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: (575) 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 | [2] Pool Code | [3] Pool Name |
|---|---|---|
| 30-025-53505 | 98270 | WC-025 G-08 S253216D; UPPER WOLFCAMP |

| [4] Property Code | [5] Property Name | [6] Well Number |
|---|---|---|
| 336240 | CO PANTHER 10 15 FED COM P604 | 613H |

| [7] OGRID No. | [8] Operator Name | [9] Elevation |
|---|---|---|
| 4323 | CHEVRON U.S.A. INC. | 3476' |

## [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~~ L | 3 | 25 SOUTH | 32 EAST, N.M.P.M. | | 1435' | SOUTH | 1318' | WEST | LEA |

## [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 |
|---|---|---|---|---|---|---|---|---|---|
| M | 15 | 25 SOUTH | 32 EAST, N.M.P.M. | | 25' | SOUTH | 330' | WEST | LEA |

| [12] Dedicated Acres | [13] Joint or Infill | [14] Consolidation Code | [15] Order No. |
|---|---|---|---|
| 640 | INFILL | | DEFINING WELL CO PANTHER 10 15 FED COM P604 614H |

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]
***CO PANTHER 10 15 FED COM P604***
***613H WELL***
X = 706,333' (NAD27 NM E)
Y = 421,137'
LAT. 32.156066° N (NAD27)
LONG. 103.666605° W
X = 747,519' (NAD83/2011 NM E)
Y = 421,195'
LAT. 32.156189° N (NAD83/2011)
LONG. 103.667082° W

***PROPOSED FIRST TAKE POINT***
X = 705,321' (NAD27 NM E)
Y = 419,668'
LAT. 32.152045° N (NAD27)
LONG. 103.669906° W
X = 746,506' (NAD83/2011 NM E)
Y = 419,726'
LAT. 32.152168° N (NAD83/2011)
LONG. 103.670383° W

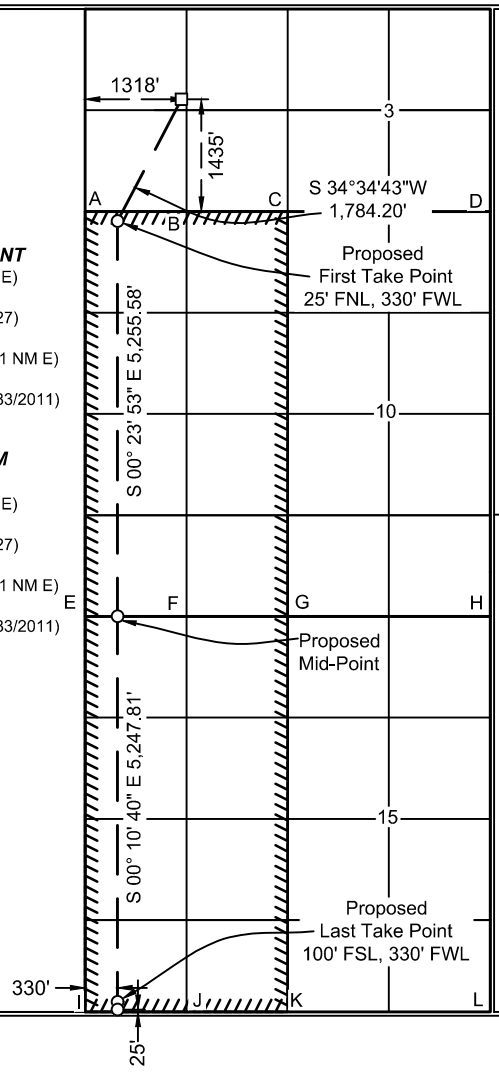
***PROPOSED MID-POINT***
X = 705,357' (NAD27 NM E)
Y = 414,412'
LAT. 32.137598° N (NAD27)
LONG. 103.669893° W
X = 746,543' (NAD83/2011 NM E)
Y = 414,470'
LAT. 32.137722° N (NAD83/2011)
LONG. 103.670369° W

***PROPOSED LAST TAKE POINT***
X = 705,373' (NAD27 NM E)
Y = 409,240'
LAT. 32.123378° N (NAD27)
LONG. 103.669944° W
X = 746,559' (NAD83/2011 NM E)
Y = 409,297'
LAT. 32.123502° N (NAD83/2011)
LONG. 103.670419° W

***PROPOSED BOTTOM HOLE LOCATION***
X = 705,374' (NAD27 NM E)
Y = 409,165'
LAT. 32.123172° N (NAD27)
LONG. 103.669945° W
X = 746,559' (NAD83/2011 NM E)
Y = 409,222'
LAT. 32.123296° N (NAD83/2011)
LONG. 103.670420° W

CORNER COORDINATES TABLE (NAD 27)

A - X=704990.58, Y=419689.78
B - X=706322.72, Y=419702.10
C - X=707654.87, Y=419714.41
D - X=710319.17, Y=419739.04
E - X=705027.26, Y=414410.73
F - X=706359.40, Y=414423.56
G - X=707691.54, Y=414436.40
H - X=710355.81, Y=414462.06
I - X=705043.63, Y=409136.71
J - X=706370.63, Y=409148.31
K - X=707697.63, Y=409159.91
L - X=710351.63, Y=409183.11




## [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.*

Cindy Herrera-Murillo — Signature
08/09/2022 — Date

Cindy Herrera-Murillo — Printed Name

eeof@chevron.com — E-mail Address

## [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.*

02/10/2022 — Date of Survey

Signature and Seal of Professional Surveyor:

ROBERT L. LASTRAPES — NEW MEXICO — 23006 — PROFESSIONAL SURVEYOR — 04/19/2022

Certificate Number

Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

**APPLICATION FOR PERMIT TO DRILL OR REENTER**

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone

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

8. Lease Name and Well No.

2. Name of Operator

9. API Well No.
30-025-53505

| 3a. Address | 3b. Phone No. *(include area code)* | 10. Field and Pool, or Exploratory |
|---|---|---|
| | | |

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

At surface

At proposed prod. zone

11. Sec., T. R. M. or Blk. and Survey or Area

| 14. Distance in miles and direction from nearest town or post office* | 12. County or Parish | 13. State |
|---|---|---|
| | | |

| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) | 16. No of acres in lease | 17. Spacing Unit dedicated to this well |
|---|---|---|
| | | |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. | 19. Proposed Depth | 20. BLM/BIA Bond No. in file |
| | | |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.) | 22. Approximate date work will start* | 23. Estimated duration |
| | | |

24. Attachments

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

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

| 25. Signature | Name *(Printed/Typed)* | Date |
|---|---|---|
| | | |

Title

| Approved by *(Signature)* | Name *(Printed/Typed)* | Date |
|---|---|---|
| | | |
| Title | Office | |
| | | |

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.

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

**Approval Date: 08/09/2024**

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

# NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

## Section 1 – Plan Description
**Effective May 25, 2021**

**I. Operator:** _____Chevron USA_____ **OGRID:** ____4323_____ **Date:** _8_/_5/_22

**II. Type:** ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

**III. Well(s):** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

| Well Name | API | ULSTR | Footages | Anticipated Oil BBL/D | Anticipated Gas MCF/D | Anticipated Produced Water BBL/D |
|---|---|---|---|---|---|---|
| CO PANTHER 4 34 FED P604 #507H | *Pending* | UL :L Sec 3, T25S-R32E | 1435' FSL, 1258' FWL | 1500 BBL/D | 2124 MCF/D | 2000 BBL/D |
| CO PANTHER 4 34 FED P604 #604H | *Pending* | UL:L Sec 3, T25S-R32E | 1435 FSL, 1298' FWL | 1500 BBL/D | 2124 MCF/D | 2000 BBL/D |
| CO PANTHER 4 34 FED P604 #605H | *Pending* | UL:K Sec 3, T25S-R32E | 1435' FSL, 1338' FWL | 1500 BBL/D | 4419 MCF/D | 2000 BBL/D |
| CO PANTHER 4 34 FED P604 #606H | *Pending* | UL:K Sec 3, T25S-R32E | 1435' FSL, 1378' FWL | 1500 BBL/D | 4419 MCF/D | 2000 BBL/D |
| CO PANTHER 10 15 FED P509 #H | *Pending* | UL:L Sec 3, T25S-R32E | 1435' FSL, 1278' FWL | 1500 BBL/D | 4419 MCF/D | 2000 BBL/D |
| CO PANTHER 10 15 FED P604 #613H | *Pending* | UL:D Sec 3, T25S-R32E | 1435' FSL, 1318' FWL | 1500 BBL/D | 4419 MCF/D | 2000 BBL/D |
| CO PANTHER 10 15 FED P604 #614H | *Pending* | UL:K Sec 3, T25S-R32E | 1435' FSL, 1358' FEL | 1500 BBL/D | 4419 MCF/D | 2000 BBL/D |
| CO PANTHER 10 15 FED P604 #615H | *Pending* | UL:K Sec 4, T25S-R32E | 1435' FSL, 1398' FEL | 1500 BBL/D | 4419 MCF/D | 2000 BBL/D |

**IV. Central Delivery Point Name:** _____CO PANTHER_CTB_____ [See 19.15.27.9(D)(1) NMAC]

**V. Anticipated Schedule:** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

| Well Name | API | Spud Date | TD Reached Date | Completion Commencement Date | Initial Flow Back Date | First Production Date |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| CO PANTHER 4 34 FED P604 #507H | *Pending* | 12/2023 | N/A | N/A | N/A | N/A |
| CO PANTHER 4 34 FED P604 #604H | *Pending* | 12/2023 | N/A | N/A | N/A | N/A |
| CO PANTHER 4 34 FED P604 #605H | *Pending* | 12/2023 | N/A | N/A | N/A | N/A |
| CO PANTHER 4 34 FED P604 #606H | *Pending* | 12/2023 | N/A | N/A | N/A | N/A |
| CO PANTHER 10 15 FED P509 #H | *Pending* | 12/2023 | N/A | N/A | N/A | N/A |
| CO PANTHER 10 15 FED P604 #613H | *Pending* | 12/2023 | N/A | N/A | N/A | N/A |
| CO PANTHER 10 15 FED P604 #614H | *Pending* | 12/2023 | N/A | N/A | N/A | N/A |
| CO PANTHER 10 15 FED P604 #615H | *Pending* | 12/2023 | N/A | N/A | N/A | N/A |

**VI. Separation Equipment:** ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

**VII. Operational Practices:** ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

**VIII. Best Management Practices:** ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

## Section 2 – Enhanced Plan

**EFFECTIVE APRIL 1, 2022**

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

**IX. Anticipated Natural Gas Production:**

| Well | API | Anticipated Average Natural Gas Rate MCF/D | Anticipated Volume of Natural Gas for the First Year MCF |
|---|---|---|---|
| | | | |
| | | | |

**X. Natural Gas Gathering System (NGGS):**

| Operator | System | ULSTR of Tie-in | Anticipated Gathering Start Date | Available Maximum Daily Capacity of System Segment Tie-in |
|---|---|---|---|---|
| | | | | |
| | | | | |

**XI. Map.** ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

**XII. Line Capacity.** The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

**XIII. Line Pressure.** Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

**XIV. Confidentiality:** ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

## Section 3 - Certifications

**Effective May 25, 2021**

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system. ***If Operator checks this box, Operator will select one of the following:***

**Well Shut-In.** ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

**Venting and Flaring Plan.** ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- **(a)** power generation on lease;
- **(b)** power generation for grid;
- **(c)** compression on lease;
- **(d)** liquids removal on lease;
- **(e)** reinjection for underground storage;
- **(f)** reinjection for temporary storage;
- **(g)** reinjection for enhanced oil recovery;
- **(h)** fuel cell production; and
- **(i)** other alternative beneficial uses approved by the division.

## Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

**(a)** Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

**(b)** Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

**I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.**

| | |
|---|---|
| Signature: | Cindy Herrera-Murillo |
| Printed Name: | Cindy Herrera-Murillo |
| Title: | Sr HSE Regulatory affairs Coordinator |
| E-mail Address: | eeof@chevron.com |
| Date: | 08/05/2022 |
| Phone: | 575-263-0431 |

**OIL CONSERVATION DIVISION**

**(Only applicable when submitted as a standalone form)**

| | |
|---|---|
| Approved By: | |
| Title: | |
| Approval Date: | |
| Conditions of Approval: | |

**VI. Separation Equipment:**
Separation equipment installed at each Chevron facility is designed for maximum anticipated throughput and pressure to minimize waste. Separation equipment is designed and built according to ASME Sec VIII Div I to ensure gas is separated from liquid streams according to projected production.

**VII./VIII. Operational & Best Management Practices:**
1. General Requirements for Venting and Flaring of Natural Gas:
- In all circumstances, Chevron will flare rather than vent unless flaring is technically infeasible and venting of natural gas will avoid a risk of an immediate and substantial adverse impact on safety, public health, or the environment.
- Chevron installs and operates vapor recovery units (VRUs) in new facilities to minimize venting and flaring. If a VRU experiences operating issues, it is quickly assessed so that action can be taken to return the VRU to operation or, if necessary, facilities are shut-in to reduce the venting or flaring of natural gas.

2. During Drilling Operations:
- Flare stacks will be located a minimum of 110 feet from the nearest surface hole location.
- If an emergency or malfunction occurs, gas will be flared or vented to avoid a risk of an immediate and substantial adverse impact on public health, safety or the environment and be properly reported to the NMOCD pursuant to 19.15.27.8.G.
- Natural gas is captured or combusted if technically feasible using best industry practices and control technologies, such as the use of separators (e.g., Sand Commanders) during normal drilling and completions operations.

3. During Completions:
- Chevron typically does not complete traditional flowback, instead Chevron will flow produced oil, water, and gas to a centralized tank battery and continuously recover salable quality gas. If Chevron completes traditional flowback, Chevron conducts reduced emission completions as required by 40 CFR 60.5375a by routing gas to a gas flow line as soon as practicable once there is enough gas to operate a separator. Venting does not occur once there is enough gas to operate a separator
- Normally, during completions a flare is not on-site. A Snubbing Unit will have a flare on-site, and the flare volume will be estimated.
- If natural gas does not meet pipeline quality specification, the gas is sampled twice per week until the gas meets the specifications.

4. During Production:
- An audio, visual and olfactory (AVO) inspection will be performed daily (at minimum) for active wells and facilities to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC. Inactive, temporarily abandoned, or shut-in wells and facilities will be inspected weekly. Inspection records will be kept for a minimum of five years and will be available upon request by the division.
- Monitor manual liquid unloading for wells on-site, takes all reasonable actions to achieve a stabilized rate and pressure at the earliest practical time and takes reasonable actions to minimize venting to the maximum extent practicable.
- In all circumstances, Chevron will flare rather than vent unless flaring is technically infeasible and venting of natural gas will avoid a risk of an immediate and substantial adverse impact on safety, public health, or the environment.
- Chevron's design for new facilities utilizes air-activated pneumatic controllers and pumps.
- If natural gas does not meet pipeline quality specification, the gas is sampled twice per week until the gas meets the specifications.
- Chevron does not produce oil or gas until all flowlines, tank batteries, and oil/gas takeaway are installed, tested, and determined operational.

5. Performance Standards

- Equipment installed at each facility is designed for maximum anticipated throughput and pressure to minimize waste. Tank pressure relief systems utilize a soft seated or metal seated PSVs, as appropriate, which are both designed to not leak.
- Flare stack has been designed for proper size and combustion efficiency. New flares will have a continuous pilot and will be located at least 100 feet from the well and storage tanks and will be securely anchored.
- New tanks will be equipped with an automatic gauging system.
- An audio, visual and olfactory (AVO) inspection will be performed daily (at minimum) for active wells and facilities to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC. Inactive, temporarily abandoned, or shut-in wells and facilities will be inspected weekly. Inspection records will be kept for a minimum of five years and will be available upon request by the division.

6. Measurement or Estimation of Vented and Flared Natural Gas

- Chevron estimates or measures the volume of natural gas that is vented, flared, or beneficially used during drilling, operations, regardless of the reason or authorization for such venting or flaring.
- Where technically practicable, Chevron will install meters on flares installed after May 25, 2021. Meters will conform to industry standards. Bypassing the meter will only occur for inspecting and servicing of the meter.

**Operator Name:** CHEVRON USA INCORPORATED

**Well Name:** CO PANTHER 10 15 FED COM P604 **Well Number:** 613H

**Pressure Rating (PSI):** 5M **Rating Depth:** 12101

**Equipment:** Chevron respectfully request to vary from the Onshore Order 2 where it states: (A full BOP Test) shall be performed: when initially installed and whenever any seal subject to test pressure is broken. We propose to break test if able to finish the next hole section within 21 days of the previous full BOP test. No BOP components nor any break will ever surpass 21 days between testing. A break test will consist of a 250 psi low / 5,000 psi high for 10 min each test against the connection that was broken when skidding the rig. Upon the first nipple up of the pad a full BOP test will be performed. A full BOP test will be completed prior to drilling the production lateral sections unless the BOP connection was not broken prior to drilling that hole section (example: drilling straight from production into production liner hole section). A break test will only be performed on operations where BLM documentation states a 5M or less BOP can be utilized.

**Requesting Variance?** YES

**Variance request:** Chevron respectfully 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

**Testing Procedure:** The stack will be tested as specified in the attached testing requirements. Batch drilling of the surface, production, and production liner will take place. A full BOP test will be performed per hole section, unless approval from BLM is received otherwise (see variance request ). Flex choke hose will be used for all wells on the pad (see attached specs and variance). BOP test pressures and other documented tests may be recorded and documented via utilization of the IPT 'Suretec' Digital BOP Test Method in lieu of the standard test chart. In the event the IPT system is unavailable, the standard test chart will be used.

**Choke Diagram Attachment:**

BLM_5M_Choke_Manifold_Diagram_20220110065854.pdf

BLM_Choke_Hose_Test_Specs_and_Pressure_Test_Continental_20220110065906.pdf

**BOP Diagram Attachment:**

NM_Slim_Hole_Wellhead_6650_psi_UH_S_20220110065919.pdf

BLM_5M_Annular_10M_Rams_Stackup_and_Test_Plan_20220110065934.pdf

Sundry_Break_Testing_and_WOC_500_psi_Panther_20220802151408.pdf

## Section 3 - Casing

| Casing ID | String Type | Hole Size | Csg Size | Condition | Standard | Tapered String | Top Set MD | Bottom Set MD | Top Set TVD | Bottom Set TVD | Top Set MSL | Bottom Set MSL | Calculated casing length MD | Grade | Weight | Joint Type | Collapse SF | Burst SF | Joint SF Type | Joint SF | Body SF Type | Body SF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SURFACE | 16 | 13.375 | NEW | API | N | 0 | 1025 | 0 | 1025 | 3476 | 2451 | 1025 | J-55 | 54.5 | ST&C | 3.61 | 1.94 | BUOY | 15.27 | BUOY | 15.27 |
| 2 | INTERMEDIATE | 12.25 | 9.625 | NEW | API | N | 0 | 4724 | 0 | 4684 | 3477 | -1208 | 4724 | L-80 | 40 | BUTT | 2.2 | 2.01 | BUOY | 4.89 | BUOY | 4.89 |
| 3 | PRODUCTION | 8.75 | 7.0 | NEW | API | N | 0 | 11632 | 0 | 11529 | 3479 | -8053 | 11632 | OTHER | 29 | OTHER - BLUE | 2.4 | 2.33 | BUOY | 2.78 | BUOY | 2.78 |

**Operator Name:** CHEVRON USA INCORPORATED

**Well Name:** CO PANTHER 10 15 FED COM P604 **Well Number:** 613H

| Casing ID | String Type | Hole Size | Csg Size | Condition | Standard | Tapered String | Top Set MD | Bottom Set MD | Top Set TVD | Bottom Set TVD | Top Set MSL | Bottom Set MSL | Calculated casing length MD | Grade | Weight | Joint Type | Collapse SF | Burst SF | Joint SF Type | Joint SF | Body SF Type | Body SF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | PRODUCTION | 6.125 | 5.0 | NEW | API | N | 11332 | 12082 | 11082 | 11929 | -7606 | -8453 | 750 | P-110 | 18 | OTHER - W513 | 1.54 | 2.21 | BUOY | 1.71 | BUOY | 1.71 |
| 5 | PRODUCTION | 6.125 | 4.5 | NEW | API | N | 12082 | 23045 | 11929 | 11970 | -8453 | -8494 | 10963 | P-110 | 11.6 | OTHER - W521 | 1.54 | 2.21 | BUOY | 1.71 | BUOY | 1.71 |

**Casing Attachments**

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

13.375_54.5ppf_J55_BTC_20220110070322.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

9.625_40.0lb_L80IC_BTC_20220721154102.pdf

**Operator Name:** CHEVRON USA INCORPORATED

**Well Name:** CO PANTHER 10 15 FED COM P604 **Well Number:** 613H

**Casing Attachments**

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

7_29ppf_TN110SS_TSH_Blue_20220810063928.pdf

**Casing ID:** 4 **String** PRODUCTION

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

5_18ppf_P110_Flush_W513_20220810064038.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

4.5_11.6ppf_P110IC_W521_20220810064128.pdf

## Section 4 - Cement

**Operator Name:** CHEVRON USA INCORPORATED

**Well Name:** CO PANTHER 10 15 FED COM P604 **Well Number:** 613H

| String Type | Lead/Tail | Stage Tool Depth | Top MD | Bottom MD | Quantity(sx) | Yield | Density | Cu Ft | Excess% | Cement type | Additives |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SURFACE | Lead | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | NA | NA |
| SURFACE | Tail | | 0 | 1025 | 669 | 1.33 | 14.8 | 890 | 25 | CLASS C | Extender, Antifoam, Retarder, Viscosifier |
| INTERMEDIATE | Lead | | 0 | 3724 | 585 | 2.49 | 11.9 | 1458 | 25 | Class C | Extender, Antifoam, Retarder, Viscosifier |
| INTERMEDIATE | Tail | | 3724 | 4724 | 323 | 1.33 | 14.8 | 429 | 25 | Class C | Extender, Antifoam, Retarder, Viscosifier |
| PRODUCTION | Lead | | 0 | 10632 | 747 | 2.49 | 11.9 | 1859 | 25 | Class C | Extender, Antifoam, Retarder, Viscosifier |
| PRODUCTION | Lead | | 10632 | 11632 | 141 | 1.33 | 14.8 | 188 | 25 | CLASS C | Extender, Antifoam, Retarder |
| PRODUCTION | Tail | | 11332 | 23045 | 1037 | 1.33 | 14.8 | 1379 | 25 | Class H | Extender, Antifoam, Retarder |

## Section 5 - Circulating Medium

**Mud System Type:** Closed

**Will an air or gas system be Used?** NO

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

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

**Describe what will be on location to control well or mitigate other conditions:** A closed system will by utilized consisting of above ground steel tanks. All wastes accumulated during drilling operations will be contained in a portable trash cage and removed from location and deposited in an approved sanitary landfill. Sanitary wastes will be contained in a chemical porta-toilet and then hauled to an approved sanitary landfill. All fluids and cuttings will be disposed of in accordance with New Mexico Oil Conservation Division rules and regulations.

**Describe the mud monitoring system utilized:** A mud test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, 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 in compliance with Onshore Order # 2. A weighting agent and lost circulating material (LCM) will be onsite to mitigate pressure or lost circulation as hole conditions dictate.

## Circulating Medium Table

**Operator Name:** CHEVRON USA INCORPORATED

**Well Name:** CO PANTHER 10 15 FED COM P604 **Well Number:** 613H

| Top Depth | Bottom Depth | Mud Type | Min Weight (lbs/gal) | Max Weight (lbs/gal) | Density (lbs/cu ft) | Gel Strength (lbs/100 sqft) | PH | Viscosity (CP) | Salinity (ppm) | Filtration (cc) | Additional Characteristics |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 1025 | SPUD MUD | 8.3 | 8.9 | | | | | | | VIS: 26-36<br>FILTRATE: 15-25 |
| 1025 | 4724 | OTHER : BRINE | 8.9 | 10 | | | | | | | VIS: 26-36<br>FILTRATE: 15-25<br>-Saturated brine would be used through salt sections. |
| 4724 | 11632 | OTHER : WBM/Brine | 8.7 | 9 | | | | | | | Viscosity: 26-36<br>Filtrate: 15-25 |
| 11632 | 23045 | OIL-BASED MUD | 10 | 12 | | | | | | | Viscosity: 50-70<br>Filtrate: 5-10<br>-Due to wellbore instability in the lateral, may exceed the MW weight window needed to maintain overburden stresses |

## Section 6 - Test, Logging, Coring

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

Production tests are not planned.
Logs run include: Gamma Ray Log, Directional Survey
Coring Operations are not planned.

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

GAMMA RAY LOG,DIRECTIONAL SURVEY,

**Coring operation description for the well:**

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

## Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 7551 **Anticipated Surface Pressure:** 4888

**Anticipated Bottom Hole Temperature(F):** 165

**Anticipated abnormal pressures, temperatures, or potential geologic hazards?** YES

**Describe:**

Pressure ramp begins in the bottom of the thirdbone spring. PP increases to approximately 12.0 ppg once into the wolfcamp.

**Contingency Plans geoharzards description:**

"- Casing design accounts for pressure ramp.
- Mud weighting agents available on location to increase drilling fluid density.
- BOP, choke, and well control drills.
- BOP functioned and pressure tested"

**Operator Name:** CHEVRON USA INCORPORATED

**Well Name:** CO PANTHER 10 15 FED COM P604 **Well Number:** 613H

**Contingency Plans geohazards**

Chevron_Standard_H2S_Contingency_Plan_2022_20220727154440.pdf

**Hydrogen Sulfide drilling operations plan required?** NO

**Hydrogen sulfide drilling operations**

## Section 8 - Other Information

**Proposed horizontal/directional/multi-lateral plan submission:**

DefPlan100ft_COPanther1015FEDCOMP604613H_R0_20220810065050.pdf

9point_CO_Panther_P604_613H_20220810065101.pdf

**Other proposed operations facets description:**

- Authorization to use the spudder rig to spud the well and set surface and intermediate casing. The drilling rig will move in less than 90 days to continue drilling operations. Rig layouts attached.
***Drilling plan attached contains a contingency casing and cement program.
Batch drilling will be employed whereby the drilling rig may drill a specific hole section on all wells prior to moving to the next hole section.
Shallow rig may be utilized to drill surface or intermediate sections. The production section will not be drilled by the shallow rig.
Wait on cement time will use the tail slurry and will follow rules as laid out in Onshore Order 2 (if sundry approved)

**Other proposed operations facets attachment:**

8_well_rig_layout_patterson2_20220722074159.pdf

CUSA_Spudder_Rig_Data_20220722074244.pdf

Operational_Best_Management_Practices_20220110074724.pdf

CO_P604_Gas_Management_Plan___NMOCD_20220810122238.pdf

**Other Variance attachment:**

Schlumberger

# CO Panther 10 15 FED COM P604 613H R0 mdv 09May22 Proposal
## Geodetic Report
**(Def Plan)**

Chevron

| | | | |
|---|---|---|---|
| **Report Date:** | May 13, 2022 - 02:55 PM | **Survey / DLS Computation:** | Minimum Curvature / Lubinski |
| **Client:** | Chevron | **Vertical Section Azimuth:** | 179.710 ° (Grid North) |
| **Field:** | NM Lea County (NAD 27) | **Vertical Section Origin:** | 0.000 ft, 0.000 ft |
| **Structure / Slot:** | Chevron CO 604 Panther Pad / 613H | **TVD Reference Datum:** | RKB = 28ft |
| **Well:** | CO Panther 10 15 FED COM P604 613H | **TVD Reference Elevation:** | 3504.000 ft above MSL |
| **Borehole:** | CO Panther 10 15 FED COM P604 613H | **Seabed / Ground Elevation:** | 3476.000 ft above MSL |
| **UWI / API#:** | Unknown / Unknown | **Magnetic Declination:** | 6.366 ° |
| **Survey Name:** | CO Panther 10 15 FED COM P604 613H R0 mdv 09May22 | **Total Gravity Field Strength:** | 998.4285mgn (9.80665 Based) |
| **Survey Date:** | May 11, 2022 | **Gravity Model:** | GARM |
| **Tort / AHD / DDI / ERD Ratio:** | 115.053 ° / 12330.322 ft / 6.432 / 1.019 | **Total Magnetic Field Strength:** | 47539.532 nT |
| **Coordinate Reference System:** | NAD27 New Mexico State Plane, Eastern Zone, US Feet | **Magnetic Dip Angle:** | 59.737 ° |
| **Location Lat / Long:** | N 32° 9' 21.83741", W 103° 39' 59.78304" | **Declination Date:** | May 11, 2022 |
| **Location Grid N/E Y/X:** | N 421137.000 ftUS, E 706333.000 ftUS | **Magnetic Declination Model:** | HDGM 2022 |
| **CRS Grid Convergence Angle:** | 0.3549 ° | **North Reference:** | Grid North |
| **Grid Scale Factor:** | 0.99995785 | **Grid Convergence Used:** | 0.3549 ° |
| **Version / Patch:** | 2.10.829.1 | **Total Corr Mag North->Grid North:** | 6.0113 ° |
| | | **Local Coord Referenced To:** | Well Head |

| 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 ° ' ") |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Surface | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | N/A | 421137.00 | 706333.00 | N 32 9 21.84 | W 103 39 59.78 |
| | 100.00 | 0.00 | 224.31 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 421137.00 | 706333.00 | N 32 9 21.84 | W 103 39 59.78 |
| | 200.00 | 0.00 | 224.31 | 200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 421137.00 | 706333.00 | N 32 9 21.84 | W 103 39 59.78 |
| | 300.00 | 0.00 | 224.31 | 300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 421137.00 | 706333.00 | N 32 9 21.84 | W 103 39 59.78 |
| | 400.00 | 0.00 | 224.31 | 400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 421137.00 | 706333.00 | N 32 9 21.84 | W 103 39 59.78 |
| | 500.00 | 0.00 | 224.31 | 500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 421137.00 | 706333.00 | N 32 9 21.84 | W 103 39 59.78 |
| | 600.00 | 0.00 | 224.31 | 600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 421137.00 | 706333.00 | N 32 9 21.84 | W 103 39 59.78 |
| | 700.00 | 0.00 | 224.31 | 700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 421137.00 | 706333.00 | N 32 9 21.84 | W 103 39 59.78 |
| | 800.00 | 0.00 | 224.31 | 800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 421137.00 | 706333.00 | N 32 9 21.84 | W 103 39 59.78 |
| *Rustler (RSLR)* | *806.00* | *0.00* | *224.31* | *806.00* | *0.00* | *0.00* | *0.00* | *0.00* | *421137.00* | *706333.00* | *N 32 9 21.84* | *W 103 39 59.78* |
| | 900.00 | 0.00 | 224.31 | 900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 421137.00 | 706333.00 | N 32 9 21.84 | W 103 39 59.78 |
| *Rustler Los Medaños Member* | *999.00* | *0.00* | *224.31* | *999.00* | *0.00* | *0.00* | *0.00* | *0.00* | *421137.00* | *706333.00* | *N 32 9 21.84* | *W 103 39 59.78* |
| Build 1.5°/100ft | 1000.00 | 0.00 | 224.31 | 1000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 421137.00 | 706333.00 | N 32 9 21.84 | W 103 39 59.78 |
| *Rustler Los Medaños M-1 Unit* | *1030.00* | *0.45* | *224.31* | *1030.00* | *0.08* | *-0.08* | *-0.08* | *1.50* | *421136.92* | *706332.92* | *N 32 9 21.84* | *W 103 39 59.78* |
| | 1100.00 | 1.50 | 224.31 | 1099.99 | 0.93 | -0.94 | -0.91 | 1.50 | 421136.06 | 706332.09 | N 32 9 21.83 | W 103 39 59.79 |
| *Saldo (SLDO)* | *1128.02* | *1.92* | *224.31* | *1128.00* | *1.53* | *-1.54* | *-1.50* | *1.50* | *421135.47* | *706331.50* | *N 32 9 21.82* | *W 103 39 59.80* |
| | 1200.00 | 3.00 | 224.31 | 1199.91 | 3.73 | -3.75 | -3.66 | 1.50 | 421133.25 | 706329.34 | N 32 9 21.80 | W 103 39 59.83 |
| | 1300.00 | 4.50 | 224.31 | 1299.69 | 8.38 | -8.43 | -8.23 | 1.50 | 421128.58 | 706324.77 | N 32 9 21.75 | W 103 39 59.88 |
| | 1400.00 | 6.00 | 224.31 | 1399.27 | 14.90 | -14.97 | -14.62 | 1.50 | 421122.03 | 706318.38 | N 32 9 21.69 | W 103 39 59.95 |
| | 1500.00 | 7.50 | 224.31 | 1498.57 | 23.27 | -23.38 | -22.83 | 1.50 | 421113.62 | 706310.17 | N 32 9 21.61 | W 103 40 0.05 |
| | 1600.00 | 9.00 | 224.31 | 1597.54 | 33.48 | -33.65 | -32.85 | 1.50 | 421103.35 | 706300.15 | N 32 9 21.51 | W 103 40 0.17 |
| Hold | 1666.35 | 10.00 | 224.31 | 1662.97 | 41.28 | -41.48 | -40.50 | 1.50 | 421095.52 | 706292.50 | N 32 9 21.43 | W 103 40 0.26 |
| | 1700.00 | 10.00 | 224.31 | 1696.11 | 45.44 | -45.66 | -44.58 | 0.00 | 421091.34 | 706288.42 | N 32 9 21.39 | W 103 40 0.30 |
| | 1800.00 | 10.00 | 224.31 | 1794.60 | 57.79 | -58.08 | -56.71 | 0.00 | 421078.92 | 706276.30 | N 32 9 21.27 | W 103 40 0.45 |
| | 1900.00 | 10.00 | 224.31 | 1893.08 | 70.15 | -70.50 | -68.83 | 0.00 | 421066.50 | 706264.17 | N 32 9 21.14 | W 103 40 0.59 |
| | 2000.00 | 10.00 | 224.31 | 1991.56 | 82.51 | -82.92 | -80.96 | 0.00 | 421054.08 | 706252.05 | N 32 9 21.02 | W 103 40 0.73 |
| | 2100.00 | 10.00 | 224.31 | 2090.04 | 94.87 | -95.34 | -93.08 | 0.00 | 421041.67 | 706239.92 | N 32 9 20.90 | W 103 40 0.87 |
| | 2200.00 | 10.00 | 224.31 | 2188.53 | 107.22 | -107.76 | -105.21 | 0.00 | 421029.25 | 706227.80 | N 32 9 20.78 | W 103 40 1.01 |
| | 2300.00 | 10.00 | 224.31 | 2287.01 | 119.58 | -120.18 | -117.33 | 0.00 | 421016.83 | 706215.67 | N 32 9 20.66 | W 103 40 1.16 |
| | 2400.00 | 10.00 | 224.31 | 2385.49 | 131.94 | -132.60 | -129.46 | 0.00 | 421004.41 | 706203.55 | N 32 9 20.53 | W 103 40 1.30 |
| | 2500.00 | 10.00 | 224.31 | 2483.97 | 144.30 | -145.02 | -141.58 | 0.00 | 420991.99 | 706191.43 | N 32 9 20.41 | W 103 40 1.44 |
| | 2600.00 | 10.00 | 224.31 | 2582.45 | 156.65 | -157.43 | -153.71 | 0.00 | 420979.57 | 706179.30 | N 32 9 20.29 | W 103 40 1.58 |
| | 2700.00 | 10.00 | 224.31 | 2680.94 | 169.01 | -169.85 | -165.83 | 0.00 | 420967.15 | 706167.18 | N 32 9 20.17 | W 103 40 1.72 |
| | 2800.00 | 10.00 | 224.31 | 2779.42 | 181.37 | -182.27 | -177.96 | 0.00 | 420954.73 | 706155.05 | N 32 9 20.04 | W 103 40 1.87 |
| | 2900.00 | 10.00 | 224.31 | 2877.90 | 193.73 | -194.69 | -190.08 | 0.00 | 420942.32 | 706142.93 | N 32 9 19.92 | W 103 40 2.01 |
| | 3000.00 | 10.00 | 224.31 | 2976.38 | 206.09 | -207.11 | -202.21 | 0.00 | 420929.90 | 706130.80 | N 32 9 19.80 | W 103 40 2.15 |
| | 3100.00 | 10.00 | 224.31 | 3074.87 | 218.44 | -219.53 | -214.33 | 0.00 | 420917.48 | 706118.68 | N 32 9 19.68 | W 103 40 2.29 |
| | 3200.00 | 10.00 | 224.31 | 3173.35 | 230.80 | -231.95 | -226.46 | 0.00 | 420905.06 | 706106.55 | N 32 9 19.56 | W 103 40 2.43 |
| *Castile (CSTL)* | *3220.97* | *10.00* | *224.31* | *3194.00* | *233.39* | *-234.55* | *-229.00* | *0.00* | *420902.46* | *706104.01* | *N 32 9 19.53* | *W 103 40 2.46* |
| | 3300.00 | 10.00 | 224.31 | 3271.83 | 243.16 | -244.37 | -238.58 | 0.00 | 420892.64 | 706094.43 | N 32 9 19.43 | W 103 40 2.58 |
| | 3400.00 | 10.00 | 224.31 | 3370.31 | 255.52 | -256.79 | -250.71 | 0.00 | 420880.22 | 706082.31 | N 32 9 19.31 | W 103 40 2.72 |
| | 3500.00 | 10.00 | 224.31 | 3468.79 | 267.87 | -269.21 | -262.83 | 0.00 | 420867.80 | 706070.18 | N 32 9 19.19 | W 103 40 2.86 |
| | 3600.00 | 10.00 | 224.31 | 3567.28 | 280.23 | -281.63 | -274.96 | 0.00 | 420855.39 | 706058.06 | N 32 9 19.07 | W 103 40 3.00 |
| | 3700.00 | 10.00 | 224.31 | 3665.76 | 292.59 | -294.05 | -287.08 | 0.00 | 420842.97 | 706045.93 | N 32 9 18.95 | W 103 40 3.14 |
| | 3800.00 | 10.00 | 224.31 | 3764.24 | 304.95 | -306.47 | -299.21 | 0.00 | 420830.55 | 706033.81 | N 32 9 18.82 | W 103 40 3.29 |
| | 3900.00 | 10.00 | 224.31 | 3862.72 | 317.30 | -318.88 | -311.33 | 0.00 | 420818.13 | 706021.68 | N 32 9 18.70 | W 103 40 3.43 |
| | 4000.00 | 10.00 | 224.31 | 3961.21 | 329.66 | -331.30 | -323.46 | 0.00 | 420805.71 | 706009.56 | N 32 9 18.58 | W 103 40 3.57 |
| | 4100.00 | 10.00 | 224.31 | 4059.69 | 342.02 | -343.72 | -335.58 | 0.00 | 420793.29 | 705997.43 | N 32 9 18.46 | W 103 40 3.71 |
| | 4200.00 | 10.00 | 224.31 | 4158.17 | 354.38 | -356.14 | -347.71 | 0.00 | 420780.87 | 705985.31 | N 32 9 18.33 | W 103 40 3.85 |
| | 4300.00 | 10.00 | 224.31 | 4256.65 | 366.74 | -368.56 | -359.83 | 0.00 | 420768.46 | 705973.19 | N 32 9 18.21 | W 103 40 3.99 |
| | 4400.00 | 10.00 | 224.31 | 4355.13 | 379.09 | -380.98 | -371.96 | 0.00 | 420756.04 | 705961.06 | N 32 9 18.09 | W 103 40 4.14 |
| | 4500.00 | 10.00 | 224.31 | 4453.62 | 391.45 | -393.40 | -384.08 | 0.00 | 420743.62 | 705948.94 | N 32 9 17.97 | W 103 40 4.28 |
| | 4600.00 | 10.00 | 224.31 | 4552.10 | 403.81 | -405.82 | -396.21 | 0.00 | 420731.20 | 705936.81 | N 32 9 17.85 | W 103 40 4.42 |
| | 4700.00 | 10.00 | 224.31 | 4650.58 | 416.17 | -418.24 | -408.33 | 0.00 | 420718.78 | 705924.69 | N 32 9 17.72 | W 103 40 4.56 |
| *Lamar (LMAR)* | *4758.30* | *10.00* | *224.31* | *4708.00* | *423.37* | *-425.48* | *-415.40* | *0.00* | *420711.54* | *705917.62* | *N 32 9 17.65* | *W 103 40 4.65* |
| *Bell Canyon (BLCN)* | *4793.84* | *10.00* | *224.31* | *4743.00* | *427.76* | *-429.89* | *-419.71* | *0.00* | *420707.13* | *705913.31* | *N 32 9 17.61* | *W 103 40 4.70* |
| | 4800.00 | 10.00 | 224.31 | 4749.06 | 428.52 | -430.66 | -420.46 | 0.00 | 420706.36 | 705912.56 | N 32 9 17.60 | W 103 40 4.70 |
| | 4900.00 | 10.00 | 224.31 | 4847.55 | 440.88 | -443.08 | -432.58 | 0.00 | 420693.94 | 705900.44 | N 32 9 17.48 | W 103 40 4.85 |
| | 5000.00 | 10.00 | 224.31 | 4946.03 | 453.24 | -455.50 | -444.71 | 0.00 | 420681.52 | 705888.31 | N 32 9 17.36 | W 103 40 4.99 |
| | 5100.00 | 10.00 | 224.31 | 5044.51 | 465.60 | -467.91 | -456.83 | 0.00 | 420669.11 | 705876.19 | N 32 9 17.24 | W 103 40 5.13 |
| | 5200.00 | 10.00 | 224.31 | 5142.99 | 477.95 | -480.33 | -468.96 | 0.00 | 420656.69 | 705864.06 | N 32 9 17.11 | W 103 40 5.27 |
| | 5300.00 | 10.00 | 224.31 | 5241.47 | 490.31 | -492.75 | -481.08 | 0.00 | 420644.27 | 705851.94 | N 32 9 16.99 | W 103 40 5.41 |
| | 5400.00 | 10.00 | 224.31 | 5339.96 | 502.67 | -505.17 | -493.21 | 0.00 | 420631.85 | 705839.82 | N 32 9 16.87 | W 103 40 5.56 |
| | 5500.00 | 10.00 | 224.31 | 5438.44 | 515.03 | -517.59 | -505.33 | 0.00 | 420619.43 | 705827.69 | N 32 9 16.75 | W 103 40 5.70 |
| | 5600.00 | 10.00 | 224.31 | 5536.92 | 527.38 | -530.01 | -517.46 | 0.00 | 420607.01 | 705815.57 | N 32 9 16.62 | W 103 40 5.84 |
| | 5700.00 | 10.00 | 224.31 | 5635.40 | 539.74 | -542.43 | -529.58 | 0.00 | 420594.59 | 705803.44 | N 32 9 16.50 | W 103 40 5.98 |
| *Cherry Canyon (CRCN)* | *5709.74* | *10.00* | *224.31* | *5645.00* | *540.95* | *-543.64* | *-530.76* | *0.00* | *420593.38* | *705802.26* | *N 32 9 16.49* | *W 103 40 6.00* |
| | 5800.00 | 10.00 | 224.31 | 5733.89 | 552.10 | -554.85 | -541.71 | 0.00 | 420582.18 | 705791.32 | N 32 9 16.38 | W 103 40 6.12 |
| | 5900.00 | 10.00 | 224.31 | 5832.37 | 564.46 | -567.27 | -553.83 | 0.00 | 420569.76 | 705779.19 | N 32 9 16.26 | W 103 40 6.27 |
| | 6000.00 | 10.00 | 224.31 | 5930.85 | 576.82 | -579.69 | -565.96 | 0.00 | 420557.34 | 705767.07 | N 32 9 16.14 | W 103 40 6.41 |
| | 6100.00 | 10.00 | 224.31 | 6029.33 | 589.17 | -592.11 | -578.08 | 0.00 | 420544.92 | 705754.94 | N 32 9 16.01 | W 103 40 6.55 |
| | 6200.00 | 10.00 | 224.31 | 6127.81 | 601.53 | -604.53 | -590.21 | 0.00 | 420532.50 | 705742.82 | N 32 9 15.89 | W 103 40 6.69 |
| | 6300.00 | 10.00 | 224.31 | 6226.30 | 613.89 | -616.94 | -602.33 | 0.00 | 420520.08 | 705730.70 | N 32 9 15.77 | W 103 40 6.83 |
| | 6400.00 | 10.00 | 224.31 | 6324.78 | 626.25 | -629.36 | -614.46 | 0.00 | 420507.66 | 705718.57 | N 32 9 15.65 | W 103 40 6.98 |
| | 6500.00 | 10.00 | 224.31 | 6423.26 | 638.60 | -641.78 | -626.58 | 0.00 | 420495.24 | 705706.45 | N 32 9 15.53 | W 103 40 7.12 |
| | 6600.00 | 10.00 | 224.31 | 6521.74 | 650.96 | -654.20 | -638.71 | 0.00 | 420482.83 | 705694.32 | N 32 9 15.40 | W 103 40 7.26 |
| | 6700.00 | 10.00 | 224.31 | 6620.23 | 663.32 | -666.62 | -650.83 | 0.00 | 420470.41 | 705682.20 | N 32 9 15.28 | W 103 40 7.40 |
| | 6800.00 | 10.00 | 224.31 | 6718.71 | 675.68 | -679.04 | -662.96 | 0.00 | 420457.99 | 705670.07 | N 32 9 15.16 | W 103 40 7.54 |
| | 6900.00 | 10.00 | 224.31 | 6817.19 | 688.03 | -691.46 | -675.08 | 0.00 | 420445.57 | 705657.95 | N 32 9 15.04 | W 103 40 7.68 |
| | 7000.00 | 10.00 | 224.31 | 6915.67 | 700.39 | -703.88 | -687.21 | 0.00 | 420433.15 | 705645.82 | N 32 9 14.91 | W 103 40 7.83 |
| | 7100.00 | 10.00 | 224.31 | 7014.15 | 712.75 | -716.30 | -699.33 | 0.00 | 420420.73 | 705633.70 | N 32 9 14.79 | W 103 40 7.97 |
| *Brushy Canyon (BCN)* | *7124.21* | *10.00* | *224.31* | *7038.00* | *715.74* | *-719.31* | *-702.27* | *0.00* | *420417.73* | *705630.76* | *N 32 9 14.76* | *W 103 40 8.00* |

| 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 ° ' ") |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7200.00 | 10.00 | 224.31 | 7112.64 | 725.11 | -728.72 | -711.46 | 0.00 | 420408.31 | 705621.58 | N 32 9 14.67 | W 103 40 8.11 |
| | 7300.00 | 10.00 | 224.31 | 7211.12 | 737.47 | -741.14 | -723.58 | 0.00 | 420395.90 | 705609.45 | N 32 9 14.55 | W 103 40 8.25 |
| | 7400.00 | 10.00 | 224.31 | 7309.60 | 749.82 | -753.56 | -735.71 | 0.00 | 420383.48 | 705597.33 | N 32 9 14.43 | W 103 40 8.39 |
| | 7500.00 | 10.00 | 224.31 | 7408.08 | 762.18 | -765.98 | -747.83 | 0.00 | 420371.06 | 705585.20 | N 32 9 14.30 | W 103 40 8.54 |
| | 7600.00 | 10.00 | 224.31 | 7506.57 | 774.54 | -778.39 | -759.96 | 0.00 | 420358.64 | 705573.08 | N 32 9 14.18 | W 103 40 8.68 |
| | 7700.00 | 10.00 | 224.31 | 7605.05 | 786.90 | -790.81 | -772.08 | 0.00 | 420346.22 | 705560.95 | N 32 9 14.06 | W 103 40 8.82 |
| | 7800.00 | 10.00 | 224.31 | 7703.53 | 799.25 | -803.23 | -784.21 | 0.00 | 420333.80 | 705548.83 | N 32 9 13.94 | W 103 40 8.96 |
| Drop .75°/100ft | 7840.19 | 10.00 | 224.31 | 7743.11 | 804.22 | -808.22 | -789.08 | 0.00 | 420328.81 | 705543.96 | N 32 9 13.89 | W 103 40 9.02 |
| | 7900.00 | 9.55 | 224.31 | 7802.05 | 811.45 | -815.49 | -796.17 | 0.75 | 420321.55 | 705536.86 | N 32 9 13.82 | W 103 40 9.10 |
| | 8000.00 | 8.80 | 224.31 | 7900.77 | 822.80 | -826.89 | -807.31 | 0.75 | 420310.14 | 705525.73 | N 32 9 13.70 | W 103 40 9.23 |
| | 8100.00 | 8.05 | 224.31 | 7999.69 | 833.22 | -837.37 | -817.54 | 0.75 | 420299.67 | 705515.50 | N 32 9 13.60 | W 103 40 9.35 |
| | 8200.00 | 7.30 | 224.31 | 8098.80 | 842.73 | -846.92 | -826.86 | 0.75 | 420290.11 | 705506.17 | N 32 9 13.51 | W 103 40 9.46 |
| | 8300.00 | 6.55 | 224.31 | 8198.07 | 851.31 | -855.55 | -835.28 | 0.75 | 420281.49 | 705497.76 | N 32 9 13.42 | W 103 40 9.56 |
| | 8400.00 | 5.80 | 224.31 | 8297.49 | 858.96 | -863.24 | -842.79 | 0.75 | 420273.80 | 705490.25 | N 32 9 13.35 | W 103 40 9.65 |
| | 8500.00 | 5.05 | 224.31 | 8397.04 | 865.69 | -870.00 | -849.39 | 0.75 | 420267.04 | 705483.65 | N 32 9 13.28 | W 103 40 9.73 |
| | 8600.00 | 4.30 | 224.31 | 8496.71 | 871.49 | -875.83 | -855.08 | 0.75 | 420261.21 | 705477.96 | N 32 9 13.22 | W 103 40 9.79 |
| | 8700.00 | 3.55 | 224.31 | 8596.47 | 876.36 | -880.72 | -859.86 | 0.75 | 420256.32 | 705473.18 | N 32 9 13.17 | W 103 40 9.85 |
| *Bone Spring (BSGL)* | *8727.58* | *3.34* | *224.31* | *8624.00* | *877.54* | *-881.91* | *-861.02* | *0.75* | *420255.13* | *705472.02* | *N 32 9 13.16* | *W 103 40 9.86* |
| | 8800.00 | 2.80 | 224.31 | 8696.32 | 880.30 | -884.68 | -863.72 | 0.75 | 420252.36 | 705469.31 | N 32 9 13.14 | W 103 40 9.89 |
| *Upper Avalon (AVU)* | *8845.73* | *2.45* | *224.31* | *8742.00* | *881.79* | *-886.18* | *-865.19* | *0.75* | *420250.86* | *705467.85* | *N 32 9 13.12* | *W 103 40 9.91* |
| | 8900.00 | 2.05 | 224.31 | 8796.23 | 883.30 | -887.70 | -866.68 | 0.75 | 420249.34 | 705466.36 | N 32 9 13.11 | W 103 40 9.93 |
| | 9000.00 | 1.30 | 224.31 | 8896.19 | 885.38 | -889.79 | -868.71 | 0.75 | 420247.25 | 705464.32 | N 32 9 13.09 | W 103 40 9.95 |
| | 9100.00 | 0.55 | 224.31 | 8996.17 | 886.53 | -890.94 | -869.84 | 0.75 | 420246.10 | 705463.20 | N 32 9 13.07 | W 103 40 9.96 |
| Hold | 9172.89 | 0.00 | 224.31 | 9069.06 | 886.77 | -891.19 | -870.08 | 0.75 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| | 9200.00 | 0.00 | 224.31 | 9096.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| *Lower Avalon (AVL)* | *9269.83* | *0.00* | *224.31* | *9166.00* | *886.77* | *-891.19* | *-870.08* | *0.00* | *420245.85* | *705462.96* | *N 32 9 13.07* | *W 103 40 9.97* |
| | 9300.00 | 0.00 | 224.31 | 9196.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| | 9400.00 | 0.00 | 224.31 | 9296.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| | 9500.00 | 0.00 | 224.31 | 9396.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| | 9600.00 | 0.00 | 224.31 | 9496.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| | 9700.00 | 0.00 | 224.31 | 9596.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| | 9800.00 | 0.00 | 224.31 | 9696.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| *First Bone Spring Upper (FBU)* | *9800.83* | *0.00* | *224.31* | *9697.00* | *886.77* | *-891.19* | *-870.08* | *0.00* | *420245.85* | *705462.96* | *N 32 9 13.07* | *W 103 40 9.97* |
| | 9900.00 | 0.00 | 224.31 | 9796.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| | 10000.00 | 0.00 | 224.31 | 9896.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| *First Bone Spring Lower (FBL)* | *10072.83* | *0.00* | *224.31* | *9969.00* | *886.77* | *-891.19* | *-870.08* | *0.00* | *420245.85* | *705462.96* | *N 32 9 13.07* | *W 103 40 9.97* |
| | 10100.00 | 0.00 | 224.31 | 9996.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| | 10200.00 | 0.00 | 224.31 | 10096.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| | 10300.00 | 0.00 | 224.31 | 10196.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| | 10400.00 | 0.00 | 224.31 | 10296.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| *Second Bone Spring Upper (SBU)* | *10413.83* | *0.00* | *224.31* | *10310.00* | *886.77* | *-891.19* | *-870.08* | *0.00* | *420245.85* | *705462.96* | *N 32 9 13.07* | *W 103 40 9.97* |
| | 10500.00 | 0.00 | 224.31 | 10396.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| | 10600.00 | 0.00 | 224.31 | 10496.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| | 10700.00 | 0.00 | 224.31 | 10596.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| | 10800.00 | 0.00 | 224.31 | 10696.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| | 10900.00 | 0.00 | 224.31 | 10796.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| *Second Bone Spring Lower (SBL)* | *10904.83* | *0.00* | *224.31* | *10801.00* | *886.77* | *-891.19* | *-870.08* | *0.00* | *420245.85* | *705462.96* | *N 32 9 13.07* | *W 103 40 9.97* |
| | 11000.00 | 0.00 | 224.31 | 10896.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| | 11100.00 | 0.00 | 224.31 | 10996.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| | 11200.00 | 0.00 | 224.31 | 11096.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| | 11300.00 | 0.00 | 224.31 | 11196.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| | 11400.00 | 0.00 | 224.31 | 11296.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| | 11500.00 | 0.00 | 224.31 | 11396.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| | 11600.00 | 0.00 | 224.31 | 11496.17 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| KOP, Build 10°/100ft | 11632.89 | 0.00 | 224.31 | 11529.06 | 886.77 | -891.19 | -870.08 | 0.00 | 420245.85 | 705462.96 | N 32 9 13.07 | W 103 40 9.97 |
| *Third Bone Spring (TBS)* | *11642.83* | *0.99* | *183.05* | *11539.00* | *886.86* | *-891.28* | *-870.08* | *10.00* | *420245.76* | *705462.95* | *N 32 9 13.07* | *W 103 40 9.97* |
| | 11700.00 | 6.71 | 183.05 | 11596.02 | 890.69 | -895.11 | -870.29 | 10.00 | 420241.93 | 705462.75 | N 32 9 13.03 | W 103 40 9.97 |
| | 11800.00 | 16.71 | 183.05 | 11693.81 | 910.93 | -915.35 | -871.37 | 10.00 | 420221.69 | 705461.67 | N 32 9 12.83 | W 103 40 9.98 |
| | 11900.00 | 26.71 | 183.05 | 11786.60 | 947.81 | -952.25 | -873.33 | 10.00 | 420184.80 | 705459.70 | N 32 9 12.47 | W 103 40 10.01 |
| | 12000.00 | 36.71 | 183.05 | 11871.56 | 1000.22 | -1004.67 | -876.13 | 10.00 | 420132.38 | 705456.91 | N 32 9 11.95 | W 103 40 10.05 |
| | 12100.00 | 46.71 | 183.05 | 11946.12 | 1066.56 | -1071.03 | -879.66 | 10.00 | 420066.02 | 705453.37 | N 32 9 11.29 | W 103 40 10.09 |
| *Wolfcamp A (WCA)* | *12185.69* | *55.28* | *183.05* | *12000.00* | *1132.98* | *-1137.46* | *-883.21* | *10.00* | *419999.59* | *705449.83* | *N 32 9 10.64* | *W 103 40 10.14* |
| | 12200.00 | 56.71 | 183.05 | 12008.00 | 1144.82 | -1149.31 | -883.84 | 10.00 | 419987.74 | 705449.20 | N 32 9 10.52 | W 103 40 10.15 |
| | 12300.00 | 66.71 | 183.05 | 12055.33 | 1232.61 | -1237.13 | -888.52 | 10.00 | 419899.93 | 705444.52 | N 32 9 9.65 | W 103 40 10.21 |
| | 12400.00 | 76.71 | 183.05 | 12086.68 | 1327.28 | -1331.82 | -893.56 | 10.00 | 419805.24 | 705439.48 | N 32 9 8.71 | W 103 40 10.27 |
| | 12500.00 | 86.71 | 183.05 | 12101.07 | 1425.94 | -1430.51 | -898.82 | 10.00 | 419706.55 | 705434.22 | N 32 9 7.74 | W 103 40 10.34 |
| Landing Point | 12537.83 | 90.49 | 183.05 | 12102.00 | 1463.70 | -1468.27 | -900.84 | 10.00 | 419668.79 | 705432.20 | N 32 9 7.36 | W 103 40 10.37 |
| *FTP Cross* | *12538.56* | *90.49* | *183.05* | *12101.99* | *1464.42* | *-1469.00* | *-900.87* | *0.00* | *419668.06* | *705432.17* | *N 32 9 7.36* | *W 103 40 10.37* |
| | 12600.00 | 90.49 | 183.05 | 12101.46 | 1525.75 | -1530.35 | -904.14 | 0.00 | 419606.72 | 705428.90 | N 32 9 6.75 | W 103 40 10.41 |
| | 12700.00 | 90.49 | 183.05 | 12100.60 | 1625.58 | -1630.20 | -909.47 | 0.00 | 419506.87 | 705423.57 | N 32 9 5.76 | W 103 40 10.48 |
| | 12800.00 | 90.49 | 183.05 | 12099.73 | 1725.41 | -1730.06 | -914.79 | 0.00 | 419407.02 | 705418.25 | N 32 9 4.77 | W 103 40 10.55 |
| | 12900.00 | 90.49 | 183.05 | 12098.87 | 1825.23 | -1829.91 | -920.11 | 0.00 | 419307.17 | 705412.93 | N 32 9 3.79 | W 103 40 10.62 |
| | 13000.00 | 90.49 | 183.05 | 12098.01 | 1925.06 | -1929.77 | -925.43 | 0.00 | 419207.32 | 705407.61 | N 32 9 2.80 | W 103 40 10.69 |
| | 13100.00 | 90.49 | 183.05 | 12097.14 | 2024.88 | -2029.62 | -930.75 | 0.00 | 419107.47 | 705402.29 | N 32 9 1.81 | W 103 40 10.75 |
| | 13200.00 | 90.49 | 183.05 | 12096.28 | 2124.71 | -2129.48 | -936.08 | 0.00 | 419007.62 | 705396.97 | N 32 9 0.82 | W 103 40 10.82 |
| | 13300.00 | 90.49 | 183.05 | 12095.42 | 2224.54 | -2229.33 | -941.40 | 0.00 | 418907.77 | 705391.64 | N 32 8 59.83 | W 103 40 10.89 |
| | 13400.00 | 90.49 | 183.05 | 12094.55 | 2324.36 | -2329.19 | -946.72 | 0.00 | 418807.92 | 705386.32 | N 32 8 58.85 | W 103 40 10.96 |
| | 13500.00 | 90.49 | 183.05 | 12093.69 | 2424.19 | -2429.04 | -952.04 | 0.00 | 418708.07 | 705381.00 | N 32 8 57.86 | W 103 40 11.03 |
| | 13600.00 | 90.49 | 183.05 | 12092.83 | 2524.02 | -2528.89 | -957.36 | 0.00 | 418608.22 | 705375.68 | N 32 8 56.87 | W 103 40 11.10 |
| | 13700.00 | 90.49 | 183.05 | 12091.97 | 2623.84 | -2628.75 | -962.68 | 0.00 | 418508.37 | 705370.36 | N 32 8 55.88 | W 103 40 11.17 |
| | 13800.00 | 90.49 | 183.05 | 12091.10 | 2723.67 | -2728.60 | -968.01 | 0.00 | 418408.52 | 705365.04 | N 32 8 54.90 | W 103 40 11.24 |
| | 13900.00 | 90.49 | 183.05 | 12090.24 | 2823.50 | -2828.46 | -973.33 | 0.00 | 418308.67 | 705359.72 | N 32 8 53.91 | W 103 40 11.31 |
| | 14000.00 | 90.49 | 183.05 | 12089.38 | 2923.32 | -2928.31 | -978.65 | 0.00 | 418208.82 | 705354.39 | N 32 8 52.92 | W 103 40 11.38 |
| | 14100.00 | 90.49 | 183.05 | 12088.51 | 3023.15 | -3028.17 | -983.97 | 0.00 | 418108.97 | 705349.07 | N 32 8 51.93 | W 103 40 11.45 |
| | 14200.00 | 90.49 | 183.05 | 12087.65 | 3122.97 | -3128.02 | -989.29 | 0.00 | 418009.12 | 705343.75 | N 32 8 50.94 | W 103 40 11.51 |
| Turn 2°/100ft | 14297.64 | 90.49 | 183.05 | 12086.81 | 3220.45 | -3225.52 | -994.49 | 0.00 | 417911.62 | 705338.55 | N 32 8 49.98 | W 103 40 11.58 |
| | 14300.00 | 90.49 | 183.00 | 12086.79 | 3222.80 | -3227.88 | -994.61 | 2.00 | 417909.27 | 705338.43 | N 32 8 49.96 | W 103 40 11.58 |
| | 14400.00 | 90.49 | 181.00 | 12085.92 | 3322.71 | -3327.81 | -998.11 | 2.00 | 417809.34 | 705334.93 | N 32 8 48.97 | W 103 40 11.63 |
| Hold | 14469.47 | 90.49 | 179.61 | 12085.33 | 3392.18 | -3397.27 | -998.48 | 2.00 | 417739.88 | 705334.56 | N 32 8 48.28 | W 103 40 11.64 |
| | 14500.00 | 90.49 | 179.61 | 12085.06 | 3422.70 | -3427.80 | -998.28 | 0.00 | 417709.35 | 705334.77 | N 32 8 47.98 | W 103 40 11.64 |
| | 14600.00 | 90.49 | 179.61 | 12084.20 | 3522.70 | -3527.79 | -997.60 | 0.00 | 417609.36 | 705335.44 | N 32 8 46.99 | W 103 40 11.64 |
| | 14700.00 | 90.49 | 179.61 | 12083.34 | 3622.70 | -3627.79 | -996.93 | 0.00 | 417509.37 | 705336.11 | N 32 8 46.00 | W 103 40 11.64 |
| | 14800.00 | 90.49 | 179.61 | 12082.48 | 3722.69 | -3727.78 | -996.26 | 0.00 | 417409.38 | 705336.79 | N 32 8 45.01 | W 103 40 11.64 |
| | 14900.00 | 90.49 | 179.61 | 12081.62 | 3822.69 | -3827.78 | -995.58 | 0.00 | 417309.39 | 705337.46 | N 32 8 44.02 | W 103 40 11.64 |
| | 15000.00 | 90.49 | 179.61 | 12080.76 | 3922.68 | -3927.77 | -994.91 | 0.00 | 417209.40 | 705338.13 | N 32 8 43.03 | W 103 40 11.64 |
| | 15100.00 | 90.49 | 179.61 | 12079.90 | 4022.68 | -4027.76 | -994.24 | 0.00 | 417109.41 | 705338.81 | N 32 8 42.04 | W 103 40 11.64 |
| | 15200.00 | 90.49 | 179.61 | 12079.04 | 4122.68 | -4127.76 | -993.56 | 0.00 | 417009.42 | 705339.48 | N 32 8 41.05 | W 103 40 11.64 |
| | 15300.00 | 90.49 | 179.61 | 12078.18 | 4222.67 | -4227.75 | -992.89 | 0.00 | 416909.43 | 705340.15 | N 32 8 40.06 | W 103 40 11.63 |
| | 15400.00 | 90.49 | 179.61 | 12077.32 | 4322.67 | -4327.75 | -992.22 | 0.00 | 416809.45 | 705340.83 | N 32 8 39.07 | W 103 40 11.63 |
| | 15500.00 | 90.49 | 179.61 | 12076.46 | 4422.66 | -4427.74 | -991.54 | 0.00 | 416709.46 | 705341.50 | N 32 8 38.08 | W 103 40 11.63 |
| | 15600.00 | 90.49 | 179.61 | 12075.60 | 4522.66 | -4527.73 | -990.87 | 0.00 | 416609.47 | 705342.18 | N 32 8 37.09 | W 103 40 11.63 |
| IFP1, Build 2°/100ft | 15669.47 | 90.49 | 179.61 | 12075.00 | 4592.13 | -4597.20 | -990.40 | 0.00 | 416540.00 | 705342.64 | N 32 8 36.41 | W 103 40 11.63 |
| Hold | 15693.69 | 90.98 | 179.61 | 12074.69 | 4616.34 | -4621.41 | -990.24 | 2.00 | 416515.79 | 705342.81 | N 32 8 36.17 | W 103 40 11.63 |
| | 15700.00 | 90.98 | 179.61 | 12074.58 | 4622.65 | -4627.73 | -990.19 | 0.00 | 416509.48 | 705342.85 | N 32 8 36.10 | W 103 40 11.63 |
| | 15800.00 | 90.98 | 179.61 | 12072.88 | 4722.64 | -4727.71 | -989.52 | 0.00 | 416409.50 | 705343.52 | N 32 8 35.12 | W 103 40 11.63 |
| | 15900.00 | 90.98 | 179.61 | 12071.17 | 4822.63 | -4827.69 | -988.85 | 0.00 | 416309.52 | 705344.20 | N 32 8 34.13 | W 103 40 11.63 |
| | 16000.00 | 90.98 | 179.61 | 12069.46 | 4922.61 | -4927.68 | -988.17 | 0.00 | 416209.54 | 705344.87 | N 32 8 33.14 | W 103 40 11.63 |
| | 16100.00 | 90.98 | 179.61 | 12067.76 | 5022.60 | -5027.66 | -987.50 | 0.00 | 416109.56 | 705345.55 | N 32 8 32.15 | W 103 40 11.63 |
| | 16200.00 | 90.98 | 179.61 | 12066.05 | 5122.58 | -5127.64 | -986.82 | 0.00 | 416009.58 | 705346.22 | N 32 8 31.16 | W 103 40 11.63 |

| 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 ° ' ") |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 16300.00 | 90.98 | 179.61 | 12064.35 | 5222.57 | -5227.63 | -986.15 | 0.00 | 415909.61 | 705346.90 | N 32 8 30.17 | W 103 40 11.63 |
| | 16400.00 | 90.98 | 179.61 | 12062.64 | 5322.55 | -5327.61 | -985.47 | 0.00 | 415809.63 | 705347.57 | N 32 8 29.18 | W 103 40 11.63 |
| | 16500.00 | 90.98 | 179.61 | 12060.94 | 5422.54 | -5427.59 | -984.80 | 0.00 | 415709.65 | 705348.25 | N 32 8 28.19 | W 103 40 11.63 |
| | 16600.00 | 90.98 | 179.61 | 12059.23 | 5522.52 | -5527.57 | -984.12 | 0.00 | 415609.67 | 705348.92 | N 32 8 27.20 | W 103 40 11.63 |
| | 16700.00 | 90.98 | 179.61 | 12057.53 | 5622.51 | -5627.56 | -983.45 | 0.00 | 415509.69 | 705349.59 | N 32 8 26.21 | W 103 40 11.63 |
| | 16800.00 | 90.98 | 179.61 | 12055.82 | 5722.49 | -5727.54 | -982.77 | 0.00 | 415409.71 | 705350.27 | N 32 8 25.22 | W 103 40 11.62 |
| | 16900.00 | 90.98 | 179.61 | 12054.11 | 5822.48 | -5827.52 | -982.10 | 0.00 | 415309.73 | 705350.94 | N 32 8 24.23 | W 103 40 11.62 |
| | 17000.00 | 90.98 | 179.61 | 12052.41 | 5922.46 | -5927.51 | -981.43 | 0.00 | 415209.75 | 705351.62 | N 32 8 23.24 | W 103 40 11.62 |
| | 17100.00 | 90.98 | 179.61 | 12050.70 | 6022.45 | -6027.49 | -980.75 | 0.00 | 415109.78 | 705352.29 | N 32 8 22.25 | W 103 40 11.62 |
| | 17200.00 | 90.98 | 179.61 | 12049.00 | 6122.43 | -6127.47 | -980.08 | 0.00 | 415009.80 | 705352.97 | N 32 8 21.26 | W 103 40 11.62 |
| | 17300.00 | 90.98 | 179.61 | 12047.29 | 6222.42 | -6227.46 | -979.40 | 0.00 | 414909.82 | 705353.64 | N 32 8 20.27 | W 103 40 11.62 |
| | 17400.00 | 90.98 | 179.61 | 12045.59 | 6322.41 | -6327.44 | -978.73 | 0.00 | 414809.84 | 705354.32 | N 32 8 19.28 | W 103 40 11.62 |
| | 17500.00 | 90.98 | 179.61 | 12043.88 | 6422.39 | -6427.42 | -978.05 | 0.00 | 414709.86 | 705354.99 | N 32 8 18.30 | W 103 40 11.62 |
| | 17600.00 | 90.98 | 179.61 | 12042.18 | 6522.38 | -6527.41 | -977.38 | 0.00 | 414609.88 | 705355.67 | N 32 8 17.31 | W 103 40 11.62 |
| | 17700.00 | 90.98 | 179.61 | 12040.47 | 6622.36 | -6627.39 | -976.70 | 0.00 | 414509.90 | 705356.34 | N 32 8 16.32 | W 103 40 11.62 |
| MP, Turn 2°/100ft | 17797.92 | 90.98 | 179.61 | 12038.80 | 6720.27 | -6725.30 | -976.04 | 0.00 | 414412.00 | 705357.00 | N 32 8 15.35 | W 103 40 11.62 |
| | 17800.00 | 90.98 | 179.65 | 12038.76 | 6722.35 | -6727.37 | -976.03 | 2.00 | 414409.92 | 705357.01 | N 32 8 15.33 | W 103 40 11.62 |
| Hold | 17807.97 | 90.98 | 179.81 | 12038.63 | 6730.32 | -6735.35 | -975.99 | 2.00 | 414401.95 | 705357.05 | N 32 8 15.25 | W 103 40 11.62 |
| | 17900.00 | 90.98 | 179.81 | 12037.06 | 6822.33 | -6827.36 | -975.70 | 0.00 | 414309.94 | 705357.35 | N 32 8 14.34 | W 103 40 11.62 |
| | 18000.00 | 90.98 | 179.81 | 12035.35 | 6922.32 | -6927.34 | -975.37 | 0.00 | 414209.96 | 705357.67 | N 32 8 13.35 | W 103 40 11.62 |
| | 18100.00 | 90.98 | 179.81 | 12033.64 | 7022.30 | -7027.33 | -975.05 | 0.00 | 414109.98 | 705358.00 | N 32 8 12.36 | W 103 40 11.63 |
| | 18200.00 | 90.98 | 179.81 | 12031.94 | 7122.29 | -7127.31 | -974.72 | 0.00 | 414010.00 | 705358.32 | N 32 8 11.37 | W 103 40 11.63 |
| | 18300.00 | 90.98 | 179.81 | 12030.23 | 7222.27 | -7227.30 | -974.40 | 0.00 | 413910.02 | 705358.64 | N 32 8 10.38 | W 103 40 11.63 |
| | 18400.00 | 90.98 | 179.81 | 12028.52 | 7322.26 | -7327.28 | -974.08 | 0.00 | 413810.04 | 705358.97 | N 32 8 9.39 | W 103 40 11.64 |
| | 18500.00 | 90.98 | 179.81 | 12026.81 | 7422.24 | -7427.27 | -973.75 | 0.00 | 413710.06 | 705359.29 | N 32 8 8.40 | W 103 40 11.64 |
| | 18600.00 | 90.98 | 179.81 | 12025.11 | 7522.23 | -7527.25 | -973.43 | 0.00 | 413610.08 | 705359.61 | N 32 8 7.41 | W 103 40 11.64 |
| | 18700.00 | 90.98 | 179.81 | 12023.40 | 7622.21 | -7627.24 | -973.11 | 0.00 | 413510.10 | 705359.94 | N 32 8 6.42 | W 103 40 11.65 |
| | 18800.00 | 90.98 | 179.81 | 12021.69 | 7722.20 | -7727.22 | -972.78 | 0.00 | 413410.12 | 705360.26 | N 32 8 5.43 | W 103 40 11.65 |
| | 18900.00 | 90.98 | 179.81 | 12019.98 | 7822.18 | -7827.21 | -972.46 | 0.00 | 413310.14 | 705360.59 | N 32 8 4.44 | W 103 40 11.66 |
| | 19000.00 | 90.98 | 179.81 | 12018.28 | 7922.17 | -7927.19 | -972.13 | 0.00 | 413210.16 | 705360.91 | N 32 8 3.45 | W 103 40 11.66 |
| | 19100.00 | 90.98 | 179.81 | 12016.57 | 8022.15 | -8027.18 | -971.81 | 0.00 | 413110.18 | 705361.23 | N 32 8 2.46 | W 103 40 11.66 |
| | 19200.00 | 90.98 | 179.81 | 12014.86 | 8122.14 | -8127.16 | -971.49 | 0.00 | 413010.20 | 705361.56 | N 32 8 1.48 | W 103 40 11.67 |
| | 19300.00 | 90.98 | 179.81 | 12013.16 | 8222.13 | -8227.15 | -971.16 | 0.00 | 412910.22 | 705361.88 | N 32 8 0.49 | W 103 40 11.67 |
| | 19400.00 | 90.98 | 179.81 | 12011.45 | 8322.11 | -8327.13 | -970.84 | 0.00 | 412810.24 | 705362.20 | N 32 7 59.50 | W 103 40 11.67 |
| | 19500.00 | 90.98 | 179.81 | 12009.74 | 8422.10 | -8427.12 | -970.52 | 0.00 | 412710.26 | 705362.53 | N 32 7 58.51 | W 103 40 11.68 |
| | 19600.00 | 90.98 | 179.81 | 12008.03 | 8522.08 | -8527.10 | -970.19 | 0.00 | 412610.28 | 705362.85 | N 32 7 57.52 | W 103 40 11.68 |
| | 19700.00 | 90.98 | 179.81 | 12006.33 | 8622.07 | -8627.09 | -969.87 | 0.00 | 412510.30 | 705363.18 | N 32 7 56.53 | W 103 40 11.68 |
| | 19800.00 | 90.98 | 179.81 | 12004.62 | 8722.05 | -8727.07 | -969.54 | 0.00 | 412410.31 | 705363.50 | N 32 7 55.54 | W 103 40 11.69 |
| | 19900.00 | 90.98 | 179.81 | 12002.91 | 8822.04 | -8827.06 | -969.22 | 0.00 | 412310.33 | 705363.82 | N 32 7 54.55 | W 103 40 11.69 |
| | 20000.00 | 90.98 | 179.81 | 12001.20 | 8922.02 | -8927.04 | -968.90 | 0.00 | 412210.35 | 705364.15 | N 32 7 53.56 | W 103 40 11.69 |
| *Wolfcamp A (WCA)* | *20070.56* | *90.98* | *179.81* | *12000.00* | *8992.57* | *-8997.59* | *-968.67* | *0.00* | *412139.81* | *705364.37* | *N 32 7 52.86* | *W 103 40 11.69* |
| | 20100.00 | 90.98 | 179.81 | 11999.50 | 9022.01 | -9027.03 | -968.57 | 0.00 | 412110.37 | 705364.47 | N 32 7 52.57 | W 103 40 11.70 |
| | 20200.00 | 90.98 | 179.81 | 11997.79 | 9121.99 | -9127.01 | -968.25 | 0.00 | 412010.39 | 705364.79 | N 32 7 51.58 | W 103 40 11.70 |
| | 20300.00 | 90.98 | 179.81 | 11996.08 | 9221.98 | -9227.00 | -967.93 | 0.00 | 411910.41 | 705365.12 | N 32 7 50.59 | W 103 40 11.70 |
| IFP2, Drop 2°/100ft | 20363.42 | 90.98 | 179.81 | 11995.00 | 9285.39 | -9290.41 | -967.72 | 0.00 | 411847.00 | 705365.32 | N 32 7 49.96 | W 103 40 11.70 |
| Hold | 20385.73 | 90.53 | 179.81 | 11994.71 | 9307.69 | -9312.71 | -967.65 | 2.00 | 411824.70 | 705365.39 | N 32 7 49.74 | W 103 40 11.71 |
| | 20400.00 | 90.53 | 179.81 | 11994.57 | 9321.97 | -9326.98 | -967.60 | 0.00 | 411810.43 | 705365.44 | N 32 7 49.60 | W 103 40 11.71 |
| | 20500.00 | 90.53 | 179.81 | 11993.64 | 9421.96 | -9426.98 | -967.28 | 0.00 | 411710.44 | 705365.76 | N 32 7 48.61 | W 103 40 11.71 |
| | 20600.00 | 90.53 | 179.81 | 11992.72 | 9521.96 | -9526.97 | -966.95 | 0.00 | 411610.45 | 705366.09 | N 32 7 47.62 | W 103 40 11.71 |
| | 20700.00 | 90.53 | 179.81 | 11991.79 | 9621.95 | -9626.97 | -966.63 | 0.00 | 411510.46 | 705366.41 | N 32 7 46.63 | W 103 40 11.72 |
| | 20800.00 | 90.53 | 179.81 | 11990.86 | 9721.95 | -9726.96 | -966.31 | 0.00 | 411410.47 | 705366.74 | N 32 7 45.64 | W 103 40 11.72 |
| | 20900.00 | 90.53 | 179.81 | 11989.93 | 9821.94 | -9826.96 | -965.98 | 0.00 | 411310.48 | 705367.06 | N 32 7 44.65 | W 103 40 11.72 |
| | 21000.00 | 90.53 | 179.81 | 11989.00 | 9921.94 | -9926.95 | -965.66 | 0.00 | 411210.48 | 705367.38 | N 32 7 43.67 | W 103 40 11.73 |
| | 21100.00 | 90.53 | 179.81 | 11988.07 | 10021.93 | -10026.95 | -965.34 | 0.00 | 411110.49 | 705367.71 | N 32 7 42.68 | W 103 40 11.73 |
| | 21200.00 | 90.53 | 179.81 | 11987.14 | 10121.93 | -10126.94 | -965.01 | 0.00 | 411010.50 | 705368.03 | N 32 7 41.69 | W 103 40 11.73 |
| | 21300.00 | 90.53 | 179.81 | 11986.21 | 10221.93 | -10226.94 | -964.69 | 0.00 | 410910.51 | 705368.35 | N 32 7 40.70 | W 103 40 11.74 |
| | 21400.00 | 90.53 | 179.81 | 11985.29 | 10321.92 | -10326.93 | -964.37 | 0.00 | 410810.52 | 705368.68 | N 32 7 39.71 | W 103 40 11.74 |
| | 21500.00 | 90.53 | 179.81 | 11984.36 | 10421.92 | -10426.93 | -964.04 | 0.00 | 410710.53 | 705369.00 | N 32 7 38.72 | W 103 40 11.74 |
| | 21600.00 | 90.53 | 179.81 | 11983.43 | 10521.91 | -10526.92 | -963.72 | 0.00 | 410610.54 | 705369.32 | N 32 7 37.73 | W 103 40 11.75 |
| | 21700.00 | 90.53 | 179.81 | 11982.50 | 10621.91 | -10626.92 | -963.40 | 0.00 | 410510.55 | 705369.65 | N 32 7 36.74 | W 103 40 11.75 |
| | 21800.00 | 90.53 | 179.81 | 11981.57 | 10721.90 | -10726.92 | -963.07 | 0.00 | 410410.56 | 705369.97 | N 32 7 35.75 | W 103 40 11.75 |
| | 21900.00 | 90.53 | 179.81 | 11980.64 | 10821.90 | -10826.91 | -962.75 | 0.00 | 410310.57 | 705370.29 | N 32 7 34.76 | W 103 40 11.76 |
| | 22000.00 | 90.53 | 179.81 | 11979.71 | 10921.89 | -10926.91 | -962.43 | 0.00 | 410210.58 | 705370.62 | N 32 7 33.77 | W 103 40 11.76 |
| | 22100.00 | 90.53 | 179.81 | 11978.78 | 11021.89 | -11026.90 | -962.10 | 0.00 | 410110.59 | 705370.94 | N 32 7 32.78 | W 103 40 11.76 |
| | 22200.00 | 90.53 | 179.81 | 11977.85 | 11121.89 | -11126.90 | -961.78 | 0.00 | 410010.60 | 705371.26 | N 32 7 31.79 | W 103 40 11.77 |
| | 22300.00 | 90.53 | 179.81 | 11976.93 | 11221.88 | -11226.89 | -961.45 | 0.00 | 409910.60 | 705371.59 | N 32 7 30.80 | W 103 40 11.77 |
| | 22400.00 | 90.53 | 179.81 | 11976.00 | 11321.88 | -11326.89 | -961.13 | 0.00 | 409810.61 | 705371.91 | N 32 7 29.81 | W 103 40 11.77 |
| | 22500.00 | 90.53 | 179.81 | 11975.07 | 11421.87 | -11426.88 | -960.81 | 0.00 | 409710.62 | 705372.23 | N 32 7 28.82 | W 103 40 11.78 |
| | 22600.00 | 90.53 | 179.81 | 11974.14 | 11521.87 | -11526.88 | -960.48 | 0.00 | 409610.63 | 705372.56 | N 32 7 27.83 | W 103 40 11.78 |
| | 22700.00 | 90.53 | 179.81 | 11973.21 | 11621.86 | -11626.87 | -960.16 | 0.00 | 409510.64 | 705372.88 | N 32 7 26.84 | W 103 40 11.78 |
| | 22800.00 | 90.53 | 179.81 | 11972.28 | 11721.86 | -11726.87 | -959.84 | 0.00 | 409410.65 | 705373.21 | N 32 7 25.85 | W 103 40 11.79 |
| | 22900.00 | 90.53 | 179.81 | 11971.35 | 11821.85 | -11826.86 | -959.51 | 0.00 | 409310.66 | 705373.53 | N 32 7 24.86 | W 103 40 11.79 |
| *LTP Cross* | *22970.64* | *90.53* | *179.81* | *11970.70* | *11892.49* | *-11897.50* | *-959.29* | *0.00* | *409240.03* | *705373.76* | *N 32 7 24.17* | *W 103 40 11.79* |
| | 23000.00 | 90.53 | 179.81 | 11970.42 | 11921.85 | -11926.86 | -959.19 | 0.00 | 409210.67 | 705373.85 | N 32 7 23.87 | W 103 40 11.79 |
| CO Panther 10 15 FED COM P604 613H BHL | 23045.67 | 90.53 | 179.81 | 11970.00 | 11967.52 | -11972.53 | -959.04 | 0.00 | 409165.00 | 705374.00 | N 32 7 23.42 | W 103 40 11.80 |

**Survey Type:** Def Plan

**Survey Error Model:** ISCWSA Rev 3 *** 3-D 97.071% Confidence 3.0000 sigma

**Survey Program:**

| 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 | | B001Mb_MWD+HRGM-Depth Only | CO Panther 10 15 FED COM P604 613H / CO Panther 10 15 FED COM P604 613H R0 mdv |
| | 1 | 28.000 | 23045.674 | 1/100.000 | 30.000 | 30.000 | | B001Mb_MWD+HRGM | CO Panther 10 15 FED COM P604 613H / CO Panther 10 15 |

# PECOS DISTRICT
# DRILLING CONDITIONS OF APPROVAL

| | |
|---|---|
| **OPERATOR'S NAME:** | Chevron |
| **LEASE NO.:** | **NMLC061936** |
| **LOCATION:** | Sec. 03, T.25 S, R 32 E |
| **COUNTY:** | Lea County, New Mexico |
| **WELL NAME & NO.:** | CO Panther 10 15 Fed Com P604 509H |
| **SURFACE HOLE FOOTAGE:** | 1435'/S & 1278'/W |
| **BOTTOM HOLE FOOTAGE:** | 25'/N & 660'/W |

| | |
|---|---|
| **WELL NAME & NO.:** | CO Panther 10 15 Fed Com P604 613H |
| **SURFACE HOLE FOOTAGE:** | 1435'/S & 1318'/W |
| **BOTTOM HOLE FOOTAGE:** | 25'/S & 330'/W |

| | |
|---|---|
| **WELL NAME & NO.:** | CO Panther 10 15 Fed Com P604 614H |
| **SURFACE HOLE FOOTAGE:** | 1435'/S & 1358'/W |
| **BOTTOM HOLE FOOTAGE:** | 25'/S & 1210'/W |

| | |
|---|---|
| **WELL NAME & NO.:** | CO Panther 10 15 Fed Com P604 615H |
| **SURFACE HOLE FOOTAGE:** | 1435'/S & 1398'/W |
| **BOTTOM HOLE FOOTAGE:** | 25'/S & 2090'/W |

**Operator must not drill until Cotton Draw Unit contraction is approved by the BLM**

COA

| | | | | |
|---|---|---|---|---|
| **$H_2S$** | ○ No | | ○ Yes | |
| **Potash / WIPP** | ◉ None | ○ Secretary | ○ R-111-Q | ☐ Open Annulus |
| | Choose an option (including blank option.) | | | ☐ WIPP |
| **Cave / Karst** | ◉ Low | ○ Medium | ○ High | ○ Critical |
| **Wellhead** | ○ Conventional | ◉ Multibowl | ○ Both | ○ Diverter |
| **Cementing** | ☐ Primary Squeeze | ☐ Cont. Squeeze | ☐ EchoMeter | ☐ DV Tool |
| **Special Req** | ☐ Capitan Reef | ☐ Water Disposal | ☐ COM | ☐ Unit |
| **Waste Prev.** | ○ Self-Certification | ○ Waste Min. Plan | ◉ APD Submitted prior to 06/10/2024 | |
| **Additional Language** | ☑ Flex Hose | ☐ Casing Clearance | ☐ Pilot Hole | ☑ Break Testing |
| | ☐ Four-String | ☐ Offline Cementing | ☐ Fluid-Filled | |





**Approval Date: 08/09/2024**

**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 43 CFR 3176 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

**B. CASING**

1. The **13-3/8** inch surface casing shall be set at approximately **1073** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or **500 pounds compressive strength**, whichever is greater. (This is to include the lead cement)
    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8** inch 1st Intermediate casing is:
    - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Excess calculates to 23%. Additional cement maybe required.**

**Wait on cement (WOC) time for a primary cement job is to include the tail cement slurry due to cave/karst.**

3. The minimum required fill of cement behind the **7** inch 2nd Intermediate casing is:
    - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification. **Excess calculates to 15%. Additional cement maybe required.**

**Wait on cement (WOC) time for a primary cement job is to include the tail cement slurry due to cave/karst.**

4. The minimum required fill of cement behind the **5 x 4-1/2** inch production liner is:
    - Cement should tie-back **100 feet** into the previous casing. Operator shall provide method of verification.





**Approval Date: 08/09/2024**

## 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. Operator has proposed a multi-bowl wellhead assembly. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. If the cement does not circulate and one-inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
    e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172 must be followed.

## D. SPECIAL REQUIREMENT(S)

**BOPE Break Testing Variance**

- BOPE Break Testing is ONLY permitted for intervals utilizing a 5M BOPE or less. **(Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP.)**
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer **(575-706-2779)** prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (575-689-5981 Lea County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per **43 CFR 3172**.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.





**Approval Date: 08/09/2024**

# 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)

**Contact Lea County Petroleum Engineering Inspection Staff:**
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 689-5981

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
        i. Notify the BLM when moving in and removing the Spudder Rig.
        ii. 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.
        iii. BOP/BOPE test to be conducted per **43 CFR 3172** 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. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

## 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.




**Approval Date: 08/09/2024**

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 of both lead and tail cement, 2) until cement has been in place at least 8 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-Q 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 **43 CFR 3172**.
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:
    i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    ii. 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.
    iii. Manufacturer representative shall install the test plug for the initial BOP test.
    iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
    v. 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.
    i. 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 cement), 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).
    ii. 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 cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve

open. (only applies to single stage cement jobs, prior to the cement setting up.)

iii. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR 3172** 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 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

iv. 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.

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

vi. 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.

vii. 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.

viii. 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 **43 CFR 3172**.

## 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.

**Approved by Zota Stevens on 8/5/2024**
575-234-5998 / zstevens@blm.gov

# $H_2S$ Preparedness and Contingency Plan Summary

## Training

MCBU Drilling and Completions $H_2S$ training requirements are intended to define the minimum level of training required for employees, contractors and visitors to enter or perform work at MCBU Drilling and Completions locations that have known concentrations of $H_2S$.

## Awareness Level

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

1. Physical and chemical properties of $H_2S$
2. Health hazards of $H_2S$
3. Personal protective equipment
4. Information regarding potential sources of $H_2S$
5. Alarms and emergency evacuation procedures

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

## Advanced Level $H_2S$ Training

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

1. $H_2S$ safe work practice procedures;
2. Emergency contingency plan procedures;
3. Methods to detect the presence or release of $H_2S$ (e.g., alarms, monitoring equipment), including hands-on training with direct reading and personal monitoring $H_2S$ equipment.
4. Basic overview of respiratory protective equipment suitable for use in $H_2S$ environments. Note: Employees who work at sites that participate in the Chevron Respirator User program will require separate respirator training as required by the MCBU Respiratory Protection Program;
5. Basic overview of emergency rescue techniques, first aid, CPR and medical evaluation procedures. Employees who may be required to perform “standby” duties are required to receive additional first aid and CPR training, which is not covered in the Advanced Level $H_2S$ training;
6. Proficiency examination covering all course material.

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

# $H_2S$ Preparedness and Contingency Plan Summary

## $H_2S$ Training Certification

All employees and visitors will be issued an $H_2S$ training certification card (or certificate) upon successful completion of the appropriate $H_2S$ training course. Personnel working in an $H_2S$ environment will carry a current $H_2S$ training certification card as proof of having received the proper training on their person at all times.

## Briefing Area

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

## $H_2S$ Equipment

### Respiratory Protection

a) Six 30 minute SCBAs – 2 at each briefing area and 2 in the Safety Trailer.

b) Eight 5 minute EBAs – 5 in the dog house at the rig floor, 1 at the accumulator, 1 at the shale shakers and 1 at the mud pits.

## Visual Warning System

a) One color code sign, displaying all possible conditions, will be placed at the entrance to the location with a flag displaying the current condition.

b) Two windsocks will be on location, one on the dog house and one on the Drill Site Manager's Trailer.

## $H_2S$ Detection and Monitoring System

a) $H_2S$ monitoring system (sensor head, warning light and siren) placed throughout rig.

- Drilling Rig Locations: at a minimum, in the area of the Shale shaker, rig floor, and bell nipple.
- Workover Rig Locations: at a minimum, in the area of the Cellar, rig floor and circulating tanks or shale shaker.

# $H_2S$ 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

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

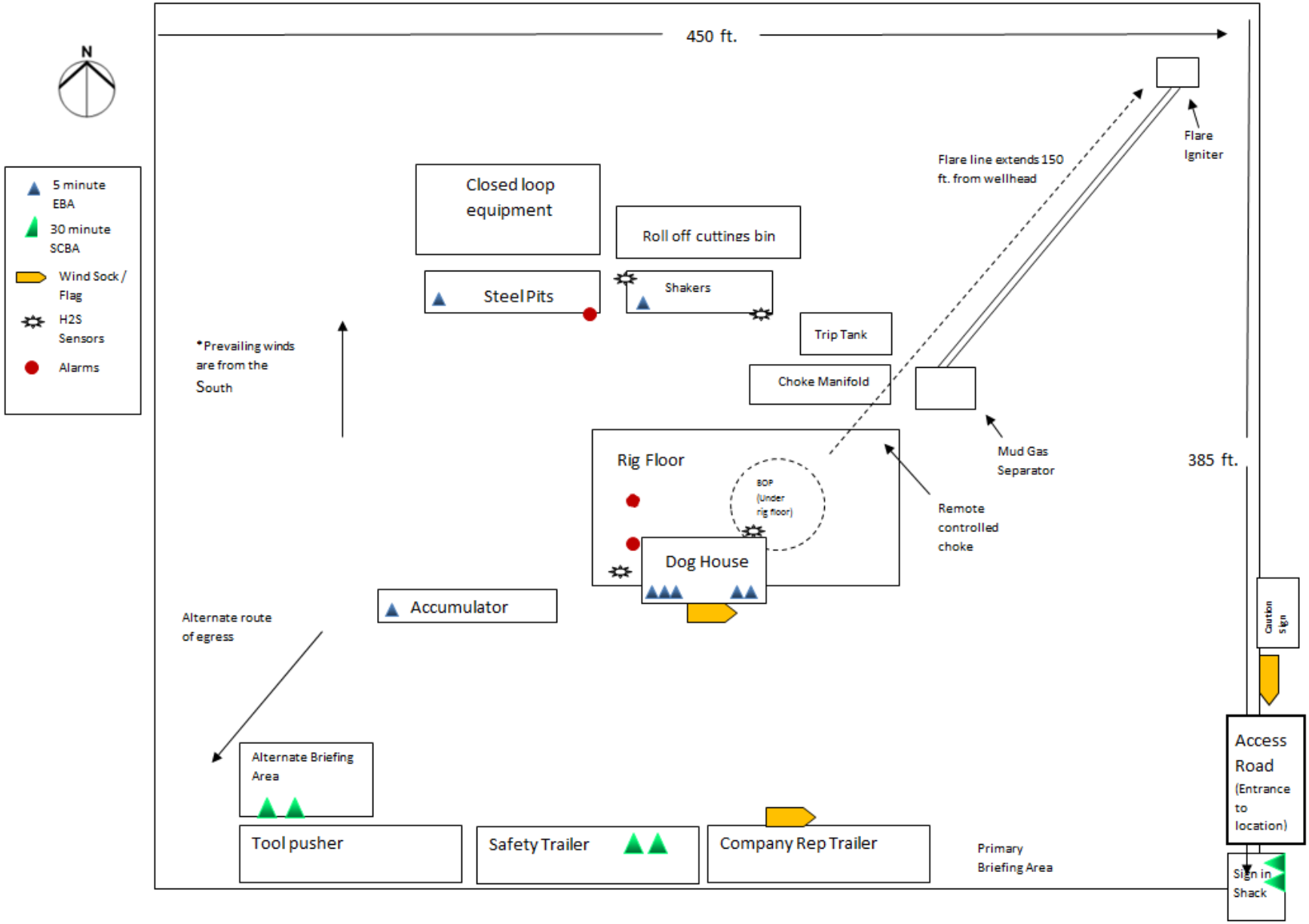
# $H_2S$ Preparedness and Contingency Plan Summary

## Chevron MCBU D&C Emergency Notifications

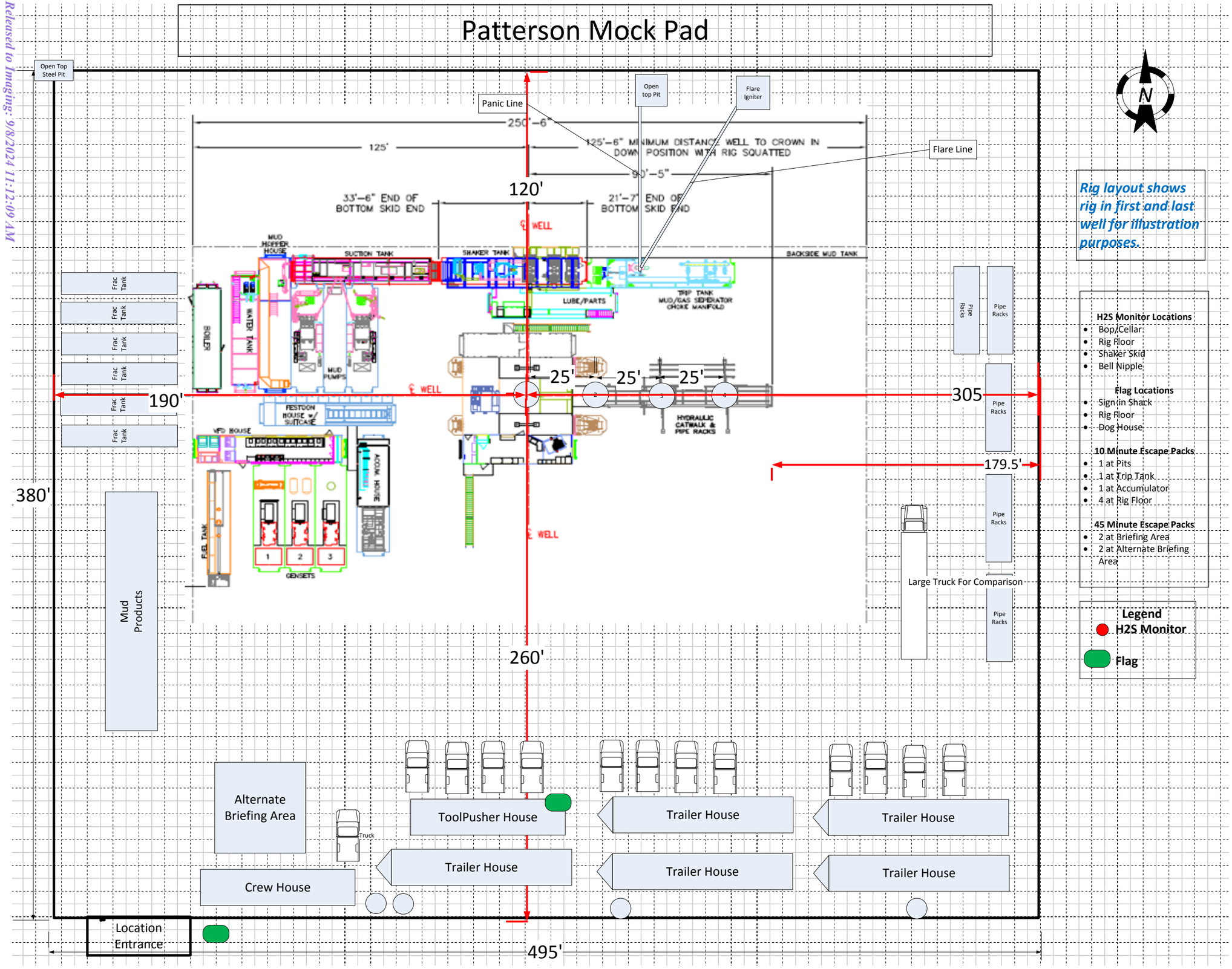
Below are lists of contacts to be used in emergency situations.

| | Name | Title | Office Number | Cell Phone |
|---|---|---|---|---|
| 1. | **TBD** | Drilling Engineer | | |
| 2. | Sergio Hernandez | Superintendent | 713 372 1402 | |
| 5. | Dennis Mchugh | Drilling Manager | (713) 372-4496 | |
| 6. | Kyle Eastman | Operations Manager | 713-372-5863 | |
| 7. | TBD | D&C HES | | |
| 8. | TBD | Completion Engineer | | |

# $H_2S$ Preparedness and Contingency Plan Summary



# Patterson Mock Pad




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

**H2S Monitor Locations**

- Bop/Cellar
- Rig Floor
- Shaker Skid
- Bell Nipple

**Flag Locations**

- Sign in Shack
- Rig Floor
- Dog House

**10 Minute Escape Packs**

- 1 at Pits
- 1 at Trip Tank
- 1 at Accumulator
- 4 at Rig Floor

**45 Minute Escape Packs**

- 2 at Briefing Area
- 2 at Alternate Briefing Area

**Legend**

- H2S Monitor
- Flag

Intent ☐ As Drilled ☐

| API # |
|---|

| Operator Name: | Property Name: | Well Number |
|---|---|---|
| | | |

Kick Off Point (KOP)

| UL | Section | Township | Range | Lot | Feet | From N/S | Feet | From E/W | County |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

| Latitude | Longitude | NAD |
|---|---|---|
| | | |

First Take Point (FTP)

| UL | Section | Township | Range | Lot | Feet | From N/S | Feet | From E/W | County |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

| Latitude | Longitude | NAD |
|---|---|---|
| | | |

Last Take Point (LTP)

| UL | Section | Township | Range | Lot | Feet | From N/S | Feet | From E/W | County |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

| Latitude | Longitude | NAD |
|---|---|---|
| | | |

Is this well the defining well for the Horizontal Spacing Unit? ☐

Is this well an infill well? ☐

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

| API # |
|---|

| Operator Name: | Property Name: | Well Number |
|---|---|---|
| | | |

KZ 06/29/2018

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

# Drilling Plan Data Report
08/12/2024

**APD ID:** 10400087235
**Submission Date:** 08/15/2022

**Operator Name:** CHEVRON USA INCORPORATED

**Well Name:** CO PANTHER 10 15 FED COM P604
**Well Number:** 613H

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

Highlighted data reflects the most recent changes

Show Final Text

## Section 1 - Geologic Formations

| Formation ID | Formation Name | Elevation | True Vertical | Measured Depth | Lithologies | Mineral Resources | Producing Formatio |
|---|---|---|---|---|---|---|---|
| 13931402 | RUSTLER | 3479 | 807 | 1000 | ANHYDRITE, DOLOMITE | NONE | N |
| 13931418 | TOP SALT | 2350 | 1129 | 1129 | HALITE, SALT | NONE | N |
| 13931403 | CASTILE | 284 | 3195 | 3195 | ANHYDRITE | NONE | N |
| 13931404 | LAMAR | -1230 | 4709 | 4749 | LIMESTONE | NONE | N |
| 13931405 | BELL CANYON | -1265 | 4744 | 4784 | SANDSTONE | NONE | N |
| 13931406 | CHERRY CANYON | -2167 | 5646 | 5686 | SANDSTONE | NONE | N |
| 13931407 | BRUSHY CANYON | -3560 | 7039 | 7114 | SILTSTONE | NONE | N |
| 13931408 | BONE SPRING | -5146 | 8625 | 8725 | LIMESTONE | NONE | N |
| 13931409 | UPPER AVALON SHALE | -5264 | 8743 | 8846 | LIMESTONE, SHALE | NATURAL GAS, OIL | N |
| 13931410 | BONE SPRING 1ST | -6219 | 9698 | 9801 | SANDSTONE | NATURAL GAS, OIL | N |
| 13931411 | BONE SPRING 2ND | -6832 | 10311 | 10414 | SANDSTONE | NATURAL GAS, OIL | N |
| 13931419 | BONE SPRING 3RD | -8062 | 11541 | 11644 | SANDSTONE | NATURAL GAS, OIL | Y |
| 13931401 | WOLFCAMP | -8523 | 12002 | 12105 | SANDSTONE | NATURAL GAS, OIL | Y |

## Section 2 - Blowout Prevention

# BLOWOUT PREVENTER SCHEMATIC

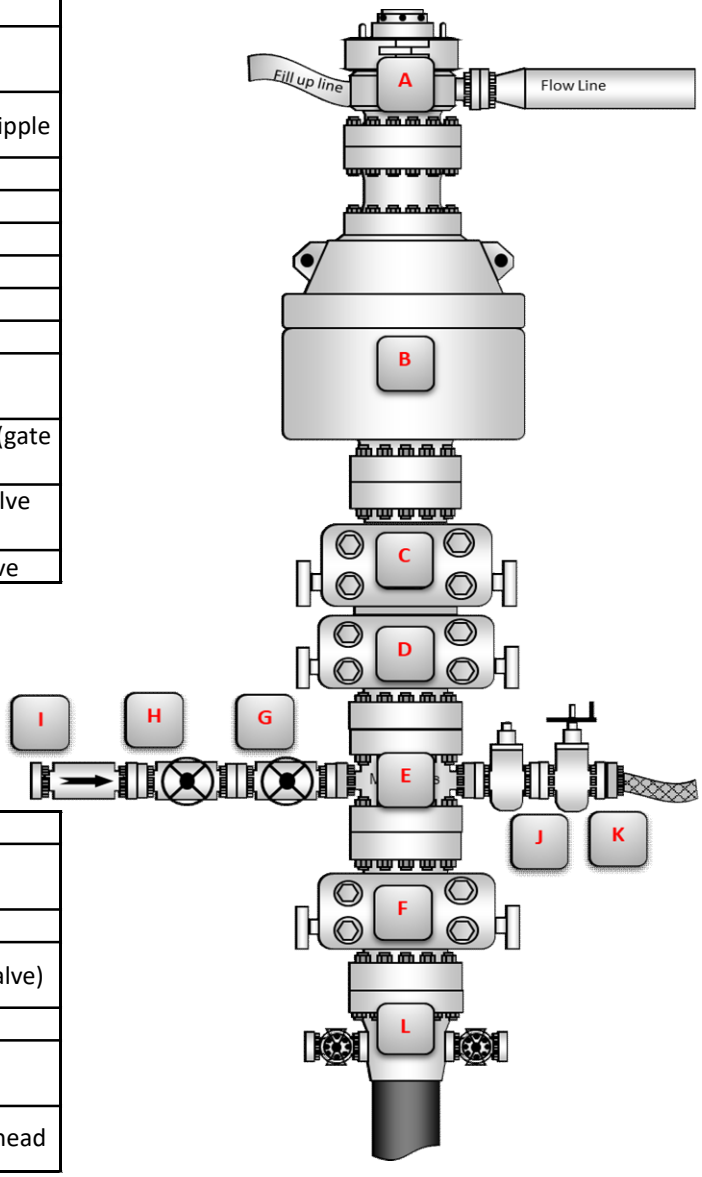
| Operation: | Intermediate & Production Drilling Operations |
|---|---|
| Minimum System operation pressure | 5,000 psi |

**BOP Stack**

| Part | Size | Pressure Rating | Description |
|---|---|---|---|
| A | 13-5/8" | N/A | Rotating Head/Bell nipple |
| B | 13-5/8" | 5,000 | Annular |
| C | 13-5/8" | 10,000 | Blind Ram |
| D | 13-5/8" | 10,000 | Pipe Ram |
| E | 13-5/8" | 10,000 | Mud Cross |
| F | 13-5/8" | 10,000 | Pipe Ram |

**Kill Line**

| Part | Size | Pressure Rating | Description |
|---|---|---|---|
| G | 2" | 10,000 | Inside Kill Line Valve (gate valve) |
| H | 2" | 10,000 | Outside Kill Line Valve (gate valve) |
| I | 2" | 10,000 | Kill Line Check valve |




**Choke line**

| Part | Size | Pressure Rating | Description |
|---|---|---|---|
| J | 3" | 10,000 | HCR (gate valve) |
| K | 3" | 10,000 | Manual HCR (gate valve) |

**Wellhead**

| Part | Size | Pressure Rating | Description |
|---|---|---|---|
| L | 13-5/8" | 5,000 | FMC Multibowl wellhead |

| ***BOP Installation Checklist:*** *The following items must be verified and checked off prior to pressure testing BOP equipment* |
|---|
| The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system. |
| All valves on the kill line and choke line will be full opening and will allow straight flow through. |
| Manual (hand wheels) or automatic locking devices will be installed on all ram preventers. Hand wheels will also be install on all manual valves on the choke and kill line. |
| A valve will be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve will remain open unless accumulator is inoperative. |
| Upper kelly cock valve with handle will be available on rig floor along with saved valve and subs to fit all drill string connections in use. |

**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:(575) 748-1283 Fax:(575) 748-9720
**District III**
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
**District IV**
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

# State of New Mexico
# Energy, Minerals and Natural Resources
# Oil Conservation Division
# 1220 S. St Francis Dr.
# Santa Fe, NM 87505

CONDITIONS

Action 376226

## CONDITIONS

| | |
|---|---|
| Operator:<br>CHEVRON U S A INC<br>6301 Deauville Blvd<br>Midland, TX 79706 | OGRID:<br>4323 |
| | Action Number:<br>376226 |
| | Action Type:<br>[C-101] BLM - Federal/Indian Land Lease (Form 3160-3) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| ward.rikala | Notify OCD 24 hours prior to casing & cement | 9/8/2024 |
| ward.rikala | Will require a File As Drilled C-102 and a Directional Survey with the C-104 | 9/8/2024 |
| ward.rikala | Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string | 9/8/2024 |
| ward.rikala | Cement is required to circulate on both surface and intermediate1 strings of casing | 9/8/2024 |
| ward.rikala | If cement does not circulate on any string, a CBL is required for that string of casing | 9/8/2024 |
| ward.rikala | Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system | 9/8/2024 |
| ward.rikala | Must submit C-102 on new C-102 form. | 9/8/2024 |