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Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMLC0061873B

6. If Indian, Allotee or Tribe Name

1a. Type of work: [✓] DRILL [ ] REENTER

1b. Type of Well: [✓] Oil Well [ ] Gas Well [ ] Other

1c. Type of Completion: [ ] Hydraulic Fracturing [✓] Single Zone [ ] Multiple Zone

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

8. Lease Name and Well No.
MUSTANG 8-17 FED
236H 32616

2. Name of Operator
DEVON ENERGY PRODUCTION COMPANY LP (6137)

9. API Well No.
30-025-46413

3a. Address
333 West Sheridan Avenue Oklahoma City OK 73102

3b. Phone No. *(include area code)*
(800)583-3866

10. Field and Pool, or Exploratory
FED WC-025 G-06 S253206M / BONE SP (97899)

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface SENW / 2468 FNL / 1405 FWL / LAT 32.145318 / LONG -103.7012661
At proposed prod. zone SESW / 20 FSL / 1689 FWL / LAT 32.1231511 / LONG -103.7004479

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 8 / T25S / R32E / NMP

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

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)
1405 feet

16. No of acres in lease
1759.31

17. Spacing Unit dedicated to this well
480

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
1737 feet

19. Proposed Depth
10200 feet / 18217 feet

20. BLM/BIA Bond No. in file
FED: NMB000801

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3438 feet

22. Approximate date work will start*
12/01/2019

23. Estimated duration
45 days

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Jenny Harms / Ph: (405)524-4902	04/10/2019

Title
Regulatory Compliance Professional

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	09/27/2019

Title	Office
Assistant Field Manager Lands & Minerals	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.

SCP 10/01/19
Req. need NOP.

APPROVED WITH CONDITIONS

KK 10/08/19

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 09/27/2019

- Double sided

Additional Operator Remarks

Location of Well

1. SHL: SENW / 2468 FNL / 1405 FWL / TWSP: 25S / RANGE: 32E / SECTION: 8 / LAT: 32.145318 / LONG: -103.7012661 (TVD: 0 feet, MD: 0 feet)
   PPP: NESW / 2560 FSL / 2060 FWL / TWSP: 25S / RANGE: 32E / SECTION: 8 / LAT: 32.1445599 / LONG: -103.6991531 (TVD: 10165 feet, MD: 10367 feet)
   BHL: SESW / 20 FSL / 1689 FWL / TWSP: 25S / RANGE: 32E / SECTION: 17 / LAT: 32.1231511 / LONG: -103.7004479 (TVD: 10200 feet, MD: 18217 feet)

BLM Point of Contact

Name: Candy Vigil
Title: Admin Support Assistant
Phone: 5752345982
Email: cvigil@blm.gov

Approval Date: 09/27/2019

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.

Geologic Conditions of Approval

:

All APDs in Basin Areas need to consist of: Rustler Top of Salt Base of Salt Lamar Bell Canyon Cherry Canyon Brushy Canyon Bone Springs Lime 1st Bone Sand 2nd Bone Sand 3rd Bone Lime (if near or in Potash Area) 3rd Bone Sand Wolfcamp Strawn *All formation casing setting depths, TVD formations.

AFMSS

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

Application for Permit to Drill

APD Package Report

Date Printed:

APD ID:
APD Received Date:
Operator:

Well Status:
Well Name:
Well Number:

APD Package Report Contents

- Form 3160-3

- Operator Certification Report

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

- Drilling Plan Report
- Drilling Plan Attachments
  -- Blowout Prevention Choke Diagram Attachment: 4 file(s)
  -- Blowout Prevention BOP Diagram Attachment: 4 file(s)
  -- Casing Design Assumptions and Worksheet(s): 6 file(s)
  -- Hydrogen sulfide drilling operations plan: 1 file(s)
  -- Proposed horizontal/directional/multi-lateral plan submission: 4 file(s)
  -- Other Facets: 5 file(s)
  -- Other Variances: 1 file(s)

- SUPO Report
- SUPO Attachments
  -- Existing Road Map: 1 file(s)
  -- New Road Map: 1 file(s)
  -- Attach Well map: 1 file(s)
  -- Water source and transportation map: 1 file(s)
  -- Construction Materials source location attachment: 1 file(s)
  -- Well Site Layout Diagram: 1 file(s)
  -- Recontouring attachment: 1 file(s)
  -- Other SUPO Attachment: 6 file(s)

- PWD Report
- PWD Attachments
  -- None

- Bond Report
- Bond Attachments
  -- None

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Devon Energy Production Company LP**
LEASE NO.:	**NMLC0061873B**
WELL NAME & NO.:	Mustang 8-17 Fed 236H
SURFACE HOLE FOOTAGE:	2468'/N & 1405'/W
BOTTOM HOLE FOOTAGE	20'/S & 1689'/W
LOCATION:	Section 8, T.25 S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico

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 **830 feet** (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **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 **4635 feet** is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above.

Option 2:

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

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

b. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office.

Operator has proposed to pump down 13-3/8" X 9-5/8" annulus. Operator must run a CBL from TD of the 9-5/8" casing to surface. Submit results to BLM.

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

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.
  Cement excess is less than 25%, more cement might be required. (12.55%)

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 **5000 (5M)** psi.

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

Option 2:

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

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

GENERAL REQUIREMENTS

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

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

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

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

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

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

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

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

A. CASING

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

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

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

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

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

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

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

B. PRESSURE CONTROL

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production Company LP
WELL NAME & NO.:	Mustang 8-17 Fed 236H
SURFACE HOLE FOOTAGE:	2468'/N & 1405'/W
BOTTOM HOLE FOOTAGE	20'/S & 1689'/W
LOCATION:	Section 8, T.25 S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico

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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.

Approval Date: 09/27/2019

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

IV. NOXIOUS WEEDS

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

V. SPECIAL REQUIREMENT(S)

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

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

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

This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

Hydrological Features Stipulations / Condition of Approval

The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. 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 berm shall be maintained through the life of the well and 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.

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

Range Stipulations / Conditions of Approval

Cattleguards
Where a permanent cattlegaurd is approved, an appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s). Any existing cattleguard(s) on the access road 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 cattleguard(s) that are in place and are utilized during lease operations. A gate shall be constructed on one side of the cattleguard and fastened securely to H-braces.

Fence Requirement
Where entry granted across a fence line, the fence must be braced and tied off on both sides of the passageway prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Livestock Watering Requirement
Structures that provide water to livestock, such as windmills, pipelines, drinking troughs, and earthen reservoirs, will be avoided by moving the proposed action.

VI. CONSTRUCTION

A. NOTIFICATION

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

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

B. TOPSOIL

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

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

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

F. EXCLOSURE FENCING (CELLARS & PITS)

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

G. ON LEASE ACCESS ROADS

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

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

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

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

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

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

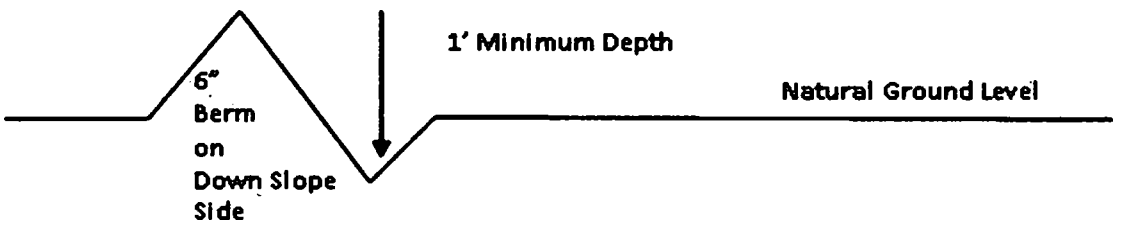
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

Cattle guards

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

Fence Requirement

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

Public Access

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

Construction Steps

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

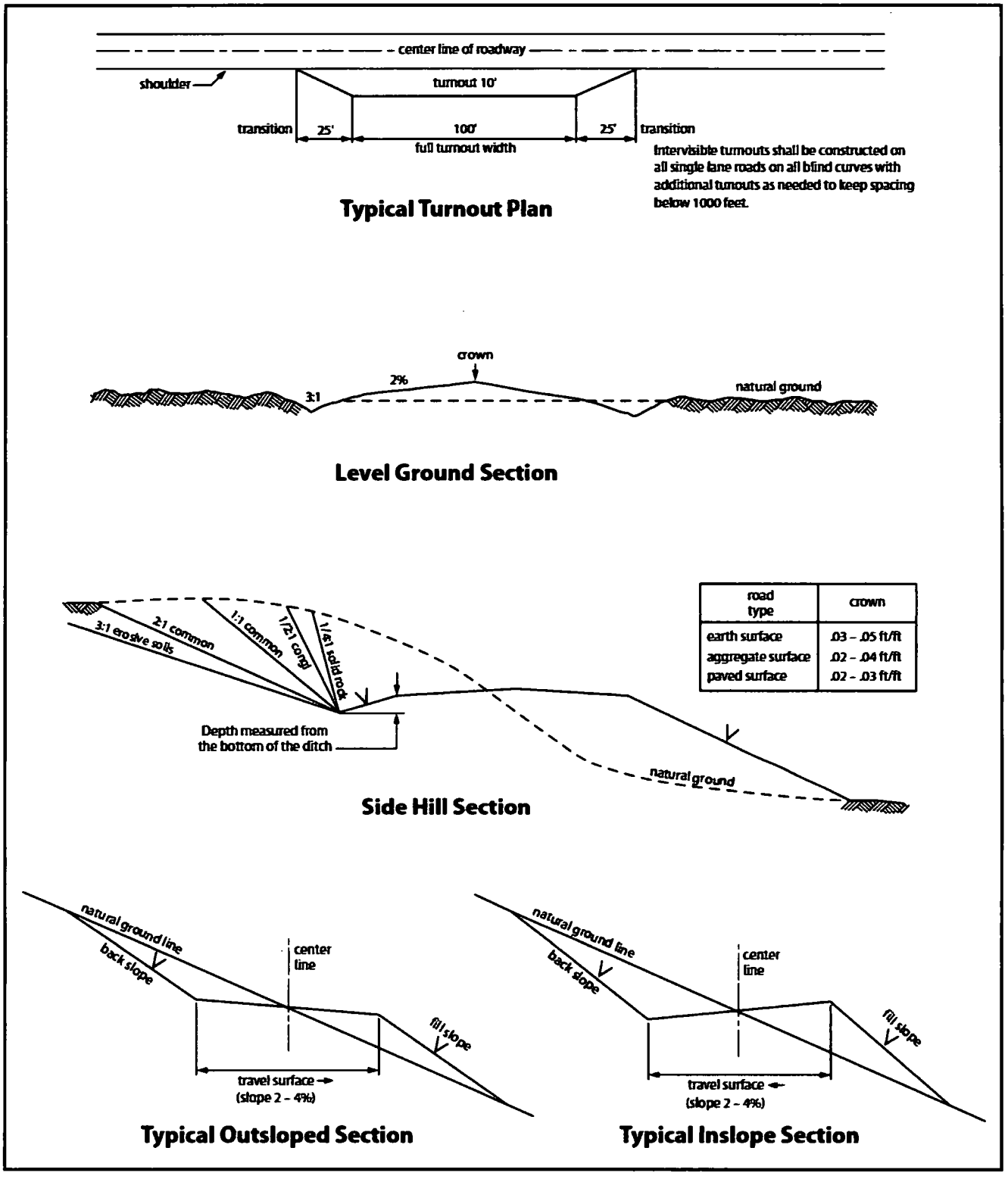


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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).

B. PIPELINES

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to

the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of **36** inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be **30** feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed **20** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)

- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed **30** feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)

- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately ___6___ inches in depth. The topsoil will be

segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

( ) seed mixture 1	( ) seed mixture 3
( ) seed mixture 2	( ) seed mixture 4
(X) seed mixture 2/LPC	( ) Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. 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 proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

17. 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 associated roads, 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.

18. Escape Ramps - The operator will construct and maintain pipeline/utility trenches that are not otherwise fenced, screened, or netted to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

19. Special Stipulations:

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June

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

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

Range Stipulations / Conditions of Approval

Cattleguards
Where a permanent cattlegaurd is approved, an appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s). Any existing cattleguard(s) on the access road 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 cattleguard(s) that are in place and are utilized during lease operations. A gate shall be constructed on one side of the cattleguard and fastened securely to H-braces.

Fence Requirement
Where entry granted across a fence line, the fence must be braced and tied off on both sides of the passageway prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Livestock Watering Requirement
Structures that provide water to livestock, such as windmills, pipelines, drinking troughs, and earthen reservoirs, will be avoided by moving the proposed action.

C. ELECTRIC LINES

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

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

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. 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 proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:

For reclamation remove poles, lines, transformer, etc. and dispose of properly. Fill in any holes from the poles removed.

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human

activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

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

D. OIL AND GAS RELATED SITES

STANDARD STIPULATIONS FOR OIL AND GAS RELATED SITES

A copy of the application (Grant/Sundry Notice) and attachments, including stipulations and map, will be on location during construction. BLM personnel may request to view a copy of your permit during construction to ensure compliance with all stipulations.

The holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer, BLM.

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant and for all response costs, penalties, damages, claims, and other costs arising from the provisions of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Chap. 82, Section 6901 et. seq., from the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. Chap. 109, Section 9601 et. seq., and from other applicable environmental statues.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et. seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized by this grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic

substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et. seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et. seq.) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the site or related pipeline(s), any oil or other pollutant should be discharged from site facilities, the pipeline(s) or from containers or vehicles impacting Federal lands, the control and total removal, disposal, and cleanup of such oil of other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages to Federal lands resulting therefrom, the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

5. Sites shall be maintained in an orderly, sanitary condition at all times. Waste materials, both liquid and solid, shall be disposed of promptly at an appropriate, authorized waste disposal facility in accordance with all applicable State and Federal laws. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, petroleum products, brines, chemicals, oil drums, ashes, and equipment.

6. The operator will notify the Bureau of Land Management (BLM) authorized officer and nearest Fish and Wildlife Service (FWS) Law Enforcement office within 24 hours, if the operator discovers a dead or injured federally protected species (i.e., migratory bird species, bald or golden eagle, or species listed by the FWS as threatened or endangered) in or adjacent to a pit, trench, tank, exhaust stack, or fence. (If the operator is unable to contact the FWS Law Enforcement office, the operator must contact the nearest FWS Ecological Services office.)

7. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" designated by the Rocky Mountain

Five-State Interagency Committee. The color selected for this project is **Shale Green**, Munsell Soil Color Chart Number 5Y 4/2.

8. Any cultural and/or 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.

9. A sales contract for removal of mineral material (caliche, sand, gravel, fill dirt) from an authorized pit, site, or on location must be obtained from the BLM prior to commencing construction. There are several options available for purchasing mineral material: contact the BLM office (575-234-5972).

10. 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.

11. Once the site is no longer in service or use, the site must undergo final abandonment. At final abandonment, the site 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 the abandonment of the site. All pads and 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. 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).

12. The holder shall stockpile an adequate amount of topsoil where blading occurs. The topsoil to be stripped is approximately ___6___ inches in depth. The topsoil will be segregated from other spoil piles. The topsoil will be used for final reclamation.

13. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

( ) seed mixture 1	( ) seed mixture 3
( ) seed mixture 2	( ) seed mixture 4
(X) seed mixture 2/LPC	( ) Aplomado Falcon Mixture

14. In those areas where erosion control structures are required to stabilize soil conditions, the holder shall install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound management practices. Any earth work will require prior approval by the Authorized Officer.

15. Open-topped Tanks - 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

16. 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.

17. 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.

18. 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.

19. Special Stipulations:

- The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. 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 berm shall be maintained through the life of the well and 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 corrected within two weeks and proper measures will be taken to prevent future erosion.

Lesser Prairie-Chicken

Oil and gas activities will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted. Exhaust noise from permanent engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

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

Hydrological Features Stipulations / Condition of Approval

The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. 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 berm shall be maintained through the life of the well and 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.

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

Range Stipulations / Conditions of Approval

Cattleguards
Where a permanent cattlegaurd is approved, an appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s). Any existing cattleguard(s) on the access road 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 cattleguard(s) that are in place and are utilized during lease operations. A gate shall be constructed on one side of the cattleguard and fastened securely to H-braces.

Fence Requirement
Where entry granted across a fence line, the fence must be braced and tied off on both sides of the passageway prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Livestock Watering Requirement
Structures that provide water to livestock, such as windmills, pipelines, drinking troughs, and earthen reservoirs, will be avoided by moving the proposed action.

VIII. INTERIM RECLAMATION

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

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

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

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

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

IX. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

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

Seed Mixture for LPC Sand/Shinnery Sites

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 shall be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed shall be either certified or registered seed. The seed container shall 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). 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. Seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may not be made before completion of at least one full growing season after seeding.

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

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

*Pounds of pure live seed:

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

AFMSS

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

Operator Certification Data Report

09/29/2019

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: Jenny Harms **Signed on:** 04/08/2019

Title: Regulatory Compliance Professional

Street Address: 333 W SHERDIAN AVE

City: OKLAHOMA CITY **State:** OK **Zip:** 73170

Phone: (405)524-4902

Email address: RAY.VAZ@DVN.COM

Field Representative

Representative Name: Ray vaz

Street Address: 333 WEST SHERIDAN AVE

City: OKLAHOMA CITY **State:** OK **Zip:** 73102

Phone: (575)748-1871

Email address: ray.vaz@dvn.com

APD ID: 10400040672 **Submission Date:** 04/10/2019

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: MUSTANG 8-17 FED **Well Number:** 236H

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

[redacted]

Show Final Text

Section 1 - General

APD ID: 10400040672 **Tie to previous NOS?** **Submission Date:** 04/10/2019

BLM Office: CARLSBAD **User:** Jenny Harms **Title:** Regulatory Compliance Professional

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

Lease number: NMLC0061873B **Lease Acres:** 1759.31

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

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

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? NO **APD Operator:** DEVON ENERGY PRODUCTION COMPANY LP

Operator letter of designation:

Operator Info

Operator Organization Name: DEVON ENERGY PRODUCTION COMPANY LP

Operator Address: 333 West Sheridan Avenue **Zip:** 73102

Operator PO Box:

Operator City: Oklahoma City **State:** OK

Operator Phone: (800)583-3866

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: MUSTANG 8-17 FED **Well Number:** 236H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** FED WC-025 G-06 S253206M **Pool Name:** BONE SPRING (OIL)

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: MUSTANG 8-17 FED **Well Number:** 236H

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

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:** CHINCOTEAGUE 8 PAD **Number:** 1

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: **Distance to nearest well:** 1737 FT **Distance to lease line:** 1405 FT

Reservoir well spacing assigned acres Measurement: 480 Acres

Well plat: AA000213625_MUSTANG_8_17_FED_236H_WL_P_R2_C102_signed_20190408082538.pdf

Well work start Date: 12/01/2019 **Duration:** 45 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 7006B **Reference Datum:**

	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	2468	FNL	1405	FWL	25S	32E	8	Aliquot SENW	32.145318	-103.7012661	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0061873B	3438	0	0
KOP Leg #1	2343	FNL	2060	FWL	25S	32E	8	Aliquot SENW	32.145651	-103.699148	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0061873B	-6189	9667	9627
PPP Leg #1	2560	FSL	2060	FWL	25S	32E	8	Aliquot NESW	32.144559	-103.6991531	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0061873B	-6727	10367	10165

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: MUSTANG 8-17 FED **Well Number:** 236H

	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	1705	FWL	23S	32E	17	Aliquot SESW	32.1233711	-103.7003949	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0061873B	-6762	18137	10200
BHL Leg #1	20	FSL	1689	FWL	25S	32E	17	Aliquot SESW	32.1231511	-103.7004479	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0061873B	-6762	18217	10200

APD ID: 10400040672 **Submission Date:** 04/10/2019

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: MUSTANG 8-17 FED **Well Number:** 236H

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

[redacted]

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

EX_RD_20190408083712.pdf

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

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

ACCESS_RD_20190408083753.pdf

New road type: COLLECTOR,RESOURCE

Length: 1930 Feet **Width (ft.):** 30

Max slope (%): 6 **Max grade (%):** 4

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 20

New road access erosion control: Water Drainage Ditch

New road access plan or profile prepared? NO

New road access plan attachment:

Access road engineering design? NO

Access road engineering design attachment:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: MUSTANG 8-17 FED **Well Number:** 236H

Turnout? N

Access surfacing type: GRAVEL

Access topsoil source: ONSITE

Access surfacing type description:

Access onsite topsoil source depth: 6

Offsite topsoil source description:

Onsite topsoil removal process: See attached Interim reclamation diagram.

Access other construction information:

Access miscellaneous information:

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

Drainage Control

New road drainage crossing: CULVERT,OTHER

Drainage Control comments: na

Road Drainage Control Structures (DCS) description: na

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

MUSTANG_8_17_FED_236H_OneMileBuffer_WA017751239_20190408083816.pdf

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

Submit or defer a Proposed Production Facilities plan? DEFER

Estimated Production Facilities description: Please refer to CTB plat, all flowlines will be buried. CHINCOTEAGUE 8 CTB 1

Section 5 - Location and Types of Water Supply

Water Source Table

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: MUSTANG 8-17 FED **Well Number:** 236H

Water source type: OTHER

Describe type: null

Water source use type: STIMULATION

Source latitude: **Source longitude:**

Source datum:

Water source permit type: OTHER

Water source transport method: PIPELINE

Source land ownership: FEDERAL

Source transportation land ownership: STATE

Water source volume (barrels): 172500 **Source volume (acre-feet):** 22.234058

Source volume (gal): 7245000

Water source and transportation map:

MUSTANG_8_17_FED_COM_235H_236H_237H__water_map_20190408075951.PDF

Water source comments: The attached Water Transfer Map is a proposal only and the final route and documentation will be provided by a Devon contractor prior to installation. When available Devon will always follow existing disturbance.
New water well? NO

New Water Well Info

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

Well target aquifer:

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

Aquifer comments:

Aquifer documentation:

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

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

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

Drilling method: **Drill material:**

Grout material: **Grout depth:**

Casing length (ft.): **Casing top depth (ft.):**

Well Production type: **Completion Method:**

Water well additional information:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: MUSTANG 8-17 FED **Well Number:** 236H

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Using any construction materials: YES

Construction Materials description: Dirt fill and caliche will be used to construct well pad. Map attached.

Construction Materials source location attachment:

Chincoteague_8_Wellpad_1_Caliche_Map_20190408080059.pdf

Section 7 - Methods for Handling Waste

Waste type: FLOWBACK

Waste content description: Average produced BWPD over the flowback period (first 30 days of production).

Amount of waste: 2000 barrels

Waste disposal frequency : Daily

Safe containment description: N/A

Safe containmant attachment:

Waste disposal type: OFF-LEASE INJECTION **Disposal location ownership:** STATE

Disposal type description:

Disposal location description: Produced water during flowback will be disposed of at various disposals in Lea and Eddy County.

Waste type: PRODUCED WATER

Waste content description: Average produced BWPD over the first year of production

Amount of waste: 1000 barrels

Waste disposal frequency : Daily

Safe containment description: N/A

Safe containmant attachment:

Waste disposal type: OFF-LEASE INJECTION **Disposal location ownership:** PRIVATE

Disposal type description:

Disposal location description: Multiple methods for handling waste will be utilized. Via trucking, Dvn owned disposal system and or third party pipeline take away.

Waste type: COMPLETIONS/STIMULATION

Waste content description: Flow back water during completion operations.

Amount of waste: 3000 barrels

Waste disposal frequency : One Time Only

Safe containment description: N/A

Safe containmant attachment:

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

Disposal location description: Various disposal locations in Lea and Eddy counties.

Waste type: DRILLING

Waste content description: Water Based Cuttings

Amount of waste: 1800 barrels

Waste disposal frequency : Daily

Safe containment description: N/A

Safe containmant attachment:

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

Disposal location description: All cuttings will disposed of at R360, Sundance, or equivalent.

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

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

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

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

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? NO

Description of cuttings location

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

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

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

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

RIG_LAY_OUT_20190408083926.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: CHINCOTEAGUE 8 PAD

Multiple Well Pad Number: 1

Recontouring attachment:

RECLAMATION_20190408083941.pdf

Drainage/Erosion control construction: N/A

Drainage/Erosion control reclamation: N/A

Well pad proposed disturbance (acres): 4.029
Road proposed disturbance (acres): 1.32
Powerline proposed disturbance (acres): 0.34
Pipeline proposed disturbance (acres): 0.4
Other proposed disturbance (acres): 5.74
Total proposed disturbance: 11.829

Well pad interim reclamation (acres): 1.477
Road interim reclamation (acres): 0
Powerline interim reclamation (acres): 0
Pipeline interim reclamation (acres): 0
Other interim reclamation (acres): 0
Total interim reclamation: 1.477

Well pad long term disturbance (acres): 2.552
Road long term disturbance (acres): 1.32
Powerline long term disturbance (acres): 0.34
Pipeline long term disturbance (acres): 0.4
Other long term disturbance (acres): 5.74
Total long term disturbance: 10.352

Disturbance Comments:

Reconstruction method: Operator will use Best Management Practices"BMP" to mechanically recontour to obtain the desired outcome.
Topsoil redistribution: Topsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns.

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: MUSTANG 8-17 FED **Well Number:** 236H

Soil treatment: Topsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns.
Existing Vegetation at the well pad: Shinnery, yucca, grasses and mesquite.

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: Shinnery, yucca, grasses and mesquite.

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: Shinnery, yucca, grasses and mesquite.

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: Shinnery, yucca, grasses and mesquite.

Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed type:

Seed source:

Seed name:

Source name:

Source address:

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre:

Proposed seeding season:

Seed Summary

Total pounds/Acre:

Seed Type	Pounds/Acre

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: JACOB **Last Name:** OCHOA

Phone: (575)748-9934 **Email:** JACOB.OCHOA@DVN.COM

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: Maintain weeds on an as need basis.

Weed treatment plan attachment:

Monitoring plan description: Monitor as needed.

Monitoring plan attachment:

Success standards: N/A

Pit closure description: N/A

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: PIPELINE

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: MUSTANG 8-17 FED **Well Number:** 236H

USFWS Local Office:

Other Local Office:

USFS Region:

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

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Disturbance type: EXISTING ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: MUSTANG 8-17 FED **Well Number:** 236H

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Section 12 - Other Information

Right of Way needed? NO **Use APD as ROW?**

ROW Type(s):

ROW Applications

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: MUSTANG 8-17 FED **Well Number:** 236H

SUPO Additional Information: ELECTRIC CTB-CHINCOTEAGUE 8 CTB 1 FLOWLINES- ALL ARE BURIED

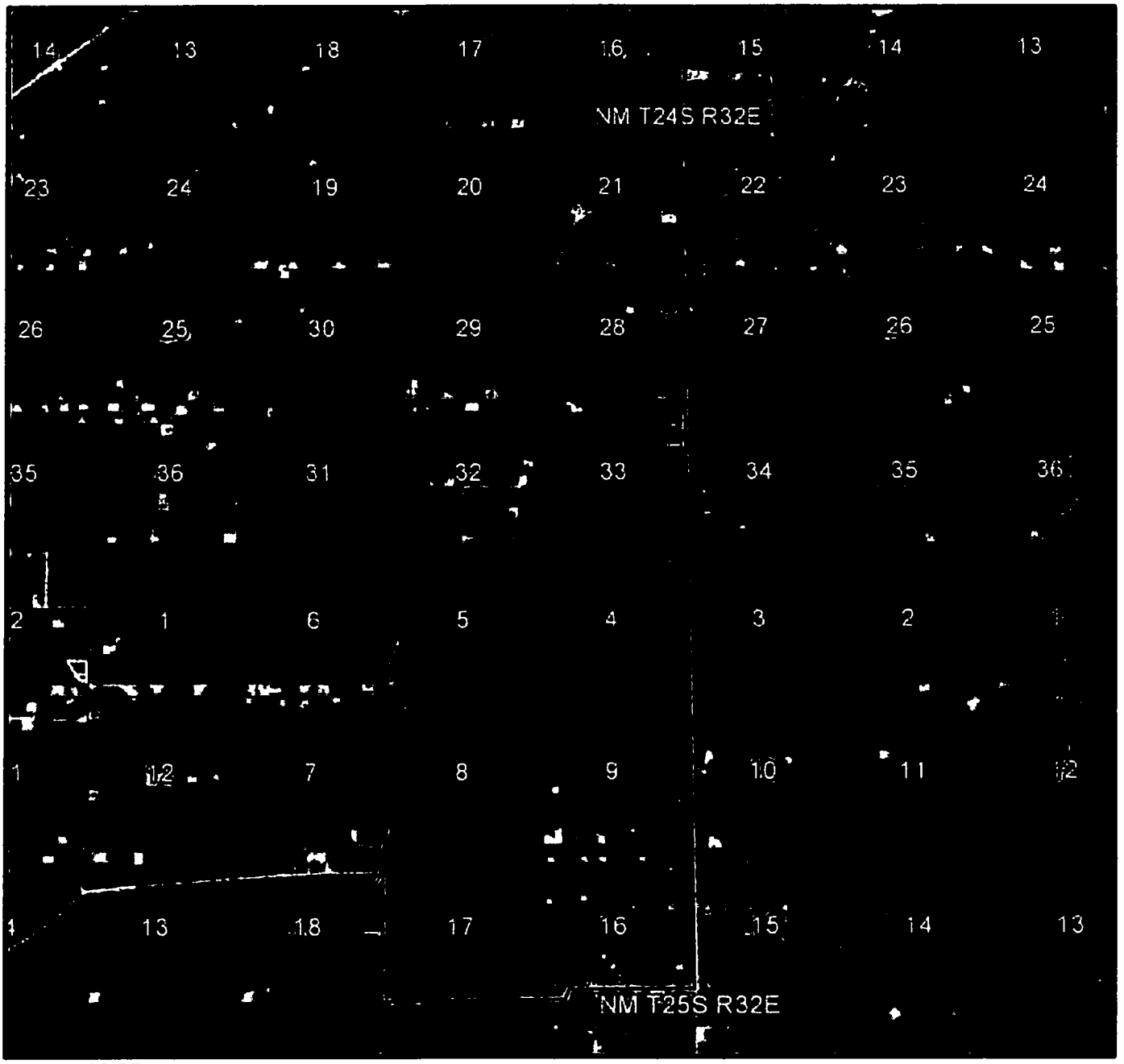
Use a previously conducted onsite? YES

Previous Onsite information: Jul-18 Chincoteague 8 Wellpad 1

Other SUPO Attachment

EL8266_CHINCOTEAGUE_8_PAD_1_P_20190408081109.pdf
AA000213617_CHINCOTEAGUE_8_CTB_1_PAD_P_20190408081134.pdf
EL8262_CHINCOTEAGUE_8_PAD_CTB_P_20190408081107.pdf
Pay.gov___Receipt_MUST_236H_235H_CHINCO_522H_532H_20190410132520.pdf
AA000213617_CHINCOTEAGUE_8_CTB_1_PAD_P_20190807093413.pdf
7600211F_CHINCO_8_PAD_1_TO_CHINCO_8_CTB_1_P_20190807093441.pdf

SECTION 8, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
ACCESS AERIAL ROUTE MAP



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
NOVEMBER 2017

DEVON ENERGY PRODUCTION COMPANY, L.P.

MUSTANG 8-17 FED 236H

LOCATED 2468 FT. FROM THE NORTH LINE
AND 1405 FT. FROM THE WEST LINE OF
SECTION 8, TOWNSHIP 25 SOUTH,
RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
LAND STATUS: BLM

MARCH 29, 2019

SURVEY NO. 7006B

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 *CARLSBAD, NEW MEXICO*

AFMSS

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

PWD Data Report

09/29/2019

APD ID: 10400040672 **Submission Date:** 04/10/2019

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: MUSTANG 8-17 FED **Well Number:** 236H

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:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: MUSTANG 8-17 FED **Well Number:** 236H

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: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: MUSTANG 8-17 FED **Well Number:** 236H

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: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: MUSTANG 8-17 FED **Well Number:** 236H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

AFMSS

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

Bond Info Data Report

09/29/2019

APD ID: 10400040672 **Submission Date:** 04/10/2019

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: MUSTANG 8-17 FED **Well Number:** 236H

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

Show Final Text

Bond Information

Federal/Indian APD: FED

BLM Bond number: NMB000801

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:

Devon Energy

WELL DETAILS: Mustang 8-17 Fed Com 236H

RKB @ 3463.10ft
3438.10

Northing	Easting	Latitude	Longitude
417176.31	736962.87	32.145318	-103.701268

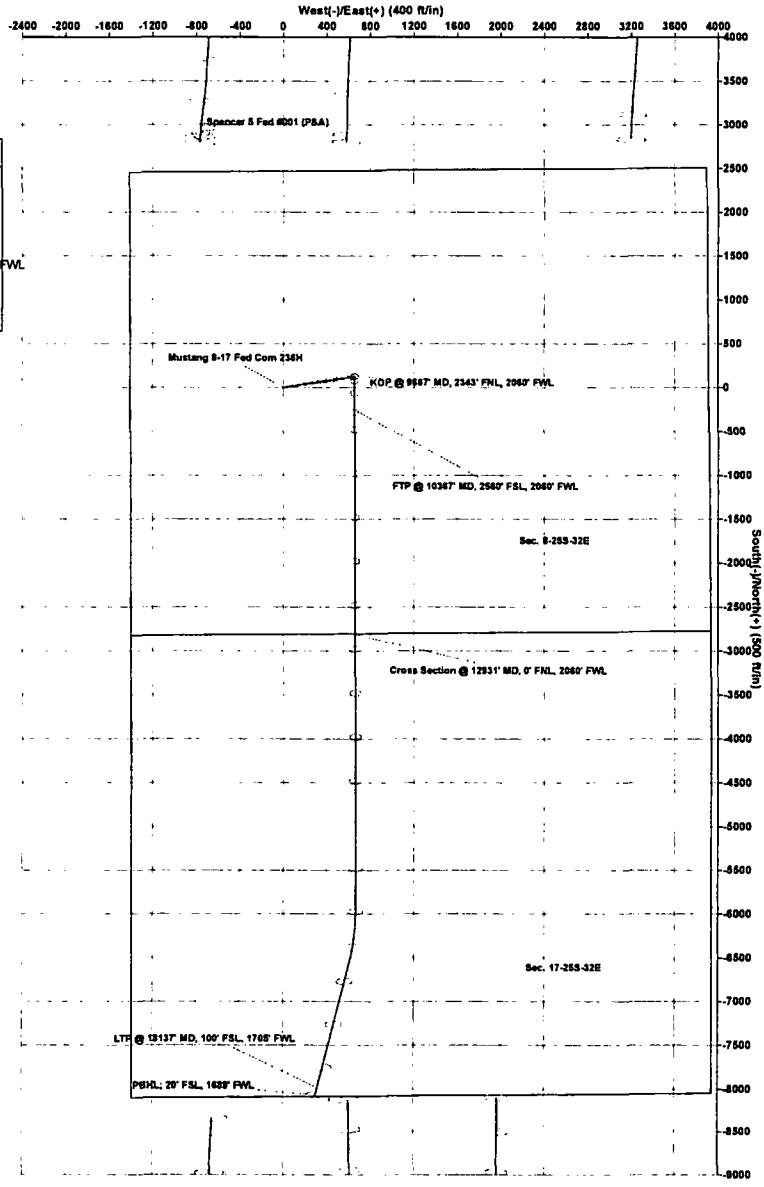
SECTION DETAILS Permit Plan 1

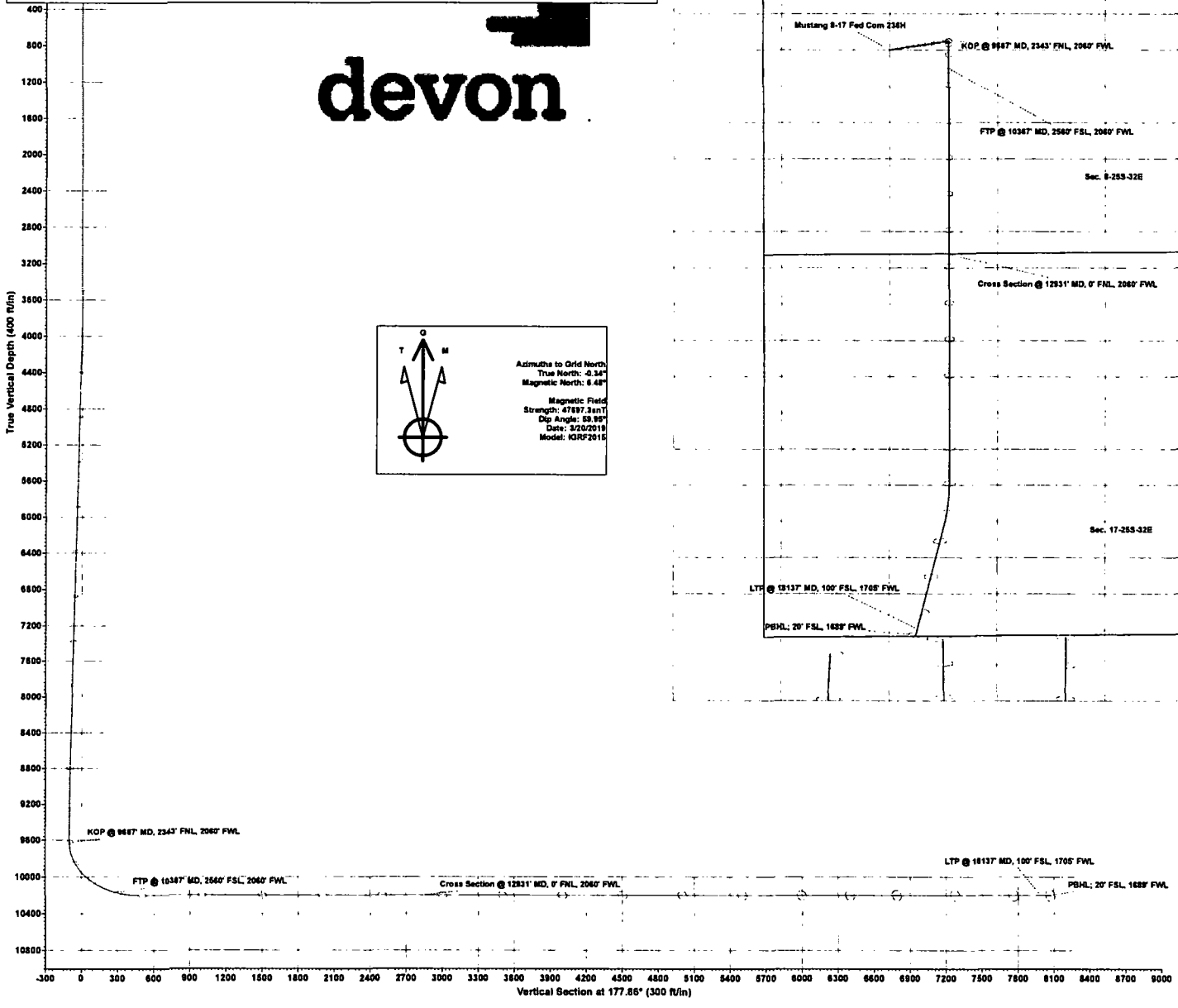
	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect	Annotation
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	3400.00	0.00	0.00	3400.00	0.00	0.00	0.00	0.00	
	4120.34	7.20	79.20	4118.44	8.48	44.42	1.00	-6.82	
	8837.16	7.20	79.20	8798.04	119.35	625.39	0.00	-95.96	
5	9317.39	0.00	0.00	9277.00	125.00	655.00	1.50	-100.51	
6	9667.43	0.00	0.00	9627.04	125.00	655.00	0.00	-100.51	KOP @ 9667' MD, 2343' FNL, 2060' FWL
7	10567.43	90.00	179.88	10200.00	-447.96	656.16	10.00	472.10	
8	16094.29	90.00	179.88	10200.00	-5974.81	667.33	0.00	5995.52	
9	16678.40	90.00	191.57	10200.00	-6555.00	609.16	2.00	6573.14	
10	18217.18	90.00	191.57	10200.00	-8062.53	300.63	0.00	8068.13	PBHL; 20' FSL, 1689' FWL

devon

Azimuths to Grid North
True North: -0.34°
Magnetic North: 6.48°

Magnetic Field
Strength: 47697.3snT
Dip Angle: 59.99°
Date: 3/20/2018
Model: IGRF2015





WCDSC Permian NM

Lea County (NAD83 New Mexico East)
Sec 08-T25S-R32E
Mustang 8-17 Fed Com 236H

Wellbore #1

Plan: Permit Plan 1

Standard Planning Report - Geographic

02 April, 2019

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Mustang 8-17 Fed Com 236H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3463.10ft
Project:	Lea County (NAD83 New Mexico East)	**MD Reference:**	RKB @ 3463.10ft
Site:	Sec 08-T25S-R32E	**North Reference:**	Grid
Well:	Mustang 8-17 Fed Com 236H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Project	Lea County (NAD83 New Mexico East)		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 08-T25S-R32E				
Site Position:		**Northing:**	419,630.47 usft	**Latitude:**	32.152087
From:	Map	**Easting:**	735,551.49 usft	**Longitude:**	-103.705780
Position Uncertainty:	0.00 ft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.33 °

Well	Mustang 8-17 Fed Com 236H					
Well Position	**+N/-S**	0.00 ft	**Northing:**	417,176.31 usft	**Latitude:**	32.145318
	+E/-W	0.00 ft	**Easting:**	736,962.87 usft	**Longitude:**	-103.701266
Position Uncertainty		0.50 ft	**Wellhead Elevation:**		**Ground Level:**	3,438.10 ft

Wellbore	Wellbore #1				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	3/20/2019	6.82	59.95	47,697.31686483

Design	Permit Plan 1				
Audit Notes:					
Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00
Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**	
	0.00	0.00	0.00	177.86	

Plan Survey Tool Program **Date** 4/2/2019

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	18,217.18	Permit Plan 1 (Wellbore #1)	MWD+IFR1 OWSG MWD + IFR1	

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Mustang 8-17 Fed Com 236H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3463.10ft
Project:	Lea County (NAD83 New Mexico East)	**MD Reference:**	RKB @ 3463.10ft
Site:	Sec 08-T25S-R32E	**North Reference:**	Grid
Well:	Mustang 8-17 Fed Com 236H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,120.34	7.20	79.20	4,118.44	8.48	44.42	1.00	1.00	0.00	79.20	
8,837.16	7.20	79.20	8,798.04	119.35	625.39	0.00	0.00	0.00	0.00	
9,317.39	0.00	0.00	9,277.00	125.00	655.00	1.50	-1.50	0.00	180.00	
9,667.43	0.00	0.00	9,627.04	125.00	655.00	0.00	0.00	0.00	0.00	
10,567.43	90.00	179.88	10,200.00	-447.96	656.16	10.00	10.00	0.00	179.88	Original PBHL - Must
16,094.29	90.00	179.88	10,200.00	-5,974.81	667.33	0.00	0.00	0.00	0.00	
16,678.40	90.00	191.57	10,200.00	-6,555.00	609.16	2.00	0.00	2.00	90.00	New PBHL - Mustang
18,217.18	90.00	191.57	10,200.00	-8,062.53	300.63	0.00	0.00	0.00	0.00	New PBHL - Mustang

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Mustang 8-17 Fed Com 236H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3463.10ft
Project:	Lea County (NAD83 New Mexico East)	**MD Reference:**	RKB @ 3463.10ft
Site:	Sec 08-T25S-R32E	**North Reference:**	Grid
Well:	Mustang 8-17 Fed Com 236H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
100.00	0.00	0.00	100.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
200.00	0.00	0.00	200.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
300.00	0.00	0.00	300.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
400.00	0.00	0.00	400.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
500.00	0.00	0.00	500.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
600.00	0.00	0.00	600.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
700.00	0.00	0.00	700.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
800.00	0.00	0.00	800.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
900.00	0.00	0.00	900.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
1,000.00	0.00	0.00	1,000.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
1,100.00	0.00	0.00	1,100.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
1,200.00	0.00	0.00	1,200.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
1,300.00	0.00	0.00	1,300.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
1,400.00	0.00	0.00	1,400.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
1,500.00	0.00	0.00	1,500.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
1,600.00	0.00	0.00	1,600.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
1,700.00	0.00	0.00	1,700.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
1,800.00	0.00	0.00	1,800.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
1,900.00	0.00	0.00	1,900.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
2,000.00	0.00	0.00	2,000.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
2,100.00	0.00	0.00	2,100.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
2,200.00	0.00	0.00	2,200.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
2,300.00	0.00	0.00	2,300.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
2,400.00	0.00	0.00	2,400.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
2,500.00	0.00	0.00	2,500.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
2,600.00	0.00	0.00	2,600.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
2,700.00	0.00	0.00	2,700.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
2,800.00	0.00	0.00	2,800.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
2,900.00	0.00	0.00	2,900.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
3,000.00	0.00	0.00	3,000.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
3,100.00	0.00	0.00	3,100.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
3,200.00	0.00	0.00	3,200.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
3,300.00	0.00	0.00	3,300.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
3,400.00	0.00	0.00	3,400.00	0.00	0.00	417,176.31	736,962.87	32.145318	-103.701266
3,500.00	1.00	79.20	3,500.00	0.16	0.86	417,176.47	736,963.72	32.145318	-103.701264
3,600.00	2.00	79.20	3,599.96	0.65	3.43	417,176.96	736,966.29	32.145320	-103.701255
3,700.00	3.00	79.20	3,699.86	1.47	7.71	417,177.78	736,970.58	32.145322	-103.701241
3,800.00	4.00	79.20	3,799.68	2.62	13.71	417,178.93	736,976.58	32.145325	-103.701222
3,900.00	5.00	79.20	3,899.37	4.09	21.42	417,180.40	736,984.28	32.145329	-103.701197
4,000.00	6.00	79.20	3,998.90	5.88	30.83	417,182.19	736,993.70	32.145334	-103.701167
4,100.00	7.00	79.20	4,098.26	8.01	41.95	417,184.32	737,004.82	32.145339	-103.701131
4,120.34	7.20	79.20	4,118.44	8.48	44.42	417,184.79	737,007.29	32.145341	-103.701123
4,200.00	7.20	79.20	4,197.48	10.35	54.23	417,186.66	737,017.10	32.145346	-103.701091
4,300.00	7.20	79.20	4,296.69	12.70	66.55	417,189.01	737,029.42	32.145352	-103.701051
4,400.00	7.20	79.20	4,395.90	15.05	78.87	417,191.36	737,041.73	32.145358	-103.701011
4,500.00	7.20	79.20	4,495.11	17.40	91.18	417,193.71	737,054.05	32.145364	-103.700971
4,600.00	7.20	79.20	4,594.32	19.75	103.50	417,196.06	737,066.37	32.145371	-103.700932
4,700.00	7.20	79.20	4,693.53	22.10	115.82	417,198.41	737,078.68	32.145377	-103.700892
4,800.00	7.20	79.20	4,792.74	24.45	128.13	417,200.76	737,091.00	32.145383	-103.700852
4,900.00	7.20	79.20	4,891.95	26.80	140.45	417,203.11	737,103.32	32.145389	-103.700812
5,000.00	7.20	79.20	4,991.16	29.15	152.77	417,205.46	737,115.63	32.145396	-103.700772
5,100.00	7.20	79.20	5,090.37	31.50	165.08	417,207.81	737,127.95	32.145402	-103.700732
5,200.00	7.20	79.20	5,189.58	33.86	177.40	417,210.16	737,140.27	32.145408	-103.700693
5,300.00	7.20	79.20	5,288.79	36.21	189.72	417,212.51	737,152.58	32.145415	-103.700653

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Mustang 8-17 Fed Com 236H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3463.10ft
Project:	Lea County (NAD83 New Mexico East)	**MD Reference:**	RKB @ 3463.10ft
Site:	Sec 08-T25S-R32E	**North Reference:**	Grid
Well:	Mustang 8-17 Fed Com 236H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,400.00	7.20	79.20	5,388.00	38.56	202.03	417,214.87	737,164.90	32.145421	-103.700613
5,500.00	7.20	79.20	5,487.21	40.91	214.35	417,217.22	737,177.22	32.145427	-103.700573
5,600.00	7.20	79.20	5,586.43	43.26	226.67	417,219.57	737,189.53	32.145433	-103.700533
5,700.00	7.20	79.20	5,685.64	45.61	238.99	417,221.92	737,201.85	32.145440	-103.700493
5,800.00	7.20	79.20	5,784.85	47.96	251.30	417,224.27	737,214.17	32.145446	-103.700454
5,900.00	7.20	79.20	5,884.06	50.31	263.62	417,226.62	737,226.49	32.145452	-103.700414
6,000.00	7.20	79.20	5,983.27	52.66	275.94	417,228.97	737,238.80	32.145458	-103.700374
6,100.00	7.20	79.20	6,082.48	55.01	288.25	417,231.32	737,251.12	32.145465	-103.700334
6,200.00	7.20	79.20	6,181.69	57.36	300.57	417,233.67	737,263.44	32.145471	-103.700294
6,300.00	7.20	79.20	6,280.90	59.71	312.89	417,236.02	737,275.75	32.145477	-103.700254
6,400.00	7.20	79.20	6,380.11	62.06	325.20	417,238.37	737,288.07	32.145483	-103.700215
6,500.00	7.20	79.20	6,479.32	64.41	337.52	417,240.72	737,300.39	32.145490	-103.700175
6,600.00	7.20	79.20	6,578.53	66.76	349.84	417,243.07	737,312.70	32.145496	-103.700135
6,700.00	7.20	79.20	6,677.74	69.11	362.15	417,245.42	737,325.02	32.145502	-103.700095
6,800.00	7.20	79.20	6,776.95	71.46	374.47	417,247.77	737,337.34	32.145508	-103.700055
6,900.00	7.20	79.20	6,876.16	73.81	386.79	417,250.12	737,349.65	32.145515	-103.700015
7,000.00	7.20	79.20	6,975.38	76.17	399.11	417,252.47	737,361.97	32.145521	-103.699976
7,100.00	7.20	79.20	7,074.59	78.52	411.42	417,254.82	737,374.29	32.145527	-103.699936
7,200.00	7.20	79.20	7,173.80	80.87	423.74	417,257.18	737,386.60	32.145533	-103.699896
7,300.00	7.20	79.20	7,273.01	83.22	436.06	417,259.53	737,398.92	32.145540	-103.699856
7,400.00	7.20	79.20	7,372.22	85.57	448.37	417,261.88	737,411.24	32.145546	-103.699816
7,500.00	7.20	79.20	7,471.43	87.92	460.69	417,264.23	737,423.56	32.145552	-103.699776
7,600.00	7.20	79.20	7,570.64	90.27	473.01	417,266.58	737,435.87	32.145559	-103.699736
7,700.00	7.20	79.20	7,669.85	92.62	485.32	417,268.93	737,448.19	32.145565	-103.699697
7,800.00	7.20	79.20	7,769.06	94.97	497.64	417,271.28	737,460.51	32.145571	-103.699657
7,900.00	7.20	79.20	7,868.27	97.32	509.96	417,273.63	737,472.82	32.145577	-103.699617
8,000.00	7.20	79.20	7,967.48	99.67	522.27	417,275.98	737,485.14	32.145584	-103.699577
8,100.00	7.20	79.20	8,066.69	102.02	534.59	417,278.33	737,497.46	32.145590	-103.699537
8,200.00	7.20	79.20	8,165.90	104.37	546.91	417,280.68	737,509.77	32.145596	-103.699497
8,300.00	7.20	79.20	8,265.12	106.72	559.22	417,283.03	737,522.09	32.145602	-103.699458
8,400.00	7.20	79.20	8,364.33	109.07	571.54	417,285.38	737,534.41	32.145609	-103.699418
8,500.00	7.20	79.20	8,463.54	111.42	583.86	417,287.73	737,546.72	32.145615	-103.699378
8,600.00	7.20	79.20	8,562.75	113.77	596.18	417,290.08	737,559.04	32.145621	-103.699338
8,700.00	7.20	79.20	8,661.96	116.12	608.49	417,292.43	737,571.36	32.145627	-103.699298
8,800.00	7.20	79.20	8,761.17	118.48	620.81	417,294.78	737,583.67	32.145634	-103.699258
8,837.16	7.20	79.20	8,798.04	119.35	625.39	417,295.66	737,588.25	32.145636	-103.699244
8,900.00	6.26	79.20	8,860.44	120.73	632.62	417,297.04	737,595.49	32.145640	-103.699220
9,000.00	4.76	79.20	8,959.98	122.53	642.05	417,298.84	737,604.92	32.145644	-103.699190
9,100.00	3.26	79.20	9,059.73	123.84	648.93	417,300.15	737,611.79	32.145648	-103.699167
9,200.00	1.76	79.20	9,159.63	124.66	653.23	417,300.97	737,616.09	32.145650	-103.699154
9,300.00	0.26	79.20	9,259.61	124.99	654.96	417,301.30	737,617.83	32.145651	-103.699148
9,317.39	0.00	0.00	9,277.00	125.00	655.00	417,301.31	737,617.87	32.145651	-103.699148
9,400.00	0.00	0.00	9,359.61	125.00	655.00	417,301.31	737,617.87	32.145651	-103.699148
9,500.00	0.00	0.00	9,459.61	125.00	655.00	417,301.31	737,617.87	32.145651	-103.699148
9,600.00	0.00	0.00	9,559.61	125.00	655.00	417,301.31	737,617.87	32.145651	-103.699148
9,667.43	0.00	0.00	9,627.04	125.00	655.00	417,301.31	737,617.87	32.145651	-103.699148
KOP @ 9667' MD, 2343' FNL, 2060' FWL									
9,700.00	3.26	179.88	9,659.59	124.07	655.00	417,300.38	737,617.87	32.145649	-103.699148
9,800.00	13.26	179.88	9,758.43	109.73	655.03	417,286.04	737,617.90	32.145609	-103.699148
9,900.00	23.26	179.88	9,853.28	78.44	655.09	417,254.75	737,617.96	32.145523	-103.699148
10,000.00	33.26	179.88	9,941.25	31.16	655.19	417,207.47	737,618.05	32.145393	-103.699149
10,100.00	43.26	179.88	10,019.67	-30.68	655.31	417,145.63	737,618.18	32.145223	-103.699150
10,200.00	53.26	179.88	10,086.17	-105.20	655.47	417,071.11	737,618.33	32.145018	-103.699151
10,300.00	63.26	179.88	10,138.71	-190.13	655.64	416,986.18	737,618.50	32.144785	-103.699152

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Mustang 8-17 Fed Com 236H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3463.10ft
Project:	Lea County (NAD83 New Mexico East)	**MD Reference:**	RKB @ 3463.10ft
Site:	Sec 08-T25S-R32E	**North Reference:**	Grid
Well:	Mustang 8-17 Fed Com 236H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,367.43	70.00	179.88	10,165.45	-251.99	655.76	416,924.32	737,618.63	32.144615	-103.699153
FTP @ 10367' MD, 2560' FSL, 2060' FWL									
10,400.00	73.26	179.88	10,175.71	-282.90	655.82	416,893.41	737,618.69	32.144530	-103.699153
10,500.00	83.26	179.88	10,196.04	-380.68	656.02	416,795.63	737,618.89	32.144261	-103.699154
10,567.43	90.00	179.88	10,200.00	-447.96	656.16	416,728.35	737,619.02	32.144076	-103.699155
10,600.00	90.00	179.88	10,200.00	-480.53	656.22	416,695.78	737,619.09	32.143987	-103.699155
10,700.00	90.00	179.88	10,200.00	-580.53	656.43	416,595.78	737,619.29	32.143712	-103.699157
10,800.00	90.00	179.88	10,200.00	-680.53	656.63	416,495.78	737,619.49	32.143437	-103.699158
10,900.00	90.00	179.88	10,200.00	-780.53	656.83	416,395.78	737,619.70	32.143162	-103.699159
11,000.00	90.00	179.88	10,200.00	-880.53	657.03	416,295.78	737,619.90	32.142887	-103.699160
11,100.00	90.00	179.88	10,200.00	-980.53	657.23	416,195.79	737,620.10	32.142612	-103.699162
11,200.00	90.00	179.88	10,200.00	-1,080.53	657.44	416,095.79	737,620.30	32.142337	-103.699163
11,300.00	90.00	179.88	10,200.00	-1,180.53	657.64	415,995.79	737,620.50	32.142062	-103.699164
11,400.00	90.00	179.88	10,200.00	-1,280.53	657.84	415,895.79	737,620.71	32.141788	-103.699165
11,500.00	90.00	179.88	10,200.00	-1,380.53	658.04	415,795.79	737,620.91	32.141513	-103.699167
11,600.00	90.00	179.88	10,200.00	-1,480.53	658.25	415,695.79	737,621.11	32.141238	-103.699168
11,700.00	90.00	179.88	10,200.00	-1,580.52	658.45	415,595.79	737,621.31	32.140963	-103.699169
11,800.00	90.00	179.88	10,200.00	-1,680.52	658.65	415,495.79	737,621.51	32.140688	-103.699170
11,900.00	90.00	179.88	10,200.00	-1,780.52	658.85	415,395.79	737,621.72	32.140413	-103.699172
12,000.00	90.00	179.88	10,200.00	-1,880.52	659.05	415,295.79	737,621.92	32.140138	-103.699173
12,100.00	90.00	179.88	10,200.00	-1,980.52	659.26	415,195.79	737,622.12	32.139863	-103.699174
12,200.00	90.00	179.88	10,200.00	-2,080.52	659.46	415,095.79	737,622.32	32.139589	-103.699175
12,300.00	90.00	179.88	10,200.00	-2,180.52	659.66	414,995.79	737,622.53	32.139314	-103.699177
12,400.00	90.00	179.88	10,200.00	-2,280.52	659.86	414,895.79	737,622.73	32.139039	-103.699178
12,500.00	90.00	179.88	10,200.00	-2,380.52	660.06	414,795.79	737,622.93	32.138764	-103.699179
12,600.00	90.00	179.88	10,200.00	-2,480.52	660.27	414,695.79	737,623.13	32.138489	-103.699180
12,700.00	90.00	179.88	10,200.00	-2,580.52	660.47	414,595.79	737,623.33	32.138214	-103.699182
12,800.00	90.00	179.88	10,200.00	-2,680.52	660.67	414,495.79	737,623.54	32.137939	-103.699183
12,900.00	90.00	179.88	10,200.00	-2,780.52	660.87	414,395.79	737,623.74	32.137664	-103.699184
12,931.00	90.00	179.88	10,200.00	-2,811.52	660.94	414,364.79	737,623.80	32.137579	-103.699185
Cross Section @ 12931' MD, 0' FNL, 2060' FWL									
13,000.00	90.00	179.88	10,200.00	-2,880.52	661.07	414,295.79	737,623.94	32.137389	-103.699185
13,100.00	90.00	179.88	10,200.00	-2,980.52	661.28	414,195.79	737,624.14	32.137115	-103.699187
13,200.00	90.00	179.88	10,200.00	-3,080.52	661.48	414,095.79	737,624.34	32.136840	-103.699188
13,300.00	90.00	179.88	10,200.00	-3,180.52	661.68	413,995.79	737,624.55	32.136565	-103.699189
13,400.00	90.00	179.88	10,200.00	-3,280.52	661.88	413,895.79	737,624.75	32.136290	-103.699190
13,500.00	90.00	179.88	10,200.00	-3,380.52	662.09	413,795.79	737,624.95	32.136015	-103.699192
13,600.00	90.00	179.88	10,200.00	-3,480.52	662.29	413,695.80	737,625.15	32.135740	-103.699193
13,700.00	90.00	179.88	10,200.00	-3,580.52	662.49	413,595.80	737,625.35	32.135465	-103.699194
13,800.00	90.00	179.88	10,200.00	-3,680.52	662.69	413,495.80	737,625.56	32.135190	-103.699195
13,900.00	90.00	179.88	10,200.00	-3,780.52	662.89	413,395.80	737,625.76	32.134916	-103.699197
14,000.00	90.00	179.88	10,200.00	-3,880.52	663.10	413,295.80	737,625.96	32.134641	-103.699198
14,100.00	90.00	179.88	10,200.00	-3,980.52	663.30	413,195.80	737,626.16	32.134366	-103.699199
14,200.00	90.00	179.88	10,200.00	-4,080.52	663.50	413,095.80	737,626.37	32.134091	-103.699200
14,300.00	90.00	179.88	10,200.00	-4,180.52	663.70	412,995.80	737,626.57	32.133816	-103.699202
14,400.00	90.00	179.88	10,200.00	-4,280.52	663.90	412,895.80	737,626.77	32.133541	-103.699203
14,500.00	90.00	179.88	10,200.00	-4,380.52	664.11	412,795.80	737,626.97	32.133266	-103.699204
14,600.00	90.00	179.88	10,200.00	-4,480.52	664.31	412,695.80	737,627.17	32.132991	-103.699205
14,700.00	90.00	179.88	10,200.00	-4,580.52	664.51	412,595.80	737,627.38	32.132717	-103.699207
14,800.00	90.00	179.88	10,200.00	-4,680.52	664.71	412,495.80	737,627.58	32.132442	-103.699208
14,900.00	90.00	179.88	10,200.00	-4,780.52	664.92	412,395.80	737,627.78	32.132167	-103.699209
15,000.00	90.00	179.88	10,200.00	-4,880.52	665.12	412,295.80	737,627.98	32.131892	-103.699210
15,100.00	90.00	179.88	10,200.00	-4,980.52	665.32	412,195.80	737,628.18	32.131617	-103.699212
15,200.00	90.00	179.88	10,200.00	-5,080.52	665.52	412,095.80	737,628.39	32.131342	-103.699213

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Mustang 8-17 Fed Com 236H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3463.10ft
Project:	Lea County (NAD83 New Mexico East)	**MD Reference:**	RKB @ 3463.10ft
Site:	Sec 08-T25S-R32E	**North Reference:**	Grid
Well:	Mustang 8-17 Fed Com 236H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,300.00	90.00	179.88	10,200.00	-5,180.52	665.72	411,995.80	737,628.59	32.131067	-103.699214
15,400.00	90.00	179.88	10,200.00	-5,280.52	665.93	411,895.80	737,628.79	32.130792	-103.699215
15,500.00	90.00	179.88	10,200.00	-5,380.52	666.13	411,795.80	737,628.99	32.130517	-103.699217
15,600.00	90.00	179.88	10,200.00	-5,480.52	666.33	411,695.80	737,629.20	32.130243	-103.699218
15,700.00	90.00	179.88	10,200.00	-5,580.52	666.53	411,595.80	737,629.40	32.129968	-103.699219
15,800.00	90.00	179.88	10,200.00	-5,680.52	666.73	411,495.80	737,629.60	32.129693	-103.699220
15,900.00	90.00	179.88	10,200.00	-5,780.52	666.94	411,395.80	737,629.80	32.129418	-103.699222
16,000.00	90.00	179.88	10,200.00	-5,880.52	667.14	411,295.80	737,630.00	32.129143	-103.699223
16,094.29	90.00	179.88	10,200.00	-5,974.81	667.33	411,201.52	737,630.19	32.128884	-103.699224
16,100.00	90.00	180.00	10,200.00	-5,980.52	667.34	411,195.81	737,630.20	32.128868	-103.699224
16,200.00	90.00	182.00	10,200.00	-6,080.50	665.59	411,095.83	737,628.46	32.128593	-103.699232
16,300.00	90.00	184.00	10,200.00	-6,180.35	660.36	410,995.97	737,623.23	32.128319	-103.699250
16,400.00	90.00	186.00	10,200.00	-6,279.97	651.65	410,896.35	737,614.52	32.128045	-103.699280
16,500.00	90.00	188.00	10,200.00	-6,379.22	639.47	410,797.10	737,602.33	32.127773	-103.699322
16,600.00	90.00	190.00	10,200.00	-6,477.98	623.83	410,698.34	737,586.69	32.127501	-103.699374
16,678.40	90.00	191.57	10,200.00	-6,555.00	609.16	410,621.33	737,572.03	32.127290	-103.699423
16,700.00	90.00	191.57	10,200.00	-6,576.16	604.83	410,600.16	737,567.69	32.127232	-103.699437
16,800.00	90.00	191.57	10,200.00	-6,674.13	584.78	410,502.20	737,547.64	32.126963	-103.699504
16,900.00	90.00	191.57	10,200.00	-6,772.10	564.73	410,404.23	737,527.59	32.126694	-103.699571
17,000.00	90.00	191.57	10,200.00	-6,870.07	544.68	410,306.26	737,507.54	32.126425	-103.699637
17,100.00	90.00	191.57	10,200.00	-6,968.03	524.63	410,208.29	737,487.49	32.126156	-103.699704
17,200.00	90.00	191.57	10,200.00	-7,066.00	504.58	410,110.32	737,467.44	32.125887	-103.699770
17,300.00	90.00	191.57	10,200.00	-7,163.97	484.53	410,012.35	737,447.39	32.125618	-103.699837
17,400.00	90.00	191.57	10,200.00	-7,261.94	464.48	409,914.38	737,427.34	32.125349	-103.699904
17,500.00	90.00	191.57	10,200.00	-7,359.91	444.43	409,816.41	737,407.29	32.125080	-103.699970
17,600.00	90.00	191.57	10,200.00	-7,457.88	424.38	409,718.44	737,387.24	32.124811	-103.700037
17,700.00	90.00	191.57	10,200.00	-7,555.85	404.33	409,620.47	737,367.19	32.124542	-103.700104
17,800.00	90.00	191.57	10,200.00	-7,653.82	384.28	409,522.50	737,347.14	32.124273	-103.700170
17,900.00	90.00	191.57	10,200.00	-7,751.79	364.23	409,424.54	737,327.09	32.124004	-103.700237
18,000.00	90.00	191.57	10,200.00	-7,849.76	344.18	409,326.57	737,307.04	32.123735	-103.700303
18,100.00	90.00	191.57	10,200.00	-7,947.73	324.13	409,228.60	737,286.99	32.123466	-103.700370
18,137.18	90.00	191.57	10,200.00	-7,984.15	316.67	409,192.17	737,279.54	32.123366	-103.700395
LTP @ 18137' MD, 100' FSL, 1705' FWL									
18,200.00	90.00	191.57	10,200.00	-8,045.70	304.07	409,130.63	737,266.94	32.123197	-103.700437
18,217.17	90.00	191.57	10,200.00	-8,062.52	300.63	409,113.81	737,263.50	32.123151	-103.700448
PBHL; 20' FSL, 1689' FWL									
18,217.18	90.00	191.57	10,200.00	-8,062.53	300.63	409,113.80	737,263.50	32.123151	-103.700448

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
New PBHL - Mustang 8-	0.00	0.00	0.00	-8,062.53	300.63	409,113.80	737,263.50	32.123151	-103.700448
- plan misses target center by 8068.13ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
Original PBHL - Mustang	0.00	0.00	0.00	-8,058.75	671.54	409,117.58	737,634.41	32.123156	-103.699250
- plan misses target center by 8086.68ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Mustang 8-17 Fed Com 236H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3463.10ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3463.10ft
Site:	Sec 08-T25S-R32E	North Reference:	Grid
Well:	Mustang 8-17 Fed Com 236H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
9,667.43	9,627.04	125.00	655.00	KOP @ 9667' MD, 2343' FNL, 2060' FWL
10,367.43	10,165.45	-251.99	655.76	FTP @ 10367' MD, 2560' FSL, 2060' FWL
12,931.00	10,200.00	-2,811.52	660.94	Cross Section @ 12931' MD, 0' FNL, 2060' FWL
18,137.18	10,200.00	-7,984.15	316.67	LTP @ 18137' MD, 100' FSL, 1705' FWL
18,217.17	10,200.00	-8,062.52	300.63	PBHL; 20' FSL, 1689' FWL