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

HOBBS OCD
MAR 10 2020
RECEIVED

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM026396

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.: NORTH RIDGE 8040 FEDERAL COM 4H 327302

2. Name of Operator: BTA OIL PRODUCERS LLC (260297)

9. API Well No.: 30-025-46960

3a. Address: 104 S. Pecos Midland TX 79701

3b. Phone No. *(include area code)*: (432)682-3753

10. Field and Pool, or Exploratory: 97253 ~~ANTELOPE RIDGE~~ BONE SPRING, ~~NO~~

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

At surface: NENE / 300 FNL / 1065 FEL / LAT 32.354598 / LONG -103.435773

At proposed prod. zone: SENE / 2600 FNL / 380 FEL / LAT 32.333763 / LONG -103.433544

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 35 / T22S / R34E / NMP

14. Distance in miles and direction from nearest town or post office*: 17 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): 300 feet

16. No of acres in lease: 280

17. Spacing Unit dedicated to this well: 240

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 1437 feet

19. Proposed Depth: 10520 feet / 18191 feet

20. BLM/BIA Bond No. in file: FED: NMB001711

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3407 feet

22. Approximate date work will start*: 11/11/2019

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)	Sammy Hajar / Ph: (432)682-3753	06/11/2019

Title: Regulatory Analyst

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	03/04/2020
Title: Assistant Field Manager Lands & Minerals	Office: CARLSBAD	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

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

GCP Rec 03/10/2020

KZ 03/11/2020

APPROVED WITH CONDITIONS

Approval Date: 03/04/2020

Double sided

(Continued on page 2)

*(Instructions on page 2)

AFMSS

U.S. Department of the Interior
Bureau of Land Management

Application for Permit to Drill

APD Package Report

Date Printed: 03/05/2020 07:50 AM

APD ID: 10400042638	Well Status: AAPD
APD Received Date: 06/11/2019 08:16 AM	Well Name: NORTH RIDGE 8040 FEDERA
Operator: BTA OIL PRODUCERS LLC	Well Number: 4H

APD Package Report Contents

- Form 3160-3

- Operator Certification Report

- Application Report
- Application Attachments
  -- Well Plat: 1 file(s)

- Drilling Plan Report
- Drilling Plan Attachments
  -- Blowout Prevention Choke Diagram Attachment: 2 file(s)
  -- Blowout Prevention BOP Diagram Attachment: 1 file(s)
  -- Casing Design Assumptions and Worksheet(s): 3 file(s)
  -- Hydrogen sulfide drilling operations plan: 3 file(s)
  -- Proposed horizontal/directional/multi-lateral plan submission: 3 file(s)
  -- Other Variances: 2 file(s)

- SUPO Report
- SUPO Attachments
  -- Existing Road Map: 1 file(s)
  -- New Road Map: 1 file(s)
  -- Attach Well map: 1 file(s)
  -- Production Facilities map: 1 file(s)
  -- Water source and transportation map: 1 file(s)
  -- Well Site Layout Diagram: 6 file(s)

- PWD Report
- PWD Attachments
  -- None

- Bond Report
- Bond Attachments
  -- None

Review and Appeal Rights

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

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**BTA Oil Producers LLC**
LEASE NO.:	**NMNM026396**
WELL NAME & NO.:	North Ridge 8040 Federal Com 4H
SURFACE HOLE FOOTAGE:	300'/N & 1065'/E
BOTTOM HOLE FOOTAGE	2600'/N & 380'/E
LOCATION:	Section 35, T.22 S., R.34 E., NMPM
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

Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **1775** 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 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.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The **9-5/8** inch intermediate casing shall be set at approximately **5580** feet. 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 Capitan Reef 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.

❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:
(Use this for 3 string wells in the Capitan Reef, if 4 string well ensure FW based mud used across the capitan interval)

- Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.

- Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

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

- Cement should tie-back at least **50 feet** on top of Capitan Reef top. 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.

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 **5000 (5M)** psi.

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

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

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

GENERAL REQUIREMENTS

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

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

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

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

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

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

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

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

A. CASING

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

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

OTA01212020

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	BTA Oil Producers LLC
WELL NAME & NO.:	North Ridge 8040 Federal Com 4H
SURFACE HOLE FOOTAGE:	300'/N & 1065'/E
BOTTOM HOLE FOOTAGE	2600'/N & 380'/E
LOCATION:	Section 35, T.22 S., R.34 E., NMPM
COUNTY:	Lea County, New Mexico

TABLE OF CONTENTS

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

Operator Certification

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

NAME: Sammy Hajar **Signed on:** 06/11/2019

Title: Regulatory Analyst

Street Address: 104 S. Pecos

City: Midland **State:** TX **Zip:** 79701

Phone: (432)682-3753

Email address: shajar@btaoil.com

Field Representative

Representative Name:

Street Address: 104 South Pecos

City: Midland **State:** TX **Zip:** 79701

Phone: (432)682-3753

Email address: neaton@btaoil.com

APD ID: 10400042638 **Submission Date:** 06/11/2019

Operator Name: BTA OIL PRODUCERS LLC

Well Name: NORTH RIDGE 8040 FEDERAL COM **Well Number:** 4H

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

[redacted]

Show Final Text

Section 1 - General

APD ID: 10400042638 **Tie to previous NOS?** **Submission Date:** 06/11/2019

BLM Office: CARLSBAD **User:** Sammy Hajar **Title:** Regulatory Analyst

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

Lease number: NMNM026396 **Lease Acres:** 280

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

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

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? NO **APD Operator:** BTA OIL PRODUCERS LLC

Operator letter of designation:

Operator Info

Operator Organization Name: BTA OIL PRODUCERS LLC

Operator Address: 104 S. Pecos **Zip:** 79701

Operator PO Box:

Operator City: Midland **State:** TX

Operator Phone: (432)682-3753

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: NORTH RIDGE 8040 FEDERAL COM **Well Number:** 4H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** ANTELOPE RIDGE **Pool Name:** BONE SPRING, NORTH

Is the proposed well in an area containing other mineral resources? NONE

Operator Name: BTA OIL PRODUCERS LLC

Well Name: NORTH RIDGE 8040 FEDERAL COM **Well Number:** 4H

Is the proposed well in an area containing other mineral resources? NONE

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

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** NORTH RIDGE FEDERAL COM **Number:** 3, 4, & 7

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

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 17 Miles **Distance to nearest well:** 1437 FT **Distance to lease line:** 300 FT

Reservoir well spacing assigned acres Measurement: 240 Acres

Well plat: North_Ridge_4H_c102_20190611074744.pdf

Well work start Date: 11/11/2019 **Duration:** 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NGVD29

Survey number: **Reference Datum:**

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 lease?
SHL Leg #1	300	FNL	1065	FEL	22S	34E	35	Aliquot NENE	32.354598	-103.435773	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 026396	3407	0	0	
KOP Leg #1	100	FNL	380	FEL	22S	34E	35	Aliquot NENE	32.355148	-103.433514	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 026396	-6540	10009	9947	
PPP Leg #1-1	100	FNL	380	FEL	22S	34E	35	Aliquot NENE	32.355148	-103.433514	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 026396	-6770	10243	10177	

APD ID: 10400042638 **Submission Date:** 06/11/2019

Operator Name: BTA OIL PRODUCERS LLC

Well Name: NORTH RIDGE 8040 FEDERAL COM **Well Number:** 4H

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

[redacted]

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
473274	QUATERNARY	3407	0	0	ALLUVIUM, CONGLOMERATE	NONE	N
473288	RUSTLER	1637	1770	1770	ANHYDRITE	NONE	N
473277	TOP SALT	1225	2182	2182		NONE	N
473279	BASE OF SALT	75	3332	3332		NONE	N
625158	CAPITAN REEF	-855	4262	4262		NONE	N
473278	DELAWARE	-2195	5602	5602		NATURAL GAS, OIL	N
473291	BELL CANYON	-2255	5662	5662		NATURAL GAS, OIL	N
473292	CHERRY CANYON	-2825	6232	6232		NATURAL GAS, OIL	N
473284	BRUSHY CANYON	-3740	7147	7147		NATURAL GAS, OIL	N
473289	BONE SPRING LIME	-5165	8572	8572		NATURAL GAS, OIL	N
473285	FIRST BONE SPRING SAND	-6245	9652	9652		NATURAL GAS, OIL	N
473293	BONE SPRING 2ND	-6770	10177	10177		NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M **Rating Depth:** 11000

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 BOP's 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.

Requesting Variance? NO

Operator Name: BTA OIL PRODUCERS LLC

Well Name: NORTH RIDGE 8040 FEDERAL COM **Well Number:** 4H

Variance request: n/a

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 driller's log. All BOP's and associated equipment will be tested as per BLM drilling Operations Order No. 2.

Choke Diagram Attachment:

Choke_Hose___Test_Chart_and_Specs_20181129153440.pdf

5M_choke_mannifold_20190211164346.pdf

BOP Diagram Attachment:

5M_BOP_diagram_20190211164555.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	1200	0	1200			1200	J-55	54.5	ST&C	2.2	5.3	DRY	7.9	DRY	13
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	5580	0	5580			5580	J-55	40	LT&C	1.7	1.4	DRY	2.3	DRY	2.8
3	PRODUCTION	8.75	5.5	NEW	API	N	0	18191	0	10520			18191	P-110	17	BUTT	1.4	1.4	DRY	1.8	DRY	1.8

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

North_Ridge_4H_Casing_assumption_20190610120317.JPG

Operator Name: BTA OIL PRODUCERS LLC

Well Name: NORTH RIDGE 8040 FEDERAL COM **Well Number:** 4H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

North_Ridge_4H_Casing_assumption_20190610120327.JPG

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

North_Ridge_4H_Casing_assumption_20190610120425.JPG

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	865	695	1.73	13.5	1202.35	100	Class C	2% CaCl2
SURFACE	Tail		865	1200	340	1.35	14.8	459	100	Class C	2% CaCl2
INTERMEDIATE	Lead		0	5025	1480	2.46	12.8	3640.8	100	Class C	0.5% CaCl2
INTERMEDIATE	Tail		5025	5580	200	1.34	14.8	268	25	Class C	1% CaCl2
PRODUCTION	Lead		4580	9910	520	3.9	10.5	2028	60	25% Poz 75% Class C	0.4% Fluid Loss

Operator Name: BTA OIL PRODUCERS LLC

Well Name: NORTH RIDGE 8040 FEDERAL COM **Well Number:** 4H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Tail		9910	18191	2095	1.25	14.4	2618.75	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	1200	OTHER : FW Spud	8.3	8.4							
1200	5580	OTHER : Saturated Brine	10	10.2							
5580	10520	OTHER : Cut Brine	8.7	9.3							

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:

CBL,GR,MUDLOG

Coring operation description for the well:

None planned

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5142 **Anticipated Surface Pressure:** 2827.6

Anticipated Bottom Hole Temperature(F): 164

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

H2S_Plan_20181129153648.pdf

H2S_Equipment_Schematic_20181129153733.pdf

BTA_Oil_Producers_LLC___EMERGENCY_CALL_LIST_20190205154800.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

North_Ridge_4H_Gas_Capture_Plan_20190610121910.pdf

North_Ridge__04H_directional_plan_20190610121921.pdf

North_Ridge__04H_Wall_plot_20190610121921.pdf

Other proposed operations facets description:

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

Other proposed operations facets attachment:

Other Variance attachment:

Casing_Head_Running_Procedure_20181129153916.pdf

WH_SCHEMATIC_13.375_9.625_5.5_20190514121902.pdf

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

WELL: North Ridge #04H
TVD: 10520
MD: 18191

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	1200	0	1200	No	54.5	J-55	STC	2.2	5.3	13.0	7.9	Dry	8.3
12 1/4	9 5/8	0	5580	0	5580	No	40	J-55	LTC	1.7	1.4	2.8	2.3	Dry	10
8 3/4	5.5	0	18191	0	10520	No	17	P110	Buttress	1.4	1.4	1.8	1.8	Dry	9.4

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 (H_2S).
b. The proper use and maintenance of personal protective equipment and life support systems.
c. The proper use of H_2S 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 H_2S 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. H_2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H_2S 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.

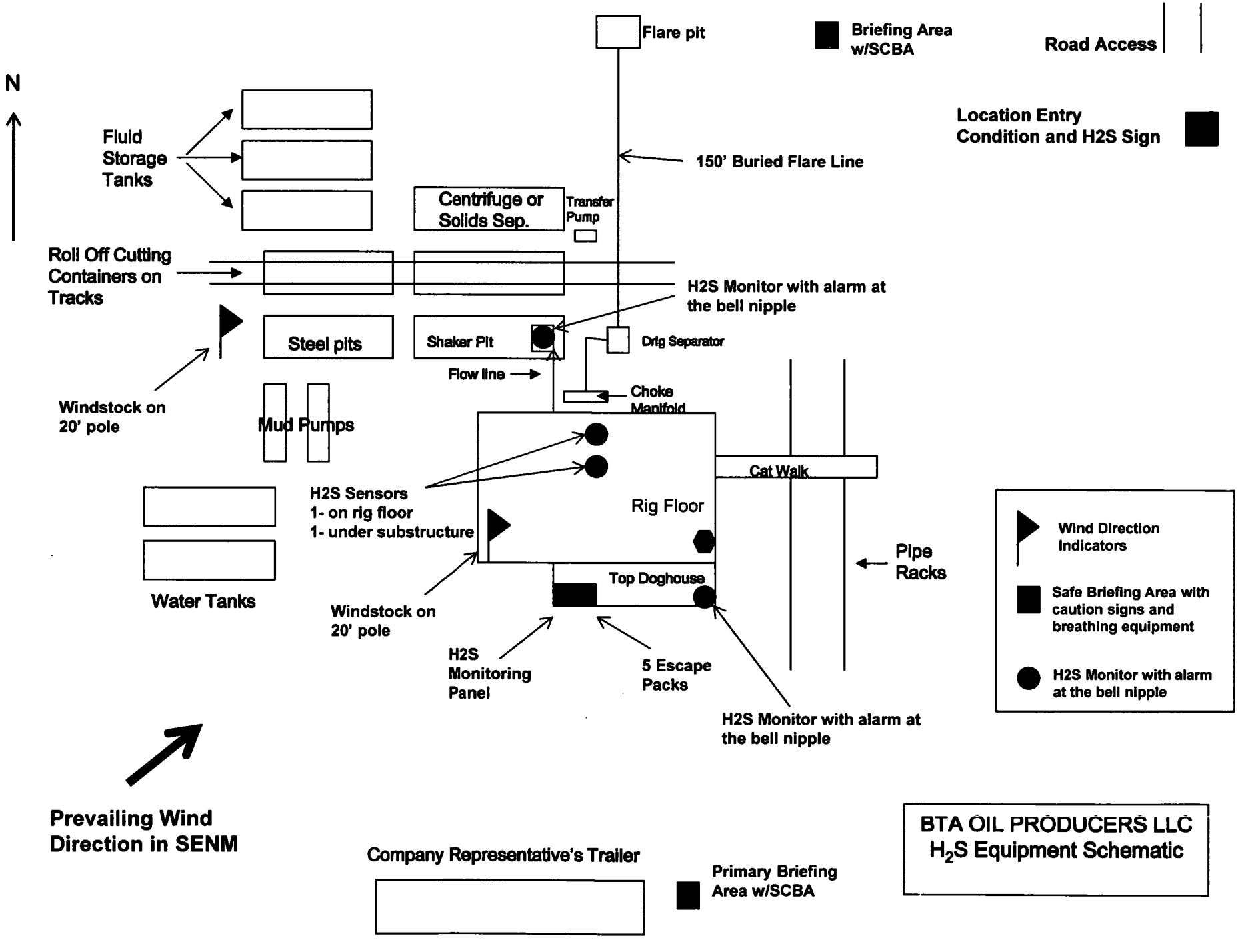
WARNING

YOU ARE ENTERING AN H_2S 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


N
Flare pit
Briefing Area w/SCBA
Road Access
Location Entry Condition and H2S Sign
Fluid Storage Tanks
150' Buried Flare Line
Centrifuge or Solids Sep.
Transfer Pump
Roll Off Cutting Containers on Tracks
H2S Monitor with alarm at the bell nipple
Steel pits
Shaker Pit
Drlg Separator
Flow line
Choke Manifold
Windstock on 20' pole
Mud Pumps
Cat Walk
H2S Sensors
1- on rig floor
1- under substructure
Rig Floor
Pipe Racks
Water Tanks
Top Doghouse
Windstock on 20' pole
H2S Monitoring Panel
5 Escape Packs
H2S Monitor with alarm at the bell nipple
Wind Direction Indicators
Safe Briefing Area with caution signs and breathing equipment
H2S Monitor with alarm at the bell nipple
Prevailing Wind Direction in SENM
Company Representative's Trailer
Primary Briefing Area w/SCBA
BTA OIL PRODUCERS LLC
H2S Equipment Schematic

BTA Oil Producers, LLC

Lea County, NM (NAD 83)
North Ridge
North Ridge #04H

Wellbore #1

Plan: Design #1

Standard Planning Report - Geographic

15 May, 2019

Database:	Old	**Local Co-ordinate Reference:**	Well North Ridge #04H
Company:	BTA Oil Producers, LLC	**TVD Reference:**	GL @ 3407.0usft
Project:	Lea County, NM (NAD 83)	**MD Reference:**	GL @ 3407.0usft
Site:	North Ridge	**North Reference:**	Grid
Well:	North Ridge #04H	**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	North Ridge				
Site Position:		**Northing:**	493,872.00 usft	**Latitude:**	32° 21' 16.544 N
From:	Map	**Easting:**	815,680.00 usft	**Longitude:**	103° 26' 41.649 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.48 °

Well	North Ridge #04H					
Well Position	**+N/-S**	0.0 usft	**Northing:**	493,896.00 usft	**Latitude:**	32° 21' 16.548 N
	+E/-W	0.0 usft	**Easting:**	818,511.00 usft	**Longitude:**	103° 26' 8.646 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	3,407.0 usft

Wellbore	Wellbore #1				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF200510	12/31/2009	7.70	60.39	48,887.14525475

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)**	**Direction (°)**	
	0.0	0.0	0.0	174.42	

Plan Survey Tool Program **Date** 4/22/2019

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	18,190.5	Design #1 (Wellbore #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	
5,151.9	0.00	0.00	5,151.9	0.0	0.0	0.00	0.00	0.00	0.00	
5,651.9	10.00	67.77	5,649.3	16.5	40.3	2.00	2.00	0.00	67.77	
9,412.2	10.00	67.77	9,352.5	263.5	644.7	0.00	0.00	0.00	0.00	
9,912.2	0.00	0.00	9,850.0	280.0	685.0	2.00	-2.00	0.00	180.00	
10,009.2	0.00	0.00	9,947.0	280.0	685.0	0.00	0.00	0.00	0.00	
10,909.2	90.00	179.60	10,520.0	-292.9	689.0	10.00	10.00	0.00	179.60	
18,190.5	90.00	179.60	10,520.0	-7,574.0	740.0	0.00	0.00	0.00	0.00	North Ridge #04H BH

Database:	Old	**Local Co-ordinate Reference:**	Well North Ridge #04H
Company:	BTA Oil Producers, LLC	**TVD Reference:**	GL @ 3407.0usft
Project:	Lea County, NM (NAD 83)	**MD Reference:**	GL @ 3407.0usft
Site:	North Ridge	**North Reference:**	Grid
Well:	North Ridge #04H	**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	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
100.0	0.00	0.00	100.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
200.0	0.00	0.00	200.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
300.0	0.00	0.00	300.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
400.0	0.00	0.00	400.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
500.0	0.00	0.00	500.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
600.0	0.00	0.00	600.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
700.0	0.00	0.00	700.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
800.0	0.00	0.00	800.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
900.0	0.00	0.00	900.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
1,000.0	0.00	0.00	1,000.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
1,100.0	0.00	0.00	1,100.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
1,200.0	0.00	0.00	1,200.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
1,300.0	0.00	0.00	1,300.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
1,400.0	0.00	0.00	1,400.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
1,500.0	0.00	0.00	1,500.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
1,600.0	0.00	0.00	1,600.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
1,700.0	0.00	0.00	1,700.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
1,800.0	0.00	0.00	1,800.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
1,900.0	0.00	0.00	1,900.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
2,000.0	0.00	0.00	2,000.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
2,100.0	0.00	0.00	2,100.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
2,200.0	0.00	0.00	2,200.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
2,300.0	0.00	0.00	2,300.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
2,400.0	0.00	0.00	2,400.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
2,500.0	0.00	0.00	2,500.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
2,600.0	0.00	0.00	2,600.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
2,700.0	0.00	0.00	2,700.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
2,800.0	0.00	0.00	2,800.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
2,900.0	0.00	0.00	2,900.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
3,000.0	0.00	0.00	3,000.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
3,100.0	0.00	0.00	3,100.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
3,200.0	0.00	0.00	3,200.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
3,300.0	0.00	0.00	3,300.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
3,400.0	0.00	0.00	3,400.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
3,500.0	0.00	0.00	3,500.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
3,600.0	0.00	0.00	3,600.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
3,700.0	0.00	0.00	3,700.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
3,800.0	0.00	0.00	3,800.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
3,900.0	0.00	0.00	3,900.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
4,000.0	0.00	0.00	4,000.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
4,100.0	0.00	0.00	4,100.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
4,200.0	0.00	0.00	4,200.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
4,300.0	0.00	0.00	4,300.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
4,400.0	0.00	0.00	4,400.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
4,500.0	0.00	0.00	4,500.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
4,600.0	0.00	0.00	4,600.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
4,700.0	0.00	0.00	4,700.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
4,800.0	0.00	0.00	4,800.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
4,900.0	0.00	0.00	4,900.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
5,000.0	0.00	0.00	5,000.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
5,100.0	0.00	0.00	5,100.0	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
5,151.9	0.00	0.00	5,151.9	0.0	0.0	493,896.00	818,511.00	32° 21' 16.548 N	103° 26' 8.646 W
5,200.0	0.96	67.77	5,200.0	0.2	0.4	493,896.15	818,511.37	32° 21' 16.549 N	103° 26' 8.641 W
5,300.0	2.96	67.77	5,299.9	1.4	3.5	493,897.45	818,514.54	32° 21' 16.562 N	103° 26' 8.604 W

Database:	Old	**Local Co-ordinate Reference:**	Well North Ridge #04H
Company:	BTA Oil Producers, LLC	**TVD Reference:**	GL @ 3407.0usft
Project:	Lea County, NM (NAD 83)	**MD Reference:**	GL @ 3407.0usft
Site:	North Ridge	**North Reference:**	Grid
Well:	North Ridge #04H	**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
5,400.0	4.96	67.77	5,399.7	4.1	9.9	493,900.06	818,520.94	32° 21' 16.587 N	103° 26' 8.529 W
5,500.0	6.96	67.77	5,499.1	8.0	19.6	493,903.99	818,530.55	32° 21' 16.625 N	103° 26' 8.417 W
5,600.0	8.96	67.77	5,598.2	13.2	32.4	493,909.24	818,543.37	32° 21' 16.676 N	103° 26' 8.267 W
5,651.9	10.00	67.77	5,649.3	16.5	40.3	493,912.47	818,551.29	32° 21' 16.707 N	103° 26' 8.175 W
5,700.0	10.00	67.77	5,696.7	19.6	48.0	493,915.63	818,559.02	32° 21' 16.738 N	103° 26' 8.084 W
5,800.0	10.00	67.77	5,795.2	26.2	64.1	493,922.20	818,575.09	32° 21' 16.802 N	103° 26' 7.896 W
5,900.0	10.00	67.77	5,893.7	32.8	80.2	493,928.77	818,591.17	32° 21' 16.865 N	103° 26' 7.708 W
6,000.0	10.00	67.77	5,992.2	39.3	96.2	493,935.34	818,607.24	32° 21' 16.929 N	103° 26' 7.520 W
6,100.0	10.00	67.77	6,090.7	45.9	112.3	493,941.91	818,623.31	32° 21' 16.993 N	103° 26' 7.332 W
6,200.0	10.00	67.77	6,189.1	52.5	128.4	493,948.48	818,639.39	32° 21' 17.056 N	103° 26' 7.144 W
6,300.0	10.00	67.77	6,287.6	59.1	144.5	493,955.05	818,655.46	32° 21' 17.120 N	103° 26' 6.956 W
6,400.0	10.00	67.77	6,386.1	65.6	160.5	493,961.62	818,671.54	32° 21' 17.184 N	103° 26' 6.768 W
6,500.0	10.00	67.77	6,484.6	72.2	176.6	493,968.19	818,687.61	32° 21' 17.247 N	103° 26' 6.580 W
6,600.0	10.00	67.77	6,583.1	78.8	192.7	493,974.76	818,703.68	32° 21' 17.311 N	103° 26' 6.392 W
6,700.0	10.00	67.77	6,681.5	85.3	208.8	493,981.33	818,719.76	32° 21' 17.375 N	103° 26' 6.204 W
6,800.0	10.00	67.77	6,780.0	91.9	224.8	493,987.90	818,735.83	32° 21' 17.438 N	103° 26' 6.016 W
6,900.0	10.00	67.77	6,878.5	98.5	240.9	493,994.47	818,751.90	32° 21' 17.502 N	103° 26' 5.828 W
7,000.0	10.00	67.77	6,977.0	105.0	257.0	494,001.04	818,767.98	32° 21' 17.566 N	103° 26' 5.640 W
7,100.0	10.00	67.77	7,075.5	111.6	273.1	494,007.61	818,784.05	32° 21' 17.629 N	103° 26' 5.452 W
7,200.0	10.00	67.77	7,173.9	118.2	289.1	494,014.18	818,800.13	32° 21' 17.693 N	103° 26' 5.264 W
7,300.0	10.00	67.77	7,272.4	124.8	305.2	494,020.75	818,816.20	32° 21' 17.757 N	103° 26' 5.076 W
7,400.0	10.00	67.77	7,370.9	131.3	321.3	494,027.33	818,832.27	32° 21' 17.820 N	103° 26' 4.888 W
7,500.0	10.00	67.77	7,469.4	137.9	337.3	494,033.90	818,848.35	32° 21' 17.884 N	103° 26' 4.700 W
7,600.0	10.00	67.77	7,567.9	144.5	353.4	494,040.47	818,864.42	32° 21' 17.948 N	103° 26' 4.512 W
7,700.0	10.00	67.77	7,666.3	151.0	369.5	494,047.04	818,880.49	32° 21' 18.011 N	103° 26' 4.324 W
7,800.0	10.00	67.77	7,764.8	157.6	385.6	494,053.61	818,896.57	32° 21' 18.075 N	103° 26' 4.136 W
7,900.0	10.00	67.77	7,863.3	164.2	401.6	494,060.18	818,912.64	32° 21' 18.139 N	103° 26' 3.948 W
8,000.0	10.00	67.77	7,961.8	170.7	417.7	494,066.75	818,928.72	32° 21' 18.202 N	103° 26' 3.760 W
8,100.0	10.00	67.77	8,060.3	177.3	433.8	494,073.32	818,944.79	32° 21' 18.266 N	103° 26' 3.572 W
8,200.0	10.00	67.77	8,158.8	183.9	449.9	494,079.89	818,960.86	32° 21' 18.330 N	103° 26' 3.384 W
8,300.0	10.00	67.77	8,257.2	190.5	465.9	494,086.46	818,976.94	32° 21' 18.393 N	103° 26' 3.196 W
8,400.0	10.00	67.77	8,355.7	197.0	482.0	494,093.03	818,993.01	32° 21' 18.457 N	103° 26' 3.008 W
8,500.0	10.00	67.77	8,454.2	203.6	498.1	494,099.60	819,009.09	32° 21' 18.521 N	103° 26' 2.820 W
8,600.0	10.00	67.77	8,552.7	210.2	514.2	494,106.17	819,025.16	32° 21' 18.584 N	103° 26' 2.632 W
8,700.0	10.00	67.77	8,651.2	216.7	530.2	494,112.74	819,041.23	32° 21' 18.648 N	103° 26' 2.444 W
8,800.0	10.00	67.77	8,749.6	223.3	546.3	494,119.31	819,057.31	32° 21' 18.712 N	103° 26' 2.256 W
8,900.0	10.00	67.77	8,848.1	229.9	562.4	494,125.88	819,073.38	32° 21' 18.776 N	103° 26' 2.068 W
9,000.0	10.00	67.77	8,946.6	236.4	578.5	494,132.45	819,089.45	32° 21' 18.839 N	103° 26' 1.880 W
9,100.0	10.00	67.77	9,045.1	243.0	594.5	494,139.02	819,105.53	32° 21' 18.903 N	103° 26' 1.692 W
9,200.0	10.00	67.77	9,143.6	249.6	610.6	494,145.59	819,121.60	32° 21' 18.967 N	103° 26' 1.503 W
9,300.0	10.00	67.77	9,242.0	256.2	626.7	494,152.16	819,137.68	32° 21' 19.030 N	103° 26' 1.315 W
9,400.0	10.00	67.77	9,340.5	262.7	642.8	494,158.73	819,153.75	32° 21' 19.094 N	103° 26' 1.127 W
9,412.2	10.00	67.77	9,352.5	263.5	644.7	494,159.53	819,155.71	32° 21' 19.102 N	103° 26' 1.105 W
9,500.0	8.24	67.77	9,439.2	268.8	657.6	494,164.80	819,168.59	32° 21' 19.153 N	103° 26' 0.954 W
9,600.0	6.24	67.77	9,538.4	273.6	669.3	494,169.57	819,180.27	32° 21' 19.199 N	103° 26' 0.817 W
9,700.0	4.24	67.77	9,638.0	277.0	677.7	494,173.03	819,188.73	32° 21' 19.232 N	103° 26' 0.718 W
9,800.0	2.24	67.77	9,737.8	279.2	683.0	494,175.17	819,193.96	32° 21' 19.253 N	103° 26' 0.657 W
9,900.0	0.24	67.77	9,837.8	280.0	685.0	494,175.99	819,195.97	32° 21' 19.261 N	103° 26' 0.634 W
9,912.2	0.00	0.00	9,850.0	280.0	685.0	494,176.00	819,196.00	32° 21' 19.261 N	103° 26' 0.633 W
10,000.0	0.00	0.00	9,937.8	280.0	685.0	494,176.00	819,196.00	32° 21' 19.261 N	103° 26' 0.633 W
10,009.2	0.00	0.00	9,947.0	280.0	685.0	494,176.00	819,196.00	32° 21' 19.261 N	103° 26' 0.633 W
10,100.0	9.08	179.60	10,037.4	272.8	685.1	494,168.83	819,196.05	32° 21' 19.190 N	103° 26' 0.633 W
10,200.0	19.08	179.60	10,134.3	248.5	685.2	494,144.54	819,196.22	32° 21' 18.950 N	103° 26' 0.634 W
10,300.0	29.08	179.60	10,225.5	207.8	685.5	494,103.80	819,196.50	32° 21' 18.547 N	103° 26' 0.634 W
10,400.0	39.08	179.60	10,308.2	151.8	685.9	494,047.84	819,196.89	32° 21' 17.993 N	103° 26' 0.635 W

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Site:	North Ridge	**North Reference:**	Grid
Well:	North Ridge #04H	**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
10,500.0	49.08	179.60	10,380.0	82.4	686.4	493,978.37	819,197.38	32° 21' 17.306 N	103° 26' 0.637 W
10,600.0	59.08	179.60	10,438.6	1.5	687.0	493,897.49	819,197.95	32° 21' 16.505 N	103° 26' 0.638 W
10,700.0	69.08	179.60	10,482.2	-88.3	687.6	493,807.67	819,198.58	32° 21' 15.617 N	103° 26' 0.639 W
10,800.0	79.08	179.60	10,509.6	-184.4	688.3	493,711.63	819,199.25	32° 21' 14.666 N	103° 26' 0.641 W
10,900.0	89.08	179.60	10,519.9	-283.7	688.9	493,612.30	819,199.94	32° 21' 13.683 N	103° 26' 0.643 W
10,909.2	90.00	179.60	10,520.0	-292.9	689.0	493,603.06	819,200.01	32° 21' 13.592 N	103° 26' 0.643 W
11,000.0	90.00	179.60	10,520.0	-383.7	689.6	493,512.30	819,200.64	32° 21' 12.694 N	103° 26' 0.644 W
11,100.0	90.00	179.60	10,520.0	-483.7	690.3	493,412.30	819,201.34	32° 21' 11.704 N	103° 26' 0.646 W
11,200.0	90.00	179.60	10,520.0	-583.7	691.0	493,312.31	819,202.04	32° 21' 10.715 N	103° 26' 0.647 W
11,300.0	90.00	179.60	10,520.0	-683.7	691.7	493,212.31	819,202.75	32° 21' 9.725 N	103° 26' 0.649 W
11,400.0	90.00	179.60	10,520.0	-783.7	692.4	493,112.31	819,203.45	32° 21' 8.736 N	103° 26' 0.651 W
11,500.0	90.00	179.60	10,520.0	-883.7	693.1	493,012.31	819,204.15	32° 21' 7.746 N	103° 26' 0.652 W
11,600.0	90.00	179.60	10,520.0	-983.7	693.8	492,912.32	819,204.85	32° 21' 6.757 N	103° 26' 0.654 W
11,700.0	90.00	179.60	10,520.0	-1,083.7	694.5	492,812.32	819,205.55	32° 21' 5.767 N	103° 26' 0.656 W
11,800.0	90.00	179.60	10,520.0	-1,183.7	695.3	492,712.32	819,206.25	32° 21' 4.778 N	103° 26' 0.657 W
11,900.0	90.00	179.60	10,520.0	-1,283.7	696.0	492,612.32	819,206.95	32° 21' 3.788 N	103° 26' 0.659 W
12,000.0	90.00	179.60	10,520.0	-1,383.7	696.7	492,512.33	819,207.65	32° 21' 2.799 N	103° 26' 0.660 W
12,100.0	90.00	179.60	10,520.0	-1,483.7	697.4	492,412.33	819,208.35	32° 21' 1.809 N	103° 26' 0.662 W
12,200.0	90.00	179.60	10,520.0	-1,583.7	698.1	492,312.33	819,209.05	32° 21' 0.820 N	103° 26' 0.664 W
12,300.0	90.00	179.60	10,520.0	-1,683.7	698.8	492,212.34	819,209.75	32° 20' 59.830 N	103° 26' 0.665 W
12,400.0	90.00	179.60	10,520.0	-1,783.7	699.5	492,112.34	819,210.45	32° 20' 58.841 N	103° 26' 0.667 W
12,500.0	90.00	179.60	10,520.0	-1,883.7	700.2	492,012.34	819,211.15	32° 20' 57.851 N	103° 26' 0.669 W
12,600.0	90.00	179.60	10,520.0	-1,983.7	700.9	491,912.34	819,211.85	32° 20' 56.862 N	103° 26' 0.670 W
12,700.0	90.00	179.60	10,520.0	-2,083.7	701.6	491,812.35	819,212.55	32° 20' 55.872 N	103° 26' 0.672 W
12,800.0	90.00	179.60	10,520.0	-2,183.7	702.3	491,712.35	819,213.25	32° 20' 54.883 N	103° 26' 0.674 W
12,900.0	90.00	179.60	10,520.0	-2,283.7	703.0	491,612.35	819,213.95	32° 20' 53.893 N	103° 26' 0.675 W
13,000.0	90.00	179.60	10,520.0	-2,383.7	703.7	491,512.35	819,214.65	32° 20' 52.904 N	103° 26' 0.677 W
13,100.0	90.00	179.60	10,520.0	-2,483.7	704.4	491,412.36	819,215.35	32° 20' 51.914 N	103° 26' 0.678 W
13,200.0	90.00	179.60	10,520.0	-2,583.6	705.1	491,312.36	819,216.05	32° 20' 50.925 N	103° 26' 0.680 W
13,300.0	90.00	179.60	10,520.0	-2,683.6	705.8	491,212.36	819,216.75	32° 20' 49.935 N	103° 26' 0.682 W
13,400.0	90.00	179.60	10,520.0	-2,783.6	706.5	491,112.37	819,217.45	32° 20' 48.946 N	103° 26' 0.683 W
13,500.0	90.00	179.60	10,520.0	-2,883.6	707.2	491,012.37	819,218.15	32° 20' 47.956 N	103° 26' 0.685 W
13,600.0	90.00	179.60	10,520.0	-2,983.6	707.9	490,912.37	819,218.85	32° 20' 46.967 N	103° 26' 0.687 W
13,700.0	90.00	179.60	10,520.0	-3,083.6	708.6	490,812.37	819,219.55	32° 20' 45.977 N	103° 26' 0.688 W
13,800.0	90.00	179.60	10,520.0	-3,183.6	709.3	490,712.38	819,220.25	32° 20' 44.988 N	103° 26' 0.690 W
13,900.0	90.00	179.60	10,520.0	-3,283.6	710.0	490,612.38	819,220.95	32° 20' 43.998 N	103° 26' 0.691 W
14,000.0	90.00	179.60	10,520.0	-3,383.6	710.7	490,512.38	819,221.65	32° 20' 43.009 N	103° 26' 0.693 W
14,100.0	90.00	179.60	10,520.0	-3,483.6	711.4	490,412.38	819,222.35	32° 20' 42.019 N	103° 26' 0.695 W
14,200.0	90.00	179.60	10,520.0	-3,583.6	712.1	490,312.39	819,223.05	32° 20' 41.030 N	103° 26' 0.696 W
14,300.0	90.00	179.60	10,520.0	-3,683.6	712.8	490,212.39	819,223.75	32° 20' 40.040 N	103° 26' 0.698 W
14,400.0	90.00	179.60	10,520.0	-3,783.6	713.5	490,112.39	819,224.45	32° 20' 39.051 N	103° 26' 0.700 W
14,500.0	90.00	179.60	10,520.0	-3,883.6	714.2	490,012.40	819,225.15	32° 20' 38.061 N	103° 26' 0.701 W
14,600.0	90.00	179.60	10,520.0	-3,983.6	714.9	489,912.40	819,225.85	32° 20' 37.072 N	103° 26' 0.703 W
14,700.0	90.00	179.60	10,520.0	-4,083.6	715.6	489,812.40	819,226.55	32° 20' 36.082 N	103° 26' 0.705 W
14,800.0	90.00	179.60	10,520.0	-4,183.6	716.3	489,712.40	819,227.26	32° 20' 35.093 N	103° 26' 0.706 W
14,900.0	90.00	179.60	10,520.0	-4,283.6	717.0	489,612.41	819,227.96	32° 20' 34.103 N	103° 26' 0.708 W
15,000.0	90.00	179.60	10,520.0	-4,383.6	717.7	489,512.41	819,228.66	32° 20' 33.114 N	103° 26' 0.709 W
15,100.0	90.00	179.60	10,520.0	-4,483.6	718.4	489,412.41	819,229.36	32° 20' 32.124 N	103° 26' 0.711 W
15,200.0	90.00	179.60	10,520.0	-4,583.6	719.1	489,312.41	819,230.06	32° 20' 31.135 N	103° 26' 0.713 W
15,300.0	90.00	179.60	10,520.0	-4,683.6	719.8	489,212.42	819,230.76	32° 20' 30.145 N	103° 26' 0.714 W
15,400.0	90.00	179.60	10,520.0	-4,783.6	720.5	489,112.42	819,231.46	32° 20' 29.156 N	103° 26' 0.716 W
15,500.0	90.00	179.60	10,520.0	-4,883.6	721.2	489,012.42	819,232.16	32° 20' 28.166 N	103° 26' 0.718 W
15,600.0	90.00	179.60	10,520.0	-4,983.6	721.9	488,912.43	819,232.86	32° 20' 27.177 N	103° 26' 0.719 W
15,700.0	90.00	179.60	10,520.0	-5,083.6	722.6	488,812.43	819,233.56	32° 20' 26.187 N	103° 26' 0.721 W
15,800.0	90.00	179.60	10,520.0	-5,183.6	723.3	488,712.43	819,234.26	32° 20' 25.198 N	103° 26' 0.722 W

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Site:	North Ridge	**North Reference:**	Grid
Well:	North Ridge #04H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

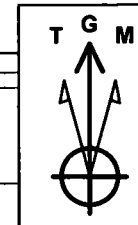
Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,900.0	90.00	179.60	10,520.0	-5,283.6	724.0	488,612.43	819,234.96	32° 20' 24.208 N	103° 26' 0.724 W
16,000.0	90.00	179.60	10,520.0	-5,383.6	724.7	488,512.44	819,235.66	32° 20' 23.219 N	103° 26' 0.726 W
16,100.0	90.00	179.60	10,520.0	-5,483.6	725.4	488,412.44	819,236.36	32° 20' 22.229 N	103° 26' 0.727 W
16,200.0	90.00	179.60	10,520.0	-5,583.6	726.1	488,312.44	819,237.06	32° 20' 21.240 N	103° 26' 0.729 W
16,300.0	90.00	179.60	10,520.0	-5,683.6	726.8	488,212.45	819,237.76	32° 20' 20.251 N	103° 26' 0.731 W
16,400.0	90.00	179.60	10,520.0	-5,783.6	727.5	488,112.45	819,238.46	32° 20' 19.261 N	103° 26' 0.732 W
16,500.0	90.00	179.60	10,520.0	-5,883.6	728.2	488,012.45	819,239.16	32° 20' 18.272 N	103° 26' 0.734 W
16,600.0	90.00	179.60	10,520.0	-5,983.6	728.9	487,912.45	819,239.86	32° 20' 17.282 N	103° 26' 0.736 W
16,700.0	90.00	179.60	10,520.0	-6,083.6	729.6	487,812.46	819,240.56	32° 20' 16.293 N	103° 26' 0.737 W
16,800.0	90.00	179.60	10,520.0	-6,183.6	730.3	487,712.46	819,241.26	32° 20' 15.303 N	103° 26' 0.739 W
16,900.0	90.00	179.60	10,520.0	-6,283.6	731.0	487,612.46	819,241.96	32° 20' 14.314 N	103° 26' 0.740 W
17,000.0	90.00	179.60	10,520.0	-6,383.6	731.7	487,512.46	819,242.66	32° 20' 13.324 N	103° 26' 0.742 W
17,100.0	90.00	179.60	10,520.0	-6,483.6	732.4	487,412.47	819,243.36	32° 20' 12.335 N	103° 26' 0.744 W
17,200.0	90.00	179.60	10,520.0	-6,583.6	733.1	487,312.47	819,244.06	32° 20' 11.345 N	103° 26' 0.745 W
17,300.0	90.00	179.60	10,520.0	-6,683.5	733.8	487,212.47	819,244.76	32° 20' 10.356 N	103° 26' 0.747 W
17,400.0	90.00	179.60	10,520.0	-6,783.5	734.5	487,112.48	819,245.46	32° 20' 9.366 N	103° 26' 0.749 W
17,500.0	90.00	179.60	10,520.0	-6,883.5	735.2	487,012.48	819,246.16	32° 20' 8.377 N	103° 26' 0.750 W
17,600.0	90.00	179.60	10,520.0	-6,983.5	735.9	486,912.48	819,246.86	32° 20' 7.387 N	103° 26' 0.752 W
17,700.0	90.00	179.60	10,520.0	-7,083.5	736.6	486,812.48	819,247.56	32° 20' 6.398 N	103° 26' 0.753 W
17,800.0	90.00	179.60	10,520.0	-7,183.5	737.3	486,712.49	819,248.26	32° 20' 5.408 N	103° 26' 0.755 W
17,900.0	90.00	179.60	10,520.0	-7,283.5	738.0	486,612.49	819,248.96	32° 20' 4.419 N	103° 26' 0.757 W
18,000.0	90.00	179.60	10,520.0	-7,383.5	738.7	486,512.49	819,249.66	32° 20' 3.429 N	103° 26' 0.758 W
18,100.0	90.00	179.60	10,520.0	-7,483.5	739.4	486,412.49	819,250.36	32° 20' 2.440 N	103° 26' 0.760 W
18,190.5	90.00	179.60	10,520.0	-7,574.0	740.0	486,322.00	819,251.00	32° 20' 1.544 N	103° 26' 0.761 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
North Ridge #04H BHL - plan hits target center - Point	0.00	0.00	10,520.0	-7,574.0	740.0	486,322.00	819,251.00	32° 20' 1.544 N	103° 26' 0.761 W

BTA Oil Producers, LLC



Azimuths to Grid North
True North: -0.48°
Magnetic North: 7.22°

Magnetic Field
Strength: 48887.1nT
Dip Angle: 60.39°
Date: 12/31/2009
Model: IGRF200510

WELL DETAILS: North Ridge #04H

+N/-S	+E/-W	Northing	Easting	Ground Level 3407.0 Latitude	Longitude
0.0	0.0	493896.00	818511.00	32° 21' 16.548 N	103° 26' 8.646 W

SITE DETAILS: North Ridge

Site Centre Northing: 493872.00
Easting: 815680.00

Positional Uncertainity: 0.0
Convergence: 0.48
Local North: Grid

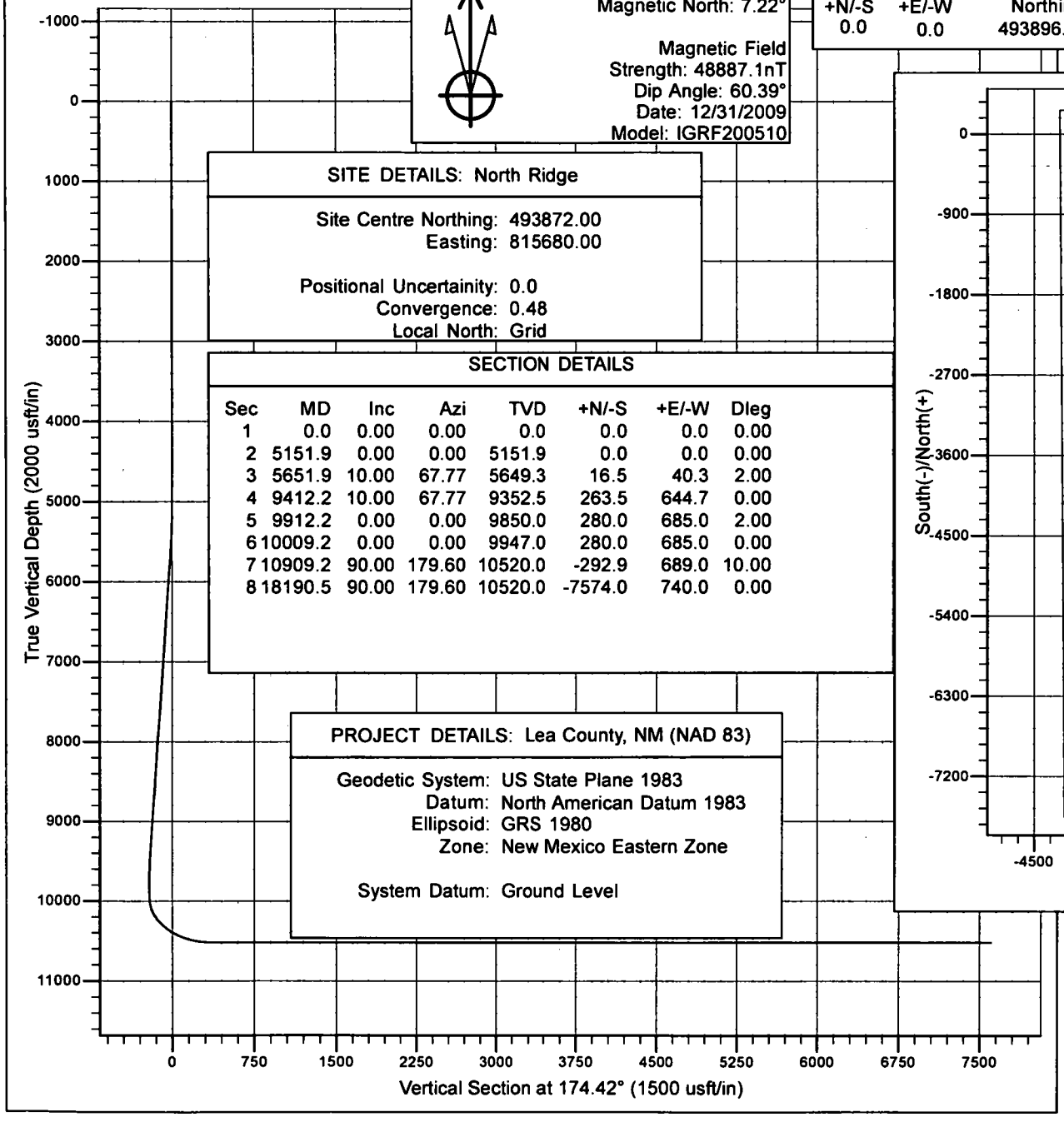
SECTION DETAILS

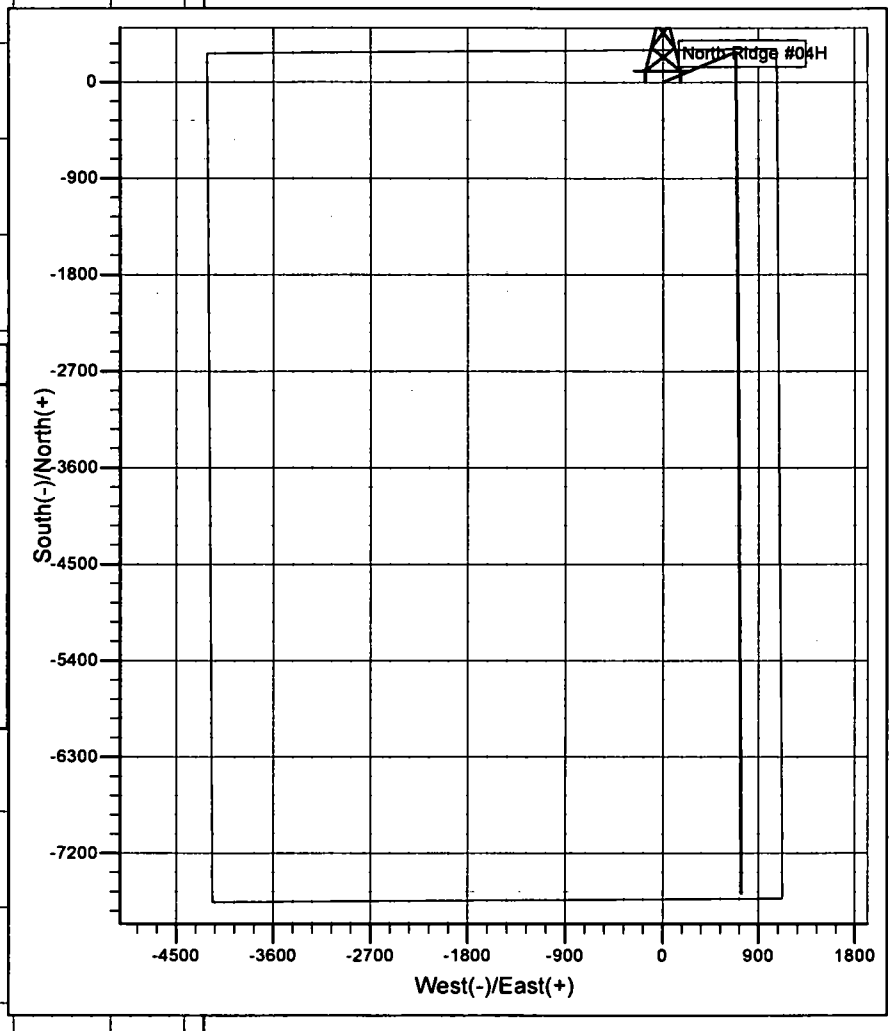
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00
2	5151.9	0.00	0.00	5151.9	0.0	0.0	0.00
3	5651.9	10.00	67.77	5649.3	16.5	40.3	2.00
4	9412.2	10.00	67.77	9352.5	263.5	644.7	0.00
5	9912.2	0.00	0.00	9850.0	280.0	685.0	2.00
6	10009.2	0.00	0.00	9947.0	280.0	685.0	0.00
7	10909.2	90.00	179.60	10520.0	-292.9	689.0	10.00
8	18190.5	90.00	179.60	10520.0	-7574.0	740.0	0.00

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





Weatherford®

WFT Casing Head (Slip on Weld with O-Ring) Running Procedure

Publication RP-001

October 21, 2010

APD ID: 10400042638 **Submission Date:** 06/11/2019

Operator Name: BTA OIL PRODUCERS LLC

Well Name: NORTH RIDGE 8040 FEDERAL COM **Well Number:** 4H

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 Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

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

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

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

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Operator Name: BTA OIL PRODUCERS LLC

Well Name: NORTH RIDGE 8040 FEDERAL COM **Well Number:** 4H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

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

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

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

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

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

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

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

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

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

APD ID: 10400042638 **Submission Date:** 06/11/2019

Operator Name: BTA OIL PRODUCERS LLC

Well Name: NORTH RIDGE 8040 FEDERAL COM **Well Number:** 4H

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

Show Final Text

Bond Information

Federal/Indian APD: FED

BLM Bond number: NMB001711

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment: