Form 3160-3
(June 2015)

HOBBS OCD
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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.
NMNM138893

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.
GIPPLE FED COM
134H (326772)

2. Name of Operator
TAP ROCK OPERATING LLC

9. API Well No.
30-025-46669

3a. Address
602 Park Point Drive Suite 200 Golden CO 80401

3b. Phone No. *(include area code)*
(720)460-3316

10. Field and Pool, or Exploratory 98294
~~WC-025 G-09 S243532M / WOLFBONE~~

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface SESE / 175 FSL / 695 FEL / LAT 32.1672082 / LONG -103.3661545
At proposed prod. zone NENE / 5 FNL / 660 FEL / LAT 32.1957412 / LONG -103.3660646

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 33 / T24S / R35E / NMP

14. Distance in miles and direction from nearest town or post office*
10 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)
1997 feet

16. No of acres in lease
240

17. Spacing Unit dedicated to this well
320

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

19. Proposed Depth
12110 feet / 22550 feet

20. BLM/BIA Bond No. in file
FED: NMB001443

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3283 feet

22. Approximate date work will start*
05/01/2019

23. Estimated duration
90 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)	Brian Wood / Ph: (505)466-8120	02/13/2019

Title
President

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Christopher Walls / Ph: (575)234-2234	12/30/2019
Title: Petroleum Engineer	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 01/02/20

KZ 01/02/20

SL

APPROVED WITH CONDITIONS

Approval Date: 12/30/2019

(Continued on page 2)

*(Instructions on page 2)

AFMSS

Application for Permit to Drill

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

APD Package Report

Date Printed: 12/31/2019 10:09 AM

APD ID: 10400038973	Well Status: AAPD
APD Received Date: 02/13/2019 11:36 AM	Well Name: GIPPLE FED COM
Operator: TAP ROCK OPERATING LLC	Well Number: 134H

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: 1 file(s)
  -- Blowout Prevention BOP Diagram Attachment: 1 file(s)
  -- Casing Taperd String Specs: 3 file(s)
  -- Casing Design Assumptions and Worksheet(s): 7 file(s)
  -- Hydrogen sulfide drilling operations plan: 1 file(s)
  -- Proposed horizontal/directional/multi-lateral plan submission: 1 file(s)
  -- Other Facets: 4 file(s)
  -- Other Variances: 1 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)
  -- Construction Materials source location attachment: 1 file(s)
  -- Well Site Layout Diagram: 1 file(s)
  -- Recontouring attachment: 2 file(s)
  -- Other SUPO Attachment: 1 file(s)

- PWD Report
- PWD Attachments

-- None

- Bond Report
- Bond Attachments
  -- None

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM I: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the wen, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionany drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service wen or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

ROUTINE USE: Information from the record and/or the record win be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM conects this information to anow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Conection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

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Additional Operator Remarks

Location of Well

1. SHL: SESE / 175 FSL / 695 FEL / TWSP: 24S / RANGE: 35E / SECTION: 33 / LAT: 32.1672082 / LONG: -103.3661545 (TVD: 0 feet, MD: 0 feet)

   PPP: SESE / 426 FSL / 660 FEL / TWSP: 24S / RANGE: 35E / SECTION: 33 / LAT: 32.1678955 / LONG: -103.3660479 (TVD: 12249 feet, MD: 12413 feet)

   PPP: NENE / 1320 FNL / 660 FEL / TWSP: 24S / RANGE: 35E / SECTION: 33 / LAT: 32.177674 / LONG: -103.366089 (TVD: 12228 feet, MD: 15977 feet)

   PPP: SENE / 2640 FNL / 660 FEL / TWSP: 24S / RANGE: 35E / SECTION: 28 / LAT: 32.18853 / LONG: -103.36603 (TVD: 12156 feet, MD: 19925 feet)

   BHL: NENE / 5 FNL / 660 FEL / TWSP: 24S / RANGE: 35E / SECTION: 28 / LAT: 32.1957412 / LONG: -103.3660646 (TVD: 12110 feet, MD: 22550 feet)

BLM Point of Contact

Name: Priscilla Perez

Title: Legal Instruments Examiner

Phone: 5752345934

Email: pperez@blm.gov

Approval Date: 12/30/2019

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:	**Tap Rock Operating LLC**
LEASE NO.:	**NMNM138893**
WELL NAME & NO.:	Gipple Fed Com 134H
SURFACE HOLE FOOTAGE:	175'/S & 695'/E
BOTTOM HOLE FOOTAGE	5'/N & 660'/E
LOCATION:	Section 33, T.24 S., R.35 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

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

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

Approval Date: 12/30/2019

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 minimum required fill of cement behind the **9-5/8** inch intermediate casing shall be set at approximately **5022 feet** is:

- Cement to surface. If cement does not circulate see B.1.a, c-d above.

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

3. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:

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

4. The minimum required fill of cement behind the 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.

Option 1:

a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.

b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** inch intermediate casing shoe shall be **3000 (3M)** psi.

c. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **7-5/8** inch intermediate casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

Option 2:

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

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

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the 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.

AFMSS

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

ator Certification Data Report

12/31/2019

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: Brian Wood **Signed on:** 02/13/2019

Title: President

Street Address: 37 Verano Looop

City: Santa Fe **State:** NM **Zip:** 87508

Phone: (505)466-8120

Email address: afmss@permitswest.com

Field Representative

Representative Name:

Street Address:

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

Phone:

Email address:

AFMSS

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

Application Data Report
12/31/2019

APD ID: 10400038973 **Submission Date:** 02/13/2019

Operator Name: TAP ROCK OPERATING LLC

Well Name: GIPPLE FED COM **Well Number:** 134H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400038973 **Tie to previous NOS?** N **Submission Date:** 02/13/2019

BLM Office: CARLSBAD **User:** Brian Wood **Title:** President

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

Lease number: NMNM138893 **Lease Acres:** 240

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

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

Agreement number:

Agreement name:

Keep application confidential? NO

Permitting Agent? YES **APD Operator:** TAP ROCK OPERATING LLC

Operator letter of designation:

Operator Info

Operator Organization Name: TAP ROCK OPERATING LLC

Operator Address: 602 Park Point Drive Suite 200 **Zip:** 80401

Operator PO Box:

Operator City: Golden **State:** CO

Operator Phone: (720)460-3316

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: GIPPLE FED COM **Well Number:** 134H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** WC-025 G-09 S243532M **Pool Name:** WOLFBONE

Is the proposed well in an area containing other mineral resources? USEABLE WATER

Operator Name: TAP ROCK OPERATING LLC

Well Name: GIPPLE FED COM **Well Number:** 134H

Is the proposed well in an area containing other mineral resources? USEABLE WATER

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:** GIPPLE **Number:** 134H

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

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 10 Miles **Distance to nearest well:** 25 FT **Distance to lease line:** 1997 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: Gipple_134H_C102_etal_v2_100919_20191011085751.pdf

Well work start Date: 05/01/2019 **Duration:** 90 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 18329 **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	175	FSL	695	FEL	24S	35E	33	Aliquot SESE	32.1672082	-103.3661545	LEA	NEW MEXICO	NEW MEXICO	F	FEE	3283	0	0	
KOP Leg #1	50	FSL	660	FEL	24S	35E	33	Aliquot SESE	32.1668632	-103.3660412	LEA	NEW MEXICO	NEW MEXICO	F	FEE	-8428	11714	11711	
PPP Leg #1-1	2640	FNL	660	FEL	24S	35E	28	Aliquot SENE	32.18853	-103.36603	LEA	NEW MEXICO	NEW MEXICO	F	FEE	-8873	19925	12156	

Operator Name: TAP ROCK OPERATING LLC

Well Name: GIPPLE FED COM **Well Number:** 134H

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?
PPP Leg #1-2	1320	FNL	660	FEL	24S	35E	33	Aliquot NENE	32.177674	-103.366089	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 138893	-8945	15977	12228	
PPP Leg #1-3	426	FSL	660	FEL	24S	35E	33	Aliquot SESE	32.167895 5	-103.366 0479	LEA	NEW MEXICO	NEW MEXICO	F	FEE	-8966	12413	12249	
EXIT Leg #1	5	FNL	660	FEL	24S	35E	28	Aliquot NENE	32.195741 2	-103.366 0646	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 138889	-8827	22550	12110	
BHL Leg #1	5	FNL	660	FEL	24S	35E	28	Aliquot NENE	32.195741 2	-103.366 0646	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 138889	-8827	22550	12110	

APD ID: 10400038973 **Submission Date:** 02/13/2019

Operator Name: TAP ROCK OPERATING LLC

Well Name: GIPPLE FED COM **Well Number:** 134H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
393925	QUATERNARY	3283	0	0	OTHER : Caliche	OTHER, USEABLE WATER : Salt	N
393926	RUSTLER ANHYDRITE	2344	939	939		OTHER, USEABLE WATER : Salt	N
393927	TOP SALT	2094	1189	1189		OTHER : Salt	N
393929	BASE OF SALT	-1681	4964	4967		OTHER : Salt	N
393928	DELAWARE	-1986	5269	5272	OTHER : Mountain Grp	OTHER : Salt	N
393939	BELL CANYON	-2016	5299	5302		NATURAL GAS, OIL	N
393940	RAMSEY SAND	-2041	5324	5327		NATURAL GAS, OIL	N
393941	CHERRY CANYON	-2981	6264	6267		NATURAL GAS, OIL	N
393942	BRUSHY CANYON	-4501	7784	7787		NATURAL GAS, OIL	N
393943	BONE SPRING LIME	-5756	9039	9042	LIMESTONE	NATURAL GAS, OIL	N
393944	BONE SPRING 1ST	-7016	10299	10302	SANDSTONE	NATURAL GAS, OIL	N
393945	BONE SPRING 2ND	-7451	10734	10737	SANDSTONE	OIL	N
393946	BONE SPRING 3RD	-8843	12126	12178	SANDSTONE	NATURAL GAS, OIL	N
393947	BONE SPRING 3RD	-8966	12249	12413	OTHER, SANDSTONE : W	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: TAP ROCK OPERATING LLC

Well Name: GIPPLE FED COM **Well Number:** 134H

Pressure Rating (PSI): 10M **Rating Depth:** 13000

Equipment: The BOP will be utilized below surface casing to TD. See attachments for BOP and choke manifold diagrams. Also present will be an accumulator that meets the requirements of Onshore Order #2 for the pressure rating of the BOP stack. A rotating head will also be installed as needed. BOP will be inspected and operated as recommended in Onshore Order #2. A top drive check valve and sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position. The wellhead will be a multi-bowl speed head.
Requesting Variance? YES

Variance request: Tap Rock requests a variance to drill this well using a co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached. The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used.
Testing Procedure: After surface casing is set and the BOP is nippled up, the BOP pressure tests will be made with a third party tester to 250 psi low, 5000 psi high, and the annular preventer will be tested to 2,500 psi. The BOP will be tested in this manner after nipple-up if any break of the stack occurs. Before drilling out from 7.625" casing shoe, the BOP pressure tests will be made with a third party tester to 250 psi low, 10,000 psi high, and the annular preventer will be tested to 5,000 psi. The BOP will be tested in this manner if passage of allotted time occurs. Casing Test procedure: Casing will be tested to .22 psi per foot of casing length or 1500 psi, whichever is greater, but not to exceed 70% of minimum internal yield. Surface casing will be set through the Rustler. Intermediate 1 will be set in the Delaware Mountain Group. Intermediate 2 will be set in the 3rd BS Production will be set in the 3rd Bone W Sand
Choke Diagram Attachment:

Gipple_134H_10M_Choke_100418_20190208102202.pdf

BOP Diagram Attachment:

10M_BOP_Stack_5M_Annular_Preventer_20191218082149.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	1000	0	1000	3283		1000	J-55	54.5	BUTT	1.13	1.15	DRY	1.51	DRY	1.51
2	INTERMEDIATE	8.75	7.625	NEW	API	N	0	4725	0	4722	3283		4725	P-110	29.7	BUTT	1.13	1.15	DRY	1.51	DRY	1.51
3	INTERMEDIATE	12.25	9.625	NEW	API	N	0	5025	0	5022	3283		5025	J-55	40	BUTT	1.13	1.15	DRY	1.51	DRY	1.51
4	PRODUCTION	6.75	5.5	NEW	API	N	0	11400	0	11396	3283		11400	P-110	20	OTHER - TXP	1.13	1.15	DRY	1.51	DRY	1.51
5	INTERMEDIATE	8.75	7.625	NEW	API	Y	4725	11600	4722	11596			6875	P-110	29.7	OTHER - W-513	1.13	1.15	DRY	1.51	DRY	1.51
6	PRODUCTION	6.75	5.0	NEW	API	Y	11400	22550	11396	12110			11150	P-110	18	OTHER - W-521	1.13	1.15	DRY	1.51	DRY	1.51

Operator Name: TAP ROCK OPERATING LLC

Well Name: GIPPLE FED COM **Well Number:** 134H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Gipple_134H_Casing_Design_Assumptions_20190208103453.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Gipple_134H_Casing_Design_Assumptions_20190208103738.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Gipple_134H_Casing_Design_Assumptions_20190208103618.pdf

Operator Name: TAP ROCK OPERATING LLC

Well Name: GIPPLE FED COM **Well Number:** 134H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Gipple_134H_5.5in_Casing_Spec_20190208103942.PDF

Casing Design Assumptions and Worksheet(s):

Gipple_134H_Casing_Design_Assumptions_20190208104145.pdf

Gipple_134H_5.5in_Casing_Spec_20191218083500.PDF

Casing ID: 5 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Gipple_134H_7.625_FlushP110_Casing_Spec_20191218083255.pdf

Casing Design Assumptions and Worksheet(s):

Gipple_134H_Casing_Design_Assumptions_20190208103848.pdf

Casing ID: 6 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Gipple_134H_5in_Casing_Spec_20190208104059.pdf

Casing Design Assumptions and Worksheet(s):

Gipple_134H_Casing_Design_Assumptions_20190208104124.pdf

Section 4 - Cement

Operator Name: TAP ROCK OPERATING LLC

Well Name: GIPPLE FED COM **Well Number:** 134H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Lead		0	0	0	0	0	0	0	None	None
SURFACE	Lead		0	1000	0	0	0	0	0	None	None
SURFACE	Tail		0	1000	1029	1.35	14.8	1389	100	Class C	5% NCI + LCM
INTERMEDIATE	Lead		0	4020	953	2.18	12.7	2077	65	Class C	Bentonite + 1% CaCl2+8% NaCl+LCM
INTERMEDIATE	Tail		4020	5025	390	1.33	14.8	519	65	Class C	5% NaCl + LCM
INTERMEDIATE	Lead		4725	10600	278	2.87	11.5	797	35	TXI	Fluid loss + Dispersant + Retarder + LCM
INTERMEDIATE	Tail		10600	11600	107	1.27	15	136	35	H	Fluid Loss + Dispersant + Retarder + LCM
PRODUCTION	Lead		10900	22550	0	0	0	0	0	None	None
PRODUCTION	Tail		10900	22550	955	1.71	14.2	1633	25	Class H	Fluid Loss + Dispersant + Retarder + LCM
PRODUCTION	Lead		10900	22550	0	0	0	0	0	None	None

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: All necessary mud products for weight addition and fluid loss control will be on location at all times. Mud program subject to change due to hole conditions.

Describe the mud monitoring system utilized: The Mud Monitoring System is an electronic Pason system satisfying requirements of Onshore Order 1.

Circulating Medium Table

Operator Name: TAP ROCK OPERATING LLC

Well Name: GIPPLE FED COM **Well Number:** 134H

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	1000	OTHER : Fresh water spud mud	8.3	8.3							
5025	11600	OTHER : Fresh water & cut brine	9	9							
1000	5025	OTHER : Brine water	10	10							
11600	22550	OIL-BASED MUD	12.5	12.5							

Section 6 - Test, Logging, Coring

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

Electric Logging Program: No open-hole logs are planned at this time for the pilot hole. GR will be collected while drilling through the MWD tools from intermediate casing to TD.

CBL w/ CCL from as far as gravity will let it fall to TOC.

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

CBL,GR

Coring operation description for the well:

No DSTs or cores are planned at this time.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 7980 **Anticipated Surface Pressure:** 5285.21

Anticipated Bottom Hole Temperature(F): 170

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:

Gipple_H2S_Plan_20190208113312.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Gipple_134H_Horizontal_Plan_20190208113526.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Gipple_134H_Speedhead_Specs_100918_20190208113703.pdf
Well_Control_Plan_10M_BOP_5M_Annular_20191011085608.pdf
CoFlex_Certs_20191218085458.pdf
Gipple_134H_Drill_Plan_REVISED_121619_20191218085512.pdf

Other Variance attachment:

Gipple_134H_Casing_Variance_Request_20190208114145.pdf

TAP ROCK

Hydrogen Sulfide Drilling

Operations Plan

Tap Rock Resources

1 H2S safety instructions to the following:

- Characteristics of H2S
- Physical effects and hazards
- Principal and operation of H2S detectors, warning system and briefing areas
- Evacuation procedures, routes and first aid
- Proper use of safety equipment & life support systems
- Essential personnel meeting medical evaluation criteria will receive additional training on the proper use of 30min pressure demand air packs

2 H2S Detection and Alarm Systems:

- H2S sensor/detectors to be located on the drilling rig floor, in the base of the sub structure / cellar area, on the mud pits in the shale shaker area. Additional H2S detectors may be placed as deemed necessary
- An audio alarm system will be installed on the derrick floor and in the doghouse

3 Windsocks and / Wind Streamers:

- Windsocks at mud pit area should be high enough to be visible
- Windsock on the rig floor and / top of doghouse should be high enough to be visible

4 Condition Flags and Signs:

- Warning sign on access road to location
- Flags to be displayed on sign at entrance to location
    - Green Flag – Normal Safe Operation Condition
    - Yellow Flag – Potential Pressure and Danger
    - Red Flag – Danger (H2S present in dangerous concentrations) Only H2S trained personnel admitted on location

5 Well Control Equipment:

- See Drilling Operations Plan Schematics

6 Communication:

- While working under masks chalkboards will be used for communications
- Hand signals will be used where chalk board is inappropriate
- Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.

7 Drilling Stem Testing:

- No DST cores are planned at this time

8 Drilling contractor supervisor will be required to be familiar with the effects H2S has on tubulars good and other mechanical equipment

9 If H2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H2S scavengers if necessary

11 Emergency Contacts

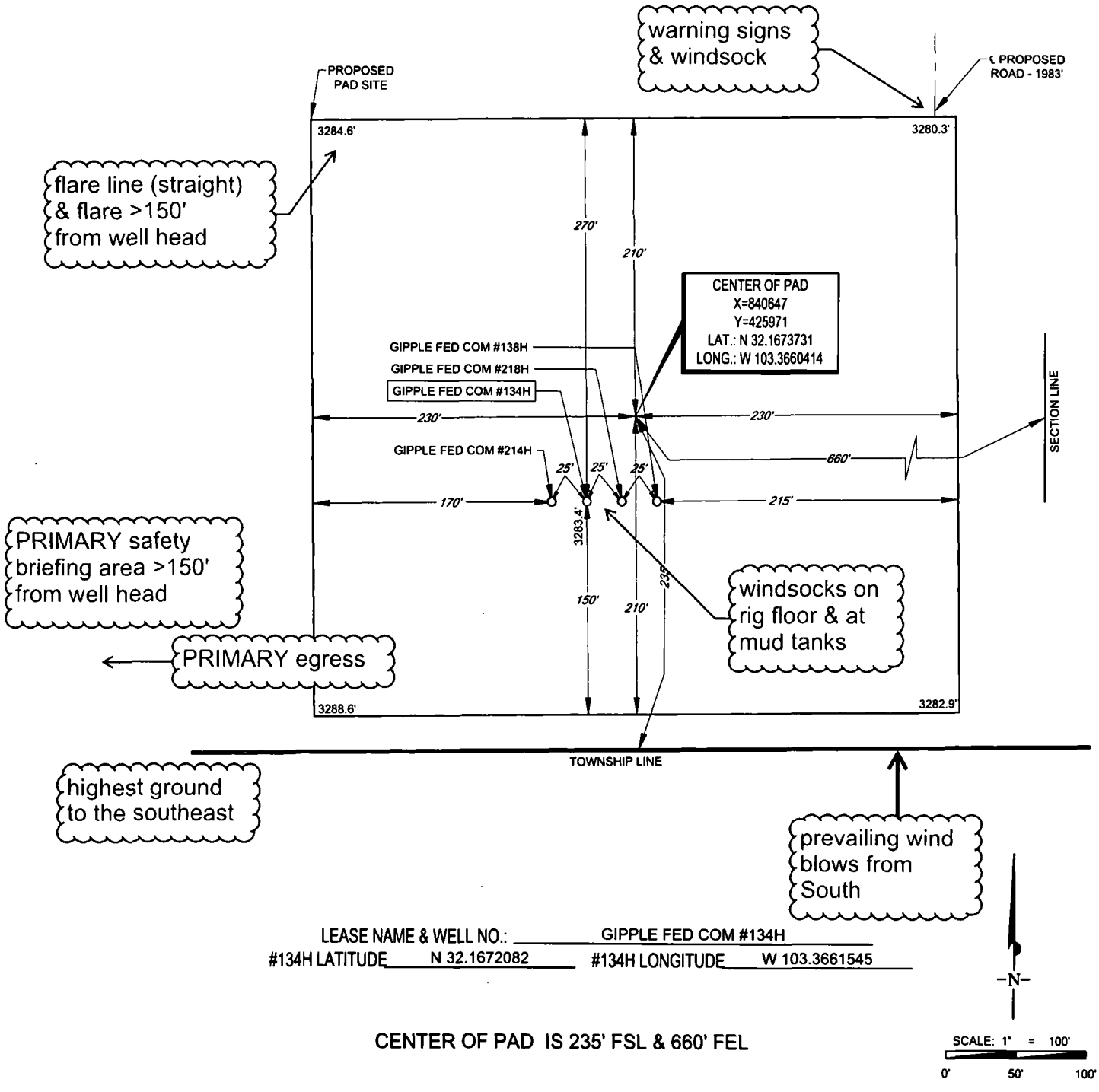
Emergency Contacts		
Carlsbad Police Department	575.887.7551	911
Carlsbad Medical Center	575.887.4100	911
Eddy County Fire Service	575.628.5450	911
Eddy County Sherriff	575.887.7551	911
Lea County Fire Service	575.391.2983	911
Lea County Sherriff	575.396.3611	911
Jal Police Department	575.395.2121	911
Jal Fire Department	575.395.2221	911
Tap Rock - Doug Sproul - Drilling	303-653-3518	

EXHIBIT 2B

TAP ROCK

SECTION 33, TOWNSHIP 24-S, RANGE 35-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

DETAIL VIEW
SCALE: 1" = 100'



LEASE NAME & WELL NO.: GIPPLE FED COM #134H

#134H LATITUDE N 32.1672082 #134H LONGITUDE W 103.3661545

CENTER OF PAD IS 235' FSL & 660' FEL

-N-

SCALE: 1" = 100'

0' 50' 100'

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.

THIS PROPOSED PAD SITE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY TAP ROCK OPERATING, LLC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

ORIGINAL DOCUMENT SIZE: 8.5" X 11"

Tap Rock Operating, LLC

Gipple Fed Com
134H, 138H, 214H, 218H
H2S Contingency Plan:
Radius Map

Section 33, Township 24S, Range 35E
Lea County, New Mexico

Proposed SHL

1:27,000

0 0.25 0.5 1

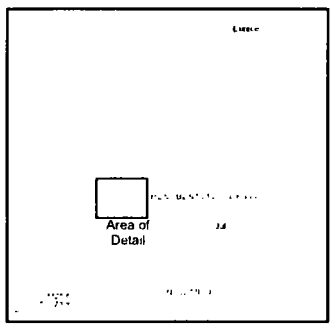
Miles

N

NAD 1983 New Mexico State Plane East
FIPS 3001 Feet

PERMITS WEST, Inc.

Prepared by Permits West, Inc., February 6, 2019
for Tap Rock Operating, LLC



TAP ROCK

PRODIRECTIONAL

Tap Rock Operating, LLC
Lea County, New Mexico (NAD 83)
Gipple Fed
134H
Plan 1
GL:3283' + KB:26.5'

US State Plane 1983
North American Datum 1983
GRS 1980
New Mexico Eastern Zone
Mean Sea Level

RKB Elevation: Well @ 3309.50usft (GL:3283' + KB:26.5')

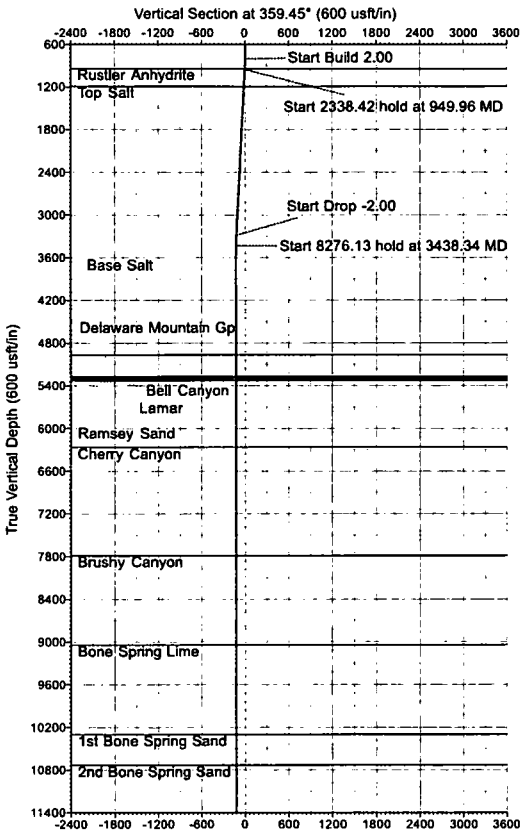
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	425910.00	840612.00	32.167208	-103.366155	

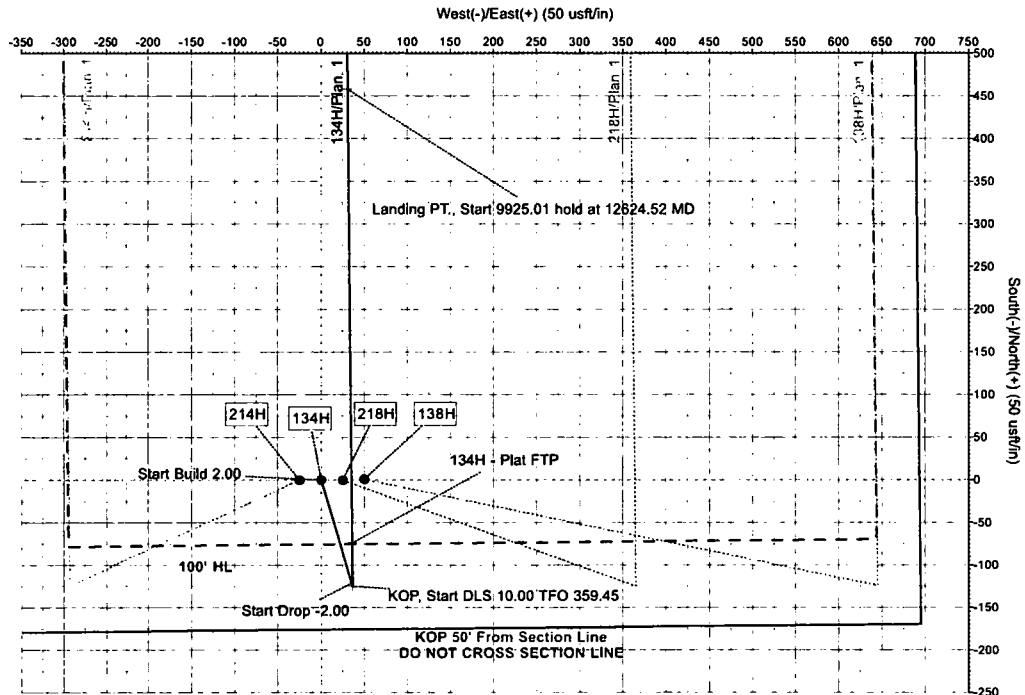
SECTION DETAILS

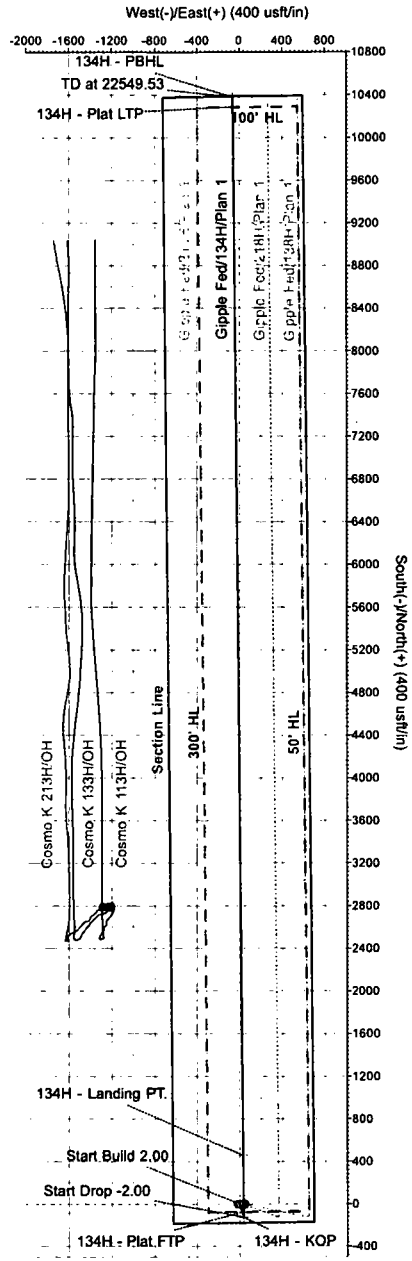
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00
3	949.96	3.00	163.76	949.89	-3.77	1.10	2.00	-3.78
4	3288.38	3.00	163.76	3285.11	-121.23	35.32	0.00	-121.57
5	3438.34	0.00	0.00	3435.00	-125.00	36.42	2.00	-125.34
6	11714.47	0.00	0.00	11711.13	-125.00	36.42	0.00	-125.34
7	12624.52	91.00	359.45	12284.00	457.98	30.79	10.00	457.66
8	22549.53	91.00	359.45	12110.00	10381.00	-65.00	0.00	10381.15

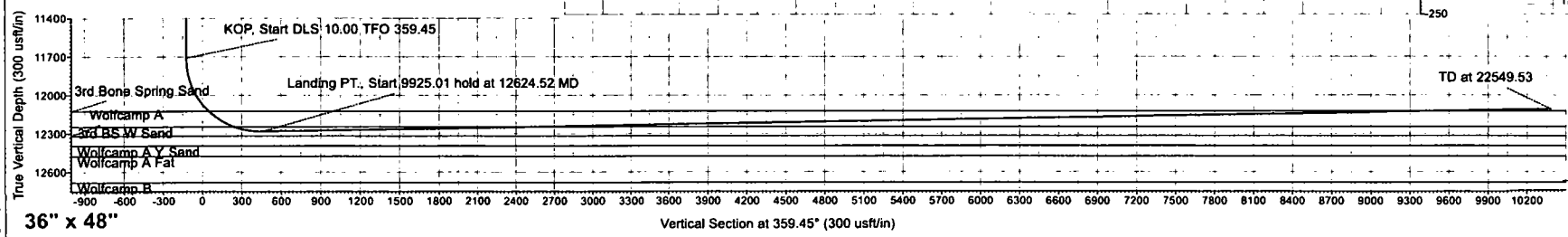
TARGET DETAILS

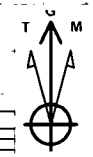
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
134H - Plat FTP	0.00	-74.00	36.00	425836.00	840648.00	Point
134H - Plat LTP	0.00	10286.00	-64.00	436196.00	840548.00	Point
134H - KOP	11711.13	-125.00	36.42	425785.00	840648.42	Point
134H - PBHL	12110.00	10381.00	-65.00	436291.00	840547.00	Point
134H - Landing PT.	12284.00	457.98	30.79	426367.98	840642.79	Point











Azimuths to Grid North
True North: -0.52°
Magnetic North: 6.12°

Magnetic Field
Strength: 47895.6nT
Dip Angle: 59.92°
Date: 1/18/2019
Model: HDGM

Azimuth Corrections
Total Magnetic Corr. (M to G): 6.12°
Declination (M to T): 6.63° East

36" x 48"

Tap Rock Operating, LLC

Lea County, New Mexico (NAD 83)
Gipple Fed
134H

OH

Plan: Plan 1

Standard Survey Report

16 January, 2019

PRODIRECTIONAL

Company:	Tap Rock Operating, LLC	**Local Co-ordinate Reference:**	Well 134H
Project:	Lea County, New Mexico (NAD 83)	**TVD Reference:**	Well @ 3309.50usft (GL:3283' + KB:26.5')
Site:	Gipple Fed	**MD Reference:**	Well @ 3309.50usft (GL:3283' + KB:26.5')
Well:	134H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 1	**Database:**	WellPlanner1

Project	Lea County, New Mexico (NAD 83)		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Gipple Fed				
Site Position:		**Northing:**	425,910.00 usft	**Latitude:**	32.167208
From:	Map	**Easting:**	840,612.00 usft	**Longitude:**	-103.366156
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.51 °

Well	134H					
Well Position	**+N/-S**	0.00 usft	**Northing:**	425,910.00 usft	**Latitude:**	32.167208
	+E/-W	0.00 usft	**Easting:**	840,612.00 usft	**Longitude:**	-103.366156
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,283.00 usft

Wellbore	OH				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	HDGM	1/16/2019	6.63	59.82	47,895.60

Design	Plan 1				
Audit Notes:					
Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.00	0.00	0.00	359.45	

Survey Tool Program **Date** 1/16/2019

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	3,400.00	Plan 1 (OH)	MWD+HDGM	OWSG MWD + HRGM
3,400.00	11,700.00	Plan 1 (OH)	MWD+HDGM	OWSG MWD + HRGM
11,700.00	22,549.53	Plan 1 (OH)	MWD+HDGM	OWSG MWD + HRGM

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00

Company:	Tap Rock Operating, LLC	**Local Co-ordinate Reference:**	Well 134H
Project:	Lea County, New Mexico (NAD 83)	**TVD Reference:**	Well @ 3309.50usft (GL:3283' + KB:26.5')
Site:	Gipple Fed	**MD Reference:**	Well @ 3309.50usft (GL:3283' + KB:26.5')
Well:	134H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 1	**Database:**	WellPlanner1

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Start Build 2.00									
900.00	2.00	163.76	899.98	-1.68	0.49	-1.68	2.00	2.00	0.00
939.05	2.78	163.76	939.00	-3.24	0.94	-3.25	2.00	2.00	0.00
Rustler Anhydrite									
949.96	3.00	163.76	949.89	-3.77	1.10	-3.78	2.00	2.00	0.00
Start 2338.42 hold at 949.96 MD									
1,000.00	3.00	163.76	999.86	-6.28	1.83	-6.30	0.00	0.00	0.00
1,100.00	3.00	163.76	1,099.73	-11.30	3.29	-11.34	0.00	0.00	0.00
1,189.40	3.00	163.76	1,189.00	-15.79	4.60	-15.84	0.00	0.00	0.00
Top Salt									
1,200.00	3.00	163.76	1,199.59	-16.33	4.76	-16.37	0.00	0.00	0.00
1,300.00	3.00	163.76	1,299.45	-21.35	6.22	-21.41	0.00	0.00	0.00
1,400.00	3.00	163.76	1,399.32	-26.37	7.68	-26.45	0.00	0.00	0.00
1,500.00	3.00	163.76	1,499.18	-31.40	9.15	-31.48	0.00	0.00	0.00
1,600.00	3.00	163.76	1,599.04	-36.42	10.61	-36.52	0.00	0.00	0.00
1,700.00	3.00	163.76	1,698.90	-41.44	12.08	-41.56	0.00	0.00	0.00
1,800.00	3.00	163.76	1,798.77	-46.47	13.54	-46.60	0.00	0.00	0.00
1,900.00	3.00	163.76	1,898.63	-51.49	15.00	-51.63	0.00	0.00	0.00
2,000.00	3.00	163.76	1,998.49	-56.51	16.47	-56.67	0.00	0.00	0.00
2,100.00	3.00	163.76	2,098.36	-61.54	17.93	-61.71	0.00	0.00	0.00
2,200.00	3.00	163.76	2,198.22	-66.56	19.39	-66.74	0.00	0.00	0.00
2,300.00	3.00	163.76	2,298.08	-71.58	20.86	-71.78	0.00	0.00	0.00
2,400.00	3.00	163.76	2,397.95	-76.61	22.32	-76.82	0.00	0.00	0.00
2,500.00	3.00	163.76	2,497.81	-81.63	23.78	-81.85	0.00	0.00	0.00
2,600.00	3.00	163.76	2,597.67	-86.65	25.25	-86.89	0.00	0.00	0.00
2,700.00	3.00	163.76	2,697.53	-91.68	26.71	-91.93	0.00	0.00	0.00
2,800.00	3.00	163.76	2,797.40	-96.70	28.17	-96.97	0.00	0.00	0.00
2,900.00	3.00	163.76	2,897.26	-101.72	29.64	-102.00	0.00	0.00	0.00
3,000.00	3.00	163.76	2,997.12	-106.75	31.10	-107.04	0.00	0.00	0.00
3,100.00	3.00	163.76	3,096.99	-111.77	32.57	-112.08	0.00	0.00	0.00
3,200.00	3.00	163.76	3,196.85	-116.79	34.03	-117.11	0.00	0.00	0.00
3,288.38	3.00	163.76	3,285.11	-121.23	35.32	-121.57	0.00	0.00	0.00
Start Drop -2.00									
3,300.00	2.77	163.76	3,296.71	-121.79	35.49	-122.13	2.00	-2.00	0.00
3,400.00	0.77	163.76	3,396.66	-124.75	36.35	-125.10	2.00	-2.00	0.00
3,438.34	0.00	0.00	3,435.00	-125.00	36.42	-125.34	2.00	-2.00	0.00
Start 8276.13 hold at 3438.34 MD									
3,500.00	0.00	0.00	3,496.66	-125.00	36.42	-125.34	0.00	0.00	0.00
3,600.00	0.00	0.00	3,596.66	-125.00	36.42	-125.34	0.00	0.00	0.00
3,700.00	0.00	0.00	3,696.66	-125.00	36.42	-125.34	0.00	0.00	0.00
3,800.00	0.00	0.00	3,796.66	-125.00	36.42	-125.34	0.00	0.00	0.00
3,900.00	0.00	0.00	3,896.66	-125.00	36.42	-125.34	0.00	0.00	0.00
4,000.00	0.00	0.00	3,996.66	-125.00	36.42	-125.34	0.00	0.00	0.00
4,100.00	0.00	0.00	4,096.66	-125.00	36.42	-125.34	0.00	0.00	0.00

Company:	Tap Rock Operating, LLC	**Local Co-ordinate Reference:**	Well 134H
Project:	Lea County, New Mexico (NAD 83)	**TVD Reference:**	Well @ 3309.50usft (GL:3283' + KB:26.5')
Site:	Gipple Fed	**MD Reference:**	Well @ 3309.50usft (GL:3283' + KB:26.5')
Well:	134H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 1	**Database:**	WellPlanner1

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,200.00	0.00	0.00	4,196.66	-125.00	36.42	-125.34	0.00	0.00	0.00
4,300.00	0.00	0.00	4,296.66	-125.00	36.42	-125.34	0.00	0.00	0.00
4,400.00	0.00	0.00	4,396.66	-125.00	36.42	-125.34	0.00	0.00	0.00
4,500.00	0.00	0.00	4,496.66	-125.00	36.42	-125.34	0.00	0.00	0.00
4,600.00	0.00	0.00	4,596.66	-125.00	36.42	-125.34	0.00	0.00	0.00
4,700.00	0.00	0.00	4,696.66	-125.00	36.42	-125.34	0.00	0.00	0.00
4,800.00	0.00	0.00	4,796.66	-125.00	36.42	-125.34	0.00	0.00	0.00
4,900.00	0.00	0.00	4,896.66	-125.00	36.42	-125.34	0.00	0.00	0.00
4,967.34	0.00	0.00	4,964.00	-125.00	36.42	-125.34	0.00	0.00	0.00
Base Salt									
5,000.00	0.00	0.00	4,996.66	-125.00	36.42	-125.34	0.00	0.00	0.00
5,100.00	0.00	0.00	5,096.66	-125.00	36.42	-125.34	0.00	0.00	0.00
5,200.00	0.00	0.00	5,196.66	-125.00	36.42	-125.34	0.00	0.00	0.00
5,272.34	0.00	0.00	5,269.00	-125.00	36.42	-125.34	0.00	0.00	0.00
Delaware Mountain Gp									
5,300.00	0.00	0.00	5,296.66	-125.00	36.42	-125.34	0.00	0.00	0.00
5,302.34	0.00	0.00	5,299.00	-125.00	36.42	-125.34	0.00	0.00	0.00
Bell Canyon - Lamar									
5,327.34	0.00	0.00	5,324.00	-125.00	36.42	-125.34	0.00	0.00	0.00
Ramsey Sand									
5,400.00	0.00	0.00	5,396.66	-125.00	36.42	-125.34	0.00	0.00	0.00
5,500.00	0.00	0.00	5,496.66	-125.00	36.42	-125.34	0.00	0.00	0.00
5,600.00	0.00	0.00	5,596.66	-125.00	36.42	-125.34	0.00	0.00	0.00
5,700.00	0.00	0.00	5,696.66	-125.00	36.42	-125.34	0.00	0.00	0.00
5,800.00	0.00	0.00	5,796.66	-125.00	36.42	-125.34	0.00	0.00	0.00
5,900.00	0.00	0.00	5,896.66	-125.00	36.42	-125.34	0.00	0.00	0.00
6,000.00	0.00	0.00	5,996.66	-125.00	36.42	-125.34	0.00	0.00	0.00
6,100.00	0.00	0.00	6,096.66	-125.00	36.42	-125.34	0.00	0.00	0.00
6,200.00	0.00	0.00	6,196.66	-125.00	36.42	-125.34	0.00	0.00	0.00
6,267.34	0.00	0.00	6,264.00	-125.00	36.42	-125.34	0.00	0.00	0.00
Cherry Canyon									
6,300.00	0.00	0.00	6,296.66	-125.00	36.42	-125.34	0.00	0.00	0.00
6,400.00	0.00	0.00	6,396.66	-125.00	36.42	-125.34	0.00	0.00	0.00
6,500.00	0.00	0.00	6,496.66	-125.00	36.42	-125.34	0.00	0.00	0.00
6,600.00	0.00	0.00	6,596.66	-125.00	36.42	-125.34	0.00	0.00	0.00
6,700.00	0.00	0.00	6,696.66	-125.00	36.42	-125.34	0.00	0.00	0.00
6,800.00	0.00	0.00	6,796.66	-125.00	36.42	-125.34	0.00	0.00	0.00
6,900.00	0.00	0.00	6,896.66	-125.00	36.42	-125.34	0.00	0.00	0.00
7,000.00	0.00	0.00	6,996.66	-125.00	36.42	-125.34	0.00	0.00	0.00
7,100.00	0.00	0.00	7,096.66	-125.00	36.42	-125.34	0.00	0.00	0.00
7,200.00	0.00	0.00	7,196.66	-125.00	36.42	-125.34	0.00	0.00	0.00
7,300.00	0.00	0.00	7,296.66	-125.00	36.42	-125.34	0.00	0.00	0.00
7,400.00	0.00	0.00	7,396.66	-125.00	36.42	-125.34	0.00	0.00	0.00
7,500.00	0.00	0.00	7,496.66	-125.00	36.42	-125.34	0.00	0.00	0.00

Company:	Tap Rock Operating, LLC	**Local Co-ordinate Reference:**	Well 134H
Project:	Lea County, New Mexico (NAD 83)	**TVD Reference:**	Well @ 3309.50usft (GL:3283' + KB:26.5')
Site:	Gipple Fed	**MD Reference:**	Well @ 3309.50usft (GL:3283' + KB:26.5')
Well:	134H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 1	**Database:**	WellPlanner1

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,600.00	0.00	0.00	7,596.66	-125.00	36.42	-125.34	0.00	0.00	0.00
7,700.00	0.00	0.00	7,696.66	-125.00	36.42	-125.34	0.00	0.00	0.00
7,787.34	0.00	0.00	7,784.00	-125.00	36.42	-125.34	0.00	0.00	0.00
Brushy Canyon									
7,800.00	0.00	0.00	7,796.66	-125.00	36.42	-125.34	0.00	0.00	0.00
7,900.00	0.00	0.00	7,896.66	-125.00	36.42	-125.34	0.00	0.00	0.00
8,000.00	0.00	0.00	7,996.66	-125.00	36.42	-125.34	0.00	0.00	0.00
8,100.00	0.00	0.00	8,096.66	-125.00	36.42	-125.34	0.00	0.00	0.00
8,200.00	0.00	0.00	8,196.66	-125.00	36.42	-125.34	0.00	0.00	0.00
8,300.00	0.00	0.00	8,296.66	-125.00	36.42	-125.34	0.00	0.00	0.00
8,400.00	0.00	0.00	8,396.66	-125.00	36.42	-125.34	0.00	0.00	0.00
8,500.00	0.00	0.00	8,496.66	-125.00	36.42	-125.34	0.00	0.00	0.00
8,600.00	0.00	0.00	8,596.66	-125.00	36.42	-125.34	0.00	0.00	0.00
8,700.00	0.00	0.00	8,696.66	-125.00	36.42	-125.34	0.00	0.00	0.00
8,800.00	0.00	0.00	8,796.66	-125.00	36.42	-125.34	0.00	0.00	0.00
8,900.00	0.00	0.00	8,896.66	-125.00	36.42	-125.34	0.00	0.00	0.00
9,000.00	0.00	0.00	8,996.66	-125.00	36.42	-125.34	0.00	0.00	0.00
9,042.34	0.00	0.00	9,039.00	-125.00	36.42	-125.34	0.00	0.00	0.00
Bone Spring Lime									
9,100.00	0.00	0.00	9,096.66	-125.00	36.42	-125.34	0.00	0.00	0.00
9,200.00	0.00	0.00	9,196.66	-125.00	36.42	-125.34	0.00	0.00	0.00
9,300.00	0.00	0.00	9,296.66	-125.00	36.42	-125.34	0.00	0.00	0.00
9,400.00	0.00	0.00	9,396.66	-125.00	36.42	-125.34	0.00	0.00	0.00
9,500.00	0.00	0.00	9,496.66	-125.00	36.42	-125.34	0.00	0.00	0.00
9,600.00	0.00	0.00	9,596.66	-125.00	36.42	-125.34	0.00	0.00	0.00
9,700.00	0.00	0.00	9,696.66	-125.00	36.42	-125.34	0.00	0.00	0.00
9,800.00	0.00	0.00	9,796.66	-125.00	36.42	-125.34	0.00	0.00	0.00
9,900.00	0.00	0.00	9,896.66	-125.00	36.42	-125.34	0.00	0.00	0.00
10,000.00	0.00	0.00	9,996.66	-125.00	36.42	-125.34	0.00	0.00	0.00
10,100.00	0.00	0.00	10,096.66	-125.00	36.42	-125.34	0.00	0.00	0.00
10,200.00	0.00	0.00	10,196.66	-125.00	36.42	-125.34	0.00	0.00	0.00
10,300.00	0.00	0.00	10,296.66	-125.00	36.42	-125.34	0.00	0.00	0.00
10,302.34	0.00	0.00	10,299.00	-125.00	36.42	-125.34	0.00	0.00	0.00
1st Bone Spring Sand									
10,400.00	0.00	0.00	10,396.66	-125.00	36.42	-125.34	0.00	0.00	0.00
10,500.00	0.00	0.00	10,496.66	-125.00	36.42	-125.34	0.00	0.00	0.00
10,600.00	0.00	0.00	10,596.66	-125.00	36.42	-125.34	0.00	0.00	0.00
10,700.00	0.00	0.00	10,696.66	-125.00	36.42	-125.34	0.00	0.00	0.00
10,737.34	0.00	0.00	10,734.00	-125.00	36.42	-125.34	0.00	0.00	0.00
2nd Bone Spring Sand									
10,800.00	0.00	0.00	10,796.66	-125.00	36.42	-125.34	0.00	0.00	0.00
10,900.00	0.00	0.00	10,896.66	-125.00	36.42	-125.34	0.00	0.00	0.00
11,000.00	0.00	0.00	10,996.66	-125.00	36.42	-125.34	0.00	0.00	0.00
11,100.00	0.00	0.00	11,096.66	-125.00	36.42	-125.34	0.00	0.00	0.00

Company:	Tap Rock Operating, LLC	**Local Co-ordinate Reference:**	Well 134H
Project:	Lea County, New Mexico (NAD 83)	**TVD Reference:**	Well @ 3309.50usft (GL:3283' + KB:26.5')
Site:	Gipple Fed	**MD Reference:**	Well @ 3309.50usft (GL:3283' + KB:26.5')
Well:	134H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 1	**Database:**	WellPlanner1

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,200.00	0.00	0.00	11,196.66	-125.00	36.42	-125.34	0.00	0.00	0.00
11,300.00	0.00	0.00	11,296.66	-125.00	36.42	-125.34	0.00	0.00	0.00
11,400.00	0.00	0.00	11,396.66	-125.00	36.42	-125.34	0.00	0.00	0.00
11,500.00	0.00	0.00	11,496.66	-125.00	36.42	-125.34	0.00	0.00	0.00
11,600.00	0.00	0.00	11,596.66	-125.00	36.42	-125.34	0.00	0.00	0.00
11,700.00	0.00	0.00	11,696.66	-125.00	36.42	-125.34	0.00	0.00	0.00
11,714.47	0.00	0.00	11,711.13	-125.00	36.42	-125.34	0.00	0.00	0.00
KOP, Start DLS 10.00 TFO 359.45									
11,750.00	3.55	359.45	11,746.64	-123.90	36.41	-124.24	10.00	10.00	0.00
11,800.00	8.55	359.45	11,796.34	-118.63	36.36	-118.97	10.00	10.00	0.00
11,850.00	13.55	359.45	11,845.40	-109.05	36.27	-109.39	10.00	10.00	0.00
11,900.00	18.55	359.45	11,893.44	-95.22	36.13	-95.57	10.00	10.00	0.00
11,950.00	23.55	359.45	11,940.08	-77.27	35.96	-77.61	10.00	10.00	0.00
12,000.00	28.55	359.45	11,984.99	-55.32	35.75	-55.66	10.00	10.00	0.00
12,050.00	33.55	359.45	12,027.81	-29.54	35.50	-29.87	10.00	10.00	0.00
12,100.00	38.55	359.45	12,068.22	-0.12	35.21	-0.46	10.00	10.00	0.00
12,150.00	43.55	359.45	12,105.91	32.71	34.90	32.37	10.00	10.00	0.00
12,178.40	46.39	359.45	12,126.00	52.77	34.70	52.44	10.00	10.00	0.00
3rd Bone Spring Sand									
12,200.00	48.55	359.45	12,140.60	68.69	34.55	68.36	10.00	10.00	0.00
12,250.00	53.55	359.45	12,172.02	107.56	34.17	107.23	10.00	10.00	0.00
12,300.00	58.55	359.45	12,199.93	149.03	33.77	148.70	10.00	10.00	0.00
12,350.00	63.55	359.45	12,224.13	192.76	33.35	192.44	10.00	10.00	0.00
12,400.00	68.55	359.45	12,244.41	238.44	32.91	238.12	10.00	10.00	0.00
12,412.91	69.84	359.45	12,249.00	250.52	32.79	250.19	10.00	10.00	0.00
3rd BS W Sand									
12,450.00	73.55	359.45	12,260.64	285.72	32.46	285.39	10.00	10.00	0.00
12,500.00	78.55	359.45	12,272.69	334.23	31.99	333.90	10.00	10.00	0.00
12,550.00	83.55	359.45	12,280.46	383.60	31.51	383.28	10.00	10.00	0.00
12,600.00	88.55	359.45	12,283.91	433.46	31.03	433.15	10.00	10.00	0.00
12,624.52	91.00	359.45	12,284.00	457.98	30.79	457.66	10.00	10.00	0.00
Landing PT., Start 9925.01 hold at 12624.52 MD									
12,700.00	91.00	359.45	12,282.68	533.45	30.06	533.13	0.00	0.00	0.00
12,800.00	91.00	359.45	12,280.92	633.43	29.10	633.12	0.00	0.00	0.00
12,900.00	91.00	359.45	12,279.17	733.41	28.13	733.10	0.00	0.00	0.00
13,000.00	91.00	359.45	12,277.42	833.39	27.17	833.09	0.00	0.00	0.00
13,100.00	91.00	359.45	12,275.66	933.37	26.20	933.07	0.00	0.00	0.00
13,200.00	91.00	359.45	12,273.91	1,033.34	25.24	1,033.06	0.00	0.00	0.00
13,300.00	91.00	359.45	12,272.16	1,133.32	24.27	1,133.04	0.00	0.00	0.00
13,400.00	91.00	359.45	12,270.40	1,233.30	23.31	1,233.02	0.00	0.00	0.00
13,500.00	91.00	359.45	12,268.65	1,333.28	22.34	1,333.01	0.00	0.00	0.00
13,600.00	91.00	359.45	12,266.90	1,433.26	21.38	1,432.99	0.00	0.00	0.00
13,700.00	91.00	359.45	12,265.15	1,533.24	20.41	1,532.98	0.00	0.00	0.00
13,800.00	91.00	359.45	12,263.39	1,633.22	19.45	1,632.96	0.00	0.00	0.00

Company:	Tap Rock Operating, LLC	**Local Co-ordinate Reference:**	Well 134H
Project:	Lea County, New Mexico (NAD 83)	**TVD Reference:**	Well @ 3309.50usft (GL:3283' + KB:26.5')
Site:	Gipple Fed	**MD Reference:**	Well @ 3309.50usft (GL:3283' + KB:26.5')
Well:	134H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 1	**Database:**	WellPlanner1

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,900.00	91.00	359.45	12,261.64	1,733.20	18.48	1,732.95	0.00	0.00	0.00
14,000.00	91.00	359.45	12,259.89	1,833.18	17.52	1,832.93	0.00	0.00	0.00
14,100.00	91.00	359.45	12,258.13	1,933.16	16.55	1,932.92	0.00	0.00	0.00
14,200.00	91.00	359.45	12,256.38	2,033.14	15.59	2,032.90	0.00	0.00	0.00
14,300.00	91.00	359.45	12,254.63	2,133.12	14.62	2,132.89	0.00	0.00	0.00
14,400.00	91.00	359.45	12,252.87	2,233.10	13.66	2,232.87	0.00	0.00	0.00
14,500.00	91.00	359.45	12,251.12	2,333.08	12.69	2,332.86	0.00	0.00	0.00
14,600.00	91.00	359.45	12,249.37	2,433.06	11.73	2,432.84	0.00	0.00	0.00
14,700.00	91.00	359.45	12,247.61	2,533.04	10.76	2,532.82	0.00	0.00	0.00
14,800.00	91.00	359.45	12,245.86	2,633.02	9.80	2,632.81	0.00	0.00	0.00
14,900.00	91.00	359.45	12,244.11	2,733.00	8.83	2,732.79	0.00	0.00	0.00
15,000.00	91.00	359.45	12,242.35	2,832.98	7.87	2,832.78	0.00	0.00	0.00
15,100.00	91.00	359.45	12,240.60	2,932.96	6.90	2,932.76	0.00	0.00	0.00
15,200.00	91.00	359.45	12,238.85	3,032.94	5.93	3,032.75	0.00	0.00	0.00
15,300.00	91.00	359.45	12,237.09	3,132.92	4.97	3,132.73	0.00	0.00	0.00
15,400.00	91.00	359.45	12,235.34	3,232.90	4.00	3,232.72	0.00	0.00	0.00
15,500.00	91.00	359.45	12,233.59	3,332.88	3.04	3,332.70	0.00	0.00	0.00
15,600.00	91.00	359.45	12,231.84	3,432.86	2.07	3,432.69	0.00	0.00	0.00
15,700.00	91.00	359.45	12,230.08	3,532.84	1.11	3,532.67	0.00	0.00	0.00
15,800.00	91.00	359.45	12,228.33	3,632.82	0.14	3,632.66	0.00	0.00	0.00
15,900.00	91.00	359.45	12,226.58	3,732.80	-0.82	3,732.64	0.00	0.00	0.00
16,000.00	91.00	359.45	12,224.82	3,832.78	-1.79	3,832.62	0.00	0.00	0.00
16,100.00	91.00	359.45	12,223.07	3,932.76	-2.75	3,932.61	0.00	0.00	0.00
16,200.00	91.00	359.45	12,221.32	4,032.74	-3.72	4,032.59	0.00	0.00	0.00
16,300.00	91.00	359.45	12,219.56	4,132.72	-4.68	4,132.58	0.00	0.00	0.00
16,400.00	91.00	359.45	12,217.81	4,232.70	-5.65	4,232.56	0.00	0.00	0.00
16,500.00	91.00	359.45	12,216.06	4,332.68	-6.61	4,332.55	0.00	0.00	0.00
16,600.00	91.00	359.45	12,214.30	4,432.66	-7.58	4,432.53	0.00	0.00	0.00
16,700.00	91.00	359.45	12,212.55	4,532.64	-8.54	4,532.52	0.00	0.00	0.00
16,800.00	91.00	359.45	12,210.80	4,632.62	-9.51	4,632.50	0.00	0.00	0.00
16,900.00	91.00	359.45	12,209.04	4,732.60	-10.47	4,732.49	0.00	0.00	0.00
17,000.00	91.00	359.45	12,207.29	4,832.58	-11.44	4,832.47	0.00	0.00	0.00
17,100.00	91.00	359.45	12,205.54	4,932.56	-12.40	4,932.46	0.00	0.00	0.00
17,200.00	91.00	359.45	12,203.79	5,032.54	-13.37	5,032.44	0.00	0.00	0.00
17,300.00	91.00	359.45	12,202.03	5,132.52	-14.33	5,132.43	0.00	0.00	0.00
17,400.00	91.00	359.45	12,200.28	5,232.50	-15.30	5,232.41	0.00	0.00	0.00
17,500.00	91.00	359.45	12,198.53	5,332.48	-16.26	5,332.39	0.00	0.00	0.00
17,600.00	91.00	359.45	12,196.77	5,432.46	-17.23	5,432.38	0.00	0.00	0.00
17,700.00	91.00	359.45	12,195.02	5,532.44	-18.19	5,532.36	0.00	0.00	0.00
17,800.00	91.00	359.45	12,193.27	5,632.42	-19.16	5,632.35	0.00	0.00	0.00
17,900.00	91.00	359.45	12,191.51	5,732.40	-20.12	5,732.33	0.00	0.00	0.00
18,000.00	91.00	359.45	12,189.76	5,832.38	-21.09	5,832.32	0.00	0.00	0.00
18,100.00	91.00	359.45	12,188.01	5,932.36	-22.05	5,932.30	0.00	0.00	0.00
18,200.00	91.00	359.45	12,186.25	6,032.34	-23.02	6,032.29	0.00	0.00	0.00

Company:	Tap Rock Operating, LLC	**Local Co-ordinate Reference:**	Well 134H
Project:	Lea County, New Mexico (NAD 83)	**TVD Reference:**	Well @ 3309.50usft (GL:3283' + KB:26.5')
Site:	Gipple Fed	**MD Reference:**	Well @ 3309.50usft (GL:3283' + KB:26.5')
Well:	134H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 1	**Database:**	WellPlanner1

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
18,300.00	91.00	359.45	12,184.50	6,132.32	-23.99	6,132.27	0.00	0.00	0.00
18,400.00	91.00	359.45	12,182.75	6,232.30	-24.95	6,232.26	0.00	0.00	0.00
18,500.00	91.00	359.45	12,180.99	6,332.28	-25.92	6,332.24	0.00	0.00	0.00
18,600.00	91.00	359.45	12,179.24	6,432.26	-26.88	6,432.23	0.00	0.00	0.00
18,700.00	91.00	359.45	12,177.49	6,532.24	-27.85	6,532.21	0.00	0.00	0.00
18,800.00	91.00	359.45	12,175.73	6,632.22	-28.81	6,632.19	0.00	0.00	0.00
18,900.00	91.00	359.45	12,173.98	6,732.20	-29.78	6,732.18	0.00	0.00	0.00
19,000.00	91.00	359.45	12,172.23	6,832.18	-30.74	6,832.16	0.00	0.00	0.00
19,100.00	91.00	359.45	12,170.48	6,932.16	-31.71	6,932.15	0.00	0.00	0.00
19,200.00	91.00	359.45	12,168.72	7,032.14	-32.67	7,032.13	0.00	0.00	0.00
19,300.00	91.00	359.45	12,166.97	7,132.12	-33.64	7,132.12	0.00	0.00	0.00
19,400.00	91.00	359.45	12,165.22	7,232.10	-34.60	7,232.10	0.00	0.00	0.00
19,500.00	91.00	359.45	12,163.46	7,332.08	-35.57	7,332.09	0.00	0.00	0.00
19,600.00	91.00	359.45	12,161.71	7,432.06	-36.53	7,432.07	0.00	0.00	0.00
19,700.00	91.00	359.45	12,159.96	7,532.04	-37.50	7,532.06	0.00	0.00	0.00
19,800.00	91.00	359.45	12,158.20	7,632.02	-38.46	7,632.04	0.00	0.00	0.00
19,900.00	91.00	359.45	12,156.45	7,732.00	-39.43	7,732.03	0.00	0.00	0.00
20,000.00	91.00	359.45	12,154.70	7,831.98	-40.39	7,832.01	0.00	0.00	0.00
20,100.00	91.00	359.45	12,152.94	7,931.96	-41.36	7,931.99	0.00	0.00	0.00
20,200.00	91.00	359.45	12,151.19	8,031.94	-42.32	8,031.98	0.00	0.00	0.00
20,300.00	91.00	359.45	12,149.44	8,131.92	-43.29	8,131.96	0.00	0.00	0.00
20,400.00	91.00	359.45	12,147.68	8,231.90	-44.25	8,231.95	0.00	0.00	0.00
20,500.00	91.00	359.45	12,145.93	8,331.88	-45.22	8,331.93	0.00	0.00	0.00
20,600.00	91.00	359.45	12,144.18	8,431.86	-46.18	8,431.92	0.00	0.00	0.00
20,700.00	91.00	359.45	12,142.43	8,531.84	-47.15	8,531.90	0.00	0.00	0.00
20,800.00	91.00	359.45	12,140.67	8,631.82	-48.11	8,631.89	0.00	0.00	0.00
20,900.00	91.00	359.45	12,138.92	8,731.80	-49.08	8,731.87	0.00	0.00	0.00
21,000.00	91.00	359.45	12,137.17	8,831.78	-50.04	8,831.86	0.00	0.00	0.00
21,100.00	91.00	359.45	12,135.41	8,931.76	-51.01	8,931.84	0.00	0.00	0.00
21,200.00	91.00	359.45	12,133.66	9,031.74	-51.97	9,031.83	0.00	0.00	0.00
21,300.00	91.00	359.45	12,131.91	9,131.72	-52.94	9,131.81	0.00	0.00	0.00
21,400.00	91.00	359.45	12,130.15	9,231.70	-53.91	9,231.80	0.00	0.00	0.00
21,500.00	91.00	359.45	12,128.40	9,331.68	-54.87	9,331.78	0.00	0.00	0.00
21,600.00	91.00	359.45	12,126.65	9,431.66	-55.84	9,431.76	0.00	0.00	0.00
21,700.00	91.00	359.45	12,124.89	9,531.64	-56.80	9,531.75	0.00	0.00	0.00
21,800.00	91.00	359.45	12,123.14	9,631.62	-57.77	9,631.73	0.00	0.00	0.00
21,900.00	91.00	359.45	12,121.39	9,731.60	-58.73	9,731.72	0.00	0.00	0.00
22,000.00	91.00	359.45	12,119.63	9,831.58	-59.70	9,831.70	0.00	0.00	0.00
22,100.00	91.00	359.45	12,117.88	9,931.56	-60.66	9,931.69	0.00	0.00	0.00
22,200.00	91.00	359.45	12,116.13	10,031.54	-61.63	10,031.67	0.00	0.00	0.00
22,300.00	91.00	359.45	12,114.37	10,131.52	-62.59	10,131.66	0.00	0.00	0.00
22,400.00	91.00	359.45	12,112.62	10,231.50	-63.56	10,231.64	0.00	0.00	0.00
22,500.00	91.00	359.45	12,110.87	10,331.48	-64.52	10,331.63	0.00	0.00	0.00

Company:	Tap Rock Operating, LLC	**Local Co-ordinate Reference:**	Well 134H
Project:	Lea County, New Mexico (NAD 83)	**TVD Reference:**	Well @ 3309.50usft (GL:3283' + KB:26.5')
Site:	Gipple Fed	**MD Reference:**	Well @ 3309.50usft (GL:3283' + KB:26.5')
Well:	134H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 1	**Database:**	WellPlanner1

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
22,549.53	91.00	359.45	12,110.00	10,381.00	-65.00	10,381.15	0.00	0.00	0.00
TD at 22549.53									

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
134H - Plat FTP	0.00	0.00	0.00	-74.00	36.00	425,836.00	840,648.00	32.167003	-103.366041
- plan misses target center by 82.29usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
134H - Plat LTP	0.00	0.01	0.00	10,286.00	-64.00	436,196.00	840,548.00	32.195481	-103.366063
- plan misses target center by 10286.20usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
134H - KOP	0.00	0.00	11,711.13	-125.00	36.42	425,785.00	840,648.42	32.166863	-103.366041
- plan hits target center									
- Point									
134H - PBHL	0.00	0.00	12,110.00	10,381.00	-65.00	436,291.00	840,547.00	32.195742	-103.366064
- plan hits target center									
- Point									
134H - Landing PT.	0.00	0.00	12,284.00	457.98	30.79	426,367.97	840,642.79	32.168466	-103.366043
- plan hits target center									
- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
939.05	939.00	Rustler Anhydrite			
1,189.40	1,189.00	Top Salt			
4,967.34	4,964.00	Base Salt			
5,272.34	5,269.00	Delaware Mountain Gp			
5,302.34	5,299.00	Bell Canyon			
5,302.34	5,299.00	Lamar			
5,327.34	5,324.00	Ramsey Sand			
6,267.34	6,264.00	Cherry Canyon			
7,787.34	7,784.00	Brushy Canyon			
9,042.34	9,039.00	Bone Spring Lime			
10,302.34	10,299.00	1st Bone Spring Sand			
10,737.34	10,734.00	2nd Bone Spring Sand			
12,178.40	12,126.00	3rd Bone Spring Sand			
12,412.91	12,249.00	3rd BS W Sand			

Company:	Tap Rock Operating, LLC	**Local Co-ordinate Reference:**	Well 134H
Project:	Lea County, New Mexico (NAD 83)	**TVD Reference:**	Well @ 3309.50usft (GL:3283' + KB:26.5')
Site:	Gipple Fed	**MD Reference:**	Well @ 3309.50usft (GL:3283' + KB:26.5')
Well:	134H	**North Reference:**	Grid
Wellbore:	OH	**Survey Calculation Method:**	Minimum Curvature
Design:	Plan 1	**Database:**	WellPlanner1

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
800	800	0	0	Start Build 2.00
950	950	-4	1	Start 2338.42 hold at 949.96 MD
3288	3285	-121	35	Start Drop -2.00
3438	3435	-125	36	Start 8276.13 hold at 3438.34 MD
11,714	11,711	-125	36	KOP, Start DLS 10.00 TFO 359.45
12,625	12,284	458	31	Landing PT., Start 9925.01 hold at 12624.52 MD
22,550	12,110	10,381	-65	TD at 22549.53

Checked By: _____ Approved By: _____ Date: _____