Carlsbad Field Office
OCD Artesia

Form 3160-3
(March 2012)

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM118108

6. If Indian, Allotee or Tribe Name:

1a. Type of work: ☑ DRILL ☐ REENTER

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

1b. Type of Well: ☐ Oil Well ☑ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.: HH SO 8 5 FED 003 5H 322146

2. Name of Operator: CHEVRON USA INCORPORATED 4323

9. API Well No.: 30-015-45119

3a. Address: 6301 Deauville Blvd. Midland TX 79706

3b. Phone No. *(include area code)*: (432)687-7866

10. Field and Pool, or Exploratory: PURPLE SAGE / WOLFCAMP, (GAS)

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

At surface: NENW / 529 FNL / 2310 FWL / LAT 32.048309 / LONG -104.21342

At proposed prod. zone: NENW / 280 FNL / 2010 FWL / LAT 32.078243 / LONG -104.214486

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 17 / T26S / R27E / NMP

14. Distance in miles and direction from nearest town or post office*: 12.8 miles

12. County or Parish: EDDY

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 330 feet

16. No. of acres in lease: 1120

17. Spacing Unit dedicated to this well: 640

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 4300 feet

19. Proposed Depth: 10016 feet / 20336 feet

20. BLM/BIA Bond No. on file: FED: CA0329

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3265 feet

22. Approximate date work will start*: 11/01/2017

23. Estimated duration: 130 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

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

25. Signature: (Electronic Submission)

Name *(Printed/Typed)*: Laura Becerra / Ph: (432)687-7665

Date: 07/12/2017

Title: Permitting Specialist

Approved by *(Signature)*: (Electronic Submission)

Name *(Printed/Typed)*: Cody Layton / Ph: (575)234-5959

Date: 07/12/2018

Title: Assistant Field Manager Lands & Minerals

Office: CARLSBAD

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

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

(Continued on page 2)

*(Instructions on page 2)

APPROVED WITH CONDITIONS

Approval Date: 07/12/2018

NM OIL CONSERVATION
ARTESIA DISTRICT
JUL 17 2018
RECEIVED

RP 7-17-18

INSTRUCTIONS

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

ITEM 1: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

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

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

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

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

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160
PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.
ROUTINE USE: Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.
EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM collects this information to allow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

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

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Approval Date: 07/12/2018

Additional Operator Remarks

Location of Well

1. SHL: NENW / 529 FNL / 2310 FWL / TWSP: 26S / RANGE: 27E / SECTION: 17 / LAT: 32.048309 / LONG: -104.21342 (TVD: 0 feet, MD: 0 feet)
   PPP: SESW / 330 FSL / 2010 FWL / TWSP: 26S / RANGE: 27E / SECTION: 8 / LAT: 32.050674 / LONG: -104.214421 (TVD: 10016 feet, MD: 20336 feet)
   BHL: NENW / 280 FNL / 2010 FWL / TWSP: 26S / RANGE: 27E / SECTION: 5 / LAT: 32.078243 / LONG: -104.214486 (TVD: 10016 feet, MD: 20336 feet)

BLM Point of Contact

Name: Judith Yeager
Title: Legal Instruments Examiner
Phone: 5752345936
Email: jyeager@blm.gov

Approval Date: 07/12/2018

Review and Appeal Rights

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

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Chevron USA Incorporated
LEASE NO.:	NMNM118108
WELL NAME & NO.:	HH SO 8 5 FED 003 5H
SURFACE HOLE FOOTAGE:	529'/N & 2310'/W
BOTTOM HOLE FOOTAGE	280'/N & 2010'/W
LOCATION:	Section 17, T.26 S., R.27 E., NMPM
COUNTY:	Eddy County, New Mexico

COA

H2S	○ Yes	◉ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	○ Low	○ Medium	◉ High
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl	○ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP

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 **450** 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)

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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 shall filled 1/3rd casing with fluid while running intermediate casing to maintain collapse safety factor.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

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 5%.**

b. Second stage above DV tool:Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Additional cement maybe required. Excess calculates to 22%.**

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

3. The minimum required fill of cement behind the **5-1/2** inch production casing is: Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

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 **3000 (3M)** 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)

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

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

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

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

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

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

A. CASING

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

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

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

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

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

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

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

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

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

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

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. 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 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 062618

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Chevron USA Incorporated
LEASE NO.:	NMNM118108
WELL NAME & NO.:	HH SO 8 5 FED 003 5H
SURFACE HOLE FOOTAGE:	529'/N & 2310'/W
BOTTOM HOLE FOOTAGE	280'/N & 2010'/W
LOCATION:	Section 17, T.26 S., R.27 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

Approval Date: 07/12/2018

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

IV. NOXIOUS WEEDS

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

acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Cave and Karst Conditions of Approval for APDs

** Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production:

Construction:

In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

No Blasting:

No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

Pad Berming:

- The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.
- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g., caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised. (Any access road crossing the berm cannot be lower than the berm height.)
- Following a rain event, all fluids will vacuumed off of the pad and hauled off-site and disposed at a proper disposal facility.

Tank Battery Liners and Berms:

Tank battery locations and all facilities will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing, or equivalent, to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Leak Detection System:

A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating values and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

Automatic Shut-off Systems:

Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

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 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.

Watershed

The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The berm shall be maintained through the life of the well and after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion.

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

A leak detection plan will be submitted to the BLM Carlsbad Field Office for approval prior to pipeline installation. The method could incorporate gauges to detect pressure drops, situating values and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

VI. CONSTRUCTION

A. NOTIFICATION

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

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

B. TOPSOIL

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

be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

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

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

F. EXCLOSURE FENCING (CELLARS & PITS)

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

G. ON LEASE ACCESS ROADS

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

Surfacing

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

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

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

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

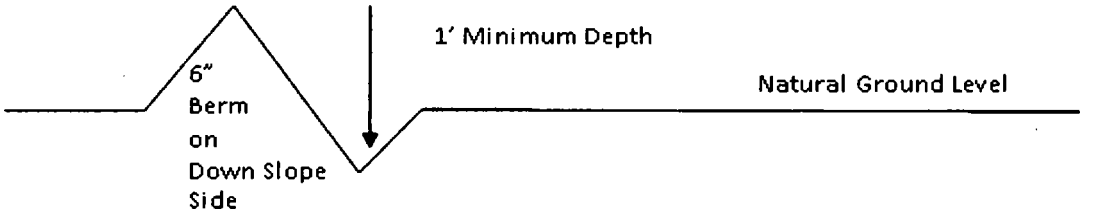
Ditching
Ditching shall be required on both sides of the road.

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

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

Cattle guards

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

Fence Requirement

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

Public Access

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

Construction Steps

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

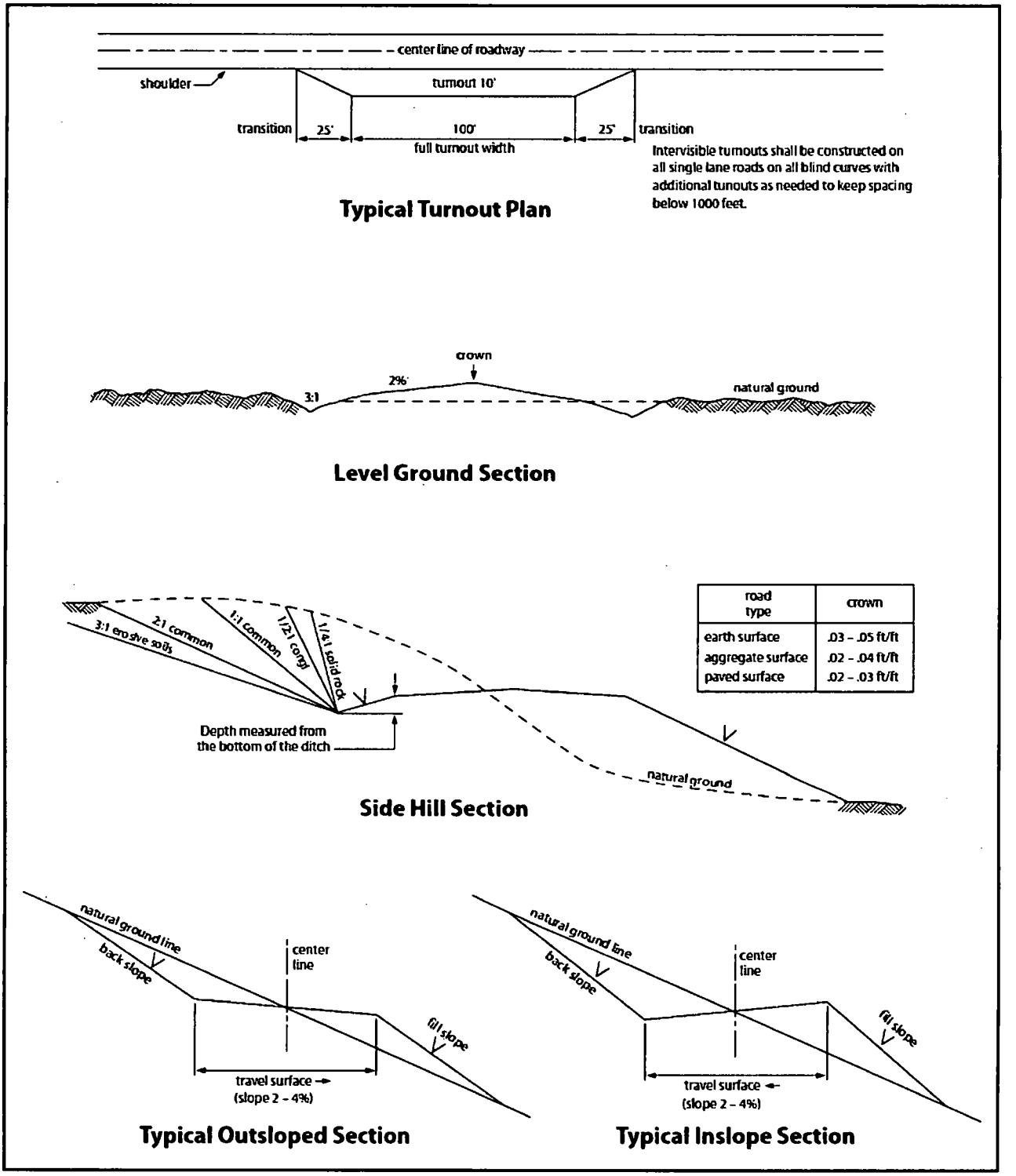


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

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

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

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

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production

equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

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

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

B. PIPELINES

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the Grant and attachments, including stipulations, survey plat(s) and/or map(s), shall be on location during construction. BLM personnel may request to review 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. 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. Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, Holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC § 2601 *et seq.* (1982) with regard 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 in particular, 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. 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 activity of 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 provision applies without regard to whether a release is caused by Holder, its agent, or unrelated third parties.

4. Holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. Holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

a. Activities of Holder including, but not limited to: construction, operation, maintenance, and termination of the facility;

b. Activities of other parties including, but not limited to:
    (1) Land clearing
    (2) Earth-disturbing and earth-moving work
    (3) Blasting
    (4) Vandalism and sabotage;

c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, 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, salt water, 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/she 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 Holder. Such action by the Authorized Officer shall not relieve Holder of any responsibility as provided herein.

6. All construction and maintenance activity shall be confined to the authorized

right-of-way width of **20** feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline shall be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline shall be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity shall be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation shall be allowed unless approved in writing by the Authorized Officer.
8. Holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline shall be "snaked" around hummocks and dunes rather than suspended across these features.

9. The pipeline shall be buried with a minimum of **24** inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. 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.

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. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. 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. Signs will be maintained in a legible condition for the life of the pipeline.

14. 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. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate 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.

16. 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, powerline 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.

17. Surface pipelines shall be less than or equal to 4 inches and a working pressure below 125 psi.

STANDARD STIPULATIONS FOR 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.

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

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

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

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

16. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

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

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

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

VIII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to

minimize the environmental impacts of development on other resources and uses.

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

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

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

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

IX. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

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:

Species	lb/acre
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

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: Laura Becerra **Signed on:** 07/06/2017

Title: Permitting Specialist

Street Address: 6301 Deauville Blvd., S2211

City: Midland **State:** TX **Zip:** 79706

Phone: (432)687-7665

Email address: LBecerra@Chevron.com

Field Representative

Representative Name:

Street Address:

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

Phone:

Email address:

APD ID: 10400014950 **Submission Date:** 07/12/2017

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003 **Well Number:** 5H

Well Type: CONVENTIONAL GAS WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400014950 **Tie to previous NOS?** 10400009709 **Submission Date:** 07/12/2017

BLM Office: CARLSBAD **User:** Laura Becerra **Title:** Permitting Specialist

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

Lease number: NMNM118108 **Lease Acres:** 1120

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

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

Agreement number:

Agreement name:

Keep application confidential? NO

Permitting Agent? NO **APD Operator:** CHEVRON USA INCORPORATED

Operator letter of designation:

Operator Info

Operator Organization Name: CHEVRON USA INCORPORATED

Operator Address: 6301 Deauville Blvd.

Zip: 79706

Operator PO Box:

Operator City: Midland **State:** TX

Operator Phone: (432)687-7866

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? EXISTING **Mater Development Plan name:** HAYHURST DEVELOPMENT AREA

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

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

Well Name: HH SO 8 5 FED 003 **Well Number:** 5H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** PURPLE SAGE **Pool Name:** WOLFCAMP, (GAS)

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003 **Well Number:** 5H

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

Describe other minerals:

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

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** HH SO 8 5 FED 003 **Number:** 1H 2H 3H 4H 5H 6H

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

Well Work Type: Drill

Well Type: CONVENTIONAL GAS WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 12.8 Miles **Distance to nearest well:** 4300 FT **Distance to lease line:** 330 FT

Reservoir well spacing assigned acres Measurement: 640 Acres

Well plat: HH_SO_8_5_FED_003_5H_C_102_07-06-2017.pdf

Well work start Date: 11/01/2017 **Duration:** 130 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number:

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	529	FNL	2310	FWL	26S	27E	17	Aliquot NENW	32.048309	-104.21342	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 100549	3265	0	0
KOP Leg #1	529	FNL	2310	FWL	26S	27E	17	Aliquot NENW	32.048309	-104.21342	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 100549	3265	0	0
PPP Leg #1	330	FSL	2010	FWL	26S	27E	8	Aliquot SESW	32.050674	-104.214421	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 118108	-6751	20336	10016

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003 **Well Number:** 5H

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
EXIT Leg #1	330	FNL	2010	FWL	26S	27E	5	Aliquot NENW	32.078106	-104.214487	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 118108	-6751	20336	10016
BHL Leg #1	280	FNL	2010	FWL	26S	27E	5	Aliquot NENW	32.078243	-104.214486	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 118108	-6751	20336	10016

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003 **Well Number:** 5H

Choke Diagram Attachment:

HH_SO_8_5_FED_003_5H_Choke_Diagram_07-10-2017.pdf

BOP Diagram Attachment:

HH_SO_8_5_FED_003_5H_BOP_Diagram_07-10-2017.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	450	0	450	-5735	-6185	450	K-55	54.5	STC	5.11	1.82	DRY	3.97	DRY	2.31
2	INTERMEDIATE	12.25	9.625	NEW	API	Y	0	9300	0	9300	-5735	-14750	9300	L-80	43.5	OTHER - TXP	1.32	1.45	DRY	1.84	DRY	1.78
3	PRODUCTION	8.5	5.5	NEW	API	N	0	20336	0	20336	-5735	-24454	20336	P-110	20	OTHER - TXP	1.5	1.26	DRY	1.78	DRY	1.84

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

HH_SO_8_5_FED_003_5H_9pt_plan_07-10-2017.pdf

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003 **Well Number:** 5H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

HH_SO_8_5_FED_003_5H_9.625_TXP_07-10-2017.pdf

Casing Design Assumptions and Worksheet(s):

HH_SO_8_5_FED_003_5H_9.625_TXP_07-10-2017.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

HH_SO_8_5_FED_003_5H_P110_TXP_07-10-2017.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	450	356	1.33	14.8	1.33	50	C	Class C
INTERMEDIATE	Lead	2100	0	1100	213	2.43	11.9	14.21	0	C	50/50 Poz Class C + Antifoam, Extender, Salt, Retarder
INTERMEDIATE	Tail		1100	2100	235	1.33	14.8	6.37	0	C	Class C + Antifoam, Retarder, Viscosifier
INTERMEDIATE	Lead	2100	2100	8015	838	2.43	11.9	13.76	10	H	50/50 Poz Class H + Extender, Antifoam,

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003 **Well Number:** 5H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
											Retarder, Salt, Viscosifier
INTERMEDIATE	Tail		8015	9300	285	1.21	15.6	5.54	10	H	Class H + Retarder, Extender, Dispersant
PRODUCTION	Lead		7015	8015	237	1.21	14.5	5.54	10	H	50/50 Poz: Class H + Extender, Antifoam, Dispersant, Retarder
PRODUCTION	Tail		8015	20336	2643	5.3	15.6	1.2	10	H	Class H, + Viscosifier, Antifoam, Dispersant, Fluid Loss, Retarder, Expanding Agent

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: 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 NMOCD regulations.

Describe the mud monitoring system utilized: A mud test shall be performed every 24 hours after mudding up to determine, as applicable density, viscosity, gel strength, diltration, 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 PVT, stroke counter, flow sensor will be used to detect volume changes indicating loss or gain of circulating fluid volume. In compliance with Onshore Order #2.

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	450	SPUD MUD	8.3	8.7							
450	9300	OIL-BASED MUD	9	9.5							

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003 **Well Number:** 5H

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
9300	20336	OIL-BASED MUD	10	13.5							The mud weight will range depending on the targeted formation. The Wolfcamp A pore pressure will not exceed 9.5 ppg, but due to wellbore stability, the mud program will exceed the pore pressure. To control pressure we are using 13.0 and may end up using heavier mud weight to 14.0

Section 6 - Test, Logging, Coring

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

Drill Stem Tests are not planned
Logs
Type Mudlogs Logs: 2 man mudlog Interval: Int Csg to TD Timing: Drillout of Int Csg Vendor: TBD
Type: LWD Logs: MWD Gamma Interval: Int. & Prod. Hole Timing: While drilling Vendor: TBD

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

GR,MWD

Coring operation description for the well:

Conventional whole core samples are not planned; directional survey will be run - will send log(s) when run

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 6771 **Anticipated Surface Pressure:** 4791

Anticipated Bottom Hole Temperature(F): 150

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

HH_SO_8_5_FED_003_5H_H2S_07-10-2017.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

HH_SO_8_5_FED_003_5H_Cut_Fill_07-10-2017.pdf

HH_SO_8_5_FED_003_5H_Drilling_Plan_07-10-2017.pdf

HH_SO_8_5_FED_003_5H_Rig_Layout_07-10-2017.pdf

Other proposed operations facets description:

FTP on the drilling plan reflects the FTP on the C-102

Other proposed operations facets attachment:

Other Variance attachment:

CHOKE MANIFOLD SCHEMATIC

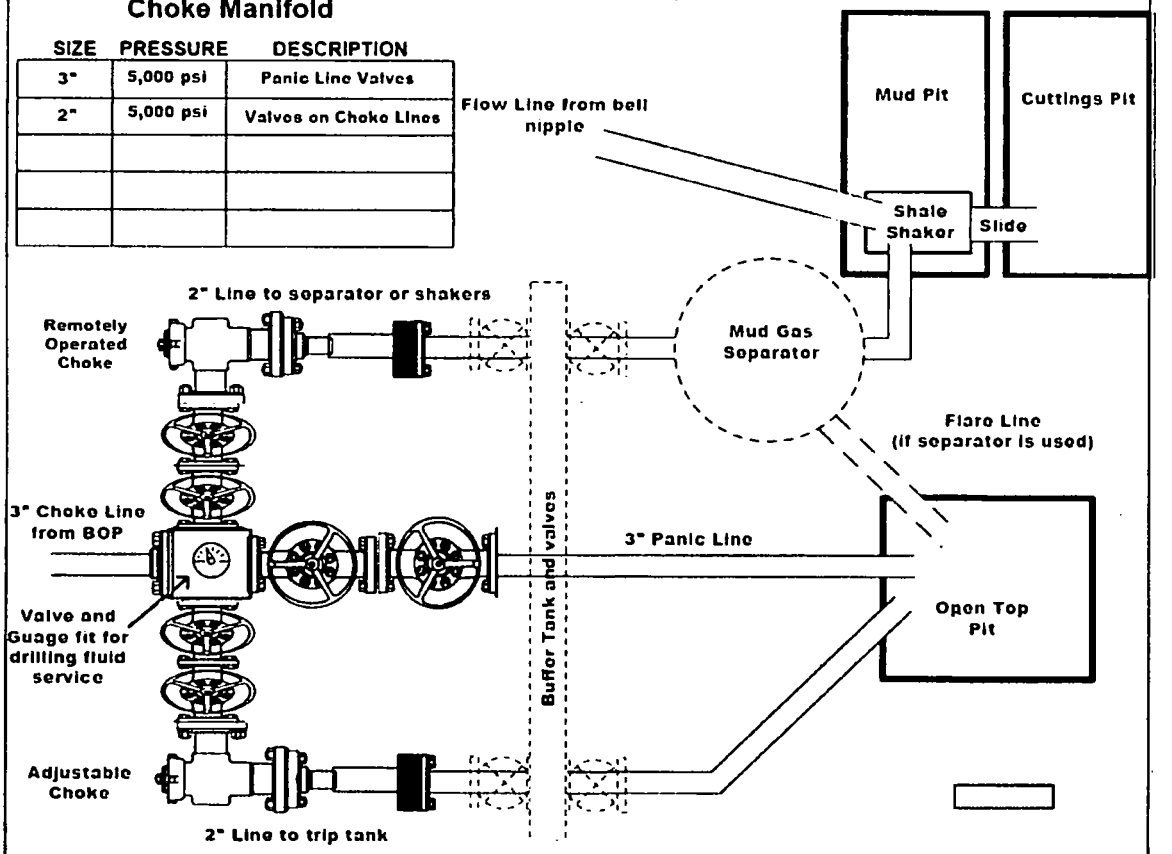
Minimum Requirements

OPERATION : Intermediate and Production Hole Sections

Minimum System Pressure Rating : 5,000 psi

Choke Manifold

SIZE	PRESSURE	DESCRIPTION
3"	5,000 psi	Panic Line Valves
2"	5,000 psi	Valves on Choke Lines



Installation Checklist

The following item must be verified and checked off prior to pressure testing of BOP equipment.

- ☐ The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system.
- ☐ Adjustable Chokes may be Remotely Operated but will have backup hand pump for hydraulic actuation in case of loss of rig air pressure or power.
- ☐ Flare and Panic lines will terminate a minimum of 150' from the wellhead. These lines will terminate at a location as per approved APD.
- ☐ The choke line, kill line, and choke manifold lines will be straight unless turns use tee blocks or are targeted with running tees, and will be anchored to prevent whip and reduce vibration. This excludes the line between mud gas separator and shale shaker.
- ☐ All valves (except chokes) on choke line, kill line, and choke manifold will be full opening and will allow straight through flow. This excludes any valves between mud gas separator and shale shakers.
- ☐ All manual valves will have hand wheels installed.
- ☐ If used, flare system will have effective method for ignition
- ☐ All connections will be flanged, welded, or clamped (no threaded connections like hammer unions)
- ☐ If buffer tank is used, a valve will be used on all lines at any entry or exit point to or from the buffer tank.

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer

Wellname: _____

Representative: _____

Date: _____

BLOWOUT PREVENTOR SCHEMATIC

Minimum Requirements

OPERATION : Intermediate and Production Hole Sections

Minimum System Pressure Rating : 5,000 psi

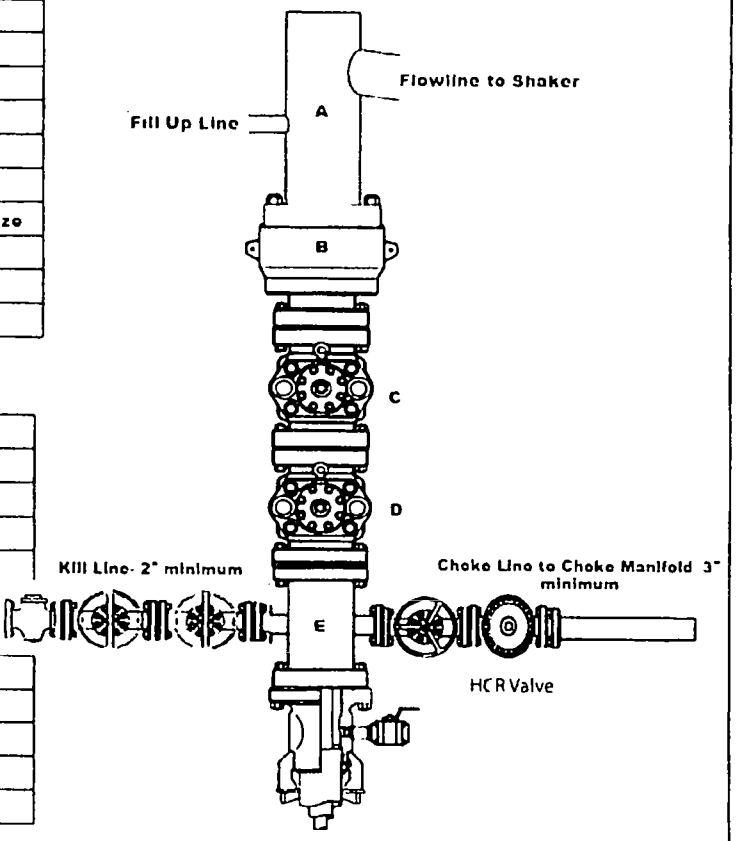
	SIZE	PRESSURE	DESCRIPTION
A		N/A	Bell Nipple
B	13 5/8"	5,000 psi	Annular
C	13 5/8"	5,000 psi	Pipe Ram
D	13 5/8"	5,000 psi	Blind Ram
E	13 5/8"	5,000 psi	Mud Cross
F			
DSA		As required for each hole size	
C-Sec			
B-Sec		13-5/8" 5K x 11" 5K	
A-Sec		13-3/8" SOW x 13-5/8" 5K	

Kill Line

SIZE	PRESSURE	DESCRIPTION
2"	5,000 psi	Gate Valve
2"	5,000 psi	Gate Valve
2"	5,000 psi	Check Valve

Choke Line

SIZE	PRESSURE	DESCRIPTION
3"	5,000 psi	Gate Valve
3"	5,000 psi	HCR Valve



Installation Checklist

The following item must be verified and checked off prior to pressure testing of BOP equipment.

- ☐ **The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system.**
- ☐ **All valves on the kill line and choke line will be full opening and will allow straight though flow.**
- ☐ **The kill line and choke line will be straight unless turns use tee blocks or are targeted with running tees, and will be anchored to prevent whip and reduce vibration.**
- ☐ **Manual (hand wheels) or automatic locking devices will be installed on all ram preventers. Hand wheels will also be installed on all manual valves on the choke line and kill line.**
- ☐ **A valve will be installed in the closing line as close as possible to the annular preventor to act as a locking device. This valve will remain open unless accumulator is inoperative.**
- ☐ **Upper kelly cock valve with handle will be available on rig floor along with safety valve and subs to fit all drill string connections in use.**

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer

Wellname: _____

Representative: _____

Date: _____

BOPE Testing

Minimum Requirements

Closing Unit and Accumulator Checklist

The following item must be performed, verified, and checked off at least once per well prior to low/high pressure testing of BOP equipment. This must be repeated after 6 months on the same well.

☐ **Precharge pressure for each accumulator bottle must fall within the range below. Bottles may be further charged with nitrogen gas only. Tested precharge pressures must be recorded for each individual bottle and kept on location through the end of the well. Test will be conducted prior to connecting unit to BOP stack.**

Check one that applies	Accumulator working pressure rating	Minimum acceptable operating pressure	Desired precharge pressure	Maximum acceptable precharge pressure	Minimum acceptable precharge pressure
☐	1500 psi	1500 psi	750 psi	800 psi	700 psi
☐	2000 psi	2000 psi	1000 psi	1100 psi	900 psi
☐	3000 psi	3000 psi	1000 psi	1100 psi	900 psi

☐ **Accumulator will have sufficient capacity to open the hydraulically-controlled choke line valve (if used), close all rams, close the annular preventer, and retain a minimum of 200 psi above the maximum acceptable precharge pressure (see table above) on the closing manifold without the use of the closing pumps. This test will be performed with test pressure recorded and kept on location through the end of the well**

☐ **Accumulator fluid reservoir will be double the usable fluid volume of the accumulator system capacity. Fluid level will be maintained at manufacturer's recommendations. Usable fluid volume will be recorded. Reservior capacity will be recorded. Reservoir fluid level will be recorded along with manufacturer's recommendation. All will be kept on location through the end of the well.**

☐ **Closing unit system will have two independent power sources (not counting accumulator bottles) to close the preventers.**

☐ **Power for the closing unit pumps will be available to the unit at all times so that the pumps will automatically start when the closing valve manifold pressure decreases to the pre-set level. It is recommended to check that air line to accumulator pump is "ON" during each tour change.**

☐ **With accumulator bottles isolated, closing unit will be capable of opening the hydraulically-operated choke line valve (if used) plus close the annular preventer on the smallest size drill pipe within 2 minutes and obtain a minimum of 200 psi above maximum acceptable precharge pressure (see table above) on the closing manifold. Test pressure and closing time will be recorded and kept on location through the end of the well.**

☐ **Master controls for the BOPE system will be located at the accumulator and will be capable of opening and closing all preventer and the choke line valve (if used)**

☐ **Remote controls for the BOPE system will be readily accessible (clear path) to the driller and located on the rig floor (not in the dog house). Remote controls will be capable of closing all preventers.**

☐ **Record accumulator tests in drilling reports and IADC sheet**

BOPE Test Checklist

The following item must be checked off prior to beginning test

☐ **BLM will be given at least 4 hour notice prior to beginning BOPE testing**

☐ **Valve on casing head below test plug will be open**

☐ **Test will be performed using clear water.**

The following item must be performed during the BOPE testing and then checked off

☐ **BOPE will be pressure tested when initially installed, whenever any seal subject to test pressure is broken, following related repairs, and at a minimum of 30 days intervals. Test pressure and times will be recorded by a 3rd party on a test chart and kept on location through the end of the well.**

☐ **Test plug will be used**

☐ **Ram type preventer and all related well control equipment will be tested to 250 psi (low) and 5,000 psi (high).**

☐ **Annular type preventer will be tested to 250 psi (low) and 3,500 psi (high).**

☐ **Valves will be tested from the working pressure side with all down stream valves open. The check valve will be held open to test the kill line valve(s)**

☐ **Each pressure test will be held for 10 minutes with no allowable leak off.**

☐ **Master controls and remote controls to the closing unit (accumulator) must be function tested as part of the BOP testing**

☐ **Record BOP tests and pressures in drilling reports and IADC sheet**

After installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer along with any/all BOP and accumulator test charts and reports from 3rd parties.

Wellname: _____

Representative: _____

Date: _____

For the latest performance data, always visit our website: www.tenaris.com

February 08 2017

Tenaris

Size: 9.625 in.
Wall: 0.435 in.
Weight: 43.50 lbs/ft
Grade: L80.1
Min. Wall Thickness: 87.5 %

Connection: TenarisXP® BTC
Casing/Tubing: CAS
Coupling Option: REGULAR

PIPE BODY DATA

GEOMETRY

Nominal OD	**9.625** in.	Nominal Weight	**43.50** lbs/ft	Standard Drift Diameter	**8.599** in.
Nominal ID	**8.755** in.	Wall Thickness	**0.435** in.	Special Drift Diameter	**N/A**
Plain End Weight	**42.73** lbs/ft				

PERFORMANCE

Body Yield Strength	**1005** x 1000 lbs	Internal Yield	**6330** psi	SMYS	**80000** psi
Collapse	**3810** psi				

TENARISXP® BTC CONNECTION DATA

GEOMETRY

Connection OD	**10.625** in.	Coupling Length	**10.825** in.	Connection ID	**8.743** in.
Critical Section Area	**12.559** sq. in.	Threads per in.	**5.00**	Make-Up Loss	**4.891** in.

PERFORMANCE

Tension Efficiency	**100** %	Joint Yield Strength	**1005** x 1000 lbs	Internal Pressure Capacity[1]	**6330** psi
Structural Compression Efficiency	**100** %	Structural Compression Strength	**1005** x 1000 lbs	Structural Bending[2]	**38** °/100 ft
External Pressure Capacity	**3810** psi				

ESTIMATED MAKE-UP TORQUES[3]

Minimum	**20240** ft-lbs	Optimum	**22490** ft-lbs	Maximum	**24740** ft-lbs

OPERATIONAL LIMIT TORQUES

Operating Torque	**ASK**	Yield Torque	**45900** ft-lbs		

BLANKING DIMENSIONS

Blanking Dimensions

(1) Internal Pressure Capacity related to structural resistance only. Internal pressure leak resistance as per section 10.3 API 5C3 / ISO 10400 - 2007.

(2) Structural rating, pure bending to yield (i.e no other loads applied)

(3) Torque values calculated for API Modified thread compounds with Friction Factor=1. For other thread compounds please contact us at licensees@oilfield.tenaris.com. Torque values may be further reviewed.

For additional information, please contact us at contact-tenarishydril@tenaris.com

1. **FORMATION TOPS**

The estimated tops of important geologic markers are as follows:

FORMATION	SUB-SEA TVD	KBTVD	MD
Castile		505	
Lamar		2305	
Bell		2310	
Cherry		3206	
Brushy		4450	
Bone Spring/Avalon		6799	
First Bone Spring Sand		6888	
First Bone Spring Shale		6914	
Second Bone Spring Sand		7821	
Harkey Sand		8123	
Third Bone Spring Sand		8817	
Wolfcamp A		9342	
Wolfcamp D		10016	
Lateral TVD Wolfcamp D		[redacted]	

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	450
Water	Castile	505
Water	Cherry Canyon	3206
	Brushy Canyon	4450
Loss zones	Bone Spring Limestone	6888
Oil/Gas	First Bone Spring Shale	6914
Oil/Gas	Second Bone Spring Sand	7821
	Harkey Sand	8123
Loss zones	Wolfcamp A	9342
Oil/Gas	Wolfcamp D	[redacted]

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

3. **BOP EQUIPMENT**

Will have a minimum of a 5000 psi rig stack (see proposed schematic) for drill out below surface casing. Stack will be tested as specified in the attached testing requirements. Chevron requests a variance to use a CoFlex hose with a metal protective covering that will be utilized between the BOP and Choke manifold. Please refer to the testing and specification documents.

Chevron requests a variance to use a FMC Technologies UH-2 Multibowl wellhead, which will be run through the rig floor on surface casing. BOPE will be nippled up and tested after cementing surface casing. Subsequent tests will be performed as needed, not to exceed 30 days. The tests report from FMC Technologies 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**

Purpose	From	To	Hole Size	Csg Size	Weight	Grade	Thread	Condition
Surface	0'	450'	17-1/2"	13-3/8"	54.5 #	K-55	STC	New
Intermediate	0'	9,300'	12-1/4"	9-5/8"	43.5 #	L-80	TXP	New
Production	0'	[redacted]	8-1/2"	5-1/2"	20.0 #	P-110	TXP	New

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

Surface Casing: 450'
Intermediate Casing: 9300'
Production Casing: [redacted]

Casing String	Min SF Burst	Min SF Collapse	Min SF Tension	Min SF 1% Buttal
Surface	1.62	5.11	3.97	2.31
Intermediate	1.45	1.32	1.78	1.84
Production	1.26	1.5	2.43	1.35

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

	Surf	Int	Prod
Burst Design			
Pressure Test- Surface, Int, Prod Csg P external: Water P internal: Test psi + next section heaviest mud in csg	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, 13 ppg Frac Gradient		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
Collapse Design			
Full Evacuation P external: Water gradient in cement, mud above TOC P internal: none	X	X	X
Cementing- Surf, Int, Prod Csg P external: Wet cement P internal: water	X	X	X
Tension Design			
100k lb overpull	X	X	X

5. **CEMENTING PROGRAM**

Slurry	Type	Cement Top	Cement Bottom	Weight (ppg)	Yield (cu ft/sk)	%Excess	Sacks	Water gal/sk
Surface						Open Hole		
Tail	Class C	0'	450'	14.8	1.33	[redacted]	[redacted]	6.37
Intermediate								
Stage 2 Lead	50:50 Poz: Class C + Antifoam, Extender, Salt, Retarder	0'	1,100'	11.9	2.43	[redacted]	[redacted]	14.21
Stage 2 Tail	Class C + Antifoam, Retarder, Viscosifier	1,100'	2,100'	14.8	1.33	[redacted]	[redacted]	6.37
DV TOOL		2,100'						
Stage 1 Lead	50:50 Poz: Class C + Extender, Antifoam, Retarder, Salt, Viscosifier	2,100'	8,015'	11.8	2.43	[redacted]	[redacted]	13.76
Stage 1 Tail	Class H + Retarder, Extender, Dispersant	8,015'	9,300'	15.6	1.21	[redacted]	[redacted]	5.54
Production								
Lead	50:50 Poz: Class H + Extender, Antifoam, Dispersant, , Retarder	7,015'	8,015'	14.5	1.21	[redacted]	[redacted]	5.54
Tail	Class H + Viscosifier, Antifoam, Dispersant, Fluid Loss, Retarder, Expanding Agent	8,015'	20335.83'	15.6	1.2	[redacted]	[redacted]	5.30

6. **MUD PROGRAM**

From	To	Type	Weight	F. Vis	Filtrate
0'	450'	Spud Mud	0	0	0
450'	9,300'	OBM	8.0 - 9.5	50 -70	5.0 - 10
9,300'	[redacted]	OBM	10.0 - 13.0	50 -70	5.0 - 10

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

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
Wireline Logs	Quad Combo w/ Di-Pole Sonic, FMI, Lithoscanner	Prod hole	After Intermediate hole	TBD

8. **ABNORMAL PRESSURES AND HYDROGEN SULFIDE**
PLEASE REFERENCE MDP

For the latest performance data, always visit our website: www.tenaris.com

February 08 2017

Tenaris

Size: 9.625 in.
Wall: 0.435 in.
Weight: 43.50 lbs/ft
Grade: L80.1
Min. Wall Thickness: 87.5 %

Connection: TenarisXP® BTC
Casing/Tubing: CAS
Coupling Option: REGULAR

PIPE BODY DATA

GEOMETRY

Nominal OD	**9.625** in.	Nominal Weight	**43.50** lbs/ft	Standard Drift Diameter	**8.599** in.
Nominal ID	**8.755** in.	Wall Thickness	**0.435** in.	Special Drift Diameter	**N/A**
Plain End Weight	**42.73** lbs/ft				

PERFORMANCE

Body Yield Strength	**1005** x 1000 lbs	Internal Yield	**6330** psi	SMYS	**80000** psi
Collapse	**3810** psi				

TENARISXP® BTC CONNECTION DATA

GEOMETRY

Connection OD	**10.625** in.	Coupling Length	**10.825** in.	Connection ID	**8.743** in.
Critical Section Area	**12.559** sq. in.	Threads per in.	**5.00**	Make-Up Loss	**4.891** in.

PERFORMANCE

Tension Efficiency	**100** %	Joint Yield Strength	**1005** x 1000 lbs	Internal Pressure Capacity[1]	**6330** psi
Structural Compression Efficiency	**100** %	Structural Compression Strength	**1005** x 1000 lbs	Structural Bending[2]	**38** °/100 ft
External Pressure Capacity	**3810** psi				

ESTIMATED MAKE-UP TORQUES[3]

Minimum	**20240** ft-lbs	Optimum	**22490** ft-lbs	Maximum	**24740** ft-lbs

OPERATIONAL LIMIT TORQUES

Operating Torque	**ASK**	Yield Torque	**45900** ft-lbs		

BLANKING DIMENSIONS

Blanking Dimensions

(1) Internal Pressure Capacity related to structural resistance only. Internal pressure leak resistance as per section 10.3 API 5C3 / ISO 10400 - 2007.

(2) Structural rating, pure bending to yield (i.e no other loads applied)

(3) Torque values calculated for API Modified thread compounds with Friction Factor=1. For other thread compounds please contact us at licensees@oilfield.tenaris.com. Torque values may be further reviewed.

For additional information, please contact us at contact-tenarishydril@tenaris.com

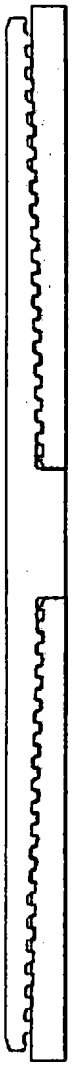
For the latest performance data, always visit our website: www.tenaris.com

July 07 2015

Tenaris

Size: 5.500 in.
Wall: 0.361 in.
Weight: 20.00 lbs/ft
Grade: P110
Min. Wall Thickness: 87.5 %

Connection: TenarisXP™ BTC
Casing/Tubing: CAS
Coupling Option: REGULAR



PIPE BODY DATA

GEOMETRY

Nominal OD	**5.500** in.	Nominal Weight	**20.00** lbs/ft	Standard Drift Diameter	**4.653** in.
Nominal ID	**4.778** in.	Wall Thickness	**0.361** in.	Special Drift Diameter	**N/A**
Plain End Weight	**19.83** lbs/ft				

PERFORMANCE

Body Yield Strength	**641** x 1000 lbs	Internal Yield	**12630** psi	SMYS	**110000** psi
Collapse	**11100** psi				

TENARISXP™ BTC CONNECTION DATA

GEOMETRY

Connection OD	**6.100** in.	Coupling Length	**9.450** in.	Connection ID	**4.766** in.
Critical Section Area	**5.828** sq. in.	Threads per in.	**5.00**	Make-Up Loss	**4.204** in.

PERFORMANCE

Tension Efficiency	**100** %	Joint Yield Strength	**641** x 1000 lbs	Internal Pressure Capacity[1]	**12630** psi
Structural Compression Efficiency	**100** %	Structural Compression Strength	**641** x 1000 lbs	Structural Bending[2]	**92** °/100 ft
External Pressure Capacity	**11100** psi				

ESTIMATED MAKE-UP TORQUES[3]

Minimum	**11270** ft-lbs	Optimum	**12520** ft-lbs	Maximum	**13770** ft-lbs

OPERATIONAL LIMIT TORQUES

Operating Torque	**21500** ft-lbs	Yield Torque	**23900** ft-lbs		

BLANKING DIMENSIONS

Blanking Dimensions

(1) Internal Pressure Capacity related to structural resistance only. Internal pressure leak resistance as per section 10.3 API 5C3 / ISO 10400 - 2007.

(2) Structural rating, pure bending to yield (i.e no other loads applied)

(3) Torque values calculated for API Modified thread compounds with Friction Factor=1. For other thread compounds please contact us at licensees@oilfield.tenaris.com. Torque values may be further reviewed.

For additional information, please contact us at contact-tenarishydril@tenaris.com

H_2S Preparedness and Contingency Plan Summary

- Hayhurst Eddy County, New Mexico

Training

MCBU Drilling and Completions H_2S 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_2S.

Awareness Level

Employees and visitors to MCBU Drilling and Completions locations that have known concentrations of H_2S, who are not required to perform work in H_2S areas, will be provided with an awareness level of H_2S training prior to entering any H_2S areas. At a minimum, awareness level training will include:

1. Physical and chemical properties of H_2S
2. Health hazards of H_2S
3. Personal protective equipment
4. Information regarding potential sources of H_2S
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_2S Training

Employees and contractors required to work in areas that may contain H_2S will be provided with Advanced Level H_2S training prior to initial assignment. In addition to the Awareness Level requirements, Advanced Level H_2S training will include:

1. H_2S safe work practice procedures;
2. Emergency contingency plan procedures;
3. Methods to detect the presence or release of H_2S (e.g., alarms, monitoring equipment), including hands-on training with direct reading and personal monitoring H_2S equipment.
4. Basic overview of respiratory protective equipment suitable for use in H_2S 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_2S training;
6. Proficiency examination covering all course material

Advanced H_2S training courses will be instructed by personnel who have successfully completed an appropriate H_2S train-the-trainer development course (ANSI/ASSE Z390.1-2006) or who possess significant past experience through educational or work-related background.

H_2S Training Certification

All employees and visitors will be issued an H_2S training certification card (or certificate) upon successful completion of the appropriate H_2S training course. Personnel working in an H_2S environment will carry a current H_2S 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 up-wind 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_2S 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_2S Detection and Monitoring System

a) H_2S 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.

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

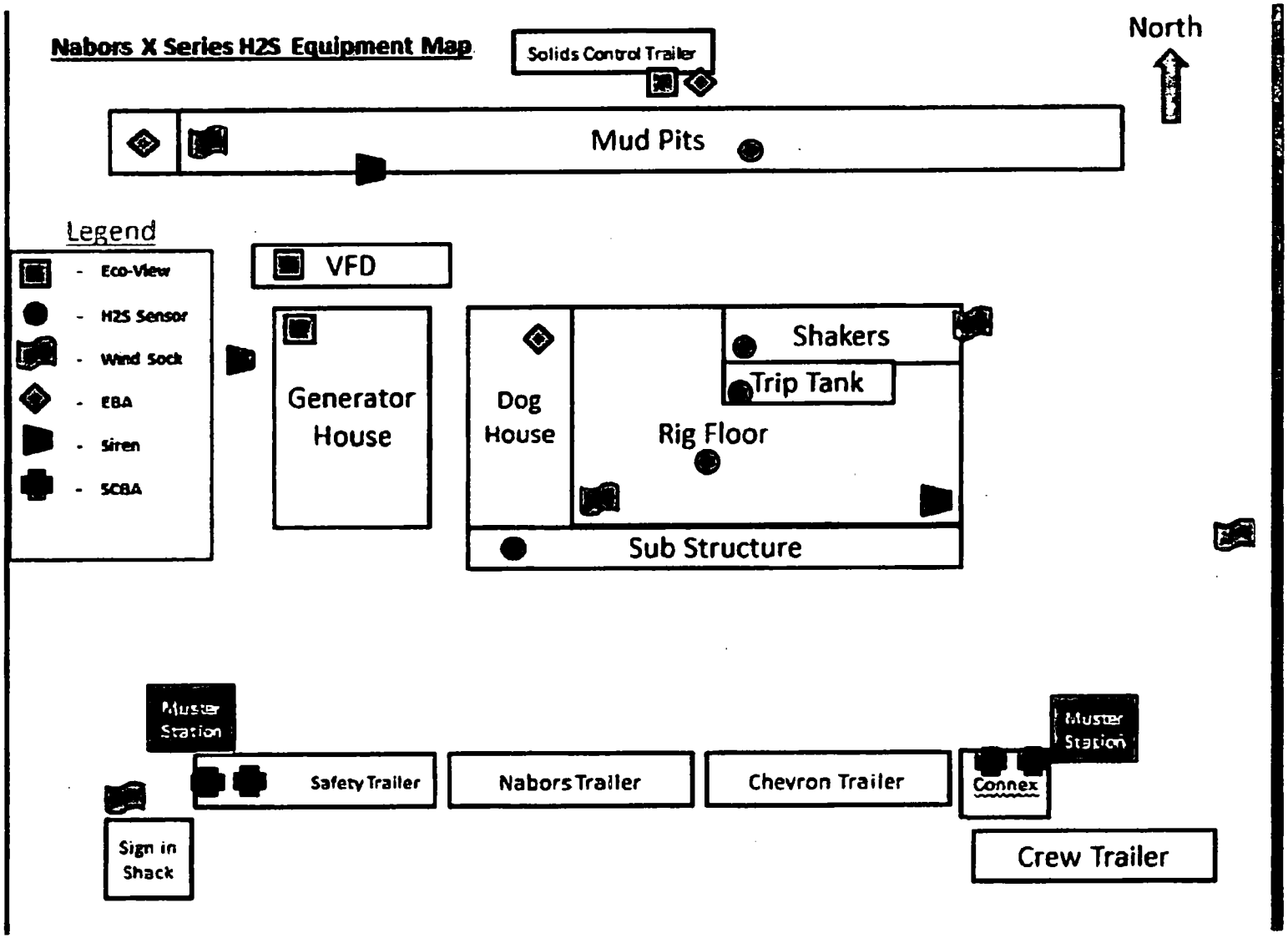
In the event of drilling, completions, workover and well servicing operations involving a hydrogen sulfide concentration of 100 ppm or greater the following shall be considered:

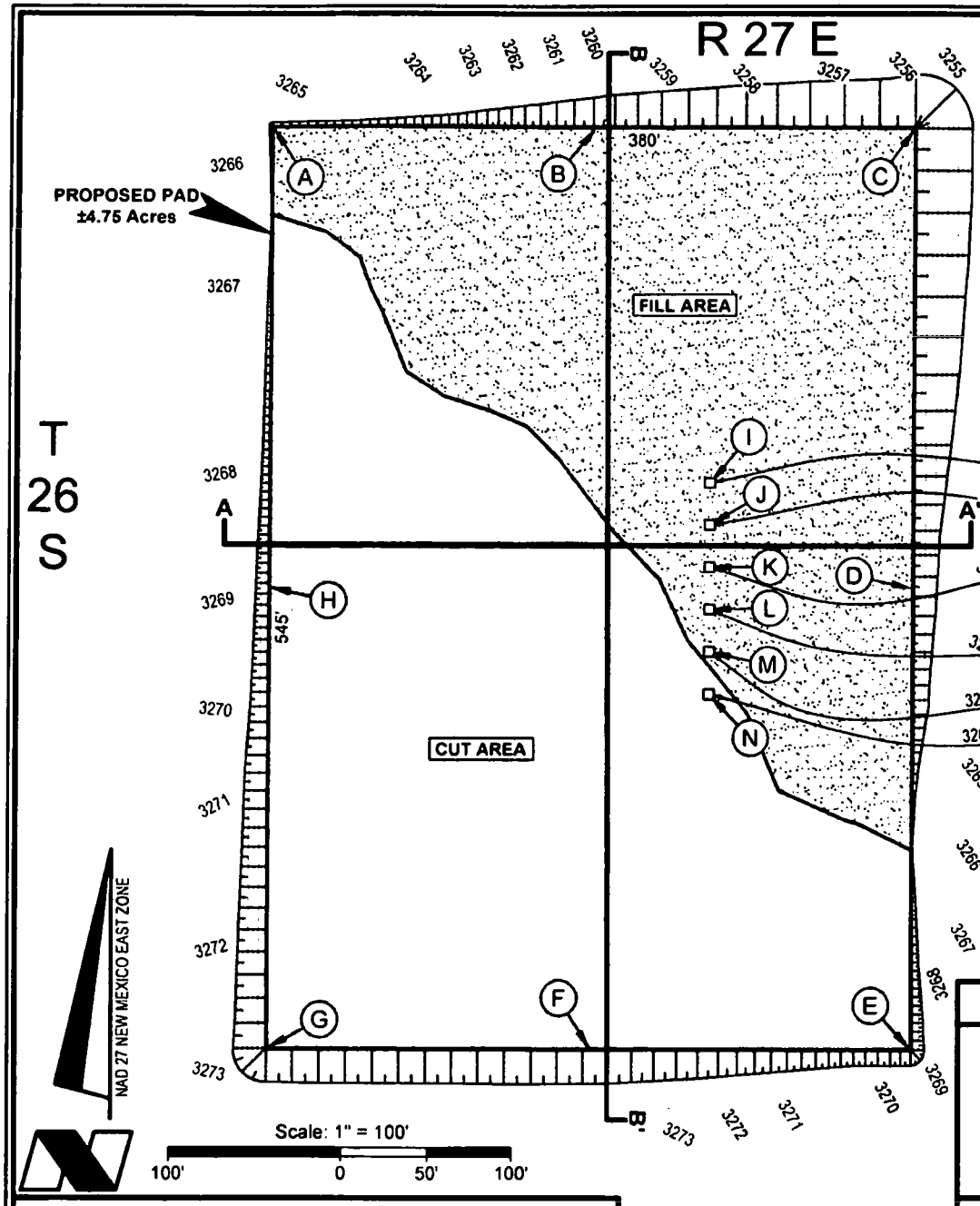
1. Use of a degasser
2. Use of a zinc based mud treatment
3. Increasing mud weight

Public Safety - Emergency Assistance

Agency	Telephone Number
Eddy County Sheriff's Department	575-887-7551
Fire Department:	
Carlsbad	575-885-3125
Artesia	575-746-5050
Carlsbad Medical Center	575-887-4100
Eddy County Emergency Management	575-628-5450
Poison Control Center	800-222-1222

H_2S Preparedness and Contingency Plan Summary





Sec. 17

Bureau of Land Management

PAD DESIGN TABLE

PT	NATURAL GROUND ELEV.	DESIGN ELEV.	CUT / FILL
A	3265.65	3266.42	0.77
B	3260.74	3266.42	5.68
C	3257.22	3266.42	9.20
D	3261.91	3266.42	4.51
E	3269 35	3266.42	-2.93
F	3272.96	3266.42	-6.54
G	3272.75	3266.42	-6.33
H	3269.02	3266.42	-2.60
I	3263.85	3266.42	2.57
J	3264.63	3266.42	1.79
K	3265.32	3266 42	1.10
L	3265.72	3266.42	0.70
M	3266.21	3266.42	0.21
N	3266 83	3266.42	-0 41

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 5.23.2017

Robert L. Lastrapes
Registration No. 23006

CUT & FILL PLAT PAGE 1 OF 3

CHEVRON U.S.A. INC.

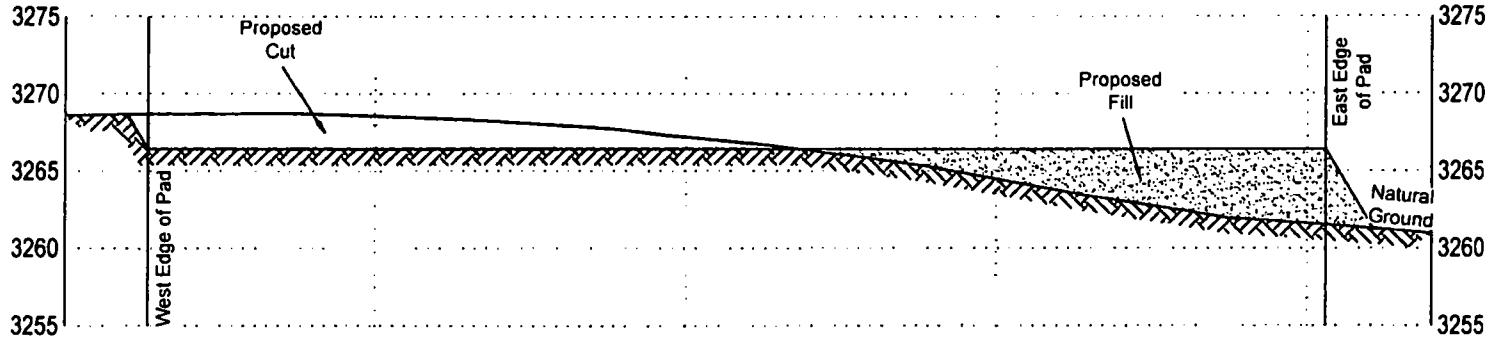
PROPOSED PAD
HH SO 8 5 FED 003 NOS. 1H-6H WELLS
SECTION 17, T26S-R27E
EDDY COUNTY, NEW MEXICO

DRAWN BY: BOR	REVISIONS		
PROJ. MGR.: GDG	No. 1	DATE: 04/17/2017	REVISED BY: BOR
DATE: 03/16/2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175509\DWG\HH SO 8 5 FED 003_1H-6H_Cut_Fill.dwg			

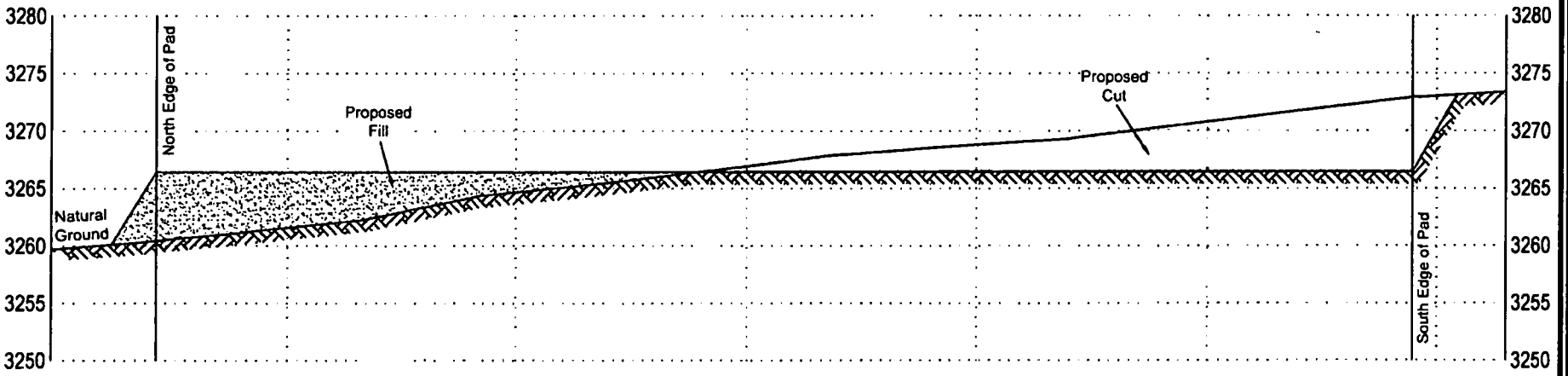
FENSTERMAKER
C H Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph 337-237-2200 Fax 337-232-3299
www.fenstermaker.com

CUT VOLUME = 14,211 49 Cu Yd
FILL VOLUME = 14,211 51 Cu Yd.
NET VOLUME = 0 01 Cu Yd Fill

CROSS SECTION A-A'



CROSS SECTION B-B'



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
5-23-2017

Robert L. Lastrapes
Registration No. 23006

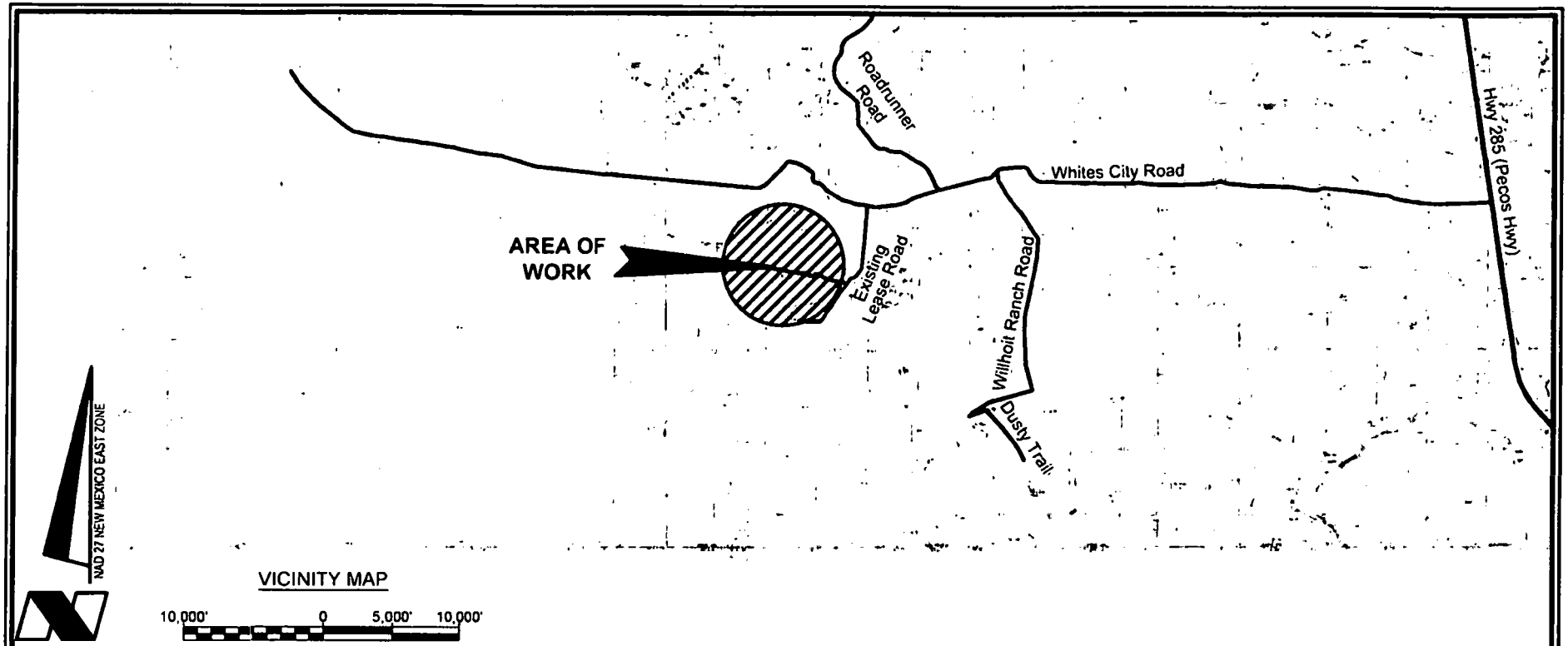
FENSTERMAKER
C. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax. 337-232-3299
www.fenstermaker.com

CUT & FILL PLAT — PAGE 2 OF 3

CHEVRON U.S.A. INC.

PROPOSED PAD
HH SO 8 5 FED 003 NOS. 1H-6H WELLS
SECTION 17, T26S-R27E
EDDY COUNTY, NEW MEXICO

DRAWN BY: BOR	REVISIONS		
PROJ. MGR.: GDG	No. 1	DATE: 04/17/2017	REVISED BY: BOR
DATE: 03/16/2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175509\DWG\HH SO 8 5 FED 003_1H-6H_Cut_Fill.dwg			



VICINITY MAP

10,000' 0 5,000' 10,000'

Scale: 1"=10,000'

NOTE:

1. 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

2. The design pad elevation recommendation is based solely on a cut and fill (1:1 ratio) balance of the pad and does not include material required for the access roads. A detailed soil test and slope stability analysis shall be performed prior to construction to ensure proper compaction and working performance of the pad under the anticipated loadings. This material balance sheet does not constitute a foundation design and C. H. Fenstermaker & Associates, L.L.C. makes no warranty to the structural integrity of the site layout as shown. Fenstermaker also makes no recommendation or warranty about the layout relative to flood hazards, erosion control, or soil stability issues. Elevations refer to the North American Vertical Datum of 1988.

3 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.

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
5.23.2017
SURVEYOR

Robert L. Lastrapes
Registration No. 23006

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

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

CUT & FILL PLAT PAGE 3 OF 3

CHEVRON U.S.A. INC.

PROPOSED PAD
HH SO 8 5 FED 003 NOS. 1H-6H WELLS
SECTION 17, T26S-R27E
EDDY COUNTY, NEW MEXICO

DRAWN BY: BOR	REVISIONS		
PROJ. MGR.: GDG	No. 1	DATE: 04/17/2017	REVISED BY: BOR
DATE: 03/16/2017	No.	DATE:	REVISED BY:

FILENAME: T:\2017\2175509\DWG\HH SO 8 5 FED 003_1H-6H_Cut_Fill.dwg

Chevron

Project: Eddy County, NM (NAD27 NME)
Site: HH SO 8 5 Fed 003
Well: 5H
Wellbore: OH
Design: Plan 1 06-16-17
Rig: Patterson 815

PHOENIX TECHNOLOGY SERVICES

Azimuths to Grid North
True North: -0.06°
Magnetic North: 7.35°

Magnetic Field
Strength: 47992.2snT
Dip Angle: 59.77°
Date: 6/15/2017
Model: HDGM

Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001

Local Origin: Well 5H, Grid North

Latitude: 32° 2' 53.47320 N
Longitude: 104° 12' 46.53720 W

Grid East: 537305.80
Grid North: 381276.56
Scale Factor: 1.000

Geomagnetic Model: HDGM
Sample Date: 15-Jun-17
Magnetic Declination: 7.42°
Dip Angle from Horizontal: 59.77°
Magnetic Field Strength: 47992

To convert a Magnetic Direction to a Grid Direction, Add 7.35°
To convert a Magnetic Direction to a True Direction, Add 7.42° East
To convert a True Direction to a Grid Direction, Subtract 0.06°

WELL DETAILS

Ground Level: 3265.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	381276.56	537305.80	32° 2' 53.47320 N	104° 12' 46.53720 W

SECTION DETAILS

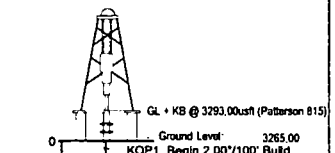
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSect	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2	600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00		KOP1, Begin 2.00°/100' Build
3	900.14	6.00	311.70	899.59	10.45	-11.73	2.00	311.70	10.81		Hold 6.00° Inc at 311.70° Azm
4	4505.73	6.00	311.70	4485.41	261.27	-293.27	0.00	0.00	270.39		Begin 2.00°/100' Drop
5	4805.87	0.00	0.00	4785.00	271.72	-305.00	2.00	180.00	281.21		Begin Vertical Hold
6	9437.11	0.00	0.00	9418.24	271.72	-305.00	0.00	0.00	281.21		KOP2, Begin 10.00°/100' Build
7	10352.44	91.53	359.44	9989.00	859.97	-310.78	10.00	359.44	869.35		LP, Hold 91.53° Inc at 359.44° Azm
8	11773.10	91.53	359.44	9951.00	2280.05	-324.75	0.00	0.00	2289.18	IP1 - HH SO 8 5 Fed 003 5H	Begin 2.00°/100' Build & Turn
9	11805.21	92.17	359.43	9949.96	2312.15	-325.06	2.00	-0.36	2321.26		Hold 92.17° Inc at 359.43° Azm
10	13358.83	92.17	359.43	9891.00	3864.57	-340.44	0.00	0.00	3873.39	IP2 - HH SO 8 5 Fed 003 5H	Begin 2.00°/100' Drop
11	13489.07	89.57	359.43	9889.02	3994.78	-341.73	2.00	-179.93	4003.57		Hold 89.57° Inc
12	15353.12	89.57	359.43	9903.00	5858.69	-360.30	0.00	0.00	5867.14	MP - HH SO 8 5 Fed 003 5H	Begin 2.00°/100' Drop & Turn
13	15510.23	86.54	0.26	9908.33	6015.68	-360.73	2.00	164.71	6024.07		Hold 86.54° Inc at 0.26° Azm
14	16714.09	86.54	0.26	9981.00	7217.34	-355.30	0.00	0.00	7224.96	IP3 - HH SO 8 5 Fed 003 5H	Begin 2.00°/100' Build & Turn
15	16872.32	89.70	0.20	9986.19	7375.46	-354.66	2.00	-1.04	7382.97		Hold 89.70° Inc at 0.20° Azm
16	18574.52	89.70	0.20	9995.00	9077.62	-348.68	0.00	0.00	9084.10	IP4 - HH SO 8 5 Fed 003 5H	Begin 2.00°/100' Drop & Turn
17	18593.95	89.31	0.21	9995.17	9097.06	-348.61	2.00	178.90	9103.53		Hold 89.31° Inc at 0.21° Azm
18	20335.63	89.31	0.21	10016.00	10838.60	-342.27	0.00	0.00	10844.00	LTP - HH SO 8 5 Fed 003 5HTD at 20335.63	

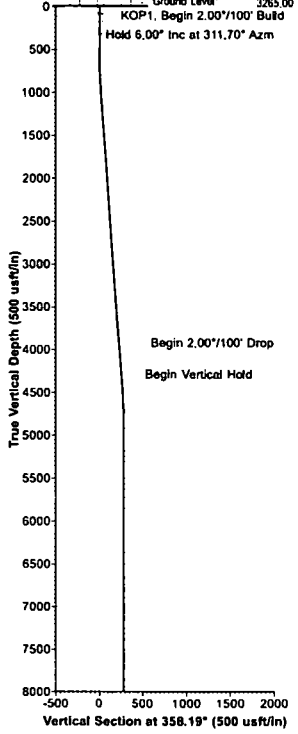
DESIGN TARGET DETAILS

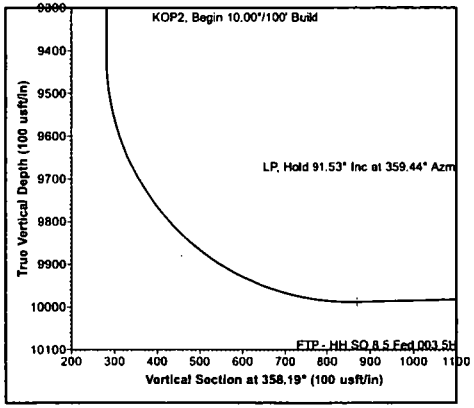
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
IP2 - HH SO 8 5 Fed 003 5H	9891.00	3864.57	-340.44	385141.14	536965.36	32° 3' 31.72320 N	104° 12' 50.44320 W
MP - HH SO 8 5 Fed 003 5H	9903.00	5858.69	-360.30	387135.25	536945.50	32° 3' 51.45840 N	104° 12' 50.64840 W
IP1 - HH SO 8 5 Fed 003 5H	9951.00	2280.05	-324.75	383556.61	536981.05	32° 3' 16.04160 N	104° 12' 50.28120 W
IP3 - HH SO 8 5 Fed 003 5H	9981.00	7217.34	-355.30	388493.90	536950.50	32° 4' 4.90440 N	104° 12' 50.57280 W
FTP - HH SO 8 5 Fed 003 5H	9989.00	859.95	-310.78	382136.51	536995.02	32° 3' 1.98720 N	104° 12' 50.13720 W
IP4 - HH SO 8 5 Fed 003 5H	9995.00	9077.62	-348.68	390354.18	536957.12	32° 4' 23.31480 N	104° 12' 50.47200 W
LTP - HH SO 8 5 Fed 003 5H	10016.00	10838.60	-342.27	392115.16	536963.54	32° 4' 40.74240 N	104° 12' 50.37480 W

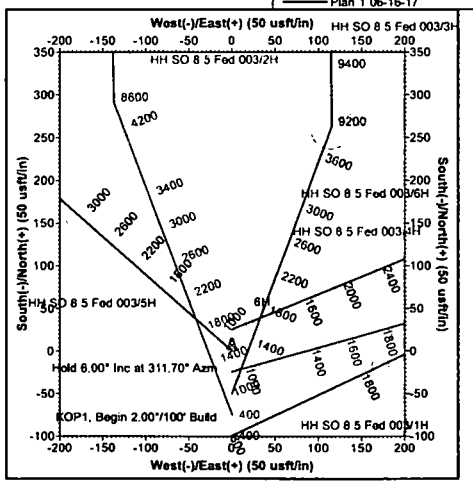
LEGEND

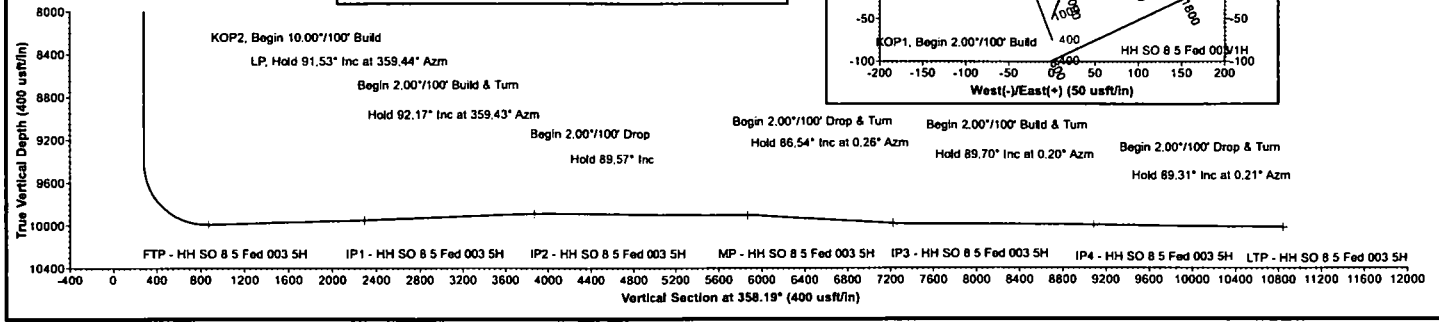
- 27H, OH, Plan 2 11-17-16 V0
- 5HC, OH / Job #61218, Plan 3 06-09-17 V0
- 22HA, OH / Job #61217, Plan 4 06-09-17 V0
- 22HA, OH / Job #61217, Surveys (Patterson 815) V0
- 1H, OH, Surveys V0
- 13HD, OH / Job #61220, Plan 4 06-13-17 V0
- 14HD, ST01 / Job #61221, Plan 4 06-09-17 V0
- 14HD, OH / Job #61221, Plan 3 05-10-17 V0
- 11H, OH, Plan 1 11-01-16 V0
- 19H, OH, Plan 2 11-17-16 V0
- 2H, OH, Plan 1 06-16-17 V0
- 12H, OH, Plan 1 11-01-16 V0
- 3H, OH, Plan 1 06-16-17 V0
- 28H, OH, Plan 2 11-17-16 V0
- 6HC, OH / Job #61219, Plan 3 06-09-17 V0
- 4H, OH, Plan 1 06-16-17 V0
- 6H, OH, Plan 1 06-16-17 V0
- 21HA, OH / Job #61216, Plan 4 08-09-17 V0
- 1H, OH, Plan 1 06-16-17 V0
- 20H, OH, Plan 2 11-17-16 V0
- Plan 1 06-16-17

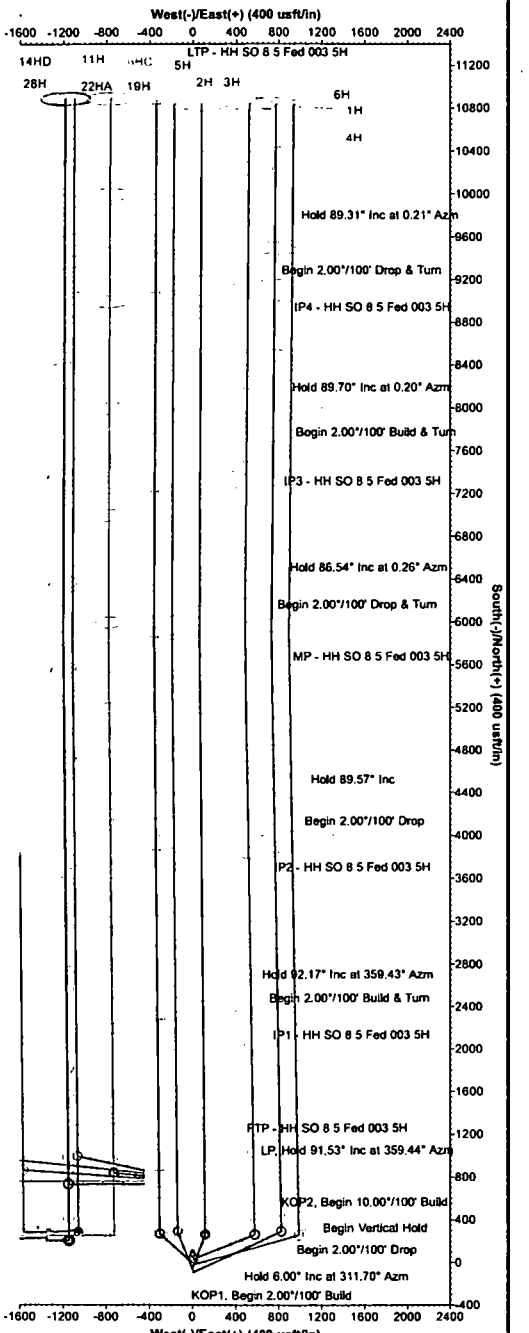












Created By: Bianca LaCombe Date: 9:11, June 16 2017

Chevron

Eddy County, NM (NAD27 NME)
HH SO 8 5 Fed 003
5H

OH

Plan: Plan 1 06-16-17

Standard Planning Report

16 June, 2017

PHOENIX
TECHNOLOGY SERVICES

Database:	Compass 5000 GCR	**Local Co-ordinate Reference:**	Well 5H
Company:	Chevron	**TVD Reference:**	GL + KB @ 3293.00usft (Patterson 815)
Project:	Eddy County, NM (NAD27 NME)	**MD Reference:**	GL + KB @ 3293.00usft (Patterson 815)
Site:	HH SO 8 5 Fed 003	**North Reference:**	Grid
Well:	5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 06-16-17		

Project	Eddy County, NM (NAD27 NME)		
Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	HH SO 8 5 Fed 003				
Site Position:		**Northing:**	381,176.89 usft	**Latitude:**	32° 2' 52.48680 N
From:	Lat/Long	**Easting:**	537,305.60 usft	**Longitude:**	104° 12' 46.54080 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.06 °

Well	5H					
Well Position	**+N/-S**	99.67 usft	**Northing:**	381,276.56 usft	**Latitude:**	32° 2' 53.47320 N
	+E/-W	0.20 usft	**Easting:**	537,305.80 usft	**Longitude:**	104° 12' 46.53720 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,265.00 usft

Wellbore OH

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	HDGM	6/15/2017	7.42	59.77	47,992

Design	Plan 1 06-16-17			
Audit Notes:				
Version:	**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00

Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**
	0.00	0.00	0.00	358.19

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Wellbore:	OH		
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Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.14	6.00	311.70	899.59	10.45	-11.73	2.00	2.00	0.00	311.70	
4,505.73	6.00	311.70	4,485.41	261.27	-293.27	0.00	0.00	0.00	0.00	
4,805.87	0.00	0.00	4,785.00	271.72	-305.00	2.00	-2.00	0.00	180.00	
9,437.11	0.00	0.00	9,416.24	271.72	-305.00	0.00	0.00	0.00	0.00	
10,352.44	91.53	359.44	9,989.00	859.97	-310.78	10.00	10.00	0.00	359.44	
11,773.10	91.53	359.44	9,951.00	2,280.05	-324.75	0.00	0.00	0.00	0.00	IP1 - HH SO 8 5 Fe
11,805.21	92.17	359.43	9,949.96	2,312.15	-325.06	2.00	2.00	-0.01	-0.36	
13,358.83	92.17	359.43	9,891.00	3,864.57	-340.44	0.00	0.00	0.00	0.00	IP2 - HH SO 8 5 Fe
13,489.07	89.57	359.43	9,889.02	3,994.78	-341.73	2.00	-2.00	0.00	-179.93	
15,353.12	89.57	359.43	9,903.00	5,858.69	-360.30	0.00	0.00	0.00	0.00	MP - HH SO 8 5 Fe
15,510.23	86.54	0.26	9,908.33	6,015.69	-360.73	2.00	-1.93	0.53	164.71	
16,714.09	86.54	0.26	9,981.00	7,217.34	-355.30	0.00	0.00	0.00	0.00	IP3 - HH SO 8 5 Fe
16,872.32	89.70	0.20	9,986.19	7,375.46	-354.66	2.00	2.00	-0.04	-1.04	
18,574.52	89.70	0.20	9,995.00	9,077.62	-348.68	0.00	0.00	0.00	0.00	IP4 - HH SO 8 5 Fe
18,593.95	89.31	0.21	9,995.17	9,097.06	-348.61	2.00	-2.00	0.04	178.90	
20,335.63	89.31	0.21	10,016.00	10,838.60	-342.27	0.00	0.00	0.00	0.00	LTP - HH SO 8 5 F

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Site:	HH SO 8 5 Fed 003	**North Reference:**	Grid
Well:	5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 06-16-17		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP1, Begin 2.00°/100' Build									
700.00	2.00	311.70	699.98	1.16	-1.30	1.20	2.00	2.00	0.00
800.00	4.00	311.70	799.84	4.64	-5.21	4.80	2.00	2.00	0.00
900.00	6.00	311.70	899.45	10.44	-11.72	10.80	2.00	2.00	0.00
900.14	6.00	311.70	899.59	10.45	-11.73	10.81	2.00	2.00	0.00
Hold 6.00° Inc at 311.70° Azm									
1,000.00	6.00	311.70	998.90	17.40	-19.53	18.00	0.00	0.00	0.00
1,100.00	6.00	311.70	1,098.36	24.35	-27.33	25.20	0.00	0.00	0.00
1,200.00	6.00	311.70	1,197.81	31.31	-35.14	32.40	0.00	0.00	0.00
1,300.00	6.00	311.70	1,297.26	38.26	-42.95	39.60	0.00	0.00	0.00
1,400.00	6.00	311.70	1,396.71	45.22	-50.76	46.80	0.00	0.00	0.00
1,500.00	6.00	311.70	1,496.16	52.18	-58.57	54.00	0.00	0.00	0.00
1,600.00	6.00	311.70	1,595.61	59.13	-66.38	61.20	0.00	0.00	0.00
1,700.00	6.00	311.70	1,695.07	66.09	-74.18	68.40	0.00	0.00	0.00
1,800.00	6.00	311.70	1,794.52	73.05	-81.99	75.60	0.00	0.00	0.00
1,900.00	6.00	311.70	1,893.97	80.00	-89.80	82.80	0.00	0.00	0.00
2,000.00	6.00	311.70	1,993.42	86.96	-97.61	90.00	0.00	0.00	0.00
2,100.00	6.00	311.70	2,092.87	93.92	-105.42	97.20	0.00	0.00	0.00
2,200.00	6.00	311.70	2,192.32	100.87	-113.23	104.40	0.00	0.00	0.00
2,300.00	6.00	311.70	2,291.78	107.83	-121.04	111.59	0.00	0.00	0.00
2,400.00	6.00	311.70	2,391.23	114.78	-128.84	118.79	0.00	0.00	0.00
2,500.00	6.00	311.70	2,490.68	121.74	-136.65	125.99	0.00	0.00	0.00
2,600.00	6.00	311.70	2,590.13	128.70	-144.46	133.19	0.00	0.00	0.00
2,700.00	6.00	311.70	2,689.58	135.65	-152.27	140.39	0.00	0.00	0.00
2,800.00	6.00	311.70	2,789.03	142.61	-160.08	147.59	0.00	0.00	0.00
2,900.00	6.00	311.70	2,888.49	149.57	-167.89	154.79	0.00	0.00	0.00
3,000.00	6.00	311.70	2,987.94	156.52	-175.69	161.99	0.00	0.00	0.00
3,100.00	6.00	311.70	3,087.39	163.48	-183.50	169.19	0.00	0.00	0.00
3,200.00	6.00	311.70	3,186.84	170.44	-191.31	176.39	0.00	0.00	0.00
3,300.00	6.00	311.70	3,286.29	177.39	-199.12	183.59	0.00	0.00	0.00
3,400.00	6.00	311.70	3,385.74	184.35	-206.93	190.79	0.00	0.00	0.00
3,500.00	6.00	311.70	3,485.20	191.30	-214.74	197.99	0.00	0.00	0.00
3,600.00	6.00	311.70	3,584.65	198.26	-222.54	205.19	0.00	0.00	0.00
3,700.00	6.00	311.70	3,684.10	205.22	-230.35	212.39	0.00	0.00	0.00
3,800.00	6.00	311.70	3,783.55	212.17	-238.16	219.58	0.00	0.00	0.00
3,900.00	6.00	311.70	3,883.00	219.13	-245.97	226.78	0.00	0.00	0.00
4,000.00	6.00	311.70	3,982.45	226.09	-253.78	233.98	0.00	0.00	0.00
4,100.00	6.00	311.70	4,081.91	233.04	-261.59	241.18	0.00	0.00	0.00
4,200.00	6.00	311.70	4,181.36	240.00	-269.39	248.38	0.00	0.00	0.00
4,300.00	6.00	311.70	4,280.81	246.96	-277.20	255.58	0.00	0.00	0.00
4,400.00	6.00	311.70	4,380.26	253.91	-285.01	262.78	0.00	0.00	0.00
4,500.00	6.00	311.70	4,479.71	260.87	-292.82	269.98	0.00	0.00	0.00
4,505.73	6.00	311.70	4,485.41	261.27	-293.27	270.39	0.00	0.00	0.00
Begin 2.00°/100' Drop									
4,600.00	4.12	311.70	4,579.31	266.80	-299.47	276.12	2.00	-2.00	0.00
4,700.00	2.12	311.70	4,679.16	270.41	-303.54	279.86	2.00	-2.00	0.00
4,800.00	0.12	311.70	4,779.13	271.71	-304.99	281.20	2.00	-2.00	0.00
4,805.87	0.00	0.00	4,785.00	271.72	-305.00	281.21	2.00	-2.00	0.00
Begin Vertical Hold									
9,437.11	0.00	0.00	9,416.24	271.72	-305.00	281.21	0.00	0.00	0.00
KOP2, Begin 10.00°/100' Build									
9,500.00	6.29	359.44	9,479.01	275.16	-305.03	284.65	10.00	10.00	0.00

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Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,600.00	16.29	359.44	9,576.95	294.71	-305.22	304.20	10.00	10.00	0.00
9,700.00	26.29	359.44	9,670.01	330.97	-305.58	340.45	10.00	10.00	0.00
9,800.00	36.29	359.44	9,755.35	382.84	-306.09	392.31	10.00	10.00	0.00
9,900.00	46.29	359.44	9,830.40	448.74	-306.74	458.20	10.00	10.00	0.00
10,000.00	56.29	359.44	9,892.86	526.67	-307.50	536.11	10.00	10.00	0.00
10,100.00	66.29	359.44	9,940.84	614.26	-308.36	623.68	10.00	10.00	0.00
10,200.00	76.29	359.44	9,972.87	708.85	-309.29	718.25	10.00	10.00	0.00
10,300.00	86.29	359.44	9,988.00	807.56	-310.27	816.95	10.00	10.00	0.00
10,352.44	91.53	359.44	9,989.00	859.97	-310.78	869.35	10.00	10.00	0.00
LP, Hold 91.53° Inc at 359.44° Azm									
10,400.00	91.53	359.44	9,987.72	907.51	-311.25	916.88	0.00	0.00	0.00
10,500.00	91.53	359.44	9,985.05	1,007.47	-312.23	1,016.82	0.00	0.00	0.00
10,600.00	91.53	359.44	9,982.38	1,107.43	-313.21	1,116.77	0.00	0.00	0.00
10,700.00	91.53	359.44	9,979.70	1,207.39	-314.20	1,216.71	0.00	0.00	0.00
10,800.00	91.53	359.44	9,977.03	1,307.35	-315.18	1,316.65	0.00	0.00	0.00
10,900.00	91.53	359.44	9,974.35	1,407.31	-316.16	1,416.59	0.00	0.00	0.00
11,000.00	91.53	359.44	9,971.68	1,507.27	-317.15	1,516.53	0.00	0.00	0.00
11,100.00	91.53	359.44	9,969.00	1,607.23	-318.13	1,616.47	0.00	0.00	0.00
11,200.00	91.53	359.44	9,966.33	1,707.19	-319.11	1,716.41	0.00	0.00	0.00
11,300.00	91.53	359.44	9,963.65	1,807.15	-320.10	1,816.35	0.00	0.00	0.00
11,400.00	91.53	359.44	9,960.98	1,907.11	-321.08	1,916.29	0.00	0.00	0.00
11,500.00	91.53	359.44	9,958.30	2,007.07	-322.06	2,016.23	0.00	0.00	0.00
11,600.00	91.53	359.44	9,955.63	2,107.03	-323.05	2,116.17	0.00	0.00	0.00
11,700.00	91.53	359.44	9,952.96	2,206.99	-324.03	2,216.11	0.00	0.00	0.00
11,773.10	91.53	359.44	9,951.00	2,280.05	-324.75	2,289.16	0.00	0.00	0.00
Begin 2.00°/100' Build & Turn									
11,800.00	92.07	359.43	9,950.15	2,306.94	-325.01	2,316.05	2.00	2.00	-0.01
11,805.21	92.17	359.43	9,949.96	2,312.15	-325.06	2,321.26	2.00	2.00	-0.01
Hold 92.17° Inc at 359.43° Azm									
11,900.00	92.17	359.43	9,946.36	2,406.86	-326.00	2,415.95	0.00	0.00	0.00
12,000.00	92.17	359.43	9,942.57	2,506.79	-326.99	2,515.86	0.00	0.00	0.00
12,100.00	92.17	359.43	9,938.77	2,606.71	-327.98	2,615.76	0.00	0.00	0.00
12,200.00	92.17	359.43	9,934.98	2,706.63	-328.97	2,715.67	0.00	0.00	0.00
12,300.00	92.17	359.43	9,931.18	2,806.56	-329.96	2,815.57	0.00	0.00	0.00
12,400.00	92.17	359.43	9,927.39	2,906.48	-330.95	2,915.48	0.00	0.00	0.00
12,500.00	92.17	359.43	9,923.59	3,006.40	-331.94	3,015.38	0.00	0.00	0.00
12,600.00	92.17	359.43	9,919.80	3,106.33	-332.93	3,115.29	0.00	0.00	0.00
12,700.00	92.17	359.43	9,916.00	3,206.25	-333.92	3,215.19	0.00	0.00	0.00
12,800.00	92.17	359.43	9,912.21	3,306.17	-334.91	3,315.09	0.00	0.00	0.00
12,900.00	92.17	359.43	9,908.41	3,406.09	-335.90	3,415.00	0.00	0.00	0.00
13,000.00	92.17	359.43	9,904.62	3,506.02	-336.89	3,514.90	0.00	0.00	0.00
13,100.00	92.17	359.43	9,900.82	3,605.94	-337.88	3,614.81	0.00	0.00	0.00
13,200.00	92.17	359.43	9,897.03	3,705.86	-338.87	3,714.71	0.00	0.00	0.00
13,300.00	92.17	359.43	9,893.23	3,805.79	-339.86	3,814.62	0.00	0.00	0.00
13,358.83	92.17	359.43	9,891.00	3,864.57	-340.44	3,873.39	0.00	0.00	0.00
Begin 2.00°/100' Drop									
13,400.00	91.35	359.43	9,889.73	3,905.72	-340.85	3,914.53	2.00	-2.00	0.00
13,489.07	89.57	359.43	9,889.02	3,994.78	-341.73	4,003.57	2.00	-2.00	0.00
Hold 89.57° Inc									
13,500.00	89.57	359.43	9,889.10	4,005.71	-341.84	4,014.50	0.00	0.00	0.00
13,600.00	89.57	359.43	9,889.85	4,105.70	-342.84	4,114.48	0.00	0.00	0.00
13,700.00	89.57	359.43	9,890.60	4,205.69	-343.83	4,214.45	0.00	0.00	0.00
13,800.00	89.57	359.43	9,891.35	4,305.68	-344.83	4,314.42	0.00	0.00	0.00

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Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,900.00	89.57	359.43	9,892.10	4,405.68	-345.83	4,414.40	0.00	0.00	0.00
14,000.00	89.57	359.43	9,892.85	4,505.67	-346.82	4,514.37	0.00	0.00	0.00
14,100.00	89.57	359.43	9,893.60	4,605.66	-347.82	4,614.34	0.00	0.00	0.00
14,200.00	89.57	359.43	9,894.35	4,705.65	-348.82	4,714.32	0.00	0.00	0.00
14,300.00	89.57	359.43	9,895.10	4,805.65	-349.81	4,814.29	0.00	0.00	0.00
14,400.00	89.57	359.43	9,895.85	4,905.64	-350.81	4,914.27	0.00	0.00	0.00
14,500.00	89.57	359.43	9,896.60	5,005.63	-351.80	5,014.24	0.00	0.00	0.00
14,600.00	89.57	359.43	9,897.35	5,105.62	-352.80	5,114.21	0.00	0.00	0.00
14,700.00	89.57	359.43	9,898.10	5,205.61	-353.80	5,214.19	0.00	0.00	0.00
14,800.00	89.57	359.43	9,898.85	5,305.61	-354.79	5,314.16	0.00	0.00	0.00
14,900.00	89.57	359.43	9,899.60	5,405.60	-355.79	5,414.14	0.00	0.00	0.00
15,000.00	89.57	359.43	9,900.35	5,505.59	-356.78	5,514.11	0.00	0.00	0.00
15,100.00	89.57	359.43	9,901.10	5,605.58	-357.78	5,614.08	0.00	0.00	0.00
15,200.00	89.57	359.43	9,901.85	5,705.58	-358.78	5,714.06	0.00	0.00	0.00
15,300.00	89.57	359.43	9,902.60	5,805.57	-359.77	5,814.03	0.00	0.00	0.00
15,353.12	89.57	359.43	9,903.00	5,858.69	-360.30	5,867.14	0.00	0.00	0.00
Begin 2.00°/100' Drop & Turn									
15,400.00	88.67	359.68	9,903.72	5,905.56	-360.67	5,914.00	2.00	-1.93	0.53
15,500.00	86.74	0.20	9,907.73	6,005.47	-360.77	6,013.87	2.00	-1.93	0.53
15,510.23	86.54	0.26	9,908.33	6,015.69	-360.73	6,024.07	2.00	-1.93	0.53
Hold 86.54° Inc at 0.26° Azm									
15,600.00	86.54	0.26	9,913.75	6,105.29	-360.33	6,113.62	0.00	0.00	0.00
15,700.00	86.54	0.26	9,919.79	6,205.11	-359.87	6,213.37	0.00	0.00	0.00
15,800.00	86.54	0.26	9,925.82	6,304.92	-359.42	6,313.12	0.00	0.00	0.00
15,900.00	86.54	0.26	9,931.86	6,404.74	-358.97	6,412.88	0.00	0.00	0.00
16,000.00	86.54	0.26	9,937.90	6,504.56	-358.52	6,512.63	0.00	0.00	0.00
16,100.00	86.54	0.26	9,943.93	6,604.37	-358.07	6,612.38	0.00	0.00	0.00
16,200.00	86.54	0.26	9,949.97	6,704.19	-357.62	6,712.14	0.00	0.00	0.00
16,300.00	86.54	0.26	9,956.00	6,804.00	-357.17	6,811.89	0.00	0.00	0.00
16,400.00	86.54	0.26	9,962.04	6,903.82	-356.72	6,911.64	0.00	0.00	0.00
16,500.00	86.54	0.26	9,968.08	7,003.64	-356.26	7,011.39	0.00	0.00	0.00
16,600.00	86.54	0.26	9,974.11	7,103.45	-355.81	7,111.15	0.00	0.00	0.00
16,700.00	86.54	0.26	9,980.15	7,203.27	-355.36	7,210.90	0.00	0.00	0.00
16,714.09	86.54	0.26	9,981.00	7,217.34	-355.30	7,224.96	0.00	0.00	0.00
Begin 2.00°/100' Build & Turn									
16,800.00	88.26	0.23	9,984.90	7,303.15	-354.93	7,310.72	2.00	2.00	-0.04
16,872.32	89.70	0.20	9,986.19	7,375.46	-354.66	7,382.98	2.00	2.00	-0.04
Hold 89.70° Inc at 0.20° Azm									
16,900.00	89.70	0.20	9,986.33	7,403.14	-354.57	7,410.64	0.00	0.00	0.00
17,000.00	89.70	0.20	9,986.85	7,503.14	-354.21	7,510.58	0.00	0.00	0.00
17,100.00	89.70	0.20	9,987.37	7,603.13	-353.86	7,610.52	0.00	0.00	0.00
17,200.00	89.70	0.20	9,987.88	7,703.13	-353.51	7,710.45	0.00	0.00	0.00
17,300.00	89.70	0.20	9,988.40	7,803.13	-353.16	7,810.39	0.00	0.00	0.00
17,400.00	89.70	0.20	9,988.92	7,903.13	-352.81	7,910.33	0.00	0.00	0.00
17,500.00	89.70	0.20	9,989.44	8,003.13	-352.46	8,010.26	0.00	0.00	0.00
17,600.00	89.70	0.20	9,989.95	8,103.12	-352.11	8,110.20	0.00	0.00	0.00
17,700.00	89.70	0.20	9,990.47	8,203.12	-351.75	8,210.14	0.00	0.00	0.00
17,800.00	89.70	0.20	9,990.99	8,303.12	-351.40	8,310.08	0.00	0.00	0.00
17,900.00	89.70	0.20	9,991.51	8,403.12	-351.05	8,410.01	0.00	0.00	0.00
18,000.00	89.70	0.20	9,992.03	8,503.12	-350.70	8,509.95	0.00	0.00	0.00
18,100.00	89.70	0.20	9,992.54	8,603.12	-350.35	8,609.89	0.00	0.00	0.00
18,200.00	89.70	0.20	9,993.06	8,703.11	-350.00	8,709.82	0.00	0.00	0.00
18,300.00	89.70	0.20	9,993.58	8,803.11	-349.65	8,809.76	0.00	0.00	0.00

Database:	Compass 5000 GCR	**Local Co-ordinate Reference:**	Well 5H
Company:	Chevron	**TVD Reference:**	GL + KB @ 3293.00usft (Patterson 815)
Project:	Eddy County, NM (NAD27 NME)	**MD Reference:**	GL + KB @ 3293.00usft (Patterson 815)
Site:	HH SO 8 5 Fed 003	**North Reference:**	Grid
Well:	5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 06-16-17		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
18,400.00	89.70	0.20	9,994.10	8,903.11	-349.30	8,909.70	0.00	0.00	0.00
18,500.00	89.70	0.20	9,994.61	9,003.11	-348.94	9,009.64	0.00	0.00	0.00
18,574.52	89.70	0.20	9,995.00	9,077.62	-348.68	9,084.10	0.00	0.00	0.00
Begin 2.00°/100' Drop & Turn									
18,593.95	89.31	0.21	9,995.17	9,097.06	-348.61	9,103.53	2.00	-2.00	0.04
Hold 89.31° Inc at 0.21° Azm									
18,600.00	89.31	0.21	9,995.24	9,103.10	-348.59	9,109.57	0.00	0.00	0.00
18,700.00	89.31	0.21	9,996.44	9,203.10	-348.23	9,209.50	0.00	0.00	0.00
18,800.00	89.31	0.21	9,997.63	9,303.09	-347.86	9,309.43	0.00	0.00	0.00
18,900.00	89.31	0.21	9,998.83	9,403.08	-347.50	9,409.36	0.00	0.00	0.00
19,000.00	89.31	0.21	10,000.02	9,503.07	-347.13	9,509.30	0.00	0.00	0.00
19,100.00	89.31	0.21	10,001.22	9,603.07	-346.77	9,609.23	0.00	0.00	0.00
19,200.00	89.31	0.21	10,002.42	9,703.06	-346.40	9,709.16	0.00	0.00	0.00
19,300.00	89.31	0.21	10,003.61	9,803.05	-346.04	9,809.09	0.00	0.00	0.00
19,400.00	89.31	0.21	10,004.81	9,903.04	-345.68	9,909.02	0.00	0.00	0.00
19,500.00	89.31	0.21	10,006.00	10,003.03	-345.31	10,008.95	0.00	0.00	0.00
19,600.00	89.31	0.21	10,007.20	10,103.03	-344.95	10,108.88	0.00	0.00	0.00
19,700.00	89.31	0.21	10,008.40	10,203.02	-344.58	10,208.81	0.00	0.00	0.00
19,800.00	89.31	0.21	10,009.59	10,303.01	-344.22	10,308.74	0.00	0.00	0.00
19,900.00	89.31	0.21	10,010.79	10,403.00	-343.85	10,408.67	0.00	0.00	0.00
20,000.00	89.31	0.21	10,011.99	10,503.00	-343.49	10,508.60	0.00	0.00	0.00
20,100.00	89.31	0.21	10,013.18	10,602.99	-343.12	10,608.53	0.00	0.00	0.00
20,200.00	89.31	0.21	10,014.38	10,702.98	-342.76	10,708.47	0.00	0.00	0.00
20,300.00	89.31	0.21	10,015.57	10,802.97	-342.40	10,808.40	0.00	0.00	0.00
20,335.63	89.31	0.21	10,016.00	10,838.60	-342.27	10,844.00	0.00	0.00	0.00
TD at 20335.63									

Database:	Compass 5000 GCR	**Local Co-ordinate Reference:**	Well 5H
Company:	Chevron	**TVD Reference:**	GL + KB @ 3293.00usft (Patterson 815)
Project:	Eddy County, NM (NAD27 NME)	**MD Reference:**	GL + KB @ 3293.00usft (Patterson 815)
Site:	HH SO 8 5 Fed 003	**North Reference:**	Grid
Well:	5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 06-16-17		

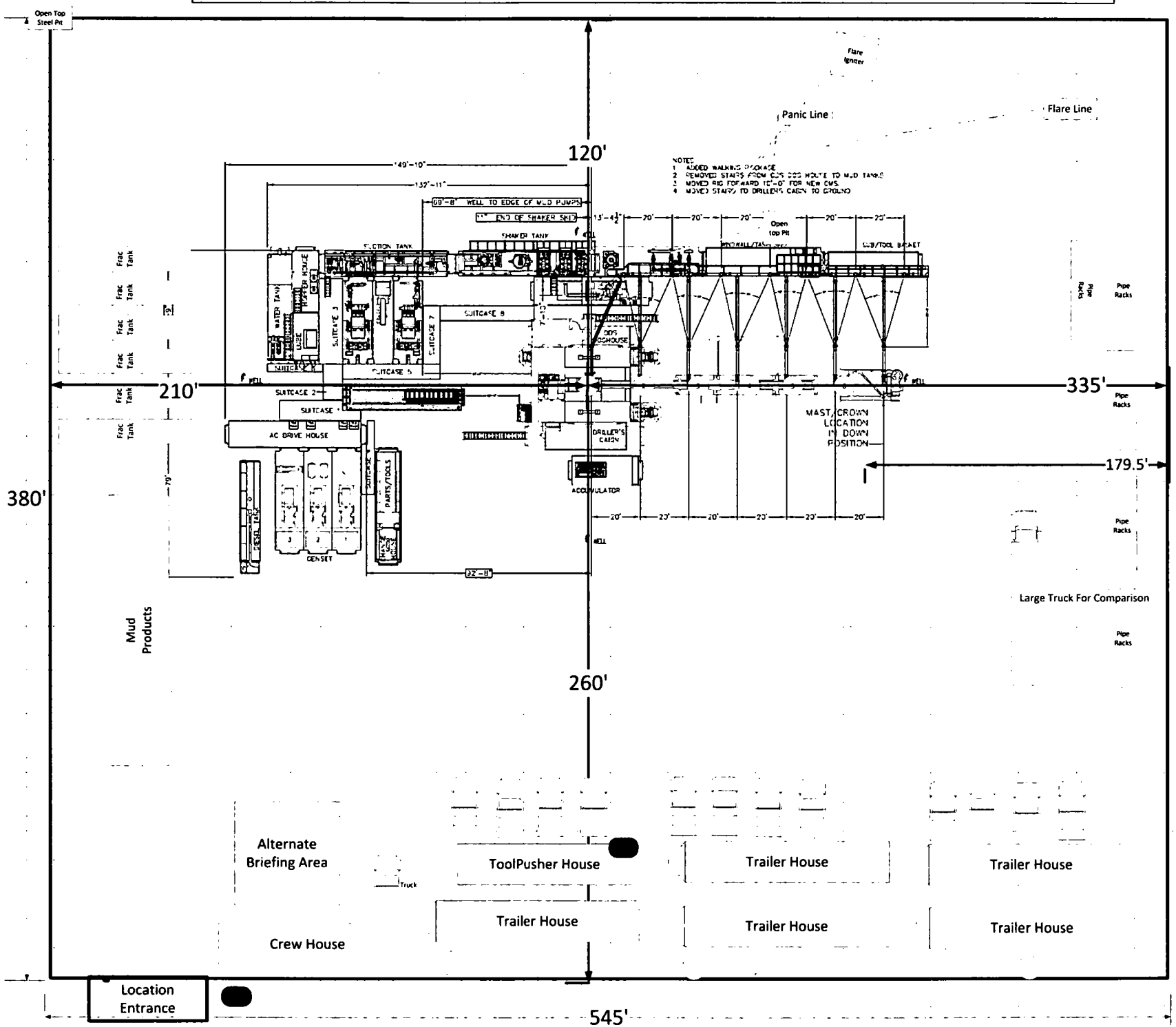
Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
IP2 - HH SO 8 5 Fed (- plan hits target center - Point	0.00	0.00	9,891.00	3,864.57	-340.44	385,141.13	536,965.36	32° 3' 31.72320 N	04° 12' 50.44320 W
MP - HH SO 8 5 Fed (- plan hits target center - Point	0.00	0.00	9,903.00	5,858.69	-360.30	387,135.25	536,945.50	32° 3' 51.45840 N	04° 12' 50.64840 W
IP1 - HH SO 8 5 Fed (- plan hits target center - Point	0.00	0.00	9,951.00	2,280.05	-324.75	383,556.61	536,981.06	32° 3' 16.04160 N	04° 12' 50.28120 W
IP3 - HH SO 8 5 Fed (- plan hits target center - Point	0.00	0.00	9,981.00	7,217.34	-355.30	388,493.90	536,950.51	32° 4' 4.90440 N	04° 12' 50.57280 W
FTP - HH SO 8 5 Fed - plan hits target center - Point	0.00	0.00	9,989.00	859.95	-310.78	382,136.51	536,995.02	32° 3' 1.98720 N	04° 12' 50.13720 W
IP4 - HH SO 8 5 Fed (- plan hits target center - Point	0.00	0.00	9,995.00	9,077.62	-348.68	390,354.18	536,957.12	32° 4' 23.31480 N	04° 12' 50.47200 W
LTP - HH SO 8 5 Fed - plan hits target center - Point	0.00	0.00	10,016.00	10,838.60	-342.27	392,115.16	536,963.54	32° 4' 40.74240 N	04° 12' 50.37480 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
600.00	600.00	0.00	0.00	KOP1, Begin 2.00°/100' Build
900.14	899.59	10.45	-11.73	Hold 6.00° Inc at 311.70° Azm
4,505.73	4,485.41	261.27	-293.27	Begin 2.00°/100' Drop
4,805.87	4,785.00	271.72	-305.00	Begin Vertical Hold
9,437.11	9,416.24	271.72	-305.00	KOP2, Begin 10.00°/100' Build
10,352.44	9,989.00	859.97	-310.78	LP, Hold 91.53° Inc at 359.44° Azm
11,773.10	9,951.00	2,280.05	-324.75	Begin 2.00°/100' Build & Turn
11,805.21	9,949.96	2,312.15	-325.06	Hold 92.17° Inc at 359.43° Azm
13,358.83	9,891.00	3,864.57	-340.44	Begin 2.00°/100' Drop
13,489.07	9,889.02	3,994.78	-341.73	Hold 89.57° Inc
15,353.12	9,903.00	5,858.69	-360.30	Begin 2.00°/100' Drop & Turn
15,510.23	9,908.33	6,015.69	-360.73	Hold 86.54° Inc at 0.26° Azm
16,714.09	9,981.00	7,217.34	-355.30	Begin 2.00°/100' Build & Turn
16,872.32	9,986.19	7,375.46	-354.66	Hold 89.70° Inc at 0.20° Azm
18,574.52	9,995.00	9,077.62	-348.68	Begin 2.00°/100' Drop & Turn
18,593.95	9,995.17	9,097.06	-348.61	Hold 89.31° Inc at 0.21° Azm
20,335.63	10,016.00	10,838.60	-342.27	TD at 20335.63

6 well pad Bi-lateral Patterson Mock Pad



Rig layout shows rig in first and last well for illustration purposes.

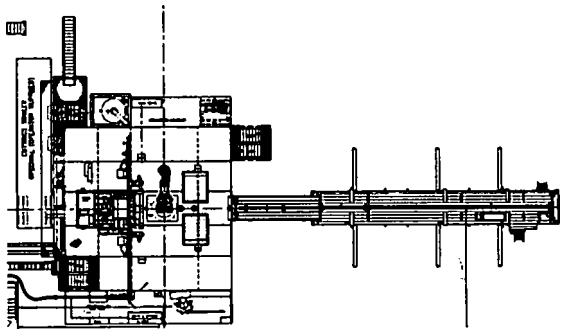
H2S Monitor Locations
- Bop/Cellar
- Rig Floor
- Shaker Skid
- Bell Nipple

Flag Locations
- Sign-in Shack
- Rig Floor
- Dog House

10 Minute Escape Packs
- 1 at Pits
- 1 at Trip Tank
- 1 at Accumulator
- 4 at Rig Floor

45 Minute Escape Packs
- 2 at Briefing Area
- 2 at Alternate Briefing Area

Legend
- H2S Monitor
- Flag



APD ID: 10400014950 **Submission Date:** 07/12/2017

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003 **Well Number:** 5H

Well Type: CONVENTIONAL GAS WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

HH_SO_8_5_FED_003_5H_Road_Plat_07-12-2017.pdf

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

ROW ID(s)

ID:

Do the existing roads need to be improved? YES

Existing Road Improvement Description: The operator will improve or maintain existing roads in a condition the same as or better that before operations begin. The Operator will also repair any pot holes, clear ditches, repair crown; etc. All existing structures on the entire access route such as cattle guards, other range improvement project, 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.

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

HH_SO_8_5_FED_003_5H_Proposed_New_Roads_Plat_20180517091803.pdf

New road type: LOCAL

Length: 5148 Feet **Width (ft.):** 24

Max slope (%): 2 **Max grade (%):** 3

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 24

New road access erosion control: Erosion / Drainage: Drainage control system shall be constructed on the entire length of road by the use of any of the following: ditches, sidehill out-sloping and in-sloping, lead-off ditches, culvert installation, or low water crossings.

New road access plan or profile prepared? NO

New road access plan attachment:

Access road engineering design? NO

Access road engineering design attachment:

Access surfacing type: NONE

Access topsoil source: ONSITE

Access surfacing type description:

Access onsite topsoil source depth: 0

Offsite topsoil source description:

Onsite topsoil removal process: none needed

Access other construction information: 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 back-filling takes place.

Access miscellaneous information:

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

Drainage Control

New road drainage crossing: CULVERT,OTHER

Drainage Control comments: Sediment traps (hay bales suggested by BLM) we don't use every time but keep handy

Road Drainage Control Structures (DCS) description: Ditching will be constructed on both sides of road.

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Additional Attachment(s):

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

HH_SO_8_5_FED_003_5H_1_Mile_07-10-2017.pdf

Existing Wells description:

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

Submit or defer a Proposed Production Facilities plan? DEFER

Estimated Production Facilities description: Existing production facilities located in the NE corner of section 10, T26S-R27E where oil and gas sales will take place. The existing facility is 500' X 700'. Gas compression will occur within the proposed facility boundaries, Gas purchaser pipeline is in place 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 permanent water disposal system will be determine prior to construction of any water transfer pipeline. Until permanent water takeaway is available, produced water will be hauled off location in trunks. Notification will be provided to BLM upon site selection and survey - plats (including SWD well information) will be provided. Pipelines include: 4583 of flowlines carrying production (buried), 4600' Gas lift line carrying pressurized gas (buried), 4608' temporary water line carrying fresh water (surface). A ROW will be applied for through the State and BLM. (30' wide, 3.2 acres). All construction activity will be confined to the approved ROW. Pipeline will run parallel to the road and will stay within approved ROW.

Section 5 - Location and Types of Water Supply

Water Source Table

Water source use type: INTERMEDIATE/PRODUCTION CASING **Water source type:** GW WELL

Describe type:

Source latitude: **Source longitude:**

Source datum:

Water source permit type: PRIVATE CONTRACT

Source land ownership: FEDERAL

Water source transport method: PIPELINE

Source transportation land ownership: FEDERAL

Water source volume (barrels): 775006.3 **Source volume (acre-feet):** 99.89297

Source volume (gal): 32550266

Water source and transportation map:

HH_SO_8_5_FED_003_5H_Aerial_detail_07-10-2017.pdf

Water source comments: Existing ponds in Section 9 & 10, T26S-R27E will be utilized for fresh water or recycled water. Fresh water will be obtained from a private water source.
New water well? NO

New Water Well Info

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

Well target aquifer:

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

Aquifer comments:

Aquifer documentation:

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

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

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003 **Well Number:** 5H

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

Drilling method: **Drill material:**

Grout material: **Grout depth:**

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

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Construction Materials description: Caliche will be sourced from a Chevron operated NMSLO pit in S2 NW4 Section 16 T26S R27E, or an alternate private pit in Section 13, T24S R27E in Eddy County, NM.
Construction Materials source location attachment:

Section 7 - Methods for Handling Waste

Waste type: GARBAGE

Waste content description: garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly in an NMOCD 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 in an State approved disposal facility.
Amount of waste: 200 pounds

Waste disposal frequency : Daily

Safe containment description: Drill fluids and produced oil and water from the well during drilling and completion operations will be stored safely, collected in a trash container and disposed of properly in an NMOCD approved 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.
Safe containmant attachment:

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

Disposal location description: State approved facility

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

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

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

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

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? YES

Description of cuttings location 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.

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

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

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

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

HH_SO_8_5_FED_003_5H_Well_Plat_07-10-2017.pdf

Comments: Exterior well pad dimensions are 380' x 545' Interior well pad dimensions from point of entry (well head) are N-235, S-310, E-120, W-260. The length to the west includes 25' spacing for next well on multi-well pad. Total disturbance area needed for construction of well pad will be 4.75 acres. Topsoil placement where reclamation is planned to be completed upon completion of well and evaluation of best management practices. cut and fill will be minimal.

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003 **Well Number:** 5H

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance **Multiple Well Pad Name:** HH SO 8 5 FED 003

Multiple Well Pad Number: 1H 2H 3H 4H 5H 6H

Recontouring attachment:

HH_SO_8_5_FED_003_5H_Reclamation_07-10-2017.pdf

HH_SO_8_5_FED_003_5H_Cut_Fill_07-10-2017.pdf

HH_SO_8_5_FED_003_5H_APD_SUP_07-12-2017.pdf

HH_SO_8_5_FED_003_5H_Fac_Layout_07-12-2017.pdf

Drainage/Erosion control construction: Proper erosion control methods will be used on the area to control erosion, runoff, and siltation of the surrounding area.

Drainage/Erosion control reclamation: 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 will be re-contoured to the contour existing prior to initial construction. The areas will be seeded with the proper BLM seed mixture (BLM #2), free of noxious weeds.

Wellpad long term disturbance (acres): 1.49

Wellpad short term disturbance (acres): 3.26

Access road long term disturbance (acres): 0.06

Access road short term disturbance (acres): 0.06

Pipeline long term disturbance (acres): 0.08953168

Pipeline short term disturbance (acres): 0.08953168

Other long term disturbance (acres): 0

Other short term disturbance (acres): 0

Total long term disturbance: 1.6395317

Total short term disturbance: 3.4095316

Disturbance Comments: All disturbed areas, including roads, pipelines, pads, production facilities, and interim reclaimed areas will be re-contoured to the contour existing prior to initial construction.

Reconstruction method: reducing the pad size to approximately 1.5 acres from the proposed size of 4.75 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.

Topsoil redistribution: Topsoil will be evenly re-spread and aggressively re-vegetated over the entire disturbed area not needed for all-weather operations including cuts and fills.

Soil treatment: To seed the area, the proper BLM mixture free of noxious weeds, will be used.

Existing Vegetation at the well pad: mesquite, shrubs, grass

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: mesquite, shrubs, grass

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: mesquite, shrubs, grass

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: mesquite, shrubs, grass

Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed type:

Seed source:

Seed name:

Source name:

Source address:

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre:

Proposed seeding season:

Seed Summary	
Seed Type	**Pounds/Acre**

Total pounds/Acre:

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: Kevin

Last Name: Dickerson

Phone:

Email: lfuh@chevron.com

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: treat with BLM seed mixture (BLM #2) free of noxious weeds.

Weed treatment plan attachment:

Monitoring plan description: The interim reclamation will be monitored periodically to ensure that vegetation has re-established.

Monitoring plan attachment:

Success standards: As per BLM requirements

Pit closure description: None

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Section 12 - Other Information

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

ROW Type(s): 287001 ROW – Water Facility,288100 ROW – O&G Pipeline,Other

Operator Name: CHEVRON USA INCORPORATED

Well Name: HH SO 8 5 FED 003 **Well Number:** 5H

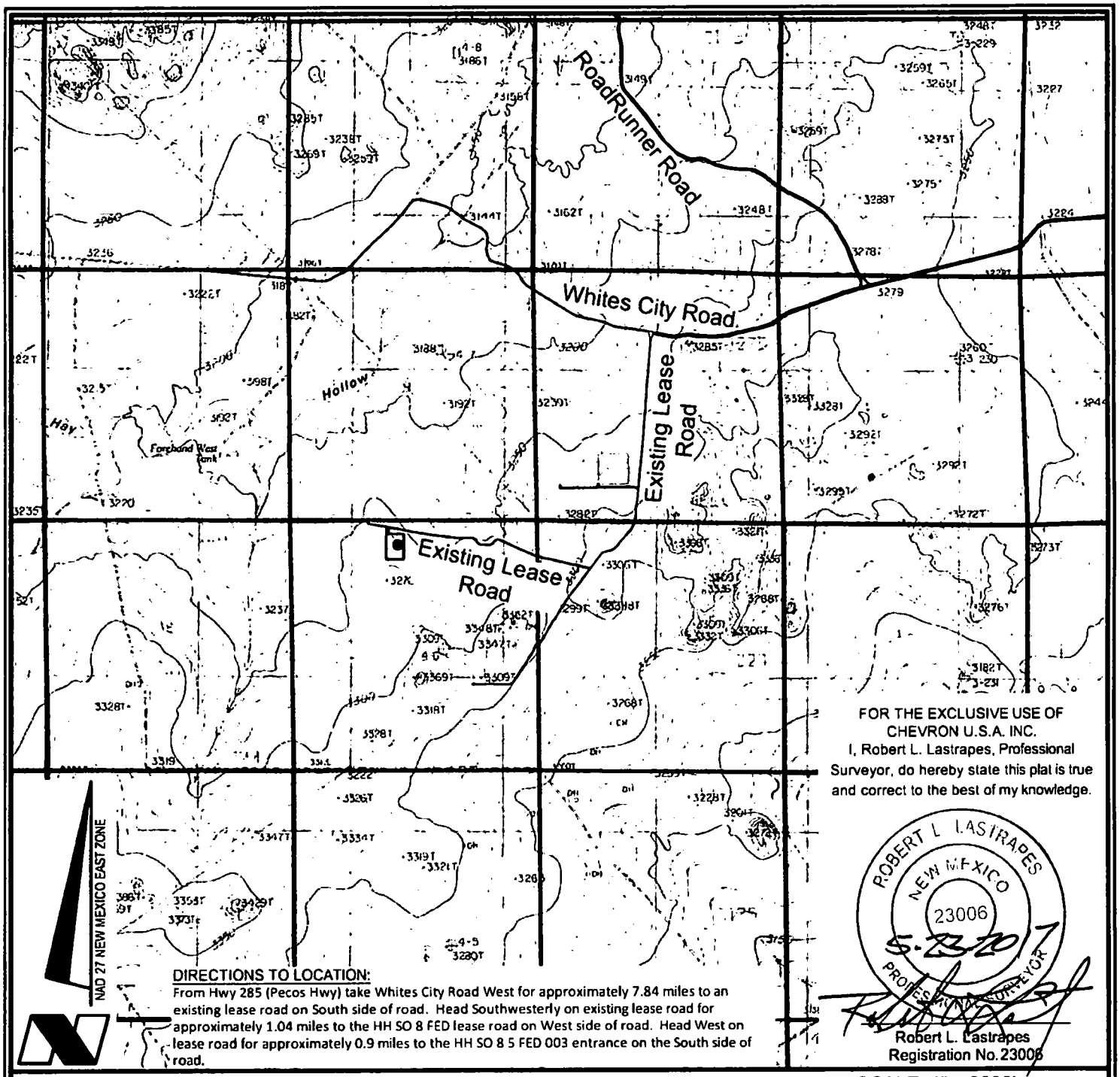
ROW Applications

SUPO Additional Information:

Use a previously conducted onsite? YES

Previous Onsite information: On-site performed by BLM NRS Paul Murphy 01/06/2017

Other SUPO Attachment



DIRECTIONS TO LOCATION:
From Hwy 285 (Pecos Hwy) take Whites City Road West for approximately 7.84 miles to an existing lease road on South side of road. Head Southwesterly on existing lease road for approximately 1.04 miles to the HH SO 8 FED lease road on West side of road. Head West on lease road for approximately 0.9 miles to the HH SO 8 5 FED 003 entrance on the South side of road.

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
5-8-2017
PROFESSIONAL SURVEYOR

Robert L. Lastrapes
Registration No. 23006

ROAD PLAT

SCALE: 1" = 3000'
3000' 0 1500' 3000'

LEGEND
- Proposed Well
- Proposed Access Road
- Proposed Drillsite
- Existing Road
- Section Line
- Proposed Frac Pond

CHEVRON U.S.A. INC.
HH SO 8 5 FED 003 NO. 5H WELL
LOCATED 529' FNL AND 2,310' FWL
SECTION 17, T26S-R27E
EDDY COUNTY, NEW MEXICO

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

DRAWN BY: DBM	REVISIONS		
PROJ. MGR.: GDG	No.	DATE:	REVISED BY:
DATE: 04/12/2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175509\DWG\HH SO 8 5 FED 003 5H_Road Plat_041217.dwg			

HH SO 8 5 FED 003 NO. 5H WELL		
X=	537,306	NAD 27
Y=	381,277	
LAT.	32.048187	
LONG.	104.212927	
X=	578,490	NAD83
Y=	381,334	
LAT.	32.048309	
LONG.	104.213420	
ELEVATION +3265' NAVD 88		

NW PAD CORNER		NE PAD CORNER	
X=	537,046 NAD 27	X=	537,426 NAD 27
Y=	381,512	Y=	381,511
ELEVATION +3266' NAVD 88		ELEVATION +3257' NAVD 88	
SW PAD CORNER		SE PAD CORNER	
X=	537,045 NAD 27	X=	537,425 NAD 27
Y=	380,967	Y=	380,966
ELEVATION +3273' NAVD 88		ELEVATION +3269' NAVD 88	

LEGEND
- Proposed Pad
- Centerline Access
- Section Line
- Existing Road/Pad
- Found Monument

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ROBERT L. LASTRAPES NEW MEXICO 23006 PROFESSIONAL SURVEYOR 5-23-2017

Robert L. Lastrapes
Registration No. 23006

R 27 E

Sec. 8

Existing HH SO 8 P5 Pad

Existing HH SO 8 P5 Access Road

S 85° 24' 31" E 2,096.26'

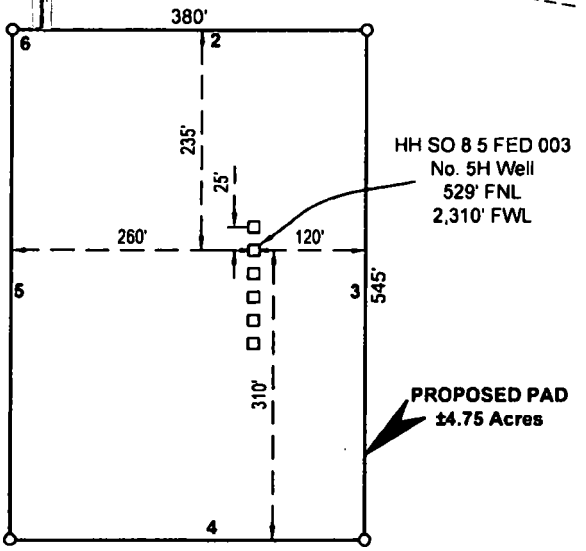
Point of Commencement/ Fnd. 2" Iron Pipe w/Cap @ the NW Corner of Section 17

CENTERLINE PROPOSED ACCESS ROAD
20' x ±130.93'
±7.94 Rods
±0.06 Acres

T 26 S

Sec. 17

Bureau of Land Management
Proposed Pad- ±4.75 Acres



NAD 27 NEW MEXICO EAST ZONE

PAGE 1 OF 2

WELL PLAT

Scale: 1" = 200'
200' 0 100' 200'

CHEVRON U.S.A. INC.

PROPOSED PAD & ACCESS ROAD
HH SO 8 5 FED 003 NO. 5H WELL
SECTION 17, T26S-R27E
EDDY COUNTY, NEW MEXICO

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DATE: 04/12/2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175509\DWG\HH SO 8 5 FED 003 5H_Well Plat_041217.dwg			

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CENTERLINE PROPOSED ACCESS ROAD		
COURSE	BEARING	DISTANCE
1	S 00° 16' 28" E	130.93'

PROPOSED PAD		
COURSE	BEARING	DISTANCE
2	S 89° 52' 43" E	348.07'
3	S 00° 07' 17" W	545.00'
4	N 89° 52' 43" W	380.00'
5	N 00° 07' 17" E	545.00'
6	S 89° 52' 43" E	31.93'

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ROBERT L. LASTRAPES NEW MEXICO 23006 PROFESSIONAL SURVEYOR
5-23-2017

Robert L. Lastrapes
Registration No.23006

PAGE 2 OF 2

WELL PLAT

CHEVRON U.S.A. INC.

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HH SO 8 5 FED 003 NO. 5H WELL
SECTION 17, T26S-R27E
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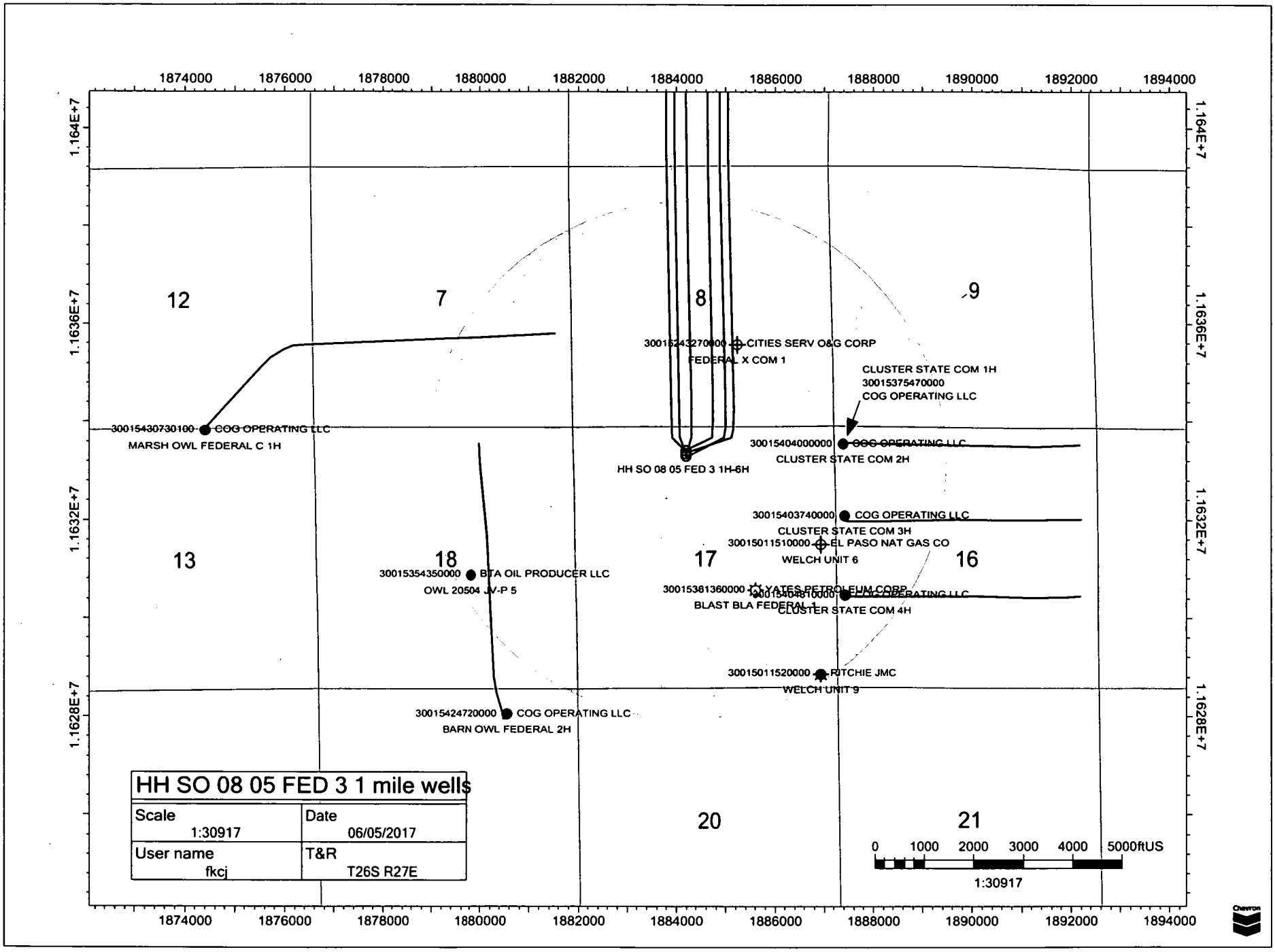
1874000
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1.1632E+7
1.1628E+7
12
7
8
9
13
18
17
16
20
21
30015430730100 COG OPERATING LLC
MARSH OWL FEDERAL C 1H
30015243270000 CITIES SERV O&G CORP
FEDERAL X COM 1
CLUSTER STATE COM 1H
30015375470000
COG OPERATING LLC
30015404000000 COG OPERATING LLC
CLUSTER STATE COM 2H
HH SO 08 05 FED 3 1H-6H
30015403740000 COG OPERATING LLC
CLUSTER STATE COM 3H
30015011510000 EL PASO NAT GAS CO
WELCH UNIT 6
30015354350000 BTA OIL PRODUCER LLC
OWL 20504 JV-P 5
30015361360000 YATES PETROLEUM CORP
BLAST BLA FEDERAL 1
30015404810000 COG OPERATING LLC
CLUSTER STATE COM 4H
30015011520000 RITCHIE JMC
WELCH UNIT 9
30015424720000 COG OPERATING LLC
BARN OWL FEDERAL 2H
HH SO 08 05 FED 3 1 mile wells
Scale 1:30917
Date 06/05/2017
User name fkcj
T&R T26S R27E
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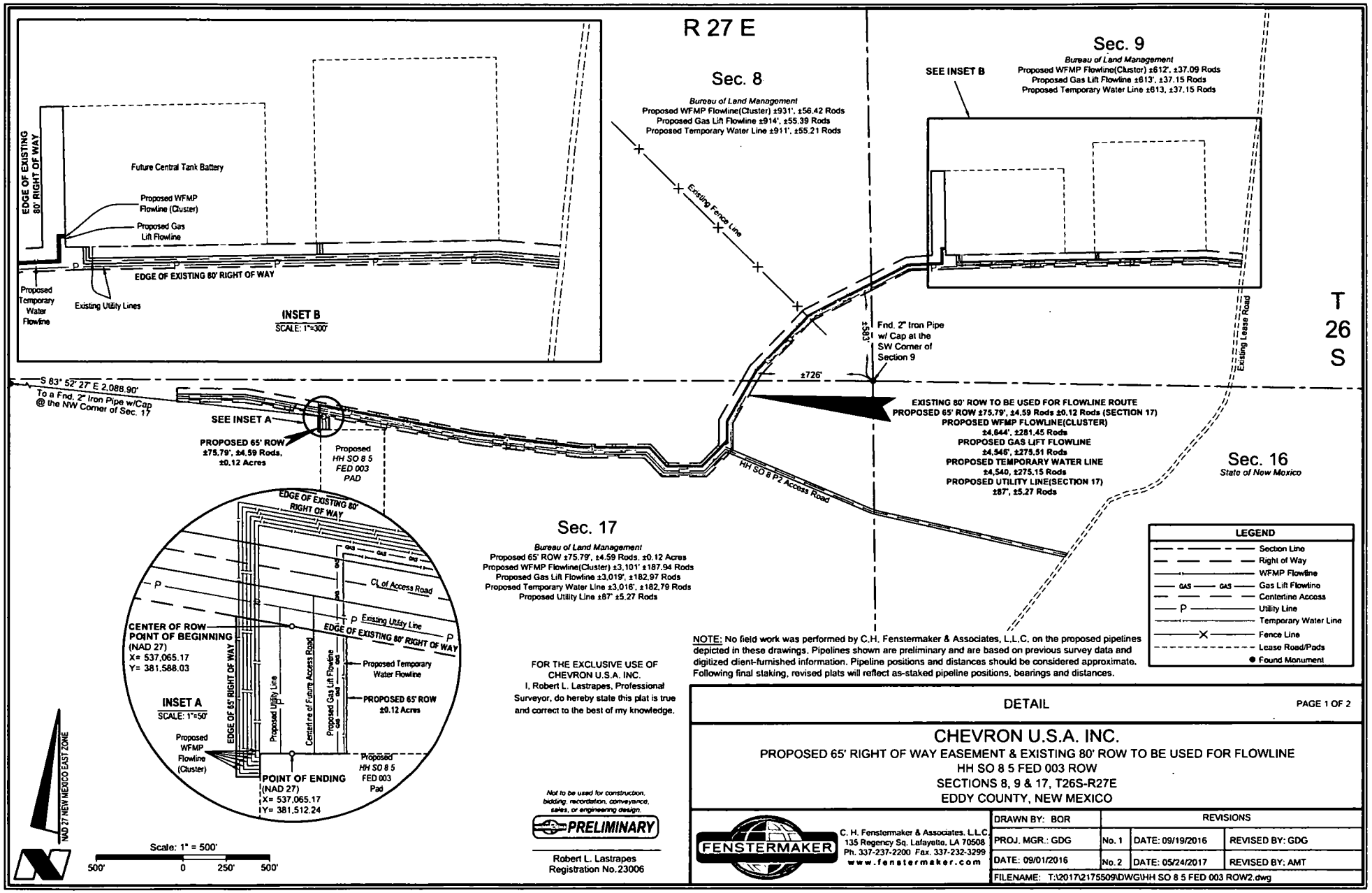
1:30917



NOTE: No field work was performed by C.H. Fenstermaker & Associates, L.L.C. on the proposed pipelines depicted in these drawings. Pipelines shown are preliminary and are based on previous survey data and digitized client-furnished information. Pipeline positions and distances should be considered approximate. Following final staking, revised plats will reflect as-staked pipeline positions, bearings and distances.

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I, Robert L. Lastrapes, Professional Surveyor, do hereby state this plat is true and correct to the best of my knowledge.

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PRELIMINARY

Robert L. Lastrapes
Registration No.23006

DETAIL

PAGE 1 OF 2

CHEVRON U.S.A. INC.

PROPOSED 65' RIGHT OF WAY EASEMENT & EXISTING 80' ROW TO BE USED FOR FLOWLINE
HH SO 8 5 FED 003 ROW
SECTIONS 8, 9 & 17, T26S-R27E
EDDY COUNTY, NEW MEXICO

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DRAWN BY: BOR	REVISIONS		
PROJ. MGR.: GDG	No. 1	DATE: 09/19/2016	REVISED BY: GDG
DATE: 09/01/2016	No. 2	DATE: 05/24/2017	REVISED BY: AMT
FILENAME: T:\2017\2175509\DWG\HH SO 8 5 FED 003 ROW2.dwg			

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NOTE:

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2. 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

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PRELIMINARY

Robert L. Lastrapes
Registration No. 23006

METES AND BOUNDS DESCRIPTION OF A PROPOSED RIGHT OF WAY EASEMENT LOCATED IN SECTIONS 8, 9 AND 17 OF T26S-R27E EDDY COUNTY, NEW MEXICO

HH SO 8 5 FED 003 RIGHT OF WAY

Description of the centerline of a proposed 65 feet wide by 75.79 feet or 4.59 rods right of way easement (40 feet each side of centerline) across Bureau of Land Management property located in section 17 of Township 26 South, Range 27 East, and described as follows:

Commencing at the Northwest corner of said section 17 Township 26 South Range 27 East at a found 2" Iron Pipe; **Thence** South 83 degrees 52 minutes 27 seconds East 2,088.90 feet to the **Point of Beginning**. Said **Point of Beginning** having the following coordinates: X = 537,065.17 Y = 381,588.03 (New Mexico State Plane Coordinate System, East Zone, NAD 27).

Thence South 75.79 feet to the **Point of Ending**, having the following coordinates X=537,065.17 and Y=381,512.24 (New Mexico State Plane Coordinate System, East Zone, NAD 27).

The bearings recited hereon are oriented to New Mexico State Plane Coordinate System, East Zone, NAD 27.

This description represents a survey made on the ground for a right of way easement and intended solely for that purpose. This description does not represent a boundary survey.

DETAIL

CHEVRON U.S.A. INC.

PROPOSED 65' RIGHT OF WAY EASEMENT & EXISTING 80' ROW TO BE USED FOR FLOWLINE
HH SO 8 5 FED 003 ROW
SECTIONS 8, 9 & 17, T26S-R27E
EDDY COUNTY, NEW MEXICO

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

DRAWN BY: BOR	REVISIONS		
PROJ. MGR.: GDG	No. 1	DATE: 09/19/2016	REVISED BY: GDG
DATE: 09/01/2016	No. 2	DATE: 05/24/2017	REVISED BY: AMT
FILENAME: T:\2017\2175509\DWG\HH SO 8 5 FED 003 ROW2.dwg			

HH SO 8 5 FED 003 NO. 5H WELL		
X=	537,306	NAD 27
Y=	381,277	
LAT.	32.048187	
LONG.	104.212927	
X=	578,490	NAD83
Y=	381,334	
LAT.	32.048309	
LONG.	104.213420	
ELEVATION +3265' NAVD 88		

NW PAD CORNER		NE PAD CORNER	
X=	537,046 NAD 27	X=	537,426 NAD 27
Y=	381,512	Y=	381,511
ELEVATION +3266' NAVD 88		ELEVATION +3257' NAVD 88	
SW PAD CORNER		SE PAD CORNER	
X=	537,045 NAD 27	X=	537,425 NAD 27
Y=	380,967	Y=	380,966
ELEVATION +3273' NAVD 88		ELEVATION +3269' NAVD 88	

LEGEND
- Proposed Pad
- Centerline Access
- Section Line
- Existing Road/Pad
- Found Monument

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 PROFESSIONAL SURVEYOR
5-23-2017

Robert L. Lastrapes
Registration No. 23006

R 27 E

Existing HH SO 8 P5 Pad

Sec. 8

Existing HH SO 8 P5 Access Road

S 85° 24' 31" E 2,096.26'

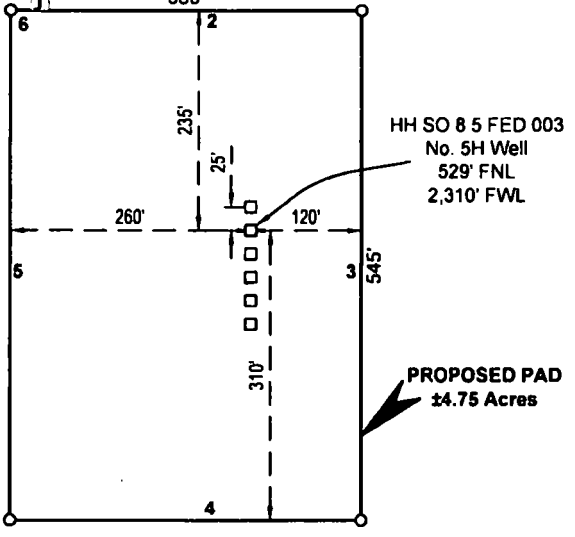
Point of Commencement/ Fnd. 2" Iron Pipe w/Cap @ the NW Corner of Section 17

CENTERLINE PROPOSED ACCESS ROAD
20' x ±130.93'
±7.94 Rods
±0.06 Acres

T 26 S

Sec. 17

Bureau of Land Management
Proposed Pad- ±4.75 Acres



NAD 27 NEW MEXICO EAST ZONE

PAGE 1 OF 2

WELL PLAT

Scale: 1" = 200'
200' 0 100' 200'

CHEVRON U.S.A. INC.

PROPOSED PAD & ACCESS ROAD
HH SO 8 5 FED 003 NO. 5H WELL
SECTION 17, T26S-R27E
EDDY COUNTY, NEW MEXICO

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PROJ. MGR.: GDG	No.	DATE:	REVISED BY:
DATE: 04/12/2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175509\DWG\HH SO 8 5 FED 003 5H_Well Plat_041217.dwg			

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CENTERLINE PROPOSED ACCESS ROAD		
COURSE	BEARING	DISTANCE
1	S 00° 16' 28" E	130.93'

PROPOSED PAD		
COURSE	BEARING	DISTANCE
2	S 89° 52' 43" E	348.07'
3	S 00° 07' 17" W	545.00'
4	N 89° 52' 43" W	380.00'
5	N 00° 07' 17" E	545.00'
6	S 89° 52' 43" E	31.93'

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ROBERT L. LASTRAPES
NEW MEXICO
23006
5-23-2017
PROFESSIONAL SURVEYOR

Robert L. Lastrapes
Registration No.23006

PAGE 2 OF 2

WELL PLAT

CHEVRON U.S.A. INC.

PROPOSED PAD & ACCESS ROAD
HH SO 8 5 FED 003 NO. 5H WELL
SECTION 17, T26S-R27E
EDDY COUNTY, NEW MEXICO

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DATE: 04/12/2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175509\DWG\HH SO 8 5 FED 003 5H_Well Plat_041217.dwg			

HH SO 8 5 FED 003 NO. 1H WELL		NW PAD CORNER	NE PAD CORNER
X=	537,306 NAD 27	X= 537,046 NAD 27	X= 537,426 NAD 27
Y=	381,177	Y= 381,512	Y= 381,511
LAT.	32.047913	ELEVATION +3266' NAVD 88	ELEVATION +3257' NAVD 88
LONG.	104.212928	SW PAD CORNER	SE PAD CORNER
X=	578,489 NAD83	X= 537,045 NAD 27	X= 537,425 NAD 27
Y=	381,234	Y= 380,967	Y= 380,966
LAT.	32.048034	ELEVATION +3273' NAVD 88	ELEVATION +3269' NAVD 88
LONG.	104.213421		
ELEVATION +3267' NAVD 88			

LEGEND
- Proposed Pad
- Centerline Access
- Section Line
- Existing Road/Pad
- ● Found Monument

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PRELIMINARY

Robert L. Lastrapes
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R 27 E

Sec. 8

Existing HH SO 8 P5 Pad

Existing HH SO 8 P5 Access Road

S 85° 24' 31" E 2,096.26'

Point of Commencement/ Fnd. 2" Iron Pipe w/Cap @ the NW Corner of Section 17

CENTERLINE PROPOSED ACCESS ROAD 20' x ±130.93' ±7.94 Rods ±0.06 Acres

T 26 S

Sec. 17

Bureau of Land Management
Proposed Pad- ±4.75 Acres

380'

200'

545'

325'

PROPOSED PERMANENT PAD AREA ±1.49 Acres

PROPOSED TEMPORARY PAD AREA ±3.26 Acres

HH SO 8 5 FED 003 No. 6H Well
HH SO 8 5 FED 003 No. 5H Well
HH SO 8 5 FED 003 No. 4H Well
HH SO 8 5 FED 003 No. 3H Well
HH SO 8 5 FED 003 No. 2H Well
HH SO 8 5 FED 003 No. 1H Well

NAD 27 NEW MEXICO EAST ZONE

PAGE 1 OF 2

WELL PLAT

Scale: 1" = 200'

200' 0 100' 200'

CHEVRON U.S.A. INC.

INTERIM RECLAMATION
HH SO 8 5 FED 003 NOS. 1H-6H WELLS
SECTION 17, T26S-R27E
EDDY COUNTY, NEW MEXICO

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PROJ. MGR.: GDG	No.	DATE:	REVISED BY:
DATE: 06/19/2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175509\DWG\HH SO 8 5 FED 003 Reclamation.dwg			

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Robert L. Lastrapes
Registration No.23006

PAGE 2 OF 2

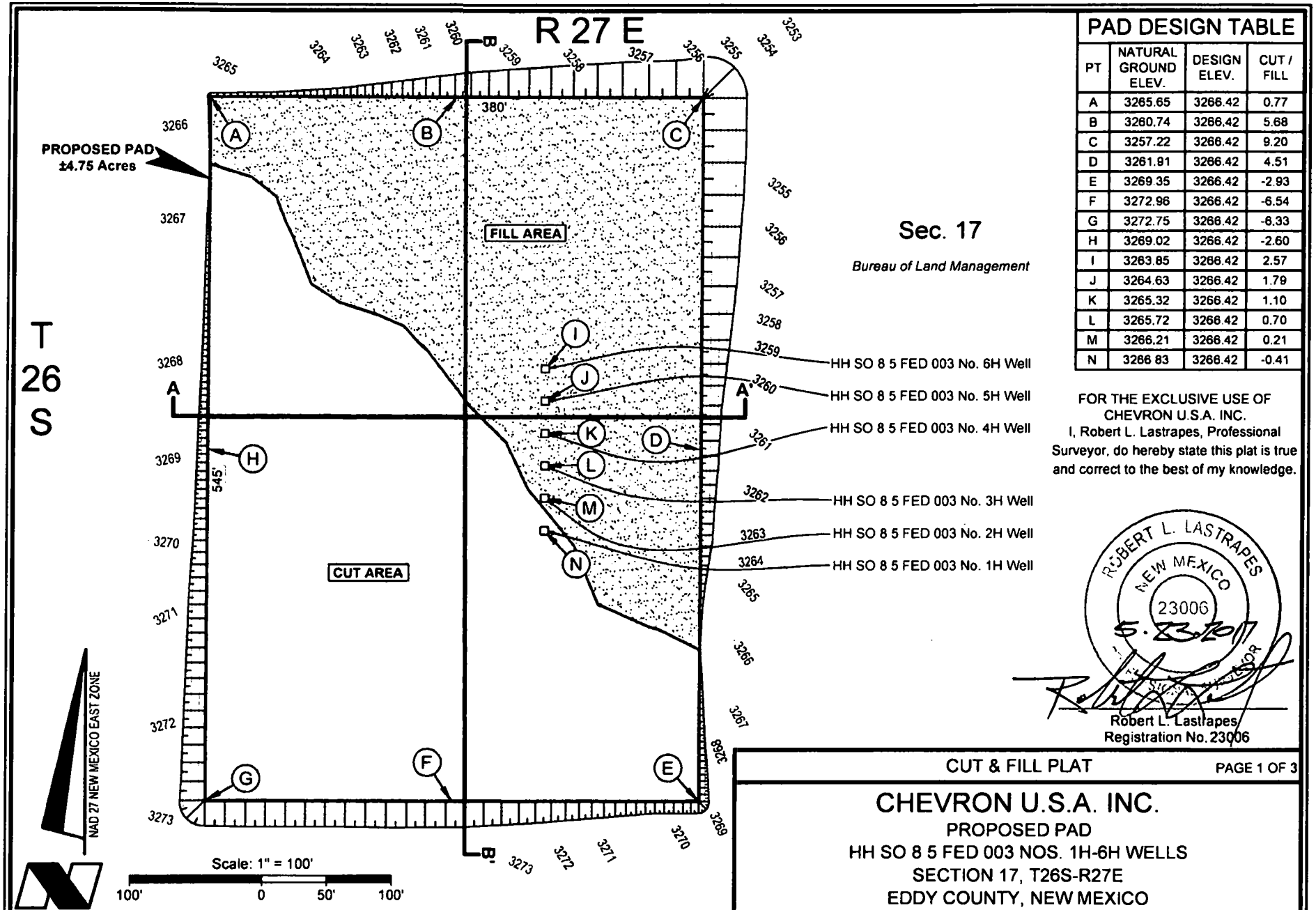
WELL PLAT

CHEVRON U.S.A. INC.

INTERIM RECLAMATION
HH SO 8 5 FED 003 NOS. 1H-6H WELLS
SECTION 17, T26S-R27E
EDDY COUNTY, NEW MEXICO

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

DRAWN BY: GDG	REVISIONS		
PROJ. MGR.: GDG	No.	DATE:	REVISED BY:
DATE: 06/19/2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175509\DWG\HH SO 8 5 FED 003 Reclamation.dwg			



PAD DESIGN TABLE

PT	NATURAL GROUND ELEV.	DESIGN ELEV.	CUT / FILL
A	3265.65	3266.42	0.77
B	3260.74	3266.42	5.68
C	3257.22	3266.42	9.20
D	3261.91	3266.42	4.51
E	3269.35	3266.42	-2.93
F	3272.96	3266.42	-6.54
G	3272.75	3266.42	-6.33
H	3269.02	3266.42	-2.60
I	3263.85	3266.42	2.57
J	3264.63	3266.42	1.79
K	3265.32	3266.42	1.10
L	3265.72	3266.42	0.70
M	3266.21	3266.42	0.21
N	3266.83	3266.42	-0.41

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 5.3.2017 BOR

Robert L. Lastrapes
Registration No. 23006

CUT VOLUME = 14,211 49 Cu Yd
FILL VOLUME = 14,211 51 Cu Yd
NET VOLUME = 0 01 Cu Yd Fill

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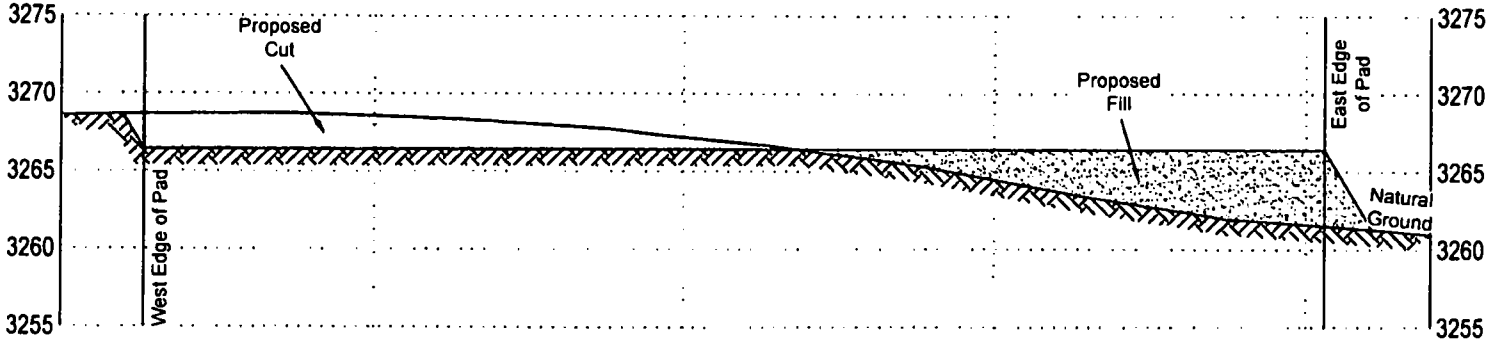
CUT & FILL PLAT PAGE 1 OF 3

CHEVRON U.S.A. INC.

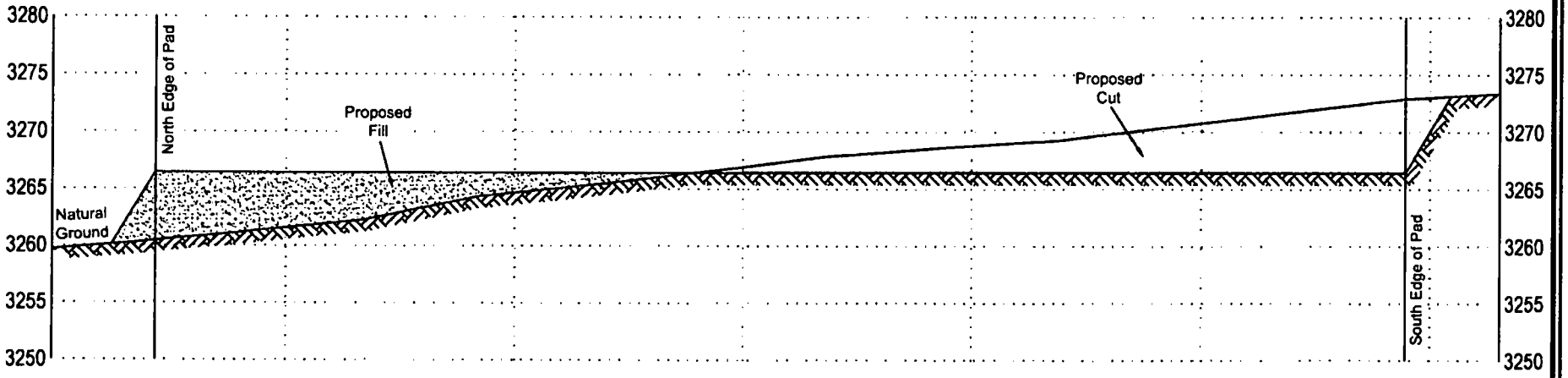
PROPOSED PAD
HH SO 8 5 FED 003 NOS. 1H-6H WELLS
SECTION 17, T26S-R27E
EDDY COUNTY, NEW MEXICO

DRAWN BY: BOR	REVISIONS		
PROJ. MGR.: GDG	No. 1	DATE: 04/17/2017	REVISED BY: BOR
DATE: 03/16/2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175509\DWG\HH SO 8 5 FED 003_1H-6H_Cut_Fill.dwg			

CROSS SECTION A-A'



CROSS SECTION B-B'



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ROBERT L LASTRAPES
NEW MEXICO
23006
5-23-2017

Robert L. Lastrapes
Registration No. 23006

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CUT & FILL PLAT — PAGE 2 OF 3

CHEVRON U.S.A. INC.

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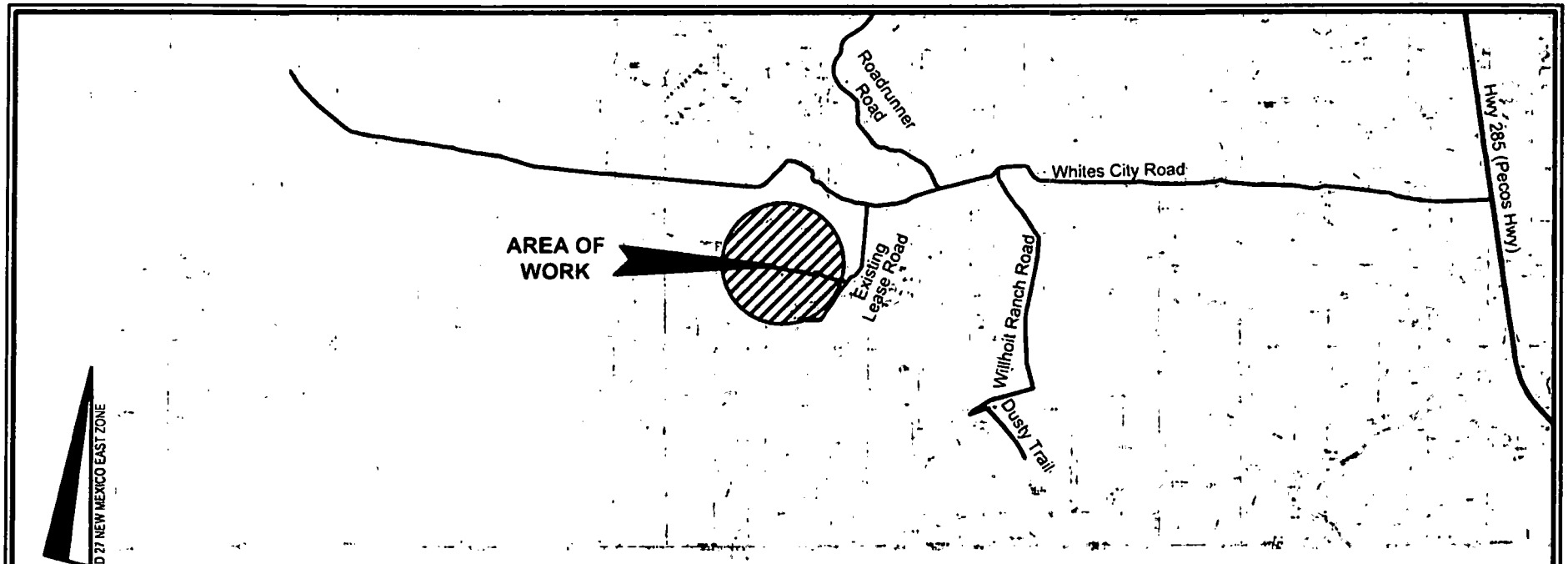

VICINITY MAP

10,000' 0 5,000' 10,000'

Scale: 1"=10,000'

NOTE:

1. 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.

2. The design pad elevation recommendation is based solely on a cut and fill (1:1 ratio) balance of the pad and does not include material required for the access roads. A detailed soil test and slope stability analysis shall be performed prior to construction to ensure proper compaction and working performance of the pad under the anticipated loadings. This material balance sheet does not constitute a foundation design and C. H. Fenstermaker & Associates, L.L.C. makes no warranty to the structural integrity of the site layout as shown Fenstermaker also makes no recommendation or warranty about the layout relative to flood hazards, erosion control, or soil stability issues. Elevations refer to the North American Vertical Datum of 1988.

3. 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.

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
5.23.2017
SURVEYOR

Robert L. Lastrapes
Registration No. 23006

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

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CUT & FILL PLAT

CHEVRON U.S.A. INC.

PROPOSED PAD
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CHEVRON U.S.A. INC.
HH SO 8 5 FED 003 5H
NMNM 118108
SECTION 17, T26S, R27E (Off Lease SHL) SECTION 5, T26S, R27E
SHL 529' FNL & 2310' FWL BHL 280' FNL & 2010' FWL

APD Surface Use Plan of Operations

This Surface Use Plan of Operations has been designed to be reviewed in conjunction with Hayhurst Development Area (HDA) Master Development Plan

HDA Master Development Plan Reference Table
The contents referenced below apply to all HDA APD's

Existing Roads	Exhibit 1, MDP SUPO Page 1
Construction Materials	MDP SUPO Page 6
Methods for Handling Waste	MDP SUPO Page 6
Reclamation Objectives	MDP SUPO Page 6-8
Final Surface Reclamation	MDP SUPO Page 6-8

Driving Directions

- Driving Directions – From Malaga, New Mexico. The location is approximately 11.5 miles from the nearest town, which is Malaga, New Mexico. From Malaga, proceed South on Highway 285 approximately 11.5 miles and turn right (West) onto White City Rd and go approximately 6.8 miles on White City Road until the road reaches an intersection with Roadrunner Rd. Turn right onto this and travel 100 yards, then the access road and well location is on the right.

New or Reconstructed Access Roads – (MDP SUPO Pg. 1)

- There will be 1,136.45' of new road construction for this proposal (.52 acres)
- Ditches: See MDP
- Culverts: See MDP
- Road Cuts: See MDP

Location of Existing Wells

- 1-Mile radius map is attached

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Location of Existing and/or Proposed Production Facilities (MDP SUP Pg. 2)

- Facilities: Existing production facilities located in the NE corner of Sec. 10, T26S-R27E where oil and gas sales will take place.
  - The existing facility is 500' X 700'
  - Gas compression will occur within the proposed facility boundaries
  - Gas purchaser pipeline is in place 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 permanent water disposal system will be determined prior to construction of any water transfer pipeline. Until permanent water takeaway is available, produced water will be hauled off location in trucks. **Notification will be provided to BLM upon site selection and survey – plats (including SWD well information) will be provided.**
- Pipelines: See Detail
  - Pipelines Include:
    - 4,583' of Flowlines carrying production (buried)
    - 4,600' Gas Lift Line carrying pressurized gas (buried)
    - 4,608' Temporary Water line carrying fresh water (surface)
  - A ROW will be applied for through the State and BLM. (30' wide, 3.2 acres)
  - All construction activity will be confined to the approved ROW.
  - Pipeline will run parallel to the road and will stay within approved ROW.

Location and Types of Water Supply (MDP SUPO Pg. 5)

- Existing ponds in Section 9 & 10, T26S-R27E will be utilized for fresh water or recycled water.
- Fresh water will be obtained from a private water source.

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Construction Materials (MDP SUPO Pg. 6)

- Caliche will be sourced from a Chevron operated NMSLO pit in S2 NW4 Section 16 T26S R27E, or an alternate private pit in Section 13, T24S R27E in Eddy County, NM.

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.

Well Site Layout

- Surveyor Plat
    - Exterior well pad dimensions are 545' x 380'
    - Interior well pad dimensions from point of entry (well head) of the well are N-235', S-310', E-120', W-260'. Total disturbance area needed for construction of well pad will be approximately 4.81 acres
    - Topsoil placement is on the west where interim reclamation is planned to be completed upon completion of well and evaluation of best management practices.
    - Cut and fill: will be minimal.
- Rig Layout (see diagram)

Plans for Surface Reclamation (MDP SUPA Pg. 8)

Interim Reclamation Procedures

- Reclaimed pad size: 200' x 325' (approximately 1.5 acres)
- Reclaimed pad layout, topsoil location & erosion control features

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Surface Ownership

- BLM Surface
    - Surface Tenant – Forehand Ranches, Inc.
- **Nearest Post Office:** Malaga Post Office; 11.4 Miles north

Other Information

- On-site performed by BLM NRS: Paul Murphy 1/6/2017
- Cultural report attached: **Yes** Participating Agreement attached: N/A

Chevron Representatives

Primary point of contact:
Jennifer Van Curen
Jennifer.VanCuren@arcadis-us.com
M- 432-270-8753

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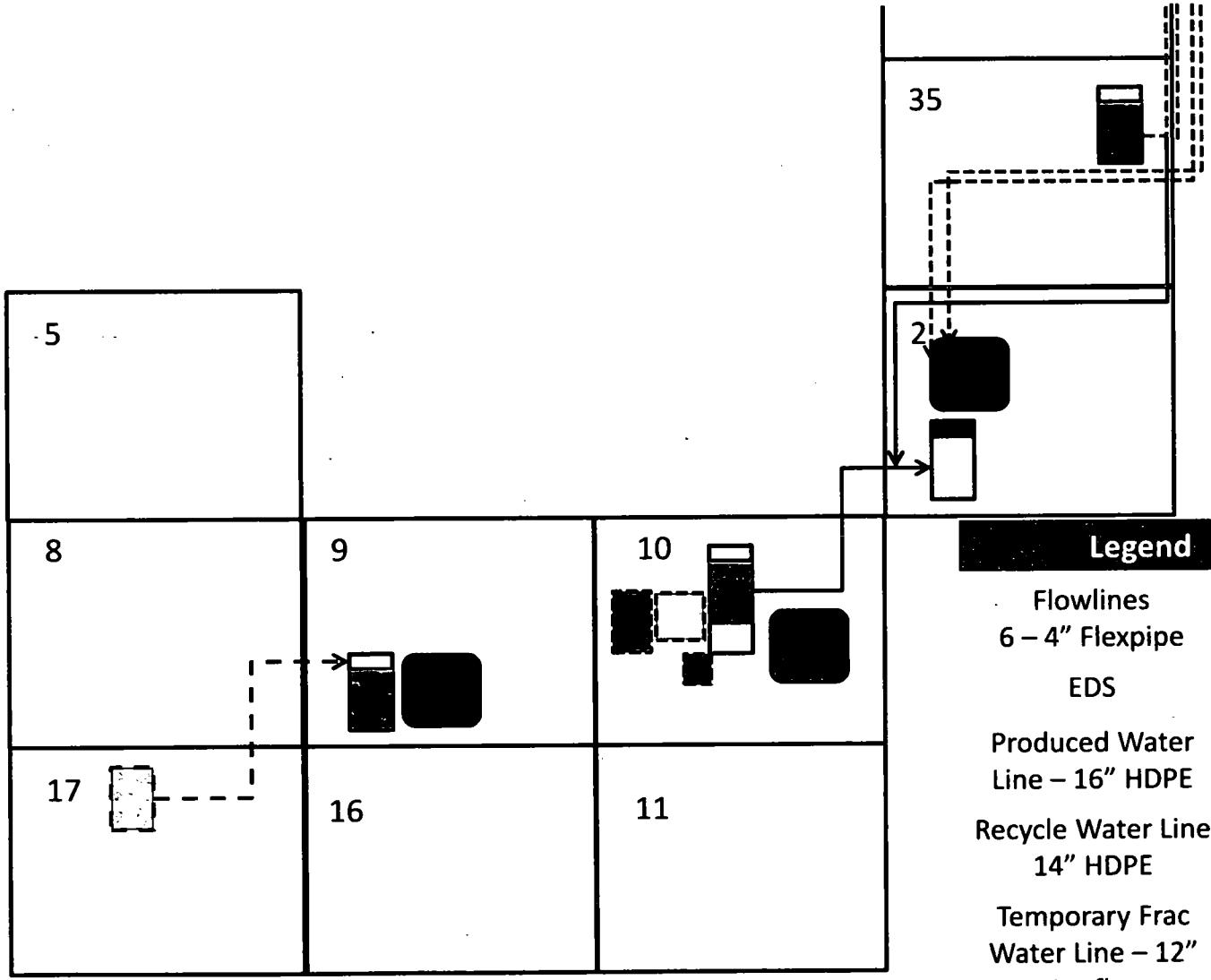
Chevron Functional Contacts

Project Manager Name: Justin Freeman Address: 1400 Smith Street Houston, TX 77002 Phone: 713-372-2151 Email: FreemJ@chevron.com	**Drilling Engineer** Name: Roderick Milligan Address: 1400 Smith Street Houston, TX 77002 Phone: (281) 413-9794 Email: RoderickMilligan@chevron.com
Surface Land Representative Name: Kevin Dickerson Address: 6301 Deauville BLVD Midland TX 79706 Phone: (432) 687-7104 Email: Kevin.Dickerson@chevron.com	**Facility Lead** Name: Angel Bermea Address: 6301 Deauville BLVD Midland TX 79706 Phone: 432-770-7564 Email: Angel.Bermea@chevron.com
Geologist Name: Frank Karmanocky Address: 6301 Deauville BLVD Midland TX 79706 Phone: 432-687-7361 Email: FKarmanocky@chevron.com	**Regulatory Specialist** Dorian K. Fuentes Address: 6301 Deauville BLVD Midland TX 79706 Office: (432) 687-7631 Email: djvo@chevron.com

PKG 5 DETAILS



Legend

Flowlines 6 – 4" Flexpipe	----
EDS	----
Produced Water Line – 16" HDPE	----
Recycle Water Line 14" HDPE	----
Temporary Frac Water Line – 12" Layflat	----

Legend

Wellpad Gravitas SWD wellpad	
IT Tower	
CTB 35	
Electric Compressor	
Electric Sub-station	
Gravitas SWD Facility	
Recycle	

HHNM Rig 2/3
Facilities Scope – 2017/8

HH SO 8/5 P3 (6 wells x 10,000 ft) PKG 6

- SPUD:
- CTB 9: *Upgrade Adding HP Header, LP Header VRU, LACT, LP Tester*
- New SWD Sec 26:
  - 2-Trains; 7 H-pumps
  - 10,000 BBL recycle Train ~ $850,000
  - SWD WellPad
  - SWD Injection Line
  - Recycle Water P/L from SWD 26 to Pond 4
  - EDS from CTB 35 to SWD 26
  - P/L: 1.0 Mile (Produced Water from CTB 35 to SWD 26)
- Electrical Compressor
  - Sub-Station
  - Sub-Station Transformer Upgrade for EDS
  - Compressor Pad
- Well: Pad, 2.0 mi F/L x 6 well
- Gas Lift: 0.5 mi
- IT Towers (2)
  - Pad Locations
  - Fiber Optic Cable ROW ~ 1.5 miles

Section 1 - General

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

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

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

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

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

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

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

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

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

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

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

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

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

AFMSS

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

Bond Info Data Report

07/13/2018

Bond Information

Federal/Indian APD: FED

BLM Bond number: CA0329

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment: