Form 3160-3
(June 2015)

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

5. Lease Serial No.
NMNM0554252

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.
THE CONTEST FED COM
211H (326773)

2. Name of Operator
TAP ROCK OPERATING LLC (372043)

9. API Well No.
30-025-46678

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 (22220)
ANTELOPE RIDGE; WOLFCAMP

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface NWSW / 1401 FSL / 1272 FWL / LAT 32.228644 / LONG -103.4793407
At proposed prod. zone NWNW / 30 FNL / 338 FWL / LAT 32.2392509 / LONG -103.4823678

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 9 / T24S / R34E / NMP

14. Distance in miles and direction from nearest town or post office*
18 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)
1248 feet

16. No of acres in lease
240

17. Spacing Unit dedicated to this well
160

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

19. Proposed Depth
12070 feet / 17488 feet

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3562 feet

22. Approximate date work will start*
12/01/2019

23. Estimated duration
60 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	07/17/2019
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

APPROVED WITH CONDITIONS

KR 01/02/20

Approval Date: 12/30/2019

(Continued on page 2)

*(Instructions on page 2)

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Tap Rock Operating LLC**
LEASE NO.:	**NMNM0554252**
WELL NAME & NO.:	THE CONTEST FED COM 211H
SURFACE HOLE FOOTAGE:	1401'/S & 1272'/W
BOTTOM HOLE FOOTAGE	30'/N & 338'/W
LOCATION:	Section 9, T.24 S., R.34 E., NMP
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

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Wolfcamp** formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1260 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 **5395 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 **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 **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.

APD ID: 10400043791 **Submission Date:** 07/17/2019

Operator Name: TAP ROCK OPERATING LLC

Well Name: THE CONTEST FED COM **Well Number:** 211H

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
501063	QUATERNARY	3562	0	0	ALLUVIUM	OTHER, USEABLE WATER : Salt	N
501064	RUSTLER ANHYDRITE	2354	1209	1209		OTHER : Salt	N
501065	SALADO	1828	1735	1736	SALT	OTHER : Salt	N
501066	BASE OF SALT	-1508	5070	5212		OTHER : Salt	N
501067	LAMAR	-1777	5339	5493	LIMESTONE	NONE	N
501068	BELL CANYON	-1795	5357	5512	SANDSTONE	NATURAL GAS, OIL	N
501069	CHERRY CANYON	-2689	6251	6445	SANDSTONE	NATURAL GAS, OIL	N
501070	BRUSHY CANYON	-4081	7643	7864	SANDSTONE	NATURAL GAS	N
501071	BONE SPRING	-5473	9035	9255	LIMESTONE	NATURAL GAS, OIL	N
501072	BONE SPRING 1ST	-6501	10063	10283	SANDSTONE	NATURAL GAS, OIL	N
501073	BONE SPRING 2ND	-6745	10307	10527	SANDSTONE	NATURAL GAS, OIL	N
501074	BONE SPRING 3RD	-7535	11097	11317	SANDSTONE	NATURAL GAS, OIL	N
501075	WOLFCAMP	-8276	11838	12059	SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: TAP ROCK OPERATING LLC

Well Name: THE CONTEST FED COM **Well Number:** 211H

Pressure Rating (PSI): 10M **Rating Depth:** 15000

Equipment: A 10,000 psi BOP stack consisting of 3 rams with 2 pipe rams, 1 blind ram, and 1 annular preventer will be used 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 run a multi-bowl speed head for setting the Intermediate 1, Intermediate 2, and Production Strings. 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. Tap Rock requests a variance to have the option of batch drilling this well with other wells on the same pad. In the event that this well is batch drilled, after drilling surface, 1st intermediate, and 2nd intermediate hole sections and cementing 2 nd intermediate casing, a 10M dry hole cap with bleed off valve will be installed. The rig will then walk to another well on the pad. When the rig returns to this well and BOPs are installed, the operator will perform a full BOP test. Tap Rock requests a variance to run 7-5/8" BTC casing inside 9-5/8" BTC casing will be less than the 0.422" stand off regulation. Through conversations with BLM representatives, Tap Rock has received approval for this design as long as the 7-5/8" flush casing was run throughout the entire 300' cement tie back section between 9-5/8" and 7-5/8" casing. Tap Rock requests a variance to use a 5000 psi annular BOP on a 10M BOP stack. The annular will be tested to 250 psi low and 5000 psi high.

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.

Choke Diagram Attachment:

Contest_211H_Choke_032918_20190717091102.pdf

BOP Diagram Attachment:

Contest_211H_BOP_20190717091109.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	1260	0	1260	3562		1260	J-55	54.5	BUTT	1.13	1.15	DRY	1.6	DRY	1.6
2	INTERMEDIATE	8.75	7.625	NEW	API	N	0	5250	0	5108	3562		5250	P-110	29.7	BUTT	1.13	1.15	DRY	1.6	DRY	1.6
3	INTERMEDIATE	12.25	9.625	NEW	API	N	0	5550	0	5395	3562		5550	J-55	40	BUTT	1.13	1.15	DRY	1.6	DRY	1.6

Operator Name: TAP ROCK OPERATING LLC

Well Name: THE CONTEST FED COM **Well Number:** 211H

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
4	PRODUCTION	6.75	5.5	NEW	NON API	N	0	11650	0	11429	3562		11650	P-110	20	OTHER - TXP	1.13	1.15	DRY	1.6	DRY	1.6
5	INTERMEDIATE	8.75	7.625	NEW	NON API	Y	5250	11850	5108	11635			6600	P-110	29.7	OTHER - W-513	1.13	1.15	DRY	1.6	DRY	1.6
6	PRODUCTION	6.75	5.0	NEW	NON API	Y	11650	17490	11429	12070			5840	P-110	18	OTHER - W-521	1.13	1.15	DRY	1.6	DRY	1.6

Casing Attachments

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

Inspection Document:

Spec Document:

Contest_131H_5in_W521_Casing_Spec_20190716093612.pdf

Tapered String Spec:

Contest_131H_5in_W521_Casing_Spec_20190716093624.pdf

Casing Design Assumptions and Worksheet(s):

Contest_211H_Casing_Design_Assumptions_20190717091501.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Contest_211H_Casing_Design_Assumptions_20190717091623.pdf

Operator Name: TAP ROCK OPERATING LLC

Well Name: THE CONTEST FED COM **Well Number:** 211H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Contest_211H_Casing_Design_Assumptions_20190717091552.pdf

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

Inspection Document:

Spec Document:

Contest_211H_5.5in_TXP_Casing_Spec_20190717091839.PDF

Tapered String Spec:

Contest_131H_7.625in_W513_Casing_Spec_20190716093113.pdf

Casing Design Assumptions and Worksheet(s):

Contest_211H_Casing_Design_Assumptions_20190717091856.pdf

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

Inspection Document:

Spec Document:

Contest_211H_7.625in_W513_Casing_Spec_20190717091738.pdf

Tapered String Spec:

Contest_211H_7.625in_W513_Casing_Spec_20190717091751.pdf

Casing Design Assumptions and Worksheet(s):

Contest_211H_Casing_Design_Assumptions_20190717100702.pdf

Operator Name: TAP ROCK OPERATING LLC

Well Name: THE CONTEST FED COM **Well Number:** 211H

Casing Attachments

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

Inspection Document:

Spec Document:

Contest_211H_5in_W521_Casing_Spec_20190717091944.pdf

Tapered String Spec:

Contest_211H_5in_W521_Casing_Spec_20190717091953.pdf

Casing Design Assumptions and Worksheet(s):

Contest_211H_Casing_Design_Assumptions_20190717092009.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Lead		0	0	0	0	0	0	0	None	None
PRODUCTION	Tail		11150	17490	520	1.71	14.2	889	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	960	741	1.8	13.5	1334	100	Class C	None
SURFACE	Tail		960	1260	309	1.35	14.8	417	100	Class C	5% NaCl + LCM
INTERMEDIATE	Lead		0	4550	1078	2.18	12.7	2350	65	Class C	Bentonite + 1% CaCL2 + 8% NaCl + LCM
INTERMEDIATE	Tail		4550	5550	389	1.33	14.8	517	65	Class C	5% NaCl + LCM
INTERMEDIATE	Lead		5250	10850	265	2.87	11.5	761	35	TXI	Fluid Loss + Dispersant + Retarder + LCM

Operator Name: TAP ROCK OPERATING LLC

Well Name: THE CONTEST FED COM **Well Number:** 211H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Tail		10850	11850	107	1.27	15	136	35	Class 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 (e. g., barite, cedar bark) for weight addition and fluid loss control will always be on site. Mud program is subject to change due to hole conditions.

Describe the mud monitoring system utilized: Electronic Pason mud monitor system complying with Onshore Order 1 will be used.

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
1260	5550	OTHER : Brine water	10	10							
11850	17490	OIL-BASED MUD	11.5	11.5							
0	1260	OTHER : FW Spud Mud	8.3	8.3							
5550	11850	OTHER : FW/Cut Brine	9	9							

Operator Name: TAP ROCK OPERATING LLC

Well Name: THE CONTEST FED COM **Well Number:** 211H

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 9.625" casing shoe to TD; A 2-person mud logging program will be used from 9.625" casing shoe 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: 7360 **Anticipated Surface Pressure:** 4674.89

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:

Contest_211H_H2S_Plan_20190717092432.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Contest_211H_Horizontal_Plan_20190717092448.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Contest_211H_Speedhead_Specs_033018_20190717092510.pdf

Contest_211H_CoFlex_Certs_20190717092534.pdf

Contest_211H_Anti_Collision_Report_20190717092541.pdf

Contest_211H_Drill_Plan_20190717092549.pdf

Other Variance attachment:

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

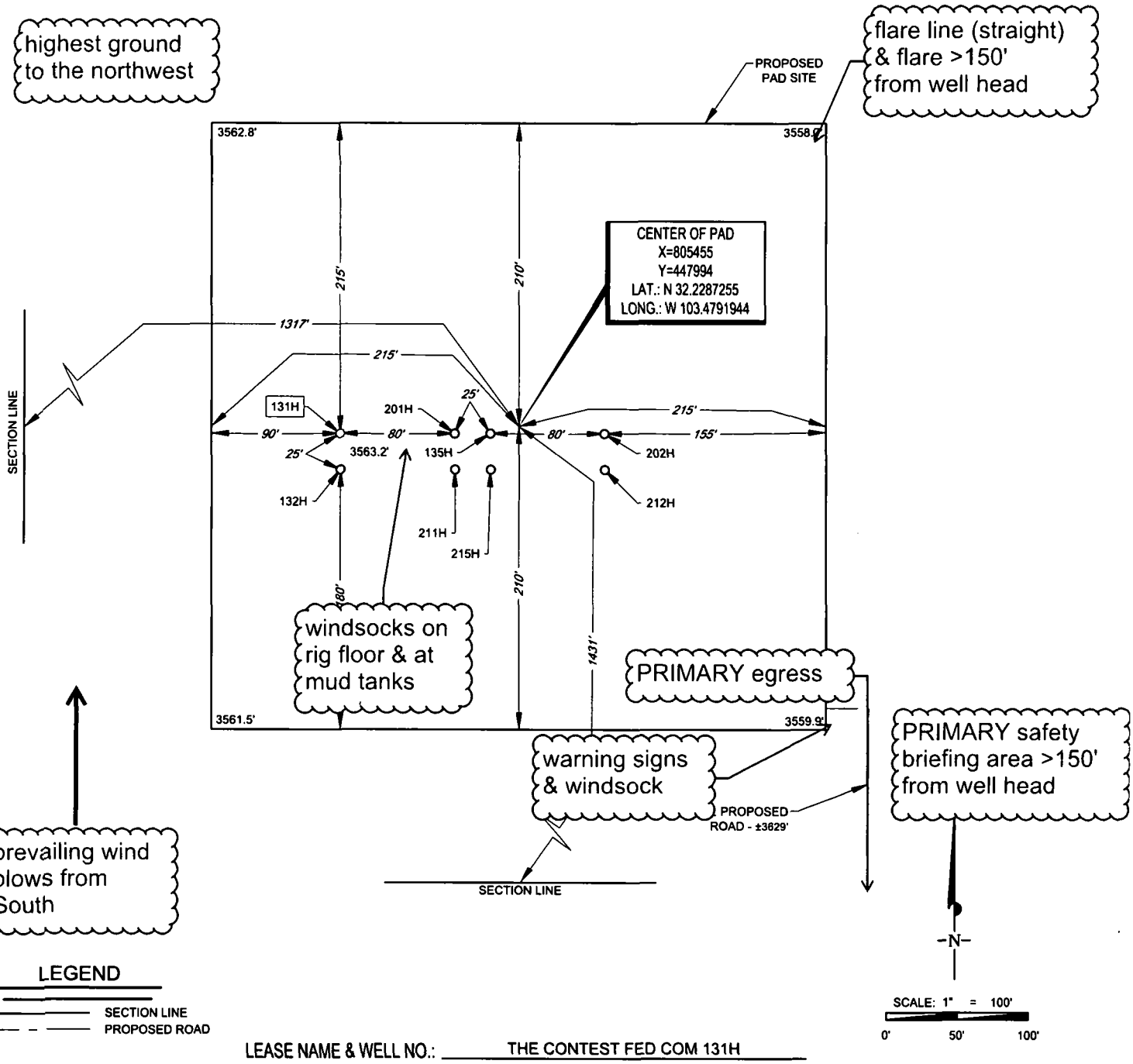
Emergency Contacts		
Carlsbad Police Department	575.887.7551	911
Carlsbad Medical Center	575.887.4100	911
Eddy County Fire Service	575.628.5450	911
Eddy County Sherriff	575.887.7551	911
Lea County Fire Service	575.391.2983	911
Lea County Sherriff	575.396.3611	911
Jal Police Department	575.395.2121	911
Jal Fire Department	575.395.2221	911
Tap Rock Resources Operating, LLC	720.772.5090	

EXHIBIT 2B

TAP ROCK

SECTION 9, TOWNSHIP 24-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

DETAIL VIEW
SCALE: 1" = 100'



LEGEND

SECTION LINE
PROPOSED ROAD

LEASE NAME & WELL NO.: THE CONTEST FED COM 131H

131H LATITUDE N 32.2287144 131H LONGITUDE W 103.4795988

CENTER OF PAD IS 1431' FSL & 1317' FWL

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.

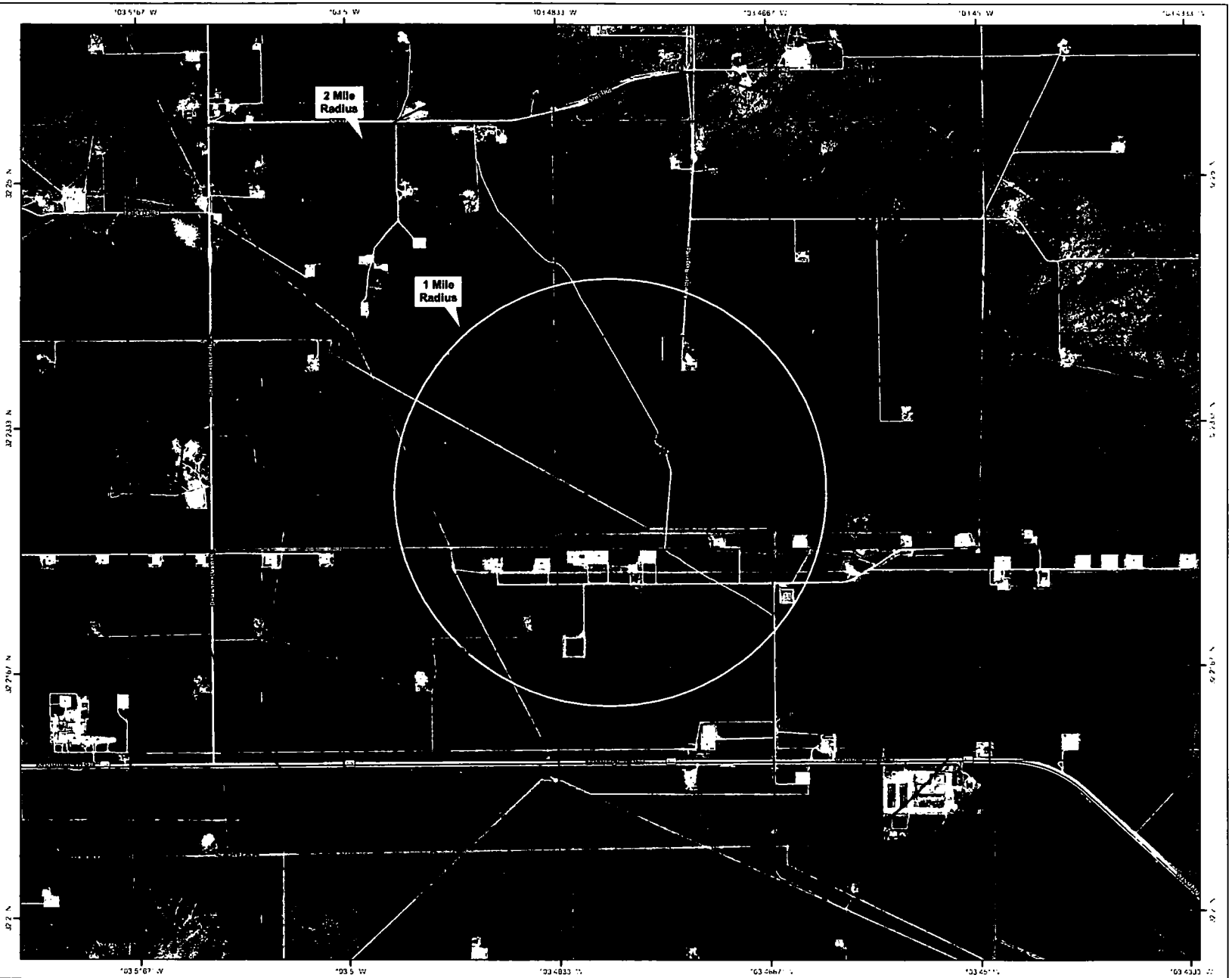
TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

ORIGINAL DOCUMENT SIZE: 8.5" X 11"

Tap Rock Operating LLC

The Contest Fed Com
H2S Contingency Plan:
2 Mile Radius Map

Sec. 9, Township 24S, Range 34E
Lea County, New Mexico



Well Pad Location

1:27,000

0 0.25 0.5 1

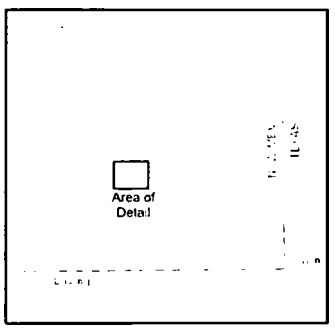
Miles

N

NAD 1983 New Mexico State Plane East
FIPS 3001 Feet

PERMITS WEST

Prepared by Permits West, Inc., June 26, 2019
for Tap Rock Operating, LLC



TAP ROCK RESOURCES

INTREPID

Azimuths to Grid North
True North: -0.46°
Magnetic North: 6.25°

Magnetic Field
Strength: 47759.0nT
Dip Angle: 60.06°
Date: 04/24/2019
Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 6.25°

Tap Rock Resources, LLC
Project: Lea County, NM (NAD 83 NME)
Site: (Contest Fed) Sec-9_T-24-S_R-34-E
Well: The Contest Fed Com #211H
Wellbore: OWB
Design: Plan #2
Lat: 32° 13' 43.118 N
Long: 103° 28' 45.629 W
Pad GL: 3562.0
KB: KB @ 3588.0usft (H&P 388)

WELL DETAILS: The Contest Fed Com #211H

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	447984.00	805410.00	32° 13' 43.118 N	103° 28' 45.629 W

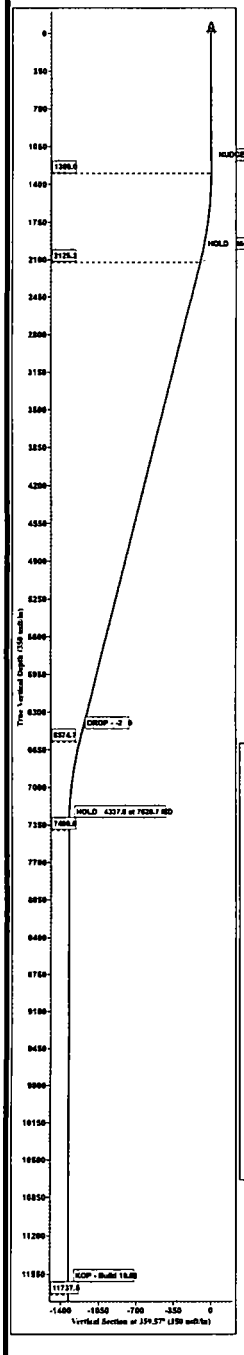
3562.0

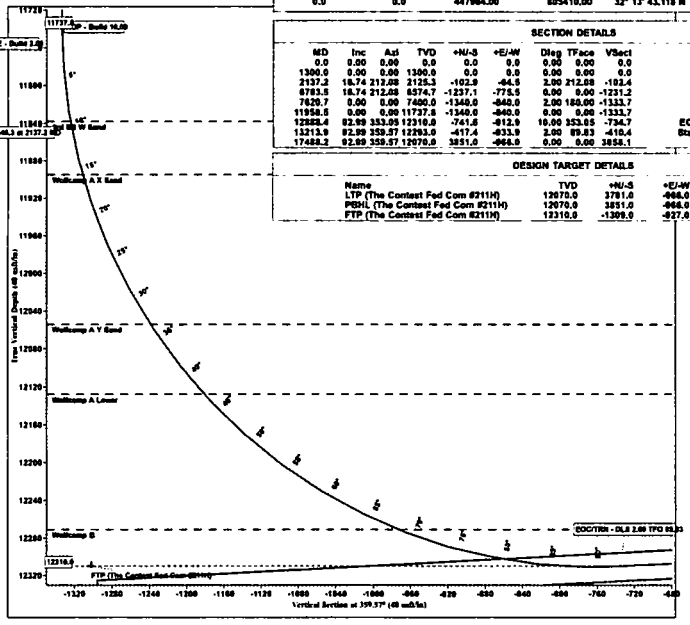
SECTION DETAILS

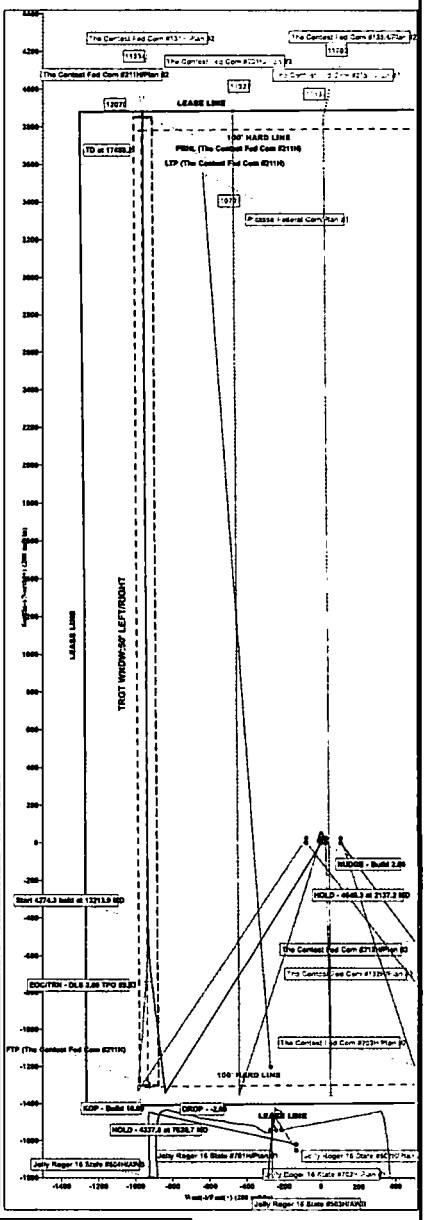
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
1300.0	0.00	0.00	1300.0	0.0	0.0	0.00	0.00	0.0	NUDGE - Build 2.00
2137.2	16.74	213.08	2125.3	-102.9	-64.5	2.00	212.08	-102.4	HOLD - 4648.3 at 2137.2 MD
6783.5	16.74	212.08	6574.7	-1237.1	-775.5	0.00	0.00	-1231.2	DROP - -2.00
7620.7	0.00	0.00	7460.0	-1340.0	-840.0	2.00	180.00	-1333.7	HOLD - 4337.8 at 7620.7 MD
11958.5	0.00	0.00	11737.8	-1340.0	-840.0	0.00	0.00	-1333.7	KOP - Build 10.00
12883.4	92.99	353.05	12310.0	-741.8	-912.9	10.00	353.05	-734.7	EOC/TRN - DLS 2.00 TFO 89.83
13213.9	92.99	359.57	12293.0	-417.4	-933.9	2.00	89.83	-410.4	Start 4274.3 hold at 13213.9 MD
17488.2	92.99	359.57	12070.0	3851.0	-966.0	0.00	0.00	3856.1	TD at 17488.2

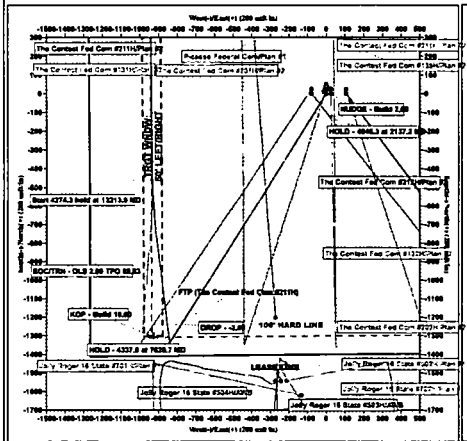
DESIGN TARGET DETAILS

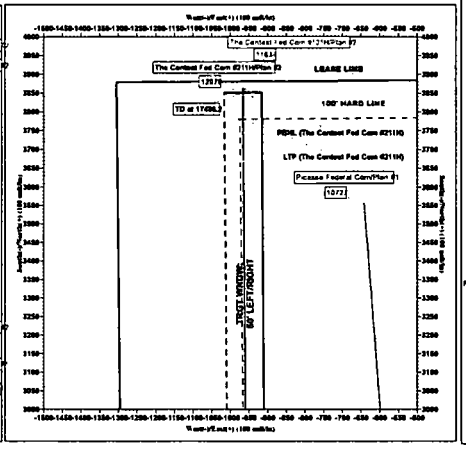
Name	TVD	+N/-S	+E/-W	Northing	Easting
LTP (The Contest Fed Com #211H)	12070.0	3781.0	-966.0	451745.00	804444.00
PBHL (The Contest Fed Com #211H)	12070.0	3851.0	-966.0	451815.00	804444.00
FTP (The Contest Fed Com #211H)	12310.0	-1309.0	-927.0	446855.00	804483.00

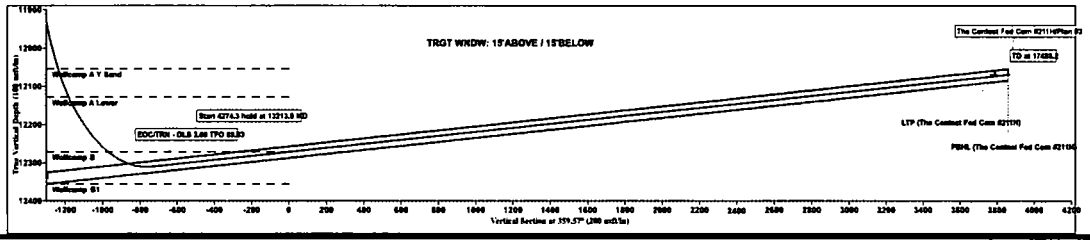












Tap Rock Resources, LLC

Lea County, NM (NAD 83 NME)
(Contest Fed) Sec-9_T-24-S_R-34-E
The Contest Fed Com #211H

OWB

Plan: Plan #2

Standard Planning Report

21 May, 2019

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well The Contest Fed Com #211H
Company:	Tap Rock Resources, LLC	**TVD Reference:**	KB @ 3588.0usft (H&P 388)
Project:	Lea County, NM (NAD 83 NME)	**MD Reference:**	KB @ 3588.0usft (H&P 388)
Site:	(Contest Fed) Sec-9_T-24-S_R-34-E	**North Reference:**	Grid
Well:	The Contest Fed Com #211H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

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

Site	(Contest Fed) Sec-9_T-24-S_R-34-E				
Site Position:		**Northing:**	447,954.00 usft	**Latitude:**	32° 13' 43.026 N
From:	Map	**Easting:**	805,330.00 usft	**Longitude:**	103° 28' 46.561 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.46 °

Well	The Contest Fed Com #211H					
Well Position	**+N/-S**	10.0 usft	**Northing:**	447,964.00 usft	**Latitude:**	32° 13' 43.118 N
	+E/-W	80.0 usft	**Easting:**	805,410.00 usft	**Longitude:**	103° 28' 45.629 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	3,562.0 usft

Wellbore	OWB				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	04/24/19	6.71	60.06	47,758.95578814

Design	Plan #2				
Audit Notes:					
Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.0	0.0	0.0	359.57	

Plan Survey Tool Program **Date** 05/21/19

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	17,488.2	Plan #2 (OWB)	MWD	
				OWSG MWD - Standard	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,137.2	16.74	212.08	2,125.3	-102.9	-64.5	2.00	2.00	0.00	212.08	
6,783.5	16.74	212.08	6,574.7	-1,237.1	-775.5	0.00	0.00	0.00	0.00	
7,620.7	0.00	0.00	7,400.0	-1,340.0	-840.0	2.00	-2.00	0.00	180.00	
11,958.5	0.00	0.00	11,737.8	-1,340.0	-840.0	0.00	0.00	0.00	0.00	
12,888.4	92.99	353.05	12,310.0	-741.6	-912.9	10.00	10.00	0.00	353.05	
13,213.9	92.99	359.57	12,293.0	-417.4	-933.9	2.00	0.00	2.00	89.83	
17,488.2	92.99	359.57	12,070.0	3,851.0	-966.0	0.00	0.00	0.00	0.00	PBHL (The Contest

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well The Contest Fed Com #211H
Company:	Tap Rock Resources, LLC	**TVD Reference:**	KB @ 3588.0usft (H&P 388)
Project:	Lea County, NM (NAD 83 NME)	**MD Reference:**	KB @ 3588.0usft (H&P 388)
Site:	(Contest Fed) Sec-9_T-24-S_R-34-E	**North Reference:**	Grid
Well:	The Contest Fed Com #211H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,209.0	0.00	0.00	1,209.0	0.0	0.0	0.0	0.00	0.00	0.00
Rustler Anhydrite									
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
NUDGE - Build 2.00									
1,400.0	2.00	212.08	1,400.0	-1.5	-0.9	-1.5	2.00	2.00	0.00
1,500.0	4.00	212.08	1,499.8	-5.9	-3.7	-5.9	2.00	2.00	0.00
1,600.0	6.00	212.08	1,599.5	-13.3	-8.3	-13.2	2.00	2.00	0.00
1,700.0	8.00	212.08	1,698.7	-23.6	-14.8	-23.5	2.00	2.00	0.00
1,736.7	8.73	212.08	1,735.0	-28.1	-17.6	-28.0	2.00	2.00	0.00
Top Salt									
1,800.0	10.00	212.08	1,797.5	-36.9	-23.1	-36.7	2.00	2.00	0.00
1,900.0	12.00	212.08	1,895.6	-53.0	-33.3	-52.8	2.00	2.00	0.00
2,000.0	14.00	212.08	1,993.1	-72.1	-45.2	-71.8	2.00	2.00	0.00
2,100.0	16.00	212.08	2,089.6	-94.0	-58.9	-93.6	2.00	2.00	0.00
2,137.2	16.74	212.08	2,125.3	-102.9	-64.5	-102.4	2.00	2.00	0.00
HOLD - 4646.3 at 2137.2 MD									
2,200.0	16.74	212.08	2,185.5	-118.2	-74.1	-117.7	0.00	0.00	0.00
2,300.0	16.74	212.08	2,281.2	-142.7	-89.4	-142.0	0.00	0.00	0.00
2,400.0	16.74	212.08	2,377.0	-167.1	-104.7	-166.3	0.00	0.00	0.00
2,500.0	16.74	212.08	2,472.8	-191.5	-120.0	-190.6	0.00	0.00	0.00
2,600.0	16.74	212.08	2,568.5	-215.9	-135.3	-214.9	0.00	0.00	0.00
2,700.0	16.74	212.08	2,664.3	-240.3	-150.6	-239.2	0.00	0.00	0.00
2,800.0	16.74	212.08	2,760.0	-264.7	-165.9	-263.5	0.00	0.00	0.00
2,900.0	16.74	212.08	2,855.8	-289.1	-181.2	-287.7	0.00	0.00	0.00
3,000.0	16.74	212.08	2,951.6	-313.5	-196.5	-312.0	0.00	0.00	0.00
3,100.0	16.74	212.08	3,047.3	-337.9	-211.8	-336.3	0.00	0.00	0.00
3,200.0	16.74	212.08	3,143.1	-362.3	-227.1	-360.6	0.00	0.00	0.00
3,300.0	16.74	212.08	3,238.8	-386.8	-242.4	-384.9	0.00	0.00	0.00
3,400.0	16.74	212.08	3,334.6	-411.2	-257.7	-409.2	0.00	0.00	0.00
3,500.0	16.74	212.08	3,430.4	-435.6	-273.0	-433.5	0.00	0.00	0.00
3,600.0	16.74	212.08	3,526.1	-460.0	-288.3	-457.8	0.00	0.00	0.00
3,700.0	16.74	212.08	3,621.9	-484.4	-303.7	-482.1	0.00	0.00	0.00
3,800.0	16.74	212.08	3,717.6	-508.8	-319.0	-506.4	0.00	0.00	0.00
3,900.0	16.74	212.08	3,813.4	-533.2	-334.3	-530.7	0.00	0.00	0.00
4,000.0	16.74	212.08	3,909.2	-557.6	-349.6	-555.0	0.00	0.00	0.00
4,100.0	16.74	212.08	4,004.9	-582.0	-364.9	-579.3	0.00	0.00	0.00
4,200.0	16.74	212.08	4,100.7	-606.4	-380.2	-603.6	0.00	0.00	0.00
4,300.0	16.74	212.08	4,196.4	-630.9	-395.5	-627.9	0.00	0.00	0.00
4,400.0	16.74	212.08	4,292.2	-655.3	-410.8	-652.2	0.00	0.00	0.00
4,500.0	16.74	212.08	4,388.0	-679.7	-426.1	-676.5	0.00	0.00	0.00
4,600.0	16.74	212.08	4,483.7	-704.1	-441.4	-700.8	0.00	0.00	0.00

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well The Contest Fed Com #211H
Company:	Tap Rock Resources, LLC	**TVD Reference:**	KB @ 3588.0usft (H&P 388)
Project:	Lea County, NM (NAD 83 NME)	**MD Reference:**	KB @ 3588.0usft (H&P 388)
Site:	(Contest Fed) Sec-9_T-24-S_R-34-E	**North Reference:**	Grid
Well:	The Contest Fed Com #211H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

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)
4,700.0	16.74	212.08	4,579.5	-728.5	-456.7	-725.0	0.00	0.00	0.00
4,800.0	16.74	212.08	4,675.2	-752.9	-472.0	-749.3	0.00	0.00	0.00
4,900.0	16.74	212.08	4,771.0	-777.3	-487.3	-773.6	0.00	0.00	0.00
5,000.0	16.74	212.08	4,866.8	-801.7	-502.6	-797.9	0.00	0.00	0.00
5,100.0	16.74	212.08	4,962.5	-826.1	-517.9	-822.2	0.00	0.00	0.00
5,200.0	16.74	212.08	5,058.3	-850.5	-533.2	-846.5	0.00	0.00	0.00
5,212.2	16.74	212.08	5,070.0	-853.5	-535.1	-849.5	0.00	0.00	0.00
Base Salt									
5,300.0	16.74	212.08	5,154.0	-875.0	-548.5	-870.8	0.00	0.00	0.00
5,400.0	16.74	212.08	5,249.8	-899.4	-563.8	-895.1	0.00	0.00	0.00
5,483.8	16.74	212.08	5,330.0	-919.8	-576.6	-915.5	0.00	0.00	0.00
Delaware Mountain Gp									
5,493.2	16.74	212.08	5,339.0	-922.1	-578.0	-917.7	0.00	0.00	0.00
Lamar									
5,500.0	16.74	212.08	5,345.6	-923.8	-579.1	-919.4	0.00	0.00	0.00
5,512.0	16.74	212.08	5,357.0	-926.7	-580.9	-922.3	0.00	0.00	0.00
Bell Canyon									
5,528.7	16.74	212.08	5,373.0	-930.8	-583.5	-926.4	0.00	0.00	0.00
Ramsey Sand									
5,600.0	16.74	212.08	5,441.3	-948.2	-594.4	-943.7	0.00	0.00	0.00
5,700.0	16.74	212.08	5,537.1	-972.6	-609.7	-968.0	0.00	0.00	0.00
5,800.0	16.74	212.08	5,632.8	-997.0	-625.0	-992.3	0.00	0.00	0.00
5,900.0	16.74	212.08	5,728.6	-1,021.4	-640.3	-1,016.6	0.00	0.00	0.00
6,000.0	16.74	212.08	5,824.4	-1,045.8	-655.6	-1,040.9	0.00	0.00	0.00
6,100.0	16.74	212.08	5,920.1	-1,070.2	-670.9	-1,065.2	0.00	0.00	0.00
6,200.0	16.74	212.08	6,015.9	-1,094.6	-686.2	-1,089.5	0.00	0.00	0.00
6,300.0	16.74	212.08	6,111.6	-1,119.1	-701.5	-1,113.8	0.00	0.00	0.00
6,400.0	16.74	212.08	6,207.4	-1,143.5	-716.8	-1,138.1	0.00	0.00	0.00
6,445.5	16.74	212.08	6,251.0	-1,154.6	-723.8	-1,149.1	0.00	0.00	0.00
Cherry Canyon									
6,500.0	16.74	212.08	6,303.2	-1,167.9	-732.1	-1,162.3	0.00	0.00	0.00
6,600.0	16.74	212.08	6,398.9	-1,192.3	-747.4	-1,186.6	0.00	0.00	0.00
6,700.0	16.74	212.08	6,494.7	-1,216.7	-762.7	-1,210.9	0.00	0.00	0.00
6,783.5	16.74	212.08	6,574.7	-1,237.1	-775.5	-1,231.2	0.00	0.00	0.00
DROP - -2.00									
6,800.0	16.41	212.08	6,590.5	-1,241.1	-778.0	-1,235.2	2.00	-2.00	0.00
6,900.0	14.41	212.08	6,686.8	-1,263.6	-792.1	-1,257.6	2.00	-2.00	0.00
7,000.0	12.41	212.08	6,784.1	-1,283.2	-804.4	-1,277.2	2.00	-2.00	0.00
7,100.0	10.41	212.08	6,882.1	-1,300.0	-814.9	-1,293.9	2.00	-2.00	0.00
7,200.0	8.41	212.08	6,980.8	-1,313.9	-823.6	-1,307.7	2.00	-2.00	0.00
7,300.0	6.41	212.08	7,079.9	-1,324.8	-830.5	-1,318.5	2.00	-2.00	0.00
7,400.0	4.41	212.08	7,179.5	-1,332.8	-835.5	-1,326.5	2.00	-2.00	0.00
7,500.0	2.41	212.08	7,279.3	-1,337.8	-838.6	-1,331.5	2.00	-2.00	0.00
7,600.0	0.41	212.08	7,379.3	-1,339.9	-840.0	-1,333.6	2.00	-2.00	0.00
7,620.7	0.00	0.00	7,400.0	-1,340.0	-840.0	-1,333.7	2.00	-2.00	0.00
HOLD - 4337.8 at 7620.7 MD									
7,700.0	0.00	0.00	7,479.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
7,800.0	0.00	0.00	7,579.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
7,863.7	0.00	0.00	7,643.0	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
Brushy Canyon									
7,900.0	0.00	0.00	7,679.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
8,000.0	0.00	0.00	7,779.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
8,100.0	0.00	0.00	7,879.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well The Contest Fed Com #211H
Company:	Tap Rock Resources, LLC	**TVD Reference:**	KB @ 3588.0usft (H&P 388)
Project:	Lea County, NM (NAD 83 NME)	**MD Reference:**	KB @ 3588.0usft (H&P 388)
Site:	(Contest Fed) Sec-9_T-24-S_R-34-E	**North Reference:**	Grid
Well:	The Contest Fed Com #211H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

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)
8,200.0	0.00	0.00	7,979.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
8,300.0	0.00	0.00	8,079.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
8,400.0	0.00	0.00	8,179.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
8,500.0	0.00	0.00	8,279.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
8,600.0	0.00	0.00	8,379.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
8,700.0	0.00	0.00	8,479.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
8,800.0	0.00	0.00	8,579.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
8,900.0	0.00	0.00	8,679.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
9,000.0	0.00	0.00	8,779.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
9,100.0	0.00	0.00	8,879.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
9,200.0	0.00	0.00	8,979.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
9,255.7	0.00	0.00	9,035.0	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
Bone Spring Lime									
9,300.0	0.00	0.00	9,079.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
9,329.7	0.00	0.00	9,109.0	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
Upper Avalon									
9,400.0	0.00	0.00	9,179.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
9,500.0	0.00	0.00	9,279.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
9,584.7	0.00	0.00	9,364.0	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
Middle Avalon									
9,600.0	0.00	0.00	9,379.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
9,700.0	0.00	0.00	9,479.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
9,800.0	0.00	0.00	9,579.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
9,900.0	0.00	0.00	9,679.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
9,927.7	0.00	0.00	9,707.0	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
Lower Avalon									
10,000.0	0.00	0.00	9,779.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
10,100.0	0.00	0.00	9,879.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
10,200.0	0.00	0.00	9,979.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
10,283.7	0.00	0.00	10,063.0	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
1st Bone Spring Sand									
10,300.0	0.00	0.00	10,079.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
10,400.0	0.00	0.00	10,179.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
10,500.0	0.00	0.00	10,279.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
10,527.7	0.00	0.00	10,307.0	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
2nd Bone Spring Carb									
10,600.0	0.00	0.00	10,379.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
10,700.0	0.00	0.00	10,479.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
10,800.0	0.00	0.00	10,579.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
10,834.7	0.00	0.00	10,614.0	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
2nd Bone Spring Sand									
10,900.0	0.00	0.00	10,679.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
11,000.0	0.00	0.00	10,779.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
11,100.0	0.00	0.00	10,879.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
11,200.0	0.00	0.00	10,979.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
11,300.0	0.00	0.00	11,079.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
11,317.7	0.00	0.00	11,097.0	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
3rd Bone Spring Carb									
11,400.0	0.00	0.00	11,179.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
11,500.0	0.00	0.00	11,279.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
11,600.0	0.00	0.00	11,379.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
11,700.0	0.00	0.00	11,479.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
11,800.0	0.00	0.00	11,579.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well The Contest Fed Com #211H
Company:	Tap Rock Resources, LLC	**TVD Reference:**	KB @ 3588.0usft (H&P 388)
Project:	Lea County, NM (NAD 83 NME)	**MD Reference:**	KB @ 3588.0usft (H&P 388)
Site:	(Contest Fed) Sec-9_T-24-S_R-34-E	**North Reference:**	Grid
Well:	The Contest Fed Com #211H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

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)
11,855.7	0.00	0.00	11,635.0	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
3rd Bone Spring Sand									
11,900.0	0.00	0.00	11,679.3	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
11,958.5	0.00	0.00	11,737.8	-1,340.0	-840.0	-1,333.7	0.00	0.00	0.00
KOP - Build 10.00									
12,000.0	4.15	353.05	11,779.2	-1,338.5	-840.2	-1,332.2	10.00	10.00	0.00
12,050.0	9.15	353.05	11,828.9	-1,332.8	-840.9	-1,326.4	10.00	10.00	0.00
12,059.2	10.07	353.05	11,838.0	-1,331.2	-841.1	-1,324.9	10.00	10.00	0.00
3rd BS W Sand									
12,100.0	14.15	353.05	11,877.8	-1,322.8	-842.1	-1,316.4	10.00	10.00	0.00
12,117.8	15.92	353.05	11,895.0	-1,318.2	-842.7	-1,311.8	10.00	10.00	0.00
Wolfcamp A X Sand									
12,150.0	19.15	353.05	11,925.7	-1,308.5	-843.8	-1,302.2	10.00	10.00	0.00
12,200.0	24.15	353.05	11,972.2	-1,290.2	-846.1	-1,283.8	10.00	10.00	0.00
12,250.0	29.15	353.05	12,016.9	-1,268.0	-848.8	-1,261.6	10.00	10.00	0.00
12,293.5	33.50	353.05	12,054.0	-1,245.5	-851.5	-1,239.1	10.00	10.00	0.00
Wolfcamp A Y Sand									
12,300.0	34.15	353.05	12,059.4	-1,241.9	-852.0	-1,235.5	10.00	10.00	0.00
12,350.0	39.15	353.05	12,099.5	-1,212.3	-855.6	-1,205.9	10.00	10.00	0.00
12,387.8	42.92	353.05	12,128.0	-1,187.7	-858.6	-1,181.2	10.00	10.00	0.00
Wolfcamp A Lower									
12,400.0	44.15	353.05	12,136.9	-1,179.4	-859.6	-1,172.9	10.00	10.00	0.00
12,450.0	49.15	353.05	12,171.2	-1,143.3	-864.0	-1,136.8	10.00	10.00	0.00
12,500.0	54.15	353.05	12,202.2	-1,104.4	-868.7	-1,097.8	10.00	10.00	0.00
12,550.0	59.15	353.05	12,229.7	-1,062.9	-873.8	-1,056.3	10.00	10.00	0.00
12,600.0	64.15	353.05	12,253.4	-1,019.3	-879.1	-1,012.6	10.00	10.00	0.00
12,643.8	68.53	353.05	12,271.0	-979.4	-884.0	-972.8	10.00	10.00	0.00
Wolfcamp B									
12,650.0	69.15	353.05	12,273.2	-973.7	-884.7	-967.0	10.00	10.00	0.00
12,700.0	74.15	353.05	12,289.0	-926.6	-890.4	-919.9	10.00	10.00	0.00
12,750.0	79.15	353.05	12,300.5	-878.3	-896.3	-871.6	10.00	10.00	0.00
12,800.0	84.15	353.05	12,307.8	-829.3	-902.3	-822.5	10.00	10.00	0.00
12,850.0	89.15	353.05	12,310.7	-779.7	-908.3	-772.9	10.00	10.00	0.00
12,888.4	92.99	353.05	12,310.0	-741.6	-912.9	-734.7	10.00	10.00	0.00
EOC/TRN - DLS 2.00 TFO 89.83									
12,900.0	92.99	353.28	12,309.4	-730.1	-914.3	-723.2	2.00	0.01	2.00
13,000.0	92.99	355.28	12,304.2	-630.8	-924.3	-623.8	2.00	0.00	2.00
13,100.0	92.99	357.29	12,298.9	-531.1	-930.7	-524.1	2.00	0.00	2.00
13,200.0	92.99	359.29	12,293.7	-431.3	-933.7	-424.3	2.00	0.00	2.00
13,213.9	92.99	359.57	12,293.0	-417.4	-933.9	-410.4	2.00	-0.01	2.00
Start 4274.3 hold at 13213.9 MD									
13,300.0	92.99	359.57	12,288.5	-331.4	-934.5	-324.4	0.00	0.00	0.00
13,400.0	92.99	359.57	12,283.3	-231.6	-935.3	-224.5	0.00	0.00	0.00
13,500.0	92.99	359.57	12,278.1	-131.7	-936.0	-124.7	0.00	0.00	0.00
13,600.0	92.99	359.57	12,272.8	-31.8	-936.8	-24.8	0.00	0.00	0.00
13,700.0	92.99	359.57	12,267.6	68.0	-937.5	75.0	0.00	0.00	0.00
13,800.0	92.99	359.57	12,262.4	167.9	-938.3	174.9	0.00	0.00	0.00
13,900.0	92.99	359.57	12,257.2	267.7	-939.0	274.8	0.00	0.00	0.00
14,000.0	92.99	359.57	12,252.0	367.6	-939.8	374.6	0.00	0.00	0.00
14,100.0	92.99	359.57	12,246.8	467.5	-940.5	474.5	0.00	0.00	0.00
14,200.0	92.99	359.57	12,241.5	567.3	-941.3	574.4	0.00	0.00	0.00
14,300.0	92.99	359.57	12,236.3	667.2	-942.0	674.2	0.00	0.00	0.00
14,400.0	92.99	359.57	12,231.1	767.0	-942.8	774.1	0.00	0.00	0.00

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well The Contest Fed Com #211H
Company:	Tap Rock Resources, LLC	**TVD Reference:**	KB @ 3588.0usft (H&P 388)
Project:	Lea County, NM (NAD 83 NME)	**MD Reference:**	KB @ 3588.0usft (H&P 388)
Site:	(Contest Fed) Sec-9_T-24-S_R-34-E	**North Reference:**	Grid
Well:	The Contest Fed Com #211H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

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)
14,500.0	92.99	359.57	12,225.9	866.9	-943.5	874.0	0.00	0.00	0.00
14,600.0	92.99	359.57	12,220.7	966.8	-944.3	973.8	0.00	0.00	0.00
14,700.0	92.99	359.57	12,215.5	1,066.6	-945.0	1,073.7	0.00	0.00	0.00
14,800.0	92.99	359.57	12,210.2	1,166.5	-945.8	1,173.6	0.00	0.00	0.00
14,900.0	92.99	359.57	12,205.0	1,266.3	-946.5	1,273.4	0.00	0.00	0.00
15,000.0	92.99	359.57	12,199.8	1,366.2	-947.3	1,373.3	0.00	0.00	0.00
15,100.0	92.99	359.57	12,194.6	1,466.1	-948.0	1,473.1	0.00	0.00	0.00
15,200.0	92.99	359.57	12,189.4	1,565.9	-948.8	1,573.0	0.00	0.00	0.00
15,300.0	92.99	359.57	12,184.2	1,665.8	-949.5	1,672.9	0.00	0.00	0.00
15,400.0	92.99	359.57	12,178.9	1,765.7	-950.3	1,772.7	0.00	0.00	0.00
15,500.0	92.99	359.57	12,173.7	1,865.5	-951.0	1,872.6	0.00	0.00	0.00
15,600.0	92.99	359.57	12,168.5	1,965.4	-951.8	1,972.5	0.00	0.00	0.00
15,700.0	92.99	359.57	12,163.3	2,065.2	-952.6	2,072.3	0.00	0.00	0.00
15,800.0	92.99	359.57	12,158.1	2,165.1	-953.3	2,172.2	0.00	0.00	0.00
15,900.0	92.99	359.57	12,152.9	2,265.0	-954.1	2,272.1	0.00	0.00	0.00
16,000.0	92.99	359.57	12,147.6	2,364.8	-954.8	2,371.9	0.00	0.00	0.00
16,100.0	92.99	359.57	12,142.4	2,464.7	-955.6	2,471.8	0.00	0.00	0.00
16,200.0	92.99	359.57	12,137.2	2,564.5	-956.3	2,571.6	0.00	0.00	0.00
16,300.0	92.99	359.57	12,132.0	2,664.4	-957.1	2,671.5	0.00	0.00	0.00
16,400.0	92.99	359.57	12,126.8	2,764.3	-957.8	2,771.4	0.00	0.00	0.00
16,500.0	92.99	359.57	12,121.6	2,864.1	-958.6	2,871.2	0.00	0.00	0.00
16,600.0	92.99	359.57	12,116.3	2,964.0	-959.3	2,971.1	0.00	0.00	0.00
16,700.0	92.99	359.57	12,111.1	3,063.8	-960.1	3,071.0	0.00	0.00	0.00
16,800.0	92.99	359.57	12,105.9	3,163.7	-960.8	3,170.8	0.00	0.00	0.00
16,900.0	92.99	359.57	12,100.7	3,263.6	-961.6	3,270.7	0.00	0.00	0.00
17,000.0	92.99	359.57	12,095.5	3,363.4	-962.3	3,370.6	0.00	0.00	0.00
17,100.0	92.99	359.57	12,090.3	3,463.3	-963.1	3,470.4	0.00	0.00	0.00
17,200.0	92.99	359.57	12,085.0	3,563.2	-963.8	3,570.3	0.00	0.00	0.00
17,300.0	92.99	359.57	12,079.8	3,663.0	-964.6	3,670.1	0.00	0.00	0.00
17,400.0	92.99	359.57	12,074.6	3,762.9	-965.3	3,770.0	0.00	0.00	0.00
17,488.2	92.99	359.57	12,070.0	3,851.0	-966.0	3,858.1	0.00	0.00	0.00
TD at 17488.2									

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
LTP (The Contest Fec	0.00	0.00	12,070.0	3,781.0	-966.0	451,745.00	804,444.00	32° 14' 20.607 N	103° 28' 56.526 W
- plan misses target center by 18.7usft at 17400.0usft MD (12074.6 TVD, 3762.9 N, -965.3 E)									
- Point									
PBHL (The Contest F	-3.00	359.57	12,070.0	3,851.0	-966.0	451,815.00	804,444.00	32° 14' 21.300 N	103° 28' 56.519 W
- plan hits target center									
- Rectangle (sides W100.0 H5,160.0 D30.0)									
FTP (The Contest Fec	0.00	0.00	12,310.0	-1,309.0	-927.0	446,655.00	804,483.00	32° 13' 30.239 N	103° 28' 56.541 W
- plan misses target center by 223.9usft at 12431.2usft MD (12158.7 TVD, -1157.2 N, -862.3 E)									
- Point									

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well The Contest Fed Com #211H
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Project:	Lea County, NM (NAD 83 NME)	**MD Reference:**	KB @ 3588.0usft (H&P 388)
Site:	(Contest Fed) Sec-9_T-24-S_R-34-E	**North Reference:**	Grid
Well:	The Contest Fed Com #211H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,209.0	1,209.0	Rustler Anhydrite			
1,736.7	1,735.0	Top Salt			
5,212.2	5,070.0	Base Salt			
5,483.8	5,330.0	Delaware Mountain Gp			
5,493.2	5,339.0	Lamar			
5,512.0	5,357.0	Bell Canyon			
5,528.7	5,373.0	Ramsey Sand			
6,445.5	6,251.0	Cherry Canyon			
7,863.7	7,643.0	Brushy Canyon			
9,255.7	9,035.0	Bone Spring Lime			
9,329.7	9,109.0	Upper Avalon			
9,584.7	9,364.0	Middle Avalon			
9,927.7	9,707.0	Lower Avalon			
10,283.7	10,063.0	1st Bone Spring Sand			
10,527.7	10,307.0	2nd Bone Spring Carb			
10,834.7	10,614.0	2nd Bone Spring Sand			
11,317.7	11,097.0	3rd Bone Spring Carb			
11,855.7	11,635.0	3rd Bone Spring Sand			
12,059.2	11,838.0	3rd BS W Sand			
12,117.8	11,895.0	Wolfcamp A X Sand			
12,293.5	12,054.0	Wolfcamp A Y Sand			
12,387.8	12,128.0	Wolfcamp A Lower			
12,643.8	12,271.0	Wolfcamp B			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,300.0	1,300.0	0.0	0.0	NUDGE - Build 2.00
2,137.2	2,125.3	-102.9	-64.5	HOLD - 4646.3 at 2137.2 MD
6,783.5	6,574.7	-1,237.1	-775.5	DROP - -2.00
7,620.7	7,400.0	-1,340.0	-840.0	HOLD - 4337.8 at 7620.7 MD
11,958.5	11,737.8	-1,340.0	-840.0	KOP - Build 10.00
12,888.4	12,310.0	-741.6	-912.9	EOC/TRN - DLS 2.00 TFO 89.83
13,213.9	12,293.0	-417.4	-933.9	Start 4274.3 hold at 13213.9 MD
17,488.2	12,070.0	3,851.0	-966.0	TD at 17488.2

Drilling Operations Plan
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Tap Rock Operating, LLC
SHL 1401' FSL & 1272' FWL, Sec. 9
BHL 30' FNL & 338' FWL, Sec. 9
T. 24S., R. 34E Lea County, NM

Elevation above Sea Level: 3562'

DRILLING PROGRAM

1. **Estimated Tops**

Formation	TVD	MD	Lithologies	Bearing
Quaternary Deposits	0	0		Water/Salt
Rustler Anhydrite	1209	1209		Salt
Salado	1735	1736	Salt	Salt
Base Salt	5070	5212		Salt
Lamar	5339	5493	Limestone	None
Bell Canyon	5357	5512	Sandstone	Hydrocarbons
Cherry Canyon	6251	6445	Sandstone	Hydrocarbons
Brushy Canyon	7643	7864	Sandstone	Hydrocarbons
Bone Spring	9035	9255	Limestone	Hydrocarbons
1st Bone Spring	10063	10283	Sandstone	Hydrocarbons
2nd Bone Spring	10307	10527	Sandstone	Hydrocarbons
3rd Bone Spring	11097	11317	Sandstone	Hydrocarbons
KOP	**11738**	**11959**	-	-
Wolfcamp	11838	12059	Shale	Hydrocarbons
TD	**12070**	**17488**	-	-

2. **Notable Zones**

Upper Wolfcamp is the target formation.

3. **Pressure Control**

Pressure Control Equipment (See Schematics):
A 10,000 psi BOP stack consisting of 3 rams with 2 pipe rams, 1 blind ram, and 1 annular preventer will be used 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.

BOP Test procedure will be as follows:
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.

Variance Requests:
Tap Rock requests a variance to run a multi-bowl speed head for setting the Intermediate 1, Intermediate 2, and Production Strings. 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. Tap Rock requests a variance to have the option of batch drilling this well with other wells on the same pad. In the event that this well is batch drilled, after drilling surface, 1st intermediate, and 2nd intermediate hole sections and cementing 2nd intermediate casing, a 10M dry hole cap with bleed off valve will be installed. The rig will then walk to another well on the pad. When the rig returns to this well and BOPs are installed, the operator will perform a full BOP test. Tap Rock requests a variance to run 7-5/8" BTC casing inside 9-5/8" BTC casing will be less than the 0.422" stand off regulation. Through conversations with BLM representatives, Tap Rock has received approval for this design as long as the 7-5/8" flush casing was run throughout the entire 300' cement tie back section between 9-5/8" and 7-5/8" casing. Tap Rock requests a variance to use a 5000 psi annular BOP on a 10M BOP stack. The annular will be tested to 250 psi low and 5000 psi high.

4. Casing & Cement

All Casing will be new.

Name	Hole Size	Casing Size	Standard	Tapered	Top MD	Bottom MD	Grade	Weight	Thread	Collapse	Burst	Tension
Surface	17 1/2	13 3/8	API	No	0	1260	J-55	54.5	BUTT	1.13	1.15	1.6
1st Intermediate	12 1/4	9 5/8	API	No	0	5550	J-55	40	BUTT	1.13	1.15	1.6
2nd Intermediate	8 3/4	7 5/8	API	No	0	5250	P-110	29.7	BUTT	1.13	1.15	1.6
2nd Intermediate	8 3/4	7 5/8	NON API	Yes	5250	11850	P-110	29.7	W-513	1.13	1.15	1.6
Production	6 3/4	5 1/2	NON API	No	0	11650	P-110	20	TXP	1.13	1.15	1.6
Production	6 3/4	5	NON API	Yes	11650	17490	P-110	18	W-521	1.13	1.15	1.6

Name	Type	Top MD	Sacks	Yield	Weight	Excess	Cement	Additives
Surface	Lead	0	741	1.8	13.5	100%	C	None
	Tail	960	309	1.35	14.8	100%	C	5% NCl + LCM
1st Intermediate	Lead	0	1078	2.18	12.7	65%	C	Bentonite + 1% CaCL2 + 8% NaCl + LCM
	Tail	4550	389	1.33	14.8	65%	C	5% NaCl + LCM
2nd Intermediate	Lead	5250	265	2.87	11.5	35%	TXI	Fluid Loss + Dispersant + Retarder + LCM
	Tail	10850	107	1.27	15	35%	H	Fluid Loss + Dispersant + Retarder + LCM
Production	Tail	11150	520	1.71	14.2	25%	H	Fluid Loss + Dispersant + Retarder + LCM

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5. Mud Program

Electronic Pason mud monitor system complying with Onshore Order 1 will be used. All necessary mud products (e. g., barite, cedar bark) for weight addition and fluid loss control will always be on site. Mud program is subject to change due to hole conditions. A closed loop system will be used.

Name	Top	Bottom	Type	Mud Weight	Visc	Fluid Loss
Surface	0	1260	FW Spud Mud	8.30	28	NC
Intermediate	1260	5550	Brine Water	10.00	30-32	NC
Intermediate 2	5550	11850	FW/Cut Brine	9.00	30-32	NC
Production	11850	17490	Oil Base Mud	11.50	15-20	<10

6. Cores, Tests, & Logs

- 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 9.625" casing shoe to TD.
- A 2-person mud logging program will be used from 9.625" casing shoe to TD.
- No DSTs or cores are planned at this time.
- CBL w/ CCL from as far as gravity will let it fall to TOC.

7. Down Hole Conditions

No abnormal pressure or temperature is expected. Maximum expected bottom hole pressure is ≈7,360 psi. Expected bottom hole temperature is ≈170° F.

Tap Rock does not anticipate that there will be enough H2S from the surface to the Wolfcamp formations to meet the BLM's Onshore Order 6 requirements for the submission of an "H2S Drilling Operation Plan" or "Public Protection Plan" for drilling and completing this well. Tap Rock has an H2S safety package on all wells and an "H2S Drilling Operations Plan" is attached. Adequate flare lines will be installed off the mud/gas separator where gas may be safely flared. All personnel will be familiar with all aspects of safe operation of equipment being used.

8. Other Information

Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved. Drilling expected to take 30 days. If production casing is run an additional 60 days will be required to complete and construct surface facilities.

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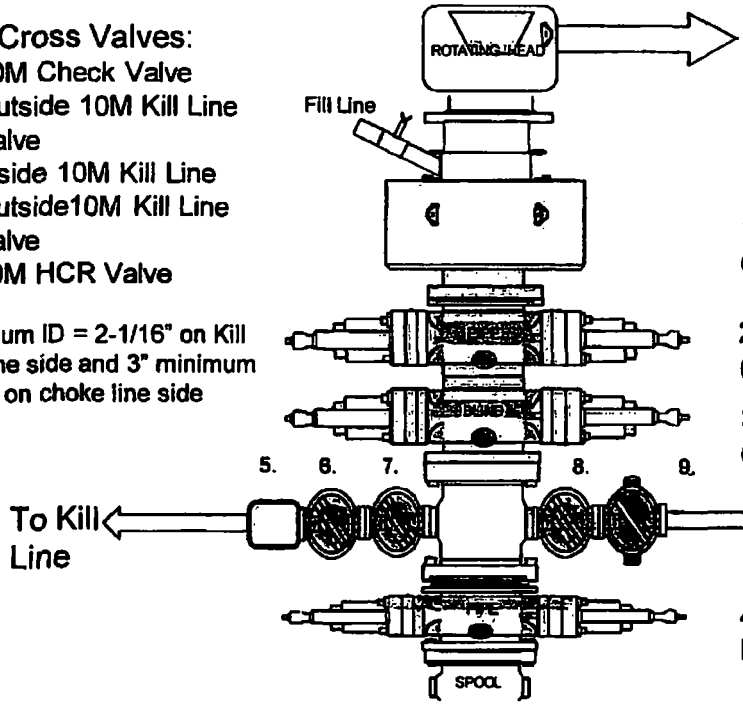
10,000 psi BOP Stack

Mud Cross Valves:

5. 10M Check Valve
6. Outside 10M Kill Line Valve
7. Inside 10M Kill Line
8. Outside10M Kill Line Valve
9. 10M HCR Valve

*Minimum ID = 2-1/16" on Kill Line side and 3" minimum ID on choke line side



1. 10,000 psi Annular (13-5/8" ID)
2. 10,000 psi Upper Pipe Ram (13-5/8" ID)
3. 10,000 psi Blind Ram (13-5/8" ID)
4. 10,000 psi Lower Pipe Ram (13-5/8" ID)

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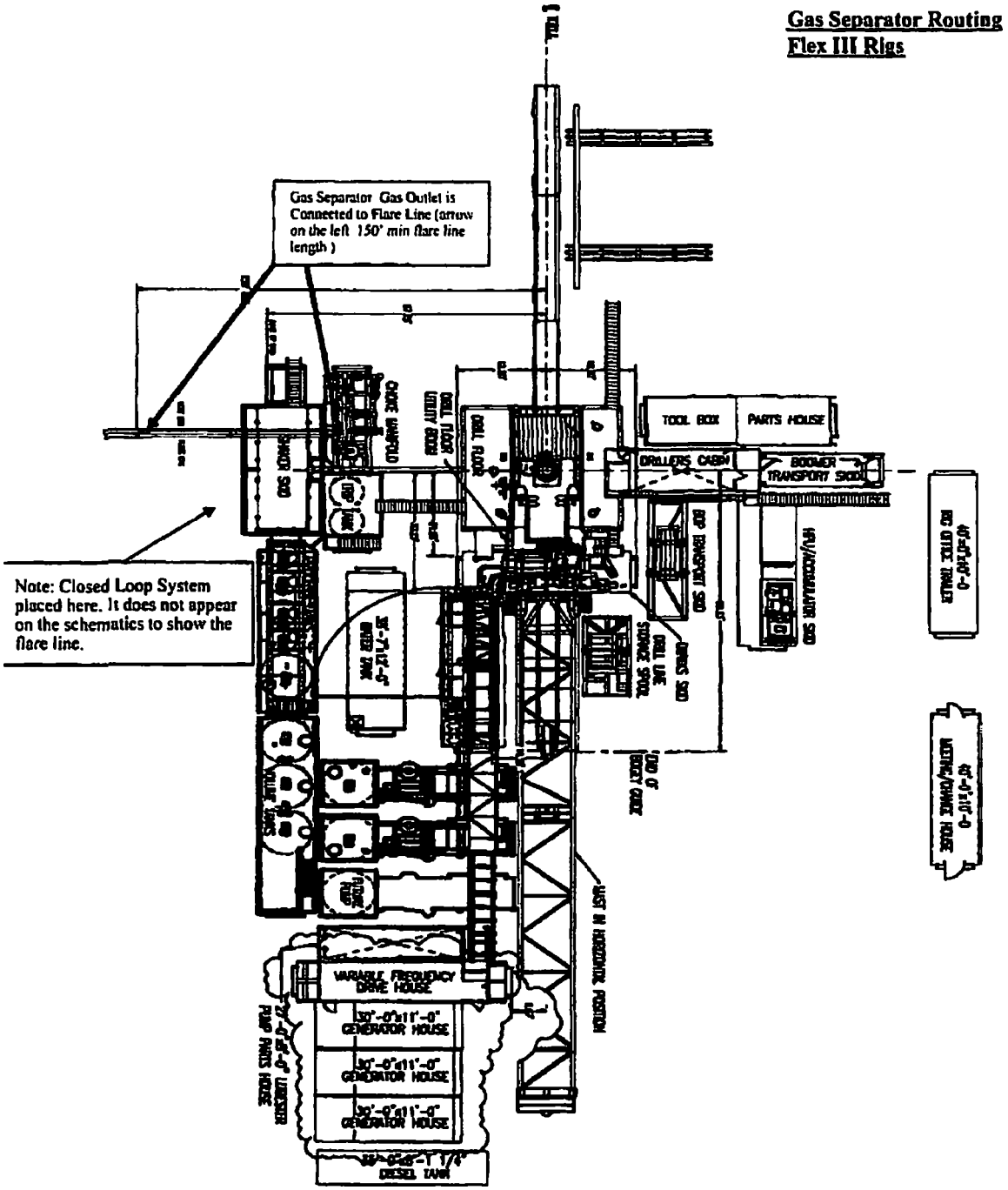
Gas Separator Routing
Flex III Rigs



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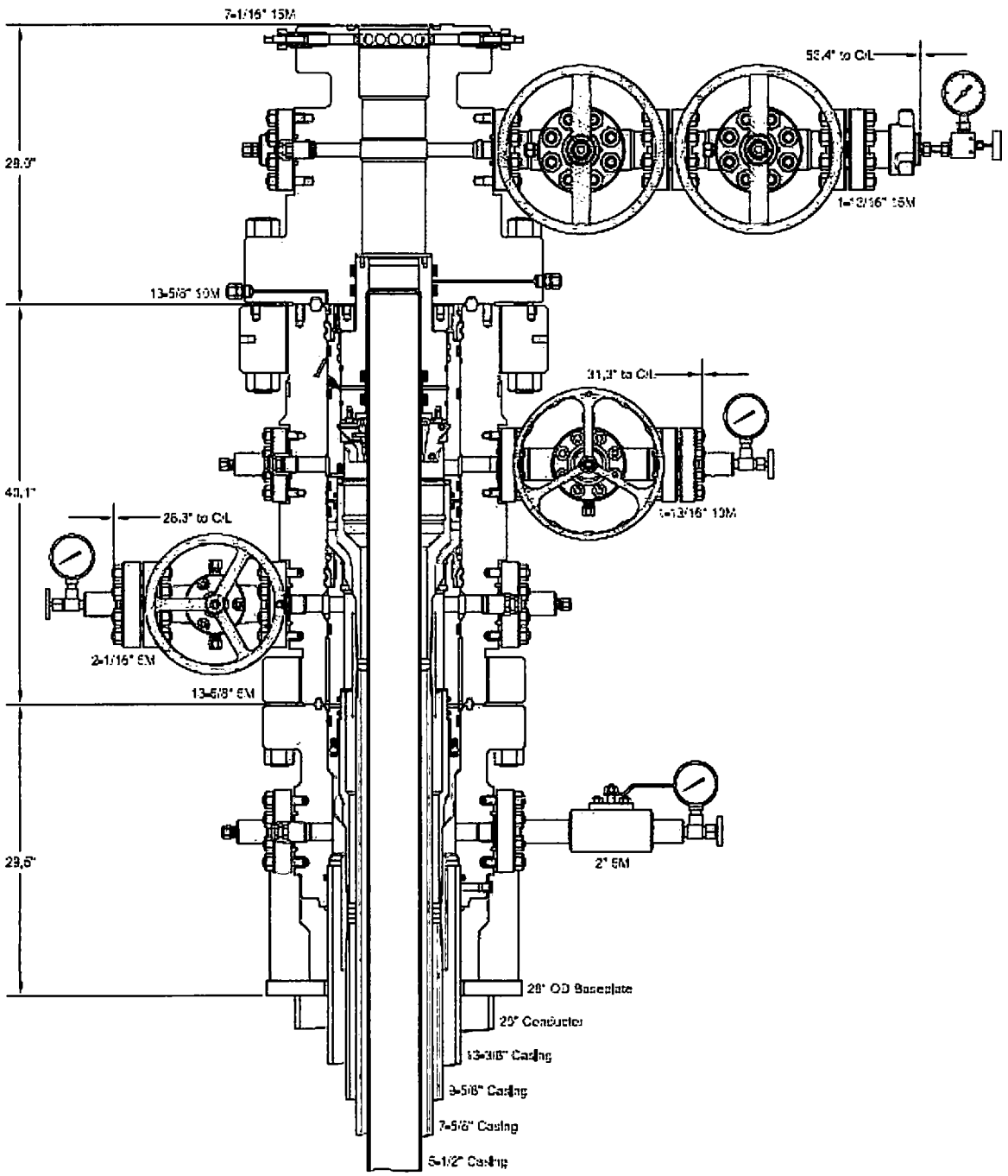
Multi-bowl Wellhead



10M Choke Layout

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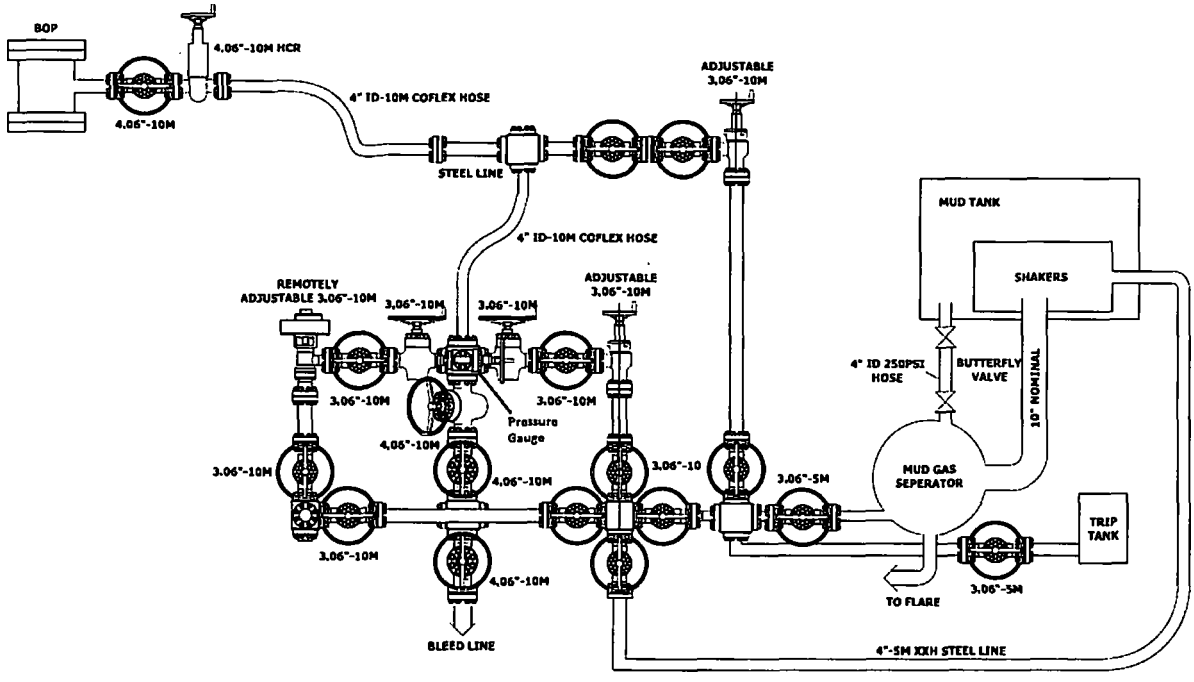

CERTIFICATION

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. Executed this 13th day of December, 2019.

Cory Walk

Cory Walk, Consultant
Permits West, Inc.
37 Verano Loop, Santa Fe, NM 87508
(505) 466-8120 FAX: (505) 466-9682

Field representative will be:

Christian Combs
Tap Rock Operating, LLC
602 Park Point Dr., Suite 200
Golden CO 80401
Office: (720) 360-4028
Mobile: (303) 881-1530

AFMSS

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

PWD Data Report

12/30/2019

APD ID: 10400043791 **Submission Date:** 07/17/2019

Operator Name: TAP ROCK OPERATING LLC

Well Name: THE CONTEST FED COM **Well Number:** 211H

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: THE CONTEST FED COM **Well Number:** 211H

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: THE CONTEST FED COM **Well Number:** 211H

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: THE CONTEST FED COM **Well Number:** 211H

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

12/30/2019

APD ID: 10400043791

Submission Date: 07/17/2019

Operator Name: TAP ROCK OPERATING LLC

Well Name: THE CONTEST FED COM

Well Number: 211H

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: