

Form 3160-3
(June 2015)FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

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

1a. Type of work: ☐ DRILL ☐ REENTER 1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other 1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. 9. API Well No. 30-015-56405		
2. Name of Operator 3a. Address 3b. Phone No. (include area code)		10. Field and Pool, or Exploratory 11. Sec., T. R. M. or Blk. and Survey or Area 12. County or Parish 13. State		
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		14. Distance in miles and direction from nearest town or post office* 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 16. No of acres in lease 17. Spacing Unit dedicated to this well 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 19. Proposed Depth 20. BLM/BIA Bond No. in file 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 22. Approximate date work will start* 23. Estimated duration		
24. Attachments The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable) <table style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> 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). </td> <td style="width: 50%; vertical-align: top;"> 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. </td> </tr> </table>			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.
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 Title		Name (Printed/Typed) Date		
Approved by (Signature) Title		Name (Printed/Typed) Office		

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 Title	Name (Printed/Typed) Office	Date Date
----------------------------	------------------------------------	------------------

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

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

(Continued on page 2)

*(Instructions on page 2)



C-102 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals, & Natural Resources Department OIL CONSERVATION DIVISION	Revised July 9, 2024 PAGE 1 OF 2
		Submittal Type: ☒ Initial Submittal ☐ Amended Report ☐ As Drilled

WELL LOCATION INFORMATION

API Number 30-015-56405	Pool Code 96721	Pool Name Laguna Salado : Bone Spring
Property Code 328285	Property Name HARROUN RANCH 20702 20-17 FED COM	Well Number 18H
OGRID No. 260297	Operator Name BTA OIL PRODUCERS, LLC	Ground Level Elevation 2980'
Surface Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal		Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
M	20	23S	29E		725' FSL	735' FWL	32.28515716	-104.01315091	EDDY

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
D	17	23S	29E		50' FNL	990' FWL	32.31225479	-104.01205031	EDDY

Dedicated Acres 640.00	Infill or Defining Well Infill	Defining Well API Pending: HARROUN RANCH 20702 20-17 FED COM 17H	Overlapping Spacing Unit (Y/N)	Consolidation Code
Order Numbers:			Well setbacks are under Common Ownership: ☐ Yes ☐ No	

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
M	20	23S	29E		50' FSL	990' FWL	32.28330640	-104.01232435	EDDY

First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
M	20	23S	29E		100' FSL	990' FWL	32.28344385	-104.01232447	EDDY

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
D	17	23S	29E		100' FNL	990' FWL	32.31211733	-104.01205297	EDDY

Unitized Area or Area of Uniform Interest	Spacing Unit Type: ☒ Horizontal ☐ Vertical	Ground Floor Elevation 2980'
---	---	--

OPERATOR CERTIFICATIONS

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, 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 a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.

Sammy Hajar 3-14-2025
Signature Date

Sammy Hajar
Printed Name

SHAJAR@BTAOIL.COM
Email Address

SURVEYOR CERTIFICATIONS

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.



Signature and Seal of Professional Surveyor

Certificate Number 21653	Date of Survey MARCH 11, 2025
------------------------------------	---

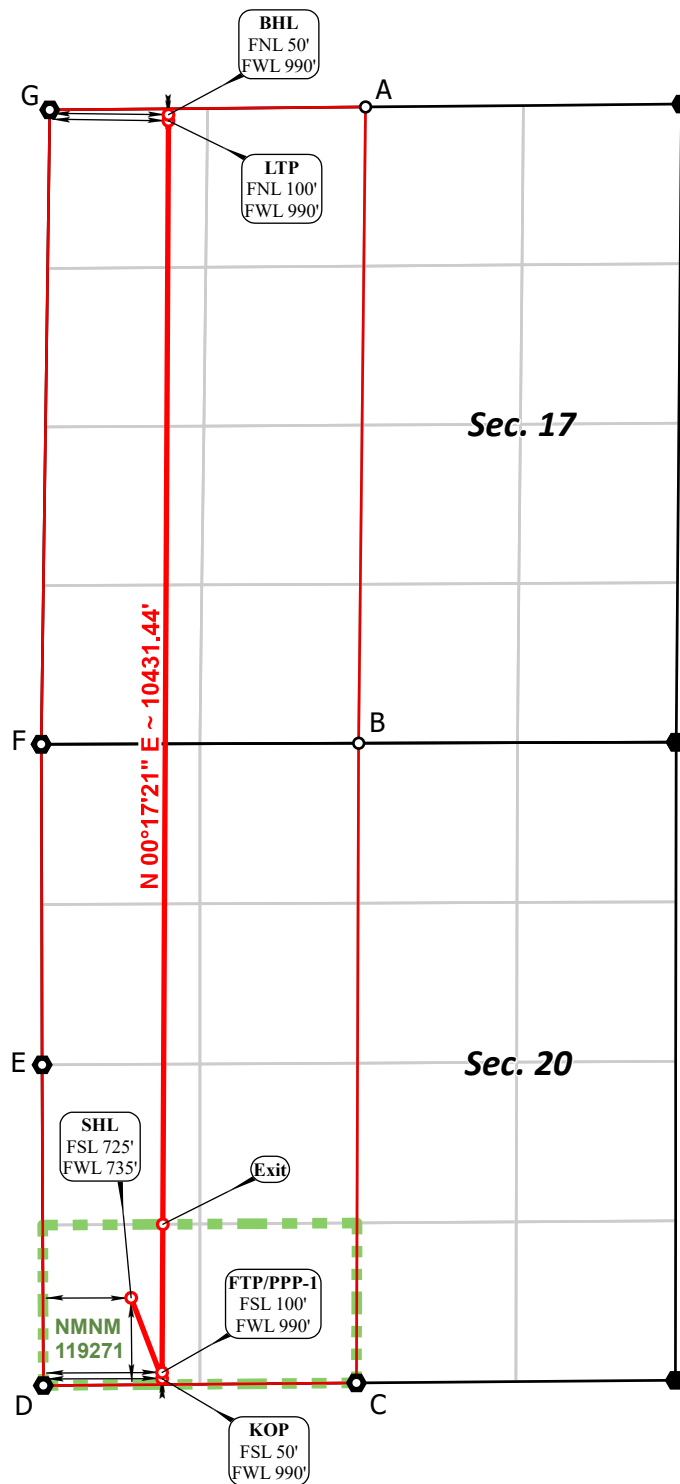
BHL
FNL 50' FWL 990', SECTION 17
NAD 83, SPCS NM EAST
X:640592.62' / Y:477479.41'
LAT:32.31225479 / LON:-104.01205031
NAD 27, SPCS NM EAST
X:599409.70' / Y:477419.79'
LAT:32.31213313 / LON:-104.01155732

LTP
FNL 100' FWL 990', SECTION 17
NAD 83, SPCS NM EAST
X:640591.95' / Y:477429.40'
LAT:32.31211733 / LON:-104.01205297
NAD 27, SPCS NM EAST
X:599409.02' / Y:477369.78'
LAT:32.31199567 / LON:-104.01155999

FTP/PPP-1
FSL 100' FWL 990', SECTION 20
NAD 83, SPCS NM EAST
X:640539.30' / Y:466998.09'
LAT:32.28344385 / LON:-104.01232447
NAD 27, SPCS NM EAST
X:599356.09' / Y:466938.71'
LAT:32.28332194 / LON:-104.01183256

KOP
FSL 50' FWL 990', SECTION 20
NAD 83, SPCS NM EAST
X:640539.49' / Y:466948.09'
LAT:32.28330640 / LON:-104.01232435
NAD 27, SPCS NM EAST
X:599356.27' / Y:466888.71'
LAT:32.28318450 / LON:-104.01183245

SHL
FSL 725' FWL 735', SECTION 20
NAD 83, SPCS NM EAST
X:640282.04' / Y:467620.61'
LAT:32.28515716 / LON:-104.01315091
NAD 27, SPCS NM EAST
X:599098.84' / Y:467561.22'
LAT:32.28503529 / LON:-104.01265892



*FTP to LTP LEASE DISTANCES

TRACT	DISTANCE
NMNM 119271	1234.98'
TOTAL	1234.98'

CORNER COORDINATES
NAD 83, SPCS NM EAST
A - X: 642235.13' / Y:477544.41'
B - X: 642177.98' / Y:472242.44'
C - X: 642158.82' / Y:466911.59'
D - X: 639549.70' / Y:466889.84'
E - X: 639539.75' / Y:469562.34'
F - X: 639532.05' / Y:472234.16'
G - X: 639603.08' / Y:477520.38'

CORNER COORDINATES
NAD 27, SPCS NM EAST
A - X: 601052.18' / Y:477484.76'
B - X: 600994.88' / Y:472182.91'
C - X: 600975.57' / Y:466852.19'
D - X: 598366.49' / Y:466830.47'
E - X: 598356.62' / Y:469502.91'
F - X: 598348.99' / Y:472174.67'
G - X: 598420.17' / Y:477460.77'



○ Drill Line Events ● Section Corners — Drill Line ⇄ Dimension Lines □ Federal Leases □ Project Area
All bearings and coordinates refer to New Mexico State Plane Coordinate System, East Zone, U.S. Survey Feet.

JOB No. BTA_0025_HR
REV 2 ANC 3/7/2025

Distances/areas relative to NAD 83 grid measurements. Combined Scale Factor: 0.99978230 and a Convergence Angle: 0.18628056°

State of New Mexico
Energy, Minerals and Natural Resources DepartmentSubmit Electronically
Via E-permittingOil 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:** BTA Oil Producers, LLC **OGRID:** 260297 **Date:** 5 / 13 / 2024**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
HARROUN RANCH 20702		M-20-23S-29E	724 FSL, 735 FWL	+/- 800	+/- 2000	+/- 1200
20-17 FED COM 18H						

IV. Central Delivery Point Name: HARROUN CTB [See 19.15.27.9(D)(1) NMAC]**V. Anticipated Schedule:** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
HARROUN RANCH 20702		6/27/2025	7/17/2025	7/31/2025	8/21/2025	9/20/2025
20-17 FED COM 18H						

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: Sammy Hajar
Title: Regulatory Analyst
E-mail Address: SHAJAR@BTAOIL.COM
Date: 5/13/2024
Phone: 432-682-3753
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

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

- Separation equipment will be sized to provide adequate separation for anticipated rates.
- Separation equipment will allow for adequate retention time to allow gas and liquids to separate.
- Separation equipment will separate all three phases (Oil, Water, and Gas).
- Collection systems are appropriately sized to handle facility production rates on all (3) phases.
- Ancillary equipment and metering is selected to be serviced without flow interruptions or the need to release gas from the well.

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.

Drilling Operations

- All flare stacks will be properly sized. The flare stacks 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, unless there is an equipment malfunction and/or to avoid risk of an immediate and substantial adverse impact on safety and the environment, at which point the gas will be vented.

Completions/Recompletions Operations

- New wells will not be flowed back until they are connected to a properly sized gathering system.
- The facility will be built/sized for maximum anticipated flowrates and pressures to minimize waste.
- For flowback operations, multiple stages of separation will be used as well as VRU and blowers to make sure waste is minimized off the storage tanks and facility.
- During initial flowback, the well stream will be routed to separation equipment.
- At an existing facility, when necessary, post separation natural gas will be flared until it meets pipeline specifications, at which point it will be turned into a collection system.
- At a new facility, post separation natural gas will be vented until storage tanks can safely function, at which point it will be flared until it meets pipeline spec.

Production Operations

- Weekly AVOs will be performed on all facilities that produce more than 60 MCFD.
- Leaking thief hatches and pressure safety valves found during AVOs will be cleaned and properly re-sealed.
- All flares will be equipped with auto-ignition systems and continuous pilot operations.
- After a well is stabilized from liquid unloading, the well will be turned back into the collection system.
- All gas lift systems will be optimized to limit the amount of waste.
- All tanks will have automatic gauging equipment installed.

Performance Standards

- Production equipment will be designed to handle maximum anticipated rates and pressure.
- All flared gas will be combusted in a flare stack that is properly sized and designed to ensure proper combustion.
- All gas will have multiple points of separation to ensure no liquids enter flares, combustors, or gas sales line.
- Weekly AVOs will be performed on all wells and facilities that produce more than 60 MCFD.
- All OOOOa facilities will be filmed with an Optical Gas Imaging Thermographer camera once per month to check for fugitive emissions.

Measurement & Estimation

- All volume that is flared and vented that is not measured will be estimated.
- All measurement equipment for flared volumes will conform to API 14.10.
- All meters will be calibrated at regular intervals according to meter manufacturer recommendations.
- When metering is not practical due to low pressure/low rate, the vented or flared volume will be estimated.

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

- During downhole well maintenance, BTA will use best management practices to vent as minimally as possible.
- Prior to the commencement of any maintenance, the tank or vessel will be isolated from the rest of the facilities.
- All valves upstream of the equipment will be closed and isolated.
- After equipment has been isolated, the equipment will be blown down to as low a pressure as possible into the collection system.
- If the equipment being maintained cannot be relieved into the collection system, it shall be released to a tank where the vapor can either be captured or combusted if possible.
- After downhole well maintenance, natural gas will be flared until it reaches pipeline specification.

Harroun Ranch 20702 20-17 FED COM

APD - Geology COAs (Not in Potash or WIPP)

- For at least one well per pad (deepest well within initial development preferred) the record of the drilling rate (ROP) along with the Gamma Ray (GR) and Neutron (CNL) well logs run from TVD to surface in the vertical section of the hole shall be submitted to the BLM office as well as all other logs run on the full borehole 30 days from completion. Any other logs run on the wellbore, excluding cement remediation, should also be sent. Only digital copies of the logs in .TIF or .LAS formats are necessary; paper logs are no longer required. Logs shall be emailed to blm-cfo-geology@doimspp.onmicrosoft.com. Well completion report should have .pdf copies of any CBLs or Temp Logs run on the wellbore.
- Exceptions: In areas where there is extensive log coverage (in particular the salt zone adjacent to a pad), Operators are encouraged to contact BLM Geologists to discuss if additional GR and N logs are necessary on a pad. Operator may request a waiver of the GR and N log requirement due to good well control or other reasons to be approved by BLM Geologist prior to well completion. A waiver approved by BLM must be attached to completion well report to satisfy COAs.
- The top of the Rustler, top and bottom of the Salt, and the top of the Capitan Reef (if present) are to be recorded on the Completion Report.

Be aware that:

- No H2S has been reported within one mile of the proposed project.

Questions? Contact Thomas Evans, BLM Geologist at 575-234-5965 or tvevans@blm.gov

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	BTA OIL PRODUCERS LLC
WELL NAME & NO.:	HARROUN RANCH 20702 20-17 FED COM 18H
LOCATION:	Section 20, T.23 S., R.29 E., NMP
COUNTY:	Eddy 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
Wellhead Variance	☐ Diverter		
Other	☐ 4 String	☐ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Pilot Hole	☐ Open Annulus
Cementing	☐ Contingency Cement Squeeze	☐ EchoMeter	☐ Primary Cement Squeeze
Special Requirements	☐ Water Disposal	☒ COM	☐ Unit
Special Requirements	☐ Batch Sundry		
Special Requirements Variance	☒ Break Testing	☐ Offline Cementing	☐ Casing Clearance

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated AT SPUD. As a result, the Hydrogen Sulfide area must meet 43 CFR part 3170 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8 inch** surface casing shall be set at approximately **350 feet per BLM Geologist** (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. The surface hole shall be **17-1/2 inch** in diameter.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature

survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

- b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
- Cement to surface. If cement does not circulate see B.1.a, c-d above.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
 - ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

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 **13-3/8** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.

- c. Manufacturer representative shall install the test plug for the initial BOP test.
- d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the 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.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in Onshore Order 1 and 2.
- 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.

(Note: For a minimum 5M BOPE or less (Utilizing a 10M BOPE system)

BOPE Break Testing Variance

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. **(Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP)**
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer (575-706-2779) prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (575-361-2822 Eddy County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.

- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per 43 CFR part 3170.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

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

EMAIL or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,

BLM_NM_CFO_DrillingNotifications@BLM.GOV

(575) 361-2822

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,

(575) 689-5981

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - i. Notify the BLM when moving in and removing the Spudder Rig.
 - ii. Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - iii. BOP/BOPE test to be conducted per **43 CFR 3172** as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the

- substructure on which the draw works are located, this does not include the dog house or stairway area.
3. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation

at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

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

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR 3172**.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - ii. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - iii. Manufacturer representative shall install the test plug for the initial BOP test.
 - iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.

- v. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
- i. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - ii. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
 - iii. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
 - iv. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

- v. The results of the test shall be reported to the appropriate BLM office.
- vi. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- vii. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- viii. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR 3172**.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

JS 2/10/2025



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

Drilling Plan Data Report

02/24/2025

APD ID: 10400098536

Submission Date: 05/16/2024

Highlighted data
reflects the most
recent changes

Operator Name: BTA OIL PRODUCERS LLC

Well Name: HARROUN RANCH 20702 20-17 FED COM

Well Number: 18H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
15077455	QUATERNARY	2986	0	0	ALLUVIUM	NONE	N
15077456	RUSTLER	2736	250	250	ANHYDRITE	NONE	N
15077457	TOP SALT	2586	400	400	SALT	NONE	N
15077458	BASE OF SALT	386	2600	2600	SALT	NONE	N
15077453	DELAWARE	161	2825	2825	LIMESTONE	NONE	N
15077459	BELL CANYON	136	2850	2850	SANDSTONE	NATURAL GAS, OIL	N
15077468	CHERRY CANYON	-674	3660	3660	SANDSTONE	NATURAL GAS, OIL	N
15077461	BRUSHY CANYON	-1918	4904	4904	SANDSTONE	NATURAL GAS, OIL	N
15077462	BONE SPRING LIME	-3533	6519	6519	LIMESTONE	NATURAL GAS, OIL	N
15077463	BONE SPRING 1ST	-4563	7549	7549	SANDSTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M

Rating Depth: 14000

Equipment: The blowout preventer equipment (BOP) shown in Exhibit A will consist of a (5M system) double ram type (5,000 psi WP) preventer and a bag-type (Hydril) preventer (5000 psi WP). Both units will be hydraulically operated and the ram type preventer will be equipped with blind rams on top and 5" drill pipe rams on bottom. The BOPs will be installed on the 13-3/8" surface casing and utilized continuously until total depth is reached. A 2" kill line and 3" choke line will be incorporated in the drilling spool below the ram-type BOP. A remote kill line will be used for the 5M system as per onshore order #2. Other accessory BOP equipment will include a Kelly cock, floor safety valve, choke lines, and choke manifold having a 5,000 psi WP rating. The 5M annular will be tested as per BLM drilling Operations Order No. 2, and will be test to 100% of working pressure.

Requesting Variance? NO

Variance request:

Operator Name: BTA OIL PRODUCERS LLC**Well Name:** HARROUN RANCH 20702 20-17 FED COM **Well Number:** 18H

Testing Procedure: Pipe rams will be operated and checked each 24-hour period and each time the drill pipe is out of the hole. These functional tests will be documented on the daily drillers log. All BOPs and associated equipment will be tested as per BLM drilling Operations Order No. 2.

Choke Diagram Attachment:

Choke_Hose___Test_Chart_and_Specs_20190723082742.pdf

5M_choke_mannifold_20200917143047.pdf

BOP Diagram Attachment:

5M_BOP_diagram_20200917143053.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	450	0	450	2980	2530	450	J-55	54.5	ST&C	5.8	14.1	DRY	21	DRY	34.8
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	2900	0	2900	3419	80	2900	J-55	40	LT&C	1.7	2.6	DRY	4.5	DRY	5.4
3	PRODUCTION	8.75	5.5	NEW	API	N	0	17942	0	7594	3419	-4614	17942	P-110	17	BUTT	2	2.9	DRY	1.9	DRY	1.8

Casing Attachments**Casing ID:** 1 **String** SURFACE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

Operator Name: BTA OIL PRODUCERS LLC

Well Name: HARROUN RANCH 20702 20-17 FED COMWell Number: 18H

Casing Attachments

Casing ID: 2StringINTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing ID: 3StringPRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Harroun_Ranch_18H_Casing_Assumption_20240516124124.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	115	95	1.73	13.5	164.35	100	Class C	2% CaCl2
SURFACE	Tail		115	450	340	1.35	14.8	459	100	Class C	2% CaCl2
INTERMEDIATE	Lead		0	2345	695	2.46	12.8	1709.7	100	Class C	0.5% CaCl2
INTERMEDIATE	Tail		2345	2900	200	1.34	14.8	268	25	Class C	1% CaCl2
PRODUCTION	Lead		1900	9465	750	3.9	10.5	2925	60	25% Poz 75% Class C	0.4% Fluid Loss

Operator Name: BTA OIL PRODUCERS LLC**Well Name:** HARROUN RANCH 20702 20-17 FED COM**Well Number:** 18H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Tail		9465	1794 2	2145	1.25	14.4	2681. 25	25	Class H	0.2% LT Retarder

Section 5 - Circulating Medium

Mud System Type: Closed**Will an air or gas system be Used?** NO**Description of the equipment for the circulating system in accordance with Onshore Order #2:****Diagram of the equipment for the circulating system in accordance with Onshore Order #2:****Describe what will be on location to control well or mitigate other conditions:** Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.**Describe the mud monitoring system utilized:** PVT/Pason/Visual Monitoring

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	450	OTHER : FW SPUD	8.3	8.4							
450	2900	OTHER : BRINE	10	10							
2900	7594	OTHER : CUT BRINE	8.7	9.4							

Operator Name: BTA OIL PRODUCERS LLC

Well Name: HARROUN RANCH 20702 20-17 FED COM **Well Number:** 18H

Section 6 - Test, Logging, Coring

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

Drill Stem Tests will be based on geological sample shows.

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

MUD LOG/GEOLOGICAL LITHOLOGY LOG,GAMMA RAY LOG,CEMENT BOND LOG,

Coring operation description for the well:

None planned

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 3712

Anticipated Surface Pressure: 2041

Anticipated Bottom Hole Temperature(F): 140

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

Describe:

Contingency Plans geohazards description:

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

BTA_Oil_Producers_LLC___EMERGENCY_CALL_LIST_20190723161502.pdf

H2S_Equipment_Schematic_20190723161502.pdf

H2S_Plan_20190723161502.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Harroun_Ranch_18H_directional_plan_20240516124717.pdf

Harroun_Ranch_18H_wall_plot_20240516124717.pdf

NGMP___Harroun_18H_20240516124728.pdf

Other proposed operations facets description:

A variance is requested for a Multi Bowl Wellhead. See the attached schematic. *All strings will be kept 1/3 full while running.

Other proposed operations facets attachment:

Other Variance attachment:

BTA_Tubing_Requirement_Exception_Request_20230912152227.pdf

Multi_Bowl_Diagram_13_38_x_9_58_x_5_12_20200917143315.pdf

BOP_Break_Testing_Variance_Request__updated_9_6_24__20240906083644.pdf

FLEX_HOSE_2_20240906083702.pdf

	BTA Oil Producers, LLC														
	104 S Pecos														
	Midland, TX 79701														

WELL: Harroun Ranch #18H

TVD: 7594

MD: 17942

DRILLING PLAN

Casing Program

Hole Size	Csg. Size	From (MD)	To (MD)	From (TVD)	To (TVD)	Tapered String	Weight (lbs)	Grade	Conn.	Collapse	Burst	Body Tension	Joint Tension	Dry/Buoyant	Mud Weight (ppg)
17 1/2	13 3/8	0	450	0	450	No	54.5	J-55	STC	5.8	14.1	34.8	21.0	Dry	8.3
12 1/4	9 5/8	0	2900	0	2900	No	40	J-55	LTC	1.7	2.6	5.4	4.5	Dry	10
8 3/4	5 1/2	0	17942	0	7594	No	17	P110	Buttress	2.0	2.9	1.8	1.9	Dry	9.4

BTA Oil Producers, LLC

Lea County, NM (NAD 83)

Harroun Ranch 20702 20-17 Fed Com

Harroun Ranch 20702 20-17 Fed Com #18H

Wellbore #1

Plan: Design #1

Standard Planning Report - Geographic

08 May, 2024

Microsoft
Planning Report - Geographic

Database:	EDM5000_OLD	Local Co-ordinate Reference:	Well Harroun Ranch 20702 20-17 Fed Com #18H
Company:	BTA Oil Producers, LLC	TVD Reference:	GL @ 2980.0usft (Original Well Elev)
Project:	Lea County, NM (NAD 83)	MD Reference:	GL @ 2980.0usft (Original Well Elev)
Site:	Harroun Ranch 20702 20-17 Fed Com	North Reference:	Grid
Well:	Harroun Ranch 20702 20-17 Fed Com #18H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Lea County, NM (NAD 83), Lea County, NM		
Map System:	US State Plane 1983	System Datum:	Ground Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		Using geodetic scale factor

Site	Harroun Ranch 20702 20-17 Fed Com		
Site Position:		Northing:	640,312.01 usft
From:	Map	Easting:	467,620.57 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 45' 36.085 N
		Longitude:	104° 34' 23.297 W

Well	Harroun Ranch 20702 20-17 Fed Com #18H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty		0.0 usft	Wellhead Elevation:
Grid Convergence:		0.17 °	
			Latitude:
			Longitude:
			Ground Level:

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF200510	12/31/2009	7.95
			Dip Angle (°)
			60.22
			Field Strength (nT)
			48,784.13595550

Design	Design #1		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.0	0.0	0.0
			Direction (°)
			1.80

Plan Survey Tool Program	Date	5/8/2024		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	17,942.1 Design #1 (Wellbore #1)		

Microsoft

Planning Report - Geographic

Database:	EDM5000_OLD	Local Co-ordinate Reference:	Well Harroun Ranch 20702 20-17 Fed Com #18H
Company:	BTA Oil Producers, LLC	TVD Reference:	GL @ 2980.0usft (Original Well Elev)
Project:	Lea County, NM (NAD 83)	MD Reference:	GL @ 2980.0usft (Original Well Elev)
Site:	Harroun Ranch 20702 20-17 Fed Com	North Reference:	Grid
Well:	Harroun Ranch 20702 20-17 Fed Com #18H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
750.0	10.00	159.05	748.7	-20.3	7.8	4.00	4.00	0.00	159.05	
4,646.7	10.00	159.05	4,586.2	-652.3	249.7	0.00	0.00	0.00	0.00	
4,896.7	0.00	0.00	4,834.9	-672.6	257.5	4.00	-4.00	0.00	180.00	
7,061.7	0.00	0.00	7,000.0	-672.6	257.5	0.00	0.00	0.00	0.00	KOP Harroun Ranch ;
7,082.8	0.00	0.00	7,021.0	-672.6	257.5	0.00	0.00	0.00	0.00	
7,982.8	90.00	0.29	7,594.0	-99.6	260.4	10.00	10.00	0.00	0.29	
17,942.1	90.00	0.29	7,594.0	9,859.6	310.6	0.00	0.00	0.00	0.00	BHL Harroun Ranch #

Microsoft
Planning Report - Geographic

Database:	EDM5000_OLD	Local Co-ordinate Reference:	Well Harroun Ranch 20702 20-17 Fed Com #18H
Company:	BTA Oil Producers, LLC	TVD Reference:	GL @ 2980.0usft (Original Well Elev)
Project:	Lea County, NM (NAD 83)	MD Reference:	GL @ 2980.0usft (Original Well Elev)
Site:	Harroun Ranch 20702 20-17 Fed Com	North Reference:	Grid
Well:	Harroun Ranch 20702 20-17 Fed Com #18H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.0	0.00	0.00	0.0	0.0	0.0	467,620.61	640,282.04	32° 17' 6.566 N	104° 0' 47.343 W	
100.0	0.00	0.00	100.0	0.0	0.0	467,620.61	640,282.04	32° 17' 6.566 N	104° 0' 47.343 W	
200.0	0.00	0.00	200.0	0.0	0.0	467,620.61	640,282.04	32° 17' 6.566 N	104° 0' 47.343 W	
300.0	0.00	0.00	300.0	0.0	0.0	467,620.61	640,282.04	32° 17' 6.566 N	104° 0' 47.343 W	
400.0	0.00	0.00	400.0	0.0	0.0	467,620.61	640,282.04	32° 17' 6.566 N	104° 0' 47.343 W	
500.0	0.00	0.00	500.0	0.0	0.0	467,620.61	640,282.04	32° 17' 6.566 N	104° 0' 47.343 W	
600.0	4.00	159.05	599.9	-3.3	1.2	467,617.35	640,283.29	32° 17' 6.534 N	104° 0' 47.329 W	
700.0	8.00	159.05	699.4	-13.0	5.0	467,607.59	640,287.03	32° 17' 6.437 N	104° 0' 47.286 W	
750.0	10.00	159.05	748.7	-20.3	7.8	467,600.29	640,289.82	32° 17' 6.364 N	104° 0' 47.253 W	
800.0	10.00	159.05	798.0	-28.4	10.9	467,592.18	640,292.93	32° 17' 6.284 N	104° 0' 47.218 W	
900.0	10.00	159.05	896.5	-44.6	17.1	467,575.97	640,299.14	32° 17' 6.123 N	104° 0' 47.146 W	
1,000.0	10.00	159.05	994.9	-60.9	23.3	467,559.75	640,305.34	32° 17' 5.963 N	104° 0' 47.074 W	
1,100.0	10.00	159.05	1,093.4	-77.1	29.5	467,543.53	640,311.55	32° 17' 5.802 N	104° 0' 47.002 W	
1,200.0	10.00	159.05	1,191.9	-93.3	35.7	467,527.32	640,317.76	32° 17' 5.642 N	104° 0' 46.931 W	
1,300.0	10.00	159.05	1,290.4	-109.5	41.9	467,511.10	640,323.97	32° 17' 5.481 N	104° 0' 46.859 W	
1,400.0	10.00	159.05	1,388.9	-125.7	48.1	467,494.89	640,330.17	32° 17' 5.320 N	104° 0' 46.787 W	
1,500.0	10.00	159.05	1,487.3	-142.0	54.3	467,478.67	640,336.38	32° 17' 5.160 N	104° 0' 46.715 W	
1,600.0	10.00	159.05	1,585.8	-158.2	60.5	467,462.45	640,342.59	32° 17' 4.999 N	104° 0' 46.644 W	
1,700.0	10.00	159.05	1,684.3	-174.4	66.8	467,446.24	640,348.80	32° 17' 4.838 N	104° 0' 46.572 W	
1,800.0	10.00	159.05	1,782.8	-190.6	73.0	467,430.02	640,355.00	32° 17' 4.678 N	104° 0' 46.500 W	
1,900.0	10.00	159.05	1,881.3	-206.8	79.2	467,413.81	640,361.21	32° 17' 4.517 N	104° 0' 46.428 W	
2,000.0	10.00	159.05	1,979.7	-223.0	85.4	467,397.59	640,367.42	32° 17' 4.356 N	104° 0' 46.357 W	
2,100.0	10.00	159.05	2,078.2	-239.3	91.6	467,381.38	640,373.63	32° 17' 4.196 N	104° 0' 46.285 W	
2,200.0	10.00	159.05	2,176.7	-255.5	97.8	467,365.16	640,379.83	32° 17' 4.035 N	104° 0' 46.213 W	
2,300.0	10.00	159.05	2,275.2	-271.7	104.0	467,348.94	640,386.04	32° 17' 3.874 N	104° 0' 46.141 W	
2,400.0	10.00	159.05	2,373.7	-287.9	110.2	467,332.73	640,392.25	32° 17' 3.714 N	104° 0' 46.070 W	
2,500.0	10.00	159.05	2,472.1	-304.1	116.4	467,316.51	640,398.46	32° 17' 3.553 N	104° 0' 45.998 W	
2,600.0	10.00	159.05	2,570.6	-320.3	122.6	467,300.30	640,404.67	32° 17' 3.392 N	104° 0' 45.926 W	
2,700.0	10.00	159.05	2,669.1	-336.6	128.8	467,284.08	640,410.87	32° 17' 3.232 N	104° 0' 45.854 W	
2,800.0	10.00	159.05	2,767.6	-352.8	135.0	467,267.86	640,417.08	32° 17' 3.071 N	104° 0' 45.783 W	
2,900.0	10.00	159.05	2,866.1	-369.0	141.3	467,251.65	640,423.29	32° 17' 2.910 N	104° 0' 45.711 W	
3,000.0	10.00	159.05	2,964.6	-385.2	147.5	467,235.43	640,429.50	32° 17' 2.750 N	104° 0' 45.639 W	
3,100.0	10.00	159.05	3,063.0	-401.4	153.7	467,219.22	640,435.70	32° 17' 2.589 N	104° 0' 45.567 W	
3,200.0	10.00	159.05	3,161.5	-417.6	159.9	467,203.00	640,441.91	32° 17' 2.428 N	104° 0' 45.496 W	
3,300.0	10.00	159.05	3,260.0	-433.9	166.1	467,186.78	640,448.12	32° 17' 2.268 N	104° 0' 45.424 W	
3,400.0	10.00	159.05	3,358.5	-450.1	172.3	467,170.57	640,454.33	32° 17' 2.107 N	104° 0' 45.352 W	
3,500.0	10.00	159.05	3,457.0	-466.3	178.5	467,154.35	640,460.53	32° 17' 1.947 N	104° 0' 45.280 W	
3,600.0	10.00	159.05	3,555.4	-482.5	184.7	467,138.14	640,466.74	32° 17' 1.786 N	104° 0' 45.209 W	
3,700.0	10.00	159.05	3,653.9	-498.7	190.9	467,121.92	640,472.95	32° 17' 1.625 N	104° 0' 45.137 W	
3,800.0	10.00	159.05	3,752.4	-514.9	197.1	467,105.71	640,479.16	32° 17' 1.465 N	104° 0' 45.065 W	
3,900.0	10.00	159.05	3,850.9	-531.2	203.3	467,089.49	640,485.36	32° 17' 1.304 N	104° 0' 44.993 W	
4,000.0	10.00	159.05	3,949.4	-547.4	209.5	467,073.27	640,491.57	32° 17' 1.143 N	104° 0' 44.922 W	
4,100.0	10.00	159.05	4,047.8	-563.6	215.8	467,057.06	640,497.78	32° 17' 0.983 N	104° 0' 44.850 W	
4,200.0	10.00	159.05	4,146.3	-579.8	222.0	467,040.84	640,503.99	32° 17' 0.822 N	104° 0' 44.778 W	
4,300.0	10.00	159.05	4,244.8	-596.0	228.2	467,024.63	640,510.20	32° 17' 0.661 N	104° 0' 44.706 W	
4,400.0	10.00	159.05	4,343.3	-612.2	234.4	467,008.41	640,516.40	32° 17' 0.501 N	104° 0' 44.635 W	
4,500.0	10.00	159.05	4,441.8	-628.5	240.6	466,992.19	640,522.61	32° 17' 0.340 N	104° 0' 44.563 W	
4,600.0	10.00	159.05	4,540.2	-644.7	246.8	466,975.98	640,528.82	32° 17' 0.179 N	104° 0' 44.491 W	
4,646.7	10.00	159.05	4,586.2	-652.3	249.7	466,968.41	640,531.71	32° 17' 0.104 N	104° 0' 44.458 W	
4,700.0	7.87	159.05	4,638.9	-660.0	252.7	466,960.68	640,534.68	32° 17' 0.028 N	104° 0' 44.423 W	
4,800.0	3.87	159.05	4,738.3	-669.5	256.3	466,951.14	640,538.33	32° 16' 59.933 N	104° 0' 44.381 W	
4,896.7	0.00	0.00	4,834.9	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
4,900.0	0.00	0.00	4,838.3	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
5,000.0	0.00	0.00	4,938.3	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	

Microsoft
Planning Report - Geographic

Database:	EDM5000_OLD	Local Co-ordinate Reference:	Well Harroun Ranch 20702 20-17 Fed Com #18H
Company:	BTA Oil Producers, LLC	TVD Reference:	GL @ 2980.0usft (Original Well Elev)
Project:	Lea County, NM (NAD 83)	MD Reference:	GL @ 2980.0usft (Original Well Elev)
Site:	Harroun Ranch 20702 20-17 Fed Com	North Reference:	Grid
Well:	Harroun Ranch 20702 20-17 Fed Com #18H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,100.0	0.00	0.00	5,038.3	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
5,200.0	0.00	0.00	5,138.3	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
5,300.0	0.00	0.00	5,238.3	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
5,400.0	0.00	0.00	5,338.3	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
5,500.0	0.00	0.00	5,438.3	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
5,600.0	0.00	0.00	5,538.3	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
5,700.0	0.00	0.00	5,638.3	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
5,800.0	0.00	0.00	5,738.3	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
5,900.0	0.00	0.00	5,838.3	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
6,000.0	0.00	0.00	5,938.3	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
6,100.0	0.00	0.00	6,038.3	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
6,200.0	0.00	0.00	6,138.3	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
6,300.0	0.00	0.00	6,238.3	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
6,400.0	0.00	0.00	6,338.3	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
6,500.0	0.00	0.00	6,438.3	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
6,600.0	0.00	0.00	6,538.3	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
6,700.0	0.00	0.00	6,638.3	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
6,800.0	0.00	0.00	6,738.3	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
6,900.0	0.00	0.00	6,838.3	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
7,000.0	0.00	0.00	6,938.3	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
7,061.7	0.00	0.00	7,000.0	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
7,082.8	0.00	0.00	7,021.0	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N	104° 0' 44.368 W	
7,100.0	1.72	0.29	7,038.3	-672.3	257.5	466,948.35	640,539.50	32° 16' 59.906 N	104° 0' 44.368 W	
7,200.0	11.72	0.29	7,137.5	-660.6	257.5	466,960.04	640,539.55	32° 17' 0.021 N	104° 0' 44.367 W	
7,300.0	21.72	0.29	7,233.1	-631.9	257.7	466,988.77	640,539.70	32° 17' 0.306 N	104° 0' 44.364 W	
7,400.0	31.72	0.29	7,322.3	-587.0	257.9	467,033.68	640,539.93	32° 17' 0.750 N	104° 0' 44.360 W	
7,500.0	41.72	0.29	7,402.4	-527.3	258.2	467,093.39	640,540.23	32° 17' 1.341 N	104° 0' 44.354 W	
7,600.0	51.72	0.29	7,470.8	-454.5	258.6	467,166.10	640,540.59	32° 17' 2.060 N	104° 0' 44.347 W	
7,700.0	61.72	0.29	7,525.6	-371.1	259.0	467,249.59	640,541.02	32° 17' 2.887 N	104° 0' 44.339 W	
7,800.0	71.72	0.29	7,565.1	-279.3	259.5	467,341.32	640,541.48	32° 17' 3.794 N	104° 0' 44.331 W	
7,900.0	81.72	0.29	7,588.0	-182.1	259.9	467,438.51	640,541.97	32° 17' 4.756 N	104° 0' 44.322 W	
7,982.8	90.00	0.29	7,594.0	-99.6	260.4	467,521.00	640,542.38	32° 17' 5.572 N	104° 0' 44.314 W	
8,000.0	90.00	0.29	7,594.0	-82.4	260.4	467,538.22	640,542.47	32° 17' 5.743 N	104° 0' 44.312 W	
8,100.0	90.00	0.29	7,594.0	17.6	261.0	467,638.21	640,542.98	32° 17' 6.732 N	104° 0' 44.303 W	
8,200.0	90.00	0.29	7,594.0	117.6	261.5	467,738.20	640,543.48	32° 17' 7.722 N	104° 0' 44.294 W	
8,300.0	90.00	0.29	7,594.0	217.6	262.0	467,838.19	640,543.98	32° 17' 8.711 N	104° 0' 44.284 W	
8,400.0	90.00	0.29	7,594.0	317.6	262.5	467,938.18	640,544.49	32° 17' 9.701 N	104° 0' 44.275 W	
8,500.0	90.00	0.29	7,594.0	417.6	263.0	468,038.17	640,544.99	32° 17' 10.690 N	104° 0' 44.266 W	
8,600.0	90.00	0.29	7,594.0	517.6	263.5	468,138.16	640,545.50	32° 17' 11.680 N	104° 0' 44.256 W	
8,700.0	90.00	0.29	7,594.0	617.6	264.0	468,238.15	640,546.00	32° 17' 12.669 N	104° 0' 44.247 W	
8,800.0	90.00	0.29	7,594.0	717.6	264.5	468,338.14	640,546.51	32° 17' 13.659 N	104° 0' 44.237 W	
8,900.0	90.00	0.29	7,594.0	817.6	265.0	468,438.13	640,547.01	32° 17' 14.648 N	104° 0' 44.228 W	
9,000.0	90.00	0.29	7,594.0	917.6	265.5	468,538.13	640,547.52	32° 17' 15.638 N	104° 0' 44.219 W	
9,100.0	90.00	0.29	7,594.0	1,017.6	266.0	468,638.12	640,548.02	32° 17' 16.627 N	104° 0' 44.209 W	
9,200.0	90.00	0.29	7,594.0	1,117.6	266.5	468,738.11	640,548.52	32° 17' 17.616 N	104° 0' 44.200 W	
9,300.0	90.00	0.29	7,594.0	1,217.6	267.0	468,838.10	640,549.03	32° 17' 18.606 N	104° 0' 44.191 W	
9,400.0	90.00	0.29	7,594.0	1,317.6	267.5	468,938.09	640,549.53	32° 17' 19.595 N	104° 0' 44.181 W	
9,500.0	90.00	0.29	7,594.0	1,417.6	268.0	469,038.08	640,550.04	32° 17' 20.585 N	104° 0' 44.172 W	
9,600.0	90.00	0.29	7,594.0	1,517.6	268.5	469,138.07	640,550.54	32° 17' 21.574 N	104° 0' 44.163 W	
9,700.0	90.00	0.29	7,594.0	1,617.6	269.0	469,238.06	640,551.05	32° 17' 22.564 N	104° 0' 44.153 W	
9,800.0	90.00	0.29	7,594.0	1,717.6	269.5	469,338.05	640,551.55	32° 17' 23.553 N	104° 0' 44.144 W	
9,900.0	90.00	0.29	7,594.0	1,817.6	270.0	469,438.04	640,552.06	32° 17' 24.543 N	104° 0' 44.134 W	
10,000.0	90.00	0.29	7,594.0	1,917.6	270.5	469,538.03	640,552.56	32° 17' 25.532 N	104° 0' 44.125 W	
10,100.0	90.00	0.29	7,594.0	2,017.6	271.0	469,638.02	640,553.06	32° 17' 26.522 N	104° 0' 44.116 W	

Microsoft
Planning Report - Geographic

Database:	EDM5000_OLD	Local Co-ordinate Reference:	Well Harroun Ranch 20702 20-17 Fed Com #18H
Company:	BTA Oil Producers, LLC	TVD Reference:	GL @ 2980.0usft (Original Well Elev)
Project:	Lea County, NM (NAD 83)	MD Reference:	GL @ 2980.0usft (Original Well Elev)
Site:	Harroun Ranch 20702 20-17 Fed Com	North Reference:	Grid
Well:	Harroun Ranch 20702 20-17 Fed Com #18H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
10,200.0	90.00	0.29	7,594.0	2,117.6	271.5	469,738.01	640,553.57	32° 17' 27.511 N	104° 0' 44.106 W	
10,300.0	90.00	0.29	7,594.0	2,217.6	272.1	469,838.01	640,554.07	32° 17' 28.501 N	104° 0' 44.097 W	
10,400.0	90.00	0.29	7,594.0	2,317.6	272.6	469,938.00	640,554.58	32° 17' 29.490 N	104° 0' 44.088 W	
10,500.0	90.00	0.29	7,594.0	2,417.6	273.1	470,037.99	640,555.08	32° 17' 30.480 N	104° 0' 44.078 W	
10,600.0	90.00	0.29	7,594.0	2,517.6	273.6	470,137.98	640,555.59	32° 17' 31.469 N	104° 0' 44.069 W	
10,700.0	90.00	0.29	7,594.0	2,617.6	274.1	470,237.97	640,556.09	32° 17' 32.459 N	104° 0' 44.060 W	
10,800.0	90.00	0.29	7,594.0	2,717.6	274.6	470,337.96	640,556.60	32° 17' 33.448 N	104° 0' 44.050 W	
10,900.0	90.00	0.29	7,594.0	2,817.6	275.1	470,437.95	640,557.10	32° 17' 34.438 N	104° 0' 44.041 W	
11,000.0	90.00	0.29	7,594.0	2,917.6	275.6	470,537.94	640,557.60	32° 17' 35.427 N	104° 0' 44.031 W	
11,100.0	90.00	0.29	7,594.0	3,017.6	276.1	470,637.93	640,558.11	32° 17' 36.416 N	104° 0' 44.022 W	
11,200.0	90.00	0.29	7,594.0	3,117.6	276.6	470,737.92	640,558.61	32° 17' 37.406 N	104° 0' 44.013 W	
11,300.0	90.00	0.29	7,594.0	3,217.6	277.1	470,837.91	640,559.12	32° 17' 38.395 N	104° 0' 44.003 W	
11,400.0	90.00	0.29	7,594.0	3,317.6	277.6	470,937.90	640,559.62	32° 17' 39.385 N	104° 0' 43.994 W	
11,500.0	90.00	0.29	7,594.0	3,417.6	278.1	471,037.89	640,560.13	32° 17' 40.374 N	104° 0' 43.985 W	
11,600.0	90.00	0.29	7,594.0	3,517.6	278.6	471,137.89	640,560.63	32° 17' 41.364 N	104° 0' 43.975 W	
11,700.0	90.00	0.29	7,594.0	3,617.6	279.1	471,237.88	640,561.14	32° 17' 42.353 N	104° 0' 43.966 W	
11,800.0	90.00	0.29	7,594.0	3,717.6	279.6	471,337.87	640,561.64	32° 17' 43.343 N	104° 0' 43.957 W	
11,900.0	90.00	0.29	7,594.0	3,817.6	280.1	471,437.86	640,562.14	32° 17' 44.332 N	104° 0' 43.947 W	
12,000.0	90.00	0.29	7,594.0	3,917.5	280.6	471,537.85	640,562.65	32° 17' 45.322 N	104° 0' 43.938 W	
12,100.0	90.00	0.29	7,594.0	4,017.5	281.1	471,637.84	640,563.15	32° 17' 46.311 N	104° 0' 43.928 W	
12,200.0	90.00	0.29	7,594.0	4,117.5	281.6	471,737.83	640,563.66	32° 17' 47.301 N	104° 0' 43.919 W	
12,300.0	90.00	0.29	7,594.0	4,217.5	282.1	471,837.82	640,564.16	32° 17' 48.290 N	104° 0' 43.910 W	
12,400.0	90.00	0.29	7,594.0	4,317.5	282.6	471,937.81	640,564.67	32° 17' 49.280 N	104° 0' 43.900 W	
12,500.0	90.00	0.29	7,594.0	4,417.5	283.1	472,037.80	640,565.17	32° 17' 50.269 N	104° 0' 43.891 W	
12,600.0	90.00	0.29	7,594.0	4,517.5	283.7	472,137.79	640,565.68	32° 17' 51.259 N	104° 0' 43.882 W	
12,700.0	90.00	0.29	7,594.0	4,617.5	284.2	472,237.78	640,566.18	32° 17' 52.248 N	104° 0' 43.872 W	
12,800.0	90.00	0.29	7,594.0	4,717.5	284.7	472,337.77	640,566.69	32° 17' 53.238 N	104° 0' 43.863 W	
12,900.0	90.00	0.29	7,594.0	4,817.5	285.2	472,437.77	640,567.19	32° 17' 54.227 N	104° 0' 43.854 W	
13,000.0	90.00	0.29	7,594.0	4,917.5	285.7	472,537.76	640,567.69	32° 17' 55.216 N	104° 0' 43.844 W	
13,100.0	90.00	0.29	7,594.0	5,017.5	286.2	472,637.75	640,568.20	32° 17' 56.206 N	104° 0' 43.835 W	
13,200.0	90.00	0.29	7,594.0	5,117.5	286.7	472,737.74	640,568.70	32° 17' 57.195 N	104° 0' 43.825 W	
13,300.0	90.00	0.29	7,594.0	5,217.5	287.2	472,837.73	640,569.21	32° 17' 58.185 N	104° 0' 43.816 W	
13,400.0	90.00	0.29	7,594.0	5,317.5	287.7	472,937.72	640,569.71	32° 17' 59.174 N	104° 0' 43.807 W	
13,500.0	90.00	0.29	7,594.0	5,417.5	288.2	473,037.71	640,570.22	32° 18' 0.164 N	104° 0' 43.797 W	
13,600.0	90.00	0.29	7,594.0	5,517.5	288.7	473,137.70	640,570.72	32° 18' 1.153 N	104° 0' 43.788 W	
13,700.0	90.00	0.29	7,594.0	5,617.5	289.2	473,237.69	640,571.23	32° 18' 2.143 N	104° 0' 43.779 W	
13,800.0	90.00	0.29	7,594.0	5,717.5	289.7	473,337.68	640,571.73	32° 18' 3.132 N	104° 0' 43.769 W	
13,900.0	90.00	0.29	7,594.0	5,817.5	290.2	473,437.67	640,572.23	32° 18' 4.122 N	104° 0' 43.760 W	
14,000.0	90.00	0.29	7,594.0	5,917.5	290.7	473,537.66	640,572.74	32° 18' 5.111 N	104° 0' 43.750 W	
14,100.0	90.00	0.29	7,594.0	6,017.5	291.2	473,637.65	640,573.24	32° 18' 6.101 N	104° 0' 43.741 W	
14,200.0	90.00	0.29	7,594.0	6,117.5	291.7	473,737.64	640,573.75	32° 18' 7.090 N	104° 0' 43.732 W	
14,300.0	90.00	0.29	7,594.0	6,217.5	292.2	473,837.64	640,574.25	32° 18' 8.080 N	104° 0' 43.722 W	
14,400.0	90.00	0.29	7,594.0	6,317.5	292.7	473,937.63	640,574.76	32° 18' 9.069 N	104° 0' 43.713 W	
14,500.0	90.00	0.29	7,594.0	6,417.5	293.2	474,037.62	640,575.26	32° 18' 10.059 N	104° 0' 43.704 W	
14,600.0	90.00	0.29	7,594.0	6,517.5	293.7	474,137.61	640,575.77	32° 18' 11.048 N	104° 0' 43.694 W	
14,700.0	90.00	0.29	7,594.0	6,617.5	294.2	474,237.60	640,576.27	32° 18' 12.037 N	104° 0' 43.685 W	
14,800.0	90.00	0.29	7,594.0	6,717.5	294.8	474,337.59	640,576.77	32° 18' 13.027 N	104° 0' 43.676 W	
14,900.0	90.00	0.29	7,594.0	6,817.5	295.3	474,437.58	640,577.28	32° 18' 14.016 N	104° 0' 43.666 W	
15,000.0	90.00	0.29	7,594.0	6,917.5	295.8	474,537.57	640,577.78	32° 18' 15.006 N	104° 0' 43.657 W	
15,100.0	90.00	0.29	7,594.0	7,017.5	296.3	474,637.56	640,578.29	32° 18' 15.995 N	104° 0' 43.647 W	
15,200.0	90.00	0.29	7,594.0	7,117.5	296.8	474,737.55	640,578.79	32° 18' 16.985 N	104° 0' 43.638 W	
15,300.0	90.00	0.29	7,594.0	7,217.5	297.3	474,837.54	640,579.30	32° 18' 17.974 N	104° 0' 43.629 W	
15,400.0	90.00	0.29	7,594.0	7,317.5	297.8	474,937.53	640,579.80	32° 18' 18.964 N	104° 0' 43.619 W	
15,500.0	90.00	0.29	7,594.0	7,417.5	298.3	475,037.52	640,580.31	32° 18' 19.953 N	104° 0' 43.610 W	

Microsoft
Planning Report - Geographic

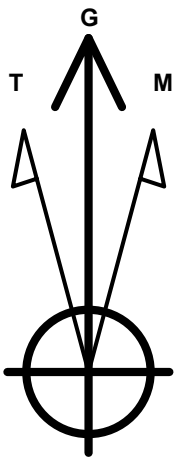
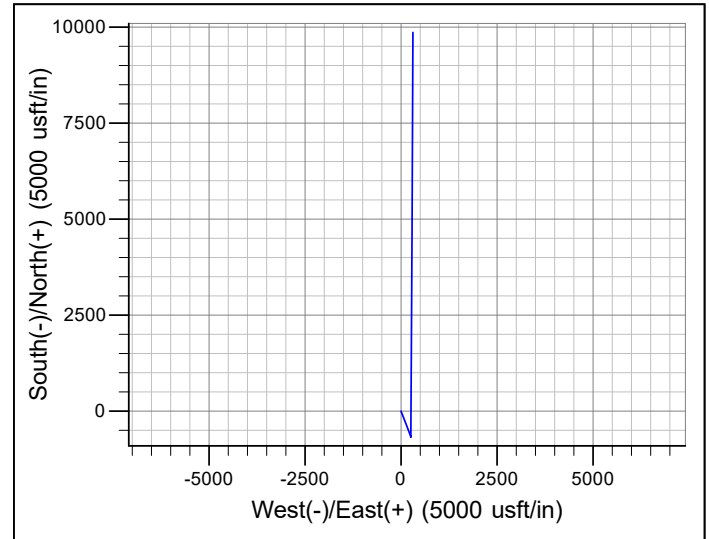
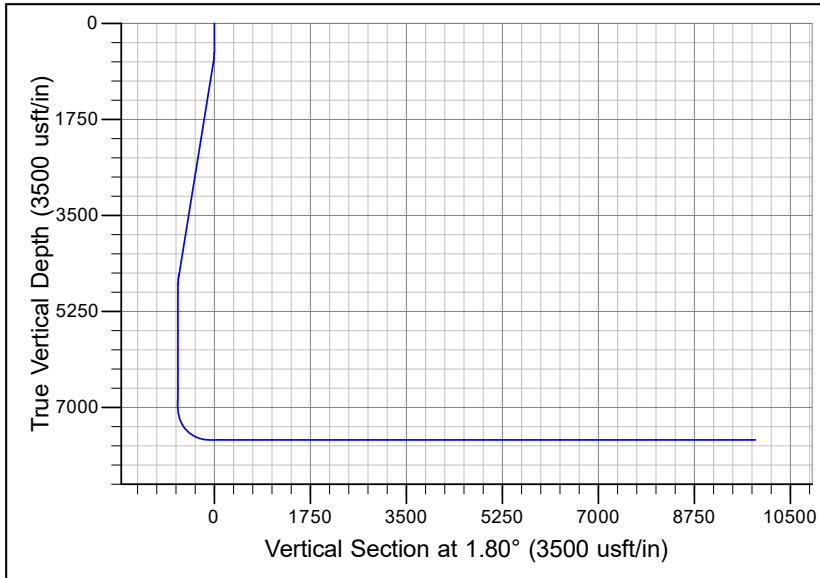
Database:	EDM5000_OLD	Local Co-ordinate Reference:	Well Harroun Ranch 20702 20-17 Fed Com #18H
Company:	BTA Oil Producers, LLC	TVD Reference:	GL @ 2980.0usft (Original Well Elev)
Project:	Lea County, NM (NAD 83)	MD Reference:	GL @ 2980.0usft (Original Well Elev)
Site:	Harroun Ranch 20702 20-17 Fed Com	North Reference:	Grid
Well:	Harroun Ranch 20702 20-17 Fed Com #18H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude		Longitude
15,600.0	90.00	0.29	7,594.0	7,517.5	298.8	475,137.52	640,580.81	32° 18' 20.943 N		104° 0' 43.601 W
15,700.0	90.00	0.29	7,594.0	7,617.5	299.3	475,237.51	640,581.31	32° 18' 21.932 N		104° 0' 43.591 W
15,800.0	90.00	0.29	7,594.0	7,717.5	299.8	475,337.50	640,581.82	32° 18' 22.922 N		104° 0' 43.582 W
15,900.0	90.00	0.29	7,594.0	7,817.5	300.3	475,437.49	640,582.32	32° 18' 23.911 N		104° 0' 43.572 W
16,000.0	90.00	0.29	7,594.0	7,917.5	300.8	475,537.48	640,582.83	32° 18' 24.901 N		104° 0' 43.563 W
16,100.0	90.00	0.29	7,594.0	8,017.5	301.3	475,637.47	640,583.33	32° 18' 25.890 N		104° 0' 43.554 W
16,200.0	90.00	0.29	7,594.0	8,117.5	301.8	475,737.46	640,583.84	32° 18' 26.880 N		104° 0' 43.544 W
16,300.0	90.00	0.29	7,594.0	8,217.5	302.3	475,837.45	640,584.34	32° 18' 27.869 N		104° 0' 43.535 W
16,400.0	90.00	0.29	7,594.0	8,317.5	302.8	475,937.44	640,584.85	32° 18' 28.858 N		104° 0' 43.526 W
16,500.0	90.00	0.29	7,594.0	8,417.5	303.3	476,037.43	640,585.35	32° 18' 29.848 N		104° 0' 43.516 W
16,600.0	90.00	0.29	7,594.0	8,517.5	303.8	476,137.42	640,585.85	32° 18' 30.837 N		104° 0' 43.507 W
16,700.0	90.00	0.29	7,594.0	8,617.5	304.3	476,237.41	640,586.36	32° 18' 31.827 N		104° 0' 43.498 W
16,800.0	90.00	0.29	7,594.0	8,717.5	304.8	476,337.40	640,586.86	32° 18' 32.816 N		104° 0' 43.488 W
16,900.0	90.00	0.29	7,594.0	8,817.5	305.3	476,437.40	640,587.37	32° 18' 33.806 N		104° 0' 43.479 W
17,000.0	90.00	0.29	7,594.0	8,917.5	305.9	476,537.39	640,587.87	32° 18' 34.795 N		104° 0' 43.469 W
17,100.0	90.00	0.29	7,594.0	9,017.5	306.4	476,637.38	640,588.38	32° 18' 35.785 N		104° 0' 43.460 W
17,200.0	90.00	0.29	7,594.0	9,117.5	306.9	476,737.37	640,588.88	32° 18' 36.774 N		104° 0' 43.451 W
17,300.0	90.00	0.29	7,594.0	9,217.5	307.4	476,837.36	640,589.39	32° 18' 37.764 N		104° 0' 43.441 W
17,400.0	90.00	0.29	7,594.0	9,317.5	307.9	476,937.35	640,589.89	32° 18' 38.753 N		104° 0' 43.432 W
17,500.0	90.00	0.29	7,594.0	9,417.5	308.4	477,037.34	640,590.39	32° 18' 39.743 N		104° 0' 43.423 W
17,600.0	90.00	0.29	7,594.0	9,517.5	308.9	477,137.33	640,590.90	32° 18' 40.732 N		104° 0' 43.413 W
17,700.0	90.00	0.29	7,594.0	9,617.5	309.4	477,237.32	640,591.40	32° 18' 41.722 N		104° 0' 43.404 W
17,800.0	90.00	0.29	7,594.0	9,717.5	309.9	477,337.31	640,591.91	32° 18' 42.711 N		104° 0' 43.394 W
17,900.0	90.00	0.29	7,594.0	9,817.5	310.4	477,437.30	640,592.41	32° 18' 43.701 N		104° 0' 43.385 W
17,942.1	90.00	0.29	7,594.0	9,859.6	310.6	477,479.41	640,592.62	32° 18' 44.117 N		104° 0' 43.381 W

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
KOP Harroun Ranch #18 - plan hits target center - Point	0.00	0.00	7,000.0	-672.6	257.5	466,948.09	640,539.49	32° 16' 59.903 N		104° 0' 44.368 W
BHL Harroun Ranch #18 - plan hits target center - Point	0.00	0.00	7,594.0	9,859.6	310.6	477,479.41	640,592.62	32° 18' 44.117 N		104° 0' 43.381 W

WELL DETAILS: Harroun Ranch 20702 20-17 Fed Com #18H

Ground Level: 2980.0
 +N/-S +E/-W Northing Easting Latitude Longitude
 0.0 0.0 467620.61 640282.04 32° 17' 6.566 N 104° 0' 47.343 W



Azimuths to Grid North
 True North: -0.17°
 Magnetic North: 7.78°
 Magnetic Field
 Strength: 48784.1nT
 Dip Angle: 60.22°
 Date: 12/31/2009
 Model: IGRF200510

SITE DETAILS: Harroun Ranch 20702 20-17 Fed Com

Site Centre Northing: 640312.01
 Easting: 467620.57

Positional Uncertainty: 0.0
 Convergence: -0.13
 Local North: Grid

PROJECT DETAILS: Lea County, NM (NAD 83)

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone

System Datum: Ground Level

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		
2	500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.0		
3	750.0	10.00	159.05	748.7	-20.3	7.8	4.00	159.05	-20.1		
4	4646.7	10.00	159.05	4586.2	-652.3	249.7	0.00	0.00	-644.1		
5	4896.7	0.00	0.00	4834.9	-672.6	257.5	4.00	180.00	-664.1		
6	7061.7	0.00	0.00	7000.0	-672.6	257.5	0.00	0.00	-664.1	KOP Harroun Ranch #18	
7	7082.8	0.00	0.00	7021.0	-672.6	257.5	0.00	0.00	-664.1		
8	7982.8	90.00	0.29	7594.0	-99.6	260.4	10.00	0.29	-91.4		
9	17942.1	90.00	0.29	7594.0	9859.6	310.6	0.00	0.00	9864.5	BHL Harroun Ranch #18H	



TUBING REQUIREMENTS

BTA Oil Producers, LLC respectfully requests an exception to the following NMOCD rule:

- 19.15.16.10 Casing AND TUBING REQUIREMENTS:

J (3): "The operator shall set tubing as near the bottom as practical and tubing perforations shall not be more than 250 feet above top of pay zone."

With horizontal flowing and gas lifted wells an end of tubing depth placed at or slightly above KOP is a conservative way to ensure the tubing stays clean from debris, plugging, and allows for fewer well interventions post offset completion. The deeper the tubulars are run into the curve, the higher the probability is that the tubing will become stuck in sand and or well debris as the well produces over time. An additional consideration for EOT placement during artificial lift installations is avoiding the high dog leg severity and inclinations found in the curve section of the wellbore to help improve reliability and performance. Dog leg severity and inclinations tend not to hamper gas lifted or flowing wells, but they do affect other forms of artificial lift like rod pump or ESP (electric submersible pump). Keeping the EOT above KOP is an industry best practice for those respective forms of artificial lift.

BOP Break Testing Request

BTA requests permission to allow BOP Break Testing under the following conditions:

- After a full BOP test is conducted on the first well on the pad.
- When skidding to drill a hole section that does not penetrate into the Wolfcamp.
- Full BOP test will be required prior to drilling any production hole.
- If the previous full BOP test was more than 21 days prior, then break test is not allowed and a full test is required. Break testing will only be performed on 5M BOPE and is not allowed for 10M BOPE.

BTA OIL PRODUCERS LLC

**HYDROGEN SULFIDE DRILLING OPERATIONS PLAN****1. HYDROGEN SULFIDE TRAINING**

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

- a. The hazards and characteristics of hydrogen sulfide (H₂S).
- b. The proper use and maintenance of personal protective equipment and life support systems.
- c. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
- d. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

- a. The effects of H₂S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
- b. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
- c. The contents and requirements of the H₂S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

2. H₂S SAFETY EQUIPMENT AND SYSTEMS

Note: All H₂S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H₂S. If H₂S greater than 100 ppm is encountered in the gas stream we will shut in and install H₂S equipment.

- a. Well Control Equipment:
 - Flare line.
 - Choke manifold with remotely operated choke.
 - Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
 - Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head.
- b. Protective equipment for essential personnel:
 - Mark II Surviveair 30-minute units located in the dog house and at briefing areas.
- c. H₂S detection and monitoring equipment:

- 2 - portable H2S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 ppm are reached.
- d. Visual warning systems:
Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.
- e. Mud Program:
The mud program has been designed to minimize the volume of H2S circulated to the surface.
- f. Metallurgy:
All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.
- g. Communication:
Company vehicles equipped with cellular telephone.

W A R N I N G

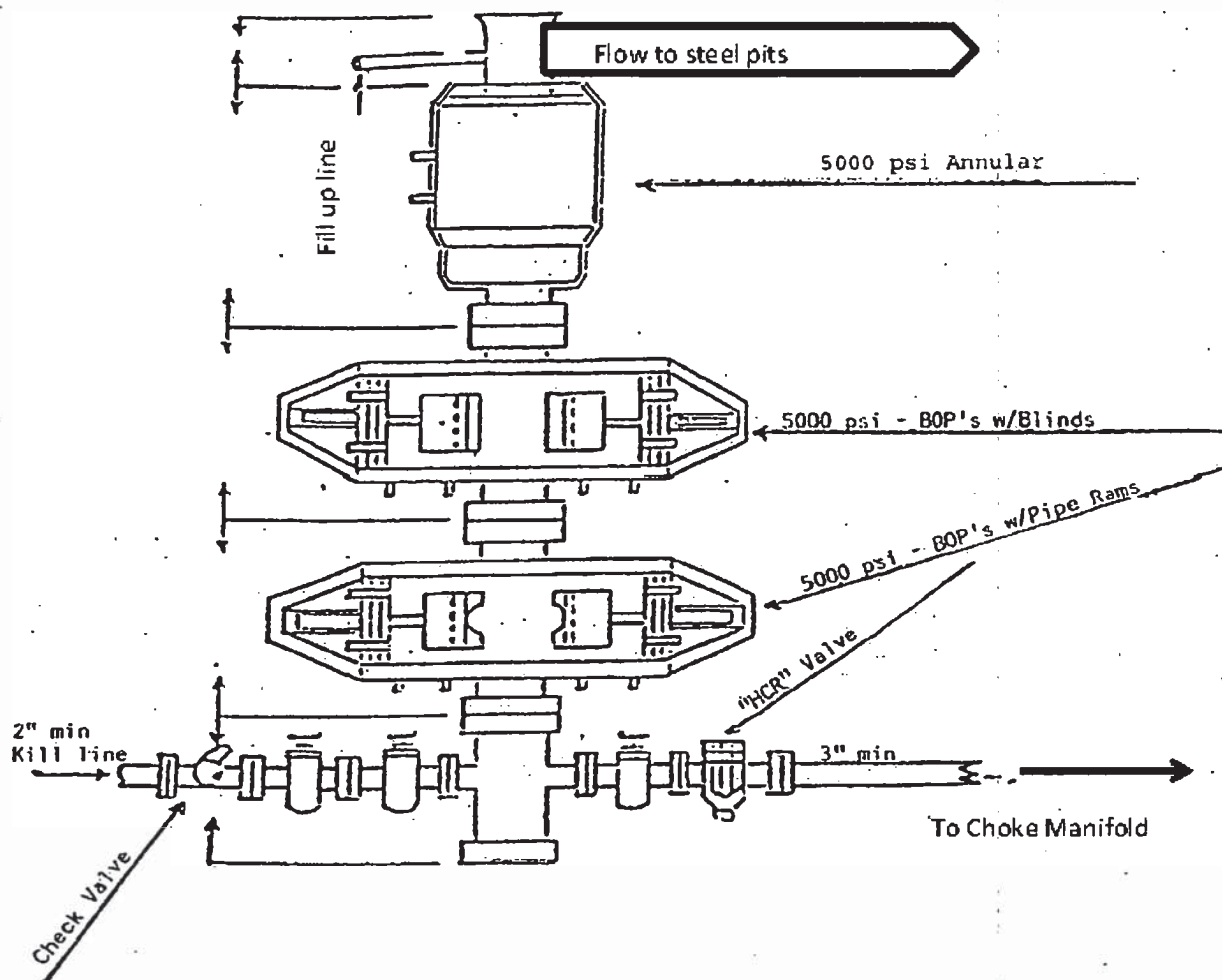
**YOU ARE ENTERING AN H₂S AREA
AUTHORIZED PERSONNEL ONLY**

- 1. BEARDS OR CONTACT LENSES NOT ALLOWED***
- 2. HARD HATS REQUIRED***
- 3. SMOKING IN DESIGNATED AREAS ONLY***
- 4. BE WIND CONSCIOUS AT ALL TIMES***
- 5. CK WITH BTA OIL PRODUCERS LLC FOREMAN AT MAIN OFFICE***

BTA OIL PRODUCERS LLC

1-432-682-3753

13-5/8" 5,000 PSI BOP





Multi-Bowl System

13-3/8" X 9-5/8" X 5-1/2"

Tubing Head-TCM-PP

13-5/8"- M X 7-1/16"- M
w/(2) 1-13/16"- M Gate Valves

7-1/16"- M

Casing Spool- MBS

13-5/8"-5M X 13-5/8"- M
w/(2) 1-13/16"- M SSO

13-5/8"- M

7" Dbl P Seal

13-5/8" X 7" C-22
Casing Hanger

Casing Head- MBS

13-5/8"-5M X 13-3/8" SOW
w/36" Base Plate

13-5/8"-5M

13-5/8" X 9-5/8" MBS
Packoff Assembly

13-5/8" X 9-5/8" Mandrel
Casing Hanger

13-3/8" SOW



SYENERGY
WELLHEAD & FRAC

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

CONDITIONS

Action 442543

CONDITIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 442543
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
sammy hajar	Cement is required to circulate on both surface and intermediate1 strings of casing.	3/14/2025
sammy hajar	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	3/14/2025
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	4/9/2025
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	4/9/2025
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string.	4/9/2025
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.	4/9/2025