OCD Received 11/17/2020

Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM119271

6. If Indian, Allotee or Tribe Name:

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

7. If Unit or CA Agreement, Name and No.: NMNM 137573

8. Lease Name and Well No.: HARROUN RANCH 20702 20-17 FEDERAL 8H

2. Name of Operator: BTA OIL PRODUCERS LLC

9. API Well No.: 30 015 47701

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

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

10. Field and Pool, or Exploratory: ~~WC-015/WOLFCAMP~~ Purple Sage;Wolfcamp

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

At surface: SESE / 333 FSL / 821 FEL / LAT 32.284134 / LONG -104.001136

At proposed prod. zone: NWNE / 100 FNL / 1980 FEL / LAT 32.312154 / LONG -104.004628

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 20/T23S/R29E/NMP

14. Distance in miles and direction from nearest town or post office*: 5 miles

12. County or Parish: EDDY

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 893 feet

16. No of acres in lease: 160

17. Spacing Unit dedicated to this well: 640.0

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 502 feet

19. Proposed Depth: 10008 feet / 20389 feet

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3018 feet

22. Approximate date work will start*: 08/18/2020

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	03/20/2020

Title: Regulatory Analyst

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575) 234-5959	11/13/2020

Title	Office
Assistant Field Manager Lands & Minerals	Carlsbad Field Office

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

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

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.

- Will require a directional survey with the C-104
- Surface casing must be set 25' below top of Rustler Anhydrite in order to seal off protectable water

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

APPROVED WITH CONDITIONS

SL

KP 11/18/2020 GEO Review

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 11/13/2020

Entered - KMS NMOCD

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30 015 47701	98220	PURPLE SAGE; WOLFCAMP ~~WC-015~~; Wolfcamp Sand

Property Code	Property Name	Well Number
328285	HARROUN RANCH 20702 20-17 FEDERAL COM	8H

OGRID No.	Operator Name	Elevation
260297	BTA OIL PRODUCERS, LLC	2971'

Surface Location

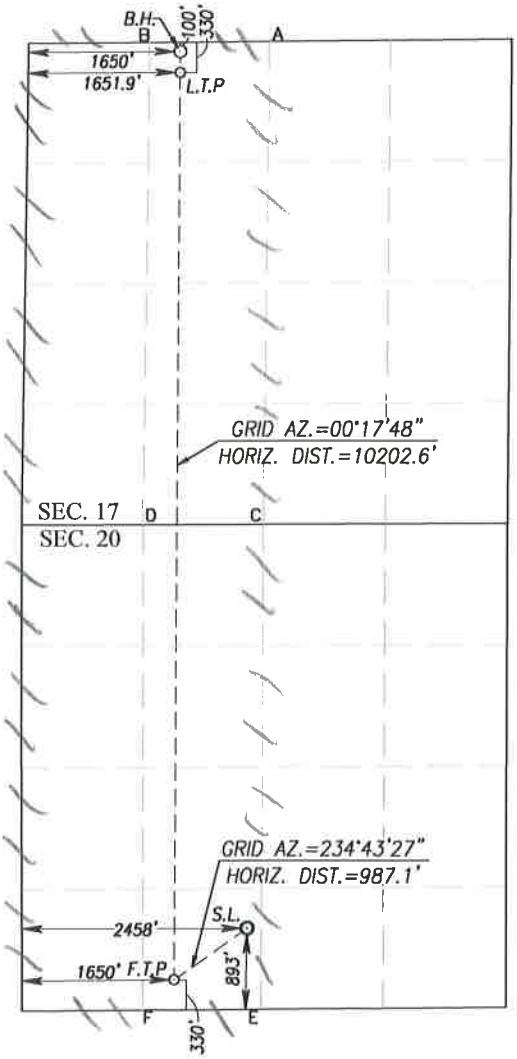
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	20	23-S	29-E		893	SOUTH	2458	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	17	23-S	29-E		100	NORTH	1650	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
640			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



SCALE: 1"=2000'

BOTTOM HOLE LOCATION
GEODETIC COORDINATES
NAD 83 NME
Y=477434.5 N
X=641250.8 E
LAT.=32.312126° N
LONG.=104.009920° W

BOTTOM HOLE LOCATION
GEODETIC COORDINATES
NAD 27 NME
Y=477374.8 N
X=600067.8 E
LAT.=32.312004° N
LONG.=104.009427° W

LAST TAKE POINT
GEODETIC COORDINATES
NAD 83 NME
Y=477204.5 N
X=641249.6 E
LAT.=32.311494° N
LONG.=104.009926° W

LAST TAKE POINT
GEODETIC COORDINATES
NAD 27 NME
Y=477144.9 N
X=600066.7 E
LAT.=32.311372° N
LONG.=104.009434° W

CORNER COORDINATES TABLE
NAD 27 NME
A - Y= 477483.9 N, X= 601051.2 E
B - Y= 477471.7 N, X= 599735.2 E
C - Y= 472180.9 N, X= 600996.0 E
D - Y= 472176.3 N, X= 599672.6 E
E - Y= 466853.3 N, X= 600973.0 E
F - Y= 466841.9 N, X= 599669.7 E

CORNER COORDINATES TABLE
NAD 83 NME
A - Y= 477543.6 N, X= 642234.1 E
B - Y= 477531.4 N, X= 640918.1 E
C - Y= 472240.4 N, X= 642179.1 E
D - Y= 472235.8 N, X= 640855.7 E
E - Y= 466912.7 N, X= 642156.3 E
F - Y= 466901.3 N, X= 640852.9 E

FIRST TAKE POINT
GEODETIC COORDINATES
NAD 83 NME
Y=467234.3 N
X=641198.0 E
LAT.=32.284088° N
LONG.=104.010191° W

FIRST TAKE POINT
GEODETIC COORDINATES
NAD 27 NME
Y=467174.9 N
X=600014.8 E
LAT.=32.283966° N
LONG.=104.009699° W

SURFACE LOCATION
GEODETIC COORDINATES
NAD 83 NME
Y=467804.2 N
X=642003.7 E
LAT.=32.285648° N
LONG.=104.007578° W

SURFACE LOCATION
GEODETIC COORDINATES
NAD 27 NME
Y=467744.8 N
X=600820.5 E
LAT.=32.285526° N
LONG.=104.007086° W

OPERATOR CERTIFICATION

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

Signature — Date: 3/17/2020

Sammy Hajar
Printed Name

shajar@btaoil.com
E-mail Address

SURVEYOR CERTIFICATION

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

DECEMBER 9, 2019
Date of Survey

Signature & Seal of Professional Surveyor:

NEW MEXICO — RONALD J. EIDSON — 3239 — REGISTERED PROFESSIONAL SURVEYOR

Ronald J Eidson 01/02/2020

Certificate Number — Gary G. Eidson 12641
Ronald J. Eidson 3239

ACK REL W.O.: 19111174 JWSC W.O.: 19.11.1293

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**BTA Oil Producers**
LEASE NO.:	**NMNM119271**
WELL NAME & NO.:	HARROUN RANCH 20702 20-17 FED COM 8H
SURFACE HOLE FOOTAGE:	333'/S & 821'/E
BOTTOM HOLE FOOTAGE	100'/N & 1980'/E
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
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 **10-3/4** inch surface casing shall be set at approximately **400** feet (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after

completing the cement job.

b. Wait on cement (WOC) time for a primary cement job will be a minimum of **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 **7-5/8** inch intermediate casing shall be set at approximately **8,986** feet. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**
  Excess cement calculates to -15%, additional cement might be required.

Option 2:

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

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
   Excess cement calculates to 16%, additional cement might be required.

b. Second stage above DV tool:

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

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

❖ In 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 X 5 inch** production casing is:

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

C. PRESSURE CONTROL

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

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

☒ Chaves and Roosevelt Counties
Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
During office hours call (575) 627-0272.
After office hours call (575)

☒ 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.

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.

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: 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.

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.

OTA11052020

APD ID: 10400055336

Operator Name: BTA OIL PRODUCERS LLC

Well Name: HARROUN RANCH 20702 20-17 FEDERAL COM

Well Type: OTHER

Submission Date: 03/20/2020

Well Number: 8H

Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
694115	QUATERNARY	3018	0	0	ALLUVIUM	NONE	N
694117	TOP SALT	1022	1996	1996	SALT	NONE	N
694118	BASE OF SALT	887	2131	2131	SALT	NONE	N
694116	RUSTLER	782	2236	2236	ANHYDRITE	NONE	N
694119	DELAWARE	671	2347	2347	LIMESTONE	NATURAL GAS, OIL	N
694128	BELL CANYON	638	2380	2380	SANDSTONE	NATURAL GAS, OIL	N
694121	CHERRY CANYON	-166	3184	3184	SANDSTONE	NATURAL GAS, OIL	N
694122	BRUSHY CANYON	-1374	4392	4392	SANDSTONE	NATURAL GAS, OIL	N
694123	BONE SPRING LIME	-3034	6052	6052	LIMESTONE	NATURAL GAS, OIL	N
694124	FIRST BONE SPRING SAND	-4037	7055	7055	SANDSTONE	NATURAL GAS, OIL	N
694125	BONE SPRING 2ND	-4813	7831	7831	SANDSTONE	NATURAL GAS, OIL	N
694126	BONE SPRING 3RD	-5964	8982	8982	SANDSTONE	NATURAL GAS, OIL	N
694127	WOLFCAMP	-6313	9331	9331	SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: BTA OIL PRODUCERS LLC

Well Name: HARROUN RANCH 20702 20-17 FEDERAL COM **Well Number:** 8H

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 BOPs will be installed on the 10-3/4" 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

Variance request:

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_20190723082749.pdf

BOP Diagram Attachment:

5M_BOP_diagram_20190723082754.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	14.75	10.75	NEW	API	N	0	500	0	500	3018	2518	500	J-55	40.5	ST&C	7.3	14.5	DRY	20.7	DRY	31.1
2	PRODUCTION	6.75	5.5	NEW	API	Y	0	8786	0	8699	3018	-5681	8786	P-110	20	BUTT	1.7	2	DRY	3.8	DRY	3.6
3	INTERMEDIATE	9.875	7.625	NEW	API	N	0	8986	0	8899	3018	-5881	8986	P-110	29.7	BUTT	2.2	2.2	DRY	3.6	DRY	3.5
4	PRODUCTION	6.75	5.0	NEW	API	Y	8766	19838	8699	9451	-5681	-6433	11072	P-110	18	BUTT	2	2	DRY	1.7	DRY	1.6

Casing Attachments

Operator Name: BTA OIL PRODUCERS LLC

Well Name: HARROUN RANCH 20702 20-17 FEDERAL COM **Well Number:** 8H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Harroun_Ranch_Fed_Com_8H_Casing_Assumption_20200320090204.JPG

Casing ID: 2 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

5.5_tapered_string_spec_20190930151650.jpg

Casing Design Assumptions and Worksheet(s):

Harroun_Ranch_Fed_Com_8H_Casing_Assumption_20200320090533.JPG

Casing ID: 3 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

vaca_draw_5.5_tapered_string_spec_20190723093759.JPG

Casing Design Assumptions and Worksheet(s):

Harroun_Ranch_Fed_Com_8H_Casing_Assumption_20200320090412.JPG

Operator Name: BTA OIL PRODUCERS LLC

Well Name: HARROUN RANCH 20702 20-17 FEDERAL COM **Well Number:** 8H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

5_tapered_string_spec_20190930151627.jpg

Casing Design Assumptions and Worksheet(s):

Harroun_Ranch_Fed_Com_8H_Casing_Assumption_20200320090714.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	255	160	1.8	13.5	288	100	Class C	2% CaCl2
SURFACE	Tail		255	500	200	1.34	14.8	268	100	Class C	2% CaCl2
INTERMEDIATE	Lead	2343	0	1915	310	2.19	12.7	678.9	50	Class C	0.5% CaCl2
INTERMEDIATE	Tail		1915	2343	150	1.33	14.8	199.5	50	Class C	1% CaCl2
INTERMEDIATE	Lead		2343	7100	445	2.64	10.5	1174.8	15	Class H	0.5% CaCl2
INTERMEDIATE	Tail		7100	8986	400	1.19	15.6	476	15	Class H	1% CaCl2
PRODUCTION	Lead		7785	8786	0	0	0	0		n/a	n/a
PRODUCTION	Lead		8786	19838	1150	1.27	14.8	1460.5	10	Class H	0.1% Fluid Loss

Operator Name: BTA OIL PRODUCERS LLC

Well Name: HARROUN RANCH 20702 20-17 FEDERAL COM **Well Number:** 8H

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	500	OTHER : FW SPUD	8.3	8.4							
500	8899	OTHER : DBE	9	9.4							
8899	9451	OIL-BASED MUD	11	12.5							

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

Operator Name: BTA OIL PRODUCERS LLC

Well Name: HARROUN RANCH 20702 20-17 FEDERAL COM **Well Number:** 8H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 6143 **Anticipated Surface Pressure:** 3941

Anticipated Bottom Hole Temperature(F): 155

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:

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_08H_Wall_plot_20200320092358.pdf
Harroun_Ranch_08H_directional_plan_20200320092358.pdf
Harroun_Ranch_Fed_Com_8H_Gas_Capture_Plan_20200320092425.pdf

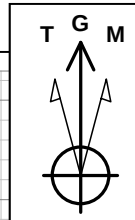
Other proposed operations facets description:

Other proposed operations facets attachment:

Other Variance attachment:

Casing_Head_Running_Procedure_20190723163249.pdf
Multi_Bowl_Diagram__3_STRING_10_34_SOW_20190723163249.pdf

BTA Oil Producers, LLC



Azimuths to Grid North
True North: -0.17°
Magnetic North: 7.78°

Magnetic Field
Strength: 48784.6nT
Dip Angle: 60.22°
Date: 12/31/2009
Model: IGRF200510

WELL DETAILS: Harroun Ranch #8H

2971.0

+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
0.0	0.0	467804.20	642003.70	32° 17' 8.331 N	104° 0' 27.281 W

SITE DETAILS: Harroun Ranch

Site Centre Northing: 467070.67
Easting: 639729.00

Positional Uncertainity: 0.0
Convergence: 0.17
Local North: Grid

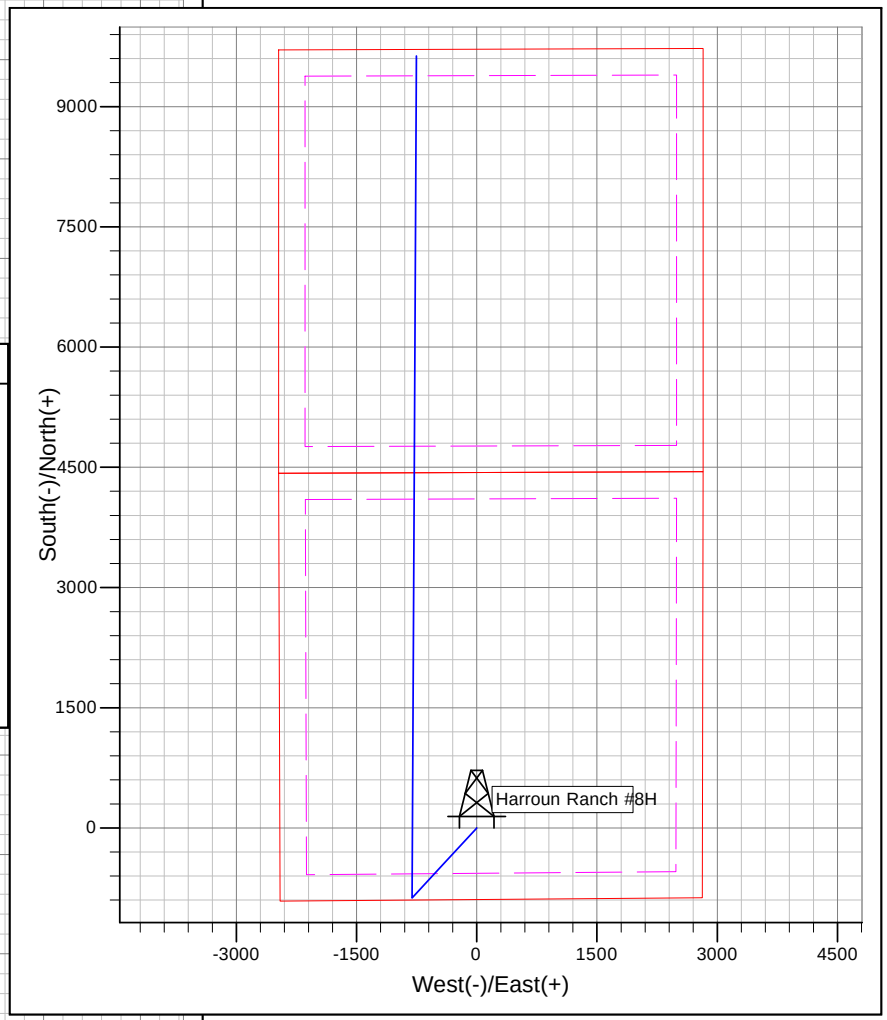
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DIeg
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00
2	600.0	0.00	0.00	600.0	0.0	0.0	0.00
3	1028.5	8.57	222.79	1026.9	-23.5	-21.7	2.00
4	8582.6	8.57	222.79	8496.6	-849.5	-786.3	0.00
5	9011.0	0.00	0.00	8923.5	-873.0	-808.0	2.00
6	9061.1	0.00	0.00	8973.5	-873.0	-808.0	0.00
7	9811.1	90.00	0.30	9451.0	-395.5	-805.5	12.00
8	19837.8	90.00	0.30	9451.0	9631.1	-753.0	0.00

PROJECT DETAILS: Eddy 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



BTA Oil Producers, LLC

Eddy County, NM (NAD 83)
Harroun Ranch
Harroun Ranch #8H

Wellbore #1

Plan: Design #1

Standard Planning Report - Geographic

19 March, 2020

Database:	Old	**Local Co-ordinate Reference:**	Well Harroun Ranch #8H
Company:	BTA Oil Producers, LLC	**TVD Reference:**	WELL @ 2971.0usft (Original Well Elev)
Project:	Eddy County, NM (NAD 83)	**MD Reference:**	WELL @ 2971.0usft (Original Well Elev)
Site:	Harroun Ranch	**North Reference:**	Grid
Well:	Harroun Ranch #8H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project Eddy County, NM (NAD 83)

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

Site Position:		**Northing:**	467,070.67 usft	**Latitude:**	32° 17' 1.140 N
From:	Map	**Easting:**	639,729.01 usft	**Longitude:**	104° 0' 53.805 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.17 °

Well Harroun Ranch #8H

Well Position	**+N/-S**	0.0 usft	**Northing:**	467,804.20 usft	**Latitude:**	32° 17' 8.331 N
	+E/-W	0.0 usft	**Easting:**	642,003.70 usft	**Longitude:**	104° 0' 27.281 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	2,971.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	7.95	60.22	48,784.57253258

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	355.53

Plan Survey Tool Program **Date** 3/19/2020

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	19,837.8	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	
600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,028.5	8.57	222.79	1,026.9	-23.5	-21.7	2.00	2.00	0.00	222.79	
8,582.6	8.57	222.79	8,496.6	-849.5	-786.3	0.00	0.00	0.00	0.00	
9,011.0	0.00	0.00	8,923.5	-873.0	-808.0	2.00	-2.00	0.00	180.00	
9,061.1	0.00	0.00	8,973.5	-873.0	-808.0	0.00	0.00	0.00	0.00	
9,811.1	90.00	0.30	9,451.0	-395.5	-805.5	12.00	12.00	0.00	0.30	
19,837.8	90.00	0.30	9,451.0	9,631.1	-753.0	0.00	0.00	0.00	0.00	Harroun Ranch #8H

Database:	Old	**Local Co-ordinate Reference:**	Well Harroun Ranch #8H
Company:	BTA Oil Producers, LLC	**TVD Reference:**	WELL @ 2971.0usft (Original Well Elev)
Project:	Eddy County, NM (NAD 83)	**MD Reference:**	WELL @ 2971.0usft (Original Well Elev)
Site:	Harroun Ranch	**North Reference:**	Grid
Well:	Harroun Ranch #8H	**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	467,804.20	642,003.70	32° 17' 8.331 N	104° 0' 27.281 W
100.0	0.00	0.00	100.0	0.0	0.0	467,804.20	642,003.70	32° 17' 8.331 N	104° 0' 27.281 W
200.0	0.00	0.00	200.0	0.0	0.0	467,804.20	642,003.70	32° 17' 8.331 N	104° 0' 27.281 W
300.0	0.00	0.00	300.0	0.0	0.0	467,804.20	642,003.70	32° 17' 8.331 N	104° 0' 27.281 W
400.0	0.00	0.00	400.0	0.0	0.0	467,804.20	642,003.70	32° 17' 8.331 N	104° 0' 27.281 W
500.0	0.00	0.00	500.0	0.0	0.0	467,804.20	642,003.70	32° 17' 8.331 N	104° 0' 27.281 W
600.0	0.00	0.00	600.0	0.0	0.0	467,804.20	642,003.70	32° 17' 8.331 N	104° 0' 27.281 W
700.0	2.00	222.79	700.0	-1.3	-1.2	467,802.92	642,002.52	32° 17' 8.319 N	104° 0' 27.294 W
800.0	4.00	222.79	799.8	-5.1	-4.7	467,799.08	641,998.96	32° 17' 8.281 N	104° 0' 27.336 W
900.0	6.00	222.79	899.5	-11.5	-10.7	467,792.68	641,993.05	32° 17' 8.218 N	104° 0' 27.405 W
1,000.0	8.00	222.79	998.7	-20.5	-18.9	467,783.74	641,984.77	32° 17' 8.129 N	104° 0' 27.502 W
1,028.5	8.57	222.79	1,026.9	-23.5	-21.7	467,780.73	641,981.98	32° 17' 8.100 N	104° 0' 27.534 W
1,100.0	8.57	222.79	1,097.6	-31.3	-29.0	467,772.91	641,974.74	32° 17' 8.022 N	104° 0' 27.619 W
1,200.0	8.57	222.79	1,196.5	-42.2	-39.1	467,761.97	641,964.62	32° 17' 7.915 N	104° 0' 27.737 W
1,300.0	8.57	222.79	1,295.4	-53.2	-49.2	467,751.04	641,954.50	32° 17' 7.807 N	104° 0' 27.856 W
1,400.0	8.57	222.79	1,394.3	-64.1	-59.3	467,740.11	641,944.38	32° 17' 7.699 N	104° 0' 27.974 W
1,500.0	8.57	222.79	1,493.1	-75.0	-69.4	467,729.17	641,934.26	32° 17' 7.591 N	104° 0' 28.092 W
1,600.0	8.57	222.79	1,592.0	-86.0	-79.6	467,718.24	641,924.14	32° 17' 7.483 N	104° 0' 28.210 W
1,700.0	8.57	222.79	1,690.9	-96.9	-89.7	467,707.30	641,914.02	32° 17' 7.375 N	104° 0' 28.329 W
1,800.0	8.57	222.79	1,789.8	-107.8	-99.8	467,696.37	641,903.90	32° 17' 7.267 N	104° 0' 28.447 W
1,900.0	8.57	222.79	1,888.7	-118.8	-109.9	467,685.43	641,893.78	32° 17' 7.159 N	104° 0' 28.565 W
2,000.0	8.57	222.79	1,987.6	-129.7	-120.1	467,674.50	641,883.66	32° 17' 7.051 N	104° 0' 28.684 W
2,100.0	8.57	222.79	2,086.4	-140.6	-130.2	467,663.57	641,873.54	32° 17' 6.943 N	104° 0' 28.802 W
2,200.0	8.57	222.79	2,185.3	-151.6	-140.3	467,652.63	641,863.42	32° 17' 6.836 N	104° 0' 28.920 W
2,300.0	8.57	222.79	2,284.2	-162.5	-150.4	467,641.70	641,853.30	32° 17' 6.728 N	104° 0' 29.038 W
2,400.0	8.57	222.79	2,383.1	-173.5	-160.5	467,630.76	641,843.18	32° 17' 6.620 N	104° 0' 29.157 W
2,500.0	8.57	222.79	2,482.0	-184.4	-170.7	467,619.83	641,833.06	32° 17' 6.512 N	104° 0' 29.275 W
2,600.0	8.57	222.79	2,580.9	-195.3	-180.8	467,608.89	641,822.94	32° 17' 6.404 N	104° 0' 29.393 W
2,700.0	8.57	222.79	2,679.7	-206.3	-190.9	467,597.96	641,812.82	32° 17' 6.296 N	104° 0' 29.512 W
2,800.0	8.57	222.79	2,778.6	-217.2	-201.0	467,587.02	641,802.70	32° 17' 6.188 N	104° 0' 29.630 W
2,900.0	8.57	222.79	2,877.5	-228.1	-211.1	467,576.09	641,792.58	32° 17' 6.080 N	104° 0' 29.748 W
3,000.0	8.57	222.79	2,976.4	-239.1	-221.3	467,565.16	641,782.46	32° 17' 5.972 N	104° 0' 29.866 W
3,100.0	8.57	222.79	3,075.3	-250.0	-231.4	467,554.22	641,772.34	32° 17' 5.864 N	104° 0' 29.985 W
3,200.0	8.57	222.79	3,174.2	-260.9	-241.5	467,543.29	641,762.22	32° 17' 5.757 N	104° 0' 30.103 W
3,300.0	8.57	222.79	3,273.0	-271.9	-251.6	467,532.35	641,752.10	32° 17' 5.649 N	104° 0' 30.221 W
3,400.0	8.57	222.79	3,371.9	-282.8	-261.7	467,521.42	641,741.98	32° 17' 5.541 N	104° 0' 30.340 W
3,500.0	8.57	222.79	3,470.8	-293.7	-271.9	467,510.48	641,731.86	32° 17' 5.433 N	104° 0' 30.458 W
3,600.0	8.57	222.79	3,569.7	-304.7	-282.0	467,499.55	641,721.74	32° 17' 5.325 N	104° 0' 30.576 W
3,700.0	8.57	222.79	3,668.6	-315.6	-292.1	467,488.62	641,711.62	32° 17' 5.217 N	104° 0' 30.694 W
3,800.0	8.57	222.79	3,767.5	-326.5	-302.2	467,477.68	641,701.50	32° 17' 5.109 N	104° 0' 30.813 W
3,900.0	8.57	222.79	3,866.3	-337.5	-312.4	467,466.75	641,691.38	32° 17' 5.001 N	104° 0' 30.931 W
4,000.0	8.57	222.79	3,965.2	-348.4	-322.5	467,455.81	641,681.26	32° 17' 4.893 N	104° 0' 31.049 W
4,100.0	8.57	222.79	4,064.1	-359.4	-332.6	467,444.88	641,671.14	32° 17' 4.785 N	104° 0' 31.167 W
4,200.0	8.57	222.79	4,163.0	-370.3	-342.7	467,433.94	641,661.02	32° 17' 4.678 N	104° 0' 31.286 W
4,300.0	8.57	222.79	4,261.9	-381.2	-352.8	467,423.01	641,650.90	32° 17' 4.570 N	104° 0' 31.404 W
4,400.0	8.57	222.79	4,360.8	-392.2	-363.0	467,412.07	641,640.77	32° 17' 4.462 N	104° 0' 31.522 W
4,500.0	8.57	222.79	4,459.7	-403.1	-373.1	467,401.14	641,630.65	32° 17' 4.354 N	104° 0' 31.641 W
4,600.0	8.57	222.79	4,558.5	-414.0	-383.2	467,390.21	641,620.53	32° 17' 4.246 N	104° 0' 31.759 W
4,700.0	8.57	222.79	4,657.4	-425.0	-393.3	467,379.27	641,610.41	32° 17' 4.138 N	104° 0' 31.877 W
4,800.0	8.57	222.79	4,756.3	-435.9	-403.4	467,368.34	641,600.29	32° 17' 4.030 N	104° 0' 31.995 W
4,900.0	8.57	222.79	4,855.2	-446.8	-413.6	467,357.40	641,590.17	32° 17' 3.922 N	104° 0' 32.114 W
5,000.0	8.57	222.79	4,954.1	-457.8	-423.7	467,346.47	641,580.05	32° 17' 3.814 N	104° 0' 32.232 W
5,100.0	8.57	222.79	5,053.0	-468.7	-433.8	467,335.53	641,569.93	32° 17' 3.706 N	104° 0' 32.350 W
5,200.0	8.57	222.79	5,151.8	-479.6	-443.9	467,324.60	641,559.81	32° 17' 3.599 N	104° 0' 32.469 W
5,300.0	8.57	222.79	5,250.7	-490.6	-454.0	467,313.67	641,549.69	32° 17' 3.491 N	104° 0' 32.587 W

Database:	Old	**Local Co-ordinate Reference:**	Well Harroun Ranch #8H
Company:	BTA Oil Producers, LLC	**TVD Reference:**	WELL @ 2971.0usft (Original Well Elev)
Project:	Eddy County, NM (NAD 83)	**MD Reference:**	WELL @ 2971.0usft (Original Well Elev)
Site:	Harroun Ranch	**North Reference:**	Grid
Well:	Harroun Ranch #8H	**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	8.57	222.79	5,349.6	-501.5	-464.2	467,302.73	641,539.57	32° 17' 3.383 N	104° 0' 32.705 W
5,500.0	8.57	222.79	5,448.5	-512.4	-474.3	467,291.80	641,529.45	32° 17' 3.275 N	104° 0' 32.823 W
5,600.0	8.57	222.79	5,547.4	-523.4	-484.4	467,280.86	641,519.33	32° 17' 3.167 N	104° 0' 32.942 W
5,700.0	8.57	222.79	5,646.3	-534.3	-494.5	467,269.93	641,509.21	32° 17' 3.059 N	104° 0' 33.060 W
5,800.0	8.57	222.79	5,745.1	-545.2	-504.7	467,258.99	641,499.09	32° 17' 2.951 N	104° 0' 33.178 W
5,900.0	8.57	222.79	5,844.0	-556.2	-514.8	467,248.06	641,488.97	32° 17' 2.843 N	104° 0' 33.297 W
6,000.0	8.57	222.79	5,942.9	-567.1	-524.9	467,237.12	641,478.85	32° 17' 2.735 N	104° 0' 33.415 W
6,100.0	8.57	222.79	6,041.8	-578.1	-535.0	467,226.19	641,468.73	32° 17' 2.627 N	104° 0' 33.533 W
6,200.0	8.57	222.79	6,140.7	-589.0	-545.1	467,215.26	641,458.61	32° 17' 2.520 N	104° 0' 33.651 W
6,300.0	8.57	222.79	6,239.6	-599.9	-555.3	467,204.32	641,448.49	32° 17' 2.412 N	104° 0' 33.770 W
6,400.0	8.57	222.79	6,338.4	-610.9	-565.4	467,193.39	641,438.37	32° 17' 2.304 N	104° 0' 33.888 W
6,500.0	8.57	222.79	6,437.3	-621.8	-575.5	467,182.45	641,428.25	32° 17' 2.196 N	104° 0' 34.006 W
6,600.0	8.57	222.79	6,536.2	-632.7	-585.6	467,171.52	641,418.13	32° 17' 2.088 N	104° 0' 34.124 W
6,700.0	8.57	222.79	6,635.1	-643.7	-595.7	467,160.58	641,408.01	32° 17' 1.980 N	104° 0' 34.243 W
6,800.0	8.57	222.79	6,734.0	-654.6	-605.9	467,149.65	641,397.89	32° 17' 1.872 N	104° 0' 34.361 W
6,900.0	8.57	222.79	6,832.9	-665.5	-616.0	467,138.72	641,387.77	32° 17' 1.764 N	104° 0' 34.479 W
7,000.0	8.57	222.79	6,931.7	-676.5	-626.1	467,127.78	641,377.65	32° 17' 1.656 N	104° 0' 34.598 W
7,100.0	8.57	222.79	7,030.6	-687.4	-636.2	467,116.85	641,367.53	32° 17' 1.548 N	104° 0' 34.716 W
7,200.0	8.57	222.79	7,129.5	-698.3	-646.3	467,105.91	641,357.41	32° 17' 1.441 N	104° 0' 34.834 W
7,300.0	8.57	222.79	7,228.4	-709.3	-656.5	467,094.98	641,347.29	32° 17' 1.333 N	104° 0' 34.952 W
7,400.0	8.57	222.79	7,327.3	-720.2	-666.6	467,084.04	641,337.17	32° 17' 1.225 N	104° 0' 35.071 W
7,500.0	8.57	222.79	7,426.2	-731.1	-676.7	467,073.11	641,327.05	32° 17' 1.117 N	104° 0' 35.189 W
7,600.0	8.57	222.79	7,525.0	-742.1	-686.8	467,062.18	641,316.93	32° 17' 1.009 N	104° 0' 35.307 W
7,700.0	8.57	222.79	7,623.9	-753.0	-697.0	467,051.24	641,306.81	32° 17' 0.901 N	104° 0' 35.425 W
7,800.0	8.57	222.79	7,722.8	-764.0	-707.1	467,040.31	641,296.69	32° 17' 0.793 N	104° 0' 35.544 W
7,900.0	8.57	222.79	7,821.7	-774.9	-717.2	467,029.37	641,286.57	32° 17' 0.685 N	104° 0' 35.662 W
8,000.0	8.57	222.79	7,920.6	-785.8	-727.3	467,018.44	641,276.45	32° 17' 0.577 N	104° 0' 35.780 W
8,100.0	8.57	222.79	8,019.5	-796.8	-737.4	467,007.50	641,266.33	32° 17' 0.469 N	104° 0' 35.899 W
8,200.0	8.57	222.79	8,118.3	-807.7	-747.6	466,996.57	641,256.21	32° 17' 0.361 N	104° 0' 36.017 W
8,300.0	8.57	222.79	8,217.2	-818.6	-757.7	466,985.63	641,246.09	32° 17' 0.254 N	104° 0' 36.135 W
8,400.0	8.57	222.79	8,316.1	-829.6	-767.8	466,974.70	641,235.97	32° 17' 0.146 N	104° 0' 36.253 W
8,500.0	8.57	222.79	8,415.0	-840.5	-777.9	466,963.77	641,225.84	32° 17' 0.038 N	104° 0' 36.372 W
8,582.6	8.57	222.79	8,496.6	-849.5	-786.3	466,954.74	641,217.49	32° 16' 59.949 N	104° 0' 36.469 W
8,600.0	8.22	222.79	8,513.9	-851.4	-788.0	466,952.87	641,215.76	32° 16' 59.930 N	104° 0' 36.490 W
8,700.0	6.22	222.79	8,613.1	-860.6	-796.5	466,943.65	641,207.22	32° 16' 59.839 N	104° 0' 36.589 W
8,800.0	4.22	222.79	8,712.7	-867.3	-802.7	466,936.97	641,201.04	32° 16' 59.773 N	104° 0' 36.662 W
8,900.0	2.22	222.79	8,812.5	-871.4	-806.5	466,932.85	641,197.23	32° 16' 59.733 N	104° 0' 36.706 W
9,000.0	0.22	222.79	8,912.5	-873.0	-808.0	466,931.29	641,195.78	32° 16' 59.717 N	104° 0' 36.723 W
9,011.0	0.00	0.00	8,923.5	-873.0	-808.0	466,931.27	641,195.77	32° 16' 59.717 N	104° 0' 36.723 W
9,061.1	0.00	0.00	8,973.5	-873.0	-808.0	466,931.27	641,195.77	32° 16' 59.717 N	104° 0' 36.723 W
9,100.0	4.67	0.30	9,012.4	-871.4	-808.0	466,932.86	641,195.78	32° 16' 59.733 N	104° 0' 36.723 W
9,200.0	16.67	0.30	9,110.5	-852.9	-807.9	466,951.34	641,195.87	32° 16' 59.916 N	104° 0' 36.721 W
9,300.0	28.67	0.30	9,202.6	-814.4	-807.7	466,989.82	641,196.08	32° 17' 0.296 N	104° 0' 36.718 W
9,400.0	40.67	0.30	9,284.7	-757.7	-807.4	467,046.60	641,196.37	32° 17' 0.858 N	104° 0' 36.712 W
9,500.0	52.67	0.30	9,353.2	-685.1	-807.0	467,119.20	641,196.75	32° 17' 1.577 N	104° 0' 36.705 W
9,600.0	64.67	0.30	9,405.1	-599.8	-806.6	467,204.46	641,197.20	32° 17' 2.421 N	104° 0' 36.697 W
9,700.0	76.67	0.30	9,438.1	-505.6	-806.1	467,298.65	641,197.69	32° 17' 3.353 N	104° 0' 36.688 W
9,800.0	88.67	0.30	9,450.9	-406.6	-805.6	467,397.64	641,198.21	32° 17' 4.332 N	104° 0' 36.678 W
9,811.1	90.00	0.30	9,451.0	-395.5	-805.5	467,408.69	641,198.27	32° 17' 4.441 N	104° 0' 36.677 W
9,900.0	90.00	0.30	9,451.0	-306.6	-805.0	467,497.63	641,198.74	32° 17' 5.322 N	104° 0' 36.669 W
10,000.0	90.00	0.30	9,451.0	-206.6	-804.5	467,597.62	641,199.26	32° 17' 6.311 N	104° 0' 36.659 W
10,100.0	90.00	0.30	9,451.0	-106.6	-804.0	467,697.61	641,199.78	32° 17' 7.301 N	104° 0' 36.650 W
10,200.0	90.00	0.30	9,451.0	-6.6	-803.5	467,797.60	641,200.31	32° 17' 8.290 N	104° 0' 36.640 W
10,300.0	90.00	0.30	9,451.0	93.4	-802.9	467,897.59	641,200.83	32° 17' 9.279 N	104° 0' 36.630 W
10,400.0	90.00	0.30	9,451.0	193.4	-802.4	467,997.58	641,201.36	32° 17' 10.269 N	104° 0' 36.621 W

Database:	Old	**Local Co-ordinate Reference:**	Well Harroun Ranch #8H
Company:	BTA Oil Producers, LLC	**TVD Reference:**	WELL @ 2971.0usft (Original Well Elev)
Project:	Eddy County, NM (NAD 83)	**MD Reference:**	WELL @ 2971.0usft (Original Well Elev)
Site:	Harroun Ranch	**North Reference:**	Grid
Well:	Harroun Ranch #8H	**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	90.00	0.30	9,451.0	293.4	-801.9	468,097.57	641,201.88	32° 17' 11.258 N	104° 0' 36.611 W
10,600.0	90.00	0.30	9,451.0	393.4	-801.4	468,197.56	641,202.40	32° 17' 12.248 N	104° 0' 36.601 W
10,700.0	90.00	0.30	9,451.0	493.4	-800.8	468,297.55	641,202.93	32° 17' 13.237 N	104° 0' 36.592 W
10,800.0	90.00	0.30	9,451.0	593.4	-800.3	468,397.55	641,203.45	32° 17' 14.227 N	104° 0' 36.582 W
10,900.0	90.00	0.30	9,451.0	693.4	-799.8	468,497.54	641,203.98	32° 17' 15.216 N	104° 0' 36.573 W
11,000.0	90.00	0.30	9,451.0	793.4	-799.3	468,597.53	641,204.50	32° 17' 16.206 N	104° 0' 36.563 W
11,100.0	90.00	0.30	9,451.0	893.4	-798.7	468,697.52	641,205.02	32° 17' 17.195 N	104° 0' 36.553 W
11,200.0	90.00	0.30	9,451.0	993.4	-798.2	468,797.51	641,205.55	32° 17' 18.185 N	104° 0' 36.544 W
11,300.0	90.00	0.30	9,451.0	1,093.4	-797.7	468,897.50	641,206.07	32° 17' 19.174 N	104° 0' 36.534 W
11,400.0	90.00	0.30	9,451.0	1,193.4	-797.2	468,997.49	641,206.60	32° 17' 20.164 N	104° 0' 36.525 W
11,500.0	90.00	0.30	9,451.0	1,293.4	-796.6	469,097.48	641,207.12	32° 17' 21.153 N	104° 0' 36.515 W
11,600.0	90.00	0.30	9,451.0	1,393.4	-796.1	469,197.47	641,207.64	32° 17' 22.143 N	104° 0' 36.505 W
11,700.0	90.00	0.30	9,451.0	1,493.4	-795.6	469,297.46	641,208.17	32° 17' 23.132 N	104° 0' 36.496 W
11,800.0	90.00	0.30	9,451.0	1,593.4	-795.1	469,397.45	641,208.69	32° 17' 24.122 N	104° 0' 36.486 W
11,900.0	90.00	0.30	9,451.0	1,693.4	-794.6	469,497.44	641,209.21	32° 17' 25.111 N	104° 0' 36.476 W
12,000.0	90.00	0.30	9,451.0	1,793.4	-794.0	469,597.43	641,209.74	32° 17' 26.101 N	104° 0' 36.467 W
12,100.0	90.00	0.30	9,451.0	1,893.4	-793.5	469,697.42	641,210.26	32° 17' 27.090 N	104° 0' 36.457 W
12,200.0	90.00	0.30	9,451.0	1,993.4	-793.0	469,797.41	641,210.79	32° 17' 28.079 N	104° 0' 36.448 W
12,300.0	90.00	0.30	9,451.0	2,093.4	-792.5	469,897.41	641,211.31	32° 17' 29.069 N	104° 0' 36.438 W
12,400.0	90.00	0.30	9,451.0	2,193.4	-791.9	469,997.40	641,211.83	32° 17' 30.058 N	104° 0' 36.428 W
12,500.0	90.00	0.30	9,451.0	2,293.4	-791.4	470,097.39	641,212.36	32° 17' 31.048 N	104° 0' 36.419 W
12,600.0	90.00	0.30	9,451.0	2,393.4	-790.9	470,197.38	641,212.88	32° 17' 32.037 N	104° 0' 36.409 W
12,700.0	90.00	0.30	9,451.0	2,493.4	-790.4	470,297.37	641,213.41	32° 17' 33.027 N	104° 0' 36.400 W
12,800.0	90.00	0.30	9,451.0	2,593.4	-789.8	470,397.36	641,213.93	32° 17' 34.016 N	104° 0' 36.390 W
12,900.0	90.00	0.30	9,451.0	2,693.4	-789.3	470,497.35	641,214.45	32° 17' 35.006 N	104° 0' 36.380 W
13,000.0	90.00	0.30	9,451.0	2,793.4	-788.8	470,597.34	641,214.98	32° 17' 35.995 N	104° 0' 36.371 W
13,100.0	90.00	0.30	9,451.0	2,893.4	-788.3	470,697.33	641,215.50	32° 17' 36.985 N	104° 0' 36.361 W
13,200.0	90.00	0.30	9,451.0	2,993.4	-787.7	470,797.32	641,216.03	32° 17' 37.974 N	104° 0' 36.351 W
13,300.0	90.00	0.30	9,451.0	3,093.4	-787.2	470,897.31	641,216.55	32° 17' 38.964 N	104° 0' 36.342 W
13,400.0	90.00	0.30	9,451.0	3,193.4	-786.7	470,997.30	641,217.07	32° 17' 39.953 N	104° 0' 36.332 W
13,500.0	90.00	0.30	9,451.0	3,293.4	-786.2	471,097.29	641,217.60	32° 17' 40.943 N	104° 0' 36.323 W
13,600.0	90.00	0.30	9,451.0	3,393.4	-785.6	471,197.28	641,218.12	32° 17' 41.932 N	104° 0' 36.313 W
13,700.0	90.00	0.30	9,451.0	3,493.4	-785.1	471,297.28	641,218.65	32° 17' 42.922 N	104° 0' 36.303 W
13,800.0	90.00	0.30	9,451.0	3,593.4	-784.6	471,397.27	641,219.17	32° 17' 43.911 N	104° 0' 36.294 W
13,900.0	90.00	0.30	9,451.0	3,693.3	-784.1	471,497.26	641,219.69	32° 17' 44.900 N	104° 0' 36.284 W
14,000.0	90.00	0.30	9,451.0	3,793.3	-783.5	471,597.25	641,220.22	32° 17' 45.890 N	104° 0' 36.275 W
14,100.0	90.00	0.30	9,451.0	3,893.3	-783.0	471,697.24	641,220.74	32° 17' 46.879 N	104° 0' 36.265 W
14,200.0	90.00	0.30	9,451.0	3,993.3	-782.5	471,797.23	641,221.27	32° 17' 47.869 N	104° 0' 36.255 W
14,300.0	90.00	0.30	9,451.0	4,093.3	-782.0	471,897.22	641,221.79	32° 17' 48.858 N	104° 0' 36.246 W
14,400.0	90.00	0.30	9,451.0	4,193.3	-781.5	471,997.21	641,222.31	32° 17' 49.848 N	104° 0' 36.236 W
14,500.0	90.00	0.30	9,451.0	4,293.3	-780.9	472,097.20	641,222.84	32° 17' 50.837 N	104° 0' 36.226 W
14,600.0	90.00	0.30	9,451.0	4,393.3	-780.4	472,197.19	641,223.36	32° 17' 51.827 N	104° 0' 36.217 W
14,700.0	90.00	0.30	9,451.0	4,493.3	-779.9	472,297.18	641,223.89	32° 17' 52.816 N	104° 0' 36.207 W
14,800.0	90.00	0.30	9,451.0	4,593.3	-779.4	472,397.17	641,224.41	32° 17' 53.806 N	104° 0' 36.198 W
14,900.0	90.00	0.30	9,451.0	4,693.3	-778.8	472,497.16	641,224.93	32° 17' 54.795 N	104° 0' 36.188 W
15,000.0	90.00	0.30	9,451.0	4,793.3	-778.3	472,597.15	641,225.46	32° 17' 55.785 N	104° 0' 36.178 W
15,100.0	90.00	0.30	9,451.0	4,893.3	-777.8	472,697.15	641,225.98	32° 17' 56.774 N	104° 0' 36.169 W
15,200.0	90.00	0.30	9,451.0	4,993.3	-777.3	472,797.14	641,226.50	32° 17' 57.764 N	104° 0' 36.159 W
15,300.0	90.00	0.30	9,451.0	5,093.3	-776.7	472,897.13	641,227.03	32° 17' 58.753 N	104° 0' 36.150 W
15,400.0	90.00	0.30	9,451.0	5,193.3	-776.2	472,997.12	641,227.55	32° 17' 59.743 N	104° 0' 36.140 W
15,500.0	90.00	0.30	9,451.0	5,293.3	-775.7	473,097.11	641,228.08	32° 18' 0.732 N	104° 0' 36.130 W
15,600.0	90.00	0.30	9,451.0	5,393.3	-775.2	473,197.10	641,228.60	32° 18' 1.722 N	104° 0' 36.121 W
15,700.0	90.00	0.30	9,451.0	5,493.3	-774.6	473,297.09	641,229.12	32° 18' 2.711 N	104° 0' 36.111 W
15,800.0	90.00	0.30	9,451.0	5,593.3	-774.1	473,397.08	641,229.65	32° 18' 3.700 N	104° 0' 36.101 W
15,900.0	90.00	0.30	9,451.0	5,693.3	-773.6	473,497.07	641,230.17	32° 18' 4.690 N	104° 0' 36.092 W

Database:	Old	**Local Co-ordinate Reference:**	Well Harroun Ranch #8H
Company:	BTA Oil Producers, LLC	**TVD Reference:**	WELL @ 2971.0usft (Original Well Elev)
Project:	Eddy County, NM (NAD 83)	**MD Reference:**	WELL @ 2971.0usft (Original Well Elev)
Site:	Harroun Ranch	**North Reference:**	Grid
Well:	Harroun Ranch #8H	**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
16,000.0	90.00	0.30	9,451.0	5,793.3	-773.1	473,597.06	641,230.70	32° 18' 5.679 N	104° 0' 36.082 W
16,100.0	90.00	0.30	9,451.0	5,893.3	-772.5	473,697.05	641,231.22	32° 18' 6.669 N	104° 0' 36.073 W
16,200.0	90.00	0.30	9,451.0	5,993.3	-772.0	473,797.04	641,231.74	32° 18' 7.658 N	104° 0' 36.063 W
16,300.0	90.00	0.30	9,451.0	6,093.3	-771.5	473,897.03	641,232.27	32° 18' 8.648 N	104° 0' 36.053 W
16,400.0	90.00	0.30	9,451.0	6,193.3	-771.0	473,997.02	641,232.79	32° 18' 9.637 N	104° 0' 36.044 W
16,500.0	90.00	0.30	9,451.0	6,293.3	-770.4	474,097.01	641,233.32	32° 18' 10.627 N	104° 0' 36.034 W
16,600.0	90.00	0.30	9,451.0	6,393.3	-769.9	474,197.01	641,233.84	32° 18' 11.616 N	104° 0' 36.025 W
16,700.0	90.00	0.30	9,451.0	6,493.3	-769.4	474,297.00	641,234.36	32° 18' 12.606 N	104° 0' 36.015 W
16,800.0	90.00	0.30	9,451.0	6,593.3	-768.9	474,396.99	641,234.89	32° 18' 13.595 N	104° 0' 36.005 W
16,900.0	90.00	0.30	9,451.0	6,693.3	-768.4	474,496.98	641,235.41	32° 18' 14.585 N	104° 0' 35.996 W
17,000.0	90.00	0.30	9,451.0	6,793.3	-767.8	474,596.97	641,235.94	32° 18' 15.574 N	104° 0' 35.986 W
17,100.0	90.00	0.30	9,451.0	6,893.3	-767.3	474,696.96	641,236.46	32° 18' 16.564 N	104° 0' 35.976 W
17,200.0	90.00	0.30	9,451.0	6,993.3	-766.8	474,796.95	641,236.98	32° 18' 17.553 N	104° 0' 35.967 W
17,300.0	90.00	0.30	9,451.0	7,093.3	-766.3	474,896.94	641,237.51	32° 18' 18.543 N	104° 0' 35.957 W
17,400.0	90.00	0.30	9,451.0	7,193.3	-765.7	474,996.93	641,238.03	32° 18' 19.532 N	104° 0' 35.948 W
17,500.0	90.00	0.30	9,451.0	7,293.3	-765.2	475,096.92	641,238.56	32° 18' 20.521 N	104° 0' 35.938 W
17,600.0	90.00	0.30	9,451.0	7,393.3	-764.7	475,196.91	641,239.08	32° 18' 21.511 N	104° 0' 35.928 W
17,700.0	90.00	0.30	9,451.0	7,493.3	-764.2	475,296.90	641,239.60	32° 18' 22.500 N	104° 0' 35.919 W
17,800.0	90.00	0.30	9,451.0	7,593.3	-763.6	475,396.89	641,240.13	32° 18' 23.490 N	104° 0' 35.909 W
17,900.0	90.00	0.30	9,451.0	7,693.3	-763.1	475,496.88	641,240.65	32° 18' 24.479 N	104° 0' 35.899 W
18,000.0	90.00	0.30	9,451.0	7,793.3	-762.6	475,596.88	641,241.18	32° 18' 25.469 N	104° 0' 35.890 W
18,100.0	90.00	0.30	9,451.0	7,893.3	-762.1	475,696.87	641,241.70	32° 18' 26.458 N	104° 0' 35.880 W
18,200.0	90.00	0.30	9,451.0	7,993.3	-761.5	475,796.86	641,242.22	32° 18' 27.448 N	104° 0' 35.871 W
18,300.0	90.00	0.30	9,451.0	8,093.3	-761.0	475,896.85	641,242.75	32° 18' 28.437 N	104° 0' 35.861 W
18,400.0	90.00	0.30	9,451.0	8,193.3	-760.5	475,996.84	641,243.27	32° 18' 29.427 N	104° 0' 35.851 W
18,500.0	90.00	0.30	9,451.0	8,293.3	-760.0	476,096.83	641,243.80	32° 18' 30.416 N	104° 0' 35.842 W
18,600.0	90.00	0.30	9,451.0	8,393.3	-759.4	476,196.82	641,244.32	32° 18' 31.406 N	104° 0' 35.832 W
18,700.0	90.00	0.30	9,451.0	8,493.3	-758.9	476,296.81	641,244.84	32° 18' 32.395 N	104° 0' 35.823 W
18,800.0	90.00	0.30	9,451.0	8,593.3	-758.4	476,396.80	641,245.37	32° 18' 33.385 N	104° 0' 35.813 W
18,900.0	90.00	0.30	9,451.0	8,693.3	-757.9	476,496.79	641,245.89	32° 18' 34.374 N	104° 0' 35.803 W
19,000.0	90.00	0.30	9,451.0	8,793.3	-757.3	476,596.78	641,246.41	32° 18' 35.364 N	104° 0' 35.794 W
19,100.0	90.00	0.30	9,451.0	8,893.3	-756.8	476,696.77	641,246.94	32° 18' 36.353 N	104° 0' 35.784 W
19,200.0	90.00	0.30	9,451.0	8,993.3	-756.3	476,796.76	641,247.46	32° 18' 37.342 N	104° 0' 35.774 W
19,300.0	90.00	0.30	9,451.0	9,093.3	-755.8	476,896.75	641,247.99	32° 18' 38.332 N	104° 0' 35.765 W
19,400.0	90.00	0.30	9,451.0	9,193.3	-755.3	476,996.75	641,248.51	32° 18' 39.321 N	104° 0' 35.755 W
19,500.0	90.00	0.30	9,451.0	9,293.3	-754.7	477,096.74	641,249.03	32° 18' 40.311 N	104° 0' 35.746 W
19,600.0	90.00	0.30	9,451.0	9,393.3	-754.2	477,196.73	641,249.56	32° 18' 41.300 N	104° 0' 35.736 W
19,700.0	90.00	0.30	9,451.0	9,493.3	-753.7	477,296.72	641,250.08	32° 18' 42.290 N	104° 0' 35.726 W
19,800.0	90.00	0.30	9,451.0	9,593.3	-753.2	477,396.71	641,250.61	32° 18' 43.279 N	104° 0' 35.717 W
19,837.8	90.00	0.30	9,451.0	9,631.1	-753.0	477,434.50	641,250.80	32° 18' 43.653 N	104° 0' 35.713 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
Harroun Ranch #8H - plan hits target center - Point	0.00	0.00	9,451.0	9,631.1	-753.0	477,434.50	641,250.80	32° 18' 43.653 N	104° 0' 35.713 W

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

State of New Mexico
Energy, Minerals and Natural Resources Department

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

Submit Original to Appropriate District Office

GAS CAPTURE PLAN

Date: 3/17/2020

☒ Original
☐ Amended - Reason for Amendment: _____

Operator & OGRID No.: 260297

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

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

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

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
HARROUN RANCH 20702		SEC 20 ; 23S ; 29E	893 FSL 2458 FWL	2000	Flared	Battery Connected
20-17 FEDERAL COM 8H						To ETP System

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to Gas Transporter and will be connected to Gas Transporter low/high pressure gathering system located in EDDY County, New Mexico. It will require 0 ' of pipeline to (ETP) connect the facility to low/high pressure gathering system. Operator provides (periodically) to Gas Transporter a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Operator and Gas Transporter have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Gas Transporter Processing Plant located in Sec._____, Twn._____, Rng._____, _____ County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Gas Transporter system at that time. Based on current information, it is Operator's belief the system can take this gas upon completion of the well(s).

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

Alternatives to Reduce Flaring

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

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
		WC-015 ; Wolfcamp Sand

Property Code	Property Name	Well Number
	HARROUN RANCH 20702 20-17 FEDERAL COM	8H

OGRID No.	Operator Name	Elevation
260297	BTA OIL PRODUCERS, LLC	2971'

Surface Location

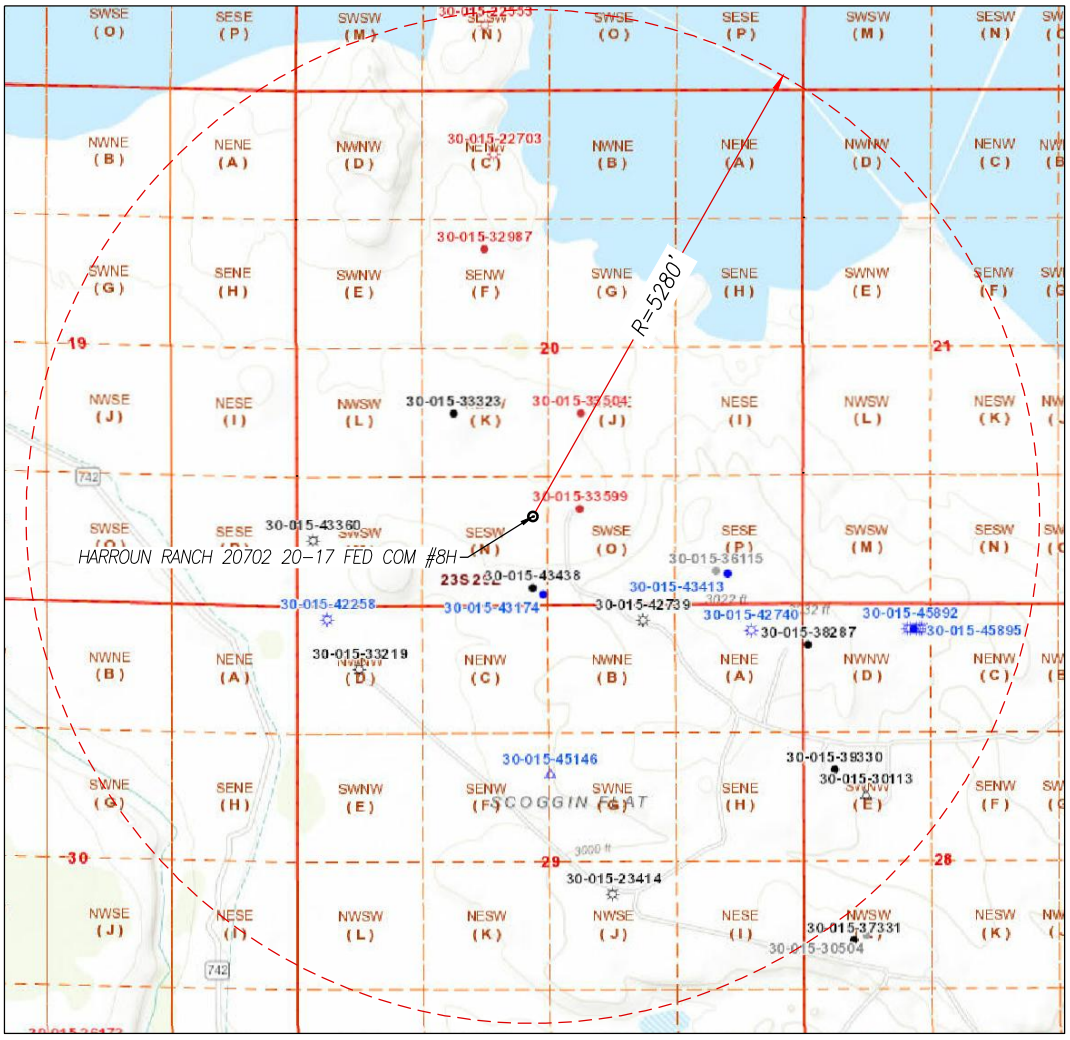
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	20	23-S	29-E		893	SOUTH	2458	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	17	23-S	29-E		100	NORTH	1650	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
640			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



2000 0 2000 Feet

Scale:1"=2000'

LEGEND
⊙ DENOTES PROPOSED WELL

SURVEYOR CERTIFICATION

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

DECEMBER 9, 2019
Date of Survey

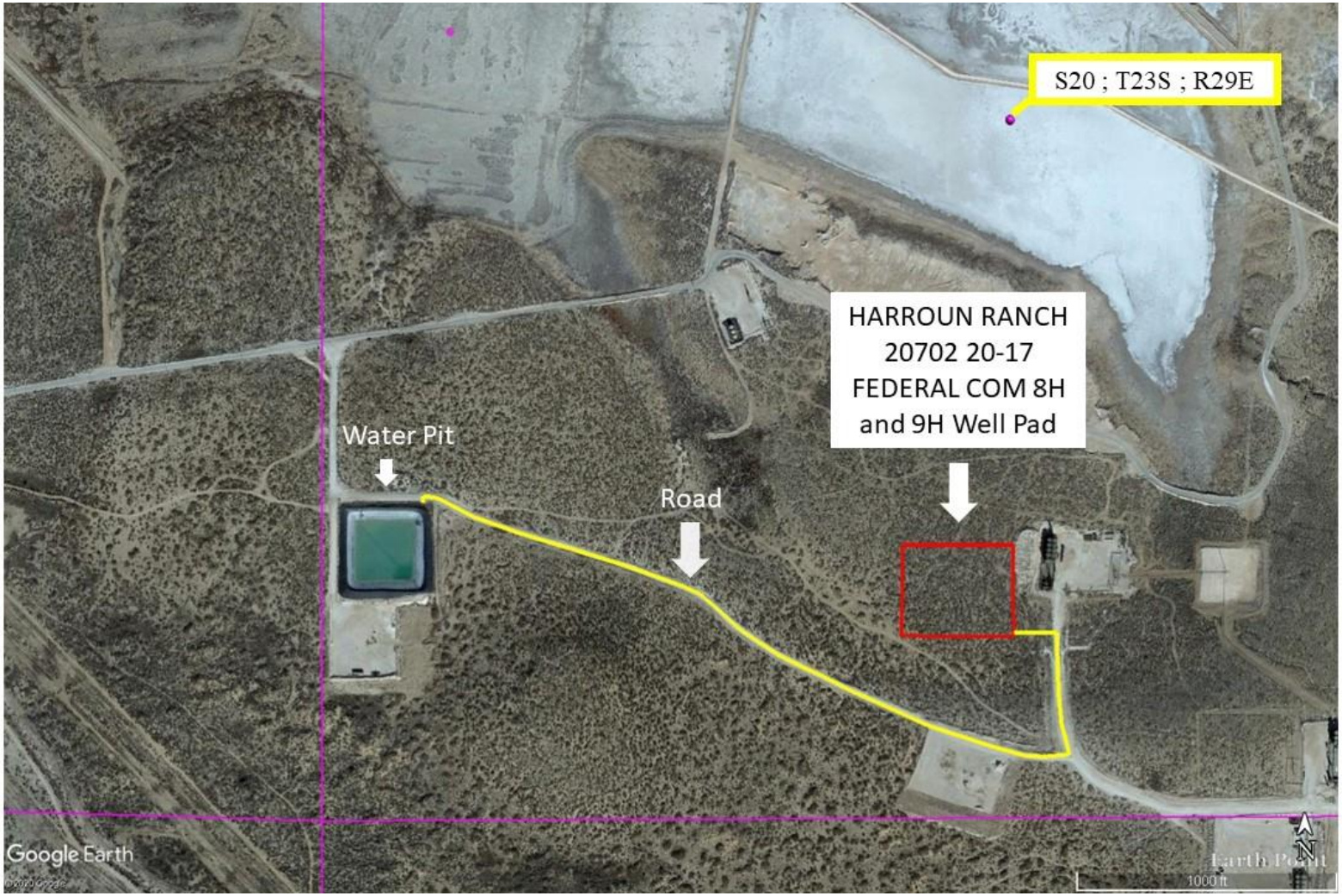
Signature & Seal of Professional Surveyor:

RONALD J. EIDSON
NEW MEXICO
3239
REGISTERED PROFESSIONAL SURVEYOR

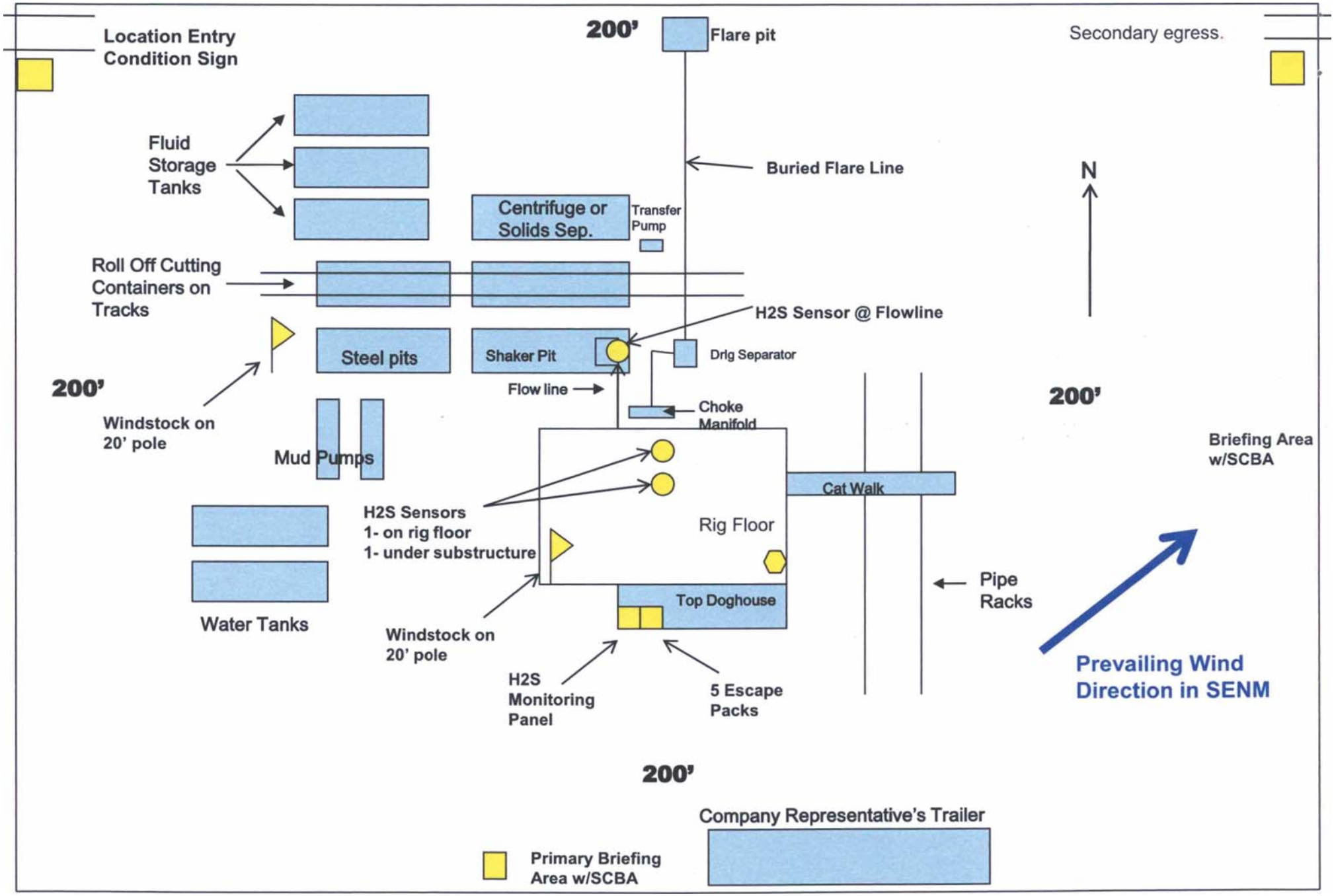
Ronald J Eidson 01/02/2020

Certificate Number	Gary G. Eidson	12641
	Ronald J. Eidson	3239

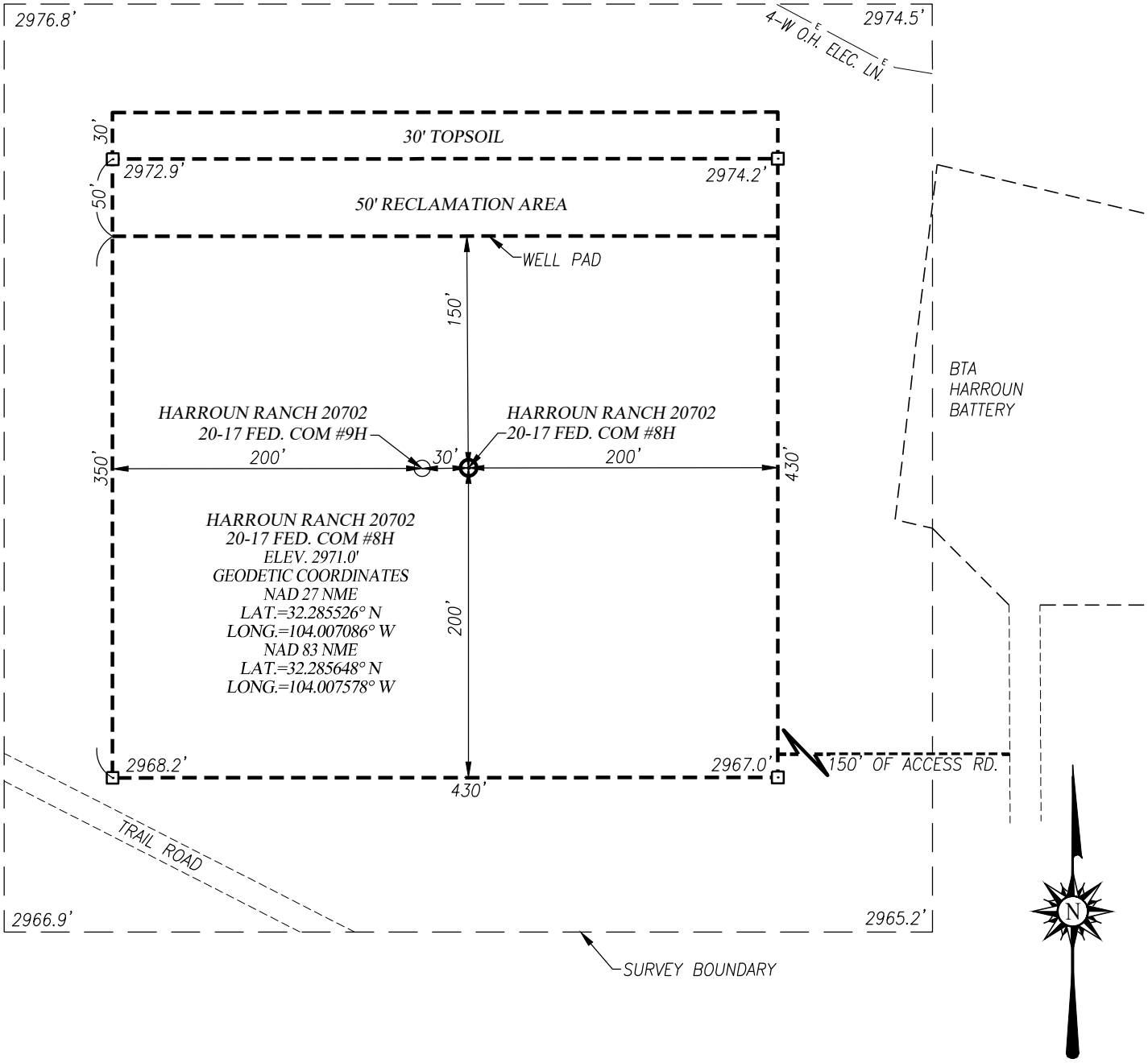
ACK REL. W.O.:19111174 JWSC W.O.: 19.11.1293



BTA OIL PRODUCERS, LLC
WATER TRANSPORTATION MAP
HARROUN RANCH 20702 20-17 FEDERAL COM 8H AND 9H WELL PAD TO WATER PIT
SEC 20 ; T23S ; R29E (Water Pit is in SWSW QUARTER QUARTER)
EDDY COUNTY, NM


Location Entry
Condition Sign
200'
Flare pit
Secondary egress.
Fluid
Storage
Tanks
Buried Flare Line
N
Centrifuge or
Solids Sep.
Transfer
Pump
Roll Off Cutting
Containers on
Tracks
H2S Sensor @ Flowline
Steel pits
Shaker Pit
Drlg Separator
200'
Flow line
200'
Windstock on
20' pole
Choke
Manifold
Briefing Area
w/SCBA
Mud Pumps
Cat Walk
H2S Sensors
1- on rig floor
1- under substructure
Rig Floor
Water Tanks
Pipe
Racks
Top Doghouse
Windstock on
20' pole
Prevailing Wind
Direction in SENM
H2S
Monitoring
Panel
5 Escape
Packs
200'
Company Representative's Trailer
Primary Briefing
Area w/SCBA

WELL SITE PLAN



NOTE:
1) SEE "TOPOGRAPHICAL AND ACCESS ROAD MAP" FOR PROPOSED ROAD LOCATION.

I, RONALD J. EIDSON, NEW MEXICO PROFESSIONAL SURVEYOR NO. 3239, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

RONALD J. EIDSON Ronald J Eidson

DATE: 01/02/2020

RONALD J. EIDSON NEW MEXICO 3239 REGISTERED PROFESSIONAL SURVEYOR

100 0 100 200 Feet

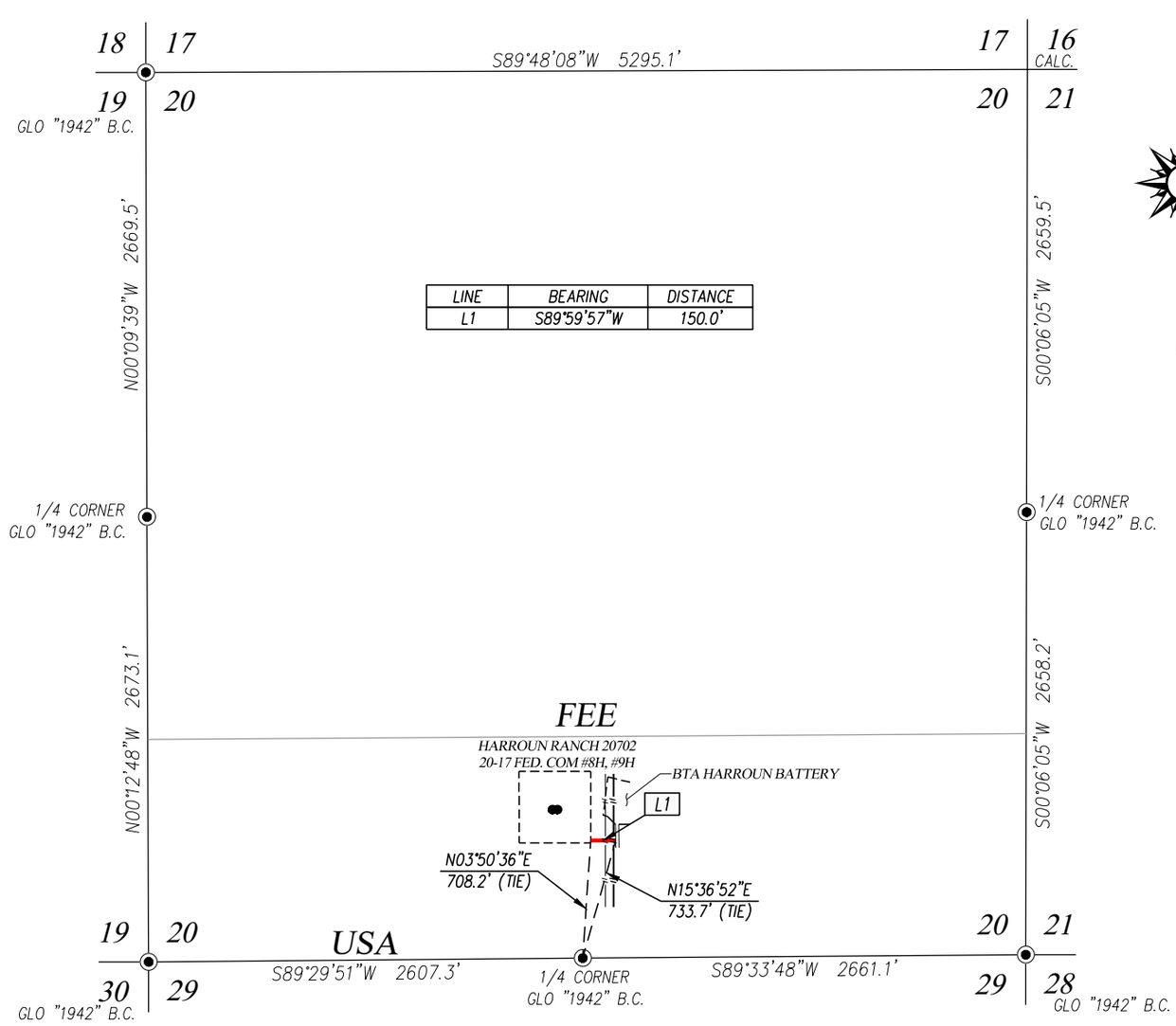
Scale: 1"=100'

BTA OIL PRODUCERS, LLC

HARROUN RANCH 20702 20-17 FEDERAL COM #8H WELL LOCATED 893 FEET FROM THE SOUTH LINE AND 2458 FEET FROM THE WEST LINE OF SECTION 20, TOWNSHIP 23 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

PROVIDING SURVEYING SERVICES SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO HOBBS, N.M. 88240
(575) 393-3117 www.jwsc.biz
TBPLS# 10021000

Survey Date: 12/09/19	CAD Date: 12/30/19	Drawn By: ACK
W.O. No.: 19111293	Rev: .	Rel. W.O.:19111174	Sheet 1 of 1



DESCRIPTION

SURVEY OF A STRIP OF LAND 30.0 FEET WIDE AND 150.0 FEET OR 0.028 MILES IN LENGTH CROSSING USA LAND IN SECTION 20, TOWNSHIP 23 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO, AND BEING 15.0 FEET LEFT AND 15.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

NOTE

BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

I, GARY G. EIDSON, NEW MEXICO PROFESSIONAL SURVEYOR No. 12641, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

GARY G. EIDSON Gary G Eidson

DATE: 03/19/2020

GARY G. EIDSON NEW MEXICO 12641 REGISTERED PROFESSIONAL SURVEYOR

LEGEND

- DENOTES FOUND CORNER AS NOTED
- DENOTES CENTERLINE SURVEY

1000 0 1000 2000 FEET

Scale: 1"=1000'

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO HOBBS, N.M. 88240
(575) 393-3117 www.jwsc.biz
TBPLS# 10021000

BTA OIL PRODUCERS, LLC

SURVEY FOR AN ACCESS ROAD TO THE HARROUN RANCH 20702 20-17 FEDERAL COM #8H & #9H PAD CROSSING SECTION 20, TOWNSHIP 23 SOUTH, RANGE 29 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

Survey Date: 12/09/19	CAD Date: 3/17/2020	Drawn By: ACK
W.O. No.: 20130174	Rev: .	Rel. W.O.: 19111293	Sheet 1 of 1