

HOBBS OCD

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**PECOS DISTRICT  
DRILLING CONDITIONS OF APPROVAL**

<b>OPERATOR'S NAME:</b>	CHEVRON USA INC.
<b>LEASE NO.:</b>	NMNM27506
<b>WELL NAME &amp; NO.:</b>	20H -SD EA 29 32 FED COM P10
<b>SURFACE HOLE FOOTAGE:</b>	120'/N & 2608'/E
<b>BOTTOM HOLE FOOTAGE:</b>	180'/S & 2010'/E
<b>LOCATION:</b>	Section 29 T.26 S., R.33E., NMP
<b>COUNTY:</b>	LEA County, New Mexico

COA

H2S	<input type="radio"/> Yes	<input checked="" type="radio"/> No	
Potash	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input type="radio"/> Low	<input checked="" type="radio"/> Medium	<input type="radio"/> High
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP

**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 **800** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. **Wait on cement (WOC) time for a primary cement job will be a minimum of 8 hours or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)**

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

**Operator must keep casing fill with fluid while running intermediate casing.**

2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is: 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. **Additional cement maybe required. Excess calculates to be 19%.**
- b. Second stage above DV tool: Cement to surface. If cement does not circulate, contact the appropriate BLM office.

❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

**Operator must keep 1/3<sup>rd</sup> of the liner full with fluid while running liner.**

3. The minimum required fill of cement behind the 7-5/8 inch liner is:

- Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Additional cement maybe required. Excess calculates to be 8%.**

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

- Cement should tie-back 100' into the previous casing. Operator shall provide method of verification. **Additional cement maybe required. Excess calculates to be -24%. Variance for annular spacing is approved.**

### **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. 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.**
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 9-5/8 intermediate casing shoe shall be **10,000 (10M) psi.**

## 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)

Lea County

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

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
  - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
  - b. When the operator proposes to set surface casing with Spudder Rig
    - Notify the BLM when moving in and removing the Spudder Rig.
    - Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
    - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

## A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. **On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.**
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

## B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. **If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:**
  - a. **Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.**
  - b. **If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.**
  - c. **Manufacturer representative shall install the test plug for the initial BOP test.**
  - d. **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.**
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

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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. The results of the test shall be reported to the appropriate BLM office.
- 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. 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.
- f. 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. This test shall be performed prior to the test at full stack pressure.
- g. 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.

#### **Waste Minimization Plan (WMP)**

In the interest of resource development, submission of additional well gas capture development plan information is deferred but may be required by the BLM Authorized Officer at a later date.

**ZS 110917**

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**PECOS DISTRICT  
SURFACE USE  
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	CHEVRON USA INC.
LEASE NO.:	NMNM27506
WELL NAME & NO.:	20H -SD EA 29 32 FED COM P10
SURFACE HOLE FOOTAGE:	120'/N & 2608'/E
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LOCATION:	Section 29 T.26 S., R.33E., NMP
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.

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- Noxious Weeds**
- Special Requirements**
  - Cave/Karst
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  - Closed Loop System
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- Road Section Diagram**
- Production (Post Drilling)**
  - Well Structures & Facilities
  - Pipelines
- Interim Reclamation**
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## **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.

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## V. SPECIAL REQUIREMENT(S)

### Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

#### **Rotary Drilling with Fresh Water:**

Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

#### **Directional Drilling:**

Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

#### **Lost Circulation:**

ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

#### **Abandonment Cementing:**

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

#### **Pressure Testing:**

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

## VI. CONSTRUCTION

### A. NOTIFICATION

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

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

**B. TOPSOIL**

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

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

**C. CLOSED LOOP SYSTEM**

Tanks are required for drilling operations: No Pits.

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

**D. FEDERAL MINERAL MATERIALS PIT**

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

**E. WELL PAD SURFACING**

Surfacing of the well pad is not required.

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

**F. EXCLOSURE FENCING (CELLARS & PITS)**

**Exclosure Fencing**

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

## **G. ON LEASE ACCESS ROADS**

### **Road Width**

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

### **Surfacing**

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

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

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

### **Crowning**

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

### **Ditching**

Ditching shall be required on both sides of the road.

### **Turnouts**

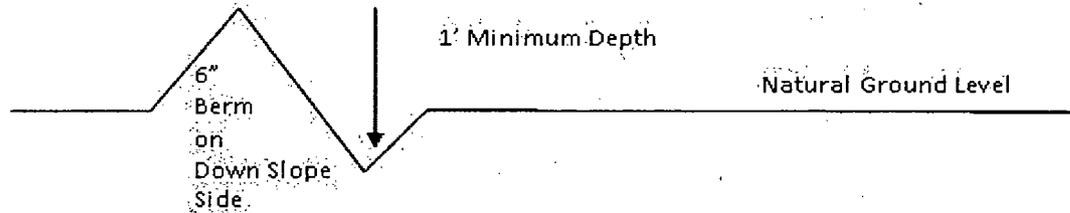
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

### **Drainage**

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

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

### Cross Section of a Typical Lead-off Ditch



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

#### Formula for Spacing Interval of Lead-off Ditches

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

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

#### Cattle guards

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

#### Fence Requirement

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

#### Public Access

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

**Construction Steps**

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

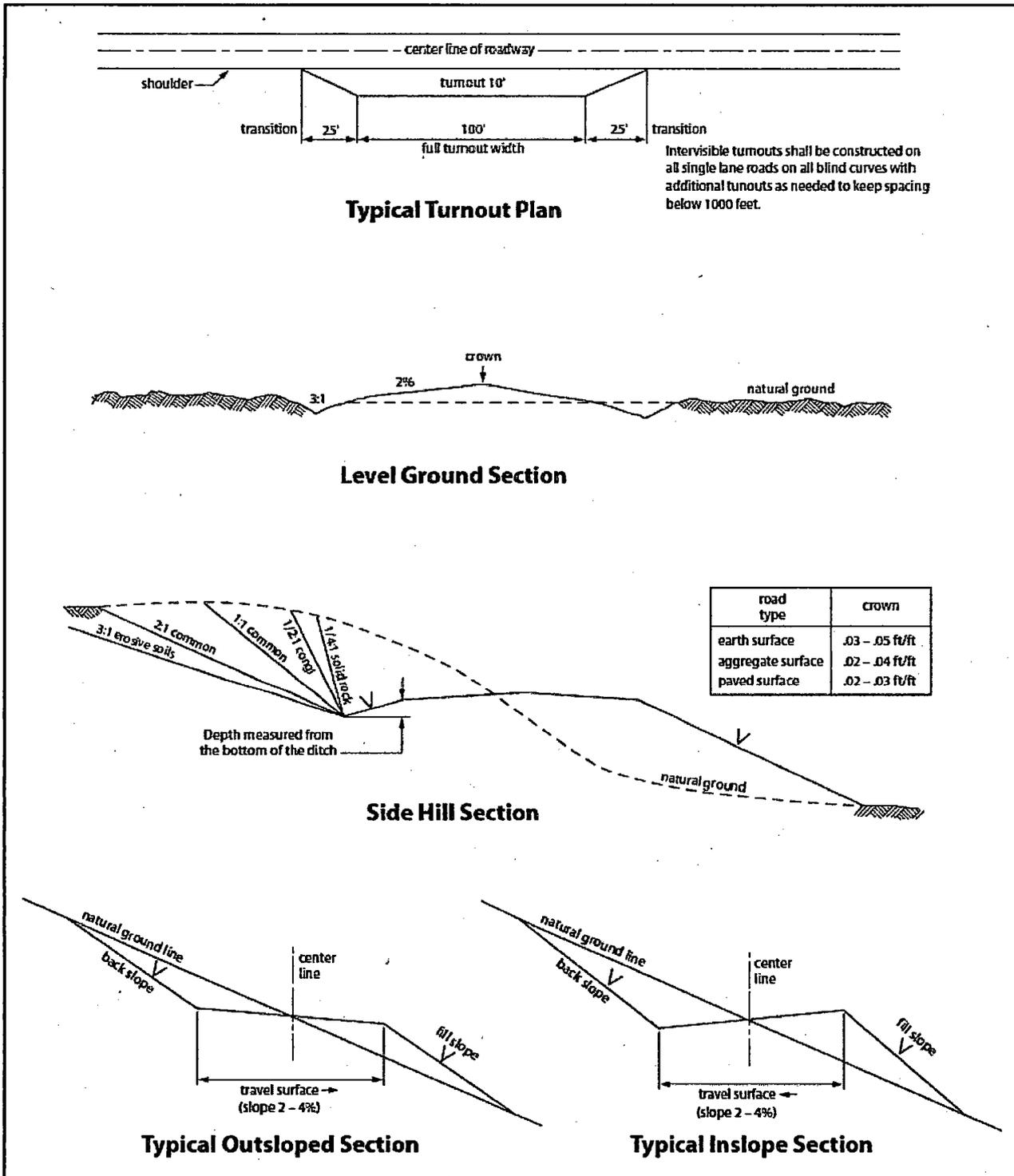


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

## VII. PRODUCTION (POST DRILLING)

### A. WELL STRUCTURES & FACILITIES

#### **Placement of Production Facilities**

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

#### **Exclosure Netting (Open-top Tanks)**

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

#### **Chemical and Fuel Secondary Containment and Exclosure Screening**

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

#### **Open-Vent Exhaust Stack Exclosures**

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

#### **Containment Structures**

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

#### **Painting Requirement**

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

### **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.

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> seed mixture 1 | <input type="checkbox"/> seed mixture 3          |
| <input type="checkbox"/> seed mixture 2            | <input type="checkbox"/> seed mixture 4          |
| <input type="checkbox"/> seed mixture 2/LPC        | <input type="checkbox"/> 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.

## **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).

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## **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 1 for Loamy 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 shall be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed 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 shall be planted using a drill equipped with a depth regulator to ensure proper depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area (small/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 shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre shall be doubled. The 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:

<u>Species</u>	<u>lb/acre</u>
Plains lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0
Plains bristlegrass (Setaria macrostachya)	2.0

\*Pounds of pure live seed:

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



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

## Operator Certification Data Report

02/09/2018

### 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:** Denise Pinkerton

**Signed on:** 07/11/2017

**Title:** Regulatory Specialist

**Street Address:** 6301 Deauville Blvd

**City:** Midland

**State:** TX

**Zip:** 79706

**Phone:** (432)687-7375

**Email address:** leakejd@chevron.com

### Field Representative

**Representative Name:**

**Street Address:**

**City:**

**State:**

**Zip:**

**Phone:**

**Email address:**

**HOBBS OCD**

**FEB 15 2018**

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CHEVRON U.S.A. Inc.  
SD EA 29 32 FED COM P10 No. 20H  
NMNM 27506 & State VB 1838  
SECTION 29, T26S-R33E  
SHL 120' FNL & 2608' FWL

SECTION 32, T26S, R33E  
BHL 180' FSL & 2010' FEL

## **APD Surface Use Plan of Operations**

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### **Existing Roads (Road Plat Attached)**

- The operator will improve or maintain existing roads in a condition the same as or better than before operations begin. The operator will repair pot holes, clear ditches, repair the crown, etc. All existing structures on the entire access route such as cattle guards, other range improvement projects, culverts, etc. will be properly repaired or replaced if they are damaged or have deteriorated beyond practical use. We will prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations, or wind events. BLM written approval will be acquired before application of surfactants, binding agents, or other dust suppression chemicals on roadways.
- Driving Directions - From Jal, New Mexico. The location is approximately 33 miles from the nearest town, which is Jal, New Mexico. From Jal, proceed west on Highway 128 approximately 14 miles and turn left (South) onto CR2 and go approximately 13 miles on CR2 until the road reaches the intersection with Dinwiddie Rd (stop sign with "private road" signage). Turn right (west) onto Dinwiddie Rd (Chevron has an agreement and easement for use of this road) and travel west approximately .3 miles, then bear left (south) onto Battle Axe Road (a continuation of CR2). Travel 5 miles on Battle Axe Road, following its bends, until you reach the Chevron lease road into Salado Development Area. Turn right (Northwesterly) and travel 1.8 miles on lease road to the well location.

### **New or Reconstructed Access Roads (Well Plat Attached)**

- There will be no new road construction for the well pad and facilities.

### **Location of Existing Wells (Diagram Attached)**

- 1-Mile radius map is attached

### **Location of Existing and/or Proposed Production Facilities (Work Area Detail Map Attached)**

- Facilities:
  - Existing production facilities are located in the SE quarter of Sec. 19, T26S-R33E where oil and gas sales will take place.

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- The facility located in Sec. 19, T26S-R32E; NM 27506 lease; off-lease measurement and sales will be required.
- Gas purchaser pipeline is existing at the tank battery.
- Open top tanks or open containments will be netted.
- Open vent exhaust stacks will be modified to prevent birds or bats from entering, discourage perching, roosting, and nesting.
- Facilities will have a secondary containment 1.5 times the holding capacity of largest storage tank.
- All above ground structures will be painted non-reflective shale green for blending with surrounding environment.
- The tank battery will be connected to the existing water gathering system in the field for permanent water disposal.

#### **Location of Proposed ROW (Work Area Detail Map Attached)**

- Pipelines: 8 - 4" buried pipelines, approximately 4,617.09', will be laid from well running to lease road then adjacent to lease road to production facility in Section 19.
  - A ROW will be applied for through the BLM.
  - All construction activity will be confined to the approved ROW.
  - Pipelines will run parallel to the road and will stay within approved ROW.
- Pipelines: 2 - 4" buried gas lift pipelines, approximately 19.76', will be laid from well running to an existing gas supply line within an existing ROW which is adjacent to lease road to Compressor facility in Section 19.
  - A ROW will be applied for through the BLM.
  - All construction activity will be confined to the approved ROW.
  - Pipeline will run parallel to existing disturbances and will stay within approved ROW.

#### **Location and Types of Water Supply (Work Area Detail Map Attached)**

- Existing ponds in Section 19, T26S-R33E will be utilized for fresh water and Section 23 T26S-R32 and Section 13 T26S-R32 for recycled water.
- Fresh water will be obtained from a private water source.
- A temporary 10" expanding pipe transfer line will run east along lease road then south along proposed access road approx. 10,156.53' from frac pond to well location in section 29.
  - Fresh water line will run parallel to road and will stay within 10' of access road.
  - A BLM ROW will not be required for the water transfer line.

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- A temporary 10" expanding pipe transfer line will run east along lease road along lease road approx. 8,445.41' from frac ponds to well location in sections 13 & 23.
  - Recycled water line will run parallel to road and will stay within 10' of access road.
  - A BLM ROW will not be required for the water transfer line.

### **Construction Material**

- Caliche will be used to construct well pad and roads. Material will be purchased from the private land owners (Oliver Kiehne) caliche pit located in Sec 27, T26, R33E, Lea County, NM.
- The proposed source of construction material will be located and purchased by Chevron U.S.A. Inc.
  - Notification shall be given to BLM at (575) 234-5909 at least 3 working days prior to commencing construction of access road and/or well pad.

### **Methods for Handling Waste**

- Drilling fluids and produced oil and water from the well during drilling and completion operations will be stored safely and disposed of properly in an NMOCD approved disposal facility.
- Garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly at a state approved disposal facility. All trash on and around the well site will be collected for disposal.
- Human waste and grey water will be properly contained and disposed of properly at a state approved disposal facility.
- After drilling and completion operations, trash, chemicals, salts, frac sand and other waste material will be removed and disposed of properly at a state approved disposal facility.
- The well will be drilled utilizing a closed loop system. Drill cutting will be properly disposed of into steel tanks and taken to an NMOCD approved disposal facility.

### **Ancillary Facilities**

None

### **Well Site Layout (Well Plat Attached)**

- Well Plat
  - Exterior well pad dimensions are 375' x 495'.

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- Interior well pad dimensions from point of entry (well head) of the easternmost well are N-120', S-255', E-210', W-285'. The length to the west includes 25' spacing for next well on multi-well pad (four wells). Total disturbance area needed for construction of well pad will be 4.26 acres.
- Topsoil placement is on the east where interim reclamation is planned to be completed upon completion of well and evaluation of best management practices.

### **Proposed Pad Cut & Fill (Plat Attached)**

- Cut and fill: will be minimal.

### **Rig Layout (Attached)**

### **Plans for Surface Reclamation (Pad Plat Attached)**

#### **Reclamation Objectives**

- The objective of interim reclamation is to restore vegetative cover and a portion of the landform sufficient to maintain healthy, biologically active topsoil; control erosion; and minimize habitat and forage loss, visual impact, and weed infestation, during the life of the well or facilities.
- The long-term objective of final reclamation is to return the land to a condition similar to what existed prior to disturbance. This includes restoration of the landform and natural vegetative community, hydrologic systems, visual resources, and wildlife habitats. To ensure that the long-term objective will be reached through human and natural processes, actions will be taken to ensure standards are met for site stability, visual quality, hydrological functioning, and vegetative productivity.
- The BLM will be notified at least 3 days prior to commencement of any reclamation procedures.
- If circumstances allow, interim reclamation and/or final reclamation actions will be completed no later than 6 months from when the final well on the location has been completed or plugged. We will gain written permission from the BLM if more time is needed.
- Reclamation will be performed by using the following procedures:

#### **Interim Reclamation Procedures**

- Within 6 months, Chevron will contact BLM Surface Management Specialists to devise the best strategies to reduce the size of the location. Current plans for interim reclamation include reducing the pad size to approximately 2.5 acres from the proposed size of 4.5 acres. Within 30 days of well completion, the well location and surrounding areas will be cleared of, and maintained free of, all materials, trash, and equipment not required for production. A plan will be submitted showing where interim reclamation will be completed in order to allow for safe operations, protection of the environment outside of drilled well, and following best

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management practices found in the BLM "Gold Book".

- In areas planned for interim reclamation, all the surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads.
- The areas planned for interim reclamation will then be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.
- Topsoil will be evenly re-spread and aggressively revegetated over the entire disturbed area not needed for all-weather operations including cuts & fills. To seed the area, the proper BLM seed mixture (BLM #2), free of noxious weeds, will be used.
- Proper erosion control methods will be used on the area to control erosion, runoff and siltation of the surrounding area.
- The interim reclamation will be monitored periodically to ensure that vegetation has reestablished

#### **Final Reclamation (well pad, buried pipelines, and power lines, etc.)**

- Prior to final reclamation procedures, the well pad, road, and surrounding area will be cleared of material, trash, and equipment.
- All surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads.
- All disturbed areas, including roads, pipelines, pads, production facilities, and interim reclaimed areas will be recontoured to the contour existing prior to initial construction or a contour that blends in distinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation.
- After all the disturbed areas have been properly prepared; the areas will be seeded with the proper BLM seed mixture (BLM #2), free of noxious weeds.
- Proper erosion control methods will be used on the entire area to control erosion, runoff and siltation of the surrounding area.

#### **Surface Ownership**

- Well pad is located on BLM Surface. All other infrastructure is on Federal Surface.
- **Nearest Post Office:** Jal Post Office; 33 Miles East

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### **Other Information**

- On-site performed by BLM NRS: Paul Murphy 4/26/2017
- Cultural report attached: **N/A** Participating Agreement attached: **Yes**
- Erosion / Drainage: Drainage control system shall be constructed on the entire length of road by the use of any of the following: ditches, side hill out-sloping and in-sloping, lead-off ditches, culvert installation, or low water crossings.
- Exclosure fencing will be installed around open cellar to prevent livestock or large wildlife from being trapped after installation. Fencing will remain in place while no activity is present and until backfilling takes place.
- Terrain: Landscape is flat
- Soil: Sandy loam
- Vegetation: Vegetation present in surrounding area includes mesquite, shrubs, and grass (needle-grass, burro grass, dropseed).
- Wildlife: No wildlife observed, but it is likely that deer, rabbits, coyotes, and rodents pass through the area.
- Surface Water: No surface water concerns.
- Cave Karst: Low Karst area with no caves or visual signs of caves found.
- Watershed Protection: The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.
- Water wells: No known water wells within the 1- mile radius.
- Residences and Buildings: No dwellings within the immediate vicinity of the proposed location.
- Well Signs: Well signs will be in compliance per federal and state requirements and specifications.

### **Chevron Representatives**

Primary point of contact:

Dale Caddell

432-687-7752

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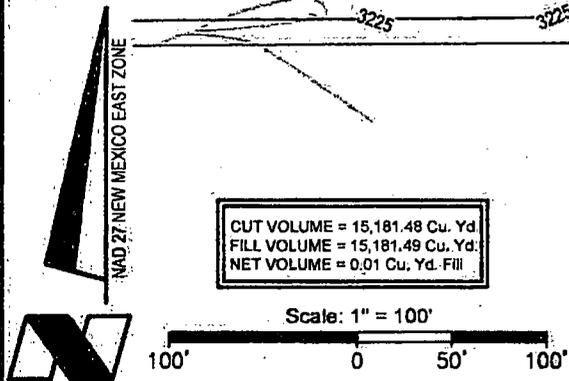
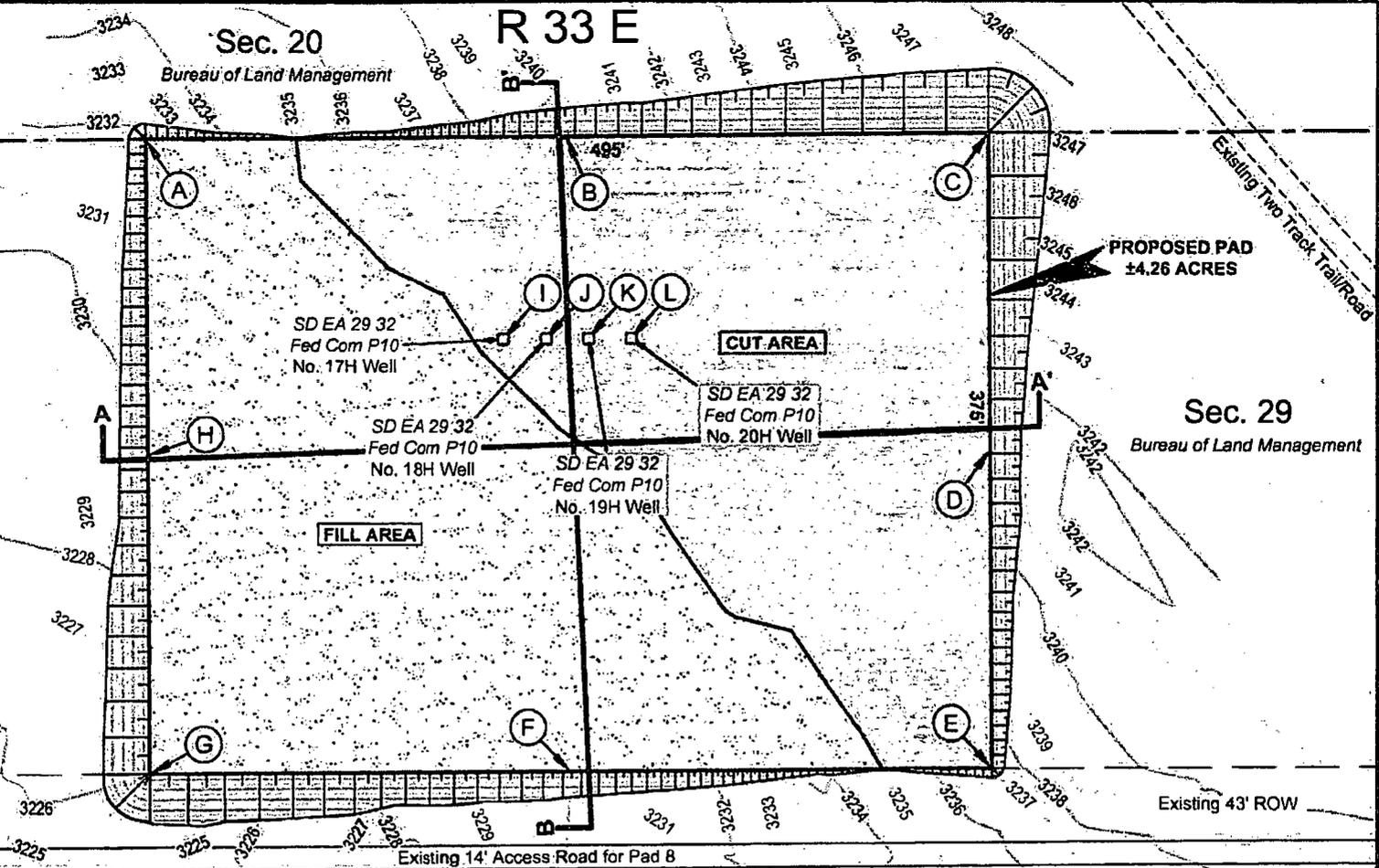
### **Chevron Functional Contacts**

<p><b>Project Manager</b> Name: Antonio Paez  Address: 6301 Deauville Midland, Texas 79706  Phone: (432) 687-7744  Email: <a href="mailto:antoniopaez@chevron.com">antoniopaez@chevron.com</a></p>	<p><b>Drilling Engineer</b> Name: Bryson Abney  Address: 1400 Smith Street Houston, TX 77002  Phone: (713) 372-6447  Email: <a href="mailto:BAbney@chevron.com">BAbney@chevron.com</a></p>
<p><b>Surface Land Representative</b> Name: Dale Caddell  Address: 6301 Deauville Midland, Texas 79706  Phone: (432) 687-7752  Email: <a href="mailto:Dale.Caddell@Chevron.com">Dale.Caddell@Chevron.com</a></p>	<p><b>Facility Lead</b> Name: Caleb Brown  Address: 6301 Deauville Midland, Texas 79706  Phone: (432) 687-7726  Email: <a href="mailto:Caleb.Brown@chevron.com">Caleb.Brown@chevron.com</a></p>
<p><b>Geologist</b> Name: Cameron Griffin  Address: 1400 Smith Street Houston, TX 77002  Phone: (713) 372-5812  Email: <a href="mailto:Cameron.Griffin@chevron.com">Cameron.Griffin@chevron.com</a></p>	<p><b>Regulatory Specialist</b> Name: Denise Pinkerton  Address: 6301 Deauville Midland, Texas 79706  Office: (432) 687-7375  Email: <a href="mailto:leakejd@chevron.com">leakejd@chevron.com</a></p>

**PAD DESIGN TABLE**

PT	NATURAL GROUND ELEV.	DESIGN ELEV.	CUT / FILL
A	3231.89	3235.10	3.21
B	3240.87	3235.10	-5.77
C	3246.71	3235.10	-11.61
D	3240.71	3235.10	-5.61
E	3237.03	3235.10	-1.93
F	3229.98	3235.10	5.12
G	3226.35	3235.10	8.75
H	3229.81	3235.10	5.29
I	3235.53	3235.10	-0.43
J	3238.24	3235.10	-1.14
K	3236.84	3235.10	-1.74
L	3237.63	3235.10	-2.53

T  
26  
S



CUT VOLUME = 15,181.48 Cu. Yd  
 FILL VOLUME = 15,181.49 Cu. Yd.  
 NET VOLUME = 0.01 Cu. Yd. Fill

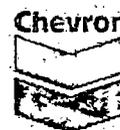
FOR THE EXCLUSIVE USE OF  
 CHEVRON U.S.A. INC.  
 I, Robert L. Lastrapes, Professional  
 Surveyor, do hereby state this plat is true  
 and correct to the best of my knowledge.

ROBERT L. LASTRAPES  
 NEW MEXICO  
 23006  
 6-9-2017  
 Robert L. Lastrapes  
 Registration No. 23006

<b>CUT AND FILL PLAT</b>		PAGE 1 OF 3	
<b>CHEVRON U.S.A. INC.</b> PROPOSED WELL PAD SD EA 29 32 FED COM P10 NOS. 17H-20H WELLS SECTION 29, T26S-R33E LEA COUNTY, NEW MEXICO			
DRAWN BY: BOR		REVISIONS	
PROJ. MGR.: VHV	No.	DATE:	REVISED BY:
DATE: JUNE 02, 2017	No.	DATE:	REVISED BY:
FILENAME: T:\2015\2152310\DWG\SD EA 29 32 Fed Com P10 Nos. 17H-20H_CutFill.dwg			



C. H. Fenstermaker & Associates, L.L.C.  
 135 Regency Sq. Lafayette, LA 70508  
 Ph. 337-237-2200 Fax: 337-232-3299  
 www.fenstermaker.com



## H<sub>2</sub>S Preparedness and Contingency Plan Summary

SD EA 29 32 Fed Com P10 17H

SD EA 29 32 Fed Com P10 18H

SD EA 29 32 Fed Com P10 19H

SD EA 29 32 Fed Com P10 20H

HOBBS OCD

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### Training

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MCBU Drilling and Completions H<sub>2</sub>S training requirements are intended to define the minimum level of training required for employees, contractors and visitors to enter or perform work at MCBU Drilling and Completions locations that have known concentrations of H<sub>2</sub>S.

### Awareness Level

Employees and visitors to MCBU Drilling and Completions locations that have known concentrations of H<sub>2</sub>S, who are not required to perform work in H<sub>2</sub>S areas, will be provided with an awareness level of H<sub>2</sub>S training prior to entering any H<sub>2</sub>S areas. At a minimum, awareness level training will include:

1. Physical and chemical properties of H<sub>2</sub>S
2. Health hazards of H<sub>2</sub>S
3. Personal protective equipment
4. Information regarding potential sources of H<sub>2</sub>S
5. Alarms and emergency evacuation procedures

Awareness level training will be developed and conducted by personnel who are qualified either by specific training, educational experience and/or work-related background.

### Advanced Level H<sub>2</sub>S Training

Employees and contractors required to work in areas that may contain H<sub>2</sub>S will be provided with Advanced Level H<sub>2</sub>S training prior to initial assignment. In addition to the Awareness Level requirements, Advanced Level H<sub>2</sub>S training will include:

1. H<sub>2</sub>S safe work practice procedures;
2. Emergency contingency plan procedures;
3. Methods to detect the presence or release of H<sub>2</sub>S (e.g., alarms, monitoring equipment), including hands-on training with direct reading and personal monitoring H<sub>2</sub>S equipment.
4. Basic overview of respiratory protective equipment suitable for use in H<sub>2</sub>S environments. Note: Employees who work at sites that participate in the Chevron Respirator User program will require separate respirator training as required by the MCBU Respiratory Protection Program;
5. Basic overview of emergency rescue techniques, first aid, CPR and medical evaluation procedures. Employees who may be required to perform "standby" duties are required to receive additional first aid and CPR training, which is not covered in the Advanced Level H<sub>2</sub>S training;
6. Proficiency examination covering all course material.

Advanced H<sub>2</sub>S training courses will be instructed by personnel who have successfully completed an appropriate H<sub>2</sub>S train-the-trainer development course (ANSI/ASSE Z390.1-2006) or who possess significant past experience through educational or work-related background.



# H<sub>2</sub>S Preparedness and Contingency Plan Summary

## H<sub>2</sub>S Training Certification

All employees and visitors will be issued an H<sub>2</sub>S training certification card (or certificate) upon successful completion of the appropriate H<sub>2</sub>S training course. Personnel working in an H<sub>2</sub>S environment will carry a current H<sub>2</sub>S training certification card as proof of having received the proper training on their person at all times.

## Briefing Area

A minimum of two briefing areas will be established in locations that at least one area will be upwind from the well at all times. Upon recognition of an emergency situation, all personnel should assemble at the designated upwind briefing areas for instructions.

## H<sub>2</sub>S Equipment

### Respiratory Protection

- a) Six 30 minute SCBAs – 2 at each briefing area and 2 in the Safety Trailer.
- b) Eight 5 minute EBAs – 5 in the dog house at the rig floor, 1 at the accumulator, 1 at the shale shakers and 1 at the mud pits.

### Visual Warning System

- a) One color code sign, displaying all possible conditions, will be placed at the entrance to the location with a flag displaying the current condition.
- b) Two windsocks will be on location, one on the dog house and one on the Drill Site Manager's Trailer.

### H<sub>2</sub>S Detection and Monitoring System

- a) H<sub>2</sub>S monitoring system (sensor head, warning light and siren) placed throughout rig.
  - Drilling Rig Locations: at a minimum, in the area of the Shale shaker, rig floor, and bell nipple.
  - Workover Rig Locations: at a minimum, in the area of the Cellar, rig floor and circulating tanks or shale shaker.



## H<sub>2</sub>S Preparedness and Contingency Plan Summary

### Well Control Equipment

- a) Flare Line 150' from wellhead with igniter.
- b) Choke manifold with a remotely operated choke.
- c) Mud / gas separator

### Mud Program

In the event of drilling, completions, workover and well servicing operations involving a hydrogen sulfide concentration of 100 ppm or greater the following shall be considered:

1. Use of a degasser
2. Use of a zinc based mud treatment
3. Increasing mud weight

### Public Safety - Emergency Assistance

<u>Agency</u>	<u>Telephone Number</u>
Lea County Sheriff's Department	575-396-3611
Fire Department:	
Carlsbad	575-885-3125
Artesia	575-746-5050
Lea County Regional Medical Center	575-492-5000
Jal Community Hospital	505-395-2511
Lea County Emergency Management	575-396-8602
Poison Control Center	800-222-1222

# H<sub>2</sub>S Preparedness and Contingency Plan Summary



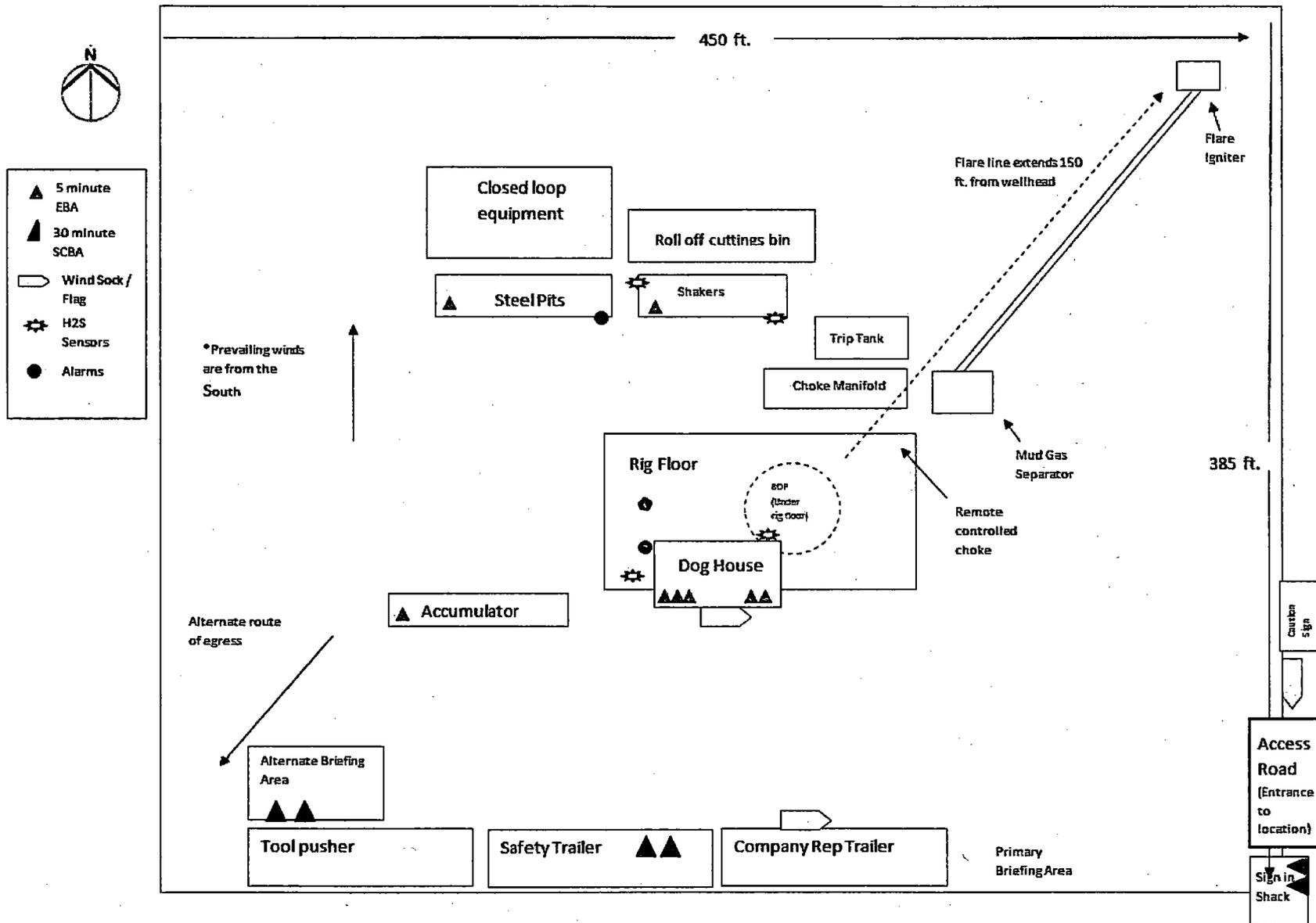
## Chevron MCBU D&C Emergency Notifications

Below are lists of contacts to be used in emergency situations.

	Name	Title	Office Number	Cell Phone
1.	<b>Bryson Abney</b>	Drilling Engineer	(713) 372-6447	(832) 683-0938
2.	Yung Wilson	Superintendent	(713) 372-6475	(713) 205-7624
5.	Ikenna Chukwumaeze	Drilling Manager	(713) 372-7591	(713) 615-0701
6.	Scott Nash	Operations Manager	(713) 372-5747	(281) 814-9713
7.	Luke Meaux	D&C HES	(432) 687-7133	(432) 208 -3572
8.	Markquale Fields	Completion Engineer	(713) 372-0233	(832) 714-0724



# H<sub>2</sub>S Preparedness and Contingency Plan Summary





# Chevron U.S.A. Inc.

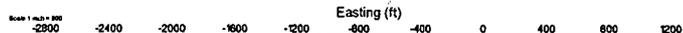
Location: Lea County, NM  
 Field: Jennings / Upper BN SPRN Shale (Lea County, NM)  
 Facility: SD EA 29 32 Fed Com P10

Slot: SD EA 29 32 Fed Com P10 20H  
 Well: SD EA 29 32 Fed Com P10 20H  
 Wellbore: SD EA 29 32 Fed Com P10 20H

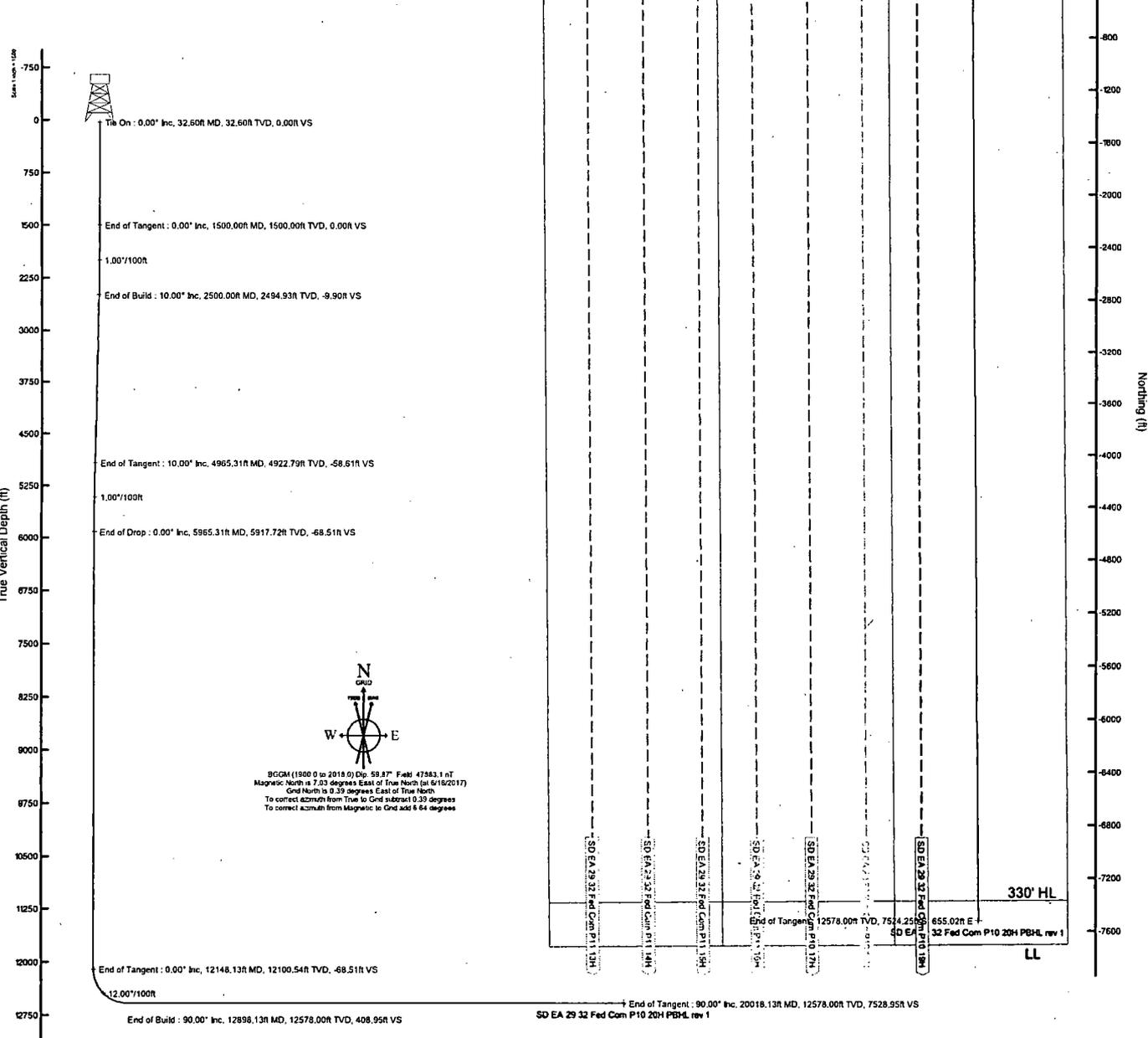


Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	32.60	0.000	83.037	32.60	0.00	0.00	0.00	0.00
End of Tangent	1500.00	0.000	83.037	1500.00	0.00	0.00	0.00	0.00
End of Build	2500.00	10.000	83.037	2494.93	10.55	86.40	1.00	-9.90
End of Tangent	4965.31	10.000	83.037	4922.79	62.45	511.34	0.00	-58.61
End of Drop	5965.31	0.000	179.568	5917.72	73.00	597.75	1.00	-68.51
End of Tangent	12148.13	0.000	179.568	12100.54	73.00	597.75	0.00	-68.51
End of Build	12898.13	90.000	179.568	12578.00	-404.45	601.35	12.00	408.95
End of Tangent	20018.13	90.000	179.568	12578.00	-7524.25	655.02	0.00	7528.95

Bottom Hole Location									
MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
20018.13	90.000	179.568	12578.00	-7524.25	655.02	729889.00	364738.00	32°00'02.199"N	103°35'30.291"W



Location Information			
Well Name	Grid East (US ft)	Grid North (US ft)	Latitude
SD EA 29 32 Fed Com P10	729889.00	364738.00	32°00'02.199"N



FEB 15 2018

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**Planned Wellpath Report**

SD EA 29 32 Fed Com P10 20H Rev A.0

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**REFERENCE WELLPATH IDENTIFICATION**

Operator	Chevron U.S.A. Inc.	Slot	SD EA 29 32 Fed Com P10 20H
Area	Lea County, NM	Well	SD EA 29 32 Fed Com P10 20H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD EA 29 32 Fed Com P10 20H
Facility	SD EA 29 32 Fed Com P10		

**REPORT SETUP INFORMATION**

Projection System	NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 5.0
Orth Reference	Grid	User	Tranlam
Scale	0.999969	Report Generated	6/16/2017 at 1:29:33 PM
Convergence at slot	0.39° East	Database/Source file	WA_Midland/SD_EA_29_32_Fed_Com_P10_20H_Rev_A.0.xml

**WELLPATH LOCATION**

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	75.00	729234.00	372262.00	32°01'16.700"N	103°35'37.299"W
Facility Reference Pt			729159.00	372262.00	32°01'16.705"N	103°35'38.170"W
Field Reference Pt			152400.30	0.00	30°59'42.846"N	105°26'33.659"W

**WELLPATH DATUM**

Calculation method	Minimum curvature	Rig: Nabors x30 (KB) to Facility Vertical Datum	3270.60ft
Horizontal Reference Pt	Slot	Rig: Nabors x30 (KB) to Mean Sea Level	3270.60ft
Vertical Reference Pt	Rig: Nabors x30 (KB)	Rig: Nabors x30 (KB) to Ground Level at Slot (SD EA 29 32 Fed Com P10 20H)	32.60ft
ID Reference Pt	Rig: Nabors x30 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	179.57°



# Planned Wellpath Report

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## REFERENCE WELLPATH IDENTIFICATION

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Facility	SD EA 29 32 Fed Com P10		

## WELLPATH DATA (208 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
0.00†	0.000	83.037	0.00	0.00	0.00	0.00	729234.00	372262.00	32°01'16.700"N	103°35'37.299"W	0.00	0.00	0.00	
32.60	0.000	83.037	32.60	0.00	0.00	0.00	729234.00	372262.00	32°01'16.700"N	103°35'37.299"W	0.00	0.00	0.00	Tie On
132.60†	0.000	83.037	132.60	0.00	0.00	0.00	729234.00	372262.00	32°01'16.700"N	103°35'37.299"W	0.00	0.00	0.00	
232.60†	0.000	83.037	232.60	0.00	0.00	0.00	729234.00	372262.00	32°01'16.700"N	103°35'37.299"W	0.00	0.00	0.00	
332.60†	0.000	83.037	332.60	0.00	0.00	0.00	729234.00	372262.00	32°01'16.700"N	103°35'37.299"W	0.00	0.00	0.00	
432.60†	0.000	83.037	432.60	0.00	0.00	0.00	729234.00	372262.00	32°01'16.700"N	103°35'37.299"W	0.00	0.00	0.00	
532.60†	0.000	83.037	532.60	0.00	0.00	0.00	729234.00	372262.00	32°01'16.700"N	103°35'37.299"W	0.00	0.00	0.00	
632.60†	0.000	83.037	632.60	0.00	0.00	0.00	729234.00	372262.00	32°01'16.700"N	103°35'37.299"W	0.00	0.00	0.00	
732.60†	0.000	83.037	732.60	0.00	0.00	0.00	729234.00	372262.00	32°01'16.700"N	103°35'37.299"W	0.00	0.00	0.00	
832.60†	0.000	83.037	832.60	0.00	0.00	0.00	729234.00	372262.00	32°01'16.700"N	103°35'37.299"W	0.00	0.00	0.00	
932.60†	0.000	83.037	932.60	0.00	0.00	0.00	729234.00	372262.00	32°01'16.700"N	103°35'37.299"W	0.00	0.00	0.00	
1032.60†	0.000	83.037	1032.60	0.00	0.00	0.00	729234.00	372262.00	32°01'16.700"N	103°35'37.299"W	0.00	0.00	0.00	
1132.60†	0.000	83.037	1132.60	0.00	0.00	0.00	729234.00	372262.00	32°01'16.700"N	103°35'37.299"W	0.00	0.00	0.00	
1232.60†	0.000	83.037	1232.60	0.00	0.00	0.00	729234.00	372262.00	32°01'16.700"N	103°35'37.299"W	0.00	0.00	0.00	
1332.60†	0.000	83.037	1332.60	0.00	0.00	0.00	729234.00	372262.00	32°01'16.700"N	103°35'37.299"W	0.00	0.00	0.00	
1432.60†	0.000	83.037	1432.60	0.00	0.00	0.00	729234.00	372262.00	32°01'16.700"N	103°35'37.299"W	0.00	0.00	0.00	
1500.00	0.000	83.037	1500.00	0.00	0.00	0.00	729234.00	372262.00	32°01'16.700"N	103°35'37.299"W	0.00	0.00	0.00	End of Tangent
1532.60†	0.326	83.037	1532.60	-0.01	0.01	0.09	729234.09	372262.01	32°01'16.700"N	103°35'37.298"W	1.00	1.00	254.71	
1632.60†	1.326	83.037	1632.59	-0.17	0.19	1.52	729235.52	372262.19	32°01'16.702"N	103°35'37.281"W	1.00	1.00	0.00	
1732.60†	2.326	83.037	1732.54	-0.54	0.57	4.69	729238.69	372262.57	32°01'16.706"N	103°35'37.244"W	1.00	1.00	0.00	
1832.60†	3.326	83.037	1832.41	-1.10	1.17	9.58	729243.58	372263.17	32°01'16.711"N	103°35'37.187"W	1.00	1.00	0.00	
1932.60†	4.326	83.037	1932.19	-1.86	1.98	16.20	729250.20	372263.98	32°01'16.719"N	103°35'37.110"W	1.00	1.00	0.00	
2032.60†	5.326	83.037	2031.83	-2.81	3.00	24.55	729258.55	372265.00	32°01'16.728"N	103°35'37.013"W	1.00	1.00	0.00	
2132.60†	6.326	83.037	2131.32	-3.97	4.23	34.63	729268.63	372266.23	32°01'16.740"N	103°35'36.896"W	1.00	1.00	0.00	
2232.60†	7.326	83.037	2230.61	-5.32	5.67	46.43	729280.43	372267.67	32°01'16.753"N	103°35'36.759"W	1.00	1.00	0.00	
2332.60†	8.326	83.037	2329.67	-6.87	7.32	59.94	729293.94	372269.32	32°01'16.769"N	103°35'36.602"W	1.00	1.00	0.00	
2432.60†	9.326	83.037	2428.49	-8.62	9.18	75.17	729309.17	372271.18	32°01'16.786"N	103°35'36.425"W	1.00	1.00	0.00	
2500.00	10.000	83.037	2494.93	-9.90	10.55	86.40	729320.40	372272.55	32°01'16.799"N	103°35'36.294"W	1.00	1.00	0.00	End of Build
2532.60†	10.000	83.037	2527.04	-10.55	11.24	92.02	729326.02	372273.24	32°01'16.805"N	103°35'36.229"W	0.00	0.00	0.00	
2632.60†	10.000	83.037	2625.52	-12.52	13.34	109.26	729343.26	372275.34	32°01'16.825"N	103°35'36.029"W	0.00	0.00	0.00	



# Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
Operator	Chevron U.S.A. Inc.	Slot	SD EA 29 32 Fed Com P10 20H
Area	Lea County, NM	Well	SD EA 29 32 Fed Com P10 20H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD EA 29 32 Fed Com P10 20H
Facility	SD EA 29 32 Fed Com P10		

WELLPATH DATA (208 stations) † = interpolated/extrapolated station														
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
2732.60†	10.000	83.037	2724.00	-14.50	15.45	126.50	729360.49	372277.45	32°01'16.844"N	103°35'35.828"W	0.00	0.00	0.00	
2832.60†	10.000	83.037	2822.48	-16.47	17.55	143.73	729377.73	372279.55	32°01'16.864"N	103°35'35.628"W	0.00	0.00	0.00	
2932.60†	10.000	83.037	2920.96	-18.45	19.66	160.97	729394.96	372281.66	32°01'16.884"N	103°35'35.428"W	0.00	0.00	0.00	
3032.60†	10.000	83.037	3019.44	-20.43	21.76	178.21	729412.20	372283.76	32°01'16.903"N	103°35'35.227"W	0.00	0.00	0.00	
3132.60†	10.000	83.037	3117.92	-22.40	23.87	195.44	729429.44	372285.87	32°01'16.923"N	103°35'35.027"W	0.00	0.00	0.00	
3232.60†	10.000	83.037	3216.40	-24.38	25.97	212.68	729446.67	372287.97	32°01'16.943"N	103°35'34.827"W	0.00	0.00	0.00	
3332.60†	10.000	83.037	3314.88	-26.35	28.08	229.92	729463.91	372290.08	32°01'16.962"N	103°35'34.626"W	0.00	0.00	0.00	
3432.60†	10.000	83.037	3413.36	-28.33	30.18	247.15	729481.14	372292.18	32°01'16.982"N	103°35'34.426"W	0.00	0.00	0.00	
3532.60†	10.000	83.037	3511.84	-30.30	32.29	264.39	729498.38	372294.29	32°01'17.002"N	103°35'34.225"W	0.00	0.00	0.00	
3632.60†	10.000	83.037	3610.32	-32.28	34.40	281.63	729515.62	372296.39	32°01'17.021"N	103°35'34.025"W	0.00	0.00	0.00	
3732.60†	10.000	83.037	3708.80	-34.26	36.50	298.86	729532.85	372298.50	32°01'17.041"N	103°35'33.825"W	0.00	0.00	0.00	
3832.60†	10.000	83.037	3807.29	-36.23	38.61	316.10	729550.09	372300.60	32°01'17.061"N	103°35'33.624"W	0.00	0.00	0.00	
3932.60†	10.000	83.037	3905.77	-38.21	40.71	333.34	729567.33	372302.71	32°01'17.080"N	103°35'33.424"W	0.00	0.00	0.00	
4032.60†	10.000	83.037	4004.25	-40.18	42.82	350.57	729584.56	372304.81	32°01'17.100"N	103°35'33.224"W	0.00	0.00	0.00	
4132.60†	10.000	83.037	4102.73	-42.16	44.92	367.81	729601.80	372306.92	32°01'17.120"N	103°35'33.023"W	0.00	0.00	0.00	
4232.60†	10.000	83.037	4201.21	-44.13	47.03	385.05	729619.03	372309.02	32°01'17.139"N	103°35'32.823"W	0.00	0.00	0.00	
4332.60†	10.000	83.037	4299.69	-46.11	49.13	402.28	729636.27	372311.13	32°01'17.159"N	103°35'32.623"W	0.00	0.00	0.00	
4432.60†	10.000	83.037	4398.17	-48.09	51.24	419.52	729653.51	372313.23	32°01'17.179"N	103°35'32.422"W	0.00	0.00	0.00	
4532.60†	10.000	83.037	4496.65	-50.06	53.34	436.76	729670.74	372315.34	32°01'17.198"N	103°35'32.222"W	0.00	0.00	0.00	
4632.60†	10.000	83.037	4595.13	-52.04	55.45	453.99	729687.98	372317.44	32°01'17.218"N	103°35'32.021"W	0.00	0.00	0.00	
4732.60†	10.000	83.037	4693.61	-54.01	57.55	471.23	729705.22	372319.55	32°01'17.238"N	103°35'31.821"W	0.00	0.00	0.00	
4832.60†	10.000	83.037	4792.09	-55.99	59.66	488.47	729722.45	372321.65	32°01'17.257"N	103°35'31.621"W	0.00	0.00	0.00	
4932.60†	10.000	83.037	4890.57	-57.96	61.76	505.70	729739.69	372323.76	32°01'17.277"N	103°35'31.420"W	0.00	0.00	0.00	
4965.31	10.000	83.037	4922.79	-58.61	62.45	511.34	729745.33	372324.45	32°01'17.283"N	103°35'31.355"W	0.00	0.00	0.00	End of Tangent
5032.60†	9.327	83.037	4989.12	-59.90	63.82	522.55	729756.54	372325.82	32°01'17.296"N	103°35'31.225"W	1.00	-1.00	0.00	
5132.60†	8.327	83.037	5087.94	-61.64	65.68	537.79	729771.77	372327.68	32°01'17.314"N	103°35'31.047"W	1.00	-1.00	0.00	
5232.60†	7.327	83.037	5187.00	-63.19	67.33	551.30	729785.29	372329.33	32°01'17.329"N	103°35'30.890"W	1.00	-1.00	0.00	
5332.60†	6.327	83.037	5286.29	-64.54	68.77	563.10	729797.09	372330.77	32°01'17.343"N	103°35'30.753"W	1.00	-1.00	0.00	
5432.60†	5.327	83.037	5385.78	-65.70	70.00	573.18	729807.16	372332.00	32°01'17.354"N	103°35'30.636"W	1.00	-1.00	0.00	
5532.60†	4.327	83.037	5485.42	-66.66	71.02	581.53	729815.52	372333.02	32°01'17.364"N	103°35'30.539"W	1.00	-1.00	0.00	



# Planned Wellpath Report

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Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD EA 29 32 Fed Com P10 20H
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## WELLPATH DATA (208 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
5632.60†	3.327	83.037	5585.19	-67.42	71.83	588.16	729822.14	372333.83	32°01'17.371"N	103°35'30.462"W	1.00	-1.00	0.00	
5732.60†	2.327	83.037	5685.07	-67.98	72.43	593.06	729827.04	372334.43	32°01'17.377"N	103°35'30.405"W	1.00	-1.00	0.00	
5832.60†	1.327	83.037	5785.02	-68.34	72.82	596.22	729830.20	372334.81	32°01'17.380"N	103°35'30.368"W	1.00	-1.00	0.00	
5932.60†	0.327	83.037	5885.01	-68.50	72.99	597.65	729831.63	372334.99	32°01'17.382"N	103°35'30.352"W	1.00	-1.00	0.00	
5965.31	0.000	179.568	5917.72	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	1.00	-1.00	-253.84	End of Drop
6032.60†	0.000	179.568	5985.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
6132.60†	0.000	179.568	6085.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
6232.60†	0.000	179.568	6185.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
6332.60†	0.000	179.568	6285.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
6432.60†	0.000	179.568	6385.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
6532.60†	0.000	179.568	6485.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
6632.60†	0.000	179.568	6585.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
6732.60†	0.000	179.568	6685.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
6832.60†	0.000	179.568	6785.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
6932.60†	0.000	179.568	6885.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
7032.60†	0.000	179.568	6985.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
7132.60†	0.000	179.568	7085.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
7232.60†	0.000	179.568	7185.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
7332.60†	0.000	179.568	7285.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
7432.60†	0.000	179.568	7385.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
7532.60†	0.000	179.568	7485.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
7632.60†	0.000	179.568	7585.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
7732.60†	0.000	179.568	7685.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
7832.60†	0.000	179.568	7785.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
7932.60†	0.000	179.568	7885.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
8032.60†	0.000	179.568	7985.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
8132.60†	0.000	179.568	8085.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
8232.60†	0.000	179.568	8185.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
8332.60†	0.000	179.568	8285.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
8432.60†	0.000	179.568	8385.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	



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REFERENCE WELLPATH IDENTIFICATION			
Operator	Chevron U.S.A. Inc.	Slot	SD EA 29 32 Fed Com P10 20H
Area	Lea County, NM	Well	SD EA 29 32 Fed Com P10 20H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD EA 29 32 Fed Com P10 20H
Facility	SD EA 29 32 Fed Com P10		

WELLPATH DATA (208 stations) † = interpolated/extrapolated station														
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
8532.60†	0.000	179.568	8485.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
8632.60†	0.000	179.568	8585.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
8732.60†	0.000	179.568	8685.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
8832.60†	0.000	179.568	8785.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
8932.60†	0.000	179.568	8885.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
9032.60†	0.000	179.568	8985.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
9132.60†	0.000	179.568	9085.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
9232.60†	0.000	179.568	9185.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
9332.60†	0.000	179.568	9285.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
9432.60†	0.000	179.568	9385.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
9532.60†	0.000	179.568	9485.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
9632.60†	0.000	179.568	9585.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
9732.60†	0.000	179.568	9685.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
9832.60†	0.000	179.568	9785.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
9932.60†	0.000	179.568	9885.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
10032.60†	0.000	179.568	9985.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
10132.60†	0.000	179.568	10085.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
10232.60†	0.000	179.568	10185.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
10332.60†	0.000	179.568	10285.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
10432.60†	0.000	179.568	10385.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
10532.60†	0.000	179.568	10485.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
10632.60†	0.000	179.568	10585.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
10732.60†	0.000	179.568	10685.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
10832.60†	0.000	179.568	10785.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
10932.60†	0.000	179.568	10885.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
11032.60†	0.000	179.568	10985.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
11132.60†	0.000	179.568	11085.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
11232.60†	0.000	179.568	11185.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
11332.60†	0.000	179.568	11285.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
11432.60†	0.000	179.568	11385.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	



# Planned Wellpath Report

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## REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 29 32 Fed Com P10 20H
Area	Lea County, NM	Well	SD EA 29 32 Fed Com P10 20H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD EA 29 32 Fed Com P10 20H
Facility	SD EA 29 32 Fed Com P10		

## WELLPATH DATA (208 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
1532.60†	0.000	179.568	11485.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
1632.60†	0.000	179.568	11585.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
1732.60†	0.000	179.568	11685.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
1832.60†	0.000	179.568	11785.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
1932.60†	0.000	179.568	11885.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
2032.60†	0.000	179.568	11985.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
2132.60†	0.000	179.568	12085.01	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	
2148.13	0.000	179.568	12100.54	-68.51	73.00	597.75	729831.73	372335.00	32°01'17.382"N	103°35'30.350"W	0.00	0.00	0.00	End of Tangent
2232.60†	10.137	179.568	12184.57	-61.06	65.55	597.80	729831.78	372327.55	32°01'17.308"N	103°35'30.350"W	12.00	12.00	212.58	
2332.60†	22.137	179.568	12280.45	-33.32	37.81	598.01	729831.99	372299.81	32°01'17.034"N	103°35'30.350"W	12.00	12.00	0.00	
2432.60†	34.137	179.568	12368.47	13.75	-9.26	598.37	729832.35	372252.74	32°01'16.568"N	103°35'30.350"W	12.00	12.00	0.00	
2532.60†	46.137	179.568	12444.79	78.10	-73.60	598.85	729832.83	372188.40	32°01'15.931"N	103°35'30.349"W	12.00	12.00	0.00	
2632.60†	58.137	179.568	12506.05	156.90	-152.40	599.45	729833.43	372109.60	32°01'15.151"N	103°35'30.349"W	12.00	12.00	0.00	
2732.60†	70.137	179.568	12549.59	246.72	-242.22	600.12	729834.10	372019.79	32°01'14.263"N	103°35'30.348"W	12.00	12.00	0.00	
2832.60†	82.137	179.568	12573.51	343.63	-339.13	600.85	729834.83	371922.88	32°01'13.304"N	103°35'30.347"W	12.00	12.00	0.00	
2898.13	90.000	179.568	12578.00	408.95	-404.45	601.35	729835.33	371857.56	32°01'12.657"N	103°35'30.347"W	12.00	12.00	0.00	End of Build
2932.60†	90.000	179.568	12578.00	443.42	-438.92	601.61	729835.59	371823.09	32°01'12.316"N	103°35'30.346"W	0.00	0.00	0.00	
3032.60†	90.000	179.568	12578.00	543.42	-538.92	602.36	729836.34	371723.10	32°01'11.326"N	103°35'30.346"W	0.00	0.00	0.00	
3132.60†	90.000	179.568	12578.00	643.42	-638.91	603.11	729837.09	371623.11	32°01'10.337"N	103°35'30.345"W	0.00	0.00	0.00	
3232.60†	90.000	179.568	12578.00	743.42	-738.91	603.87	729837.85	371523.11	32°01'09.347"N	103°35'30.344"W	0.00	0.00	0.00	
3332.60†	90.000	179.568	12578.00	843.42	-838.91	604.62	729838.60	371423.12	32°01'08.358"N	103°35'30.343"W	0.00	0.00	0.00	
3432.60†	90.000	179.568	12578.00	943.42	-938.91	605.37	729839.35	371323.12	32°01'07.368"N	103°35'30.343"W	0.00	0.00	0.00	
3532.60†	90.000	179.568	12578.00	1043.42	-1038.90	606.13	729840.11	371223.13	32°01'06.379"N	103°35'30.342"W	0.00	0.00	0.00	
3632.60†	90.000	179.568	12578.00	1143.42	-1138.90	606.88	729840.86	371123.14	32°01'05.389"N	103°35'30.341"W	0.00	0.00	0.00	
3732.60†	90.000	179.568	12578.00	1243.42	-1238.90	607.64	729841.62	371023.14	32°01'04.399"N	103°35'30.340"W	0.00	0.00	0.00	
3832.60†	90.000	179.568	12578.00	1343.42	-1338.89	608.39	729842.37	370923.15	32°01'03.410"N	103°35'30.339"W	0.00	0.00	0.00	
3932.60†	90.000	179.568	12578.00	1443.42	-1438.89	609.14	729843.12	370823.16	32°01'02.420"N	103°35'30.339"W	0.00	0.00	0.00	
4032.60†	90.000	179.568	12578.00	1543.42	-1538.89	609.90	729843.88	370723.16	32°01'01.431"N	103°35'30.338"W	0.00	0.00	0.00	
4132.60†	90.000	179.568	12578.00	1643.42	-1638.89	610.65	729844.63	370623.17	32°01'00.441"N	103°35'30.337"W	0.00	0.00	0.00	
4232.60†	90.000	179.568	12578.00	1743.42	-1738.88	611.41	729845.39	370523.17	32°00'59.452"N	103°35'30.336"W	0.00	0.00	0.00	



# Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
Operator	Chevron U.S.A. Inc.	Slot	SD EA 29 32 Fed Com P10 20H
Area	Lea County, NM	Well	SD EA 29 32 Fed Com P10 20H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD EA 29 32 Fed Com P10 20H
Facility	SD EA 29 32 Fed Com P10		

WELLPATH DATA (208 stations) † = interpolated/extrapolated station														
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
14332.60†	90.000	179.568	12578.00	1843.42	-1838.88	612.16	729846.14	370423.18	32°00'58.462"N	103°35'30.335"W	0.00	0.00	0.00	
14432.60†	90.000	179.568	12578.00	1943.42	-1938.88	612.91	729846.89	370323.19	32°00'57.472"N	103°35'30.335"W	0.00	0.00	0.00	
14532.60†	90.000	179.568	12578.00	2043.42	-2038.87	613.67	729847.65	370223.19	32°00'56.483"N	103°35'30.334"W	0.00	0.00	0.00	
14632.60†	90.000	179.568	12578.00	2143.42	-2138.87	614.42	729848.40	370123.20	32°00'55.493"N	103°35'30.333"W	0.00	0.00	0.00	
14732.60†	90.000	179.568	12578.00	2243.42	-2238.87	615.17	729849.15	370023.20	32°00'54.504"N	103°35'30.332"W	0.00	0.00	0.00	
14832.60†	90.000	179.568	12578.00	2343.42	-2338.87	615.93	729849.91	369923.21	32°00'53.514"N	103°35'30.332"W	0.00	0.00	0.00	
14932.60†	90.000	179.568	12578.00	2443.42	-2438.86	616.68	729850.66	369823.22	32°00'52.524"N	103°35'30.331"W	0.00	0.00	0.00	
15032.60†	90.000	179.568	12578.00	2543.42	-2538.86	617.44	729851.42	369723.22	32°00'51.535"N	103°35'30.330"W	0.00	0.00	0.00	
15132.60†	90.000	179.568	12578.00	2643.42	-2638.86	618.19	729852.17	369623.23	32°00'50.545"N	103°35'30.329"W	0.00	0.00	0.00	
15232.60†	90.000	179.568	12578.00	2743.42	-2738.85	618.94	729852.92	369523.23	32°00'49.556"N	103°35'30.328"W	0.00	0.00	0.00	
15332.60†	90.000	179.568	12578.00	2843.42	-2838.85	619.70	729853.68	369423.24	32°00'48.566"N	103°35'30.328"W	0.00	0.00	0.00	
15432.60†	90.000	179.568	12578.00	2943.42	-2938.85	620.45	729854.43	369323.25	32°00'47.577"N	103°35'30.327"W	0.00	0.00	0.00	
15532.60†	90.000	179.568	12578.00	3043.42	-3038.85	621.21	729855.19	369223.25	32°00'46.587"N	103°35'30.326"W	0.00	0.00	0.00	
15632.60†	90.000	179.568	12578.00	3143.42	-3138.84	621.96	729855.94	369123.26	32°00'45.597"N	103°35'30.325"W	0.00	0.00	0.00	
15732.60†	90.000	179.568	12578.00	3243.42	-3238.84	622.71	729856.69	369023.27	32°00'44.608"N	103°35'30.324"W	0.00	0.00	0.00	
15832.60†	90.000	179.568	12578.00	3343.42	-3338.84	623.47	729857.45	368923.27	32°00'43.618"N	103°35'30.324"W	0.00	0.00	0.00	
15932.60†	90.000	179.568	12578.00	3443.42	-3438.83	624.22	729858.20	368823.28	32°00'42.629"N	103°35'30.323"W	0.00	0.00	0.00	
16032.60†	90.000	179.568	12578.00	3543.42	-3538.83	624.98	729858.95	368723.28	32°00'41.639"N	103°35'30.322"W	0.00	0.00	0.00	
16132.60†	90.000	179.568	12578.00	3643.42	-3638.83	625.73	729859.71	368623.29	32°00'40.650"N	103°35'30.321"W	0.00	0.00	0.00	
16232.60†	90.000	179.568	12578.00	3743.42	-3738.83	626.48	729860.46	368523.30	32°00'39.660"N	103°35'30.321"W	0.00	0.00	0.00	
16332.60†	90.000	179.568	12578.00	3843.42	-3838.82	627.24	729861.22	368423.30	32°00'38.670"N	103°35'30.320"W	0.00	0.00	0.00	
16432.60†	90.000	179.568	12578.00	3943.42	-3938.82	627.99	729861.97	368323.31	32°00'37.681"N	103°35'30.319"W	0.00	0.00	0.00	
16532.60†	90.000	179.568	12578.00	4043.42	-4038.82	628.74	729862.72	368223.31	32°00'36.691"N	103°35'30.318"W	0.00	0.00	0.00	
16632.60†	90.000	179.568	12578.00	4143.42	-4138.82	629.50	729863.48	368123.32	32°00'35.702"N	103°35'30.317"W	0.00	0.00	0.00	
16732.60†	90.000	179.568	12578.00	4243.42	-4238.81	630.25	729864.23	368023.33	32°00'34.712"N	103°35'30.317"W	0.00	0.00	0.00	
16832.60†	90.000	179.568	12578.00	4343.42	-4338.81	631.01	729864.99	367923.33	32°00'33.722"N	103°35'30.316"W	0.00	0.00	0.00	
16932.60†	90.000	179.568	12578.00	4443.42	-4438.81	631.76	729865.74	367823.34	32°00'32.733"N	103°35'30.315"W	0.00	0.00	0.00	
17032.60†	90.000	179.568	12578.00	4543.42	-4538.80	632.51	729866.49	367723.34	32°00'31.743"N	103°35'30.314"W	0.00	0.00	0.00	
17132.60†	90.000	179.568	12578.00	4643.42	-4638.80	633.27	729867.25	367623.35	32°00'30.754"N	103°35'30.313"W	0.00	0.00	0.00	
17232.60†	90.000	179.568	12578.00	4743.42	-4738.80	634.02	729868.00	367523.36	32°00'29.764"N	103°35'30.313"W	0.00	0.00	0.00	



# Planned Wellpath Report

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## REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 29 32 Fed Com P10 20H
Area	Lea County, NM	Well	SD EA 29 32 Fed Com P10 20H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD EA 29 32 Fed Com P10 20H
Facility	SD EA 29 32 Fed Com P10		

## WELLPATH DATA (208 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
7332.60†	90.000	179.568	12578.00	4843.42	-4838.80	634.78	729868.76	367423.36	32°00'28.775"N	103°35'30.312"W	0.00	0.00	0.00	
7432.60†	90.000	179.568	12578.00	4943.42	-4938.79	635.53	729869.51	367323.37	32°00'27.785"N	103°35'30.311"W	0.00	0.00	0.00	
7532.60†	90.000	179.568	12578.00	5043.42	-5038.79	636.28	729870.26	367223.38	32°00'26.795"N	103°35'30.310"W	0.00	0.00	0.00	
7632.60†	90.000	179.568	12578.00	5143.42	-5138.79	637.04	729871.02	367123.38	32°00'25.806"N	103°35'30.310"W	0.00	0.00	0.00	
7732.60†	90.000	179.568	12578.00	5243.42	-5238.78	637.79	729871.77	367023.39	32°00'24.816"N	103°35'30.309"W	0.00	0.00	0.00	
7832.60†	90.000	179.568	12578.00	5343.42	-5338.78	638.55	729872.52	366923.39	32°00'23.827"N	103°35'30.308"W	0.00	0.00	0.00	
7932.60†	90.000	179.568	12578.00	5443.42	-5438.78	639.30	729873.28	366823.40	32°00'22.837"N	103°35'30.307"W	0.00	0.00	0.00	
8032.60†	90.000	179.568	12578.00	5543.42	-5538.78	640.05	729874.03	366723.41	32°00'21.847"N	103°35'30.306"W	0.00	0.00	0.00	
8132.60†	90.000	179.568	12578.00	5643.42	-5638.77	640.81	729874.79	366623.41	32°00'20.858"N	103°35'30.306"W	0.00	0.00	0.00	
8232.60†	90.000	179.568	12578.00	5743.42	-5738.77	641.56	729875.54	366523.42	32°00'19.868"N	103°35'30.305"W	0.00	0.00	0.00	
8332.60†	90.000	179.568	12578.00	5843.42	-5838.77	642.31	729876.29	366423.42	32°00'18.879"N	103°35'30.304"W	0.00	0.00	0.00	
8432.60†	90.000	179.568	12578.00	5943.42	-5938.76	643.07	729877.05	366323.43	32°00'17.889"N	103°35'30.303"W	0.00	0.00	0.00	
8532.60†	90.000	179.568	12578.00	6043.42	-6038.76	643.82	729877.80	366223.44	32°00'16.900"N	103°35'30.302"W	0.00	0.00	0.00	
8632.60†	90.000	179.568	12578.00	6143.42	-6138.76	644.58	729878.56	366123.44	32°00'15.910"N	103°35'30.302"W	0.00	0.00	0.00	
8732.60†	90.000	179.568	12578.00	6243.42	-6238.76	645.33	729879.31	366023.45	32°00'14.920"N	103°35'30.301"W	0.00	0.00	0.00	
8832.60†	90.000	179.568	12578.00	6343.42	-6338.75	646.08	729880.06	365923.45	32°00'13.931"N	103°35'30.300"W	0.00	0.00	0.00	
8932.60†	90.000	179.568	12578.00	6443.42	-6438.75	646.84	729880.82	365823.46	32°00'12.941"N	103°35'30.299"W	0.00	0.00	0.00	
9032.60†	90.000	179.568	12578.00	6543.42	-6538.75	647.59	729881.57	365723.47	32°00'11.952"N	103°35'30.298"W	0.00	0.00	0.00	
9132.60†	90.000	179.568	12578.00	6643.42	-6638.74	648.35	729882.32	365623.47	32°00'10.962"N	103°35'30.298"W	0.00	0.00	0.00	
9232.60†	90.000	179.568	12578.00	6743.42	-6738.74	649.10	729883.08	365523.48	32°00'09.973"N	103°35'30.297"W	0.00	0.00	0.00	
9332.60†	90.000	179.568	12578.00	6843.42	-6838.74	649.85	729883.83	365423.49	32°00'08.983"N	103°35'30.296"W	0.00	0.00	0.00	
9432.60†	90.000	179.568	12578.00	6943.42	-6938.74	650.61	729884.59	365323.49	32°00'07.993"N	103°35'30.295"W	0.00	0.00	0.00	
9532.60†	90.000	179.568	12578.00	7043.42	-7038.73	651.36	729885.34	365223.50	32°00'07.004"N	103°35'30.295"W	0.00	0.00	0.00	
9632.60†	90.000	179.568	12578.00	7143.42	-7138.73	652.12	729886.09	365123.50	32°00'06.014"N	103°35'30.294"W	0.00	0.00	0.00	
9732.60†	90.000	179.568	12578.00	7243.42	-7238.73	652.87	729886.85	365023.51	32°00'05.025"N	103°35'30.293"W	0.00	0.00	0.00	
9832.60†	90.000	179.568	12578.00	7343.42	-7338.72	653.62	729887.60	364923.52	32°00'04.035"N	103°35'30.292"W	0.00	0.00	0.00	
9932.60†	90.000	179.568	12578.00	7443.42	-7438.72	654.38	729888.36	364823.52	32°00'03.045"N	103°35'30.291"W	0.00	0.00	0.00	
10018.13	90.000	179.568	12578.00†	7528.95	-7524.25	655.02	729889.00	364738.00	32°00'02.199"N	103°35'30.291"W	0.00	0.00	0.00	End of Tangent



# Planned Wellpath Report

SD EA 29 32 Fed Com P10 20H Rev A.0

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## REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 29 32 Fed Com P10 20H
Area	Lea County, NM	Well	SD EA 29 32 Fed Com P10 20H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD EA 29 32 Fed Com P10 20H
Facility	SD EA 29 32 Fed Com P10		

## TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SD EA 29 32 Fed Com P10 20H PBHL Rev 1	20018.13	12578.00	-7524.25	655.02	729889.00	364738.00	32°00'02.199"N	103°35'30.291"W	point

## SURVEY PROGRAM - Ref Wellbore: SD EA 29 32 Fed Com P10 20H Ref Wellpath: SD EA 29 32 Fed Com P10 20H Rev A.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.60	20018.13	BHI NaviTrak (Standard)		SD EA 29 32 Fed Com P10 20H

1/25/2017

1/25/2017

- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines



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

## SUPO Data Report

02/09/2018

APD ID: 10400015953

Submission Date: 07/11/2017

Highlighted data  
reflects the most  
recent changes

Operator Name: CHEVRON USA INCORPORATED

Well Name: SD EA 29 32 FED COM P10

Well Number: 20H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

### Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

SD\_EA\_29\_32\_Fed\_Com\_P10\_20H\_Work\_Area\_Detail\_07-11-2017.pdf

SD\_EA\_29\_32\_P10\_20H\_ROAD\_PLAT\_20171003131037.pdf

Existing Road Purpose: ACCESS, FLUID TRANSPORT

Row(s) Exist? NO

**ROW ID(s)**

ID:

Do the existing roads need to be improved? YES

Existing Road Improvement Description: REPAIR POT HOLES, CLEAR DITCHES, REPAIR CROWN, ETC.

Existing Road Improvement Attachment:

### Section 2 - New or Reconstructed Access Roads

Will new roads be needed? NO

### Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

P10\_20H\_1\_Mile\_Radius\_Map\_\_07-11-2017.pdf

ONSHORE ORDER NO. 1  
 Chevron  
 SD EA 29/32 Fed Com P10 #20H  
 Lea County, NM

**HOBBS OCD**

**FEB 15 2018**

CONFIDENTIAL -- TIGHT HOLE  
 DRILLING PLAN  
 PAGE: 1

**RECEIVED**

**1. FORMATION TOPS**

The estimated tops of important geologic markers are as follows:

FORMATION	SUB-SEA TVD	KBTVD	MD
Rustler		800	
Castile		3480	
Lamar		4900	
Bell Canyon		4930	
Cherry Canyon		5970	
Brushy Canyon		7620	
Bone Spring Limestone		9090	
Upr. Avalon		9120	
Top Bone Spring 1		10040	
Top Bone Spring 2		10700	
Top Bone Spring 3		11740	
Wolfcamp		12140	
Wolfcamp A1		12193	
Wolfcamp A2		12,523	
Lateral TD (Wolfcamp A2)		12,523	23000

**2. ESTIMATED DEPTH OF WATER, OIL, GAS & OTHER MINERAL BEARING FORMATIONS**

The estimated depths at which the top and bottom of the anticipated water, oil, gas, or other mineral bearing formations are expected to be encountered are as follows:

Substance	Formation	Depth
Deepest Expected Base of Fresh Water		700
Water	Rustler	800
Water	Bell Canyon	4930
Water	Cherry Canyon	5970
Oil/Gas	Brushy Canyon	7620
Oil/Gas	Bone Spring Limestone	9090
Oil/Gas	Upr. Avalon	9120
Oil/Gas	Top Bone Spring 1	10040
Oil/Gas	Top Bone Spring 2	10700
Oil/Gas	Top Bone Spring 3	11740
Oil/Gas	Wolfcamp	12140
Oil/Gas	Wolfcamp A1	12193
Oil/Gas	Wolfcamp A2	12,523

All shows of fresh water and minerals will be reported and protected.

**3. BOP EQUIPMENT**

Will have a minimum of a 10000 psi rig stack (see proposed schematic) for drill out below surface (Wolfcamp is not exposed until drillout of the intermediate casing). Could possibly utilize the 5000 psi rig stack (see proposed schematic) for drill out below surface casing due to the availability of 10 M annular. (Wolfcamp is not exposed until drillout of the intermediate casing) Stack will be tested as specified in the attached testing requirements. Batch drilling of the surface, intermediate, and production will take place. A full BOP test will be performed unless approval from BLM is received otherwise. Flex choke hose will be used for all wells on the pad (see attached specs) BOP test will be conducted by a third party.

Chevron requests a variance to use a FMC UH2 Multibowl wellhead, which will be run through the rig floor on surface casing. BOPE will be nipped up and tested after cementing surface casing. Subsequent tests will be performed as needed, not to exceed 30 days. The field report from FMC and BOP test information will be provided in a subsequent report at the end of the well. Please see the attached wellhead schematic. An installation manual has been placed on file with the BLM office and remains unchanged from previous submittal.

4. **CASING PROGRAM**

a. The proposed casing program will be as follows:

Purpose	From	To	Hole Size	Csg Size	Weight	Grade	Thread	Condition
Surface	0'	800'	17-1/2"	13-3/8"	55 #	J55	STC	New
Intermediate	0'	11,500'	12-1/4"	9-5/8"	43.5#	HCK-L80	LTC	New
Liner	10,850'	12,300'	8-1/2"	7-5/8"	29.7 #	HCP-110	H513	New
Production (Taper String)	0'	12,500'	6-3/4"	5.5"	20#	P-110-ICY	TXP BTC	New
	12,500'	23,000'	6-3/4"	5"	18#	P-110 IC	TSH521	New

b. Casing design subject to revision based on geologic conditions encountered.

c. \*\*\*A "Worst Case" casing design for wells in a particular area is used below to calculate the Casing Safety Factors. If for any reason the casing design for a particular well requires setting casing deeper than the following "worst case" design, then the Casing Safety Factors will be recalculated & sent to the BLM prior to drilling.

d. Chevron will fill casing at a minimum of every 20 jts (840') while running for Intermediate and production casing in order to maintain collapse SF.

**SF Calculations based on the following "Worst Case" casing design:**

Surface Casing: 850'  
 Intermediate Casing: 11,200' TVD  
 Production Casing: 23,000' MD/12,750' TVD (10,300' VS @ 90 deg inc)

Casing String	Min SF Burst	Min SF Collapse	Min SF Tension	Min SF Tri-Axial
Surface	1.36	3.12	3.17	1.70
Intermediate	1.12	1.44	1.93	1.37
Liner	1.69	5.36	2.50	2.09
Production	1.11	1.23	1.97	1.37

Min SF is the smallest of a group of safety factors that include the following considerations:

	Surf	Int	Liner	Prod
<b>Burst Design</b>				
Pressure Test- Surface, Int, Prod Csg P external: Water P internal: Test psi + next section heaviest mud in csg	X	X	X	X
Displace to Gas- Surf Csg P external: Water P internal: Dry Gas from Next Csg Point	X			
Frac at Shoe, Gas to Surf- Int Csg P external: Water P internal: Dry Gas, 16 ppg Frac Gradient		X	X	
Stimulation (Frac) Pressures- Prod Csg P external: Water P internal: Max inj pressure w/ heaviest injected fluid				X
Tubing leak- Prod Csg (packer at KOP) P external: Water P internal: Leak just below surf, 8.7 ppg packer fluid				X
<b>Collapse Design</b>				
Full Evacuation P external: Water gradient in cement, mud above TOC P internal: none	X	X	X	X
Cementing- Surf, Int, Prod Csg P external: Wet cement P internal: water	X	X	X	X
<b>Tension Design</b>				
100k lb overpull	X	X	X	X

**5. CEMENTING PROGRAM**

Slurry	Type	Top	Bottom	Weight	Yield	%Excess	Sacks	Water
Surface				(ppg)	(sx/cu ft)	Open Hole		gal/sk
Tail	Class C	0'	800'	14.8	1.33	50	650	6.57
<b>Intermediate</b>								
Stage 2 Lead	Class C	0'	4570'	11.9	2.39	100	1070	13.46
Stage 2 Tail	Class C	4570'	4870'	14.8	1.33	25	89	6.35
Stage 1 Lead	50:50 Poz Class C	4,870'	10,650'	11.9	2.21	25	1024	12.18
Stage 1 Tail	Class H	10,650'	11,150'	15.6	1.22	25	184	5.37
<b>Liner</b>								
Tail	Class H	10,850'	12,300'	15.6	1.22	17	123	5.34
<b>Production</b>								
Tail	Acid Soluble	10,350'	23,000'	15.6	1.2	10	1300	5.05

1. Final cement volumes will be determined by caliper.
2. Surface casing shall have at least one centralizer installed on each of the bottom three joints starting with the shoe joint.
3. Production casing will have one horizontal type centralizer on every joint for the first 1000' from TD, then every other joint to EOB, and then every third joint to KOP. Bowspring type centralizers will be run from KOP to intermediate casing.

**6. MUD PROGRAM**

From	To	Type	Weight	F. Vis	Filtrate
0'	800'	Spud Mud	8.3 - 8.7	32 - 34	NC - NC
800'	11,150'	Oil Based Mud	8.7-9.2	28 - 30	25-30
11,150'	12,300'	Oil Based Mud	9.5-13.5	70 - 75	25 - 30
12,300'	23,000'	Oil Based Mud	12.0-15.0	70 - 75	25 - 30

A closed system will be utilized consisting of above ground steel tanks. All wastes accumulated during drilling operations will be contained in a portable trash cage and removed from location and deposited in an approved sanitary landfill. Sanitary wastes will be contained in a chemical porta-toilet and then hauled to an approved sanitary landfill.

All fluids and cuttings will be disposed of in accordance with New Mexico Oil Conservation Division rules and regulations.

A mud test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

Visual mud monitoring equipment shall be in place to detect volume changes indicating loss or gain of circulating fluid volume. When abnormal pressures are anticipated -- a pit volume totalizer (PVT), stroke counter, and flow sensor will be used to detect volume changes indicating loss or gain of circulating fluid volume.

A weighting agent and lost circulating material (LCM) will be onsite to mitigate pressure or lost circulation as hole conditions dictate.

**7. TESTING, LOGGING, AND CORING**

The anticipated type and amount of testing, logging, and coring are as follows:

- a. Drill stem tests are not planned.
- b. The logging program will be as follows:

TYPE	Logs	Interval	Timing	Vendor
Mudlogs	2 man mudlog	Int Csg to TD	Drillout of Int Csg	TBD
LWD	MWD Gamma	Int. and Prod. Hole	While Drilling	TBD

- c. Conventional whole core samples are not planned.
- d. A Directional Survey will be run.

**8. ABNORMAL PRESSURES AND HYDROGEN SULFIDE**

- a. No abnormal pressures or temperatures are expected. Estimated BHP at intermediate TD is: 5750 psi  
 No abnormal pressures or temperatures are expected. Estimated BHP at production TD is: 9830 psi
- b. Hydrogen sulfide gas is not anticipated. An H2S Contingency plan is attached with this APD in the event that H2S is encountered

**6. MUD PROGRAM**

From	To	Type	Weight	F. Vis	Filtrate
0'	800'	Spud Mud	8.3 - 8.7	32 - 34	NC - NC
800'	11,150'	Oil Based Mud	8.7-9.2	28 - 30	25-30
11,150'	12,300'	Oil Based Mud	9.5-13.5	70 - 75	25 - 30
12,300'	23,000'	Oil Based Mud	12.0-15.0	70 - 75	25 - 30

A closed system will be utilized consisting of above ground steel tanks. All wastes accumulated during drilling operations will be contained in a portable trash cage and removed from location and deposited in an approved sanitary landfill. Sanitary wastes will be contained in a chemical porta-toilet and then hauled to an approved sanitary landfill.

All fluids and cuttings will be disposed of in accordance with New Mexico Oil Conservation Division rules and regulations.

A mud test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

Visual mud monitoring equipment shall be in place to detect volume changes indicating loss or gain of circulating fluid volume. When abnormal pressures are anticipated -- a pit volume totalizer (PVT), stroke counter, and flow sensor will be used to detect volume changes indicating loss or gain of circulating fluid volume.

A weighting agent and lost circulating material (LCM) will be onsite to mitigate pressure or lost circulation as hole conditions dictate.

**7. TESTING, LOGGING, AND CORING**

The anticipated type and amount of testing, logging, and coring are as follows:

- a. Drill stem tests are not planned.
- b. The logging program will be as follows:

TYPE	Logs	Interval	Timing	Vendor
Mudlogs	2 man mudlog	Int Csg to TD	Drillout of Int Csg	TBD
LWD	MWD Gamma	Int. and Prod. Hole	While Drilling	TBD

- c. Conventional whole core samples are not planned.
- d. A Directional Survey will be run.

**8. ABNORMAL PRESSURES AND HYDROGEN SULFIDE**

- a. No abnormal pressures or temperatures are expected. Estimated BHP at intermediate TD is: 5750 psi  
 No abnormal pressures or temperatures are expected. Estimated BHP at production TD is: 9830 psi
- b. Hydrogen sulfide gas is not anticipated. An H2S Contingency plan is attached with this APD in the event that H2S is encountered

**DISCLAIMER:** At this time, C. H. Fenstermaker & Associates, L.L.C. has not performed nor was asked to perform any type of engineering, hydrological modeling, flood plain, or "No Rise" certification analyses, including but not limited to determining whether the project will impact flood hazards in connection with federal/FEMA, state, and/or local laws, ordinances and regulations. Accordingly, Fenstermaker makes no warranty or representation of any kind as to the foregoing issues, and persons or entities using this information shall do so at their own risk.

**NOTE:**

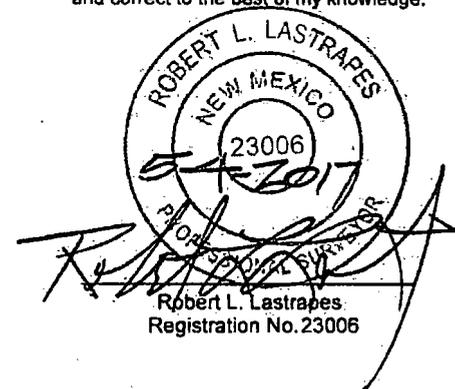
Please be advised, that while reasonable efforts are made to locate and verify pipelines and anomalies using our standard pipeline locating equipment, it is impossible to be 100 % effective. As such, we advise using caution when performing work as there is a possibility that pipelines and other hazards, such as fiber optic cables, PVC pipelines, etc. may exist undetected on site.

**NOTE:**

Many states maintain information centers that establish links between those who dig (excavators) and those who own and operate underground facilities (operators). It is advisable and in most states, law, for the contractor to contact the center for assistance in locating and marking underground utilities. For guidance, New Mexico One Call [www.nmonecall.org](http://www.nmonecall.org)

PROPOSED PAD		
COURSE	BEARING	DISTANCE
1	N 89° 37' 04" E	495.00'
2	S 00° 22' 56" E	375.00'
3	S 89° 37' 04" W	495.00'
4	N 00° 22' 56" W	375.00'

FOR THE EXCLUSIVE USE OF  
CHEVRON U.S.A. INC.  
I, Robert L. Lastrapes, Professional  
Surveyor, do hereby state this plat is true  
and correct to the best of my knowledge.



WELL PLAT PAGE 2 OF 2

**CHEVRON U.S.A. INC.**

PROPOSED PAD  
SD EA 29 32 FED COM P10 NO. 20H WELL  
SECTION 29, T26S-R33E  
LEA COUNTY, NEW MEXICO

DRAWN BY: BOR		REVISIONS	
PROJ. MGR.: VHV	No. 1	DATE: 04/04/2017	REVISED BY: KJD
DATE: 03/17/2017	No. 2	DATE: 05/02/2017	REVISED BY: BOR
FILENAME: T:\2015\2152310\DWG\SD EA 29 32 Fed Com P10 No. 20H Well Plat.dwg			



C. H. Fenstermaker & Associates, L.L.C.  
135 Regency Sq. Lafayette, LA 70508  
Ph. 337-237-2200 Fax. 337-232-3299  
[www.fenstermaker.com](http://www.fenstermaker.com)