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.: NMNM125402

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.: COMANCHE 25-36 FED STATE COM [328896] 10H

2. Name of Operator: CAZA OPERATING LLC [249099]

9. API Well No.: 30-025-51243

3a. Address: 200 N. Loraine Street, Suite 1550, Midland , TX 79701

3b. Phone No. *(include area code)*: (432) 682-7424

10. Field and Pool, or Exploratory: [98234] WC-025 G-09 S263619C;/WC-025 G-09 S

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

At surface: NWNE / 290 FNL / 1445 FEL / LAT 32.0206648 / LONG -103.3173485

At proposed prod. zone: LOT 2 / 20 FSL / 2110 FEL / LAT 32.000234 / LONG -103.3190219

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 25/T26S/R35E/NMP

14. Distance in miles and direction from nearest town or post office*: 9 miles

12. County or Parish: LEA

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 290 feet

16. No of acres in lease:

17. Spacing Unit dedicated to this well: 320.0

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 60 feet

19. Proposed Depth: 12685 feet / 20075 feet

20. BLM/BIA Bond No. in file: FED: NMB000471

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 2946 feet

22. Approximate date work will start*: 06/11/2022

23. Estimated duration: 30 days

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	STEVE MORRIS / Ph: (432) 682-7424	11/16/2021

Title: Engineer

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	CODY LAYTON / Ph: (575) 234-5959	12/02/2022

Title	Office
Assistant Field Manager Lands & Minerals	Carlsbad Field 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.

NGMP Rec 03/22/2023

KZ
03/28/2023

SL

APPROVED WITH CONDITIONS

Approval Date: 12/02/2022

(Continued on page 2)

*(Instructions on page 2)

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
30-025-51243	98234	WC-025 G-09 S263619C; Wolfcamp

[4] Property Code	[5] Property Name	[6] Well Number
328896	COMANCHE 26-35 FEDERAL STATE COM	10H

[7] OGRID No.	[8] Operator Name	[9] Elevation
249099	CAZA OPERATING LLC	2946'

[10] Surface Location

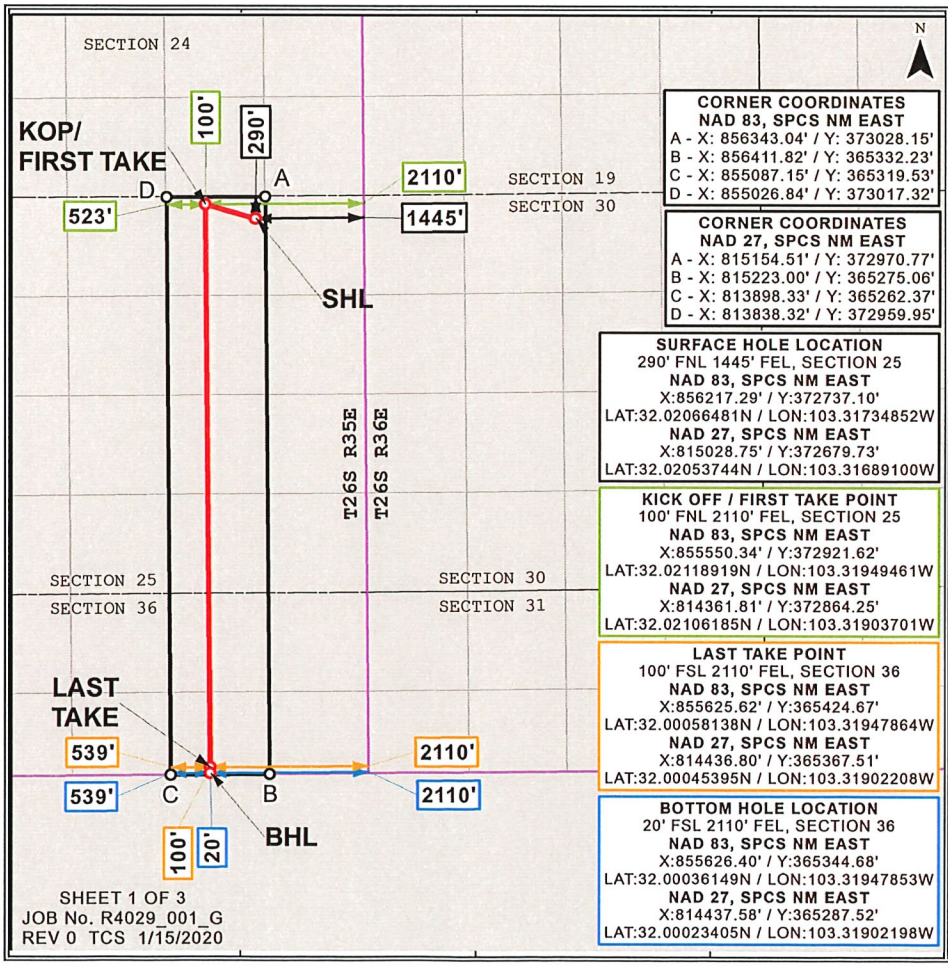
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	25	26S	35E		290	NORTH	1445	EAST	LEA

[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
L 2	36	26S	35E		20	SOUTH	2110	EAST	LEA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
233.27			

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.



[17] OPERATOR CERTIFICATION

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

Signature — Date: 10/15/2021

Steve Morris
Printed Name

steve.morris@morcorengineering.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.

JANUARY 17, 2020
Date of Survey

Signature and Seal of Professional Surveyor:

LLOYD P. SHORT NEW MEXICO 21653 PROFESSIONAL SURVEYOR

Certificate Number
LLOYD P. SHORT 21653

Distances/areas relative to NAD 83 Combined Scale Factor: 0.99975847 Convergence: 00°03'03.29000"

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: Caza Operating LLC **OGRID:** 249099 **Date:** 10 / 13 / 2021

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
Comanche 25-36 Fed State Com 9H		B-25-26S-35E	290'FNL 1425'FEL	1000	1200	1900
Comanche 25-36 Fed State Com 10H	30-025-51243	B-25-26S-35E	290'FNL 1445'FWL	1000	1200	1900

IV. Central Delivery Point Name: Comanche 25-36 Central Tank Battery [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
Comanche 25-36 Fed State Com 9H		10/15/2022	05/15/2023	06/15/2023	06/20/2023	06/23/2023
Comanche 25-36 Fed State Com 10H	30-025-51243	10/15/2022	05/05/2023	06/15/2023	06/20/2023	06/23/2023

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: 
Printed Name: Steve Morris
Title: Drilling Manager
E-mail Address: steve.morris@morcorengineering.com
Date: 10/13/2021
Phone: 985-415-9729

OIL CONSERVATION DIVISION **(Only applicable when submitted as a standalone form)**
Approved By:
Title:
Approval Date:
Conditions of Approval:

Caza Petroleum

Natural Gas Management Plan

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

• Separation equipment is sized to allow for retention time and velocity to adequately separate oil, gas, and water at anticipated peak rates.
• All central tank battery equipment is designed to efficiently capture the remaining gas from the liquid phase.
• Valves and meters are designed to service without flow interruption or venting of gas.

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

19.15.27.8 (A)

Caza's field operations are designed with the goal of minimizing flaring and preventing venting of natural gas. If capturing the gas is not possible then the gas is combusted/flared using properly sized flares or combustors in accordance with state air permit rules.

19.15.27.8 (B) Venting and Flaring during drilling operations.

• A properly-sized flare stack will be located at a minimum 100' from the nearest surface hole location on the pad.
• All natural gas produced during drilling operations will be flared. Venting will only occur if there is an equipment malfunction and/or to avoid risk of an immediate and substantial adverse impact on safety, public health, or the environment.

19.15.27.8 (C) Venting and Flaring during completions or recompletions operations.

• During all phases of flowback, wells will flow through a sand separator, or other appropriate flowback separation equipment, and the well stream will be directed to a central tank battery (CTB) through properly sized flowlines.
• The CTB will have properly sized separation equipment for maximum anticipated flow rates
• Multiple stages of separation will be used to separate gas from liquids. All gas will be routed to a sales outlet. Fluids will be routed to tanks equipped with a closed loop system that will recover any residual gas from the tanks and route such gas to a sales outlet.

19.15.27.8 (D) Venting and Flaring during production operations.

• During production, the well stream will be routed to the CTB where multiple stages of separation will separate gas from liquids. All gas will be routed to a sales outlet. Fluids will be routed to tanks equipped with a closed loop system that will recover any residual gas from the tanks and route such gas to a sales outlet, minimizing tank emissions.
• Flares are equipped with auto-ignition systems and continuous pilot operations.
• Automatic gauging equipment is installed on all tanks.

19.15.27.8 (E) Performance Standards.
• Production equipment will be designed to handle maximum anticipated rates and pressure.
• Automatic gauging equipment is installed on all tanks to minimize venting.
• All flared gas will be combusted in a flare stack that is properly sized and designed to ensure proper combustion.
• Flares are equipped with continuous pilots and auto-ignitors along with remote monitoring of the pilot status.
• Weekly AVOs and monthly LDAR inspections will be performed on all wells and facilities that produce more than 60 Mcfd.
• Gas/H2S detectors will be installed throughout the facilities and wellheads to detect leaks and enable timely repairs.

19.15.27.8 (F) Measurement or estimation of vented and flared natural gas.
• All high pressure flared gas is measured by equipment conforming to API 14.10.
• No meter bypasses are installed.
• When metering is not practical due to low pressure/low rate, the vented or flared volume will be estimated through flare flow curves with the assistance of air emissions consultants, as necessary.

VIII. Best Management Practices: Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.
• Caza will use best management practices to vent as minimally as possible during well intervention operations and downhole well maintenance.
• All natural gas is routed into the gas gathering system and directed to one of Caza's multiple gas sales outlets.
• All venting events will be recorded and all start-up, shutdown, maintenance logs will be kept for control equipment.
• All control equipment will be maintained to provide highest run-time possible.
• All procedures are drafted to keep venting and flaring to the absolute minimum.

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Caza Operating LLC
WELL NAME & NO.:	Comanche 25-36 Fed Com 10H
LOCATION:	Sec 25 26S-35E-NMP
COUNTY:	Lea County, New Mexico

COA

H2S	○ Yes	◉ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Cave/Karst Potential	○ Critical		
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl	○ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit

A. HYDROGEN SULFIDE

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

B. CASING

1. The **20** inch conductor casing shall be set at approximately 120 feet and cemented to surface.

2. The **13-3/8** inch surface casing shall be set at approximately 1000 feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite and above the salt) and cemented to the surface.

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

Approval Date: 12/02/2022

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.

3. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

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

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

b. Second stage above DV tool:

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

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

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

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

2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **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 OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

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

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

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

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

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

Approval Date: 12/02/2022

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

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

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

A. CASING

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

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

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours.

WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

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

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

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

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

B. PRESSURE CONTROL

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

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

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

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

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

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

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

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

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

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

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

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

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

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

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

Approval Date: 12/02/2022

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

Operator Certification Data Report

12/03/2022

Operator

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: STEVE MORRIS **Signed on:** 11/16/2021

Title: Engineer

Street Address: 14102 WCR 173

City: ODESSA **State:** TX **Zip:** 79766

Phone: (985)415-9729

Email address: steve.morris@morcorengineering.com

Field

Representative Name:

Street Address:

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

Phone:

Email address:

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

Application Data
12/03/2022

APD ID: 10400080979
Submission Date: 11/16/2021
Operator Name: CAZA OPERATING LLC
Well Name: COMANCHE 25-36 FED STATE COM
Well Number: 10H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes
Show Final Text

Section 1 - General

APD ID: 10400080979
Tie to previous NOS? N
Submission Date: 11/16/2021
BLM Office: Carlsbad
User: STEVE MORRIS
Title: Engineer
Federal/Indian APD: FED
Is the first lease penetrated for production Federal or Indian? FED
Lease number: NMNM125402
Lease Acres:
Surface access agreement in place?
Allotted?
Reservation:
Agreement in place? NO
Federal or Indian agreement:
Agreement number:
Agreement name:
Keep application confidential? Y
Permitting Agent? NO
APD Operator: CAZA OPERATING LLC
Operator letter of

Operator Info

Operator Organization Name: CAZA OPERATING LLC
Operator Address: 200 NORTH LORRAINE SUITE 1550
Zip: 79701
Operator PO Box:
Operator City: MIDLAND
State: TX
Operator Phone: (432)638-8475
Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO
Master Development Plan name:
Well in Master SUPO? NO
Master SUPO name:
Well in Master Drilling Plan? NO
Master Drilling Plan name:
Well Name: COMANCHE 25-36 FED STATE COM
Well Number: 10H
Well API Number:
Field/Pool or Exploratory? Field and Pool
Field Name: WC-025 G-09 S263619C;
Pool Name: WC-025 G-09 S263619C; WOLFCAMP

Operator Name: CAZA OPERATING LLC

Well Name: COMANCHE 25-36 FED STATE COM **Well Number:** 10H

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

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** Y **New surface disturbance?** N

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** Comanche 25-36 Fed State Com **Number:** 1H

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

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 9 Miles **Distance to nearest well:** 60 FT **Distance to lease line:** 290 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: COMANCHE_26_35_FEDERAL_STATE_COM_10H___C_102_signed_20211116035633.pdf

Well work start Date: 06/11/2022 **Duration:** 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: R4029_001_G **Reference Datum:** GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this
SHL Leg #1	290	FNL	1445	FEL	26S	35E	25	Aliquot NWNE	32.0206648	-103.3173485	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 125402	2946	0	0	Y
KOP Leg #1	100	FNL	2110	FEL	26S	35E	25	Aliquot NWNE	32.0211891	-103.3194946	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 125402	-9218	12200	12164	Y

Operator Name: CAZA OPERATING LLC

Well Name: COMANCHE 25-36 FED STATE COM **Well Number:** 10H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this
PPP Leg #1-1	100	FNL	2110	FEL	26S	35E	25	Aliquot NWNE	32.0211891	-103.3194946	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 125402	-9146	12127	12092	Y
PPP Leg #1-2	0	FNL	2110	FEL	26S	35E	36	Aliquot NWNE	32.00705	-103.319484	LEA	NEW MEXICO	NEW MEXICO	S	STATE	-9739	17640	12685	Y
EXIT Leg #1	100	FSL	2110	FEL	26S	35E	36	Lot 2	32.0005813	-103.3194786	LEA	NEW MEXICO	NEW MEXICO	S	STATE	-9739	19995	12685	Y
BHL Leg #1	20	FSL	2110	FEL	26S	35E	36	Lot 2	32.000234	-103.3190219	LEA	NEW MEXICO	NEW MEXICO	S	STATE	-9739	20075	12685	Y

AFMSS

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

Drilling Plan Data Report

12/03/2022

APD ID: 10400080979 **Submission Date:** 11/16/2021

Operator Name: CAZA OPERATING LLC

Well Name: COMANCHE 25-36 FED STATE COM **Well Number:** 10H

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

Highlighted data reflects the most recent changes

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Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
7807793	RUSTLER	2260	709	709	ANHYDRITE	USEABLE WATER	N
7807794	TOP SALT	1204	1056	1056	SALT	NONE	N
7807795	BASE OF SALT	-643	2903	2910	SALT	NONE	N
7807796	CASTILE	-906	3166	3175	ANHYDRITE, DOLOMITE	NONE	N
7807797	TANSILL	-1036	3296	3305	ANHYDRITE, DOLOMITE	NONE	N
7807798	YATES	-1320	3580	3592	ANHYDRITE, DOLOMITE	NONE	N
7807799	SEVEN RIVERS	-1571	3831	3843	ANHYDRITE, DOLOMITE	NONE	N
7807800	QUEEN	-1725	3985	3998	ANHYDRITE, DOLOMITE	NONE	N
7807801	GRAYBURG	-1936	4196	4210	ANHYDRITE, DOLOMITE	NONE	N
7807802	SAN ANDRES	-2261	4521	4537	ANHYDRITE, DOLOMITE	NONE	N
7807803	DELAWARE	-2741	5001	5020	LIMESTONE, SANDSTONE	NONE	N
7807804	BRUSHY CANYON	-5216	7476	7508	LIMESTONE, SANDSTONE	NONE	N
7807805	BONE SPRING	-6516	8776	8811	LIMESTONE, SANDSTONE	NONE	N
7807806	BONE SPRING 1ST	-8267	10527	10562	LIMESTONE, SANDSTONE	NATURAL GAS, OIL	N
7807807	BONE SPRING 2ND	-8613	10873	10908	LIMESTONE, SANDSTONE	NATURAL GAS, OIL	N
7807808	BONE SPRING 3RD	-9520	11780	11815	LIMESTONE, SANDSTONE	NATURAL GAS, OIL	N
7807809	WOLFCAMP	-9832	12092	12127	SANDSTONE, SHALE	NATURAL GAS, OIL	Y

Operator Name: CAZA OPERATING LLC

Well Name: COMANCHE 25-36 FED STATE COM **Well Number:** 10H

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M **Rating Depth:** 18000

Equipment: Rotating head with a rating of 500psi will be used. A remote kill line and gas buster will be used

Requesting Variance? YES

Variance request: Variance is requested for the use of a coflex hose for the choke line to from the BOP to the choke manifold. A variance is requested to use 1502(15,000psi working pressure) hammer unions downstream of the Choke Manifold used to connect the mud/gas separator and panic line. See choke manifold diagram. A variance is requested to use a 5M annular. A well control procedure is attached.
Testing Procedure: Minimum Working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 13-3/8 inch casing shoe shall be 10000 (10M) psi. 10M 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. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests. 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 pug. BOP/BOPE testing can begin after cut-off or once cement reaches 500PSI compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified). The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater prior to initiating the test (see casing segment as lead cement may be critical item). a. The results of the test shall be reported to the appropriate BLM office. b. 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. c. 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

Choke Diagram Attachment:

Comanche_25_36_Fed_State_Com_10H___10M_Choke_Schematic_20211116040057.pdf

Comanche_25_36_Fed_State_Com_10H___Coflex_Hyd_Test_Cert_20211116040057.pdf

Comanche_25_36_Fed_State_Com_10H___Coflex_Hose_Test_Chart_20211116040101.pdf

BOP Diagram Attachment:

Comanche_25_36_Fed_State_Com_10H___10M_BOP_Schematic_20211116040113.pdf

Comanche_25_36_Fed_State_Com_10H___Well_Control_20211116040119.pdf

Operator Name: CAZA OPERATING LLC

Well Name: COMANCHE 25-36 FED STATE COM **Well Number:** 10H

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	CONDUCTOR	26	20.0	NEW	API	N	0	120	0	120	2946	2826	120	H-40	94	ST&C						
2	SURFACE	17.5	13.375	NEW	API	N	0	1000	0	1000	2946	1946	1000	J-55	68	ST&C	4.22	1.03	DRY	9.93	DRY	9.93
3	INTERMEDIATE	12.25	9.625	NEW	API	N	0	7231	0	7200	2946	-4254	7231	HCL-80	40	LT&C	1.13	1.06	DRY	1.92	DRY	1.92
4	INTERMEDIATE	12.25	9.625	NEW	API	N	7231	11235	7200	11200	-4254	-8254	4004	HCL-80	47	LT&C	1.22	1.26	DRY	5.77	DRY	5.77
5	PRODUCTION	8.5	6.0	NEW	API	N	0	20075	0	12685	2946	-9739	20075	P-110	24.5	BUTT	1.39	2.36	DRY	2.58	DRY	2.58

Casing Attachments

Casing ID: 1 **String** CONDUCTOR

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Operator Name: CAZA OPERATING LLC

Well Name: COMANCHE 25-36 FED STATE COM **Well Number:** 10H

Casing Attachments

Casing ID: 2 **String** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Comanche_25_36_Fed_State_Com_10H___Casing_and_Cement_Design___New_20211116054425.pdf

Casing ID: 3 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Comanche_25_36_Fed_State_Com_10H___Casing_and_Cement_Design___New_20211116054537.pdf

Casing ID: 4 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Comanche_25_36_Fed_State_Com_10H___Casing_and_Cement_Design___New_20211116054644.pdf

Operator Name: CAZA OPERATING LLC

Well Name: COMANCHE 25-36 FED STATE COM **Well Number:** 10H

Casing Attachments

Casing ID: 5 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Comanche_25_36_Fed_State_Com_10H___Casing_and_Cement_Design___New_20211116054734.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
CONDUCTOR	Lead		0	120	105	1.35	14.8	135	5	Class C	CaCl2
SURFACE	Lead		0	700	505	1.93	13.5	974	100	Class C	4% bwoc Bentonite II + 2% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 0.005% bwoc Static Free + 0.005 gps FP- 6L
SURFACE	Tail		700	1000	305	1.35	14.8	411	100	Class C	CaCl2
INTERMEDIATE	Lead	4900	0	4800	1370	2.13	12.6	2918	100	Class C	(35:65) + Poz (Fly Ash) + 4% bwoc Bentonite II + 5% bwoc MPA-5 + 0.25% bwoc FL-52 + 5 lbs/sack LCM- 1 + 0.125 lbs/sack Cello Flake + 0.005 lbs/sack Static Free + 0.005 gps FP-6L + 1.2% bwoc Sodium Metasilicate + 5% bwow Sodium Chloride

Operator Name: CAZA OPERATING LLC

Well Name: COMANCHE 25-36 FED STATE COM **Well Number:** 10H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Tail		4800	4900	150	1.35	14.8	202	100	Class C	CaCl2
INTERMEDIATE	Lead	4900	4900	6731	1720	2.13	12.6	3663	100	Class H	(35:65) + Poz (Fly Ash) + 4% bwoc Bentonite II + 5% bwoc MPA-5 + 0.25% bwoc FL-52 + 5 lbs/sack LCM- 1 + 0.125 lbs/sack Cello Flake + 0.005 lbs/sack Static Free + 0.005 gps FP-6L + 1.2% bwoc Sodium Metasilicate + 5% bwow Sodium Chloride
INTERMEDIATE	Tail		6731	7231	232	1.35	14.8	313	100	Class H	(50/50) + Poz (Fly Ash) + 4% bwoc Bentonite II + 5% bwoc MPA-5 + 0.25% bwoc FL-52 + 5 lbs/sack LCM- 1 + 0.125 lbs/sack Cello Flake + 0.005 lbs/sack Static Free + 0.005 gps FP-6L + 1.2% bwoc Sodium Metasilicate + 5% bwow Sodium Chloride
PRODUCTION	Lead		0	12500	1625	2.38	11.5	3867	100	Class H	(35:65) + Poz (Fly Ash) + 4% bwoc Bentonite II + 5% bwoc MPA-5 + 0.25% bwoc FL-52 + 5 lbs/sack LCM- 1 + 0.125 lbs/sack Cello Flake + 0.005 lbs/sack Static Free + 0.005 gps FP-6L + 1.2% bwoc Sodium Metasilicate + 5% bwow Sodium Chloride
PRODUCTION	Tail		12500	20075	2880	1.62	13.5	4665	100	Class H	(50:50) + Poz (Fly Ash) + 10% bwoc Bentonite II + 5% bwow Sodium Chloride + 5 lbs/sack LCM-1 + 0.005 lbs/sack Static Free + 0.005 gps FP-6L

Operator Name: CAZA OPERATING LLC

Well Name: COMANCHE 25-36 FED STATE COM **Well Number:** 10H

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: Sufficient mud will be on location to control any abnormal conditions encountered. Such as but not limited to a kick, lost circulation and hole sloughing

Describe the mud monitoring system utilized: A Pason PVT system will be rigged up prior to spudding the well. A volume monitoring system that measures, calculates, and displays readings from the mud system on the rig to alert the rig crew of impending gas kicks and lost circulation issues. Components a) PVT Pit Bull monitor: Acts as the heart of the system, containing all the controls, switches, and alarms. Typically, it is mounted near the driller's console. b) Junction box: Provides a safe, convenient place for making the wiring connections. c) Mud probes: Measure the volume of drilling fluid in each individual tank. d) Flow sensor: Measures the relative amount of mud flowing in the return line

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
120	1000	SPUD MUD	8.4	8.9	62	0.1	9.5	0	0	0	
1000	11235	SALT SATURATED	9.2	10	75	0.1	9.5	0	180000	0	
11235	20075	OIL-BASED MUD	9.2	12.5	82	0.4	9.5	0	135000	18	

Operator Name: CAZA OPERATING LLC

Well Name: COMANCHE 25-36 FED STATE COM **Well Number:** 10H

Section 6 - Test, Logging, Coring

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

no production tests

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

GAMMA RAY LOG,DIRECTIONAL SURVEY,MEASUREMENT WHILE DRILLING,MUD LOG/GEOLOGICAL LITHOLOGY LOG,

Coring operation description for the well:

no coring

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5446 **Anticipated Surface Pressure:** 2655

Anticipated Bottom Hole Temperature(F): 180

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

Comanche_25_36_Fed_State_Com_10H___H2S_plan_20211116040315.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Caza___Comanche_26_35_Fed_State_Com_10H_Plan_Data_p1_20211116040210.pdf

Other proposed operations facets description:

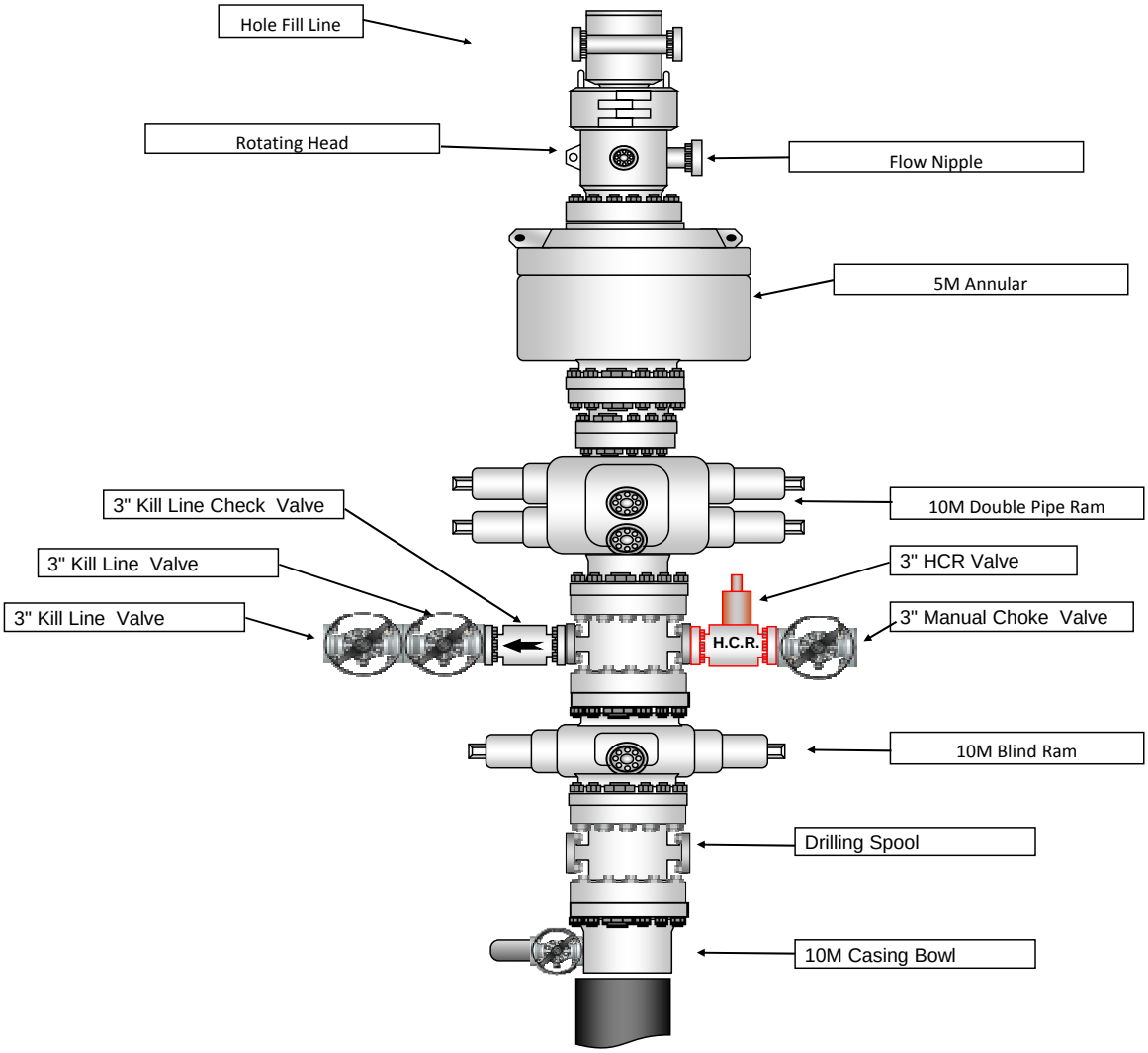
Other proposed operations facets attachment:

Comanche_25_36_Fed_State_Com_10H___Closed_Loop_Diagram_Design_Plan_20211116040244.pdf
Comanche_25_36_Fed_State_Com_10H___Closed_Loop_Design_Operating_and_Closure_Plan_20211116040245.pdf

Comanche_25_36_Fed_State_Com_10H___NGMPForm_20211116040246.pdf
Comanche_25_36_Fed_State_Com_10H___IR_Plat_20211116040249.pdf

Other Variance attachment:

Comanche_25_36_Fed_State_Com_10H___Multi_Bowl_Wellhead_20211116040257.pdf


Hole Fill Line
Rotating Head
Flow Nipple
5M Annular
3" Kill Line Check Valve
10M Double Pipe Ram
3" Kill Line Valve
3" HCR Valve
3" Kill Line Valve
3" Manual Choke Valve
H.C.R.
10M Blind Ram
Drilling Spool
10M Casing Bowl

1. Component and Preventer Compatibility Table

The table below covers drilling and casing of the 10M MASP portion of the well and outlines the tubulars and the compatible preventers in use. Combined with the mud program, the below documents that two barriers to flow can be maintained at all times, independent of the rating of the annular preventer.

Component	OD	Preventer	RWP
Drill Pipe	5"	Upper 5"-7" VBR Lower 5"-7" VBR	10M
HWDP	5"		
Drill Collars and MWD	6"-6.75"		
Mud Motor	6.75"-7.25"		
Production Casing	6"		
ALL		Annular	5M
Open-hole	0-13.625"	Blind Rams	10M

VBR = Variable Bore Ram with compatible range listed in chart.

2. Well Control and Shut-In Procedures

Well control procedures are specific to the rig equipment and the operation at the time the kick occurs. Below are minimum tasks prescribed to assure a proper shut-in while drilling, tripping, running casing, pipe out of the hole (open hole), and moving the BHA through the BOPs. The maximum pressure at which well control is transferred from the annular to another compatible ram is 2500 psi.

Drilling:

1. Sound the alarm (alert rig crew)
2. Space out the drill string
3. Shut down pumps and stop the rotary
4. Shut-in the well with the annular with HCR and choke in closed position
5. Confirm the well is shut-in
6. Notify contractor and company representatives
7. Read and record the following data
    - Time of shut-in
    - SIDPP and SICP
    - Pit gain
8. If pressure has increased to or is anticipated to increase to 2500 psi, confirm spacing and close the upper pipe rams.
9. Prepare for well kill operation.

Tripping:

1. Sound alarm (alert rig crew)
2. Stab full opening safety valve and close the valve
3. Space out the drill string
4. Shut-in the well with the annular with HCR and choke in closed position
5. Confirm shut-in
6. Notify contractor and company representatives
7. Read and record the following data:

- Time of shut-in
- SIDPP and SICP
- Pit gain

8. If pressure has increased to or is anticipated to increase to 2500 psi, confirm spacing and close the upper pipe rams.
9. Prepare for well kill operation.

Running Casing

1. Sound alarm (alert rig crew)
2. Stab crossover and valve and close the valve
3. Shut-in the well with annular with HCR and choke in closed position
4. Confirm shut-in
5. Notify contractor and company representatives
6. Read and record the following data
   - Time of shut-in
   - SIDPP and SICP
   - Pit gain
7. If pressure has increased to or is anticipated to increase to 2500 psi, confirm spacing and close the upper pipe rams.
8. Prepare for well kill operation

No Pipe in Hole (Open Hole)

1. At any point when pipe or BHA are not in BOP stack, well will be shut in with blind rams, HCR will be open and choke will be closed. If pressure increase is observed:
2. Sound alarm (alert crew)
3. Confirm shut-in
4. Notify contractor and company representatives
5. Read and record the following data
   - Time of shut-in
   - Time of pressure increase
   - SICP
6. Prepare for well kill operation

Pulling BHA through BOP Stack

1. Prior to pulling last joint/stand of drillpipe through the stack, perform a flow check. If well is flowing:
   a. Sound alarm (alert crew)
   b. Stab full opening safety valve and close the valve
   c. Space out drill string with tooljoint just beneath the upper pipe ram.
   d. Shut-in the well with upper pipe ram with HCR and choke in closed position
   e. Confirm shut-in
   f. Notify contractor and company representatives
   g. Read and record the following data
      - Time of shut-in
      - SIDPP and SICP
      - Pit gain
   h. Prepare for well kill operation.

2. With BHA in the stack:
    a. If possible to pick up high enough, pull BHA clear of the stack
        i. Follow "Open Hole" procedure above
    b. If impossible to pick up high enough to pull BHA clear of the stack:
        i. Stab crossover, make up one joint/stand of drillpipe, and full opening safety valve and close
        ii. Space out drill string with tooljoint just beneath the upper pipe ram.
        iii. Shut-in the well with upper pipe ram with HCR and choke in closed position
        iv. Confirm shut-in
        v. Notify contractor and company representatives
        vi. Read and record the following:
            - Time of shut-in
            - SIDPP and SICP
            - Pit gain
        vii. Prepare for well kill operation.

3. Well Control Drills

Well control drills are specific to the rig equipment, personnel and operation at the time a kick occurs. Each crew will execute one drill weekly relevant to ongoing operations, but will make a reasonable attempt to vary the type of drills. The drills will be recorded in the daily drilling log. Below are minimum tasks for respective well control drills.

Drilling/Pit:

Action	Responsible Party
Initiate Drill • Lift Flow Sensor or Pit Float to indicate a kick • Immediately record start time	Company Representative / Rig Manager
Recognition • Driller and/or Crew recognizes indicator • Driller stop drilling, pick up off bottom and spaces out drill string, stop pumps and rotary • Conduct flow check	Driller
Initiate Action • Sound alarm, notify rig crew that the well is flowing	Company Representative / Rig Manager
Reaction • Driller moves BOP remote and stands by • Crew is at their assigned stations • Time is stopped • Record time and drill type in the Drilling Report	Driller / Crew

Tripping Pit Drills (either in the hole or out of the hole)

Action	Responsible Party
Initiate Drill • Lift Flow Sensor or Pit Float to indicate a kick • Immediately record start time	Company Representative / Rig Manager
Recognition • Driller recognizes indicator • Suspends tripping operations • Conduct Flow Check	Driller
Initiate Action • Sound alarm, notify rig crew that the well is flowing	Company Representative / Rig Manager
Reaction • Position tool joint above rotary and set slips • Stab FOSV and close valve • Driller moves to BOP remote and stands by • Crew is at their assigned stations • Time is stopped • Record time and drill type in the Drilling Report	Driller / Crew

Choke

Action	Responsible Party
• Have designated choke operator on station at the choke panel • Close annular preventer • Pressure annulus up 200-300 psi • Pump slowly to bump the float and obtain SIDPP • At choke operator instruction, slowly bring pumps online to slow pump rate while holding casing pressure constant at the SICP. • Allow time for the well to stabilize. Mark and record circulating drillpipe pressure. • Measure time lag on drillpipe gauge after choke adjustments. • Hold casing pressure constant as pumps are slowed down while choke is closed. • Record time and drill type in the Drilling Report	Company Man / Rig Manager & Rig Crew

Operator	Caza Operating LLC
Well Name & No.	Comanche 10H
County	Lea
Location (S/T/R/Ali)	
Lease Number	
ATS or EC #	APD### or EC###

Colors:	
Choose casings	
Fill in, if applicable	

Name	
Date	
Version	

Remarks

ral 6H Lea NM114998 Caza Operating LLC 13-22 10052019 LV

Type of Casing	Size of Hole (in)	Size of Casing (in)	Weight per Foot (lbs/ft)	Grade	Yield	Coupling #:	Top (ft)	Bottom (MD) (ft)	Setting Depth (TVD) (TVD of entire string) (ft)	Min Mud Weight (ppg)	Max Mud Weight (ppg)	ID	Drift ID	Cplg OD
Surface	17.500	13.375	68.00	j	55	stc	0	1000	1000	8.40	8.90	12.4150	12.2900	14.3750
Int 1	12.250	9.625	40.00	hcl	80	btc	0	7231	11200	9.20	10.00	8.8350	8.7500	10.6250
Int 1 Taper 1	12.250	9.625	47.00	hcl	80	btc	7231	11235	11200	9.20	10.00	8.6810	8.6250	10.6250
<Choose Casing>														
Prod 1	8.500	6.000	24.50	p	110	btc	0	20074.5	12685	9.20	12.50	5.2000	5.0750	6.8750
<Choose Casing>														
<Choose Casing>														

Cement

Surface			Int 1			Prod 1			<Choose Casing>			<Choose Casing>		
TOC	0		TOC	0		TOC	0		TOC			TOC		
DV Depth			DV Depth	4900		DV Depth			DV Depth			DV Depth		
	Sacks	Yield (ft3/sx)			Yield (ft3/sx)		Sacks	Yield (ft3/sx)		Sacks	Yield (ft3/sx)		Sacks	Yield (ft3/sx)
Lead	505	1.93	Lead	1720	2.13	Lead 1	1625	2.38	Lead 1			Lead 1		
Tail	309	1.35	Tail	232	1.35	Tail 1	2880	1.62	Tail 1			Tail 1		
DV Lead			DV Lead	1370	2.13	DV Lead			DV Lead			DV Lead		
DV Tail			DV Tail	150	1.35	DV Tail			DV Tail			DV Tail		
Cmt Added	1391.80	cuft	Cement Added	3976.8 / 3120.6	cuft	Cement Added	8533.10	cuft	Cement Added	#N/A	cuft	Cement Added	#N/A	cuft
Cmt Req.	695	cuft	Cement Req.	1984 / 1556.8	cuft	Cement Req.	4266	cuft	Cement Req.	0	cuft	Cement Req.	0	cuft
Excess	100.36%		Excess	100.4% / 100.4%		Excess	100.04%		Excess	#N/A		Excess	#N/A	

Clearances	in Hole	In Surface	In Int 1	In Int 1 Taper 1		In Prod 1		
Surface	Pass = 1.5625							
Int 1	Pass = 0.8125	Pass = 0.895						
Int 1 Taper 1	Pass = 0.8125	No Overlap	No Overlap					
Prod 1	Pass = 0.8125	Pass = 2.77	Pass = 0.98	Pass = 0.903	No Overlap			

Safety Factors	Joint/Body	Collapse	Burst	Alt Burst
Surface	9.93	4.22	0.59	1.03
Int 1	1.92	1.13	0.70	1.06
Int 1 Taper 1	5.77	1.22	0.83	1.26
Prod 1	2.58	1.39	1.56	2.36

BOP Requirements After the Shoe

Surface		Int 1		Prod 1	
Max. Surf. Pressure	3354 psi	Max. Surf. Pressure	5446 psi	Max. Surf. Pressur	psi
BOP Required	5M System	BOP Required	10M System	BOP Required	System
<Choose Casing>					
Max. Surf. Pressure	psi				
BOP Required	System				

Operator	Caza Operating LLC
Well Name & No.	Comanche 10H
County	Lea
Location (S/T/R/Ali)	
Lease Number	
ATS or EC #	APD### or EC###

Colors:
Choose casings
Fill in, if applicable

Name	
Date	
Version	

Remarks

ral 6H Lea NM114998 Caza Operating LLC 13-22 10052019 LV

Type of Casing	Size of Hole (in)	Size of Casing (in)	Weight per Foot (lbs/ft)	Grade	Yield	Coupling #:	Top (ft)	Bottom (MD) (ft)	Setting Depth (TVD) (TVD of entire string) (ft)	Min Mud Weight (ppg)	Max Mud Weight (ppg)	ID	Drift ID	Cplg OD
Surface	17.500	13.375	68.00	j	55	stc	0	1000	1000	8.40	8.90	12.4150	12.2900	14.3750
Int 1	12.250	9.625	40.00	hcl	80	btc	0	7231	11200	9.20	10.00	8.8350	8.7500	10.6250
Int 1 Taper 1	12.250	9.625	47.00	hcl	80	btc	7231	11235	11200	9.20	10.00	8.6810	8.6250	10.6250
<Choose Casing>														
Prod 1	8.500	6.000	24.50	p	110	btc	0	20074.5	12685	9.20	12.50	5.2000	5.0750	6.8750
<Choose Casing>														
<Choose Casing>														

Cement

Surface			Int 1			Prod 1			<Choose Casing>			<Choose Casing>		
TOC	0		TOC	0		TOC	0		TOC			TOC		
DV Depth			DV Depth	4900		DV Depth			DV Depth			DV Depth		
	Sacks	Yield (ft3/sx)			Yield (ft3/sx)		Sacks	Yield (ft3/sx)		Sacks	Yield (ft3/sx)		Sacks	Yield (ft3/sx)
Lead	505	1.93	Lead	1720	2.13	Lead 1	1625	2.38	Lead 1			Lead 1		
Tail	309	1.35	Tail	232	1.35	Tail 1	2880	1.62	Tail 1			Tail 1		
DV Lead			DV Lead	1370	2.13	DV Lead			DV Lead			DV Lead		
DV Tail			DV Tail	150	1.35	DV Tail			DV Tail			DV Tail		
Cmt Added	1391.80	cuft	Cement Added	3976.8 / 3120.6	cuft	Cement Added	8533.10	cuft	Cement Added	#N/A	cuft	Cement Added	#N/A	cuft
Cmt Req.	695	cuft	Cement Req.	1984 / 1556.8	cuft	Cement Req.	4266	cuft	Cement Req.	0	cuft	Cement Req.	0	cuft
Excess	100.36%		Excess	100.4% / 100.4%		Excess	100.04%		Excess	#N/A		Excess	#N/A	

Clearances	in Hole	In Surface	In Int 1	In Int 1 Taper 1		In Prod 1		
Surface	Pass = 1.5625							
Int 1	Pass = 0.8125	Pass = 0.895						
Int 1 Taper 1	Pass = 0.8125	No Overlap	No Overlap					
Prod 1	Pass = 0.8125	Pass = 2.77	Pass = 0.98	Pass = 0.903	No Overlap			

Safety Factors	Joint/Body	Collapse	Burst	Alt Burst
Surface	9.93	4.22	0.59	1.03
Int 1	1.92	1.13	0.70	1.06
Int 1 Taper 1	5.77	1.22	0.83	1.26
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BOP Requirements After the Shoe

Surface		Int 1		Prod 1	
Max. Surf. Pressure	3354 psi	Max. Surf. Pressure	5446 psi	Max. Surf. Pressur	psi
BOP Required	5M System	BOP Required	10M System	BOP Required	System
<Choose Casing>					
Max. Surf. Pressure	psi				
BOP Required	System				

Operator	Caza Operating LLC
Well Name & No.	Comanche 10H
County	Lea
Location (S/T/R/Ali)	
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Int 1	12.250	9.625	40.00	hcl	80	btc	0	7231	11200	9.20	10.00	8.8350	8.7500	10.6250
Int 1 Taper 1	12.250	9.625	47.00	hcl	80	btc	7231	11235	11200	9.20	10.00	8.6810	8.6250	10.6250
<Choose Casing>														
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<Choose Casing>														
<Choose Casing>														

Cement

Surface			Int 1			Prod 1			<Choose Casing>			<Choose Casing>		
TOC	0		TOC	0		TOC	0		TOC			TOC		
DV Depth			DV Depth	4900		DV Depth			DV Depth			DV Depth		
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DV Tail			DV Tail	150	1.35	DV Tail			DV Tail			DV Tail		
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Cmt Req.	695	cuft	Cement Req.	1984 / 1556.8	cuft	Cement Req.	4266	cuft	Cement Req.	0	cuft	Cement Req.	0	cuft
Excess	100.36%		Excess	100.4% / 100.4%		Excess	100.04%		Excess	#N/A		Excess	#N/A	

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Surface	Pass = 1.5625							
Int 1	Pass = 0.8125	Pass = 0.895						
Int 1 Taper 1	Pass = 0.8125	No Overlap	No Overlap					
Prod 1	Pass = 0.8125	Pass = 2.77	Pass = 0.98	Pass = 0.903	No Overlap			

Safety Factors	Joint/Body	Collapse	Burst	Alt Burst
Surface	9.93	4.22	0.59	1.03
Int 1	1.92	1.13	0.70	1.06
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BOP Required	5M System	BOP Required	10M System	BOP Required	System
<Choose Casing>					
Max. Surf. Pressure	psi				
BOP Required	System				

Operator	Caza Operating LLC
Well Name & No.	Comanche 10H
County	Lea
Location (S/T/R/Ali)	
Lease Number	
ATS or EC #	APD### or EC###

Colors:	
Choose casings	
Fill in, if applicable	

Name	
Date	
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Remarks

ral 6H Lea NM114998 Caza Operating LLC 13-22 10052019 LV

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Int 1 Taper 1	12.250	9.625	47.00	hcl	80	btc	7231	11235	11200	9.20	10.00	8.6810	8.6250	10.6250
<Choose Casing>														
Prod 1	8.500	6.000	24.50	p	110	btc	0	20074.5	12685	9.20	12.50	5.2000	5.0750	6.8750
<Choose Casing>														
<Choose Casing>														

Cement

Surface			Int 1			Prod 1			<Choose Casing>			<Choose Casing>		
TOC	0		TOC	0		TOC	0		TOC			TOC		
DV Depth			DV Depth	4900		DV Depth			DV Depth			DV Depth		
	Sacks	Yield (ft3/sx)			Yield (ft3/sx)		Sacks	Yield (ft3/sx)		Sacks	Yield (ft3/sx)		Sacks	Yield (ft3/sx)
Lead	505	1.93	Lead	1720	2.13	Lead 1	1625	2.38	Lead 1			Lead 1		
Tail	309	1.35	Tail	232	1.35	Tail 1	2880	1.62	Tail 1			Tail 1		
DV Lead			DV Lead	1370	2.13	DV Lead			DV Lead			DV Lead		
DV Tail			DV Tail	150	1.35	DV Tail			DV Tail			DV Tail		
Cmt Added	1391.80	cuft	Cement Added	3976.8 / 3120.6	cuft	Cement Added	8533.10	cuft	Cement Added	#N/A	cuft	Cement Added	#N/A	cuft
Cmt Req.	695	cuft	Cement Req.	1984 / 1556.8	cuft	Cement Req.	4266	cuft	Cement Req.	0	cuft	Cement Req.	0	cuft
Excess	100.36%		Excess	100.4% / 100.4%		Excess	100.04%		Excess	#N/A		Excess	#N/A	

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Surface	Pass = 1.5625							
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Safety Factors	Joint/Body	Collapse	Burst	Alt Burst
Surface	9.93	4.22	0.59	1.03
Int 1	1.92	1.13	0.70	1.06
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Prod 1	2.58	1.39	1.56	2.36

BOP Requirements After the Shoe

Surface		Int 1		Prod 1	
Max. Surf. Pressure	3354 psi	Max. Surf. Pressure	5446 psi	Max. Surf. Pressur	psi
BOP Required	5M System	BOP Required	10M System	BOP Required	System
<Choose Casing>					
Max. Surf. Pressure	psi				
BOP Required	System				

Caza Oil and Gas, Inc

H2S Drilling Operations Plan

Sioux 25-36 State Fed Com 12H

Lea County, New Mexico

Prepared by: Steve Morris Date: 06/27/2018

Table of Contents

H2S Contingency Plan Section

Scope:

This contingency plan provides an organized plan of action for alerting and protecting the public within an area of exposure prior to an intentional release, of following the accidental release of a potentially hazardous volume of hydrogen sulfide. The plan establishes guidelines for all personnel whose work activity may involve exposure to Hydrogen Sulfide Gas (H2S).

Objective:

Prevent any and all accidents, and prevent the uncontrolled release of H2S into the atmosphere.

Provide proper evacuation procedures to cope with emergencies.

Provide immediate and adequate medical attention should an injury occur.

Implementation: This plan, with all details, is to be fully implemented 1000’ before drilling into the first sour zone.

Emergency Response Procedure: This section outlines the conditions and denotes steps to be taken in the event of an emergency.

Emergency Equipment and Procedure: This section outlines the safety and emergency equipment that will be required for the drilling of this well.

Training Provisions: This section outlines the training provisions that must be adhered to 1000’ before drilling into the first sour zone.

Emergency Call Lists: Included are the telephone numbers of all persons that would need to be contacted, should an H2S emergency occur.

Briefing: This section deals with the briefing of all persons involved with the drilling of this well.

Public Safety: Public safety personnel will be made aware of the drilling of this well.

Check Lists: Status check lists and procedural check lists have been included to ensure adherence to the plan.

General Information: A general information section has been included to supply support information.

Emergency Procedures Section

Emergency Procedures

I. **In the event of any evidence of H2S level above 10 ppm, take the following steps immediately:**
   A. Secure breathing apparatus.
   B. Order non-essential personnel out of the danger zone.
   C. Take steps to determine if the H2S level can be corrected or suppressed, and if so, proceed with normal operations.

II. **If uncontrollable conditions occur, proceed with the following:**
   A. Take steps to protect and/or remove any public downwind of the rig, including partial evacuation or isolation. Notify necessary public safety personnel and the New Mexico Oil & Gas of the situation.
   B. Remove all personnel to the safe briefing area.
   C. Notify public safety personnel for help with maintaining roadblocks and implementing evacuation.
   D. Determine and proceed with the best possible plan to regain control of the well. Maintain tight security and safety measures.

III. **Responsibility:**
   A. The company approved supervisor shall be responsible for the total implementation of the plan.
   B. The company approved supervisor shall be in complete command during any emergency.
   C. The company approved supervisor shall designate a backup supervisor in the event that he/she is not available.

Emergency Procedure Implementation

I. **Drilling or Tripping:**
   A. All Personnel
      1. When alarm sounds, don escape unit and report to upwind safe briefing area.
      2. Check status of other personnel (buddy system).
      3. Secure breathing apparatus.
      4. Wait for orders from supervisor.
   B. Drilling Foreman
      1. Report to the upwind safe briefing area.
      2. Don breathing apparatus and return to the point of release with the Tool pusher of Driller (buddy system).
      3. Determine the concentration of H2S.
      4. Address the situation and take appropriate control measures.
   C. Tool Pusher
      1. Report to the upwind safe briefing area.
      2. Don breathing apparatus and return to the point of release with the Drilling Foreman or the Driller (buddy system).

3. Determine the concentration.
4. Address the situation and take appropriate control measures.

D. Driller
1. Check the status of other personnel (in a rescue attempt, always use the buddy system).
2. Assign the least essential person to notify the Drilling Foreman and Tool Pusher, in the event of their absence.
3. Assume the responsibility of the Drilling Foreman and the Tool Pusher until they arrive, in the event of their absence.

E. Derrick Man and Floor Hands
1. Remain in the upwind safe briefing area until otherwise instructed by a supervisor.

F. Mud Engineer
1. Report to the upwind safe briefing area.
2. When instructed, begin check of mud for PH level and H2S level.

G. Safety Personnel
1. Don breathing apparatus.
2. Check the status of all personnel.
3. Wait for instructions from Drilling Foreman or Tool Pusher.

II. Taking a Kick:

A. All personnel report to the upwind safe briefing area.
B. Follow standard BOP procedures.

III. Open Hole Logging:

A. All unnecessary personnel should leave the rig floor.
B. Drilling Foreman and Safety personnel should monitor the conditions and make necessary safety equipment recommendations.

IV. Running Casing or Plugging:

A. Follow “Drilling or Tripping” procedures.
B. Assure that all personnel have access to protective equipment.

Simulated Blowout Control Drills

All drills will be initiated by activating alarm devices (air horn). One long blast on the air horn for ACTUAL and SIMULATED blowout control drills. This operation will be performed by the Drilling Foreman or Tool Pusher at least one time per week for each of the following conditions, with each crew:

Drill #1	On-bottom Drilling
Drill #2	Tripping Drill Pipe

In each of these drills, the initial reaction time to shutting in the well shall be timed as well as the total time for the crew to complete its entire put drill assignment. The times must be recorded on the IADC Driller’s log as “Blowout Control Drill”.

Drill No.:		
Reaction Time to Shut-in:	minutes,	seconds.
Total Time to Complete Assignment:	minutes,	seconds.

I. Drill Overviews:
   A. Drill No. 1 – On-bottom Drilling
      1. Sound the alarm immediately.
      2. Stop the rotary and hoist the Kelly joint above the rotary table.
      3. Stop the circulatory pump.
      4. Close the drill pipe rams.
      5. Record casing and drill pipe shut-in pressures and pit volume increases.
   B. Drill No. 2 – Tripping Drill Pipe:
      1. Sound the alarm immediately.
      2. Position the upper tool joint just above the rotary table and set the slips.
      3. Install a full opening valve inside blowout preventer tool in order to close the drill pipe.
      4. Close the drill pipe rams.
      5. Record the shut-in annular pressure.

II. Crew Assignments
   A. Drill No. 1 – On-bottom Drilling:
      1. Driller
         a) Stop the rotary and hoist the Kelly joint above the rotary table.
         b) Stop the circulatory pump.
         c) Check flow.
         d) If flowing, sound the alarm immediately.
         e) Record the shut-in drill pipe pressure.
         f) Determine the mud weight increase needed or other courses of action.
      2. Derrick Man
         a) Open choke line valve at BOP.
         b) Signal Floor Man #1 at accumulator that choke line is open.
         c) Close choke upstream valve after pipe rams have been closed.
         d) Read the shut-in annular pressure and report readings to Driller.
      3. Floor Man #1
         a) Close the pipe rams after receiving the signal from the Derrick Man.
         b) Report to Driller for further instructions.
      4. Floor Man #2
         a) Notify the Tool Pusher and Operator Representative of the H2S alarms.
         b) Check for open fires and, if safe to do so, extinguish them.
         c) Stop all welding operations.
         d) Turn-off all non-explosive proof lights and instruments.

e) Report to Driller for further instructions.

5. Tool Pusher
   a) Report to the rig floor.
   b) Have a meeting with all crews.
   c) Compile and summarize all information.
   d) Calculate the proper kill weight.
   e) Ensure that proper well procedures are put into action.
6. Operator Representative
   a) Notify the Drilling Superintendent.
   b) Determine if an emergency exists and if so, activate the contingency plan.

B. Drill No. 2 – Tripping Pipe:
1. Driller
   a) Sound the alarm immediately when mud volume increase has been detected.
   b) Position the upper tool joint just above the rotary table and set slips.
   c) Install a full opening valve or inside blowout preventer tool to close the drill pipe.
   d) Check flow.
   e) Record all data reported by the crew.
   f) Determine the course of action.
2. Derrick Man
   a) Come down out of derrick.
   b) Notify Tool Pusher and Operator Representative.
   c) Check for open fires and, if safe to do so, extinguish them.
   d) Stop all welding operations.
   e) Report to Driller for further instructions.

3. Floor Man #1
   a) Pick up full opening valve or inside blowout preventer tool and slab into tool join above rotary table (with Floor Man #2)
   b) Tighten valve with back-up tongs.
   c) Close pipe rams after signal from Floor Man #2.
   d) Read accumulator pressure and check for possible high pressure fluid leaks in valves or piping.
   e) Report to Driller for further instructions.
4. Floor Man #2
   a) Pick-up full opening valve or inside blowout preventer tool and tab into tool joint above rotary table (with Floor Man #1)
   b) Position back-up tongs on drill pipe.
   c) Open choke line valve at BOP.
   d) Signal Floor Man #1 at accumulator that choke line is open.
   e) Close choke and upstream valve after pipe rams have been closed.
   f) Check for leaks on BOP stack and choke manifold.

g) Read annular pressure.
h) Report readings to the Driller.

5. Tool Pusher
   a) Report to the rig floor.
   b) Have a meeting with all of the crews.
   c) Compile and summarize all information.
   d) See that proper well kill procedures are put into action.
6. Operator Representative
   a) Notify Drilling Superintendent.
   b) Determine if an emergency exists, and if so, activate the contingency plan

Ignition Procedures

Responsibility:

The decision to ignite the well is responsibility of the DRILLING FOREMAN in concurrence with the STATE POLICE. In the event of the Drilling Foreman is incapacitated, it becomes the responsibility of the RIG TOOL PUSHER. This decision should be made only as a last resort and in a situation where it is clear that:

1. Human life and property are endangered.
2. There is no hope of controlling the blowout under the prevailing conditions.

If time permits, notify the main office, but do not delay if human life is in danger. Initiate the first phase of the evacuation plan.

Instructions for Igniting the Well:

1. Two people are required for the actual igniting operation. Both men must wear self-contained breathing apparatus and must use a full body harness and attach a retrievable safety line to the D-Ring in the back. One man must monitor the atmosphere for explosive gases with the LEL monitor, while the Drilling Foreman is responsible for igniting the well.
2. The primary method to ignite is a 25mm flare gun with a range of approximately 500 feet.
3. Ignite from upwind and do not approach any closer than is warranted.
4. Select the ignition site best suited for protection and which offers an easy escape route.
5. Before igniting, check for the presence of combustible gases.
6. After igniting, continue emergency actions and procedures as before.
7. All unassigned personnel will limit their actions to those directed by the Drilling Foreman.

NOTE: After the well is ignited, burning Hydrogen Sulfide will convert to Sulfur Dioxide, which is also highly toxic. Do not assume the area is safe after the well is ignited.

Training Program

When working in an area where Hydrogen Sulfide (H2S) might be encountered, definite training requirements for all personnel must be carried out. The Company Supervisor will ensure that all personnel at the well site have had adequate training in the following:

1. Hazards and Characteristics of Hydrogen Sulfide.
2. Physicals effects of Hydrogen Sulfide on the human body.
3. Toxicity of Hydrogen Sulfide and Sulfur Dioxide.
4. H2S detection, emergency alarm and sensor location.
5. Emergency rescue.
6. Resuscitators.
7. First aid and artificial resuscitation.
8. The effects of Hydrogen Sulfide on metals.
9. Location safety.

Service company personnel and visiting personnel must be notified if the zone contains H2S, and each service company must provide adequate training and equipment for their employees before they arrive at the well site.

Emergency Equipment Requirements

Lease Entrance Sign:

Should be located at the lease entrance with the following information:

CAUTION- POTENTIAL POISON GAS HYDROGEN SULFIDE

Well Control Equipment:

- A flare line will be located a minimum of 150' from the wellhead to be ignited by a flare gun.
- The choke manifold will include a remotely operated choke.
- A mud/gas separator will be installed to separate gas from the drilling mud.

Mud Program:

The drilling mud program has been designed to minimize the volume of hydrogen sulfide (H2S) circulated to surface. The operator will have the necessary mud products on location to minimize the hazards while drilling in H2S-bearing zones.

Metallurgy:

- All drill strings , casings, tubing, wellhead equipment , the blowout preventer , the drilling spool, kill lines, choke manifold and lines, and all valves shall be suitable for H2S service.
- All elastomers used for packing and seals shall be H2S trim.

Respiratory Equipment:

- Fresh air breathing equipment should be placed at the safe briefing areas and should include the following: Two SCBA's will be placed at each briefing area. A moveable breathing air trailer with 2 SCBA's, 5 work/escape units, ample breathing air hose and manifolds will be on location. The breathing air hose will be installed on the rig floor and derrick along with breathing air manifolds so that it will not restrict work activity. All employees that may wear respiratory will complete a MEQ and be quantitative fit tested 1000' prior to the 1st zone that may contain H2S.

Windsocks or Wind Streamers:

- A minimum of two 10" windsocks located at strategic locations so that they may be seen from any point on location. More will be used if necessary for wind consciousness.
- Wind streamers (if preferred) should be placed at various locations on the well site to ensure wind consciousness at all times. (Corners of location).

Hydrogen Sulfide Detector and Alarms:

- 1 - Four channel H2S monitor with audible and visual alarms, strategically located to be seen and heard by all employees working on the well site. All sensors will be bump tested or calibrated if necessary on a weekly basis. The alarms will be set to visually alarm at 10 PPM and audible at 14 PPM.
- Four (4) sensors located as follows: #1 -Rig Floor, #2 & #3- Bell Nipple, #4- End of flow line where wellbore fluid is discharged.
- Portable color metric tube detector with tubes will be stored in the Tool Pusher trailer.

Well Condition Sign and Flags:

The Well Condition Sign with flags should be placed a minimum of 150' before entry to the location. It should have three (3) color coded flags (green, yellow and red) that will be used to denote the following location conditions:

GREEN - Normal Operating Conditions

YELLOW - Potential Danger

RED - Danger, H2S Gas Present

Auxiliary Rescue Equipment:

- Stretcher (drilling contractor)
- 2- 100' OSHA approved Rescue lines (drilling contractor)
- First Aid Kit properly stocked (drilling contractor)

Mud Inspection Equipment:

Garret Gas Train or Hach Tester for inspection of Hydrogen Sulfide in the drilling mud system.

Fire Extinguishers:

Adequate fire extinguishers shall be located at strategic locations (provided by drilling contractor)

Blowout Preventer:

- The well shall have hydraulic BOP equipment for the anticipated BHP.
- The BOP should be tested upon installation.
- BOP, Choke Line and Kill Line will be tested as specified by Operator.

Confined Space Monitor:

There should be a portable multi-gas monitor with at least 3 sensors (02, LEL & H2S). This instrument should be used to test the atmosphere of any confined space before entering. It should also be used for atmospheric testing for LEL gas before beginning any type of Hot Work. Proper calibration documentation will need to be provided. (Supplied by Drilling Contractor)

Communication Equipment:

- Proper communication equipment such as cell phones or 2 -way radios should be available at the rig.
- Radio communication shall be available for communication between the company man's trailer, rig floor and the tool pusher's trailer.
- Communication equipment shall be available on the vehicles.

Special Control Equipment:

- Hydraulic BOP equipment with remote control on the ground.
- Rotating head at the surface casing point.
- BOP, Choke Manifold and Process Flow Diagrams (see the attached - previously submitted)
- Patriot Rig #5 SM Choke Manifold Equipment (see the attached - previously submitted)

Evacuation Plan:

- Evacuation routes should be established prior to spudding the well.
- Should be discussed with all rig personnel.

Designated Areas:

Parking and Visitor area:

- All vehicles are to be parked at a pre-determined safe distance from the wellhead.
- Designated smoking area.

Safe Briefing Areas:

- Two safe briefing Areas shall be designated on either side of the location at the maximum allowable distance from the well bore so they offset prevailing winds or they are at a 180 degree angle if wind directions tend to shift in the area.
- Personal protective equipment should be stored at both briefing areas or if a moveable cascade trailer is used, it should be kept upwind of existing winds. When wind is from the prevailing direction, both briefing areas should be accessible.

NOTES:

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- Additional personal H2S monitors are available for all employees on location.
- Automatic Flare Igniters are recommended for installation on the rig.

CHECK LISTS

Status Check List

Note: Date each item as they are implemented.

1. Sign at location entrance.
2. Two (2) wind socks (in required locations).
3. Wind Streamers (if required).
4. SCBA's on location for all rig personnel and mud loggers.
5. Air packs, inspected and ready for use.
6. Spare bottles for each air pack (if required).
7. Cascade system for refilling air bottles.
8. Cascade system and hose line hook up.
9. Choke manifold hooked-up and tested. (Before drilling out surface casing.)
10. Remote Hydraulic BOP control (hooked-up and tested before drilling out surface casing).
11. BOP tested (before drilling out surface casing).
12. Mud engineer on location with equipment to test mud for H2S.
13. Safe Briefing Areas set-up.
14. Well Condition sign and flags on location and ready.
15. Hydrogen Sulfide detection system hooked-up & tested.
16. Hydrogen Sulfide alarm system hooked-up & tested.
17. Stretcher on location at Safe Briefing Area.
18. 2-100' OSHA Approved Life Lines on location.
19. 1-20# Fire Extinguisher in safety trailer.
20. Confined Space Monitor on location and tested.
21. All rig crews and supervisor trained (as required).
22. Access restricted for unauthorized personnel.
23. Drills on H2S and well control procedures.
24. All outside service contractors advised of potential H2S on the well.
25. NO SMOKING sign posted.
26. H2S Detector Pump w/tubes on location.
27. 25mm Flare Gun on location w/flares.
28. Automatic Flare Igniter installed on rig.

Procedural Check List

Perform the following on each tour:

1. Check fire extinguishers to see that they have the proper charge.
2. Check breathing equipment to insure that they have not been tampered with.
3. Check pressure on the supply air bottles to make sure they are capable of recharging.
4. Make sure all of the Hydrogen Sulfide detection systems are operative.

Perform the following each week:

1. Check each piece of breathing equipment to make sure that they are fully charged and operational. This requires that the air cylinder be opened and the mask assembly be put on and tested to make sure that the regulators and

masks are properly working. Negative and positive pressure should be conducted on all masks.
2. BOP skills.
3. Check supply pressure on BOP accumulator stand-by source.
4. Check all breathing air mask assemblies to see that straps are loosened and turned back, ready to use.
5. Check pressure on cascade air cylinders to make sure they are fully charged and ready to use for refill purposes if necessary.
6. Check all cascade system regulators to make sure they work properly.
7. Perform breathing drills with on-site personnel.
8. Check the following supplies for availability:
    - Stretcher
    - Safety Belts and ropes.
    - Spare air bottles.
    - Spare oxygen bottles (if resuscitator required).
    - Gas Detector Pump and tubes.
    - Emergency telephone lists.
9. Test the Confined Space Monitor to verify the batteries are good and that the unit is in good working condition and has been properly calibrated according to manufacturer's recommendations.

Briefing Procedures

The following scheduled briefings will be held to ensure the effective drilling and operation of this project:

Pre-Spud Meeting

Date: Prior to spudding the well.

Attendance: Drilling Supervisor
Drilling Engineer
Drilling Foreman
Rig Tool Pushers
Mud Engineer
All Safety Personnel
Key Service Company Personnel

Purpose: Review and discuss the well program, step-by-step, to ensure complete understanding of assignments and responsibilities.

Evacuation Plan

General Plan

The direct lines of action prepared by Caza SAFETY, to protect the public from hazardous gas situations are as follows:

1. When the company approved supervisor (Drilling Foremen, Tool Pusher or Driller) determine that Hydrogen Sulfide gas cannot be limited to the well location, and the public will be involved, he will activate the evacuation plan. Escape routes are noted on the Area Map.
2. Company safety personnel or designee will notify the appropriate local government agency that a hazardous condition exists and evacuation needs to be implemented.
3. Company approved safety personnel that have been trained in the use of the proper emergency equipment will be utilized.
4. Law enforcement personnel (State Police, Local Police Department, Fire Department, and the Sheriff's Department) will be called to aid in setting up and maintaining road blocks. Also, they will aid in evacuation of the public if necessary.

NOTE: Law enforcement personnel will not be asked to come into a contaminated area. Their assistance will be limited to uncontaminated areas. Constant radio contact will be maintained with them.

5. After the discharge of gas has been controlled, "Company" safety personnel will determine when the area is safe for re-entry.

Emergency Assistance Telephone List

PUBLIC SAFETY: 911 or

Lea County Sheriff or Police..... (575) 396-3611

Fire Department .....(575) 397-9308

Hospital ..... (575) 492-5000

Ambulance 911

Department of Public Safety..... (392) 392-5588

Oil Conservation Division .....(575) 748-1823

New Mexico Energy, Minerals & Natural Resources Department .....(575) 748-1283

Caza Oil and Gas, Inc:

Office .....(423) 682-7424

VP Operations: Tony Sam

Office .....(423) 682-7424

Cell .....(432) 556-6708

Project Manager: Steve Morris

Cell .....(972) 835-3315

Project Manager: Joel Stockford

Cell .....(972) 835-3349

The geologic zones that will be encountered during drilling may contain hazardous quantities of H2S. The accompanying map illustrates the affected areas of the community. The residents within this radius will be notified via a hand delivered written notice describing the activities, potential hazards, and conditions of evacuation, evacuation drill siren alarms and other precautionary measures.

Evacuee Description:

Residents: THERE ARE NO RESIDENTS WITHIN 3000' ROE.

Notification Process:

A continuous siren audible to all residence will be activated, signaling evacuation of previously notified and informed residents.

Evacuation Plan:

All evacuees will migrate laterally toward the wind direction.

Caza Oil and Gas, Inc. will identify all home bound or highly susceptible individuals and make special evacuation preparations, interfacing with the local and emergency medical service as necessary.

MAPS AND PLATS

See the attached map showing the 3000' ROE clarification.

CAZA OPERATING LLC

Lea County, NM
Comanche 26-35 Federal State Com Pad
10H

Wellbore #1

Plan: Plan #1 Permit

Standard Planning Report

11 October, 2021

Planning Report

Database:	EDM 5000.15 Multi User	**Local Co-ordinate Reference:**	Well 10H
Company:	CAZA OPERATING LLC	**TVD Reference:**	2946+24 @ 2970.00usft (Citadel4)
Project:	Lea County, NM	**MD Reference:**	2946+24 @ 2970.00usft (Citadel4)
Site:	Comanche 26-35 Federal State Com Pad	**North Reference:**	Grid
Well:	10H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 Permit		

Project	Lea County, NM		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Comanche 26-35 Federal State Com Pad, centered on 7H				
Site Position:		**Northing:**	372,737.59 usft	**Latitude:**	32.020665
From:	Map	**Easting:**	856,277.29 usft	**Longitude:**	-103.317155
Position Uncertainty:	0.00 usft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.54 °

Well	10H				
Well Position	**+N/-S**	-0.49 usft	**Northing:**	372,737.10 usft	**Latitude:**	32.020665
	+E/-W	-60.00 usft	**Easting:**	856,217.29 usft	**Longitude:**	-103.317349
Position Uncertainty		0.00 usft	**Wellhead Elevation:**		**Ground Level:**	2,946.00 usft

Wellbore	Wellbore #1				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	HDGM_FILE	10/11/2021	6.28	59.60	47,391

Design	Plan #1 Permit				
Audit Notes:					
Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.00	0.00	0.00	184.57	

Plan Survey Tool Program **Date** 10/11/2021

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	20,074.50	Plan #1 Permit (Wellbore #1)	MWD+HRGM OWSG Rev5	
				OWSG MWD + HRGM	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,600.20	6.00	285.46	1,599.65	4.19	-15.15	2.00	2.00	0.00	285.46	
7,915.54	6.00	285.46	7,880.35	180.33	-651.80	0.00	0.00	0.00	0.00	
8,215.74	0.00	0.00	8,180.00	184.52	-666.95	2.00	-2.00	0.00	180.00	Comanche 26-35 FSC
12,199.87	0.00	0.00	12,164.13	184.52	-666.95	0.00	0.00	0.00	0.00	
13,018.05	90.00	179.42	12,685.00	-336.32	-661.72	11.00	11.00	21.93	179.42	
20,074.50	90.00	179.42	12,685.00	-7,392.42	-590.89	0.00	0.00	0.00	0.00	Comanche 26-35 FSC

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Project:	Lea County, NM	**MD Reference:**	2946+24 @ 2970.00usft (Citadel4)
Site:	Comanche 26-35 Federal State Com Pad	**North Reference:**	Grid
Well:	10H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 Permit		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	2.00	285.46	1,399.98	0.47	-1.68	-0.33	2.00	2.00	0.00
1,500.00	4.00	285.46	1,499.84	1.86	-6.73	-1.32	2.00	2.00	0.00
1,600.20	6.00	285.46	1,599.65	4.19	-15.15	-2.97	2.00	2.00	0.00
1,700.00	6.00	285.46	1,698.90	6.97	-25.21	-4.94	0.00	0.00	0.00
1,800.00	6.00	285.46	1,798.35	9.76	-35.29	-6.92	0.00	0.00	0.00
1,900.00	6.00	285.46	1,897.81	12.55	-45.37	-8.90	0.00	0.00	0.00
2,000.00	6.00	285.46	1,997.26	15.34	-55.45	-10.87	0.00	0.00	0.00
2,100.00	6.00	285.46	2,096.71	18.13	-65.53	-12.85	0.00	0.00	0.00
2,200.00	6.00	285.46	2,196.16	20.92	-75.61	-14.83	0.00	0.00	0.00
2,300.00	6.00	285.46	2,295.61	23.71	-85.69	-16.80	0.00	0.00	0.00
2,400.00	6.00	285.46	2,395.06	26.50	-95.77	-18.78	0.00	0.00	0.00
2,500.00	6.00	285.46	2,494.52	29.29	-105.86	-20.76	0.00	0.00	0.00
2,600.00	6.00	285.46	2,593.97	32.08	-115.94	-22.74	0.00	0.00	0.00
2,700.00	6.00	285.46	2,693.42	34.86	-126.02	-24.71	0.00	0.00	0.00
2,800.00	6.00	285.46	2,792.87	37.65	-136.10	-26.69	0.00	0.00	0.00
2,900.00	6.00	285.46	2,892.32	40.44	-146.18	-28.67	0.00	0.00	0.00
3,000.00	6.00	285.46	2,991.77	43.23	-156.26	-30.64	0.00	0.00	0.00
3,100.00	6.00	285.46	3,091.22	46.02	-166.34	-32.62	0.00	0.00	0.00
3,200.00	6.00	285.46	3,190.68	48.81	-176.42	-34.60	0.00	0.00	0.00
3,300.00	6.00	285.46	3,290.13	51.60	-186.50	-36.57	0.00	0.00	0.00
3,400.00	6.00	285.46	3,389.58	54.39	-196.59	-38.55	0.00	0.00	0.00
3,500.00	6.00	285.46	3,489.03	57.18	-206.67	-40.53	0.00	0.00	0.00
3,600.00	6.00	285.46	3,588.48	59.97	-216.75	-42.51	0.00	0.00	0.00
3,700.00	6.00	285.46	3,687.93	62.76	-226.83	-44.48	0.00	0.00	0.00
3,800.00	6.00	285.46	3,787.38	65.54	-236.91	-46.46	0.00	0.00	0.00
3,900.00	6.00	285.46	3,886.84	68.33	-246.99	-48.44	0.00	0.00	0.00
4,000.00	6.00	285.46	3,986.29	71.12	-257.07	-50.41	0.00	0.00	0.00
4,100.00	6.00	285.46	4,085.74	73.91	-267.15	-52.39	0.00	0.00	0.00
4,200.00	6.00	285.46	4,185.19	76.70	-277.24	-54.37	0.00	0.00	0.00
4,300.00	6.00	285.46	4,284.64	79.49	-287.32	-56.34	0.00	0.00	0.00
4,400.00	6.00	285.46	4,384.09	82.28	-297.40	-58.32	0.00	0.00	0.00
4,500.00	6.00	285.46	4,483.54	85.07	-307.48	-60.30	0.00	0.00	0.00
4,600.00	6.00	285.46	4,583.00	87.86	-317.56	-62.28	0.00	0.00	0.00
4,700.00	6.00	285.46	4,682.45	90.65	-327.64	-64.25	0.00	0.00	0.00
4,800.00	6.00	285.46	4,781.90	93.44	-337.72	-66.23	0.00	0.00	0.00
4,900.00	6.00	285.46	4,881.35	96.22	-347.80	-68.21	0.00	0.00	0.00
5,000.00	6.00	285.46	4,980.80	99.01	-357.88	-70.18	0.00	0.00	0.00
5,100.00	6.00	285.46	5,080.25	101.80	-367.97	-72.16	0.00	0.00	0.00
5,200.00	6.00	285.46	5,179.70	104.59	-378.05	-74.14	0.00	0.00	0.00
5,300.00	6.00	285.46	5,279.16	107.38	-388.13	-76.11	0.00	0.00	0.00

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Database:	EDM 5000.15 Multi User	**Local Co-ordinate Reference:**	Well 10H
Company:	CAZA OPERATING LLC	**TVD Reference:**	2946+24 @ 2970.00usft (Citadel4)
Project:	Lea County, NM	**MD Reference:**	2946+24 @ 2970.00usft (Citadel4)
Site:	Comanche 26-35 Federal State Com Pad	**North Reference:**	Grid
Well:	10H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 Permit		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,400.00	6.00	285.46	5,378.61	110.17	-398.21	-78.09	0.00	0.00	0.00
5,500.00	6.00	285.46	5,478.06	112.96	-408.29	-80.07	0.00	0.00	0.00
5,600.00	6.00	285.46	5,577.51	115.75	-418.37	-82.04	0.00	0.00	0.00
5,700.00	6.00	285.46	5,676.96	118.54	-428.45	-84.02	0.00	0.00	0.00
5,800.00	6.00	285.46	5,776.41	121.33	-438.53	-86.00	0.00	0.00	0.00
5,900.00	6.00	285.46	5,875.86	124.11	-448.61	-87.98	0.00	0.00	0.00
6,000.00	6.00	285.46	5,975.32	126.90	-458.70	-89.95	0.00	0.00	0.00
6,100.00	6.00	285.46	6,074.77	129.69	-468.78	-91.93	0.00	0.00	0.00
6,200.00	6.00	285.46	6,174.22	132.48	-478.86	-93.91	0.00	0.00	0.00
6,300.00	6.00	285.46	6,273.67	135.27	-488.94	-95.88	0.00	0.00	0.00
6,400.00	6.00	285.46	6,373.12	138.06	-499.02	-97.86	0.00	0.00	0.00
6,500.00	6.00	285.46	6,472.57	140.85	-509.10	-99.84	0.00	0.00	0.00
6,600.00	6.00	285.46	6,572.02	143.64	-519.18	-101.81	0.00	0.00	0.00
6,700.00	6.00	285.46	6,671.48	146.43	-529.26	-103.79	0.00	0.00	0.00
6,800.00	6.00	285.46	6,770.93	149.22	-539.35	-105.77	0.00	0.00	0.00
6,900.00	6.00	285.46	6,870.38	152.01	-549.43	-107.75	0.00	0.00	0.00
7,000.00	6.00	285.46	6,969.83	154.79	-559.51	-109.72	0.00	0.00	0.00
7,100.00	6.00	285.46	7,069.28	157.58	-569.59	-111.70	0.00	0.00	0.00
7,200.00	6.00	285.46	7,168.73	160.37	-579.67	-113.68	0.00	0.00	0.00
7,300.00	6.00	285.46	7,268.18	163.16	-589.75	-115.65	0.00	0.00	0.00
7,400.00	6.00	285.46	7,367.64	165.95	-599.83	-117.63	0.00	0.00	0.00
7,500.00	6.00	285.46	7,467.09	168.74	-609.91	-119.61	0.00	0.00	0.00
7,600.00	6.00	285.46	7,566.54	171.53	-619.99	-121.58	0.00	0.00	0.00
7,700.00	6.00	285.46	7,665.99	174.32	-630.08	-123.56	0.00	0.00	0.00
7,800.00	6.00	285.46	7,765.44	177.11	-640.16	-125.54	0.00	0.00	0.00
7,900.00	6.00	285.46	7,864.89	179.90	-650.24	-127.51	0.00	0.00	0.00
7,915.54	6.00	285.46	7,880.35	180.33	-651.80	-127.82	0.00	0.00	0.00
8,000.00	4.31	285.46	7,964.46	182.35	-659.12	-129.26	2.00	-2.00	0.00
8,100.00	2.31	285.46	8,064.29	183.90	-664.70	-130.35	2.00	-2.00	0.00
8,200.00	0.31	285.46	8,164.26	184.51	-666.91	-130.78	2.00	-2.00	0.00
8,215.74	0.00	0.00	8,180.00	184.52	-666.95	-130.79	2.00	-2.00	0.00
8,300.00	0.00	0.00	8,264.26	184.52	-666.95	-130.79	0.00	0.00	0.00
8,400.00	0.00	0.00	8,364.26	184.52	-666.95	-130.79	0.00	0.00	0.00
8,500.00	0.00	0.00	8,464.26	184.52	-666.95	-130.79	0.00	0.00	0.00
8,600.00	0.00	0.00	8,564.26	184.52	-666.95	-130.79	0.00	0.00	0.00
8,700.00	0.00	0.00	8,664.26	184.52	-666.95	-130.79	0.00	0.00	0.00
8,800.00	0.00	0.00	8,764.26	184.52	-666.95	-130.79	0.00	0.00	0.00
8,900.00	0.00	0.00	8,864.26	184.52	-666.95	-130.79	0.00	0.00	0.00
9,000.00	0.00	0.00	8,964.26	184.52	-666.95	-130.79	0.00	0.00	0.00
9,100.00	0.00	0.00	9,064.26	184.52	-666.95	-130.79	0.00	0.00	0.00
9,200.00	0.00	0.00	9,164.26	184.52	-666.95	-130.79	0.00	0.00	0.00
9,300.00	0.00	0.00	9,264.26	184.52	-666.95	-130.79	0.00	0.00	0.00
9,400.00	0.00	0.00	9,364.26	184.52	-666.95	-130.79	0.00	0.00	0.00
9,500.00	0.00	0.00	9,464.26	184.52	-666.95	-130.79	0.00	0.00	0.00
9,600.00	0.00	0.00	9,564.26	184.52	-666.95	-130.79	0.00	0.00	0.00
9,700.00	0.00	0.00	9,664.26	184.52	-666.95	-130.79	0.00	0.00	0.00
9,800.00	0.00	0.00	9,764.26	184.52	-666.95	-130.79	0.00	0.00	0.00
9,900.00	0.00	0.00	9,864.26	184.52	-666.95	-130.79	0.00	0.00	0.00
10,000.00	0.00	0.00	9,964.26	184.52	-666.95	-130.79	0.00	0.00	0.00
10,100.00	0.00	0.00	10,064.26	184.52	-666.95	-130.79	0.00	0.00	0.00
10,200.00	0.00	0.00	10,164.26	184.52	-666.95	-130.79	0.00	0.00	0.00
10,300.00	0.00	0.00	10,264.26	184.52	-666.95	-130.79	0.00	0.00	0.00
10,400.00	0.00	0.00	10,364.26	184.52	-666.95	-130.79	0.00	0.00	0.00
10,500.00	0.00	0.00	10,464.26	184.52	-666.95	-130.79	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.15 Multi User	**Local Co-ordinate Reference:**	Well 10H
Company:	CAZA OPERATING LLC	**TVD Reference:**	2946+24 @ 2970.00usft (Citadel4)
Project:	Lea County, NM	**MD Reference:**	2946+24 @ 2970.00usft (Citadel4)
Site:	Comanche 26-35 Federal State Com Pad	**North Reference:**	Grid
Well:	10H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 Permit		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,600.00	0.00	0.00	10,564.26	184.52	-666.95	-130.79	0.00	0.00	0.00
10,700.00	0.00	0.00	10,664.26	184.52	-666.95	-130.79	0.00	0.00	0.00
10,800.00	0.00	0.00	10,764.26	184.52	-666.95	-130.79	0.00	0.00	0.00
10,900.00	0.00	0.00	10,864.26	184.52	-666.95	-130.79	0.00	0.00	0.00
11,000.00	0.00	0.00	10,964.26	184.52	-666.95	-130.79	0.00	0.00	0.00
11,100.00	0.00	0.00	11,064.26	184.52	-666.95	-130.79	0.00	0.00	0.00
11,200.00	0.00	0.00	11,164.26	184.52	-666.95	-130.79	0.00	0.00	0.00
11,300.00	0.00	0.00	11,264.26	184.52	-666.95	-130.79	0.00	0.00	0.00
11,400.00	0.00	0.00	11,364.26	184.52	-666.95	-130.79	0.00	0.00	0.00
11,500.00	0.00	0.00	11,464.26	184.52	-666.95	-130.79	0.00	0.00	0.00
11,600.00	0.00	0.00	11,564.26	184.52	-666.95	-130.79	0.00	0.00	0.00
11,700.00	0.00	0.00	11,664.26	184.52	-666.95	-130.79	0.00	0.00	0.00
11,800.00	0.00	0.00	11,764.26	184.52	-666.95	-130.79	0.00	0.00	0.00
11,900.00	0.00	0.00	11,864.26	184.52	-666.95	-130.79	0.00	0.00	0.00
12,000.00	0.00	0.00	11,964.26	184.52	-666.95	-130.79	0.00	0.00	0.00
12,100.00	0.00	0.00	12,064.26	184.52	-666.95	-130.79	0.00	0.00	0.00
12,199.87	0.00	0.00	12,164.13	184.52	-666.95	-130.79	0.00	0.00	0.00
12,250.00	5.51	179.42	12,214.18	182.11	-666.93	-128.39	11.00	11.00	0.00
12,300.00	11.01	179.42	12,263.64	174.93	-666.85	-121.24	11.00	11.00	0.00
12,350.00	16.51	179.42	12,312.19	163.03	-666.73	-109.39	11.00	11.00	0.00
12,400.00	22.01	179.42	12,359.37	146.55	-666.57	-92.97	11.00	11.00	0.00
12,450.00	27.51	179.42	12,404.76	125.61	-666.36	-72.12	11.00	11.00	0.00
12,500.00	33.01	179.42	12,447.93	100.42	-666.11	-47.03	11.00	11.00	0.00
12,550.00	38.51	179.42	12,488.48	71.21	-665.81	-17.94	11.00	11.00	0.00
12,600.00	44.01	179.42	12,526.05	38.25	-665.48	14.90	11.00	11.00	0.00
12,650.00	49.51	179.42	12,560.29	1.84	-665.12	51.16	11.00	11.00	0.00
12,700.00	55.01	179.42	12,590.88	-37.69	-664.72	90.53	11.00	11.00	0.00
12,750.00	60.51	179.42	12,617.54	-79.96	-664.30	132.64	11.00	11.00	0.00
12,800.00	66.01	179.42	12,640.02	-124.60	-663.85	177.09	11.00	11.00	0.00
12,850.00	71.51	179.42	12,658.12	-171.18	-663.38	223.49	11.00	11.00	0.00
12,900.00	77.01	179.42	12,671.68	-219.29	-662.90	271.41	11.00	11.00	0.00
12,950.00	82.51	179.42	12,680.56	-268.47	-662.40	320.39	11.00	11.00	0.00
13,000.00	88.01	179.42	12,684.69	-318.28	-661.90	370.00	11.00	11.00	0.00
13,018.05	90.00	179.42	12,685.00	-336.32	-661.72	387.98	11.00	11.00	0.00
13,100.00	90.00	179.42	12,685.00	-418.27	-660.90	469.60	0.00	0.00	0.00
13,200.00	90.00	179.42	12,685.00	-518.26	-659.90	569.19	0.00	0.00	0.00
13,300.00	90.00	179.42	12,685.00	-618.26	-658.89	668.79	0.00	0.00	0.00
13,400.00	90.00	179.42	12,685.00	-718.25	-657.89	768.39	0.00	0.00	0.00
13,500.00	90.00	179.42	12,685.00	-818.25	-656.88	867.99	0.00	0.00	0.00
13,600.00	90.00	179.42	12,685.00	-918.24	-655.88	967.58	0.00	0.00	0.00
13,700.00	90.00	179.42	12,685.00	-1,018.24	-654.88	1,067.18	0.00	0.00	0.00
13,800.00	90.00	179.42	12,685.00	-1,118.23	-653.87	1,166.78	0.00	0.00	0.00
13,900.00	90.00	179.42	12,685.00	-1,218.23	-652.87	1,266.37	0.00	0.00	0.00
14,000.00	90.00	179.42	12,685.00	-1,318.22	-651.86	1,365.97	0.00	0.00	0.00
14,100.00	90.00	179.42	12,685.00	-1,418.22	-650.86	1,465.57	0.00	0.00	0.00
14,200.00	90.00	179.42	12,685.00	-1,518.21	-649.86	1,565.17	0.00	0.00	0.00
14,300.00	90.00	179.42	12,685.00	-1,618.21	-648.85	1,664.76	0.00	0.00	0.00
14,400.00	90.00	179.42	12,685.00	-1,718.20	-647.85	1,764.36	0.00	0.00	0.00
14,500.00	90.00	179.42	12,685.00	-1,818.20	-646.85	1,863.96	0.00	0.00	0.00
14,600.00	90.00	179.42	12,685.00	-1,918.19	-645.84	1,963.55	0.00	0.00	0.00
14,700.00	90.00	179.42	12,685.00	-2,018.19	-644.84	2,063.15	0.00	0.00	0.00
14,800.00	90.00	179.42	12,685.00	-2,118.18	-643.83	2,162.75	0.00	0.00	0.00
14,900.00	90.00	179.42	12,685.00	-2,218.18	-642.83	2,262.34	0.00	0.00	0.00
15,000.00	90.00	179.42	12,685.00	-2,318.17	-641.83	2,361.94	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.15 Multi User	**Local Co-ordinate Reference:**	Well 10H
Company:	CAZA OPERATING LLC	**TVD Reference:**	2946+24 @ 2970.00usft (Citadel4)
Project:	Lea County, NM	**MD Reference:**	2946+24 @ 2970.00usft (Citadel4)
Site:	Comanche 26-35 Federal State Com Pad	**North Reference:**	Grid
Well:	10H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 Permit		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
15,100.00	90.00	179.42	12,685.00	-2,418.17	-640.82	2,461.54	0.00	0.00	0.00
15,200.00	90.00	179.42	12,685.00	-2,518.16	-639.82	2,561.14	0.00	0.00	0.00
15,300.00	90.00	179.42	12,685.00	-2,618.16	-638.82	2,660.73	0.00	0.00	0.00
15,400.00	90.00	179.42	12,685.00	-2,718.15	-637.81	2,760.33	0.00	0.00	0.00
15,500.00	90.00	179.42	12,685.00	-2,818.15	-636.81	2,859.93	0.00	0.00	0.00
15,600.00	90.00	179.42	12,685.00	-2,918.14	-635.80	2,959.52	0.00	0.00	0.00
15,700.00	90.00	179.42	12,685.00	-3,018.14	-634.80	3,059.12	0.00	0.00	0.00
15,800.00	90.00	179.42	12,685.00	-3,118.13	-633.80	3,158.72	0.00	0.00	0.00
15,900.00	90.00	179.42	12,685.00	-3,218.13	-632.79	3,258.32	0.00	0.00	0.00
16,000.00	90.00	179.42	12,685.00	-3,318.12	-631.79	3,357.91	0.00	0.00	0.00
16,100.00	90.00	179.42	12,685.00	-3,418.12	-630.79	3,457.51	0.00	0.00	0.00
16,200.00	90.00	179.42	12,685.00	-3,518.11	-629.78	3,557.11	0.00	0.00	0.00
16,300.00	90.00	179.42	12,685.00	-3,618.11	-628.78	3,656.70	0.00	0.00	0.00
16,400.00	90.00	179.42	12,685.00	-3,718.10	-627.77	3,756.30	0.00	0.00	0.00
16,500.00	90.00	179.42	12,685.00	-3,818.10	-626.77	3,855.90	0.00	0.00	0.00
16,600.00	90.00	179.42	12,685.00	-3,918.09	-625.77	3,955.49	0.00	0.00	0.00
16,700.00	90.00	179.42	12,685.00	-4,018.09	-624.76	4,055.09	0.00	0.00	0.00
16,800.00	90.00	179.42	12,685.00	-4,118.08	-623.76	4,154.69	0.00	0.00	0.00
16,900.00	90.00	179.42	12,685.00	-4,218.08	-622.76	4,254.29	0.00	0.00	0.00
17,000.00	90.00	179.42	12,685.00	-4,318.07	-621.75	4,353.88	0.00	0.00	0.00
17,100.00	90.00	179.42	12,685.00	-4,418.07	-620.75	4,453.48	0.00	0.00	0.00
17,200.00	90.00	179.42	12,685.00	-4,518.06	-619.74	4,553.08	0.00	0.00	0.00
17,300.00	90.00	179.42	12,685.00	-4,618.06	-618.74	4,652.67	0.00	0.00	0.00
17,400.00	90.00	179.42	12,685.00	-4,718.05	-617.74	4,752.27	0.00	0.00	0.00
17,500.00	90.00	179.42	12,685.00	-4,818.05	-616.73	4,851.87	0.00	0.00	0.00
17,600.00	90.00	179.42	12,685.00	-4,918.04	-615.73	4,951.47	0.00	0.00	0.00
17,700.00	90.00	179.42	12,685.00	-5,018.04	-614.72	5,051.06	0.00	0.00	0.00
17,800.00	90.00	179.42	12,685.00	-5,118.03	-613.72	5,150.66	0.00	0.00	0.00
17,900.00	90.00	179.42	12,685.00	-5,218.03	-612.72	5,250.26	0.00	0.00	0.00
18,000.00	90.00	179.42	12,685.00	-5,318.02	-611.71	5,349.85	0.00	0.00	0.00
18,100.00	90.00	179.42	12,685.00	-5,418.02	-610.71	5,449.45	0.00	0.00	0.00
18,200.00	90.00	179.42	12,685.00	-5,518.01	-609.71	5,549.05	0.00	0.00	0.00
18,300.00	90.00	179.42	12,685.00	-5,618.01	-608.70	5,648.64	0.00	0.00	0.00
18,400.00	90.00	179.42	12,685.00	-5,718.00	-607.70	5,748.24	0.00	0.00	0.00
18,500.00	90.00	179.42	12,685.00	-5,818.00	-606.69	5,847.84	0.00	0.00	0.00
18,600.00	90.00	179.42	12,685.00	-5,917.99	-605.69	5,947.44	0.00	0.00	0.00
18,700.00	90.00	179.42	12,685.00	-6,017.99	-604.69	6,047.03	0.00	0.00	0.00
18,800.00	90.00	179.42	12,685.00	-6,117.98	-603.68	6,146.63	0.00	0.00	0.00
18,900.00	90.00	179.42	12,685.00	-6,217.98	-602.68	6,246.23	0.00	0.00	0.00
19,000.00	90.00	179.42	12,685.00	-6,317.97	-601.68	6,345.82	0.00	0.00	0.00
19,100.00	90.00	179.42	12,685.00	-6,417.97	-600.67	6,445.42	0.00	0.00	0.00
19,200.00	90.00	179.42	12,685.00	-6,517.96	-599.67	6,545.02	0.00	0.00	0.00
19,300.00	90.00	179.42	12,685.00	-6,617.96	-598.66	6,644.62	0.00	0.00	0.00
19,400.00	90.00	179.42	12,685.00	-6,717.95	-597.66	6,744.21	0.00	0.00	0.00
19,500.00	90.00	179.42	12,685.00	-6,817.95	-596.66	6,843.81	0.00	0.00	0.00
19,600.00	90.00	179.42	12,685.00	-6,917.94	-595.65	6,943.41	0.00	0.00	0.00
19,700.00	90.00	179.42	12,685.00	-7,017.94	-594.65	7,043.00	0.00	0.00	0.00
19,800.00	90.00	179.42	12,685.00	-7,117.93	-593.65	7,142.60	0.00	0.00	0.00
19,900.00	90.00	179.42	12,685.00	-7,217.93	-592.64	7,242.20	0.00	0.00	0.00
20,000.00	90.00	179.42	12,685.00	-7,317.92	-591.64	7,341.80	0.00	0.00	0.00
20,074.50	90.00	179.42	12,685.00	-7,392.42	-590.89	7,416.00	0.00	0.00	0.00

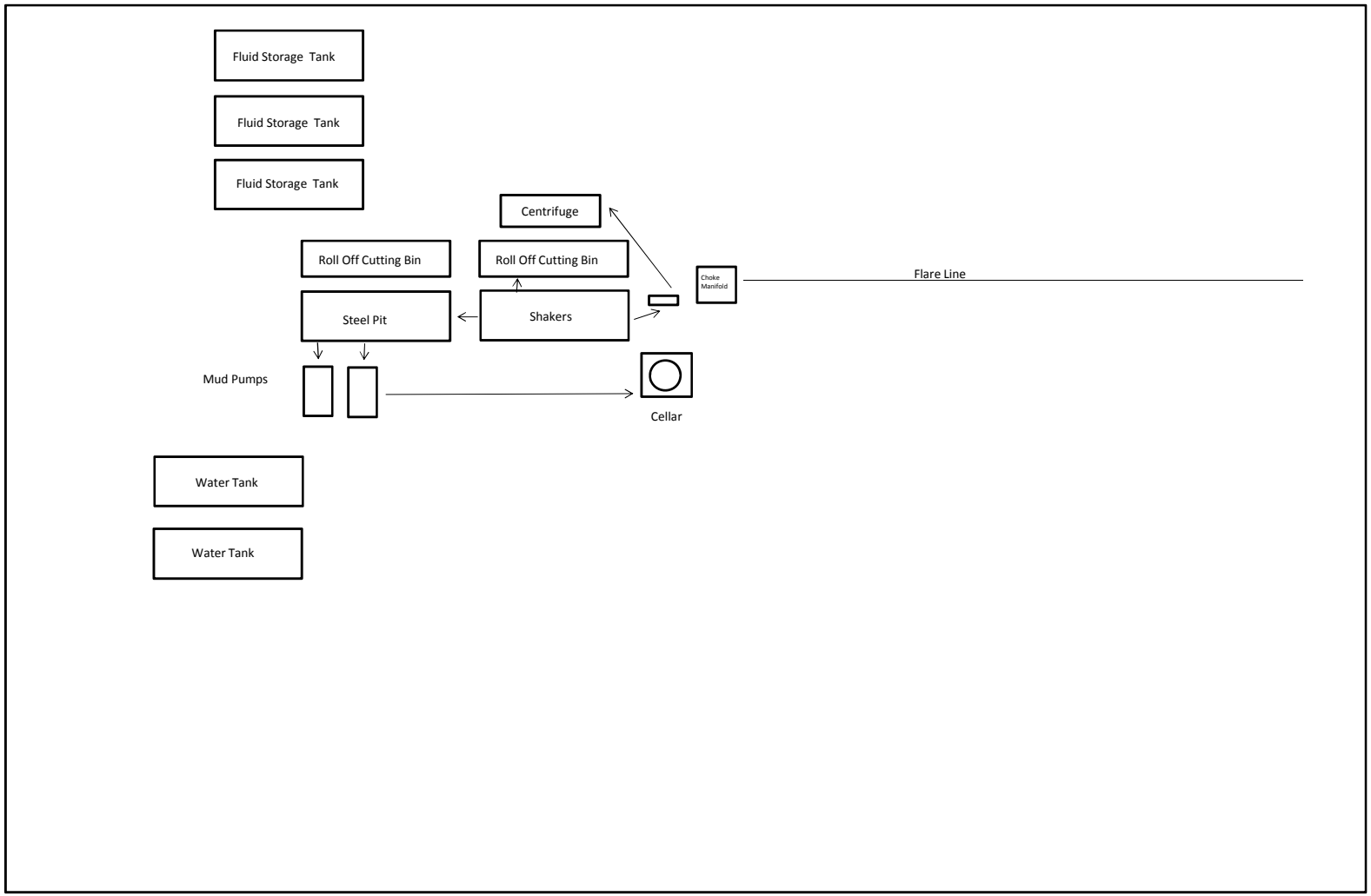
Planning Report

Database:	EDM 5000.15 Multi User	**Local Co-ordinate Reference:**	Well 10H
Company:	CAZA OPERATING LLC	**TVD Reference:**	2946+24 @ 2970.00usft (Citadel4)
Project:	Lea County, NM	**MD Reference:**	2946+24 @ 2970.00usft (Citadel4)
Site:	Comanche 26-35 Federal State Com Pad	**North Reference:**	Grid
Well:	10H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 Permit		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Comanche 26-35 FSC 1 - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	372,737.10	856,217.29	32.020665	-103.317349
Comanche 26-35 FSC 1 - plan hits target center - Point	0.00	0.00	8,180.00	184.52	-666.95	372,921.62	855,550.34	32.021189	-103.319495
Comanche 26-35 FSC 1 - plan hits target center - Point	0.00	0.00	12,685.00	-336.32	-661.72	372,400.78	855,555.57	32.019758	-103.319494
Comanche 26-35 FSC 1 - plan hits target center - Point	0.00	0.00	12,685.00	-7,392.42	-590.89	365,344.68	855,626.40	32.000362	-103.319479

Closed Loop Diagram Design Plan



Design Plan, Operating Plan and Maintenance Plan, and Closure Plan for the OCD form C-144

Design Plan:

Fluid and cuttings coming from drilling operations will pass over the shale shaker with the cuttings going to the haul off bin and the cleaned fluid returning to the working steel pits.

Equipment Includes:

1-670bbl steel working pit
2-100bbl steel working suction pits
2-500bbl steel tanks
2-20yd^3 steel haul off bins
2-pumps (HHF-1600)
2-Shale shakers
1-Centrifuge
1-Desilter/Desander

Operating and Maintenance Plan:

Inspection to occur every tour for proper operation of system and individual components. If any problems are found they will be repaired and/or corrected immediately.

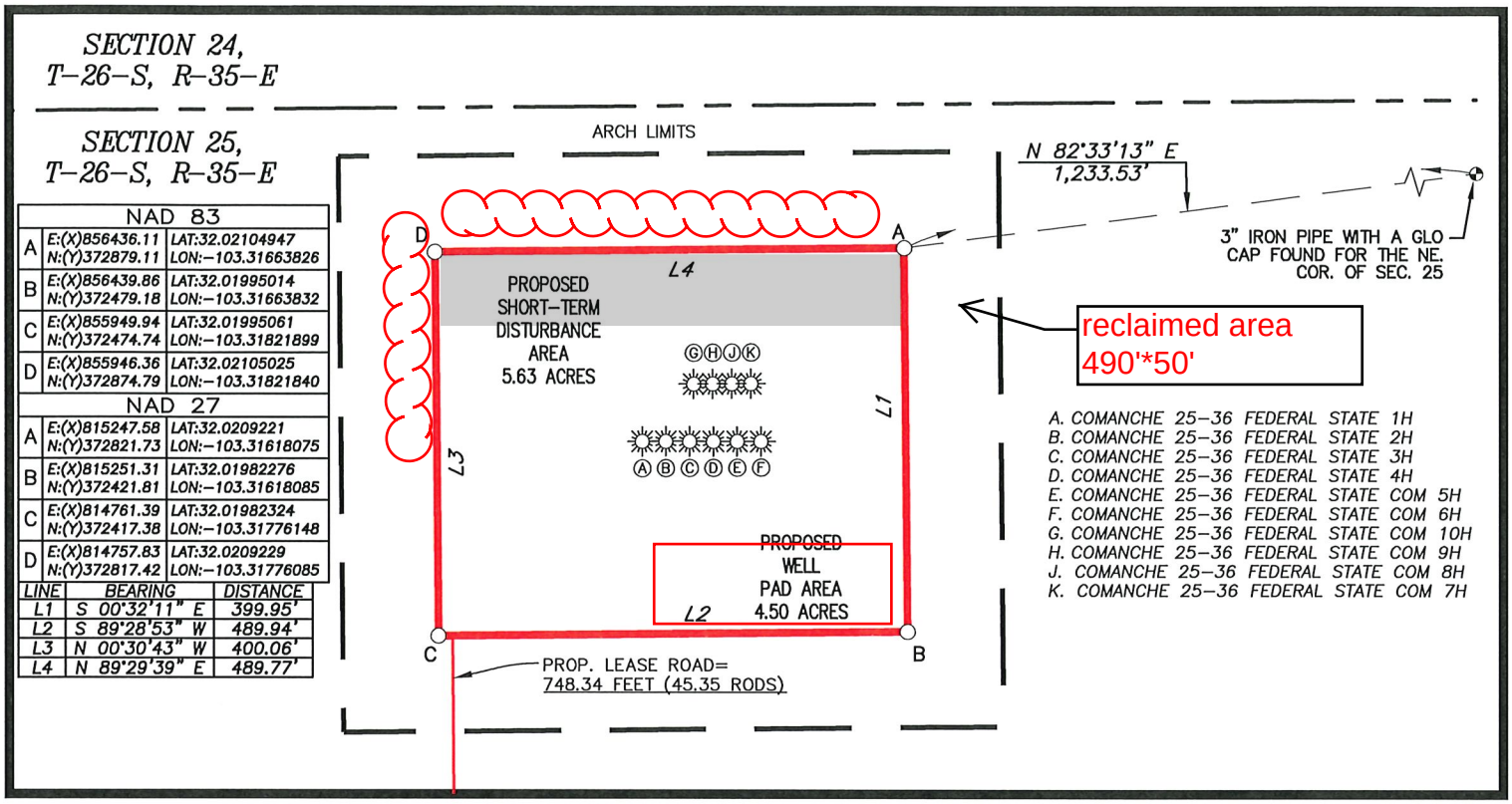
Closure Plan:

All haul off bins containing cuttings will be removed from location and hauled to R-360 (NM-01-0006) disposal site located 30 miles east of Carlsbad.

WELL PAD PLAT

COMANCHE 25-36 FEDERAL STATE COM
SEC. 25 TWP. 26-S RGE. 35-E
SURVEY: N.M.P.M.
COUNTY: LEA
OPERATOR: CAZA OPERATING, LLC
U.S.G.S. TOPOGRAPHIC MAP: JAVELINA BASIN, N.M.

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



NAD 83		
A	E:(X)856436.11 N:(Y)372879.11	LAT:32.02104947 LON:-103.31663826
B	E:(X)856439.86 N:(Y)372479.18	LAT:32.01995014 LON:-103.31663832
C	E:(X)855949.94 N:(Y)372474.74	LAT:32.01995061 LON:-103.31821899
D	E:(X)855946.36 N:(Y)372874.79	LAT:32.02105025 LON:-103.31821840
NAD 27		
A	E:(X)815247.58 N:(Y)372821.73	LAT:32.0209221 LON:-103.31618075
B	E:(X)815251.31 N:(Y)372421.81	LAT:32.01982276 LON:-103.31618085
C	E:(X)814761.39 N:(Y)372417.38	LAT:32.01982324 LON:-103.31776148
D	E:(X)814757.83 N:(Y)372817.42	LAT:32.0209229 LON:-103.31776085

LINE	BEARING	DISTANCE
L1	S 00°32'11" E	399.95'
L2	S 89°28'53" W	489.94'
L3	N 00°30'43" W	400.06'
L4	N 89°29'39" E	489.77'

A. COMANCHE 25-36 FEDERAL STATE 1H
B. COMANCHE 25-36 FEDERAL STATE 2H
C. COMANCHE 25-36 FEDERAL STATE 3H
D. COMANCHE 25-36 FEDERAL STATE 4H
E. COMANCHE 25-36 FEDERAL STATE COM 5H
F. COMANCHE 25-36 FEDERAL STATE COM 6H
G. COMANCHE 25-36 FEDERAL STATE COM 10H
H. COMANCHE 25-36 FEDERAL STATE COM 9H
J. COMANCHE 25-36 FEDERAL STATE COM 8H
K. COMANCHE 25-36 FEDERAL STATE COM 7H

FIELD NOTES DESCRIBING

A tract of land being 4.50 acres. Said tract being located in Section 25, Township 26 South, Range 35 East, New Mexico Principal Meridian, Lea County, New Mexico.

Being more particularly described by metes and bounds as follows:

BEGINNING at a point from which a 3 inch iron pipe with a GLO cap found for the Northeast corner of said Section 25 bears N 82°33'13" E a distance of 1,233.53 feet.

THENCE
S 00°32'11" E a distance of 399.95 feet, S 89°28'53" W a distance of 489.94 feet,
N 00°30'43" W a distance of 400.06 feet, N 89°29'39" E a distance of 489.77 feet to the
POINT OF BEGINNING.

The total area of the herein described tract contains 4.50 acres of land.

All bearings and coordinates refer to NAD 83, New Mexico State Plane Coordinate System, East Zone, U.S. Survey Feet. (All bearings, distances, coordinates and areas are based on grid measurements utilizing a combined scale factor of 0.99975847, convergence of 0.05091389°.)

Title information furnished by Caza Operating, LLC.

Reference accompanying Certificate of Survey prepared in conjunction with this legal description for easement.

STATE OF NEW MEXICO
COUNTY OF LEA

I, Lloyd P. Short, New Mexico Professional Surveyor No. 21653 do hereby certify that this easement survey plat and the actual survey on the ground upon which it is based were performed by me or under my direct supervision; that I am responsible for this survey; that this survey meets the minimum standards for surveying in New Mexico; and that it is true and correct to the best of my knowledge and belief. I further certify that this survey is not a land division or subdivision as defined in the New Mexico Subdivision Act and that this instrument is an easement survey plat crossing an existing tract or tracts.

LLOYD P. SHORT NEW MEXICO 21653 PROFESSIONAL SURVEYOR

LLOYD P. SHORT, PS No. 21653 DATE: JANUARY 17, 2020

Lloyd P. Short

Caza Petroleum

PLAT FOR A SURFACE SITE ON THE PROPERTY OF
BUREAU OF LAND MANAGEMENT
LEA COUNTY, NEW MEXICO

REV.	DATE	DESCRIPTION	BY	CHKD
3	01/17/2020	GENERAL REVISIONS	JMT	MWS

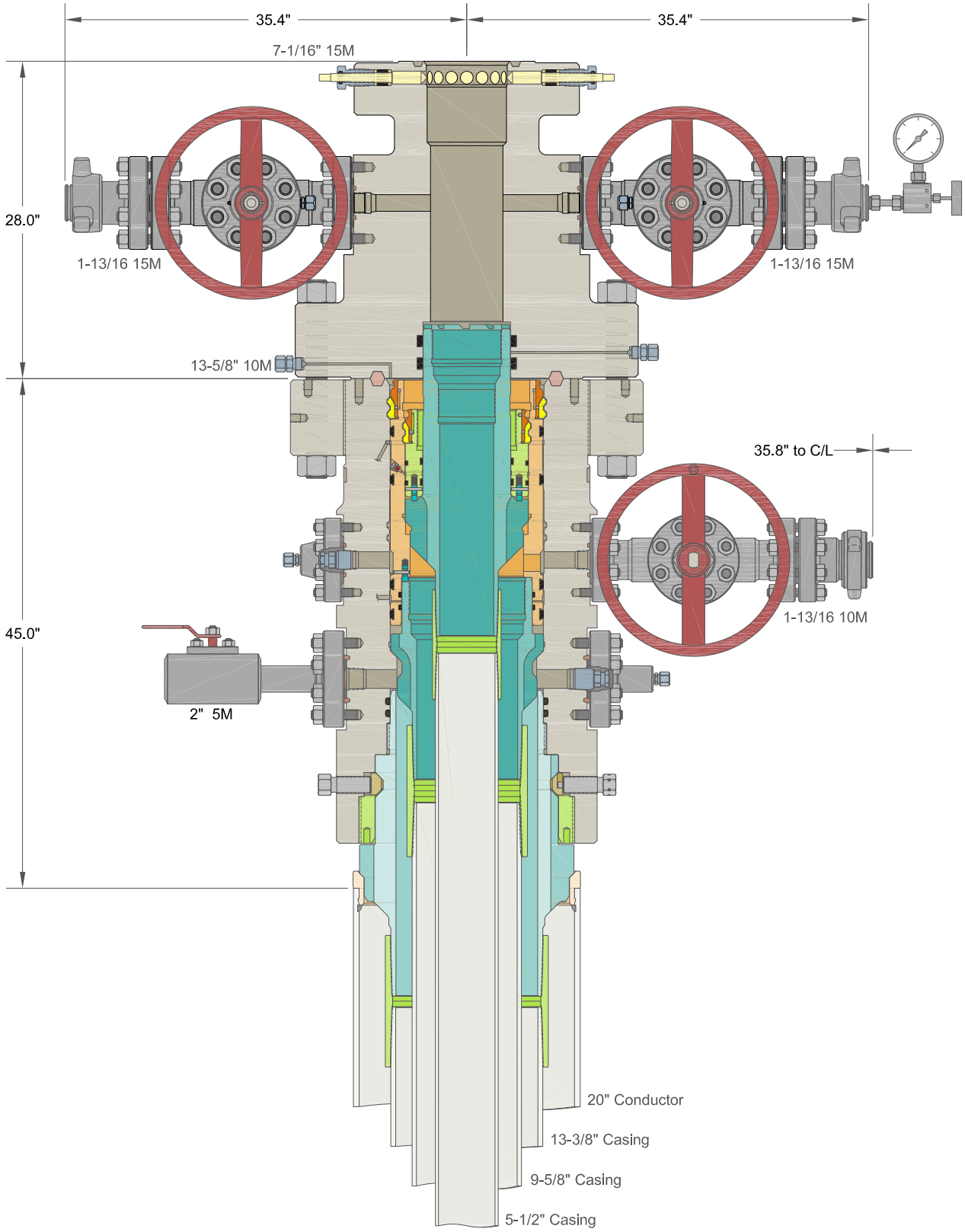
BASIS OF BEARING
ALL BEARINGS AND COORDINATES REFER TO NAD 83, NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, U.S. SURVEY FEET. (ALL BEARINGS AND DISTANCES ARE GRID MEASUREMENTS.)

LEGEND P.O.B. POINT OF BEGINNING
EXISTING ROAD
PROPOSED ROAD
SURFACE SITE EDGE
EXIST. PIPELINE
MONUMENT
QUARTER SPLIT
ARCH LIMITS
PROP. FLOWLINE
SECTION LINE
EDGE OF ROAD
W WATERLINE
OHP OVERHEAD POWER

R4029_001

SHEET 3 OF 5
DRAWN BY: DEF
DATE: 10/10/2019
CHECKED BY: MWS

1309 LOUISVILLE AVE.
MONROE, LA 71201
(318) 323-6900
FAX (318) 362-0064



ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC	CAZA PETROLEUM PERMIAN BASIN		
13-3/8" x 9-5/8" x 5-1/2" MBU-3T-CFL-R-DBLO Wellhead System With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head And 13-3/8", 9-5/8" & 5-1/2" Mandrel Casing Hangers	DRAWN	DLE	25SEP19
	APPRV		
	DRAWING NO.	ODE0003135	

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

SUPO Data Report
12/03/2022

APD ID: 10400080979
Submission Date: 11/16/2021
Operator Name: CAZA OPERATING LLC
Well Name: COMANCHE 25-36 FED STATE COM
Well Number: 10H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes
Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Comanche_25_36_Fed_State_Com_10H___Vicinity_and_Existing_Road_Map_20211116040341.pdf

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

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? NO

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Operator Name: CAZA OPERATING LLC

Well Name: COMANCHE 25-36 FED STATE COM **Well Number:** 10H

Comanche_25_36_Fed_State_Com_10H___1_Mile_Radius_20211116040420.pdf

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: Tie in to current central tank battery on location.

Production Facilities map:

Comanche_25_36_Fed_State_Com_10H___Production_Facility_20211116040448.pdf
As_Built___Comanche_25_36_Fed_Com_Facilities___08_12_2021_20211116040514.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: GW WELL

Water source use type: SURFACE CASING
INTERMEDIATE/PRODUCTION CASING
STIMULATION

Source latitude: 30.107143 **Source longitude:** -103.30588

Source datum: NAD83

Water source permit type: PRIVATE CONTRACT

Water source transport method: TRUCKING

Source land ownership: PRIVATE

Source transportation land ownership: PRIVATE

Water source volume (barrels): 400000 **Source volume (acre-feet):** 51.55723853

Source volume (gal): 16800000

Water source and transportation

Comanche_25_36_Fed_State_Com_10H___Caliche_and_Water_Supply_Map_20211116040648.pdf

Water source comments: S30 T25S R36E NENW

New water well? N

New Water Well Info

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

Operator Name: CAZA OPERATING LLC

Well Name: COMANCHE 25-36 FED STATE COM **Well Number:** 10H

Well target aquifer:

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

Aquifer comments:

Aquifer documentation:

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

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

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

Drilling method: **Drill material:**

Grout material: **Grout depth:**

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

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Using any construction materials: NO

Construction Materials description:

Construction Materials source location

Section 7 - Methods for Handling

Waste type: DRILLING

Waste content description: drill cuttings

Amount of waste: 1063640 pounds

Waste disposal frequency : Daily

Safe containment description: 4 sided bins

Safe containmant attachment:

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

Disposal type description:

Disposal location description: R360 commercial facility - State Approved

Waste type: SEWAGE

Waste content description: onsite housing sewage

Amount of waste: 300 gallons

Waste disposal frequency : Daily

Operator Name: CAZA OPERATING LLC

Well Name: COMANCHE 25-36 FED STATE COM **Well Number:** 10H

Safe containment description: onsite closed septic system

Safe containmant attachment:

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

Disposal type description:

Disposal location description: Hobbs Waste Water Management - State Approved

Waste type: GARBAGE

Waste content description: onsite housing trash

Amount of waste: 100 pounds

Waste disposal frequency : Daily

Safe containment description: steel trash trailer

Safe containmant attachment:

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

Disposal type description:

Disposal location description: Eunice Landfill - State Approved

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit? NO

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

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

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

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? N

Description of cuttings location

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

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

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

WCuttings area liner

Operator Name: CAZA OPERATING LLC

Well Name: COMANCHE 25-36 FED STATE COM **Well Number:** 10H

Cuttings area liner specifications and installation description

Section 8 - Ancillary

Are you requesting any Ancillary Facilities?: N

Ancillary Facilities

Comments:

Section 9 - Well Site

Well Site Layout Diagram:

Comanche_25_36_Fed_State_Com_10H___Location_Map_20211116040940.pdf

Comanche_25_36_Fed_State_Com_10H___Well_Pad_Plat_20211116040943.pdf

Comments: Well Site Plan is the surveyor certified pad layout. The location map depicts the rig, housing and muster points. The location map has not been overlaid on the well site plan for ease of viewing.The well site plan would be to cluttered to read.

Section 10 - Plans for Surface

Type of disturbance: No New Surface Disturbance **Multiple Well Pad Name:** Comanche 25-36 Fed State Com

Multiple Well Pad Number: 1H

Recontouring

Drainage/Erosion control construction: ditching

Drainage/Erosion control reclamation: ditching

Well pad proposed disturbance (acres):	**Well pad interim reclamation (acres):** 0	**Well pad long term disturbance (acres):** 0
Road proposed disturbance (acres):	**Road interim reclamation (acres):** 0	**Road long term disturbance (acres):** 0
Powerline proposed disturbance (acres):	**Powerline interim reclamation (acres):** 0	**Powerline long term disturbance (acres):** 0
Pipeline proposed disturbance (acres):	**Pipeline interim reclamation (acres):** 0	**Pipeline long term disturbance (acres):** 0
Other proposed disturbance (acres):	**Other interim reclamation (acres):** 0	**Other long term disturbance (acres):** 0
Total proposed disturbance: 0	**Total interim reclamation:** 0	**Total long term disturbance:** 0

Disturbance Comments:

Reconstruction method: Interim reclamation as identified during onsite

Topsoil redistribution: Interim reclamation as identified during onsite

Soil treatment: Interim reclamation as identified during onsite

Operator Name: CAZA OPERATING LLC

Well Name: COMANCHE 25-36 FED STATE COM **Well Number:** 10H

Existing Vegetation at the well pad: Sage brush and native grasses

Existing Vegetation at the well pad

Existing Vegetation Community at the road: Sage brush and native grasses

Existing Vegetation Community at the road

Existing Vegetation Community at the pipeline: Sage brush and native grasses

Existing Vegetation Community at the pipeline

Existing Vegetation Community at other disturbances: Sage brush and native grasses

Existing Vegetation Community at other disturbances

Non native seed used? N

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? N

Seedling transplant description

Will seed be harvested for use in site reclamation? N

Seed harvest description:

Seed harvest description attachment:

Seed

Seed Table

Seed Summary

Total pounds/Acre:

Seed Type	Pounds/Acre

Seed reclamation

Operator Contact/Responsible Official

First Name: Steve **Last Name:** Morris

Phone: (985)415-9729 **Email:** steve.morris@morcorengineering.com

Seedbed prep: Harrow

Operator Name: CAZA OPERATING LLC

Well Name: COMANCHE 25-36 FED STATE COM **Well Number:** 10H

Seed BMP: Per BLM instructions

Seed method: Broadcast followed by a drag chain

Existing invasive species? N

Existing invasive species treatment description:

Existing invasive species treatment

Weed treatment plan description: Spray for cheat grass

Weed treatment plan

Monitoring plan description: Visual inspection in spring and late fall

Monitoring plan

Success standards: 80% coverage by 2nd growing season of native species with less than 5% invasive species

Pit closure description: no pits being used

Pit closure attachment:

Section 11 - Surface

Disturbance type: WELL PAD

Describe:

Surface Owner: PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Operator Name: CAZA OPERATING LLC

Well Name: COMANCHE 25-36 FED STATE COM **Well Number:** 10H

Surface use plan certification: YES

Surface use plan certification document:

Comanche_25_36_Fed_State_Com_10H___Surface_use_plan_of_operations_certification_signed_202111160417

Surface access agreement or bond: AGREEMENT

Surface Access Agreement Need description: Fee per well drilled on the pad

Surface Access Bond BLM or Forest Service:

BLM Surface Access Bond number:

USFS Surface access bond number:

Section 12 - Other

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

ROW Type(s): 281001 ROW - ROADS,285003 ROW – POWER TRANS,288100 ROW – O&G Pipeline,288101 ROW – O&G Facility Sites,288103 ROW – Salt Water Disposal Pipeline/Facility,289001 ROW- O&G Well Pad,FLPMA (Powerline)

ROW

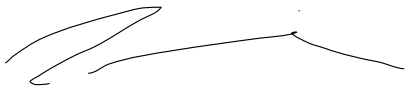
SUPO Additional Information: No new surface disturbance nor construction materials will be used. The pad has been constructed for the 1H - 4H, which have been approved and drilled, as well as the road into the pad.
Use a previously conducted onsite? Y

Previous Onsite information: Comanche 25-36 Fed State Com 1H

Other SUPO

November 6, 2018

I hereby certify that I, or someone authorized within the Caza Operating LLC has provided a Surface Use Plan of Operations to Beckham Ranch Inc who is the surface owner for the subject well pad.

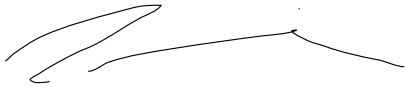


Steve Morris

Contract Engineer, Caza Operating LLC
200 N Lorraine St. #1550
Midland, TX
79701

November 6, 2018

I hereby certify that I, or someone authorized within the Caza Operating LLC has provided a Surface Use Plan of Operations to Beckham Ranch Inc who is the surface owner for the subject well pad.



Steve Morris

Contract Engineer, Caza Operating LLC
200 N Lorraine St. #1550
Midland, TX
79701

AFMSS

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

PWD Data Report

12/03/2022

APD ID: 10400080979 **Submission Date:** 11/16/2021

Operator Name: CAZA OPERATING LLC

Well Name: COMANCHE 25-36 FED STATE COM **Well Number:** 10H

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

Section 1 - General

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

Section 2 - Lined

Would you like to utilize Lined Pit PWD options? N

Produced Water Disposal (PWD) Location:

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

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit

Pit liner description:

Pit liner manufacturers

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule

Lined pit reclamation description:

Lined pit reclamation

Leak detection system description:

Leak detection system

Operator Name: CAZA OPERATING LLC

Well Name: COMANCHE 25-36 FED STATE COM **Well Number:** 10H

Lined pit Monitor description:

Lined pit Monitor

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information

Section 3 - Unlined

Would you like to utilize Unlined Pit PWD options? N

Produced Water Disposal (PWD) Location:

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

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule

Unlined pit reclamation description:

Unlined pit reclamation

Unlined pit Monitor description:

Unlined pit Monitor

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

Beneficial use user

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Geologic and hydrologic

State

Unlined Produced Water Pit Estimated

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

Operator Name: CAZA OPERATING LLC

Well Name: COMANCHE 25-36 FED STATE COM **Well Number:** 10H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information

Section 4 -

Would you like to utilize Injection PWD options? N

Produced Water Disposal (PWD) Location:

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

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

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

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

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection

Underground Injection Control (UIC) Permit?

UIC Permit

Section 5 - Surface

Would you like to utilize Surface Discharge PWD options? N

Produced Water Disposal (PWD) Location:

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

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 -

Would you like to utilize Other PWD options? N

Produced Water Disposal (PWD) Location:

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

Other PWD discharge volume (bbl/day):

Operator Name: CAZA OPERATING LLC

Well Name: COMANCHE 25-36 FED STATE COM **Well Number:** 10H

Other PWD type description:

Other PWD type

Have other regulatory requirements been met?

Other regulatory requirements

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

Bond Info Data
12/03/2022

APD ID: 10400080979
Submission Date: 11/16/2021
Operator Name: CAZA OPERATING LLC
Well Name: COMANCHE 25-36 FED STATE COM
Well Number: 10H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes
Show Final Text

Bond

Federal/Indian APD: FED

BLM Bond number: NMB000471

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information

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 199578

CONDITIONS

Operator: CAZA OPERATING, LLC 200 N Loraine St Midland, TX 79701	OGRID: 249099
	Action Number: 199578
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	3/28/2023
pkautz	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	3/28/2023
pkautz	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	3/28/2023
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	3/28/2023