

Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM070895
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator CHEVRON USA INCORPORATED		8. Lease Name and Well No. SND 10 15 SCULL FED COM 001 3H
3a. Address 6301 Deauville Blvd. Midland TX 79706	3b. Phone No. (include area code) (432)687-7866	9. API Well No. 30 015 46961
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NWNW / 509 FNL / 953 FWL / LAT 32.237736 / LONG -103.771149 At proposed prod. zone SESW / 50 FSL / 2090 FWL / LAT 32.210238 / LONG -103.767475		10. Field and Pool, or Exploratory SAND DUNES / BONE SPRING
14. Distance in miles and direction from nearest town or post office* 33 miles		11. Sec., T. R. M. or Blk. and Survey or Area SEC 10 / T24S / R31E / NMP
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 509 feet		12. County or Parish EDDY
16. No of acres in lease 320		13. State NM
17. Spacing Unit dedicated to this well 320		
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 4025 feet		20. BLM/BIA Bond No. in file FED: ES0022
21. Elevations (Show whether DF, KDB, RT, GL., etc.) 3453 feet	22. Approximate date work will start* 07/05/2020	23. Estimated duration 146 days
24. Attachments		

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

- | | |
|---|---|
| <ul style="list-style-type: none"> 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). | <ul style="list-style-type: none"> 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). 5. Operator certification. 6. Such other site specific information and/or plans as may be requested by the BLM. |
|---|---|

25. Signature (Electronic Submission)	Name (Printed/Typed) Kayla McConnell / Ph: (432)687-7375	Date 04/12/2019
Title Permitting Specialist		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575)234-5959	Date 03/30/2020
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.



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

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30 015 46961		² Pool Code 53800		³ Pool Name SAND DUNES:BONE SPRING	
⁴ Property Code 327370		⁵ Property Name SND 10 15 SCULL FED COM 001			⁶ Well Number 3H
⁷ OGRID No. 4323		⁸ Operator Name CHEVRON U.S.A. INC.			⁹ Elevation 3453'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	10	24 SOUTH	31 EAST, N.M.P.M.		509'	NORTH	953'	WEST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	15	24 SOUTH	31 EAST, N.M.P.M.		50'	SOUTH	2090'	WEST	EDDY

¹² Dedicated Acres 320	¹³ Joint or Infill Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

¹⁶

SND 10 15 SCULL FED COM 001 NO. 3H WELL	
X= 673,974	Y= 450,618
LAT. 32.237613 N	NAD 27
LONG. 103.770665 W	
X= 715,158	Y= 450,677
LAT. 32.237736 N	NAD83/2011
LONG. 103.771149 W	
ELEVATION +3453' NAVD 88	

PROPOSED FIRST TAKE POINT	PROPOSED MID-POINT
X= 675,110	X= 675,137
Y= 451,034	Y= 445,852
LAT. 32.238742 N	LAT. 32.224496 N
LONG. 103.766984 W	LONG. 103.766985 W
X= 716,294	X= 716,321
Y= 451,093	Y= 445,911
LAT. 32.238865 N	LAT. 32.224620 N
LONG. 103.767469 W	LONG. 103.767469 W

PROPOSED LAST TAKE POINT	PROPOSED BOTTOM HOLE LOCATION
X= 675,162	X= 675,163
Y= 440,671	Y= 440,621
LAT. 32.210252 N	LAT. 32.210115 N
LONG. 103.766992 W	LONG. 103.766992 W
X= 716,346	X= 716,347
Y= 440,729	Y= 440,679
LAT. 32.210376 N	LAT. 32.210238 N
LONG. 103.767475 W	LONG. 103.767475 W

CORNER COORDINATES TABLE (NAD 27)

A - Y=451121.09, X=673019.77
 B - Y=451154.80, X=678301.64
 C - Y=445838.37, X=673047.23
 D - Y=445873.60, X=678324.50
 E - Y=440556.94, X=673072.91
 F - Y=440591.53, X=678357.86

Proposed First Take Point
100' FNL, 2090' FWL

Proposed Mid-Point

Proposed Last Take Point
100' FSL, 2090' FWL

Proposed Bottom Hole Location

Bearings and Distances:
 N 69°51'33" E 1,290.75'
 S 00°18'03" E 5,182.18'
 S 00°16'43" E 5,231.76'

¹⁷ **OPERATOR CERTIFICATION**

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

Signature: *Laura Becerra* Date: 3/18/2019

Printed Name: **Laura Becerra**

E-mail Address: **LBecerra@Chevron.com**

¹⁸ **SURVEYOR CERTIFICATION**

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date of Survey: 06/26/2018

Signature and Seal of Professional Surveyor:

 Steven M. Coleman
 22921
 Certificate Number

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Original
to Appropriate
District Office

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

GAS CAPTURE PLAN

X Original Operator & OGRID No.: CHEVRON U S A INC (4323)
 Amended Date: 3/19/2019
Reason for Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

Note: A C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule 19.15.18.12.A

Well(s)/Production Facility – SND Section 10 CTB

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location	Footages	Expected MCF/D	Flared or	Comments
SND 10 15 SCULL FED COM 001 No. 1H	Pending	UL:D, SEC 10, T24S, R31E	509' FNL, 903' FWL	5000	0	
SND 10 15 SCULL FED COM 001 No. 2H	Pending	UL:D, SEC 10, T24S, R31E	509' FSL, 928' FWL	5000	0	
SND 10 15 SCULL FED COM 001 No. 3H	Pending	UL:D, SEC 10, T24S, R31E	509' FNL, 953' FWL	5000	0	

Gathering System and Pipeline Notification

These Pad 4 wells will be connected to Chevron's SND Section 10 CTB production facility located in Section 10, T24S – R31E, Eddy County, New Mexico during flowback and production.

Gas produced from the production facility will be dedicated to DCP Operating Company, LP (DCP) and will be connected to DCP's high pressure gathering system located in Eddy County, New Mexico. Produced gas will be processed at one or more of DCP's New Mexico gas plants located in Eddy and Lea Counties. Chevron periodically provides DCP estimated production forecasts for wells that are scheduled to be drilled in the foreseeable future. In addition, Chevron and DCP have periodic conference calls to discuss changes to the forecasts.

Flowback Strategy

After the fracture treatment/completion operations, wells will be turned to permanent production facilities. Wells will have temporary sand catchers (separators) that will be installed at the well location to prevent sand from getting into the flowlines. These sand separators will be blown down periodically which will result in minimal venting of gas. Gas sales will start as soon as the wells start flowing through the production facilities unless there are operational issues with DCP's system at that time. Based on current information, it is Chevron's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On Lease
 - Only a portion of gas is consumed operating the generator, remainder of gas will be flared.
- Compressed Natural Gas – On Lease
 - Gas flared would be minimal but might be uneconomical to operate when gas volume declines.
- NGL Removal – On lease and trucked from condensate tanks
 - Plants are expensive and uneconomical to operate when gas volume declines.
 - Any residue gas that results in the future may be flared.

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	CHEVRON USA INCORPORATED
LEASE NO.:	NMNM070895
LOCATION:	SECTION 15, T24S, R31E, NMPM
COUNTY:	EDDY

WELL NAME & NO.:	SND 10 15 Scull Fed Com 001 1H
SURFACE HOLE FOOTAGE:	509'/N & 903'/W
BOTTOM HOLE FOOTAGE:	50'/S & 330'/W

WELL NAME & NO.:	SND 10 15 Scull Fed Com 001 2H
SURFACE HOLE FOOTAGE:	509'/N & 928'/W
BOTTOM HOLE FOOTAGE:	50'/S & 1210'/W

WELL NAME & NO.:	SND 10 15 Scull Fed Com 001 3H
SURFACE HOLE FOOTAGE:	509'/N & 953'/W
BOTTOM HOLE FOOTAGE:	50'/S & 2090'/W

COA

H2S	<input type="radio"/> Yes	<input checked="" type="radio"/> No	
Potash	<input type="radio"/> None	<input checked="" type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input checked="" type="radio"/> Low	<input type="radio"/> Medium	<input type="radio"/> High
Cave/Karst Potential	<input type="radio"/> Critical		
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input type="radio"/> Multibowl	<input checked="" type="radio"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input type="checkbox"/> Fluid Filled	<input type="checkbox"/> Cement Squeeze	<input type="checkbox"/> Pilot Hole
Special Requirements	<input type="checkbox"/> Water Disposal	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **800** feet (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **24 hours in the Potash Area** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

Option 1 (Single Stage):

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

Option 2:

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

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
 - b. Second stage above DV tool:
 - Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**
- ❖ In **Secretary Potash Areas** if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

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

Option 1 (Single Stage):

- Cement should tie-back at least **500 feet** into previous casing string. Operator shall provide method of verification.

Option 2:

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

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
- b. Second stage above DV tool:
 - Cement should tie-back at least **500 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
- 2.

Option 1:

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

Option 2:

1. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the

blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

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

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

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

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

Eddy County

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

Lea County

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

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

A. CASING

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

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including

lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

NMK03172020

**PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL**

CHEVRON U.S.A. INC

SND 10 15 SCULL FED COM 1H, 2H, and 3H

Lease Number NMNM070895

SND 10 15 SCULL FED COM 001 1H

Surface Hole Location: 509' FNL & 903' FWL, Section 10, T. 24 S., R. 31 E.

Bottom Hole Location: 50' FSL & 330' FWL, Section 15, T. 24 S, R 31 E.

SND 10 15 SCULL FED COM 001 2H

Surface Hole Location: 509' FNL & 928' FWL, Section 10, T. 24 S., R. 31 E.

Bottom Hole Location: 50' FSL & 1210' FWL, Section 15, T. 24 S, R 31 E.

SND 10 15 SCULL FED COM 001 3H

Surface Hole Location: 509' FNL & 953' FWL, Section 10, T. 24 S., R. 31 E.

Bottom Hole Location: 50' FSL & 2090' FWL, Section 15, T. 24 S, R 31 E.

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

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I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

IV. NOXIOUS WEEDS

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

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

V. SPECIAL REQUIREMENT(S)

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken:

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

Below Ground-level Abandoned Well Marker to avoid raptor perching:

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

Timing Limitation Exceptions:

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

Hydrology

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 valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

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

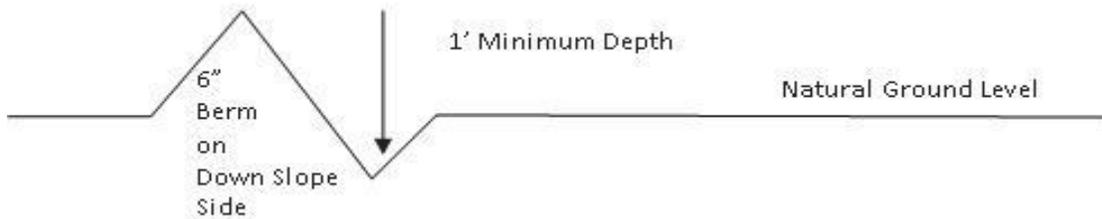
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

Cattle guards

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

Fence Requirement

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

Public Access

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

Construction Steps

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

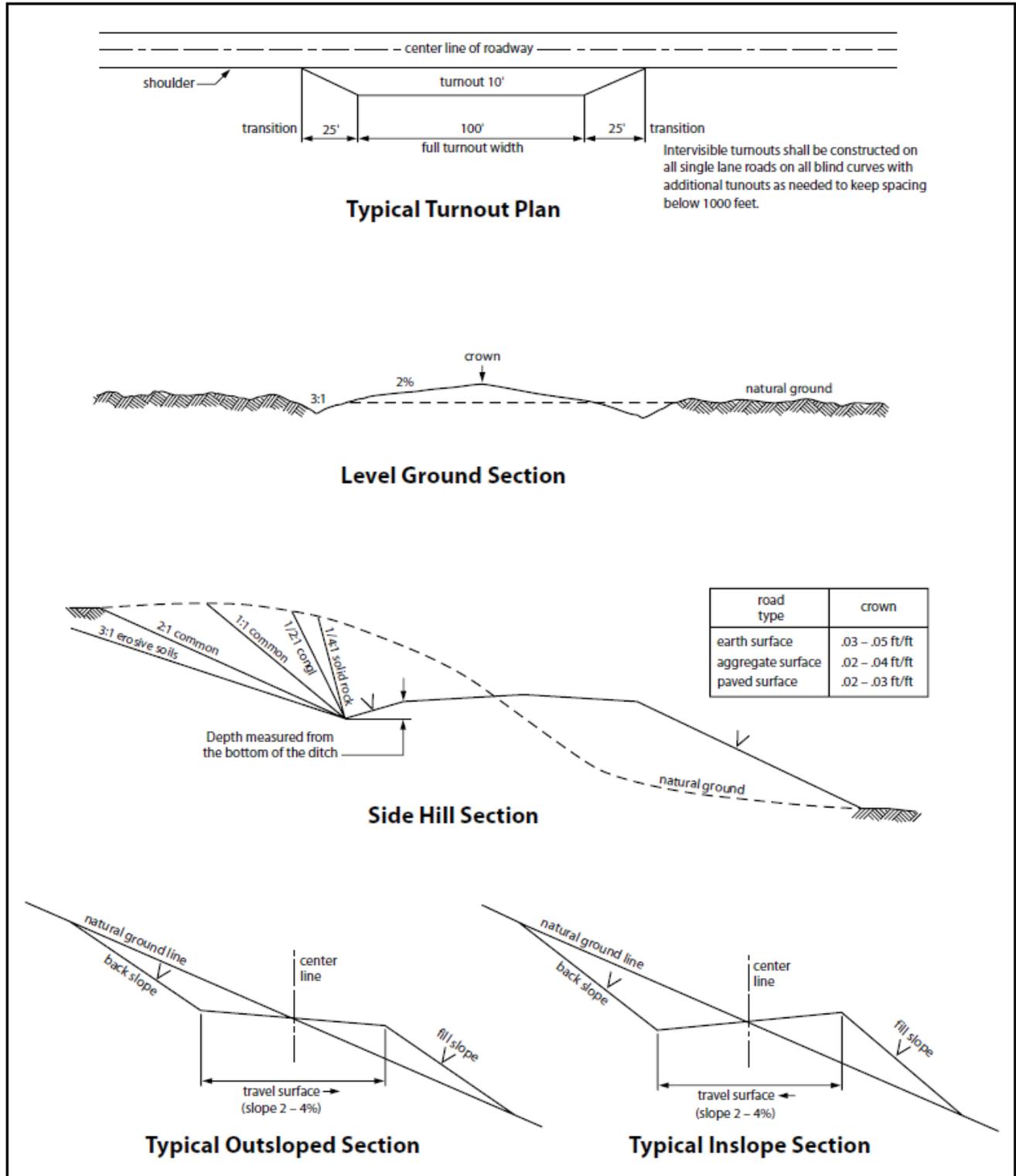


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. ELECTRIC LINES

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

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

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

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.
4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

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

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

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

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

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

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

10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written

authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:

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

Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken:

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

STIPULATIONS FOR BURIED FIBER OPTIC LINES

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

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this authorization.
2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the Holder shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et. seq.) with regard to any toxic substances that are used, generated by or stored on the powerline route or on facilities authorized. (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 pipeline). 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, 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 the Holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages to Federal lands resulting therefrom, the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the Holder. Such action by the Authorized Officer shall not relieve the Holder of any liability or responsibility.

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

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

7. The holder shall be held responsible if noxious weeds become established within the area. Evaluation of growth of the noxious weeds shall be made upon discovery. Weed control will be required on the disturbed lands resulting from this actions, which include the roads, pads and associated pipelines and on adjacent lands affected by the establishment of weeds due to this action.

The holder shall insure that the equipment and or vehicles that will be used to construct, maintain and administer the access roads, well pad, and resulting well are not polluted with invasive and noxious weed seeds. Transporting of invasive and noxious weed seeds could occur if the equipment and vehicles were previously used in noxious weed infested areas. In order to prevent the spread of noxious weeds, the Authorized Officer shall require that the equipment and vehicles be cleaned with either high pressure water or air prior to construction, maintenance and administration of the access roads, well pad, and resulting well.

The holder is responsible for consultation with the authorized officer and/or local authorities for acceptable weed control methods, which include following EPA and BLM requirements and policy.

8. The holder shall be responsible for maintaining the site in a sanitary condition at all times; waste materials shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to human waste, trash, garbage, refuse, oil drums, petroleum products, ashes and equipment.

9. The holder shall conduct all activities associated with the construction, operation and termination of the powerline within the authorized limits.

10. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

11. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair impacted improvements to at least their former state. The holder shall contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence will 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.

12. Construction trenches left open over night shall be covered. Covers shall be secured in place and shall be strong enough to prevent livestock or wildlife from falling through and into a hole.

13. The holder shall evenly spread the excess soil excavated from trench in the immediate vicinity of the trench structure.

14. The BLM serial number assigned to this right-of-way grant shall be posted in a permanent, conspicuous manner, and be maintained in a legible condition for the term of the right-of-way at all major road crossings and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

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

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

17. 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.

18. The construction of this project will consist of digging a trench to a depth of at least 40 inches. Then installing the power line and covering with backfill dirt. After completing construction of the buried power line, the line shall be marked with underground power line warning signs at least every 1,000 feet.

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).

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

Seed Mixture 2, for Sandy Sites

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

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

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

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

*Pounds of pure live seed:

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

1. FORMATION TOPS

The estimated tops of important geologic markers are as follows:

FORMATION	SUB-SEA TVD	KBTVD	MD
Rustler	2630	800	800
Castile	915	2,515	2,515
Lamar	-1145	4,575	4,575
Bell Canyon	-1196	4,626	4,626
Cherry Canyon	-2050	5,480	5,480
Brushy Canyon	-3330	6,760	6,760
Avalon	-5013	8,443	8,443
Lateral TD (Lower Avalon)	-5361	8,791	19,158
First Bone Spring	-6065	9,495	

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		400
Water	Cherry Canyon	5,480
Oil/Gas	Brushy Canyon	6,760
Oil/Gas	Avalon	8,443
Oil/Gas	First Bone Spring	9,495

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

3. BOP EQUIPMENT

Chevron will have a minimum of a 5,000 psi rig stack (see proposed schematic) for drill out below surface casing. The stack will be tested as specified in the attached testing requirements. Batch drilling of the surface, intermediate, and production will take place. A full BOP test will be performed per hole section, unless approval from BLM is received otherwise. Flex choke hose will be used for all wells on the pad (see attached specs and variance). BOP test will be conducted by a third party.

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

4. CASING PROGRAM

a. The proposed casing program will be as follows:

Purpose	From	To	Hole Size	Csg Size	Weight	Grade	Thread	Condition
Surface	0'	800'	17-1/2"	13-3/8"	54.5 #	J-55	STC	New
Intermediate	0'	4,550'	12-1/4"	9-5/8"	43.5 #	L-80	LTC	New
Production	0'	19,158'	8-1/2"	5-1/2"	20.0 #	P-110	TXP BTC	New

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

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

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

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

Surface Casing: 800' TVD
 Intermediate Casing: 4,550' TVD
 Production Casing: 19,191 ftMD at 90 deg inc

Casing String	Min SF Burst	Min SF Collapse	Min SF Tension	Min SF Tri-Axial
Surface	1.80	3.12	3.17	2.26
Intermediate	1.23	1.28	1.60	1.50
Production	1.15	1.39	2.09	1.38

The following worst case load cases were considered for calculation of the above Min. Safety Factors:

Burst Design	Surf	Int	Prod
Pressure Test- Surface, Int, Prod Csg P external: Mud weight above TOC, PP below P internal: Test psi + next section heaviest mud in csg	X	X	X
Displace to Gas- Surf Csg P external: Mud weight above TOC, PP below P internal: Dry Gas from Next Csg Point	X		
Gas over mud (60/40) - Int Csg P external: Mud weight above TOC, PP below P internal: 60% gas over 40% mud from hole TD PP		X	
Stimulation (Frac) Pressures- Prod Csg P external: Mud weight above TOC, PP below P internal: Max inj pressure w/ heaviest injected fluid			X
Tubing leak- Prod Csg (packer at KOP) P external: Mud weight above TOC, PP below P internal: Leak just below surf, 8.45 ppg packer fluid			X
Collapse Design	Surf	Int	Prod
Full Evacuation P external: Mud weight gradient P internal: none	X	X	X
Cementing- Surf, Int, Prod Csg P external: Wet cement P internal: displacement fluid - water	X	X	X
Tension Design	Surf	Int	Prod
100k lb overpull	X	X	X

5. **CEMENTING PROGRAM**

Slurry	Type	Top	Bottom	Weight	Yield	%Excess	Sacks	Water	Volume	Additives
Surface				(ppg)	(cu ft/sk)	Open Hole		gal/sk	bbls	
Tail	Class C	0'	800'	14.8	1.34	100	1076	6.40	257	Extender, Antifoam, Retarder
Intermediate Csg										
Lead	Class C	0'	3,550'	11.9	2.56	30	564	14.66	257	Extender, Antifoam, Retarder, Viscosifier
Tail	Class C	3,550'	4,550'	14.8	1.33	30	334	6.38	79	Extender, Antifoam, Retarder, Viscosifier
Production										
Lead 1	Class C	0'	8,500'	11.9	2.46	10	870	14.05	382	Extender, Antifoam, Retarder, Viscosifier
Lead 2	Class C	8,500'	18,158'	13.2	1.85	10	1314	9.87	433	Extender, Antifoam, Retarder, Viscosifier
Tail	Acid Sol Class H	18,158'	19,158'	15	2.19	10	120	9.54	47	Extender, Antifoam, Retarder, Viscosifier

1. Final cement volumes will be determined by caliper.
2. Surface casing shall have at least one centralizer installed on each of the bottom three joints starting with the shoe joint.
3. Production casing will have one solid body type centralizer on every joint in the lateral, then every other joint to KOP. Bowspring type centralizers will be run from KOP to intermediate casing and surface.

6. MUD PROGRAM

From	To	Type	Weight	Viscosity	Filtrate
0'	800'	Spud Mud	8.3 - 8.9	28-30	N/C
800'	4,550'	Brine	9.0 - 10.1	28-31	15-25
4,550'	19,158'	OBM	8.3 - 9.5	10-15	15-25

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

All fluids and cuttings will be disposed of in accordance with New Mexico Oil Conservation Division rules and regulations. And transporting of E&P waste will follow EPA regulations and accompanying manifests.

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

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

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

7. TESTING, LOGGING, AND CORING

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

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

TYPE	Logs	Interval	Timing
Mudlogs	2 man mudlog	Surface casing shoe through prod hole TD	While drilling or circulating
LWD	MWD Gamma	Int. and Prod. Hole	While Drilling

- c. Conventional whole core samples are not planned.
- d. A directional survey will be run.

8. ABNORMAL PRESSURES AND HYDROGEN SULFIDE

- a. No abnormal pressure or temperatures are expected. Estimated BHP is: 4,343 psi
- b. Hydrogen sulfide gas is not anticipated. An H2S Contingency plan is attached with this APD in the event that H2S is encountered

Delaware Basin Changes to APD for Federal Well



CHEVRON CONTACT:

PHILLIPE SALANOVA
DRILLING ENGINEER
1400 SMITH ST.
HOUSTON, TX 77002

DESK: HOU140/43RD FLOOR
CELL: 432-257-4140
EMAIL: PSALANOVA@CHEVRON.COM

Summary of Changes to MPD Submission

BOP Equipment – CoFlex Hose (Section 3 of 9 Point Drilling Plan in MPD)

BOP Equipment – CoFlex Hose

Summary: Variance to use a CoFlex hose between BOP and choke manifold not requested in original submittal.

As Defined in MPD:	As Planned on Well:
Variance to use CoFlex hose not requested.	Chevron requests a variance to use a CoFlex hose with a <u>metal protective covering</u> that will be utilized between the BOP and Choke manifold. Please refer to the attached testing and specification documents.



H₂S Preparedness and Contingency Plan Summary

SD 14 23 Fed P18 9H,10H,11H,12H,13H,14H

Training

MCBU Drilling and Completions H₂S 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 H₂S.

Awareness Level

Employees and visitors to MCBU Drilling and Completions locations that have known concentrations of H₂S, who are not required to perform work in H₂S areas, will be provided with an awareness level of H₂S training prior to entering any H₂S areas. At a minimum, awareness level training will include:

1. Physical and chemical properties of H₂S
2. Health hazards of H₂S
3. Personal protective equipment
4. Information regarding potential sources of H₂S
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 H₂S Training

Employees and contractors required to work in areas that may contain H₂S will be provided with Advanced Level H₂S training prior to initial assignment. In addition to the Awareness Level requirements, Advanced Level H₂S training will include:

1. H₂S safe work practice procedures;
2. Emergency contingency plan procedures;
3. Methods to detect the presence or release of H₂S (e.g., alarms, monitoring equipment), including hands-on training with direct reading and personal monitoring H₂S equipment.
4. Basic overview of respiratory protective equipment suitable for use in H₂S 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 H₂S training;
6. Proficiency examination covering all course material.

Advanced H₂S training courses will be instructed by personnel who have successfully completed an appropriate H₂S train-the-trainer development course (ANSI/ASSE Z390.1-2006) or who possess significant past experience through educational or work-related background.



H₂S Preparedness and Contingency Plan Summary

H₂S Training Certification

All employees and visitors will be issued an H₂S training certification card (or certificate) upon successful completion of the appropriate H₂S training course. Personnel working in an H₂S environment will carry a current H₂S training certification card as proof of having received the proper training on their person at all times.

Briefing Area

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

H₂S 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.

H₂S Detection and Monitoring System

- a) H₂S 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.



H₂S Preparedness and Contingency Plan Summary

Well Control Equipment

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

Mud Program

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

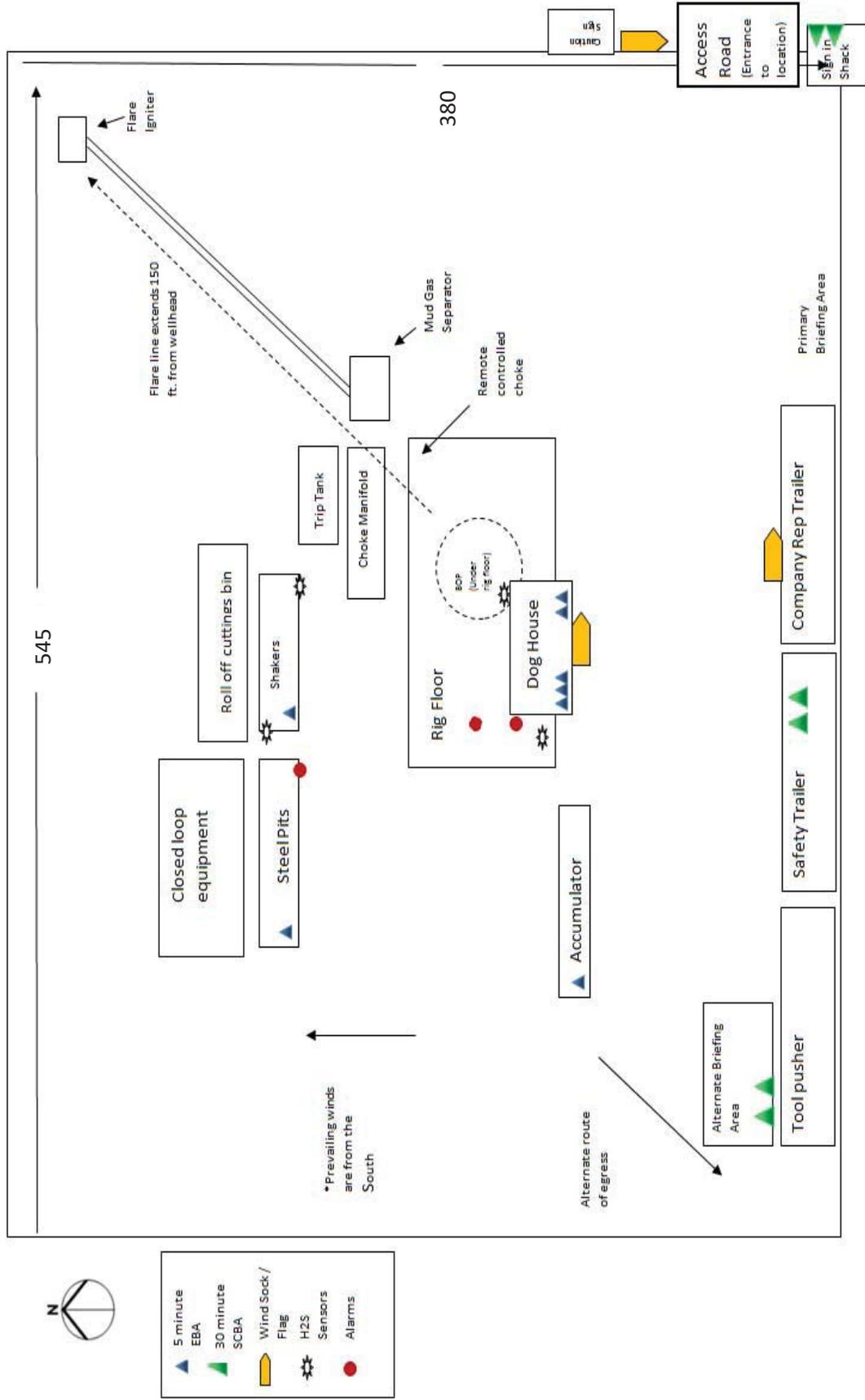
- 1. Use of a degasser
- 2. Use of a zinc based mud treatment
- 3. Increasing mud weight

Public Safety - Emergency Assistance

<u>Agency</u>	<u>Telephone Number</u>
Eddy County Sheriff's Department	575-887-7551
Carlsbad Fire Department	575-885-3125
Carlsbad Medical Center	575-887-4100
Eddy County Emergency Management	575-885-3581
Poison Control Center	800-222-1222



H₂S Preparedness and Contingency Plan Summary



Chevron U.S.A. Inc. (CUSA)
SUNDRY ATTACHMENT: SPUDDER RIG

DATA OPERATOR NAME: Chevron U.S.A. Inc.

1. SUMMARY OF REQUEST:

CUSA respectfully requests approval for the following operations for the surface hole in the drill plan:

1. Utilize a spudder rig to pre-set surface casing for time and cost savings.

2. Description of Operations

1. Spudder rig will move in to drill the surface hole and pre-set surface casing on the well.
 - a. After drilling the surface hole section, the spudder rig will run casing and cement following all the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
 - b. The spudder rig will utilize fresh water-based mud to drill the surface hole to TD. Solids control will be handled entirely on a closed loop basis. No earth pits will be used.
2. The wellhead will be installed and then tested offline after the WOC time has been reached.
3. An abandonment cap at the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on one wing-valve.
 - a. A means for intervention will be maintained while the drilling rig is not over the well.
4. Spudder rig operations are expected to take 2-3 days per well on the pad.
5. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
6. Drilling operations will begin with a larger rig and a BOP stack equal to or greater than the pressure rating that was permitted will be nipped up and tested on the wellhead before drilling operations resume on each well.
 - a. The larger rig will move back onto the location within 90 days from the point at which the wells are secured and the spudder rig is moved off location.
 - b. The BLM will be contacted / notified 24 hours before the larger rig moves back on the pre-set locations.
7. CUSA will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
8. Once the rig is removed, CUSA will secure the wellhead area by placing a guard rail around the cellar area.

Chevron SND 10 15 Scull Fed Com 001 3H Rev0 kFc 04Dec18 Proposal Geodetic Report (Def Plan)



Report Date: December 04, 2018 - 05:59 PM
Client: Chevron
Field: NM Eddy County (NAD 27)
Structure / Slot: Chevron SND 10 15 Scull Fed Com 001 Pad / 3H
Well: SND 10 15 Scull Fed Com 001 3H
Borehole: SND 10 15 Scull Fed Com 001 3H
UWI / API#: Unknown / Unknown
Survey Name: Chevron SND 10 15 Sally Scull Fed Com 001 3H Rev0 kFc 04Dec18
Survey Date: November 30, 2018
Tort / AHD / DDI / ERD Ratio: 119.996' / 11691.398 ft / 6.485' / 1.330
Coordinate Reference System: NAD27 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 14' 15.40765", W 103° 46' 14.39519"
Location Grid N/E Y/X: N 450618.000 RUS, E 673974.000 RUS
CRS Grid Convergence Angle: 0.3002°
Grid Scale Factor: 0.99994376
Version / Patch: 2.10.753.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.710 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB = 28ft
TVD Reference Elevation: 3481.000 ft above MSL
Seabed / Ground Elevation: 3453.000 ft above MSL
Magnetic Declination: 6.831 °
Total Gravity Field Strength: 998.4398mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47964.675 nT
Magnetic Dip Angle: 59.955°
Declination Date: November 30, 2018
Magnetic Declination Model: HDGM 2018
North Reference: Grid North
Grid Convergence Used: 0.3002°
Total Corr Mag North->Grid North: 6.5313°
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (RUS)	Easting (RUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Surface	0.00	0.00	35.00	0.00	0.00	0.00	0.00	N/A	450618.00	673974.00	N 32 14 15.41	W 103 46 14.40
	100.00	0.00	67.69	100.00	0.00	0.00	0.00	0.00	450618.00	673974.00	N 32 14 15.41	W 103 46 14.40
	200.00	0.00	67.69	200.00	0.00	0.00	0.00	0.00	450618.00	673974.00	N 32 14 15.41	W 103 46 14.40
	300.00	0.00	67.69	300.00	0.00	0.00	0.00	0.00	450618.00	673974.00	N 32 14 15.41	W 103 46 14.40
	400.00	0.00	67.69	400.00	0.00	0.00	0.00	0.00	450618.00	673974.00	N 32 14 15.41	W 103 46 14.40
	500.00	0.00	67.69	500.00	0.00	0.00	0.00	0.00	450618.00	673974.00	N 32 14 15.41	W 103 46 14.40
	600.00	0.00	67.69	600.00	0.00	0.00	0.00	0.00	450618.00	673974.00	N 32 14 15.41	W 103 46 14.40
	700.00	0.00	67.69	700.00	0.00	0.00	0.00	0.00	450618.00	673974.00	N 32 14 15.41	W 103 46 14.40
Surface Casing	800.00	0.00	67.69	800.00	0.00	0.00	0.00	0.00	450618.00	673974.00	N 32 14 15.41	W 103 46 14.40
KOP, Build 1.5"/100ft	900.00	0.00	67.69	900.00	0.00	0.00	0.00	0.00	450618.00	673974.00	N 32 14 15.41	W 103 46 14.40
	1000.00	1.50	67.69	999.99	-0.49	0.50	1.21	1.50	450618.50	673975.21	N 32 14 15.41	W 103 46 14.38
	1100.00	3.00	67.69	1099.91	-1.96	1.99	4.84	1.50	450619.99	673978.84	N 32 14 15.43	W 103 46 14.34
	1200.00	4.50	67.69	1199.69	-4.41	4.47	10.89	1.50	450622.47	673984.89	N 32 14 15.45	W 103 46 14.27
	1300.00	6.00	67.69	1299.27	-7.34	7.94	19.36	1.50	450626.94	673993.36	N 32 14 15.49	W 103 46 14.17
	1400.00	7.50	67.69	1398.57	-12.25	12.40	30.23	1.50	450630.40	674004.23	N 32 14 15.53	W 103 46 14.04
	1500.00	9.00	67.69	1497.54	-17.63	17.85	43.51	1.50	450635.85	674017.51	N 32 14 15.58	W 103 46 13.89
	1600.00	10.50	67.69	1596.09	-23.98	24.28	59.17	1.50	450642.28	674033.17	N 32 14 15.64	W 103 46 13.70
	1700.00	12.00	67.69	1694.16	-31.29	31.68	77.22	1.50	450649.68	674051.22	N 32 14 15.72	W 103 46 13.49
	1800.00	13.50	67.69	1791.70	-39.57	40.06	97.64	1.50	450658.06	674071.63	N 32 14 15.80	W 103 46 13.26
Hold	1899.86	15.00	67.69	1888.48	-48.78	49.39	120.38	1.50	450667.39	674094.37	N 32 14 15.89	W 103 46 12.99
	1900.00	15.00	67.69	1888.62	-48.79	49.40	120.41	0.00	450667.40	674094.41	N 32 14 15.89	W 103 46 12.99
	2000.00	15.00	67.69	1985.21	-58.49	59.23	144.35	0.00	450677.22	674118.35	N 32 14 15.99	W 103 46 12.71
	2100.00	15.00	67.69	2081.80	-68.20	69.05	168.30	0.00	450687.05	674142.29	N 32 14 16.08	W 103 46 12.43
	2200.00	15.00	67.69	2178.40	-77.90	78.87	192.24	0.00	450696.87	674166.23	N 32 14 16.18	W 103 46 12.15
	2300.00	15.00	67.69	2274.99	-87.60	88.69	216.18	0.00	450706.69	674190.17	N 32 14 16.27	W 103 46 11.87
	2400.00	15.00	67.69	2371.58	-97.30	98.52	240.12	0.00	450716.51	674214.11	N 32 14 16.37	W 103 46 11.59
	2500.00	15.00	67.69	2468.18	-107.00	108.34	264.06	0.00	450726.33	674238.05	N 32 14 16.47	W 103 46 11.31
	2600.00	15.00	67.69	2564.77	-116.70	118.16	288.00	0.00	450736.16	674261.99	N 32 14 16.56	W 103 46 11.04
	2700.00	15.00	67.69	2661.36	-126.41	127.99	311.95	0.00	450745.98	674285.93	N 32 14 16.66	W 103 46 10.76
	2800.00	15.00	67.69	2757.96	-136.11	137.81	335.89	0.00	450755.80	674309.87	N 32 14 16.75	W 103 46 10.48
	2900.00	15.00	67.69	2854.55	-145.81	147.63	359.83	0.00	450765.62	674333.81	N 32 14 16.85	W 103 46 10.20
	3000.00	15.00	67.69	2951.14	-155.51	157.45	383.77	0.00	450775.45	674357.75	N 32 14 16.95	W 103 46 9.92
Castile	3040.23	15.00	67.69	2990.00	-159.41	161.41	393.40	0.00	450779.40	674367.38	N 32 14 16.98	W 103 46 9.81
	3100.00	15.00	67.69	3047.74	-165.21	167.28	407.71	0.00	450785.27	674381.69	N 32 14 17.04	W 103 46 9.64
	3200.00	15.00	67.69	3144.33	-174.91	177.10	431.65	0.00	450795.09	674405.63	N 32 14 17.14	W 103 46 9.36
	3300.00	15.00	67.69	3240.93	-184.62	186.92	455.60	0.00	450804.91	674429.57	N 32 14 17.23	W 103 46 9.08
	3400.00	15.00	67.69	3337.52	-194.32	196.75	479.54	0.00	450814.73	674453.51	N 32 14 17.33	W 103 46 8.80
	3500.00	15.00	67.69	3434.11	-204.02	206.57	503.48	0.00	450824.56	674477.45	N 32 14 17.43	W 103 46 8.52
	3600.00	15.00	67.69	3530.71	-213.72	216.39	527.42	0.00	450834.38	674501.39	N 32 14 17.52	W 103 46 8.24
	3700.00	15.00	67.69	3627.30	-223.42	226.21	551.36	0.00	450844.20	674525.33	N 32 14 17.62	W 103 46 7.96
	3800.00	15.00	67.69	3723.89	-233.12	236.04	575.30	0.00	450854.02	674549.27	N 32 14 17.71	W 103 46 7.68
	3900.00	15.00	67.69	3820.49	-242.82	245.86	599.25	0.00	450863.85	674573.21	N 32 14 17.81	W 103 46 7.40
	4000.00	15.00	67.69	3917.08	-252.53	255.68	623.19	0.00	450873.67	674597.15	N 32 14 17.91	W 103 46 7.12
	4100.00	15.00	67.69	4013.67	-262.23	265.51	647.13	0.00	450883.49	674621.09	N 32 14 18.00	W 103 46 6.85
	4200.00	15.00	67.69	4110.27	-271.93	275.33	671.07	0.00	450893.31	674645.03	N 32 14 18.10	W 103 46 6.57
	4300.00	15.00	67.69	4206.86	-281.63	285.15	695.01	0.00	450903.14	674668.97	N 32 14 18.19	W 103 46 6.29
	4400.00	15.00	67.69	4303.45	-291.33	294.98	718.95	0.00	450912.96	674692.91	N 32 14 18.29	W 103 46 6.01
	4500.00	15.00	67.69	4400.05	-301.03	304.80	742.90	0.00	450922.78	674716.85	N 32 14 18.39	W 103 46 5.73
	4600.00	15.00	67.69	4496.64	-310.74	314.62	766.84	0.00	450932.60	674740.79	N 32 14 18.48	W 103 46 5.45
Lamar	4665.59	15.00	67.69	4560.00	-317.10	321.06	782.54	0.00	450939.05	674756.50	N 32 14 18.54	W 103 46 5.27
Bell Canyon	4698.72	15.00	67.69	4592.00	-320.31	324.32	790.47	0.00	450942.30	674764.43	N 32 14 18.58	W 103 46 5.17
	4700.00	15.00	67.69	4593.23	-320.44	324.44	790.78	0.00	450942.42	674764.73	N 32 14 18.58	W 103 46 5.17
Intermediate Casing	4707.00	15.00	67.69	4600.00	-321.12	325.13	792.46	0.00	450944.11	674766.41	N 32 14 18.58	W 103 46 5.15
	4800.00	15.00	67.69	4689.83	-330.14	334.27	814.72	0.00	450952.25	674788.67	N 32 14 18.67	W 103 46 4.89
	4900.00	15.00	67.69	4786.42	-339.84	344.09	838.66	0.00	450962.07	674812.61	N 32 14 18.77	W 103 46 4.61
	5000.00	15.00	67.69	4883.02	-349.54	353.91	862.60	0.00	450971.89	674836.55	N 32 14 18.86	W 103 46 4.33
	5100.00	15.00	67.69	4979.61	-359.24	363.74	886.55	0.00	450981.71	674860.49	N 32 14 18.96	W 103 46 4.05
	5200.00	15.00	67.69	5076.20	-368.94	373.56	910.49	0.00	450991.54	674884.43	N 32 14 19.06	W 103 46 3.77
	5300.00	15.00	67.69	5172.80	-378.65	383.38	934.43	0.00	451001.36	674908.37	N 32 14 19.15	W 103 46 3.49
	5400.00	15.00	67.69	5269.39	-388.35	393.20	958.37	0.00	451011.18	674932.31	N 32 14 19.25	W 103 46 3.21
	5500.00	15.00	67.69	5365.98	-398.05	403.03	982.31	0.00	451021.00	674956.25	N 32 14 19.34	W 103 46 2.93
Cherry Canyon	5597.33	15.00	67.69	5460.00	-407.49	412.59	1006.62	0.00	451030.82	674979.56	N 32 14 19.44	W 103 46 2.66
	5600.00	15.00	67.69	5462.58	-407.75	412.85	1006.25	0.00	451030.83	674980.20	N 32 14 19.44	W 103 46 2.66
Drop 1.5"/100ft	5638.29	15.00	67.69	5499.56	-411.47	416.61	1015.42	0.00	451034.59	674989.36	N 32 14 19.48	W 103 46 2.55
	5700.00	14.07	67.69	5559.30	-417.27	422.49	1029.75	1.50	451040.46	675003.69	N 32 14 19.53	W 103 46 2.38
	5800.00	12.57	67.69	5656.60	-425.91	431.24	1051.07	1.50	451049.21	675025.01	N 32 14 19.62	W 103 46 2.13
	5900.00	11.07	67.69	5754.48	-433.59	439.01	1070.02	1.50	451056.99	675043.96	N 32 14 19.70	W 103 46 1.91
	6000.00	9.57	67.69	5852.86	-440.31	445.81	1086.60	1.50	451063.79	675060.53	N 32 14 19.76	W 103 46 1.72
	6100.00	8.07	67.69	5951.67	-446.06	451.63	1100.79	1.50	451069.61	675074.72	N 32 14 19.82	W 103 46 1.55
	6200.00	6.57	67.69	6050.85	-450.83	456.47	1112.58	1.50	451074.45	675086.51	N 32 14 19.87	W 103 46 1.41
	6300.00	5.07	67.69	6150.33	-454.64	460.32	1121.96	1.50	451078.30	675095.90	N 32 14 19.90	W 103 46 1.31

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (%/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	8200.00	0.00	67.69	8049.89	-460.25	466.00	1135.80	0.00	451083.97	675109.73	N 32 14 19.96 W	103 46 1.14
	8300.00	0.00	67.69	8149.89	-460.25	466.00	1135.80	0.00	451083.97	675109.73	N 32 14 19.96 W	103 46 1.14
	8368.15	0.00	67.69	8216.04	-460.25	466.00	1135.80	0.00	451083.97	675109.73	N 32 14 19.96 W	103 46 1.14
KOP, Curve 10"/100ft	8400.00	3.19	179.71	8249.88	-459.36	465.11	1135.80	10.00	451083.99	675109.74	N 32 14 19.95 W	103 46 1.14
	8500.00	13.19	179.71	8348.73	-445.14	450.90	1135.88	10.00	451068.87	675109.81	N 32 14 19.81 W	103 46 1.14
	8600.00	23.19	179.71	8443.62	-413.97	419.73	1136.04	10.00	451037.70	675109.97	N 32 14 19.50 W	103 46 1.14
FTP Cross	8610.00	24.19	179.71	8452.77	-409.95	415.71	1136.06	10.00	451033.69	675109.99	N 32 14 19.46 W	103 46 1.14
Avalon	8635.73	26.76	179.71	8476.00	-398.89	404.65	1136.11	10.00	451022.62	675110.05	N 32 14 19.35 W	103 46 1.14
	8700.00	33.19	179.71	8531.65	-366.80	372.55	1136.28	10.00	450990.53	675110.21	N 32 14 19.04 W	103 46 1.14
	8800.00	43.19	179.71	8610.15	-305.06	310.81	1136.59	10.00	450928.80	675110.52	N 32 14 18.42 W	103 46 1.14
	8900.00	53.19	179.71	8676.74	-230.62	236.38	1136.97	10.00	450854.36	675110.90	N 32 14 17.69 W	103 46 1.14
	9000.00	63.19	179.71	8729.39	-145.75	151.51	1137.40	10.00	450769.50	675111.33	N 32 14 16.85 W	103 46 1.14
	9100.00	73.19	179.71	8766.50	-53.03	58.79	1137.87	10.00	450676.79	675111.81	N 32 14 15.93 W	103 46 1.14
	9200.00	83.19	179.71	8786.95	44.73	-38.96	1138.37	10.00	450579.04	675112.30	N 32 14 14.96 W	103 46 1.14
Hold	9268.15	90.00	179.71	8791.00	112.71	-106.95	1138.72	10.00	450511.06	675112.65	N 32 14 14.29 W	103 46 1.14
	9300.00	90.00	179.71	8791.00	144.57	-138.80	1138.88	0.00	450479.21	675112.81	N 32 14 13.97 W	103 46 1.14
	9400.00	90.00	179.71	8791.00	244.57	-238.80	1139.39	0.00	450379.21	675113.32	N 32 14 12.99 W	103 46 1.15
	9500.00	90.00	179.71	8791.00	344.57	-338.80	1139.90	0.00	450279.22	675113.83	N 32 14 12.00 W	103 46 1.15
	9600.00	90.00	179.71	8791.00	444.57	-438.80	1140.41	0.00	450179.23	675114.34	N 32 14 11.01 W	103 46 1.15
	9700.00	90.00	179.71	8791.00	544.57	-538.80	1140.92	0.00	450079.23	675114.85	N 32 14 10.02 W	103 46 1.15
	9800.00	90.00	179.71	8791.00	644.57	-638.80	1141.42	0.00	449979.23	675115.36	N 32 14 9.03 W	103 46 1.15
	9900.00	90.00	179.71	8791.00	744.57	-738.79	1141.93	0.00	449879.25	675115.87	N 32 14 8.04 W	103 46 1.15
	10000.00	90.00	179.71	8791.00	844.57	-838.79	1142.44	0.00	449779.26	675116.38	N 32 14 7.05 W	103 46 1.15
	10100.00	90.00	179.71	8791.00	944.57	-938.79	1142.95	0.00	449679.26	675116.89	N 32 14 6.06 W	103 46 1.15
	10200.00	90.00	179.71	8791.00	1044.57	-1038.79	1143.46	0.00	449579.27	675117.39	N 32 14 5.07 W	103 46 1.15
	10300.00	90.00	179.71	8791.00	1144.57	-1138.79	1143.97	0.00	449479.28	675117.90	N 32 14 4.08 W	103 46 1.15
	10400.00	90.00	179.71	8791.00	1244.57	-1238.79	1144.48	0.00	449379.28	675118.41	N 32 14 3.09 W	103 46 1.15
	10500.00	90.00	179.71	8791.00	1344.57	-1338.79	1144.99	0.00	449279.29	675118.92	N 32 14 2.10 W	103 46 1.15
	10600.00	90.00	179.71	8791.00	1444.57	-1438.79	1145.50	0.00	449179.30	675119.43	N 32 14 1.11 W	103 46 1.15
	10700.00	90.00	179.71	8791.00	1544.57	-1538.78	1146.01	0.00	449079.31	675119.94	N 32 14 0.12 W	103 46 1.15
	10800.00	90.00	179.71	8791.00	1644.57	-1638.78	1146.52	0.00	448979.31	675120.45	N 32 13 59.13 W	103 46 1.15
	10900.00	90.00	179.71	8791.00	1744.57	-1738.78	1147.02	0.00	448879.32	675120.96	N 32 13 58.14 W	103 46 1.15
	11000.00	90.00	179.71	8791.00	1844.57	-1838.78	1147.53	0.00	448779.33	675121.47	N 32 13 57.15 W	103 46 1.15
	11100.00	90.00	179.71	8791.00	1944.57	-1938.78	1148.04	0.00	448679.33	675121.98	N 32 13 56.16 W	103 46 1.15
	11200.00	90.00	179.71	8791.00	2044.57	-2038.78	1148.55	0.00	448579.34	675122.48	N 32 13 55.17 W	103 46 1.15
	11300.00	90.00	179.71	8791.00	2144.57	-2138.78	1149.06	0.00	448479.35	675122.99	N 32 13 54.18 W	103 46 1.15
	11400.00	90.00	179.71	8791.00	2244.57	-2238.78	1149.57	0.00	448379.35	675123.50	N 32 13 53.19 W	103 46 1.15
	11500.00	90.00	179.71	8791.00	2344.57	-2338.77	1150.08	0.00	448279.36	675124.01	N 32 13 52.20 W	103 46 1.15
	11600.00	90.00	179.71	8791.00	2444.57	-2438.77	1150.59	0.00	448179.37	675124.52	N 32 13 51.22 W	103 46 1.15
	11700.00	90.00	179.71	8791.00	2544.57	-2538.77	1151.10	0.00	448079.38	675125.03	N 32 13 50.23 W	103 46 1.15
	11800.00	90.00	179.71	8791.00	2644.57	-2638.77	1151.61	0.00	447979.38	675125.54	N 32 13 49.24 W	103 46 1.15
	11900.00	90.00	179.71	8791.00	2744.57	-2738.77	1152.12	0.00	447879.39	675126.05	N 32 13 48.25 W	103 46 1.15
	12000.00	90.00	179.71	8791.00	2844.57	-2838.77	1152.62	0.00	447779.40	675126.56	N 32 13 47.26 W	103 46 1.15
	12100.00	90.00	179.71	8791.00	2944.57	-2938.77	1153.13	0.00	447679.40	675127.07	N 32 13 46.27 W	103 46 1.15
	12200.00	90.00	179.71	8791.00	3044.57	-3038.77	1153.64	0.00	447579.41	675127.58	N 32 13 45.28 W	103 46 1.15
	12300.00	90.00	179.71	8791.00	3144.57	-3138.76	1154.15	0.00	447479.42	675128.09	N 32 13 44.29 W	103 46 1.15
	12400.00	90.00	179.71	8791.00	3244.57	-3238.76	1154.66	0.00	447379.43	675128.60	N 32 13 43.30 W	103 46 1.15
	12500.00	90.00	179.71	8791.00	3344.57	-3338.76	1155.17	0.00	447279.43	675129.11	N 32 13 42.31 W	103 46 1.15
	12600.00	90.00	179.71	8791.00	3444.57	-3438.76	1155.68	0.00	447179.44	675129.62	N 32 13 41.32 W	103 46 1.15
	12700.00	90.00	179.71	8791.00	3544.57	-3538.76	1156.19	0.00	447079.45	675130.13	N 32 13 40.33 W	103 46 1.15
	12800.00	90.00	179.71	8791.00	3644.57	-3638.76	1156.70	0.00	446979.45	675130.64	N 32 13 39.34 W	103 46 1.15
	12900.00	90.00	179.71	8791.00	3744.57	-3738.76	1157.21	0.00	446879.46	675131.15	N 32 13 38.35 W	103 46 1.15
	13000.00	90.00	179.71	8791.00	3844.57	-3838.75	1157.72	0.00	446779.47	675131.66	N 32 13 37.36 W	103 46 1.15
	13100.00	90.00	179.71	8791.00	3944.57	-3938.75	1158.22	0.00	446679.48	675132.17	N 32 13 36.37 W	103 46 1.15
	13200.00	90.00	179.71	8791.00	4044.57	-4038.75	1158.73	0.00	446579.48	675132.68	N 32 13 35.38 W	103 46 1.15
	13300.00	90.00	179.71	8791.00	4144.57	-4138.75	1159.24	0.00	446479.49	675133.19	N 32 13 34.39 W	103 46 1.15
	13400.00	90.00	179.71	8791.00	4244.57	-4238.75	1159.75	0.00	446379.50	675133.70	N 32 13 33.40 W	103 46 1.15
	13500.00	90.00	179.71	8791.00	4344.57	-4338.75	1160.26	0.00	446279.50	675134.21	N 32 13 32.41 W	103 46 1.15
	13600.00	90.00	179.71	8791.00	4444.57	-4438.75	1160.77	0.00	446179.51	675134.72	N 32 13 31.42 W	103 46 1.15
	13700.00	90.00	179.71	8791.00	4544.57	-4538.75	1161.28	0.00	446079.52	675135.23	N 32 13 30.43 W	103 46 1.15
	13800.00	90.00	179.71	8791.00	4644.57	-4638.74	1161.79	0.00	445979.53	675135.74	N 32 13 29.44 W	103 46 1.15
	13900.00	90.00	179.71	8791.00	4744.57	-4738.74	1162.30	0.00	445879.53	675136.25	N 32 13 28.45 W	103 46 1.15
	14000.00	90.00	179.71	8791.00	4844.57	-4838.74	1162.81	0.00	445779.54	675136.76	N 32 13 27.46 W	103 46 1.15
	14100.00	90.00	179.71	8791.00	4944.57	-4938.74	1163.32	0.00	445679.55	675137.27	N 32 13 26.47 W	103 46 1.16
	14200.00	90.00	179.71	8791.00	5044.57	-5038.74	1163.82	0.00	445579.55	675137.78	N 32 13 25.48 W	103 46 1.16
	14300.00	90.00	179.71	8791.00	5144.57	-5138.74	1164.33	0.00	445479.56	675138.29	N 32 13 24.49 W	103 46 1.16
	14400.00	90.00	179.71	8791.00	5244.57	-5238.74	1164.84	0.00	445379.57	675138.80	N 32 13 23.50 W	103 46 1.16
	14500.00	90.00	179.71	8791.00	5344.57	-5338.74	1165.35	0.00	445279.58	675139.31	N 32 13 22.51 W	103 46 1.16
	14600.00	90.00	179.71	8791.00	5444.57	-5438.73	1165.86	0.00	445179.58	675139.82	N 32 13 21.52 W	103 46 1.16
	14700.00	90.00	179.71	8791.00	5544.57	-5538.73	1166.37	0.00	445079.59	675140.33	N 32 13 20.53 W	103 46 1.16
	14800.00	90.00	179.71	8791.00	5644.57	-5638.73	1166.88	0.00	444979.60	675140.84	N 32 13 19.54 W	103 46 1.16
	14900.00	90.00	179.71	8791.00	5744.57	-5738.73	1167.39	0.00	444879.60	675141.35	N 32 13 18.55 W	103 46 1.16
	15000.00	90.00	179.71	8791.00	5844.57	-5838.73	1167.90	0.00	444779.61	675141.86	N 32 13 17.56 W	103 46 1.16
	15100.00	90.00	179.71	8791.00	5944.57	-5938.73	1168.41	0.00	444679.62	675142.37	N 32 13 16.57 W	103 46 1.16
	15200.00	90.00	179.71	8791.00	6044.57	-6038.73	1168.92	0.00	444579.63	675142.88	N 32 13 15.58 W	103 46 1.16
	15300.00	90.00	179.71	8791.00	6144.57	-6138.73	1169.42</					

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
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Survey Type:

Def Plan

Survey Error Model:
Survey Program:

ISCWSA Rev 3 *** 3-D 97.071% Confidence 3.0000 sigma

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	28.000	1/100.000	30.000	30.000		B001Ma_MWD+HDGM-Depth Only	SND 10 15 Sally Scull Fed Com 001 3H / Chevron SND 10 15 Sally Scull Fed Com 001 3H Rev0 kFc
	1	28.000	19158.907	1/100.000	30.000	30.000		B001Ma_MWD+HDGM	SND 10 15 Sally Scull Fed Com 001 3H / Chevron SND 10 15 Sally