order to mitigate the impacts from construction activities on cave and karst resources, the following Conditions of Approval will apply to this APD or project:

General Construction:

- No blasting
- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction, and no additional construction shall occur until clearance has been issued by the Authorized Officer.
- All linear surface disturbance activities will avoid sinkholes and other karst features to lessen the possibility of encountering near surface voids during construction, minimize changes to runoff, and prevent untimely leaks and spills from entering the karst drainage system.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

Pad Construction:

- The pad will be constructed and leveled by adding the necessary fill and caliche – no blasting.
- The entire perimeter of the well pad 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 high with impermeable mineral material (e.g., caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- 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.
- 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 access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised (i.e. an access road crossing the berm cannot be lower than the berm height).
- Following a rain event, all fluids will vacuumed off of the pad and hauled off-site and disposed at a proper disposal facility.

Road Construction:

- Turnout ditches and drainage leadoffs will not be constructed in such a manner as to alter the natural flow of water into or out of cave or karst features.
- Special restoration stipulations or realignment may be required if subsurface features are discovered during construction.

Buried Pipeline/Cable Construction:

- Rerouting of the buried line(s) may be required if a subsurface void is encountered during construction to minimize the potential subsidence/collapse of the feature(s) as well as the possibility of leaks/spills entering the karst drainage system.

Powerline Construction:

- Smaller powerlines will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems.
- Larger powerlines will adjust their pole spacing to avoid cave and karst features.
- Special restoration stipulations or realignment may be required if subsurface voids are encountered.

Surface Flowlines Installation:

- Flowlines will be routed around sinkholes and other karst features to minimize the possibility of leaks/spills from entering the karst drainage system.

DRILLING MITIGATION

Federal regulations and standard Conditions of Approval applied to all APDs require that adequate measures are taken to prevent contamination to the environment. Due to the extreme sensitivity of the cave and karst resources in this project area, the following additional Conditions of Approval will be added to this APD.

To prevent cave and karst resource contamination the following will be required:

- Closed loop system using steel tanks - all fluids and cuttings will be hauled off-site and disposed of properly at an authorized site
- Rotary drilling with fresh water where cave or karst features are expected to prevent contamination of freshwater aquifers.
- Directional drilling is only allowed at depths greater than 100 feet below the cave occurrence zone to prevent additional impacts resulting from directional drilling.
- Lost circulation zones will be logged and reported in the drilling report so BLM can assess the situation and work with the operator on corrective actions.
- Additional drilling, casing, and cementing procedures to protect cave zones and fresh water aquifers. See drilling COAs.

PRODUCTION MITIGATION

In order to mitigate the impacts from production activities and due to the nature of karst terrane, the following Conditions of Approval will apply to this APD:

- Tank battery locations and facilities will be bermed and lined with a 20 mil thick permanent liner that has a 4 oz. felt backing, or equivalent, to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.
- Development and implementation of a leak detection system to provide an early alert to operators when a leak has occurred.
- Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

RESIDUAL AND CUMULATIVE MITIGATION

The operator will perform annual pressure monitoring on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be taken to correct the problem to the BLM's approval.

PLUGGING AND ABANDONMENT MITIGATION

Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

VRM IV:

- Above-ground structures including meter housing that are not subject to safety requirements are painted a flat non-reflective paint color, Shale Green from the BLM Standard Environmental Color Chart (CC-001: June 2013).

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the 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 .

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

F. EXCLOSURE FENCING (CELLARS & PITS)

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

G. ON LEASE ACCESS ROADS

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

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

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

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

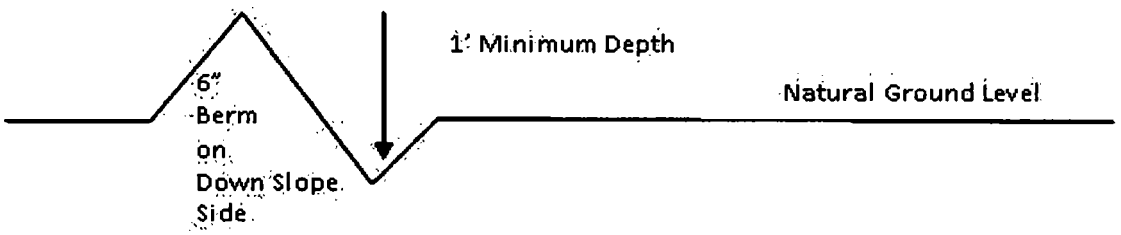
Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

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

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

Drainage
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, leadoff 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.



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 %);

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

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

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

Construction Steps

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

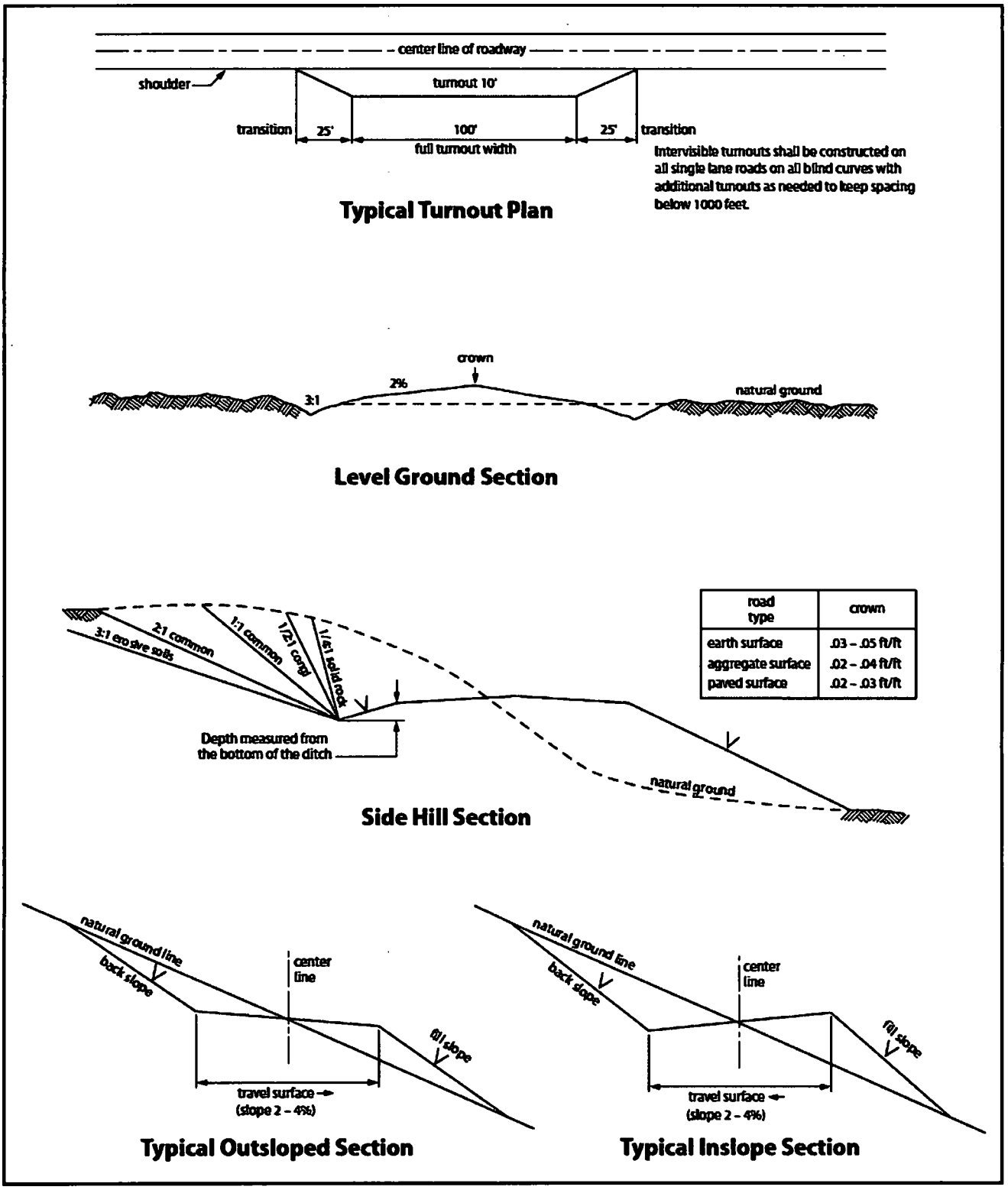


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

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

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

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

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

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

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

VRM Facility Requirement
Low-profile tanks not greater than eight-feet-high shall be used.

VIII. INTERIM RECLAMATION

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

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

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

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

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

IX. FINAL ABANDONMENT & RECLAMATION

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

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

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

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

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

Seed Mixture 2, for Sandy Sites

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

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

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

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

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

Operator 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.

NAME: Sammy Hajar **Signed on:** 12/06/2018

Title: Regulatory Analyst

Street Address: 104 S. Pecos

City: Midland **State:** TX **Zip:** 79701

Phone: (432)682-3753

Email address: shajar@btaoil.com

Field Representative

Representative Name:

Street Address: 104 South Pecos

City: Midland **State:** TX **Zip:** 79701

Phone: (432)682-3753

Email address: neaton@btaoil.com

APD ID: 10400036992 **Submission Date:** 12/10/2018

Operator Name: BTA OIL PRODUCERS LLC

Well Name: MESA B 8115 FED COM **Well Number:** 17H

Show Final Text

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

Section 1 - General

APD ID: 10400036992 **Tie to previous NOS?** **Submission Date:** 12/10/2018

BLM Office: CARLSBAD **User:** Sammy Hajar **Title:** Regulatory Analyst

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

Lease number: NMNM0160973 **Lease Acres:** 1238.72

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

Agreement in place? YES **Federal or Indian agreement:** FEDERAL

Agreement number: NMNM082045

Agreement name:

Keep application confidential? YES

Permitting Agent? NO **APD Operator:** BTA OIL PRODUCERS LLC

Operator letter of designation:

Operator Info

Operator Organization Name: BTA OIL PRODUCERS LLC

Operator Address: 104 S. Pecos **Zip:** 79701

Operator PO Box:

Operator City: Midland **State:** TX

Operator Phone: (432)682-3753

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: MESA B 8115 FED COM **Well Number:** 17H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** SANDERS TANK **Pool Name:** UPPER WOLFCAMP

Is the proposed well in an area containing other mineral resources? NONE

Is the proposed well in an area containing other mineral resources? NONE

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** NO **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** MESA B 8115 FED COM **Number:** 14-17

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

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 30 Miles **Distance to nearest well:** 2570 FT **Distance to lease line:** 490 FT

Reservoir well spacing assigned acres Measurement: 160 Acres

Well plat: Mesa_B_8115_Fed_Com_17H_C102_20191118105923.pdf

Well work start Date: 05/10/2019 **Duration:** 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NGVD29

Survey number: **Reference Datum:**

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
SHL Leg #1	490	FNL	800	FEL	26S	33E	7	Aliquot NENE	32.06395	-103.60543	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0160973	3283	0	0
KOP Leg #1	100	FNL	2310	FEL	26S	33E	7	Aliquot NWNE	32.065019	-103.610305	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0160973	-8844	12243	12127
PPP Leg #1-1	100	FNL	2310	FEL	26S	33E	7	Aliquot NWNE	32.065019	-103.610305	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0160973	-8747	12146	12030

Operator Name: BTA OIL PRODUCERS LLC

Well Name: MESA B 8115 FED COM **Well Number:** 17H

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
EXIT Leg #1	100	FSL	2310	FEL	26S	33E	7	Aliquot SWSE	32.051062	-103.610292	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0160973	-9417	17509	12700
BHL Leg #1	50	FSL	2310	FEL	26S	33E	7	Aliquot SWSE	32.050924	-103.610292	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0160973	-9417	17789	12700

APD ID: 10400036992 **Submission Date:** 12/10/2018

Operator Name: BTA OIL PRODUCERS LLC

Well Name: MESA B 8115 FED COM **Well Number:** 17H

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

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	QUATERNARY	3301	0	0	ALLUVIUM	NONE	N
2	RUSTLER	2458	825	825		NONE	N
3	TOP SALT	1398	1885	1885		NONE	N
4	BASE OF SALT	-1226	4509	4509		NONE	N
5	DELAWARE	-1458	4741	4741		NONE	N
6	BELL CANYON	-1506	4789	4789		NATURAL GAS,OIL	N
7	CHERRY CANYON	-2795	6078	6078		NATURAL GAS,OIL	N
8	BRUSHY CANYON	-4210	7493	7493		NATURAL GAS,OIL	N
9	BONE SPRING LIME	-5689	8972	8972		NONE	N
10	FIRST BONE SPRING SAND	-6622	9905	9905		NATURAL GAS,OIL	N
11	BONE SPRING 2ND	-7183	10466	10466		NATURAL GAS,OIL	N
12	BONE SPRING 3RD	-8292	11575	11575		NATURAL GAS,OIL	N
13	WOLFCAMP	-8747	12030	12030		NATURAL GAS,OIL	Y

Section 2 - Blowout Prevention

Operator Name: BTA OIL PRODUCERS LLC

Well Name: MESA B 8115 FED COM **Well Number:** 17H

Pressure Rating (PSI): 10M **Rating Depth:** 14000

Equipment: The blowout preventer equipment (BOP) shown in Exhibit A will consist of a (10M system) double ram type (10,000 psi WP) preventer and a bag-type (Hydril) preventer (5000 psi WP). Both units will be hydraulically operated and the ram type preventer will be equipped with blind rams on top and 5" drill pipe rams on bottom. The BOP's will be installed on the 13-3/8" surface casing and utilized continuously until total depth is reached. A 2" kill line and 3" choke line will be incorporated in the drilling spool below the ram-type BOP. A remote kill line will be used for the 10M system as per onshore order #2. Other accessory BOP equipment will include a Kelly cock, floor safety valve, choke lines, and choke manifold having a 10,000 psi WP rating. The 5M annular on the 10M system will be tested to 100% of rated working pressure.
Requesting Variance? YES

Variance request: A Choke Hose Variance is requested. See attached test chart and spec. 5M annular variance requested.

Testing Procedure: Pipe rams will be operated and checked each 24-hour period and each time the drill pipe is out of the hole. These functional tests will be documented on the daily driller's log. All BOP's and associated equipment will be tested as per BLM drilling Operations Order No. 2.
Choke Diagram Attachment:

Choke_Hose___Test_Chart_and_Specs_20181129153440.pdf

10M_choke_mannifold_20181129153440.pdf

BOP Diagram Attachment:

5M_annular_well_control_plan_for_BLM_20181129153535.docx

BLM_10M_BOP_with_5M_annular_20190204071725.pdf

10M_annular_variance__20190204071733.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	14.75	10.75	NEW	API	N	0	890	0	890			890	J-55	40.5	ST&C	4.1	8.1	DRY	11.7	DRY	17.5
2	INTERMEDIATE	9.875	7.625	NEW	API	Y	0	8074	0	8000			8074	P-110	29.7	BUTT	1.4	2.4	DRY	4	DRY	3.9
3	PRODUCTION	6.75	5.5	NEW	API	Y	0	11993	0	11877			11993	P-110	20	BUTT	1.8	1.4	DRY	2.8	DRY	2.7
4	INTERMEDIATE	8.75	7.625	NEW	API	Y	8074	12193	8000	12077			4119	P-110	29.7	FJ	1.6	1.6	DRY	2.7	DRY	2.6
5	PRODUCTION	6.75	5.0	NEW	API	Y	11993	17789	11877	12700			5796	P-110	18	BUTT	1.8	1.4	DRY	1.9	DRY	1.8

Operator Name: BTA OIL PRODUCERS LLC

Well Name: MESA B 8115 FED COM **Well Number:** 17H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

New_Mesa_B_17H_casing_assumption_20191119075935.JPG

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

Inspection Document:

Spec Document:

Tapered String Spec:

7_5_8_tapered_string_spec_9_7_8_hole_20191119084810.jpg

Casing Design Assumptions and Worksheet(s):

New_Mesa_B_17H_casing_assumption_20191119075943.JPG

Casing ID: 3 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

5.5_tapered_string_spec_20191119074855.jpg

Casing Design Assumptions and Worksheet(s):

New_Mesa_B_17H_casing_assumption_20191119075951.JPG

Operator Name: BTA OIL PRODUCERS LLC

Well Name: MESA B 8115 FED COM **Well Number:** 17H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

7_5_8_tapered_string_spec_20191119074723.jpg

Casing Design Assumptions and Worksheet(s):

New_Mesa_B_17H_casing_assumption_20191119075959.JPG

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

Inspection Document:

Spec Document:

Tapered String Spec:

5_tapered_string_spec_20191119075117.jpg

Casing Design Assumptions and Worksheet(s):

New_Mesa_B_17H_casing_assumption_20191119080010.JPG

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead					1.8					
SURFACE	Tail										
INTERMEDIATE	Lead					2.19					
INTERMEDIATE	Tail										
INTERMEDIATE	Lead					2.64					

Operator Name: BTA OIL PRODUCERS LLC

Well Name: MESA B 8115 FED COM **Well Number:** 17H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Tail										
PRODUCTION	Lead					0					
PRODUCTION	Lead					1.27					

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: Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

Describe the mud monitoring system utilized: PVT/Pason/Visual Monitoring

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	890	OTHER : FW Spud	8.3	8.4							
890	12193	OTHER : DBE	9	9.4							
12193	12700	OIL-BASED MUD	11	14							

Operator Name: BTA OIL PRODUCERS LLC

Well Name: MESA B 8115 FED COM **Well Number:** 17H

Section 6 - Test, Logging, Coring

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

Drill Stem Tests will be based on geological sample shows.

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

CBL,GR,MUDLOG

Coring operation description for the well:

None planned

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 9246 **Anticipated Surface Pressure:** 6452

Anticipated Bottom Hole Temperature(F): 183

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

H2S_Plan_20181129153648.pdf

H2S_Equipment_Schematic_20181129153733.pdf

BTA_Oil_Producers_LLC___EMERGENCY_CALL_LIST_20190204091823.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Mesa_B__17H_Wall_plot_20191119084927.pdf

Mesa_B__17H_directional_plan_20191119084926.pdf

Mesa_B_8115_Fed_Com_17H_Gas_Capture_Plan_20191119085030.pdf

Other proposed operations facets description:

A variance is requested for a Multi Bowl Wellhead. See the attached schematic and running procedure. *All strings will be kept 1/3 full while running.

Other proposed operations facets attachment:

Other Variance attachment:

Casing_Head_Running_Procedure_20181129153916.pdf

Multi_Bowl_Diagram_20181129153852.pdf

Continental ContiTech

CONTITECH RUBBER Industrial Kft.	No:QC-DB- 599/ 2014
	Page: 16 / 176

Rig 94 Asset 24455

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°: 1592
PURCHASER: ContiTech Oil & Marine Corp.				P.O. N°: 4500461753
CONTITECH ORDER N°: 539225	HOSE TYPE: 3" ID Choke & Kill Hose			
HOSE SERIAL N°: [redacted]	NOMINAL / ACTUAL LENGTH: 7,62 m / 7,66 m			
W.P. 68,9 MPa 10000 psi	T.P. 103,4 MPa 15000 psi			Duration: 60 min.

Pressure test with water at ambiant temperature

See attachment. (1 page)

→ 10 Min.

↑ 50 MPa

COUPLINGS Type	Serial N°	Quality	Heat N°
3" coupling with	2574 5533	AISI 4130	A1582N H8672
4 1/16" 10K API Swivel Flange end		AISI 4130	58855
Hub		AISI 4130	A1199N A1423N

Not Designed For Well Testing **API Spec 16 C**

Fire Rated **Temperature rate:"B"**

All metal parts are flawless

WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.

STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.

Date:	Inspector	Quality Control
04. September 2014.		ContiTech Rubber Industrial Kft. Quality Control Dept. [signatures]

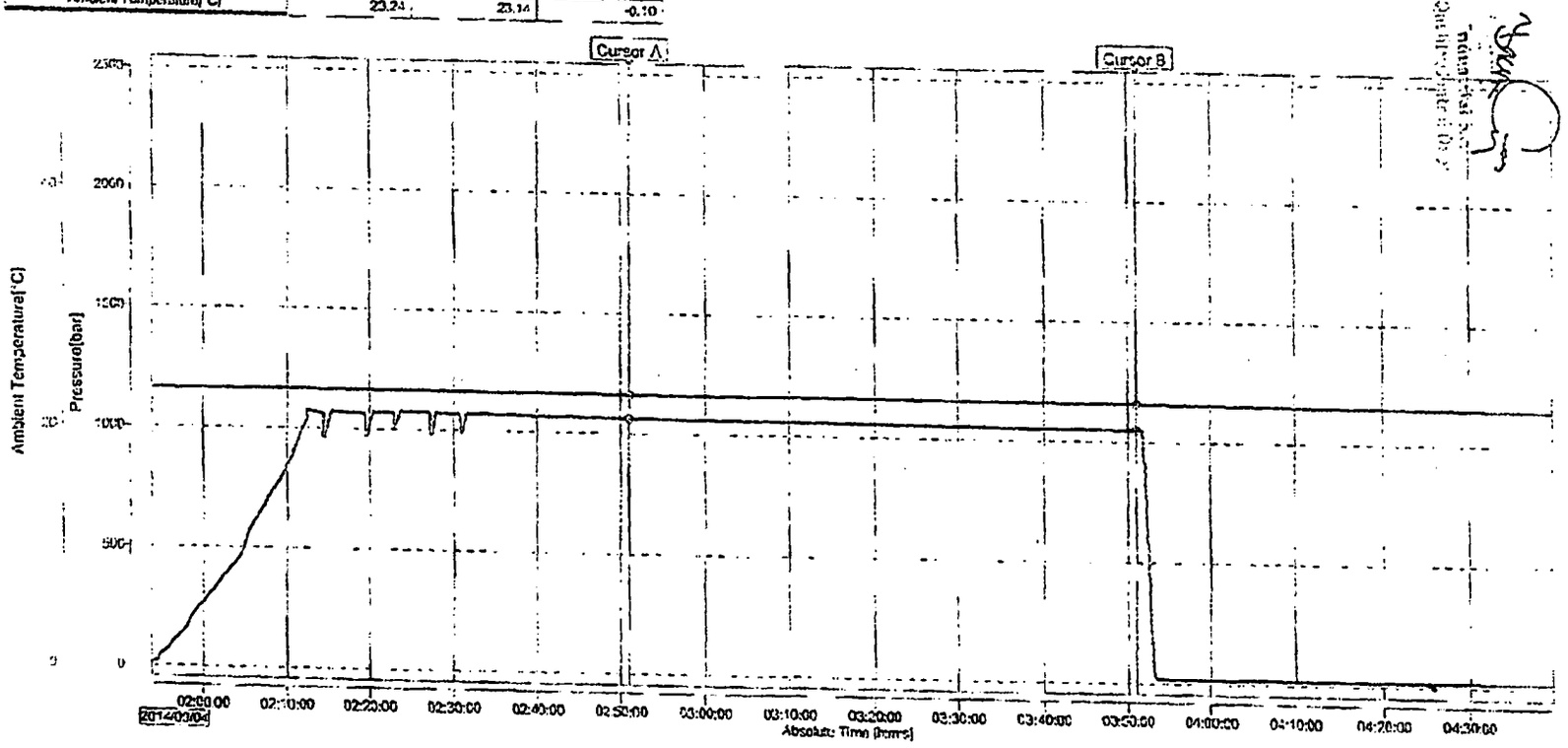
ATTACHMENT OF QUALITY CONTROL INSPECTION AND TEST CERTIFICATE No: 1588, 1590, 1592

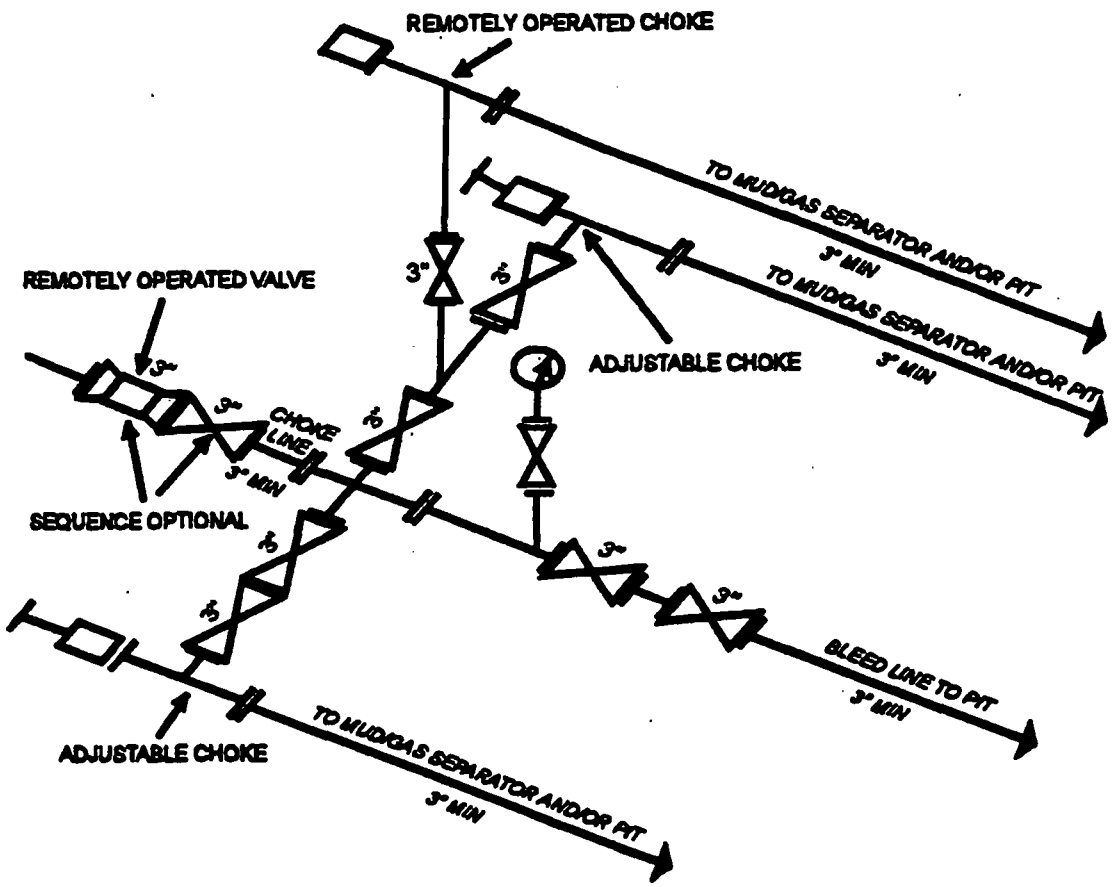
Page: 1 / 1

File Name	: 000220_68543,68545+547.GEV,....000236_68543,68545+547.GEV
File Message	68543,68545,68547
Device Type	: GX10
Serial No.	: S5P606399
Data Count	: 9946
Print Group	Press-Temp
Print Range	: 2014/09/04 01:53:54.000 - 2014/09/04 04:39:39.000
Comment	:

Sampling Int.	: 1.000 sec
Start Time	: 2014/09/04 01:53:54.000
Stop Time	: 2014/09/04 04:39:39.000

	Cursor A	Cursor B	Difference
Data No	3432	7032	3600
Absolute Time	2014/09/04 02:11:00.000	2014/09/04 03:51:06.000	01:00:10.000
Tag Comment	Value A	Value B	Value B-A
Pressure[bar]	1092.09	1048.57	-14.39
Ambient Temperature[°C]	23.24	23.14	-0.10





10M AND 15M CHOKE MANIFOLD EQUIPMENT - CONFIGURATION OF CHOKES MAY VARY
[53 FR 49661, Dec. 9, 1988 and 54 FR 39528, Sept. 27, 1989]

Drilling

1. Sound alarm (alert crew).
2. Space out drill string.
3. Shut down pumps (stop pumps and rotary).
4. Shut-in Well with annular with HCR and choke in closed position.
5. Confirm shut-in.
6. Notify tool pusher/company representative.
7. Read and record the following:

a. SIDPP & SICP

b. Time of shut in

c. Pit gain

8. Regroup and identify forward plan. If pressure has increased to 2500 psi, confirm spacing and close the upper variable bore rams.
9. Prepare for well kill operation.

Tripping

1. Sound alarm (alert rig crew)
2. Stab full opening safety valve and close valve
3. Sapce out drill string
4. Shut in the well with the annular with HCR and choke in closed position
5. Confirm shut in
6. Notify tool pusher/company representative
7. Read and record the following

a. Time of shut in

b. SIDPP and SICP

c. Pit gain

8. If pressure has increased to 2500 psi, confirm spacing and close the upper most variable bore ram.
9. Prepare for well kill operation.

While Running Casing

1. Sound alarm (alert rig crew)
2. Stab crossover and full opening safety valve and close valve
3. Space out casing string
4. Shut in well with annular with HCR and choke in closed position
5. Confirm shut in
6. Notify tool pusher/company representative
7. Read and record the following:

a. SIDPP & SICP

b. Pit gain

c. Time

8. If pressure has increased to 2500 psi, confirm spacing and close the upper most variable bore ram.
9. Prepare for well kill operation.

No Pipe In Hole (Open Hole)

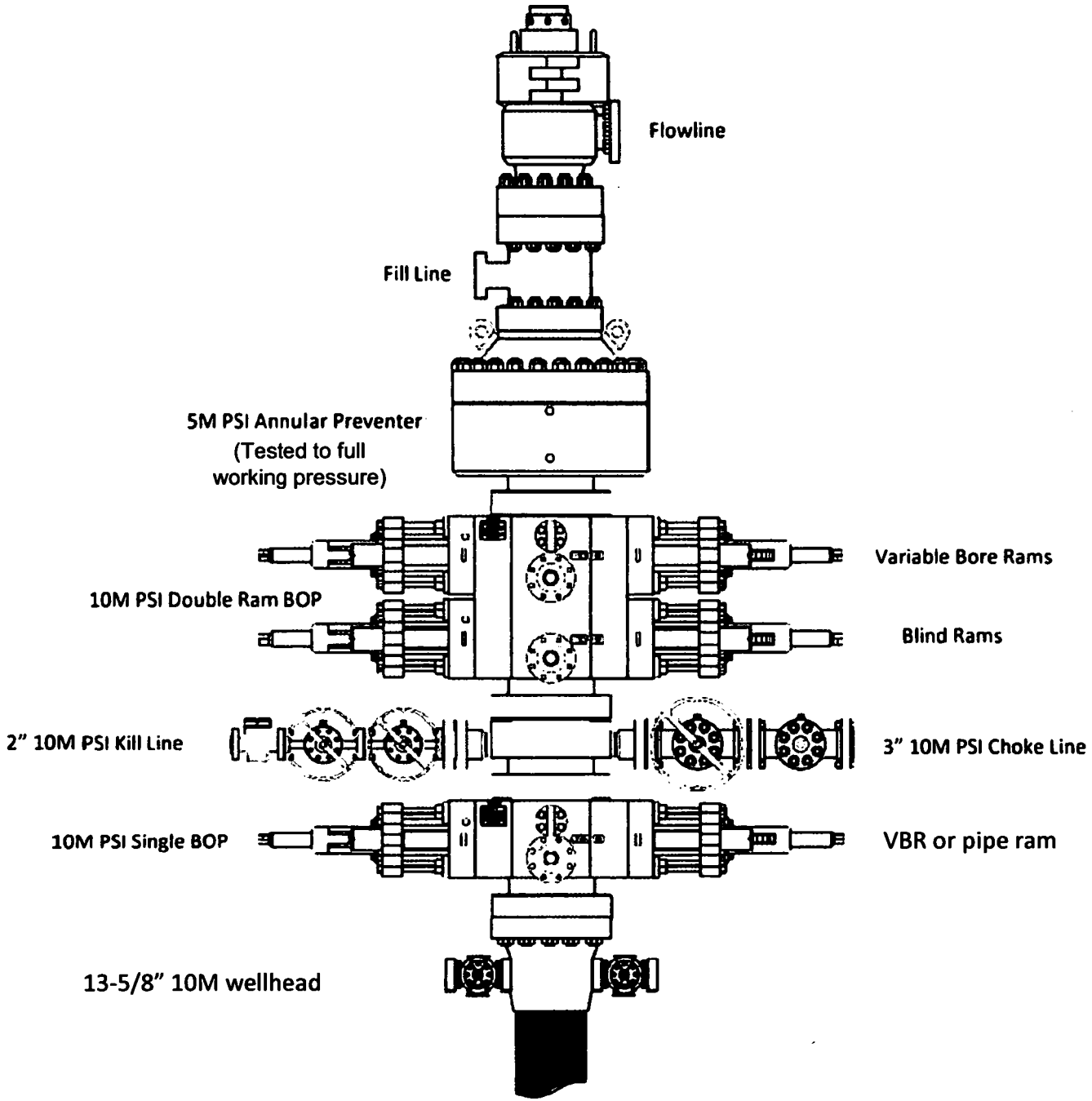
1. Sound alarm (alert rig crew)

2. Shut in blind rams with HCR and choke in closed position
3. Confirm shut in
4. Notify tool pusher/company representative
5. Read and record the following:
   a. SICP
   b. Pit gain
   c. Time
6. Prepare for well kill operation

Pulling BHA thru Stack

1. Prior to pulling last joint of drill pipe thru the stack
   a. Perform flow check, if flowing:
      a.i. Sound Alarm (alert crew)
      a.ii. Stab full opening safety valve and close valve
      a.iii. Space out drill string
      a.iv. Shut in using upper most VBR, choke and HCR in closed positon
      a.v. Confirm shut in
      a.vi. Notify tool pusher/company representative.
      a.vii. Read and record the following:
         a.vii.1. SIDPP and SICP
         a.vii.2. Pit gain
         a.vii.3. Time
      a.viii. Prepare for well kill operation
2. With BHA in the stack:
   a. If possible pull BHA clear of stack
      a.i. Follow 'open hole' procedure above
   b. If unable to pull BHA clear of stack
      b.i. Stab crossover with full opening safety valve, close valve.
      b.ii. Space out
      b.iii. Shut in using upper most VBR. HCR and choke in closed position.
      b.iv. Confirm shut in
      b.v. Notify tool pusher/company rep
      b.vi. Read and record the following:
         b.vi.1. SIDPP and SICP
         b.vi.2. Pit gain
         b.vi.3. Time
      b.vii. Prepare for well kill operation

13-5/8" 10M PSI BOP Stack



BTA OIL PRODUCERS LLC

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

a. The hazards and characteristics of hydrogen sulfide (H_2S).
b. The proper use and maintenance of personal protective equipment and life support systems.
c. The proper use of H_2S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
d. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

a. The effects of H2S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
b. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
c. The contents and requirements of the H_2S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H2S zone (within 3 days or 500 feet) and weekly H2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H2S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

2. H_2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H_2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H2S. If H2S greater than 100 ppm is encountered in the gas stream we will shut in and install H2S equipment.

a. Well Control Equipment:
Flare line.
Choke manifold with remotely operated choke.
Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head.
b. Protective equipment for essential personnel:
Mark II Surviveair 30-minute units located in the dog house and at briefing areas.
c. H2S detection and monitoring equipment:

2 - portable H2S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 ppm are reached.

d. Visual warning systems:
Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

e. Mud Program:
The mud program has been designed to minimize the volume of H2S circulated to the surface.

f. Metallurgy:
All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.

g. Communication:
Company vehicles equipped with cellular telephone.

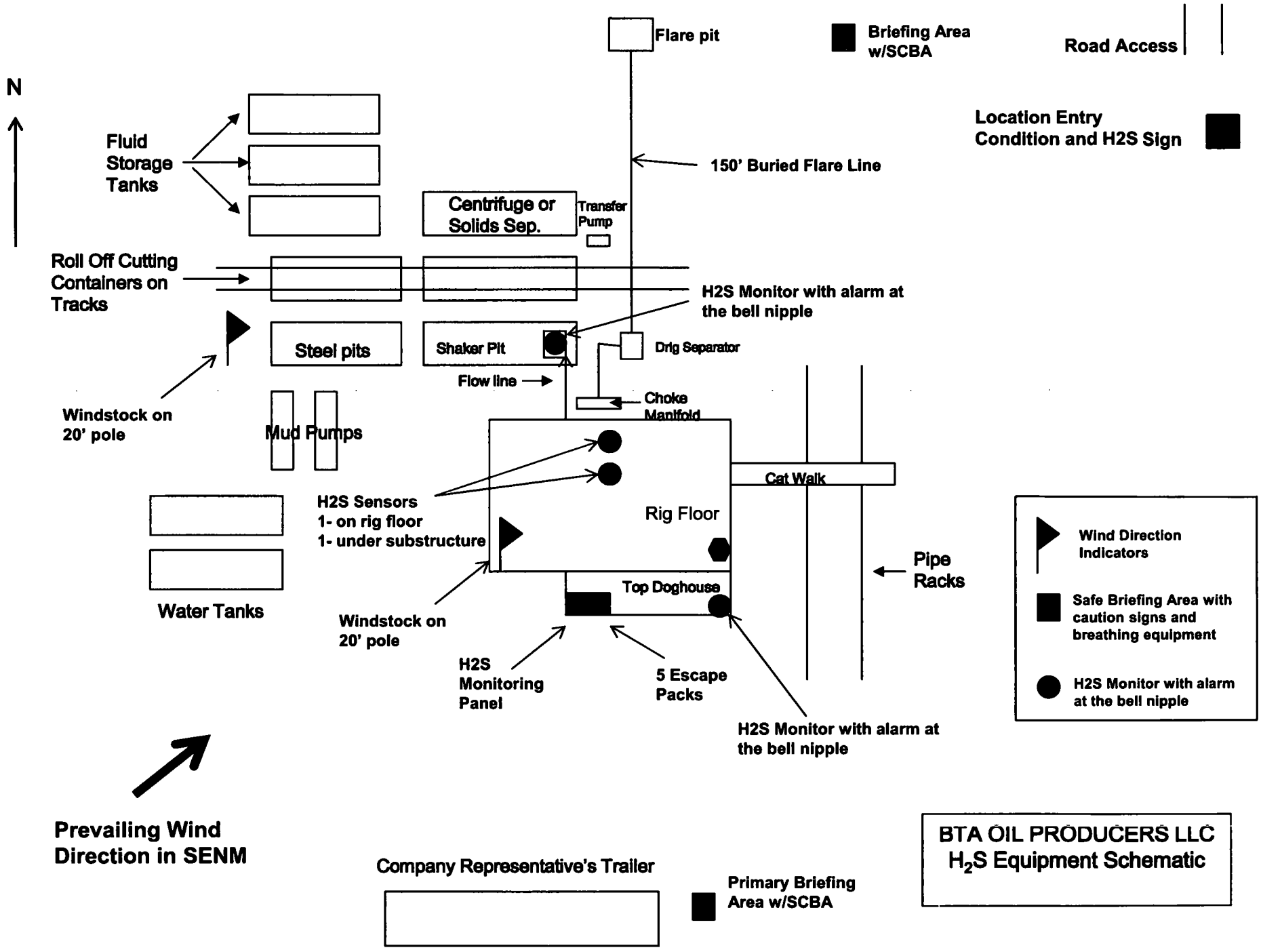
WARNING

YOU ARE ENTERING AN H_2S AREA
AUTHORIZED PERSONNEL ONLY

1. ***BEARDS OR CONTACT LENSES NOT ALLOWED***
2. ***HARD HATS REQUIRED***
3. ***SMOKING IN DESIGNATED AREAS ONLY***
4. ***BE WIND CONSCIOUS AT ALL TIMES***
5. ***CK WITH BTA OIL PRODUCERS LLC FOREMAN AT MAIN OFFICE***

BTA OIL PRODUCERS LLC

1-432-682-3753



BTA OIL PRODUCERS LLC
H_2S Equipment Schematic

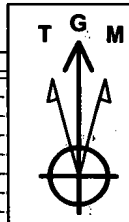
EMERGENCY CALL LIST

	OFFICE	MOBILE
BTA Oil Producers LLC OFFICE	432-682-3753	
BEN GRIMES, Operations	432-682-3753	432-559-4309
NICK EATON, Drilling	432-682-3753	432-260-7841
TRACE WOHLFAHRT, Completions	432-682-3753	

EMERGENCY RESPONSE NUMBERS

	OFFICE
STATE POLICE	575-748-9718
EDDY COUNTY SHERIFF	575-746-2701
EMERGENCY MEDICAL SERVICES (AMBULANCE)	911 or 575-746-2701
EDDY COUNTY EMERGENCY MANAGEMENT (HARRY BURGESS)	575-887-9511
STATE EMERGENCY RESPONSE CENTER (SERC)	575-476-9620
CARLSBAD POLICE DEPARTMENT	575-885-2111
CARLSBAD FIRE DEPARTMENT	575-885-3125
NEW MEXICO OIL CONSERVATION DIVISION	575-748-1283
INDIAN FIRE & SAFETY	800-530-8693
HALLIBURTON SERVICES	800-844-8451

BTA Oil Producers, LLC



Azimuths to Grid North
True North: -0.39°
Magnetic North: 7.37°

Magnetic Field
Strength: 48693.5nT
Dip Angle: 60.09°
Date: 12/31/2009
Model: IGRF200510

WELL DETAILS: Mesa B #17H

Ground Level Ground Level: 3290.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	387763.10	766824.70	32° 3' 50.221 N	103° 36' 19.549 W

SITE DETAILS: Mesa B

Site Centre Northing: 383154.37
Easting: 765479.20

Positional Uncertainity: 0.0
Convergence: 0.38
Local North: Grid

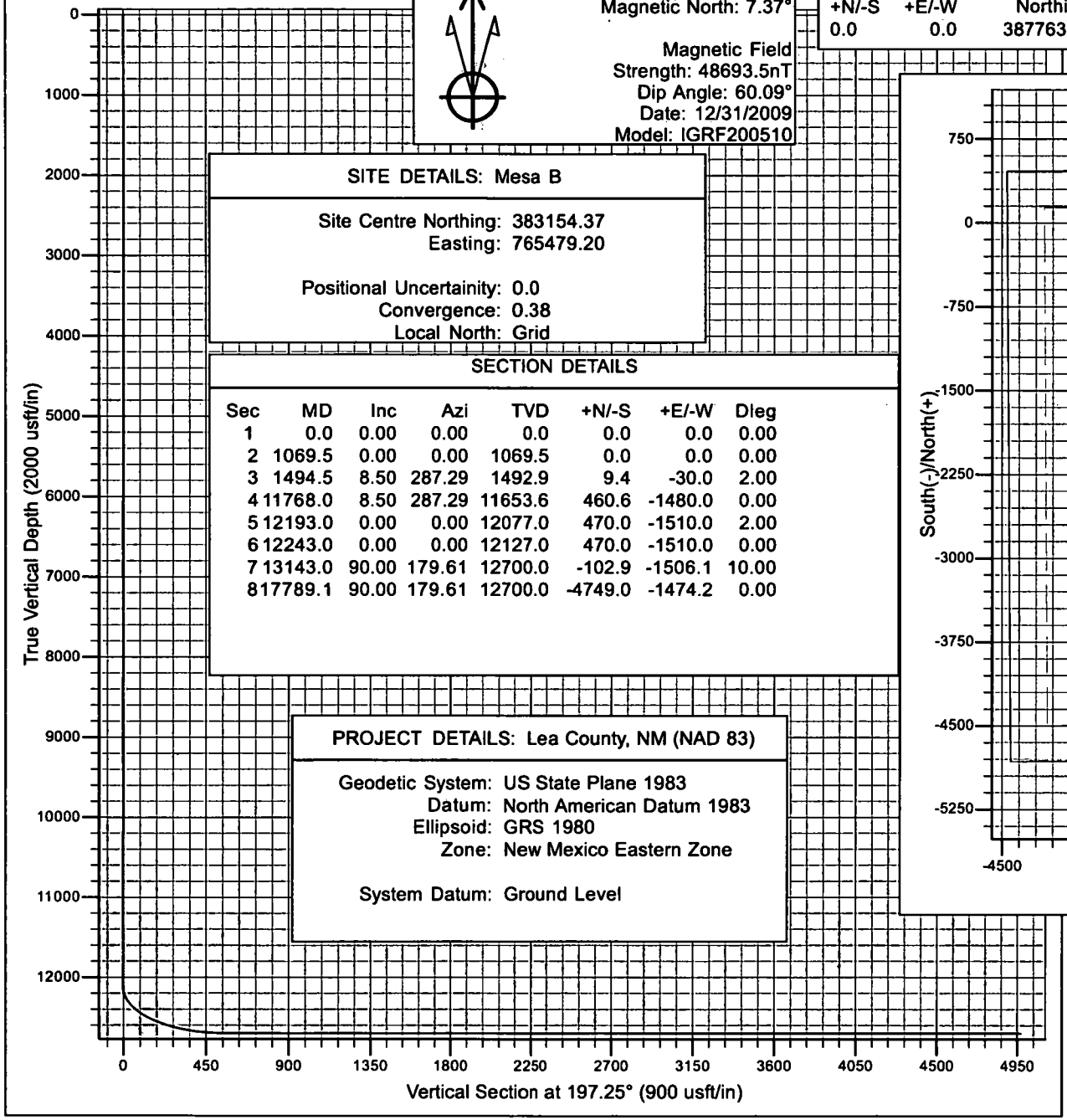
SECTION DETAILS

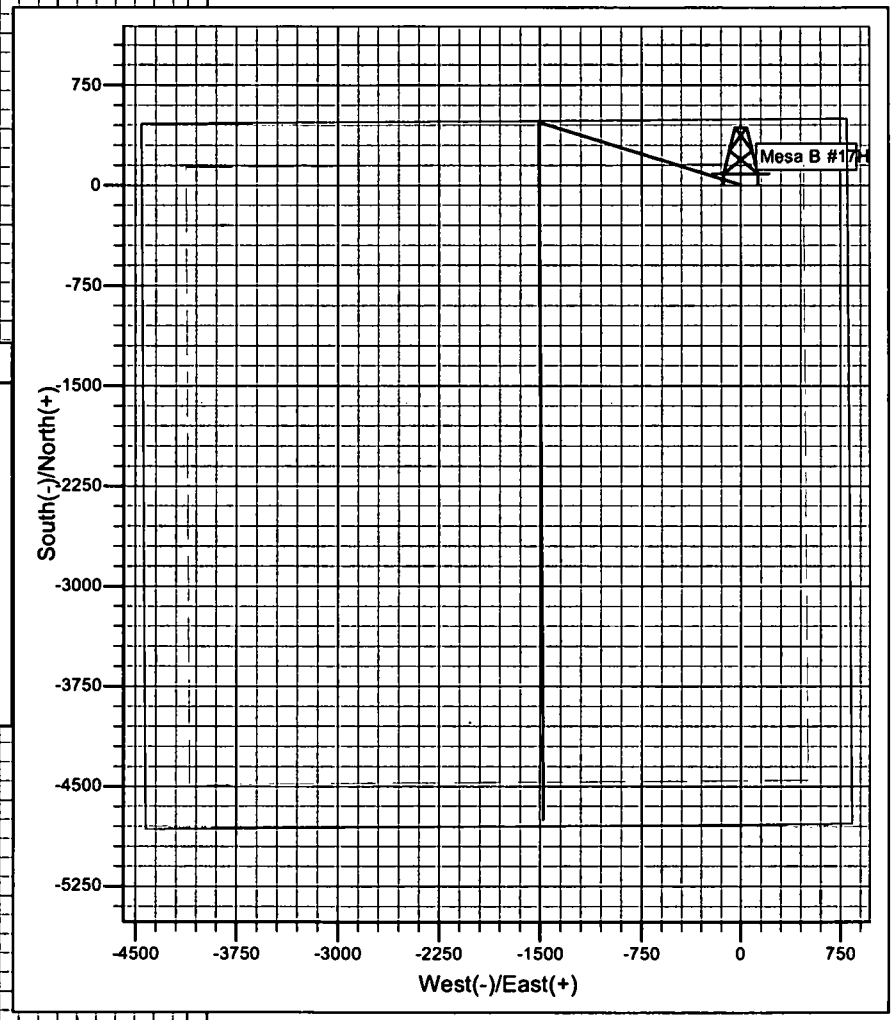
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00
2	1069.5	0.00	0.00	1069.5	0.0	0.0	0.00
3	1494.5	8.50	287.29	1492.9	9.4	-30.0	2.00
4	11768.0	8.50	287.29	11653.6	460.6	-1480.0	0.00
5	12193.0	0.00	0.00	12077.0	470.0	-1510.0	2.00
6	12243.0	0.00	0.00	12127.0	470.0	-1510.0	0.00
7	13143.0	90.00	179.61	12700.0	-102.9	-1506.1	10.00
8	17789.1	90.00	179.61	12700.0	-4749.0	-1474.2	0.00

PROJECT DETAILS: Lea County, NM (NAD 83)

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

System Datum: Ground Level





BTA Oil Producers, LLC

Lea County, NM (NAD 83)
Mesa B
Mesa B #17H

Wellbore #1

Plan: Design #1

Standard Planning Report

06 November, 2019

Database:	Old	**Local Co-ordinate Reference:**	Well Mesa B #17H
Company:	BTA Oil Producers, LLC	**TVD Reference:**	GL* @ 3290.0usft
Project:	Lea County, NM (NAD 83)	**MD Reference:**	GL* @ 3290.0usft
Site:	Mesa B	**North Reference:**	Grid
Well:	Mesa B #17H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Lea County, NM (NAD 83), Lea County, NM		
Map System:	US State Plane 1983	**System Datum:**	Ground Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		Using geodetic scale factor

Site	Mesa B				
Site Position:		**Northing:**	383,154.37 usft	**Latitude:**	32° 3' 4.704 N
From:	Map	**Easting:**	765,479.20 usft	**Longitude:**	103° 36' 35.543 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.38 °

Well	Mesa B #17H					
Well Position	**+N/-S**	4,608.9 usft	**Northing:**	387,763.10 usft	**Latitude:**	32° 3' 50.221 N
	+E/-W	1,345.5 usft	**Easting:**	766,824.70 usft	**Longitude:**	103° 36' 19.549 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	0.0 usft	**Ground Level:**	3,290.0 usft

Wellbore	Wellbore #1				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF200510	12/31/2009	7.75	60.09	48,693.47822980

Design	Design #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	197.25	

Plan Survey Tool Program **Date** 11/6/2019

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	17,789.1	Design #1 (Wellbore #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	
1,069.5	0.00	0.00	1,069.5	0.0	0.0	0.00	0.00	0.00	0.00	
1,494.5	8.50	287.29	1,492.9	9.4	-30.0	2.00	2.00	0.00	287.29	
11,768.0	8.50	287.29	11,653.6	460.6	-1,480.0	0.00	0.00	0.00	0.00	
12,193.0	0.00	0.00	12,077.0	470.0	-1,510.0	2.00	-2.00	0.00	180.00	
12,243.0	0.00	0.00	12,127.0	470.0	-1,510.0	0.00	0.00	0.00	0.00	
13,143.0	90.00	179.61	12,700.0	-102.9	-1,506.1	10.00	10.00	0.00	179.61	
17,789.1	90.00	179.61	12,700.0	-4,749.0	-1,474.2	0.00	0.00	0.00	0.00	Mesa B #17H BHL

Database:	Old	**Local Co-ordinate Reference:**	Well Mesa B #17H
Company:	BTA Oil Producers, LLC	**TVD Reference:**	GL* @ 3290.0usft
Project:	Lea County, NM (NAD 83)	**MD Reference:**	GL* @ 3290.0usft
Site:	Mesa B	**North Reference:**	Grid
Well:	Mesa B #17H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #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
1,069.5	0.00	0.00	1,069.5	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.61	287.29	1,100.0	0.0	-0.2	0.0	2.00	2.00	0.00
1,200.0	2.61	287.29	1,200.0	0.9	-2.8	0.0	2.00	2.00	0.00
1,300.0	4.61	287.29	1,299.8	2.8	-8.9	0.0	2.00	2.00	0.00
1,400.0	6.61	287.29	1,399.3	5.7	-18.2	0.0	2.00	2.00	0.00
1,494.5	8.50	287.29	1,492.9	9.4	-30.0	0.0	2.00	2.00	0.00
1,500.0	8.50	287.29	1,498.4	9.6	-30.8	0.0	0.00	0.00	0.00
1,600.0	8.50	287.29	1,597.3	14.0	-44.9	0.0	0.00	0.00	0.00
1,700.0	8.50	287.29	1,696.2	18.4	-59.1	0.0	0.00	0.00	0.00
1,800.0	8.50	287.29	1,795.1	22.8	-73.2	-0.1	0.00	0.00	0.00
1,900.0	8.50	287.29	1,894.0	27.2	-87.3	-0.1	0.00	0.00	0.00
2,000.0	8.50	287.29	1,992.9	31.6	-101.4	-0.1	0.00	0.00	0.00
2,100.0	8.50	287.29	2,091.8	36.0	-115.5	-0.1	0.00	0.00	0.00
2,200.0	8.50	287.29	2,190.7	40.3	-129.6	-0.1	0.00	0.00	0.00
2,300.0	8.50	287.29	2,289.6	44.7	-143.7	-0.1	0.00	0.00	0.00
2,400.0	8.50	287.29	2,388.5	49.1	-157.8	-0.1	0.00	0.00	0.00
2,500.0	8.50	287.29	2,487.4	53.5	-172.0	-0.1	0.00	0.00	0.00
2,600.0	8.50	287.29	2,586.3	57.9	-186.1	-0.1	0.00	0.00	0.00
2,700.0	8.50	287.29	2,685.2	62.3	-200.2	-0.2	0.00	0.00	0.00
2,800.0	8.50	287.29	2,784.1	66.7	-214.3	-0.2	0.00	0.00	0.00
2,900.0	8.50	287.29	2,883.0	71.1	-228.4	-0.2	0.00	0.00	0.00
3,000.0	8.50	287.29	2,981.9	75.5	-242.5	-0.2	0.00	0.00	0.00
3,100.0	8.50	287.29	3,080.8	79.9	-256.6	-0.2	0.00	0.00	0.00
3,200.0	8.50	287.29	3,179.7	84.3	-270.8	-0.2	0.00	0.00	0.00
3,300.0	8.50	287.29	3,278.6	88.7	-284.9	-0.2	0.00	0.00	0.00
3,400.0	8.50	287.29	3,377.5	93.1	-299.0	-0.2	0.00	0.00	0.00
3,500.0	8.50	287.29	3,476.4	97.5	-313.1	-0.2	0.00	0.00	0.00
3,600.0	8.50	287.29	3,575.3	101.8	-327.2	-0.3	0.00	0.00	0.00
3,700.0	8.50	287.29	3,674.2	106.2	-341.3	-0.3	0.00	0.00	0.00
3,800.0	8.50	287.29	3,773.1	110.6	-355.4	-0.3	0.00	0.00	0.00
3,900.0	8.50	287.29	3,872.0	115.0	-369.5	-0.3	0.00	0.00	0.00
4,000.0	8.50	287.29	3,970.9	119.4	-383.7	-0.3	0.00	0.00	0.00
4,100.0	8.50	287.29	4,069.8	123.8	-397.8	-0.3	0.00	0.00	0.00
4,200.0	8.50	287.29	4,168.7	128.2	-411.9	-0.3	0.00	0.00	0.00
4,300.0	8.50	287.29	4,267.6	132.6	-426.0	-0.3	0.00	0.00	0.00
4,400.0	8.50	287.29	4,366.5	137.0	-440.1	-0.3	0.00	0.00	0.00
4,500.0	8.50	287.29	4,465.4	141.4	-454.2	-0.4	0.00	0.00	0.00
4,600.0	8.50	287.29	4,564.3	145.8	-468.3	-0.4	0.00	0.00	0.00
4,700.0	8.50	287.29	4,663.2	150.2	-482.4	-0.4	0.00	0.00	0.00
4,800.0	8.50	287.29	4,762.1	154.6	-496.6	-0.4	0.00	0.00	0.00
4,900.0	8.50	287.29	4,861.0	159.0	-510.7	-0.4	0.00	0.00	0.00
5,000.0	8.50	287.29	4,959.9	163.3	-524.8	-0.4	0.00	0.00	0.00
5,100.0	8.50	287.29	5,058.8	167.7	-538.9	-0.4	0.00	0.00	0.00

Database:	Old	**Local Co-ordinate Reference:**	Well Mesa B #17H
Company:	BTA Oil Producers, LLC	**TVD Reference:**	GL* @ 3290.0usft
Project:	Lea County, NM (NAD 83)	***MD Reference:***	GL* @ 3290.0usft
Site:	Mesa B	**North Reference:**	Grid
Well:	Mesa B #17H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #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)
5,200.0	8.50	287.29	5,157.7	172.1	-553.0	-0.4	0.00	0.00	0.00
5,300.0	8.50	287.29	5,256.6	176.5	-567.1	-0.4	0.00	0.00	0.00
5,400.0	8.50	287.29	5,355.5	180.9	-581.2	-0.5	0.00	0.00	0.00
5,500.0	8.50	287.29	5,454.4	185.3	-595.4	-0.5	0.00	0.00	0.00
5,600.0	8.50	287.29	5,553.3	189.7	-609.5	-0.5	0.00	0.00	0.00
5,700.0	8.50	287.29	5,652.2	194.1	-623.6	-0.5	0.00	0.00	0.00
5,800.0	8.50	287.29	5,751.2	198.5	-637.7	-0.5	0.00	0.00	0.00
5,900.0	8.50	287.29	5,850.1	202.9	-651.8	-0.5	0.00	0.00	0.00
6,000.0	8.50	287.29	5,949.0	207.3	-665.9	-0.5	0.00	0.00	0.00
6,100.0	8.50	287.29	6,047.9	211.7	-680.0	-0.5	0.00	0.00	0.00
6,200.0	8.50	287.29	6,146.8	216.1	-694.1	-0.5	0.00	0.00	0.00
6,300.0	8.50	287.29	6,245.7	220.5	-708.3	-0.6	0.00	0.00	0.00
6,400.0	8.50	287.29	6,344.6	224.8	-722.4	-0.6	0.00	0.00	0.00
6,500.0	8.50	287.29	6,443.5	229.2	-736.5	-0.6	0.00	0.00	0.00
6,600.0	8.50	287.29	6,542.4	233.6	-750.6	-0.6	0.00	0.00	0.00
6,700.0	8.50	287.29	6,641.3	238.0	-764.7	-0.6	0.00	0.00	0.00
6,800.0	8.50	287.29	6,740.2	242.4	-778.8	-0.6	0.00	0.00	0.00
6,900.0	8.50	287.29	6,839.1	246.8	-792.9	-0.6	0.00	0.00	0.00
7,000.0	8.50	287.29	6,938.0	251.2	-807.0	-0.6	0.00	0.00	0.00
7,100.0	8.50	287.29	7,036.9	255.6	-821.2	-0.6	0.00	0.00	0.00
7,200.0	8.50	287.29	7,135.8	260.0	-835.3	-0.7	0.00	0.00	0.00
7,300.0	8.50	287.29	7,234.7	264.4	-849.4	-0.7	0.00	0.00	0.00
7,400.0	8.50	287.29	7,333.6	268.8	-863.5	-0.7	0.00	0.00	0.00
7,500.0	8.50	287.29	7,432.5	273.2	-877.6	-0.7	0.00	0.00	0.00
7,600.0	8.50	287.29	7,531.4	277.6	-891.7	-0.7	0.00	0.00	0.00
7,700.0	8.50	287.29	7,630.3	282.0	-905.8	-0.7	0.00	0.00	0.00
7,800.0	8.50	287.29	7,729.2	286.3	-920.0	-0.7	0.00	0.00	0.00
7,900.0	8.50	287.29	7,828.1	290.7	-934.1	-0.7	0.00	0.00	0.00
8,000.0	8.50	287.29	7,927.0	295.1	-948.2	-0.7	0.00	0.00	0.00
8,100.0	8.50	287.29	8,025.9	299.5	-962.3	-0.8	0.00	0.00	0.00
8,200.0	8.50	287.29	8,124.8	303.9	-976.4	-0.8	0.00	0.00	0.00
8,300.0	8.50	287.29	8,223.7	308.3	-990.5	-0.8	0.00	0.00	0.00
8,400.0	8.50	287.29	8,322.6	312.7	-1,004.6	-0.8	0.00	0.00	0.00
8,500.0	8.50	287.29	8,421.5	317.1	-1,018.7	-0.8	0.00	0.00	0.00
8,600.0	8.50	287.29	8,520.4	321.5	-1,032.9	-0.8	0.00	0.00	0.00
8,700.0	8.50	287.29	8,619.3	325.9	-1,047.0	-0.8	0.00	0.00	0.00
8,800.0	8.50	287.29	8,718.2	330.3	-1,061.1	-0.8	0.00	0.00	0.00
8,900.0	8.50	287.29	8,817.1	334.7	-1,075.2	-0.8	0.00	0.00	0.00
9,000.0	8.50	287.29	8,916.0	339.1	-1,089.3	-0.9	0.00	0.00	0.00
9,100.0	8.50	287.29	9,014.9	343.4	-1,103.4	-0.9	0.00	0.00	0.00
9,200.0	8.50	287.29	9,113.8	347.8	-1,117.5	-0.9	0.00	0.00	0.00
9,300.0	8.50	287.29	9,212.7	352.2	-1,131.6	-0.9	0.00	0.00	0.00
9,400.0	8.50	287.29	9,311.6	356.6	-1,145.8	-0.9	0.00	0.00	0.00
9,500.0	8.50	287.29	9,410.5	361.0	-1,159.9	-0.9	0.00	0.00	0.00
9,600.0	8.50	287.29	9,509.4	365.4	-1,174.0	-0.9	0.00	0.00	0.00
9,700.0	8.50	287.29	9,608.3	369.8	-1,188.1	-0.9	0.00	0.00	0.00
9,800.0	8.50	287.29	9,707.2	374.2	-1,202.2	-0.9	0.00	0.00	0.00
9,900.0	8.50	287.29	9,806.1	378.6	-1,216.3	-1.0	0.00	0.00	0.00
10,000.0	8.50	287.29	9,905.0	383.0	-1,230.4	-1.0	0.00	0.00	0.00
10,100.0	8.50	287.29	10,003.9	387.4	-1,244.6	-1.0	0.00	0.00	0.00
10,200.0	8.50	287.29	10,102.8	391.8	-1,258.7	-1.0	0.00	0.00	0.00
10,300.0	8.50	287.29	10,201.7	396.2	-1,272.8	-1.0	0.00	0.00	0.00
10,400.0	8.50	287.29	10,300.6	400.6	-1,286.9	-1.0	0.00	0.00	0.00
10,500.0	8.50	287.29	10,399.5	404.9	-1,301.0	-1.0	0.00	0.00	0.00

Database:	Old	**Local Co-ordinate Reference:**	Well Mesa B #17H
Company:	BTA Oil Producers, LLC	**TVD Reference:**	GL* @ 3290.0usft
Project:	Lea County, NM (NAD 83)	**MD Reference:**	GL* @ 3290.0usft
Site:	Mesa B	**North Reference:**	Grid
Well:	Mesa B #17H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,600.0	8.50	287.29	10,498.4	409.3	-1,315.1	-1.0	0.00	0.00	0.00
10,700.0	8.50	287.29	10,597.3	413.7	-1,329.2	-1.0	0.00	0.00	0.00
10,800.0	8.50	287.29	10,696.2	418.1	-1,343.3	-1.1	0.00	0.00	0.00
10,900.0	8.50	287.29	10,795.1	422.5	-1,357.5	-1.1	0.00	0.00	0.00
11,000.0	8.50	287.29	10,894.0	426.9	-1,371.6	-1.1	0.00	0.00	0.00
11,100.0	8.50	287.29	10,992.9	431.3	-1,385.7	-1.1	0.00	0.00	0.00
11,200.0	8.50	287.29	11,091.8	435.7	-1,399.8	-1.1	0.00	0.00	0.00
11,300.0	8.50	287.29	11,190.7	440.1	-1,413.9	-1.1	0.00	0.00	0.00
11,400.0	8.50	287.29	11,289.6	444.5	-1,428.0	-1.1	0.00	0.00	0.00
11,500.0	8.50	287.29	11,388.5	448.9	-1,442.1	-1.1	0.00	0.00	0.00
11,600.0	8.50	287.29	11,487.4	453.3	-1,456.3	-1.1	0.00	0.00	0.00
11,700.0	8.50	287.29	11,586.3	457.7	-1,470.4	-1.2	0.00	0.00	0.00
11,768.0	8.50	287.29	11,653.6	460.6	-1,480.0	-1.2	0.00	0.00	0.00
11,800.0	7.86	287.29	11,685.3	462.0	-1,484.3	-1.2	2.00	-2.00	0.00
11,900.0	5.86	287.29	11,784.6	465.6	-1,495.7	-1.2	2.00	-2.00	0.00
12,000.0	3.86	287.29	11,884.2	468.1	-1,503.8	-1.2	2.00	-2.00	0.00
12,100.0	1.86	287.29	11,984.1	469.6	-1,508.6	-1.2	2.00	-2.00	0.00
12,193.0	0.00	0.00	12,077.0	470.0	-1,510.0	-1.2	2.00	-2.00	0.00
12,200.0	0.00	0.00	12,084.0	470.0	-1,510.0	-1.2	0.00	0.00	0.00
12,243.0	0.00	0.00	12,127.0	470.0	-1,510.0	-1.2	0.00	0.00	0.00
12,300.0	5.70	179.61	12,183.9	467.2	-1,510.0	1.5	10.00	10.00	0.00
12,400.0	15.70	179.61	12,282.1	448.6	-1,509.9	19.2	10.00	10.00	0.00
12,500.0	25.70	179.61	12,375.5	413.3	-1,509.6	52.8	10.00	10.00	0.00
12,600.0	35.70	179.61	12,461.4	362.3	-1,509.3	101.4	10.00	10.00	0.00
12,700.0	45.70	179.61	12,537.1	297.2	-1,508.8	163.5	10.00	10.00	0.00
12,800.0	55.70	179.61	12,600.4	219.9	-1,508.3	237.1	10.00	10.00	0.00
12,900.0	65.70	179.61	12,649.2	132.8	-1,507.7	320.1	10.00	10.00	0.00
13,000.0	75.70	179.61	12,682.2	38.6	-1,507.0	410.0	10.00	10.00	0.00
13,100.0	85.70	179.61	12,698.4	-60.0	-1,506.4	503.9	10.00	10.00	0.00
13,143.0	90.00	179.61	12,700.0	-102.9	-1,506.1	544.8	10.00	10.00	0.00
13,200.0	90.00	179.61	12,700.0	-159.9	-1,505.7	599.2	0.00	0.00	0.00
13,300.0	90.00	179.61	12,700.0	-259.9	-1,505.0	694.5	0.00	0.00	0.00
13,400.0	90.00	179.61	12,700.0	-359.9	-1,504.3	789.8	0.00	0.00	0.00
13,500.0	90.00	179.61	12,700.0	-459.9	-1,503.6	885.0	0.00	0.00	0.00
13,600.0	90.00	179.61	12,700.0	-559.9	-1,502.9	980.3	0.00	0.00	0.00
13,700.0	90.00	179.61	12,700.0	-659.9	-1,502.3	1,075.6	0.00	0.00	0.00
13,800.0	90.00	179.61	12,700.0	-759.9	-1,501.6	1,170.9	0.00	0.00	0.00
13,900.0	90.00	179.61	12,700.0	-859.9	-1,500.9	1,266.2	0.00	0.00	0.00
14,000.0	90.00	179.61	12,700.0	-959.9	-1,500.2	1,361.5	0.00	0.00	0.00
14,100.0	90.00	179.61	12,700.0	-1,059.9	-1,499.5	1,456.8	0.00	0.00	0.00
14,200.0	90.00	179.61	12,700.0	-1,159.9	-1,498.8	1,552.1	0.00	0.00	0.00
14,300.0	90.00	179.61	12,700.0	-1,259.9	-1,498.1	1,647.4	0.00	0.00	0.00
14,400.0	90.00	179.61	12,700.0	-1,359.9	-1,497.5	1,742.7	0.00	0.00	0.00
14,500.0	90.00	179.61	12,700.0	-1,459.9	-1,496.8	1,838.0	0.00	0.00	0.00
14,600.0	90.00	179.61	12,700.0	-1,559.9	-1,496.1	1,933.3	0.00	0.00	0.00
14,700.0	90.00	179.61	12,700.0	-1,659.9	-1,495.4	2,028.6	0.00	0.00	0.00
14,800.0	90.00	179.61	12,700.0	-1,759.9	-1,494.7	2,123.9	0.00	0.00	0.00
14,900.0	90.00	179.61	12,700.0	-1,859.9	-1,494.0	2,219.2	0.00	0.00	0.00
15,000.0	90.00	179.61	12,700.0	-1,959.9	-1,493.4	2,314.5	0.00	0.00	0.00
15,100.0	90.00	179.61	12,700.0	-2,059.9	-1,492.7	2,409.8	0.00	0.00	0.00
15,200.0	90.00	179.61	12,700.0	-2,159.9	-1,492.0	2,505.1	0.00	0.00	0.00
15,300.0	90.00	179.61	12,700.0	-2,259.9	-1,491.3	2,600.4	0.00	0.00	0.00
15,400.0	90.00	179.61	12,700.0	-2,359.9	-1,490.6	2,695.7	0.00	0.00	0.00
15,500.0	90.00	179.61	12,700.0	-2,459.9	-1,489.9	2,791.0	0.00	0.00	0.00

Database:	Old	**Local Co-ordinate Reference:**	Well Mesa B #17H
Company:	BTA Oil Producers, LLC	**TVD Reference:**	GL* @ 3290.0usft
Project:	Lea County, NM (NAD 83)	**MD Reference:**	GL* @ 3290.0usft
Site:	Mesa B	**North Reference:**	Grid
Well:	Mesa B #17H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,600.0	90.00	179.61	12,700.0	-2,559.9	-1,489.2	2,886.3	0.00	0.00	0.00
15,700.0	90.00	179.61	12,700.0	-2,659.9	-1,488.6	2,981.6	0.00	0.00	0.00
15,800.0	90.00	179.61	12,700.0	-2,759.9	-1,487.9	3,076.9	0.00	0.00	0.00
15,900.0	90.00	179.61	12,700.0	-2,859.9	-1,487.2	3,172.2	0.00	0.00	0.00
16,000.0	90.00	179.61	12,700.0	-2,959.9	-1,486.5	3,267.5	0.00	0.00	0.00
16,100.0	90.00	179.61	12,700.0	-3,059.9	-1,485.8	3,362.8	0.00	0.00	0.00
16,200.0	90.00	179.61	12,700.0	-3,159.9	-1,485.1	3,458.1	0.00	0.00	0.00
16,300.0	90.00	179.61	12,700.0	-3,259.9	-1,484.4	3,553.4	0.00	0.00	0.00
16,400.0	90.00	179.61	12,700.0	-3,359.9	-1,483.8	3,648.7	0.00	0.00	0.00
16,500.0	90.00	179.61	12,700.0	-3,459.9	-1,483.1	3,744.0	0.00	0.00	0.00
16,600.0	90.00	179.61	12,700.0	-3,559.9	-1,482.4	3,839.3	0.00	0.00	0.00
16,700.0	90.00	179.61	12,700.0	-3,659.9	-1,481.7	3,934.6	0.00	0.00	0.00
16,800.0	90.00	179.61	12,700.0	-3,759.9	-1,481.0	4,029.9	0.00	0.00	0.00
16,900.0	90.00	179.61	12,700.0	-3,859.9	-1,480.3	4,125.2	0.00	0.00	0.00
17,000.0	90.00	179.61	12,700.0	-3,959.9	-1,479.7	4,220.5	0.00	0.00	0.00
17,100.0	90.00	179.61	12,700.0	-4,059.8	-1,479.0	4,315.8	0.00	0.00	0.00
17,200.0	90.00	179.61	12,700.0	-4,159.8	-1,478.3	4,411.1	0.00	0.00	0.00
17,300.0	90.00	179.61	12,700.0	-4,259.8	-1,477.6	4,506.4	0.00	0.00	0.00
17,400.0	90.00	179.61	12,700.0	-4,359.8	-1,476.9	4,601.7	0.00	0.00	0.00
17,500.0	90.00	179.61	12,700.0	-4,459.8	-1,476.2	4,697.0	0.00	0.00	0.00
17,600.0	90.00	179.61	12,700.0	-4,559.8	-1,475.5	4,792.3	0.00	0.00	0.00
17,700.0	90.00	179.61	12,700.0	-4,659.8	-1,474.9	4,887.6	0.00	0.00	0.00
17,789.1	90.00	179.61	12,700.0	-4,749.0	-1,474.2	4,972.5	0.00	0.00	0.00

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
Mesa B #17H BHL - plan hits target center - Point	0.00	0.00	12,700.0	-4,749.0	-1,474.2	383,014.30	765,350.50	32° 3' 3.327 N	103° 36' 37.049 W

Weatherford®

WFT Casing Head (Slip on Weld with O-Ring) Running Procedure

Publication RP-001

October 21, 2010

Install the Casing Head

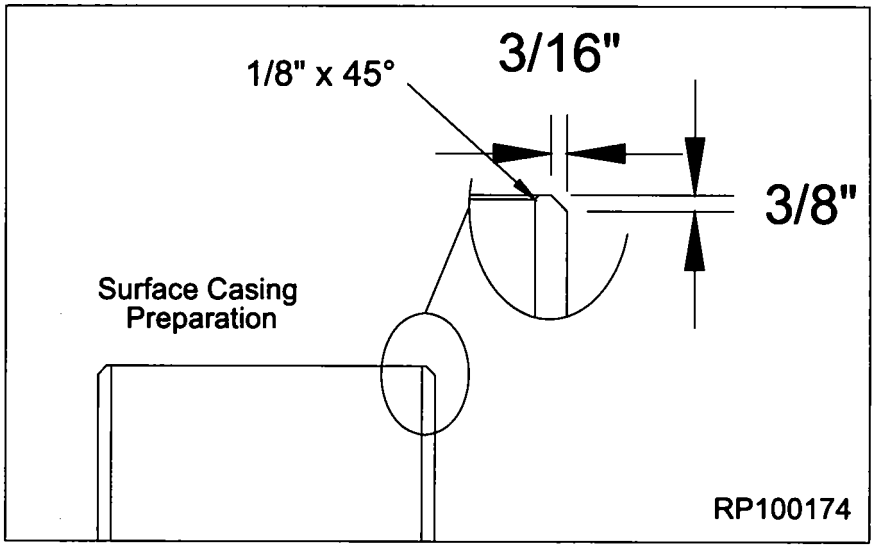
1. Examine the ***WFT Casing Head***. Verify the following:
   - bore is clean and free of debris
   - seal areas, threads and ring grooves are clean and undamaged
   - o-ring is properly installed, clean and undamaged
   - all peripheral equipment is intact and undamaged
2. Measure the pocket depth of the Casing Head and record this dimension.
3. Run the surface casing and cement as required.
4. Determine the required elevation of the Casing Head as required by the Drilling Supervisor.
5. Use the following calulation to determine the correct final cut location of the surface casing.

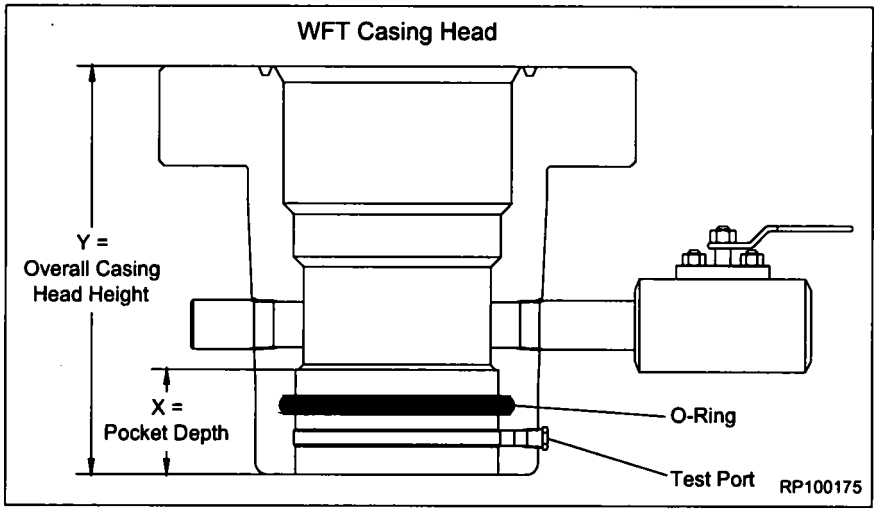
X = Pocket Depth

Y = Overall Casing Head Height

Y - X = Distance from correct elevation point to surface casing cutoff height.

6. Lift the riser assembly high enough to rough cut the surface casing a minimum of 12" above the anticipated final cut location, if applicable.
7. Remove the spent portion of surface casing and the riser assembly and set aside.
8. Determine the correct elevation for the wellhead assembly.
9. Rough cut the surface casing a minimum of 12" above the final cut location.
10. Cut the conductor pipe a comfortable level below the final cut location of the surface casing.





11. Final cut the surface casing at the correct elevation.

NOTE: Ensure the cut on the surface casing is level as this will determine the orientation of the remainder of the wellhead equipment.

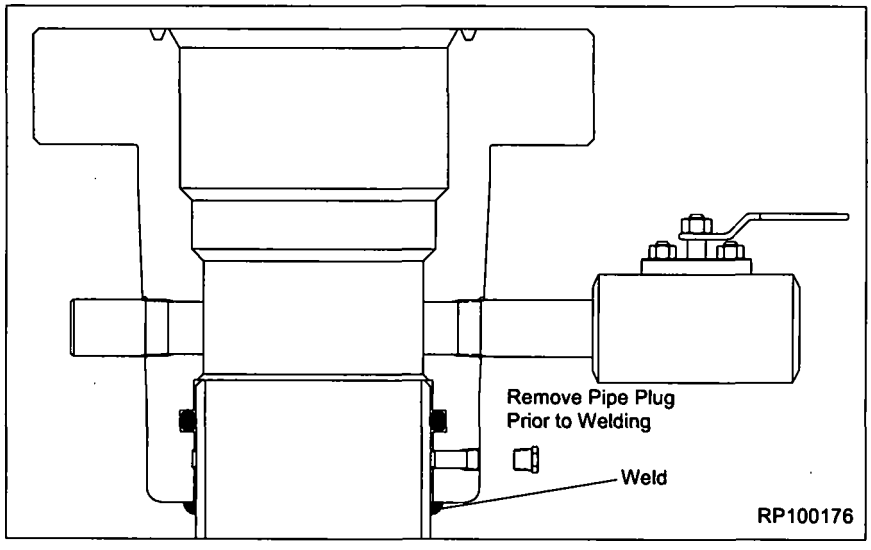
12. Bevel the surface casing with a 3/16" x 3/8" bevel and remove any sharp edges from the OD of the casing.
13. Break a 1/8" x 45° bevel on the ID of the surface casing.

Install the Casing Head

14. Wipe the ID of the o-ring of the Casing Head with a light coat of oil or grease.

NOTE: Excessive oil or grease will prevent a positive seal from forming.

15. Lower the Casing Head over the surface casing stub to a positive stop.
16. Remove the fitting from the test port and set aside.
17. Orient the Casing Head as per the Drilling Superintendents instructions ensuring the face of the Casing Head is level and two holed to the drilling rig substructure.
18. Weld and test the surface casing to the Casing Head as per the ***RECOMMENDED FIELD WELDING PROCEDURE*** located in the back of this manual.
19. Once all welding and testing is completed, replace the fitting into the open port and close the valve on the Casing Head.



Recommended Procedure for Field Welding Pipe to Wellhead Parts for Pressure Seal

1. **Introduction and Scope.** The following recommended procedure has been prepared with particular regard to attaining pressure-tight weld when attaching casing heads, flanges, etc., to casing. Although most of the high strength casing used (such as N-80) is not normally considered field weldable, some success may be obtained by using the following or similar procedures.

   Caution: In some wellheads, the seal weld is also a structural weld and can be subjected to high tensile stresses. Consideration must therefore be given by competent authority to the mechanical properties of the weld and its heat affected zone.

   a. The steels used in wellhead parts and in casing are high strength steels that are susceptible to cracking when welded. It is imperative that the finished weld and adjacent metal be free from cracks. The heat from welding also affects the mechanical properties. This is especially serious if the weld is subjected to service tension stresses.

   b. This procedure is offered only as a recommendation. The responsibility for welding lies with the user and results are largely governed by the welder's skill. Weldability of the several makes and grades of casing varies widely, thus placing added responsibility on the welder. Transporting a qualified welder to the job, rather than using a less-skilled man who may be at hand, will, in most cases, prove economical. The responsible operating representative should ascertain the welder's qualifications and, if necessary, assure himself by instruction or demonstration, that the welder is able to perform the work satisfactorily.

2. **Welding Conditions.** Unfavorable welding conditions must be avoided or minimized in every way possible, as even the most skilled welder cannot successfully weld steels that are susceptible to cracking under adverse working conditions, or when the work is rushed. Work above the welder on the drilling floor should be avoided> The weld should be protected from dripping mud, water, and oil and from wind, rain, or other adverse weather conditions. The drilling mud, water, or other fluids must be lowered in the casing and kept at a low level until the weld has properly cooled. It is the responsibility of the user to provide supervision that will assure favorable working conditions, adequate time, and the necessary cooperation of the rig personnel.

3. **Welding.** The welding should be done by the shielded metal-arc or other approved process.

4. **Filler Metal.** Filler Metals. For root pass, it's recommended to use E6010, E6011 (AC), E6019 or equivalent electrodes. The E7018 or E7018-A1 electrodes may also be used for root pass operations but has the tendency to trap slag in tight grooves. The E6010, E6011 and E6019 offer good penetration and weld deposit ductility with relatively high intrinsic hydrogen content. Since the E7018 and E7018-A1 are less susceptible to hydrogen induced cracking, it is recommended for use as the filler metal for completion of the weld groove after the root pass is completed. The E6010, E6011 (AC), E6019, E7018 and E7018-A1 are classified under one of the following codes AWS A5.1 (latest edition): Mild Steel covered electrodes or the AWS A5.5 (latest edition): Low Alloy Steel Covered Arc-Welding Electrodes. The low hydrogen electrodes, E7018 and E7018-A1, should not be exposed to the atmosphere until ready for use. It's recommended that hydrogen electrodes remain in their sealed containers. When a job arises, the container shall be opened and all unused remaining electrodes to be stored in heat electrode storage ovens. Low hydrogen electrodes exposed to the atmosphere, except water, for more than two hours should be dried 1 to 2 hours at 600°F to 700 °F (316°C to 371 °C) just before use. It's recommended for any low hydrogen electrode containing water on the surface should be scrapped.

5. **Preparation of Base Metal.** The area to be welded should be dry and free of any paint, grease/oil and dirt. All rust and heat-treat surface scale shall be ground to bright metal before welding.

6. **Preheating.** Prior to any heating, the wellhead member shall be inspected for the presence of any o-rings or other polymeric seals. If any o-rings or seals are identified then preheating requires close monitoring as noted in paragraph 6a. Before applying preheat, the fluid should be bailed out of the casing to a point several inches (>6" or 150 mm) below the weld joint/location. Preheat both the casing and wellhead member for a minimum distance of three (3) inches on each side of the weld joint using a suitable preheating torch in accordance with the temperatures shown below in a and b. The preheat temperature should be checked by the use of heat sensitive crayons. Special attention must be given to preheating the thick sections of wellhead parts to be welded, to insure uniform heating and expansion with respect to the relatively thin casing.

   a. Wellhead members containing o-rings and other polymeric seals have tight limits on the preheat and interpass temperatures. Those temperatures must be controlled at 200°F to 325°F or 93 °C to 160°C and closely monitored to prevent damage to the o-ring or seals.

   b. Wellhead members not containing o-rings and other polymeric seals should be maintained at a preheat and interpass temperature of 400°F to 600°F or 200°C to 300°C.

Recommended Procedure for Field Welding Pipe to Wellhead Parts for Pressure Seal (continued)

7. **Welding Technique.** Use a 1/8 or 5/32-inch (3.2 or 4.0 mm) E6010 or E7018 electrode and step weld the first bead (root pass); that, weld approximately 2 to 4 inches (50 to 100 mm) and then move diametrically opposite this point and weld 2 to 4 inches (50 to 100 mm) halfway between the first two welds, move diametrically opposite this weld, and so on until the first pass is completed. This second pass should be made with a 5/32-inch (4.0 mm) low hydrogen electrode of the proper strength and may be continuous. The balance of the welding groove may then be filled with continuous passes without back stepping or lacing, using a 3/16-inch (4.8 mm) low hydrogen electrode. All beads should be stringer beads with good penetration. There should be no undercutting and weld shall be workmanlike in appearance.

   a. Test ports should be open when welding is performed to prevent pressure buildup within the test cavity.

   b. During welding the temperature of the base metal on either side of the weld should be maintained at 200 to 300°F (93 to 149°C).

   c. Care should be taken to insure that the welding cable is properly grounded to the casing, but ground wire should not be welded to the casing or the wellhead. Ground wire should be firmly clamped to the casing, the wellhead, or fixed in position between pipe slips. Bad contact may cause sparking, with resultant hard spots beneath which incipient cracks may develop. The welding cable should not be grounded to the steel derrick, nor to the rotary-table base.

8. **Cleaning.** All slag or flux remaining on any welding bead should be removed before laying the next bead. This also applies to the completed weld.

9. **Defects.** Any cracks or blow holes that appear on any bead should be removed to sound metal by chipping or grinding before depositing the next bead.

10. **Postheating.** Post-heating should be performed at the temperatures shown below and held at that temperature for no less than one hour followed by a slow cooling. The post-heating temperature should be in accordance with the following paragraphs.

    a. Wellhead members containing o-rings and other polymeric seals have tight limits on the post-heating temperatures. Those temperatures must be controlled at 250°F to 300°F or 120 °C to 150°C and closely monitored to prevent damage to the o-ring or seals.

    b. Wellhead members not containing o-rings and other polymeric seals should be post-heated at a temperature of 400°F to 600°F or 200°C to 300°C.

11. **Cooling. Rapid cooling must be avoided.** To assure slow cooling, welds should be protected from extreme weather conditions (cold, rain, high winds, etc.) by the use of suitable insulating material. (Specially designed insulating blankets are available at many welding supply stores.) Particular attention should be given to maintaining uniform cooling of the thick sections of the wellhead parts and the relatively thin casing, as the relatively thin casing will pull away from the head or hanger if allowed to cool more rapidly. The welds should cool in air to less than 200°F (93°C) (measured with a heat sensitive crayon) prior to permitting the mud to rise in the casing.

12. **Test the Weld.** After cooling, test the weld. The weld must be cool otherwise the test media will crack the weld. The test pressure should be no more than 80% of the casing collapse pressure.

Test Media	
Acceptable Medias	**Unacceptable Medias**
Water Water Soluable Oil Inert Gas •Nitrogen •Argon Gas	Oxygen Acetylene Hydraulic Oil Motor Oil Brake Fluid

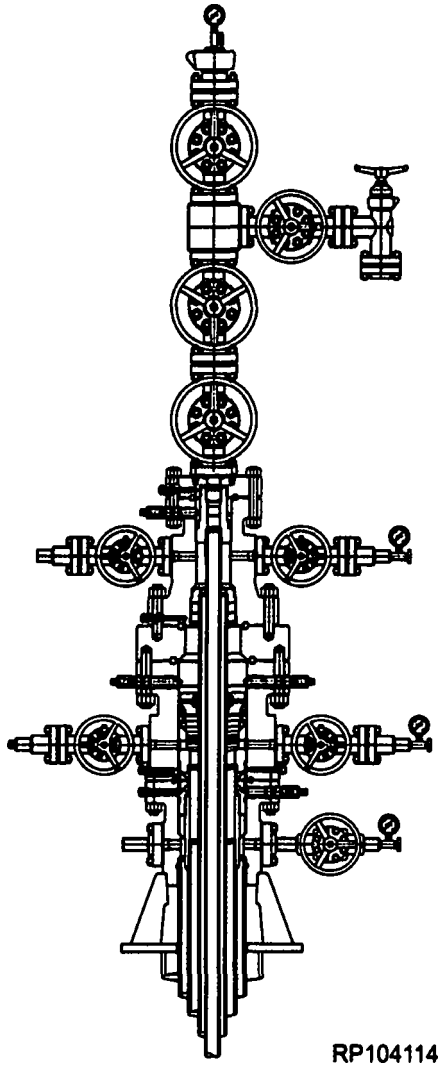
Weatherford®

Wellhead Field Service Manual

WFT-SB Wellhead System Running Procedure

Publication: SM-11-1

Release Date: December 2014



RP104114

Weatherford	Field Service Manual	Prepared By:	Reviewed By:	Approved By:	SM-11-1
		Marion Robertson	Bruce Ross	Manuel Zaragoza	Rev WIP
5-3-GL-GL-WES-00XXX		Dec 2014	Dec 2014	Dec 2014	Page 1 of 24

APD ID: 10400036992 **Submission Date:** 12/10/2018

Operator Name: BTA OIL PRODUCERS LLC

Well Name: MESA B 8115 FED COM **Well Number:** 17H

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 Pits

Would you like to utilize Lined Pit PWD options? NO

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 specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

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 attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

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 specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

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 evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Operator Name: BTA OIL PRODUCERS LLC

Well Name: MESA B 8115 FED COM Well Number: 17H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

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 attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

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 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: PWD disturbance (acres):

Other PWD discharge volume (bbl/day):

Operator Name: BTA OIL PRODUCERS LLC

Well Name: MESA B 8115 FED COM **Well Number:** 17H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

APD ID: 10400036992 **Submission Date:** 12/10/2018

Operator Name: BTA OIL PRODUCERS LLC

Well Name: MESA B 8115 FED COM **Well Number:** 17H

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

Show Final Text

Bond Information

Federal/Indian APD: FED

BLM Bond number: NMB001711

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 attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment: