Form 3160-3
(June 2015)

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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
138H (326772)

2. Name of Operator
TAP ROCK OPERATING LLC 372043

9. API Well No.
30-025-46670

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 98254
~~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 / 645 FEL / LAT 32.1672082 / LONG -103.3659929
At proposed prod. zone NENE / 5 FNL / 51 FEL / LAT 32.1957425 / LONG -103.364096

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 33 / T24S / R35E / 1PM

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)
2020 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
12105 feet / 22577 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	Office
Petroleum Engineer	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'd 01/02/20

APPROVED WITH CONDITIONS

Approval Date: 12/30/2019

KZ 01/07/20

REQUIRES NSL

NL

(Continued on page 2)

*(Instructions on page 2)

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Tap Rock Operating LLC**
LEASE NO.:	**NMNM138893**
WELL NAME & NO.:	Gipple Fed Com 138H
SURFACE HOLE FOOTAGE:	175'/S & 645'/E
BOTTOM HOLE FOOTAGE	5'/N & 51'/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**

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 **5006 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

Operator 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: 10400038978 **Submission Date:** 02/13/2019

Operator Name: TAP ROCK OPERATING LLC

Well Name: GIPPLE FED COM **Well Number:** 138H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400038978 **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:** 138H **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:** 138H

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:** 2020 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: Gipple_138H_C102_etal_v2_100919_20191011090648.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	645	FEL	24S	35E	33	Aliquot SESE	32.1672082	-103.3659929	LEA	NEW MEXICO	FIRST PRIN	F	FEE	3283	0	0	
KOP Leg #1	50	FSL	50	FEL	24S	35E	33	Aliquot SESE	32.1668659	-103.3640701	HIDALGO	NEW MEXICO	NEW MEXICO	F	FEE	-8423	11737	11706	
PPP Leg #1-1	2640	FNL	51	FEL	24S	35E	28	Aliquot SENE	32.188515	-103.36408	LEA	NEW MEXICO	NEW MEXICO	F	FEE	-8868	19952	12151	

Operator Name: TAP ROCK OPERATING LLC

Well Name: GIPPLE FED COM **Well Number:** 138H

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	51	FEL	24S	35E	33	Aliquot NENE	32.177658	-103.364083	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 138893	-8937	16004	12220	
PPP Leg #1-3	426	FSL	51	FEL	24S	35E	33	Aliquot SESE	32.167895	-103.364083	LEA	NEW MEXICO	NEW MEXICO	F	FEE	-8961	12436	12244	
EXIT Leg #1	5	FNL	51	FEL	24S	35E	28	Aliquot NENE	32.195742	-103.364096	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 138889	-8822	22577	12105	
BHL Leg #1	5	FNL	51	FEL	24S	35E	28	Aliquot NENE	32.195742	-103.364096	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 138889	-8822	22577	12105	

APD ID: 10400038978 **Submission Date:** 02/13/2019

Operator Name: TAP ROCK OPERATING LLC

Well Name: GIPPLE FED COM **Well Number:** 138H

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

Highlighted data reflects the most recent changes

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Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
394003	QUATERNARY	3283	0	0	OTHER : Caliche	OTHER, USEABLE WATER : Salt	N
394012	RUSTLER ANHYDRITE	2344	939	939		OTHER, USEABLE WATER : Salt	N
394008	TOP SALT	2094	1189	1190		OTHER : Salt	N
394004	BASE OF SALT	-1681	4964	4985		OTHER : Salt	N
394009	DELAWARE	-1986	5269	5292	OTHER : Mountain Grp	OTHER : Salt	N
394013	BELL CANYON	-2016	5299	5323		NATURAL GAS, OIL	N
394005	RAMSEY SAND	-2041	5324	5347		NATURAL GAS, OIL	N
394014	CHERRY CANYON	-2981	6264	6293		NATURAL GAS, OIL	N
394015	BRUSHY CANYON	-4501	7784	7815		NATURAL GAS, OIL	N
394006	BONE SPRING LIME	-5751	9034	9065	LIMESTONE	NATURAL GAS, OIL	N
394010	BONE SPRING 1ST	-7011	10294	10325	SANDSTONE	NATURAL GAS, OIL	N
394011	BONE SPRING 2ND	-7446	10729	10760	SANDSTONE	OIL	N
394007	BONE SPRING 3RD	-8838	12121	12201	SANDSTONE	NATURAL GAS, OIL	N
394016	BONE SPRING 3RD	-8961	12244	12435	OTHER, SANDSTONE : W	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: TAP ROCK OPERATING LLC

Well Name: GIPPLE FED COM **Well Number:** 138H

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 in 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_138H_10M_Choke_100418_20190208124056.pdf

BOP Diagram Attachment:

10M_BOP_Stack_5M_Annular_Preventer_20191218090121.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	4703	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	5003	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	11430	0	11398	3283		11430	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	11630	4703	11598			6905	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	11430	22575	11398	12105			11145	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:** 138H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Gipple_138H_Casing_Design_Assumptions_20190208124206.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Gipple_138H_Casing_Design_Assumptions_20190208124324.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Gipple_138H_Casing_Design_Assumptions_20190208124241.pdf

Operator Name: TAP ROCK OPERATING LLC

Well Name: GIPPLE FED COM **Well Number:** 138H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Gipple_138H_5.5in_Casing_Spec_20190208124439.PDF

Casing Design Assumptions and Worksheet(s):

Gipple_138H_Casing_Design_Assumptions_20190208124456.pdf

Gipple_138H_5.5in_Casing_Spec_20191218091013.PDF

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

Inspection Document:

Spec Document:

Tapered String Spec:

Gipple_138H_7.625_FlushP110_Casing_Spec_20191218090855.pdf

Casing Design Assumptions and Worksheet(s):

Gipple_138H_Casing_Design_Assumptions_20190208124408.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Gipple_138H_5in_Casing_Spec_20190208124542.pdf

Casing Design Assumptions and Worksheet(s):

Gipple_138H_Casing_Design_Assumptions_20190208124557.pdf

Section 4 - Cement

Operator Name: TAP ROCK OPERATING LLC

Well Name: GIPPLE FED COM **Well Number:** 138H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Lead		0	0	0	0	0	0	0	None	None
PRODUCTION	Tail		10930	22575	955	1.71	14.2	1632	25	Class H	Fluid Loss + Dispersant + Retarder + LCM
INTERMEDIATE	Lead		0	0	0	0	0	0	0	None	None
PRODUCTION	Lead		0	0	0	0	0	0	0	None	None
SURFACE	Lead		0	1000	0	0	0	0	0	None	None
SURFACE	Tail		0	1029	1029	1.35	14.8	1389	100	Class C	5% NCl + 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	10630	279	2.87	11.5	801	35	TXI	Fluid loss + Dispersant + Retarder + LCM
INTERMEDIATE	Tail		10630	11630	107	1.27	15	136	35	H	Fluid Loss + Dispersant + Retarder + LCM

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:** 138H

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	11630	OTHER : Fresh water & cut brine	9	9							
1000	5025	OTHER : Brine water	10	10							
11630	22575	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:** 5286.32

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_20190208132755.pdf

Operator Name: TAP ROCK OPERATING LLC

Well Name: GIPPLE FED COM **Well Number:** 138H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Gipple_138H_Horizontal_Plan_20190208132809.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Gipple_138H_Speedhead_Specs_100918_20190208132846.pdf
Well_Control_Plan_10M_BOP_5M_Annular_20191011091802.pdf
Coflex_Certs_20191218091800.pdf
Gipple_138H_Drill_Plan_REVISED_121619_20191218091810.pdf

Other Variance attachment:

Gipple_138H_Casing_Variance_Request_20190208132855.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

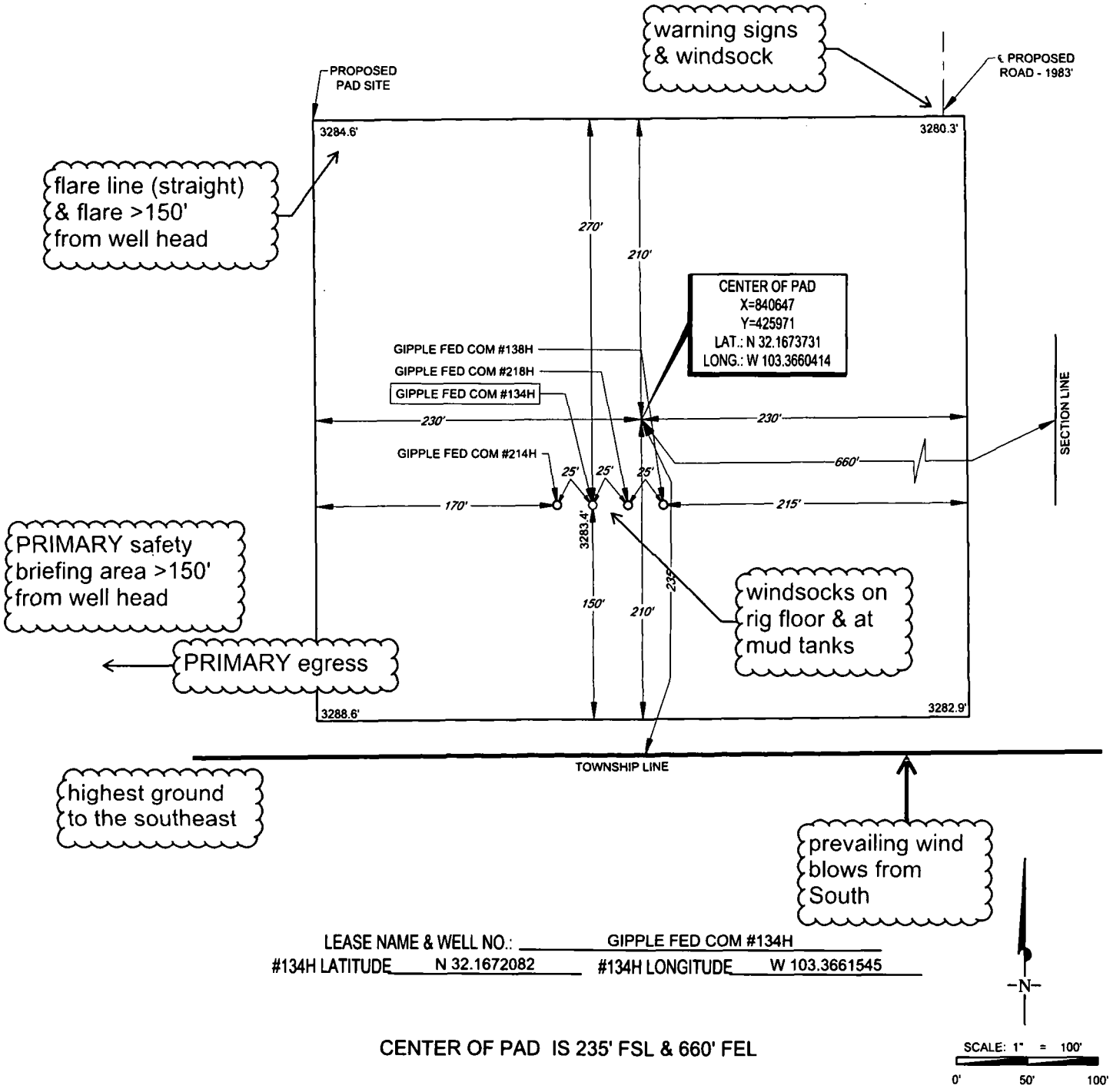
Emergency Contacts		
Carlsbad Police Department	575.887.7551	911
Carlsbad Medical Center	575.887.4100	911
Eddy County Fire Service	575.628.5450	911
Eddy County Sherriff	575.887.7551	911
Lea County Fire Service	575.391.2983	911
Lea County Sherriff	575.396.3611	911
Jal Police Department	575.395.2121	911
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.

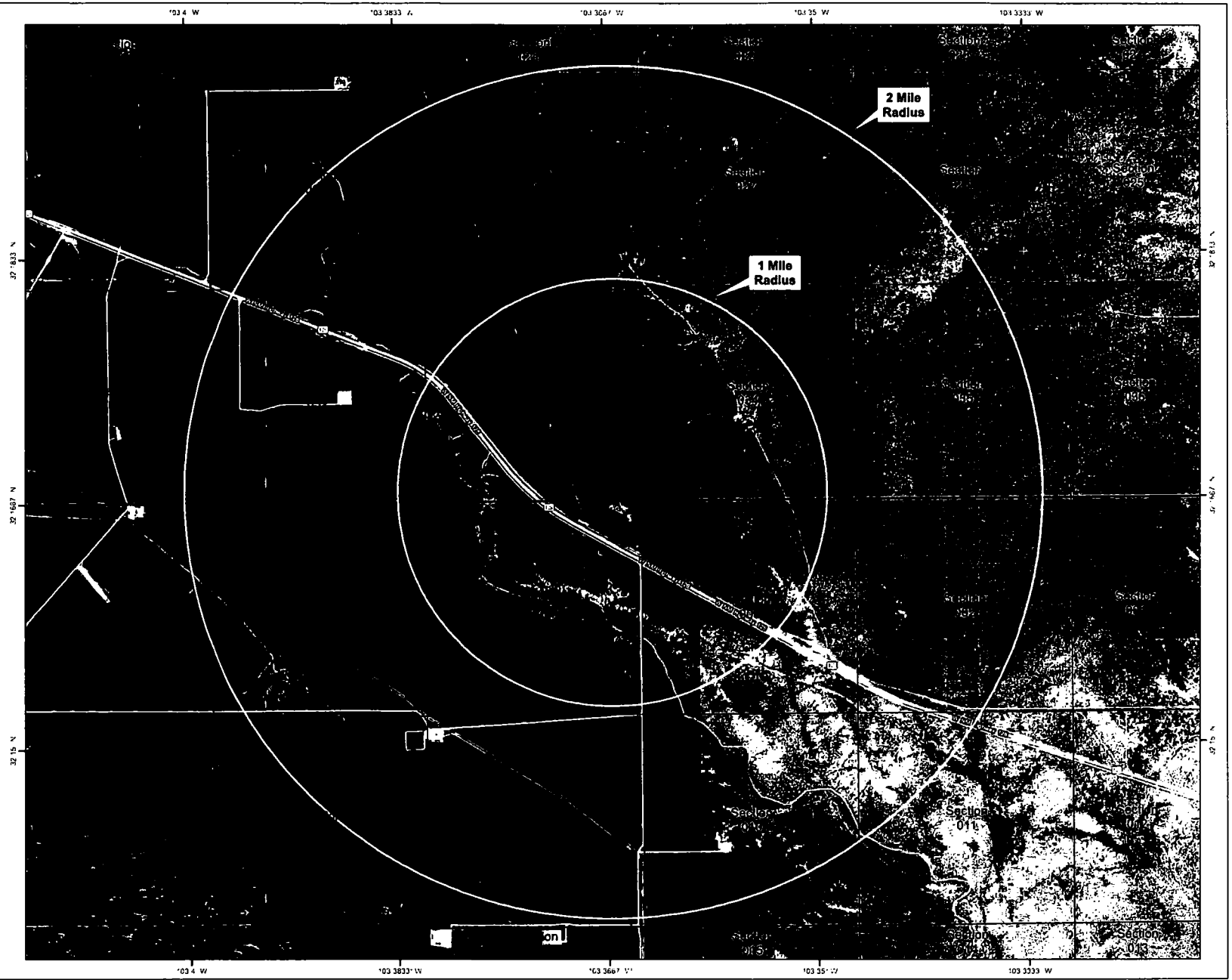
TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

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

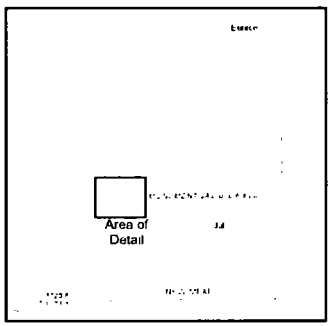
Miles

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
138H
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')

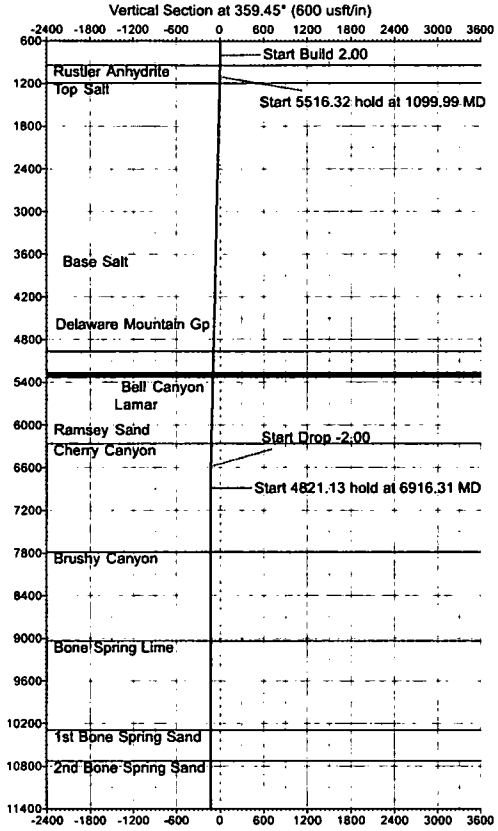
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	425911.00	840662.00	32.167209	-103.365994	

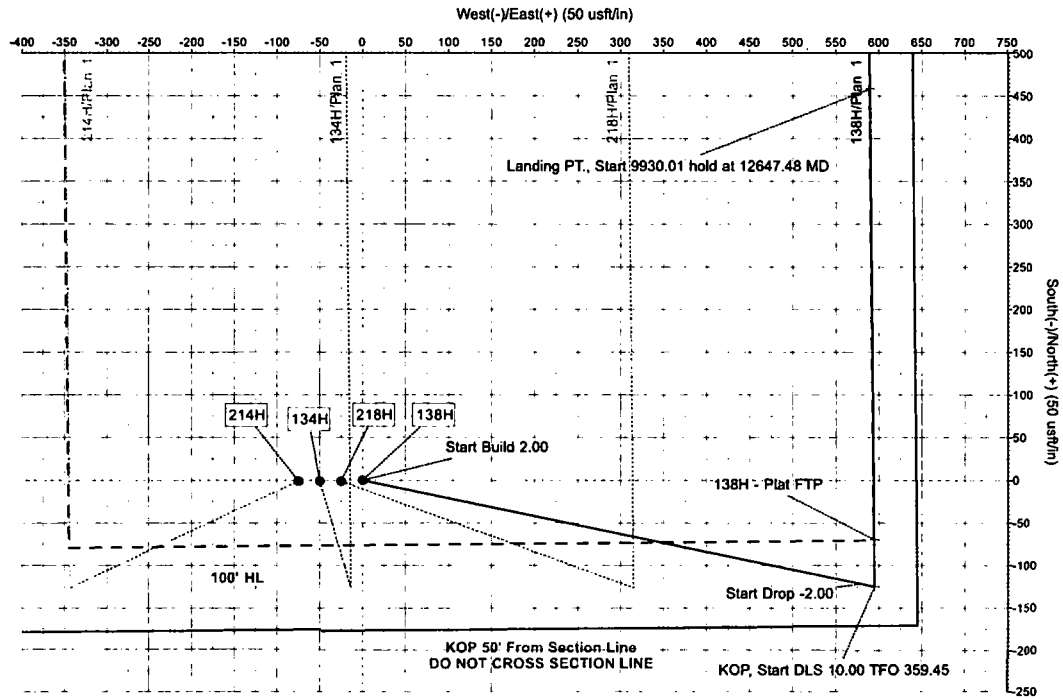
SECTION DETAILS

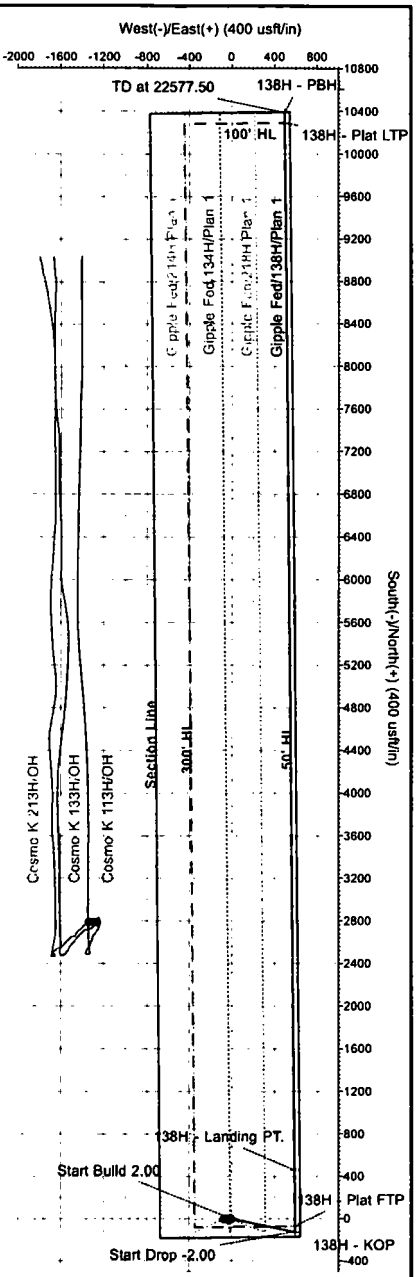
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00
3	1099.99	6.00	101.86	1099.45	-3.23	15.36	2.00	-3.37
4	6616.32	6.00	101.86	6585.55	-121.77	579.64	0.00	-127.33
5	6916.31	0.00	0.00	6885.00	-125.00	595.00	2.00	-130.71
6	11737.44	0.00	0.00	11706.13	-125.00	595.00	0.00	-130.71
7	12647.48	91.00	359.45	12279.00	457.97	589.40	10.00	452.29
8	22577.50	91.00	359.45	12105.00	10386.00	494.00	0.00	10380.78

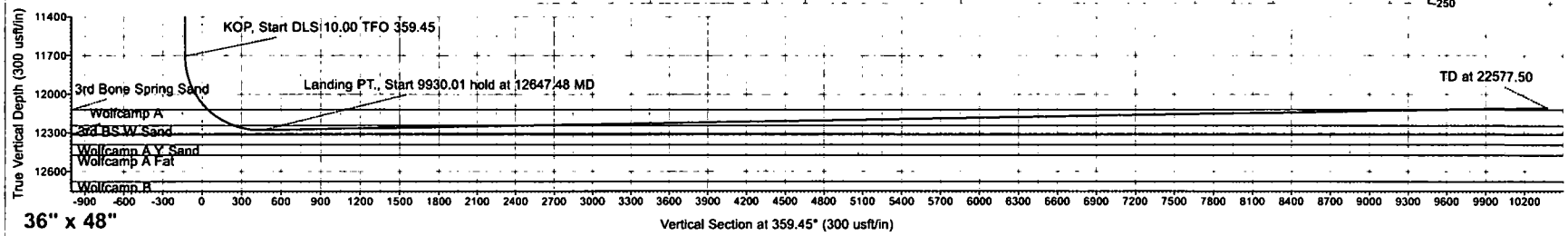
TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
138H - Plat FTP	0.00	-70.00	595.00	425841.00	841257.00	Point
138H - Plat LTP	0.00	10291.00	495.00	436202.00	841157.00	Point
138H - KOP	11706.13	-125.00	595.00	425786.00	841257.00	Point
138H - PBHL	12105.00	10386.00	494.00	436297.00	841158.00	Point
138H - Landing PT.	12279.00	457.97	589.40	426388.97	841251.40	Point

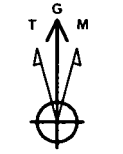








36" x 48"



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

Magnetic Field
Strength: 47895.6snT
Dip Angle: 59.82°
Date: 1/16/2019
Model: HDGM

Azimuth Corrections

Total Magnetic Corr. (M to G): 6.12°

Declination (M to T): 6.63° East

Tap Rock Operating, LLC

Lea County, New Mexico (NAD 83)
Gipple Fed
138H

OH

Plan: Plan 1

Standard Survey Report

16 January, 2019

PRODIRECTIONAL

Company:	Tap Rock Operating, LLC	**Local Co-ordinate Reference:**	Well 138H
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:	138H	**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	138H					
Well Position	**+N/-S**	0.00 usft	**Northing:**	425,911.00 usft	**Latitude:**	32.167209
	+E/-W	0.00 usft	**Easting:**	840,662.00 usft	**Longitude:**	-103.365994
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	7,000.00	Plan 1 (OH)	MWD+HDGM	OWSG MWD + HRGM
7,000.00	11,500.00	Plan 1 (OH)	MWD+HDGM	OWSG MWD + HRGM
11,500.00	22,577.47	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 138H
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:	138H	**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	101.86	899.98	-0.36	1.71	-0.38	2.00	2.00	0.00
939.05	2.78	101.86	939.00	-0.69	3.30	-0.73	2.00	2.00	0.00
Rustler Anhydrite									
1,000.00	4.00	101.86	999.84	-1.43	6.83	-1.50	2.00	2.00	0.00
1,099.99	6.00	101.86	1,099.45	-3.23	15.36	-3.37	2.00	2.00	0.00
Start 5516.32 hold at 1099.99 MD									
1,190.04	6.00	101.86	1,189.00	-5.16	24.57	-5.40	0.00	0.00	0.00
Top Salt									
1,200.00	6.00	101.86	1,198.90	-5.38	25.59	-5.62	0.00	0.00	0.00
1,300.00	6.00	101.86	1,298.36	-7.52	35.82	-7.87	0.00	0.00	0.00
1,400.00	6.00	101.86	1,397.81	-9.67	46.05	-10.12	0.00	0.00	0.00
1,500.00	6.00	101.86	1,497.26	-11.82	56.28	-12.36	0.00	0.00	0.00
1,600.00	6.00	101.86	1,596.71	-13.97	66.51	-14.61	0.00	0.00	0.00
1,700.00	6.00	101.86	1,696.17	-16.12	76.73	-16.86	0.00	0.00	0.00
1,800.00	6.00	101.86	1,795.62	-18.27	86.96	-19.10	0.00	0.00	0.00
1,900.00	6.00	101.86	1,895.07	-20.42	97.19	-21.35	0.00	0.00	0.00
2,000.00	6.00	101.86	1,994.52	-22.57	107.42	-23.60	0.00	0.00	0.00
2,100.00	6.00	101.86	2,093.97	-24.72	117.65	-25.85	0.00	0.00	0.00
2,200.00	6.00	101.86	2,193.43	-26.87	127.88	-28.09	0.00	0.00	0.00
2,300.00	6.00	101.86	2,292.88	-29.01	138.11	-30.34	0.00	0.00	0.00
2,400.00	6.00	101.86	2,392.33	-31.16	148.34	-32.59	0.00	0.00	0.00
2,500.00	6.00	101.86	2,491.78	-33.31	158.57	-34.83	0.00	0.00	0.00
2,600.00	6.00	101.86	2,591.24	-35.46	168.80	-37.08	0.00	0.00	0.00
2,700.00	6.00	101.86	2,690.69	-37.61	179.03	-39.33	0.00	0.00	0.00
2,800.00	6.00	101.86	2,790.14	-39.76	189.26	-41.57	0.00	0.00	0.00
2,900.00	6.00	101.86	2,889.59	-41.91	199.49	-43.82	0.00	0.00	0.00
3,000.00	6.00	101.86	2,989.04	-44.06	209.72	-46.07	0.00	0.00	0.00
3,100.00	6.00	101.86	3,088.50	-46.21	219.95	-48.32	0.00	0.00	0.00
3,200.00	6.00	101.86	3,187.95	-48.36	230.17	-50.56	0.00	0.00	0.00
3,300.00	6.00	101.86	3,287.40	-50.51	240.40	-52.81	0.00	0.00	0.00
3,400.00	6.00	101.86	3,386.85	-52.65	250.63	-55.06	0.00	0.00	0.00
3,500.00	6.00	101.86	3,486.31	-54.80	260.86	-57.30	0.00	0.00	0.00
3,600.00	6.00	101.86	3,585.76	-56.95	271.09	-59.55	0.00	0.00	0.00
3,700.00	6.00	101.86	3,685.21	-59.10	281.32	-61.80	0.00	0.00	0.00
3,800.00	6.00	101.86	3,784.66	-61.25	291.55	-64.05	0.00	0.00	0.00
3,900.00	6.00	101.86	3,884.11	-63.40	301.78	-66.29	0.00	0.00	0.00
4,000.00	6.00	101.86	3,983.57	-65.55	312.01	-68.54	0.00	0.00	0.00
4,100.00	6.00	101.86	4,083.02	-67.70	322.24	-70.79	0.00	0.00	0.00
4,200.00	6.00	101.86	4,182.47	-69.85	332.47	-73.03	0.00	0.00	0.00
4,300.00	6.00	101.86	4,281.92	-72.00	342.70	-75.28	0.00	0.00	0.00
4,400.00	6.00	101.86	4,381.38	-74.14	352.93	-77.53	0.00	0.00	0.00
4,500.00	6.00	101.86	4,480.83	-76.29	363.16	-79.78	0.00	0.00	0.00
4,600.00	6.00	101.86	4,580.28	-78.44	373.39	-82.02	0.00	0.00	0.00

Company:	Tap Rock Operating, LLC	**Local Co-ordinate Reference:**	Well 138H
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:	138H	**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)
4,700.00	6.00	101.86	4,679.73	-80.59	383.62	-84.27	0.00	0.00	0.00
4,800.00	6.00	101.86	4,779.18	-82.74	393.84	-86.52	0.00	0.00	0.00
4,900.00	6.00	101.86	4,878.64	-84.89	404.07	-88.76	0.00	0.00	0.00
4,985.83	6.00	101.86	4,964.00	-86.73	412.85	-90.69	0.00	0.00	0.00
Base Salt									
5,000.00	6.00	101.86	4,978.09	-87.04	414.30	-91.01	0.00	0.00	0.00
5,100.00	6.00	101.86	5,077.54	-89.19	424.53	-93.26	0.00	0.00	0.00
5,200.00	6.00	101.86	5,176.99	-91.34	434.76	-95.51	0.00	0.00	0.00
5,292.51	6.00	101.86	5,269.00	-93.32	444.23	-97.58	0.00	0.00	0.00
Delaware Mountain Gp									
5,300.00	6.00	101.86	5,276.44	-93.49	444.99	-97.75	0.00	0.00	0.00
5,322.68	6.00	101.86	5,299.00	-93.97	447.31	-98.26	0.00	0.00	0.00
Bell Canyon - Lamar									
5,347.82	6.00	101.86	5,324.00	-94.51	449.88	-98.83	0.00	0.00	0.00
Ramsey Sand									
5,400.00	6.00	101.86	5,375.90	-95.63	455.22	-100.00	0.00	0.00	0.00
5,500.00	6.00	101.86	5,475.35	-97.78	465.45	-102.25	0.00	0.00	0.00
5,600.00	6.00	101.86	5,574.80	-99.93	475.68	-104.49	0.00	0.00	0.00
5,700.00	6.00	101.86	5,674.25	-102.08	485.91	-106.74	0.00	0.00	0.00
5,800.00	6.00	101.86	5,773.71	-104.23	496.14	-108.99	0.00	0.00	0.00
5,900.00	6.00	101.86	5,873.16	-106.38	506.37	-111.24	0.00	0.00	0.00
6,000.00	6.00	101.86	5,972.61	-108.53	516.60	-113.48	0.00	0.00	0.00
6,100.00	6.00	101.86	6,072.06	-110.68	526.83	-115.73	0.00	0.00	0.00
6,200.00	6.00	101.86	6,171.51	-112.83	537.06	-117.98	0.00	0.00	0.00
6,292.99	6.00	101.86	6,264.00	-114.83	546.57	-120.07	0.00	0.00	0.00
Cherry Canyon									
6,300.00	6.00	101.86	6,270.97	-114.98	547.28	-120.22	0.00	0.00	0.00
6,400.00	6.00	101.86	6,370.42	-117.12	557.51	-122.47	0.00	0.00	0.00
6,500.00	6.00	101.86	6,469.87	-119.27	567.74	-124.72	0.00	0.00	0.00
6,600.00	6.00	101.86	6,569.32	-121.42	577.97	-126.97	0.00	0.00	0.00
6,616.32	6.00	101.86	6,585.55	-121.77	579.64	-127.33	0.00	0.00	0.00
Start Drop -2.00									
6,700.00	4.33	101.86	6,668.89	-123.32	587.01	-128.95	2.00	-2.00	0.00
6,800.00	2.33	101.86	6,768.72	-124.51	592.69	-130.20	2.00	-2.00	0.00
6,900.00	0.33	101.86	6,868.69	-124.99	594.95	-130.70	2.00	-2.00	0.00
6,916.31	0.00	0.00	6,885.00	-125.00	595.00	-130.71	2.00	-2.00	-624.40
Start 4821.13 hold at 6916.31 MD									
7,000.00	0.00	0.00	6,968.69	-125.00	595.00	-130.71	0.00	0.00	0.00
7,100.00	0.00	0.00	7,068.69	-125.00	595.00	-130.71	0.00	0.00	0.00
7,200.00	0.00	0.00	7,168.69	-125.00	595.00	-130.71	0.00	0.00	0.00
7,300.00	0.00	0.00	7,268.69	-125.00	595.00	-130.71	0.00	0.00	0.00
7,400.00	0.00	0.00	7,368.69	-125.00	595.00	-130.71	0.00	0.00	0.00
7,500.00	0.00	0.00	7,468.69	-125.00	595.00	-130.71	0.00	0.00	0.00
7,600.00	0.00	0.00	7,568.69	-125.00	595.00	-130.71	0.00	0.00	0.00

Company:	Tap Rock Operating, LLC	**Local Co-ordinate Reference:**	Well 138H
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:	138H	**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)
7,700.00	0.00	0.00	7,668.69	-125.00	595.00	-130.71	0.00	0.00	0.00
7,800.00	0.00	0.00	7,768.69	-125.00	595.00	-130.71	0.00	0.00	0.00
7,815.31	0.00	0.00	7,784.00	-125.00	595.00	-130.71	0.00	0.00	0.00
Brushy Canyon									
7,900.00	0.00	0.00	7,868.69	-125.00	595.00	-130.71	0.00	0.00	0.00
8,000.00	0.00	0.00	7,968.69	-125.00	595.00	-130.71	0.00	0.00	0.00
8,100.00	0.00	0.00	8,068.69	-125.00	595.00	-130.71	0.00	0.00	0.00
8,200.00	0.00	0.00	8,168.69	-125.00	595.00	-130.71	0.00	0.00	0.00
8,300.00	0.00	0.00	8,268.69	-125.00	595.00	-130.71	0.00	0.00	0.00
8,400.00	0.00	0.00	8,368.69	-125.00	595.00	-130.71	0.00	0.00	0.00
8,500.00	0.00	0.00	8,468.69	-125.00	595.00	-130.71	0.00	0.00	0.00
8,600.00	0.00	0.00	8,568.69	-125.00	595.00	-130.71	0.00	0.00	0.00
8,700.00	0.00	0.00	8,668.69	-125.00	595.00	-130.71	0.00	0.00	0.00
8,800.00	0.00	0.00	8,768.69	-125.00	595.00	-130.71	0.00	0.00	0.00
8,900.00	0.00	0.00	8,868.69	-125.00	595.00	-130.71	0.00	0.00	0.00
9,000.00	0.00	0.00	8,968.69	-125.00	595.00	-130.71	0.00	0.00	0.00
9,065.31	0.00	0.00	9,034.00	-125.00	595.00	-130.71	0.00	0.00	0.00
Bone Spring Lime									
9,100.00	0.00	0.00	9,068.69	-125.00	595.00	-130.71	0.00	0.00	0.00
9,200.00	0.00	0.00	9,168.69	-125.00	595.00	-130.71	0.00	0.00	0.00
9,300.00	0.00	0.00	9,268.69	-125.00	595.00	-130.71	0.00	0.00	0.00
9,400.00	0.00	0.00	9,368.69	-125.00	595.00	-130.71	0.00	0.00	0.00
9,500.00	0.00	0.00	9,468.69	-125.00	595.00	-130.71	0.00	0.00	0.00
9,600.00	0.00	0.00	9,568.69	-125.00	595.00	-130.71	0.00	0.00	0.00
9,700.00	0.00	0.00	9,668.69	-125.00	595.00	-130.71	0.00	0.00	0.00
9,800.00	0.00	0.00	9,768.69	-125.00	595.00	-130.71	0.00	0.00	0.00
9,900.00	0.00	0.00	9,868.69	-125.00	595.00	-130.71	0.00	0.00	0.00
10,000.00	0.00	0.00	9,968.69	-125.00	595.00	-130.71	0.00	0.00	0.00
10,100.00	0.00	0.00	10,068.69	-125.00	595.00	-130.71	0.00	0.00	0.00
10,200.00	0.00	0.00	10,168.69	-125.00	595.00	-130.71	0.00	0.00	0.00
10,300.00	0.00	0.00	10,268.69	-125.00	595.00	-130.71	0.00	0.00	0.00
10,325.31	0.00	0.00	10,294.00	-125.00	595.00	-130.71	0.00	0.00	0.00
1st Bone Spring Sand									
10,400.00	0.00	0.00	10,368.69	-125.00	595.00	-130.71	0.00	0.00	0.00
10,500.00	0.00	0.00	10,468.69	-125.00	595.00	-130.71	0.00	0.00	0.00
10,600.00	0.00	0.00	10,568.69	-125.00	595.00	-130.71	0.00	0.00	0.00
10,700.00	0.00	0.00	10,668.69	-125.00	595.00	-130.71	0.00	0.00	0.00
10,760.31	0.00	0.00	10,729.00	-125.00	595.00	-130.71	0.00	0.00	0.00
2nd Bone Spring Sand									
10,800.00	0.00	0.00	10,768.69	-125.00	595.00	-130.71	0.00	0.00	0.00
10,900.00	0.00	0.00	10,868.69	-125.00	595.00	-130.71	0.00	0.00	0.00
11,000.00	0.00	0.00	10,968.69	-125.00	595.00	-130.71	0.00	0.00	0.00
11,100.00	0.00	0.00	11,068.69	-125.00	595.00	-130.71	0.00	0.00	0.00
11,200.00	0.00	0.00	11,168.69	-125.00	595.00	-130.71	0.00	0.00	0.00

Company:	Tap Rock Operating, LLC	**Local Co-ordinate Reference:**	Well 138H
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:	138H	**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)
11,300.00	0.00	0.00	11,268.69	-125.00	595.00	-130.71	0.00	0.00	0.00
11,400.00	0.00	0.00	11,368.69	-125.00	595.00	-130.71	0.00	0.00	0.00
11,500.00	0.00	0.00	11,468.69	-125.00	595.00	-130.71	0.00	0.00	0.00
11,600.00	0.00	0.00	11,568.69	-125.00	595.00	-130.71	0.00	0.00	0.00
11,700.00	0.00	0.00	11,668.69	-125.00	595.00	-130.71	0.00	0.00	0.00
11,737.44	0.00	0.00	11,706.13	-125.00	595.00	-130.71	0.00	0.00	0.00
KOP, Start DLS 10.00 TFO 359.45									
11,750.00	1.26	359.45	11,718.69	-124.86	595.00	-130.57	10.00	10.00	0.00
11,800.00	6.26	359.45	11,768.56	-121.59	594.97	-127.29	10.00	10.00	0.00
11,850.00	11.26	359.45	11,817.96	-113.98	594.89	-119.69	10.00	10.00	0.00
11,900.00	16.26	359.45	11,866.51	-102.10	594.78	-107.80	10.00	10.00	0.00
11,950.00	21.26	359.45	11,913.84	-86.02	594.63	-91.73	10.00	10.00	0.00
12,000.00	26.26	359.45	11,959.59	-65.89	594.43	-71.59	10.00	10.00	0.00
12,050.00	31.26	359.45	12,003.41	-41.85	594.20	-47.55	10.00	10.00	0.00
12,100.00	36.26	359.45	12,044.97	-14.07	593.93	-19.77	10.00	10.00	0.00
12,150.00	41.26	359.45	12,083.95	17.22	593.63	11.52	10.00	10.00	0.00
12,200.00	46.26	359.45	12,120.05	51.78	593.30	46.08	10.00	10.00	0.00
12,201.37	46.39	359.45	12,121.00	52.77	593.29	47.08	10.00	10.00	0.00
3rd Bone Spring Sand									
12,250.00	51.26	359.45	12,153.01	89.36	592.94	83.67	10.00	10.00	0.00
12,300.00	56.26	359.45	12,182.56	129.67	592.55	123.98	10.00	10.00	0.00
12,350.00	61.26	359.45	12,208.48	172.41	592.14	166.71	10.00	10.00	0.00
12,400.00	66.26	359.45	12,230.59	217.24	591.71	211.55	10.00	10.00	0.00
12,435.89	69.84	359.45	12,244.00	250.52	591.39	244.83	10.00	10.00	0.00
3rd BS W Sand									
12,450.00	71.26	359.45	12,248.70	263.82	591.26	258.13	10.00	10.00	0.00
12,500.00	76.26	359.45	12,262.68	311.81	590.80	306.12	10.00	10.00	0.00
12,550.00	81.26	359.45	12,272.43	360.83	590.33	355.15	10.00	10.00	0.00
12,600.00	86.26	359.45	12,277.86	410.52	589.85	404.83	10.00	10.00	0.00
12,647.48	91.00	359.45	12,279.00	457.97	589.40	452.29	10.00	10.00	0.00
Landing PT., Start 9930.01 hold at 12647.48 MD									
12,700.00	91.00	359.45	12,278.08	510.48	588.89	504.80	0.00	0.00	0.00
12,800.00	91.00	359.45	12,276.33	610.46	587.93	604.78	0.00	0.00	0.00
12,900.00	91.00	359.45	12,274.58	710.44	586.97	704.77	0.00	0.00	0.00
13,000.00	91.00	359.45	12,272.82	810.42	586.01	804.75	0.00	0.00	0.00
13,100.00	91.00	359.45	12,271.07	910.40	585.05	904.74	0.00	0.00	0.00
13,200.00	91.00	359.45	12,269.32	1,010.38	584.09	1,004.72	0.00	0.00	0.00
13,300.00	91.00	359.45	12,267.57	1,110.36	583.13	1,104.71	0.00	0.00	0.00
13,400.00	91.00	359.45	12,265.81	1,210.34	582.17	1,204.69	0.00	0.00	0.00
13,500.00	91.00	359.45	12,264.06	1,310.32	581.21	1,304.68	0.00	0.00	0.00
13,600.00	91.00	359.45	12,262.31	1,410.30	580.25	1,404.66	0.00	0.00	0.00
13,700.00	91.00	359.45	12,260.56	1,510.28	579.29	1,504.65	0.00	0.00	0.00
13,800.00	91.00	359.45	12,258.81	1,610.26	578.33	1,604.63	0.00	0.00	0.00
13,900.00	91.00	359.45	12,257.05	1,710.24	577.37	1,704.62	0.00	0.00	0.00

Company:	Tap Rock Operating, LLC	**Local Co-ordinate Reference:**	Well 138H
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:	138H	**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)
14,000.00	91.00	359.45	12,255.30	1,810.22	576.40	1,804.60	0.00	0.00	0.00
14,100.00	91.00	359.45	12,253.55	1,910.20	575.44	1,904.58	0.00	0.00	0.00
14,200.00	91.00	359.45	12,251.80	2,010.18	574.48	2,004.57	0.00	0.00	0.00
14,300.00	91.00	359.45	12,250.04	2,110.16	573.52	2,104.55	0.00	0.00	0.00
14,400.00	91.00	359.45	12,248.29	2,210.14	572.56	2,204.54	0.00	0.00	0.00
14,500.00	91.00	359.45	12,246.54	2,310.12	571.60	2,304.52	0.00	0.00	0.00
14,600.00	91.00	359.45	12,244.79	2,410.10	570.64	2,404.51	0.00	0.00	0.00
14,700.00	91.00	359.45	12,243.03	2,510.08	569.68	2,504.49	0.00	0.00	0.00
14,800.00	91.00	359.45	12,241.28	2,610.06	568.72	2,604.48	0.00	0.00	0.00
14,900.00	91.00	359.45	12,239.53	2,710.04	567.76	2,704.46	0.00	0.00	0.00
15,000.00	91.00	359.45	12,237.78	2,810.02	566.80	2,804.45	0.00	0.00	0.00
15,100.00	91.00	359.45	12,236.03	2,910.00	565.84	2,904.43	0.00	0.00	0.00
15,200.00	91.00	359.45	12,234.27	3,009.98	564.88	3,004.42	0.00	0.00	0.00
15,300.00	91.00	359.45	12,232.52	3,109.96	563.92	3,104.40	0.00	0.00	0.00
15,400.00	91.00	359.45	12,230.77	3,209.94	562.95	3,204.39	0.00	0.00	0.00
15,500.00	91.00	359.45	12,229.02	3,309.92	561.99	3,304.37	0.00	0.00	0.00
15,600.00	91.00	359.45	12,227.26	3,409.90	561.03	3,404.35	0.00	0.00	0.00
15,700.00	91.00	359.45	12,225.51	3,509.88	560.07	3,504.34	0.00	0.00	0.00
15,800.00	91.00	359.45	12,223.76	3,609.86	559.11	3,604.32	0.00	0.00	0.00
15,900.00	91.00	359.45	12,222.01	3,709.84	558.15	3,704.31	0.00	0.00	0.00
16,000.00	91.00	359.45	12,220.26	3,809.82	557.19	3,804.29	0.00	0.00	0.00
16,100.00	91.00	359.45	12,218.50	3,909.80	556.23	3,904.28	0.00	0.00	0.00
16,200.00	91.00	359.45	12,216.75	4,009.78	555.27	4,004.26	0.00	0.00	0.00
16,300.00	91.00	359.45	12,215.00	4,109.76	554.31	4,104.25	0.00	0.00	0.00
16,400.00	91.00	359.45	12,213.25	4,209.74	553.35	4,204.23	0.00	0.00	0.00
16,500.00	91.00	359.45	12,211.49	4,309.72	552.39	4,304.22	0.00	0.00	0.00
16,600.00	91.00	359.45	12,209.74	4,409.70	551.43	4,404.20	0.00	0.00	0.00
16,700.00	91.00	359.45	12,207.99	4,509.68	550.47	4,504.19	0.00	0.00	0.00
16,800.00	91.00	359.45	12,206.24	4,609.66	549.50	4,604.17	0.00	0.00	0.00
16,900.00	91.00	359.45	12,204.48	4,709.64	548.54	4,704.15	0.00	0.00	0.00
17,000.00	91.00	359.45	12,202.73	4,809.62	547.58	4,804.14	0.00	0.00	0.00
17,100.00	91.00	359.45	12,200.98	4,909.60	546.62	4,904.12	0.00	0.00	0.00
17,200.00	91.00	359.45	12,199.23	5,009.58	545.66	5,004.11	0.00	0.00	0.00
17,300.00	91.00	359.45	12,197.48	5,109.56	544.70	5,104.09	0.00	0.00	0.00
17,400.00	91.00	359.45	12,195.72	5,209.54	543.74	5,204.08	0.00	0.00	0.00
17,500.00	91.00	359.45	12,193.97	5,309.52	542.78	5,304.06	0.00	0.00	0.00
17,600.00	91.00	359.45	12,192.22	5,409.50	541.82	5,404.05	0.00	0.00	0.00
17,700.00	91.00	359.45	12,190.47	5,509.48	540.86	5,504.03	0.00	0.00	0.00
17,800.00	91.00	359.45	12,188.71	5,609.46	539.90	5,604.02	0.00	0.00	0.00
17,900.00	91.00	359.45	12,186.96	5,709.44	538.94	5,704.00	0.00	0.00	0.00
18,000.00	91.00	359.45	12,185.21	5,809.42	537.98	5,803.99	0.00	0.00	0.00
18,100.00	91.00	359.45	12,183.46	5,909.40	537.02	5,903.97	0.00	0.00	0.00
18,200.00	91.00	359.45	12,181.71	6,009.38	536.05	6,003.96	0.00	0.00	0.00
18,300.00	91.00	359.45	12,179.95	6,109.36	535.09	6,103.94	0.00	0.00	0.00

Company:	Tap Rock Operating, LLC	**Local Co-ordinate Reference:**	Well 138H
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:	138H	**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)
18,400.00	91.00	359.45	12,178.20	6,209.34	534.13	6,203.92	0.00	0.00	0.00
18,500.00	91.00	359.45	12,176.45	6,309.32	533.17	6,303.91	0.00	0.00	0.00
18,600.00	91.00	359.45	12,174.70	6,409.30	532.21	6,403.89	0.00	0.00	0.00
18,700.00	91.00	359.45	12,172.94	6,509.28	531.25	6,503.88	0.00	0.00	0.00
18,800.00	91.00	359.45	12,171.19	6,609.26	530.29	6,603.86	0.00	0.00	0.00
18,900.00	91.00	359.45	12,169.44	6,709.24	529.33	6,703.85	0.00	0.00	0.00
19,000.00	91.00	359.45	12,167.69	6,809.22	528.37	6,803.83	0.00	0.00	0.00
19,100.00	91.00	359.45	12,165.94	6,909.20	527.41	6,903.82	0.00	0.00	0.00
19,200.00	91.00	359.45	12,164.18	7,009.18	526.45	7,003.80	0.00	0.00	0.00
19,300.00	91.00	359.45	12,162.43	7,109.16	525.49	7,103.79	0.00	0.00	0.00
19,400.00	91.00	359.45	12,160.68	7,209.14	524.53	7,203.77	0.00	0.00	0.00
19,500.00	91.00	359.45	12,158.93	7,309.12	523.57	7,303.76	0.00	0.00	0.00
19,600.00	91.00	359.45	12,157.17	7,409.10	522.61	7,403.74	0.00	0.00	0.00
19,700.00	91.00	359.45	12,155.42	7,509.08	521.64	7,503.72	0.00	0.00	0.00
19,800.00	91.00	359.45	12,153.67	7,609.06	520.68	7,603.71	0.00	0.00	0.00
19,900.00	91.00	359.45	12,151.92	7,709.04	519.72	7,703.69	0.00	0.00	0.00
20,000.00	91.00	359.45	12,150.16	7,809.02	518.76	7,803.68	0.00	0.00	0.00
20,100.00	91.00	359.45	12,148.41	7,909.00	517.80	7,903.66	0.00	0.00	0.00
20,200.00	91.00	359.45	12,146.66	8,008.98	516.84	8,003.65	0.00	0.00	0.00
20,300.00	91.00	359.45	12,144.91	8,108.96	515.88	8,103.63	0.00	0.00	0.00
20,400.00	91.00	359.45	12,143.16	8,208.94	514.92	8,203.62	0.00	0.00	0.00
20,500.00	91.00	359.45	12,141.40	8,308.92	513.96	8,303.60	0.00	0.00	0.00
20,600.00	91.00	359.45	12,139.65	8,408.90	513.00	8,403.59	0.00	0.00	0.00
20,700.00	91.00	359.45	12,137.90	8,508.88	512.04	8,503.57	0.00	0.00	0.00
20,800.00	91.00	359.45	12,136.15	8,608.86	511.08	8,603.56	0.00	0.00	0.00
20,900.00	91.00	359.45	12,134.39	8,708.84	510.12	8,703.54	0.00	0.00	0.00
21,000.00	91.00	359.45	12,132.64	8,808.82	509.16	8,803.53	0.00	0.00	0.00
21,100.00	91.00	359.45	12,130.89	8,908.80	508.19	8,903.51	0.00	0.00	0.00
21,200.00	91.00	359.45	12,129.14	9,008.78	507.23	9,003.49	0.00	0.00	0.00
21,300.00	91.00	359.45	12,127.39	9,108.76	506.27	9,103.48	0.00	0.00	0.00
21,400.00	91.00	359.45	12,125.63	9,208.74	505.31	9,203.46	0.00	0.00	0.00
21,500.00	91.00	359.45	12,123.88	9,308.72	504.35	9,303.45	0.00	0.00	0.00
21,600.00	91.00	359.45	12,122.13	9,408.70	503.39	9,403.43	0.00	0.00	0.00
21,700.00	91.00	359.45	12,120.38	9,508.68	502.43	9,503.42	0.00	0.00	0.00
21,800.00	91.00	359.45	12,118.62	9,608.66	501.47	9,603.40	0.00	0.00	0.00
21,900.00	91.00	359.45	12,116.87	9,708.64	500.51	9,703.39	0.00	0.00	0.00
22,000.00	91.00	359.45	12,115.12	9,808.62	499.55	9,803.37	0.00	0.00	0.00
22,100.00	91.00	359.45	12,113.37	9,908.60	498.59	9,903.36	0.00	0.00	0.00
22,200.00	91.00	359.45	12,111.61	10,008.58	497.63	10,003.34	0.00	0.00	0.00
22,300.00	91.00	359.45	12,109.86	10,108.56	496.67	10,103.33	0.00	0.00	0.00
22,400.00	91.00	359.45	12,108.11	10,208.54	495.71	10,203.31	0.00	0.00	0.00
22,500.00	91.00	359.45	12,106.36	10,308.52	494.74	10,303.30	0.00	0.00	0.00
22,577.50	91.00	359.45	12,105.00	10,386.00	494.00	10,380.78	0.00	0.00	0.00

Company:	Tap Rock Operating, LLC	**Local Co-ordinate Reference:**	Well 138H
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:	138H	**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)
TD at 22577.50									

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
138H - Plat LTP	0.00	0.00	0.00	10,291.00	495.00	436,202.00	841,157.00	32.195482	-103.364095
- plan misses target center by 10302.90usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
138H - Plat FTP	0.00	0.01	0.00	-70.00	595.00	425,841.00	841,257.00	32.167002	-103.364073
- plan misses target center by 599.10usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
138H - KOP	0.00	0.00	11,706.13	-125.00	595.00	425,786.00	841,257.00	32.166851	-103.364075
- plan hits target center									
- Point									
138H - PBHL	0.00	0.00	12,105.00	10,386.00	494.00	436,297.00	841,156.00	32.195743	-103.364095
- plan hits target center									
- Point									
138H - Landing PT.	0.00	0.01	12,279.00	457.97	589.40	426,368.97	841,251.40	32.168453	-103.364076
- plan hits target center									
- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
939.05	939.00	Rustler Anhydrite			
1,190.04	1,189.00	Top Salt			
4,985.83	4,964.00	Base Salt			
5,292.51	5,269.00	Delaware Mountain Gp			
5,322.68	5,299.00	Bell Canyon			
5,322.68	5,299.00	Lamar			
5,347.82	5,324.00	Ramsey Sand			
6,292.99	6,264.00	Cherry Canyon			
7,815.31	7,784.00	Brushy Canyon			
9,065.31	9,034.00	Bone Spring Lime			
10,325.31	10,294.00	1st Bone Spring Sand			
10,760.31	10,729.00	2nd Bone Spring Sand			
12,201.37	12,121.00	3rd Bone Spring Sand			
12,435.89	12,244.00	3rd BS W Sand			

Company:	Tap Rock Operating, LLC	**Local Co-ordinate Reference:**	Well 138H
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:	138H	**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
1100	1099	-3	15	Start 5516.32 hold at 1099.99 MD
6616	6586	-122	580	Start Drop -2.00
6916	6885	-125	595	Start 4821.13 hold at 6916.31 MD
11,737	11,706	-125	595	KOP, Start DLS 10.00 TFO 359.45
12,647	12,279	458	589	Landing PT., Start 9930.01 hold at 12647.48 MD
22,577	12,105	10,386	494	TD at 22577.50

Checked By: _____ Approved By: _____ Date: _____

AFMSS

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

PWD Data Report

12/31/2019

APD ID: 10400038978 **Submission Date:** 02/13/2019

Operator Name: TAP ROCK OPERATING LLC

Well Name: GIPPLE FED COM **Well Number:** 138H

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

Section 1 - General

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

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

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

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Operator Name: TAP ROCK OPERATING LLC

Well Name: GIPPLE FED COM **Well Number:** 138H

Lined pit Monitor description:

Lined pit Monitor attachment:

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

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

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Operator Name: TAP ROCK OPERATING LLC

Well Name: GIPPLE FED COM **Well Number:** 138H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

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

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

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

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

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

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

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

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

Other PWD discharge volume (bbl/day):

Operator Name: TAP ROCK OPERATING LLC

Well Name: GIPPLE FED COM **Well Number:** 138H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

AFMSS

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

Bond Info Data Report

12/31/2019

APD ID: 10400038978

Submission Date: 02/13/2019

Operator Name: TAP ROCK OPERATING LLC

Well Name: GIPPLE FED COM

Well Number: 138H

Well Type: OIL WELL

Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Bond Information

Federal/Indian APD: FED

BLM Bond number: NMB001443

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment: