

Form 3160-3  
(October 2024)

FORM APPROVED  
OMB No. 1004-0220  
Expires: October 31, 2027

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
**APPLICATION FOR PERMIT TO DRILL OR REENTER**

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		5. Lease Serial No. <b>NMNM62171</b>
2. Name of Operator <b>TAP ROCK OPERATING LLC</b>		6. If Indian, Allottee or Tribe Name  7. If Unit or CA Agreement, Name and No.  8. Lease Name and Well No. <b>UPSLOPE FED COM</b> <b>154H</b>
3a. Address <b>1700 LINCOLN ST SUITE 4700, DENVER, CO 80203</b>	3b. Phone No. (include area code) <b>(720) 460-3316</b>	9. API Well No. <b>30-015-57862</b>
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface <b>NWSW / 1592 FSL / 300 FWL / LAT 32.1414696 / LONG -104.3742</b> At proposed prod. zone <b>SWSW / 900 FSL / 5 FWL / LAT 32.1394569 / LONG -104.4097442</b>		10. Field and Pool, or Exploratory <b>COTTONWOOD DRAW/BONE SPRING</b>  11. Sec., T. R. M. or Blk. and Survey or Area <b>SEC 11/T25S/R25E/NMP</b>
14. Distance in miles and direction from nearest town or post office* <b>3 miles</b>		12. County or Parish <b>EDDY</b>
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) <b>300 feet</b>		13. State <b>NM</b>
16. No of acres in lease		17. Spacing Unit dedicated to this well <b>320.0</b>
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>25 feet</b>		20. BLM/BIA Bond No. in file <b>FED: NMB105800930</b>
21. Elevations (Show whether DF, KDB, RT, GL., etc.) <b>3490 feet</b>	22. Approximate date work will start* <b>03/01/2026</b>	23. Estimated duration <b>60 days</b>

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.<br>2. A Drilling Plan.<br>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).<br>5. Operator certification.<br>6. Such other site specific information and/or plans as may be requested by the BLM. |
|---|---|

25. Signature (Electronic Submission)	Name (Printed/Typed) <b>CORY WALK / Ph: (720) 460-3316</b>	Date <b>10/23/2025</b>
Title <b>Permitting Agent</b>		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) <b>CODY LAYTON / Ph: (575) 234-5959</b>	Date <b>12/19/2025</b>
Title <b>Assistant Field Manager Lands &amp; Minerals</b> Office <b>Carlsbad Field Office</b>		

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.



(Continued on page 2)

\*(Instructions on page 2)

<b>C-102</b> Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department <b>OIL CONSERVATION DIVISION</b>	Revised July 9, 2024
		Submittal Type: <input checked="" type="checkbox"/> Initial Submittal <input type="checkbox"/> Amended Report <input type="checkbox"/> As Drilled

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

API Number <b>30-015-57862</b>	Pool Code <b>97494</b>	Pool Name <b>Cottonwood Draw; Bone Spring</b>
Property Code <b>335064 337038</b>	Property Name <b>UPSLOPE FED COM</b>	Well Number <b>154H</b>
OGRID No. <b>372043</b>	Operator Name <b>TAPROCK OPERATING, LLC.</b>	Ground Level Elevation <b>3490'</b>
Surface Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal		Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal

**Surface Location**

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the N/S	Feet from the E/W	Latitude	Longitude	County
L	11	25-S	25-E	-	1592' S	300' W	N 32.1414696	W 104.3742000	EDDY

**Bottom Hole Location**

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the N/S	Feet from the E/W	Latitude	Longitude	County
M	9	25-S	25-E	-	900' S	5' W	N 32.1394569	W 104.4097442	EDDY

Dedicated Acres <b>320</b>	Infill or Defining Well <b>Defining</b>	Defining Well API <b>30-015-xxxxx (154H)</b>	Overlapping Spacing Unit (Y/N) <b>N</b>	Consolidated Code <b>N/A</b>
Order Numbers <b>N/A</b>			Well Setbacks are under Common Ownership: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

**Kick Off Point (KOP)**

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the N/S	Feet from the E/W	Latitude	Longitude	County
P	10	25-S	25-E	-	900' S	50' E	N 32.1395857	W 104.3753079	EDDY

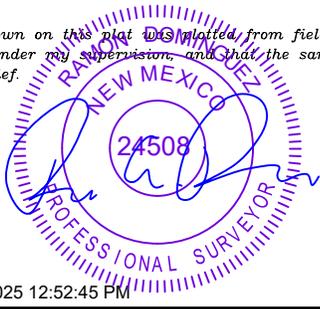
**First Take Point (FTP)**

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the N/S	Feet from the E/W	Latitude	Longitude	County
P	10	25-S	25-E	-	900' S	100' E	N 32.1395958	W 104.3754695	EDDY

**Last Take Point (LTP)**

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the N/S	Feet from the E/W	Latitude	Longitude	County
M	9	25-S	25-E	-	900' S	100' W	N 32.1394669	W 104.4094374	EDDY

Unitized Area or Area of Uniform Interest <b>N/A</b>	Spacing Unity Type <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical	Ground Floor Elevation <b>3490'</b>
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<p><b>OPERATOR CERTIFICATION</b></p> <p><i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief; and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i></p> <p><i>If this well is a horizontal well, I further certify that this organization has received The consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.</i></p> <p><i>Cory Walk</i>                  _____                  Signature Date  <b>Cory Walk</b> 10/21/2025</p> <p>Print Name <b>cory@permitswest.com</b></p> <p>E-mail Address</p>	<p><b>SURVEYORS CERTIFICATION</b></p> <p><i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</i></p> <div style="text-align: center;">  </div> <p>9/8/2025 12:52:45 PM</p> <p>Signature and Seal of Professional Surveyor Date</p> <p>Certificate Number Date of Survey</p> <p style="text-align: right;">08/15/2025</p>
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<p><b>C-102</b></p> <p>Submit Electronically Via OCD Permitting</p>	<p>State of New Mexico Energy, Minerals &amp; Natural Resources Department <b>OIL CONSERVATION DIVISION</b></p>	<p>Revised July 9, 2024</p>		
		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:60%; vertical-align: top;"> <p>Submittal Type:</p> </td> <td style="width:40%; vertical-align: top;"> <p><input checked="" type="checkbox"/> Initial Submittal</p> <p><input type="checkbox"/> Amended Report</p> <p><input type="checkbox"/> As Drilled</p> </td> </tr> </table>	<p>Submittal Type:</p>	<p><input checked="" type="checkbox"/> Initial Submittal</p> <p><input type="checkbox"/> Amended Report</p> <p><input type="checkbox"/> As Drilled</p>
<p>Submittal Type:</p>	<p><input checked="" type="checkbox"/> Initial Submittal</p> <p><input type="checkbox"/> Amended Report</p> <p><input type="checkbox"/> As Drilled</p>			
<p>Property Name and Well Number</p> <p style="text-align: center; font-weight: bold; font-size: 1.2em;">UPSLOPE FED COM 154H</p>				

**SURFACE LOCATION (SHL)**  
 NEW MEXICO EAST  
 NAD 1983  
 X=528689 Y=415205  
 LAT.: N 32.1414696  
 LONG.: W 104.3742000  
**NAD 1927**  
 X=487507 Y=415148  
 LAT.: N 32.1413518  
 LONG.: W 104.3736962  
 1592' FSL 300' FWL

**KICK OFF POINT (KOP)**  
 NEW MEXICO EAST  
 NAD 1983  
 X=528346 Y=414519  
 LAT.: N 32.1395857  
 LONG.: W 104.3753079  
**NAD 1927**  
 X=487164 Y=414463  
 LAT.: N 32.1394679  
 LONG.: W 104.3748041  
 900' FSL 50' FEL

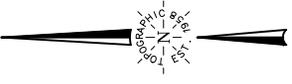
**FIRST TAKE POINT (FTP)**  
 NEW MEXICO EAST  
 NAD 1983  
 X=528296 Y=414523  
 LAT.: N 32.1395958  
 LONG.: W 104.3754695  
**NAD 1927**  
 X=487114 Y=414466  
 LAT.: N 32.1394780  
 LONG.: W 104.3749657  
 900' FSL 100' FEL

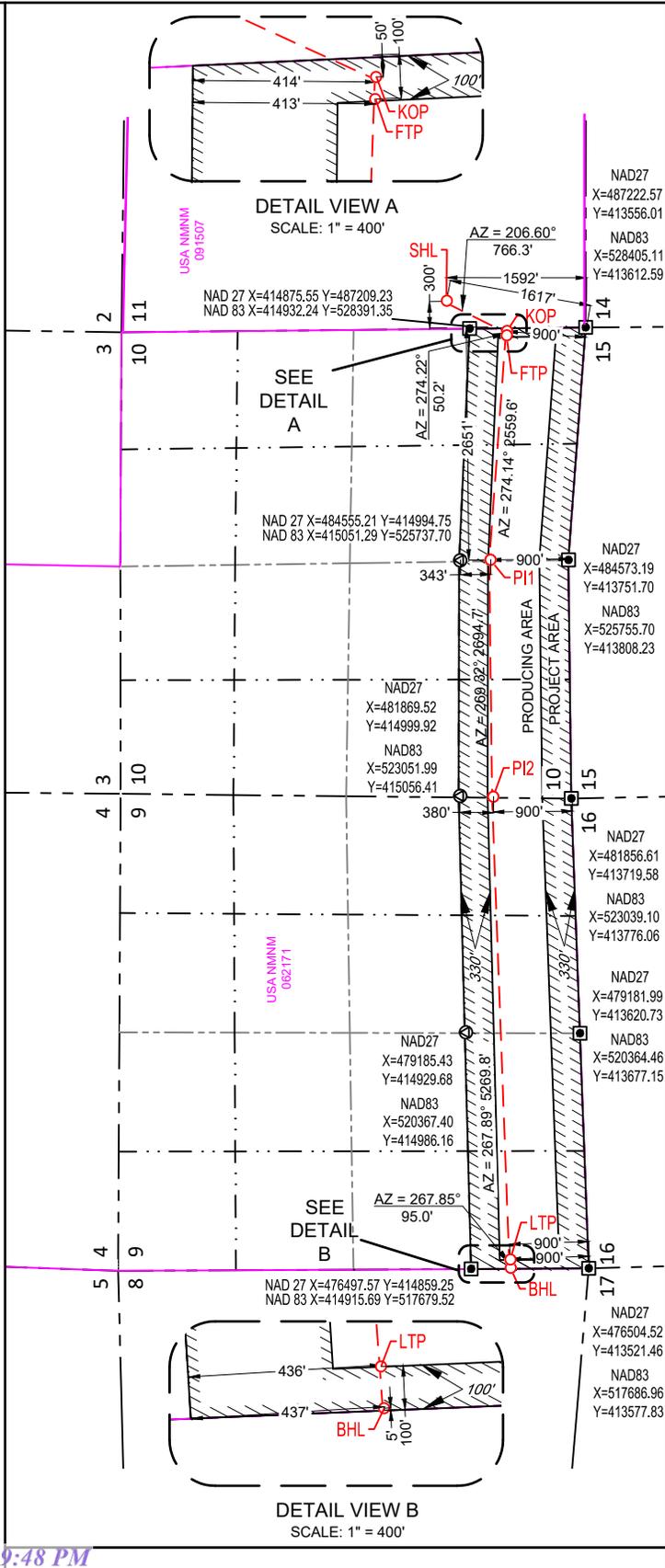
**POINT OF INTERSECTION (PI1)**  
 NEW MEXICO EAST  
 NAD 1983  
 X=525743 Y=414708  
 LAT.: N 32.1401013  
 LONG.: W 104.3837179  
**NAD 1927**  
 X=484561 Y=414652  
 LAT.: N 32.1399839  
 LONG.: W 104.3832137  
 900' FSL 2651' FEL

**POINT OF INTERSECTION (PI2)**  
 NEW MEXICO EAST  
 NAD 1983  
 X=523048 Y=414676  
 LAT.: N 32.1398926  
 LONG.: W 104.3919189  
 900' FSL 0' FWL  
**NAD 1927**  
 X=481866 Y=414620  
 LAT.: N 32.1398926  
 LONG.: W 104.3919189  
 900' FSL 0' FWL

**LAST TAKE POINT (LTP)**  
 NEW MEXICO EAST  
 NAD 1983  
 X=517782 Y=414482  
 LAT.: N 32.1394669  
 LONG.: W 104.4094374  
**NAD 1927**  
 X=476600 Y=414426  
 LAT.: N 32.1393500  
 LONG.: W 104.4089323  
 900' FSL 100' FWL

**BOTTOM HOLE LOCATION (BHL)**  
 NEW MEXICO EAST  
 NAD 1983  
 X=517687 Y=414478  
 LAT.: N 32.1394569  
 LONG.: W 104.4097442  
**NAD 1927**  
 X=476505 Y=414422  
 LAT.: N 32.1393400  
 LONG.: W 104.4092392  
 900' FSL 5' FWL

  
 True North  
 Magnetic North  
 Grid North



**SURVEYORS CERTIFICATION**  
*I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.*  
 08/15/2025  
 Date of Survey  
 Signature and Seal of Professional Surveyor:



**RAMON DOMINGUEZ**  
 NEW MEXICO  
 24508  
 PROFESSIONAL SURVEYOR

9/8/2025 12:52:47 PM

State of New Mexico  
 Energy, Minerals and Natural Resources Department

Submit Electronically  
 Via E-permitting

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

## NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

### Section 1 – Plan Description Effective May 25, 2021

**I. Operator:** \_\_\_\_\_ Tap Rock Operating LLC \_\_\_\_\_ **OGRID:** \_\_\_\_\_ 372043 \_\_\_\_\_ **Date:** \_10/7/2025

**II. Type:**  Original  Amendment due to  19.15.27.9.D(6)(a) NMAC  19.15.27.9.D(6)(b) NMAC  Other.

If Other, please describe: \_\_\_\_\_

**III. Well(s):** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Upslope Fed Com 152H		L, 11, 25S 25E	1617 FSL, 300 FWL	943	3402	4543
Upslope Fed Com 154H		L, 11, 25S 25E	1592 FSL, 300 FWL	943	3402	4543

**IV. Central Delivery Point Name:** \_\_\_\_\_ Highlife/Upslope Fed Com CDP \_\_\_\_\_ [See 19.15.27.9(D)(1) NMAC]

**V. Anticipated Schedule:** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Upslope Fed Com 152H		8/1/2026	9/20/2026	11/1/2026	12/1/2026	12/1/2026
Upslope Fed Com 154H		8/1/2026	9/20/2026	11/1/2026	12/1/2026	12/1/2026

**VI. Separation Equipment:**  Attach a complete description of how Operator will size separation equipment to optimize gas capture.

**VII. Operational Practices:**  Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

**VIII. Best Management Practices:**  Attach a complete description of Operator’s best management practices to minimize venting during active and planned maintenance.

**Section 2 – Enhanced Plan**  
**EFFECTIVE APRIL 1, 2022**

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

**IX. Anticipated Natural Gas Production:**

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

**X. Natural Gas Gathering System (NGGS):**

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

**XI. Map.**  Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

**XII. Line Capacity.** The natural gas gathering system  will  will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

**XIII. Line Pressure.** Operator  does  does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

Attach Operator’s plan to manage production in response to the increased line pressure.

**XIV. Confidentiality:**  Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

### Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

**If Operator checks this box, Operator will select one of the following:**

**Well Shut-In.**  Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

**Venting and Flaring Plan.**  Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

### Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature: 
Printed Name: Bill Ramsey
Title: Sr. Environmental and Regulatory Specialist
E-mail Address: <a href="mailto:brmasey@taprk.com">brmasey@taprk.com</a>
Date: 10/7/2025
Phone: 720-238-2787
<b>OIL CONSERVATION DIVISION</b> <b>(Only applicable when submitted as a standalone form)</b>
Approved By:
Title:
Approval Date:
Conditions of Approval:



## Tap Rock Operating Natural Gas Management Plan

### **VI. Separation Equipment:**

Each surface facility design includes the following process equipment: 3-phase separators (1 separator per well), a sales gas scrubber, one or two 3-phase heater treaters, a vapor recovery tower (VRT), a VRU compressor, multiple water and oil tanks, as well as flare knockouts (HP & LP), and flares (HP & LP). All process vessels will be sized to separate oil, water, gas based upon typical/historical & predicted well performance. Each process vessel will be fitted with an appropriately sized PSV as per ASME code requirements to mitigate vessel rupture and loss of containment. Additionally, the process vessels will be fitted with pressure transmitters tied to the facility control system which will allow operations to monitor pressures and when necessary, shut-in the facility to avoid vessel over-pressure and the potential vent of natural gas. Natural gas will preferentially be sold to pipeline, and only during upset/emergency conditions will gas be directed to the HP flare system. Flash gas from both the 3-phase heater treater and the VRT will be recompressed using a VRU compressor and this gas will also preferentially be directed to the gas sales pipeline. Oil tanks & water tanks will be fitted with 16 oz thief hatches as well as PVRVs to protect the tanks from rupture/collapse. Additionally, the tank vapor outlets and tank vapor capture system will be sized to keep tank pressures below 12 oz. The tank vapor capture system will include a tank vapor blower & knockout as well as a low-pressure flare and knockout. Tank vapors will preferentially be directed to the VRU and the sales gas pipeline. Only during process upsets/emergency conditions will tank vapors be directed to the LP flare system.

### **VII. Operational Practices:**

- During drilling operations- Gas meters will be installed at the shakers and Volume Totalizers will be installed on the pits. In the event that elevated gas levels, or a pit gain are observed, returns will be diverted to a gas buster. Gas coming off the gas buster will be combusted at the flare stack. A 10' or taller flare will be located at least 100' from the SHL.
- During completions operations, including stimulation and frac plug drill out operations, hydrocarbon production to surface is minimized. When gas production does occur, gas will be combusted at a flare stack. A 10' or taller flare will be located at least 100' from the SHL.
- During production operations, all process vessels (separators, heater treaters, VRTs, Tanks) will recompress (where necessary) and route gas outlets into the natural gas gathering pipeline. Gas will preferentially be routed to natural gas gathering pipeline and the flare system will be used only during emergency, malfunction, or if the gas does not meet pipeline specifications. In the event of flaring off-specification gas, operations will pull gas samples twice a week and will also route gas back to pipeline as soon as the gas meets specification. Exceptions to this will include only those qualified emergencies as mentioned in the BLM Waste Prevention Rule.



- To comply with state performance standards, separation and storage equipment will be designed to handle the maximum anticipated throughput and pressure to minimize waste and reduce the likelihood of venting gas to atmosphere. Additionally, each storage atmospheric tank (Oil & Water) will be fitted with a level transmitter to facilitate gauging of the tank without opening of the thief hatch. Any gas collected through the tank vent system is expected to be recompressed and routed to sales. However, in the event of an emergency, the tank vapor capture system will be designed to combust the gas using a flare stack fitted with a continuous or automatic ignitor. The flare stack will be properly anchored and will be located a minimum of 100 feet from the well and storage tanks. Operators will conduct weekly AVO inspections. These AVO inspection records will be stored for the required 5-year period and will be made available upon Division request.

**VIII. Best Management Practices:**

- When performing routine or preventive maintenance on a vessel or tank, initially all inlet valves are closed, and the vessel or tank is allowed to depressurize through the normal outlet connections to gas sales and/or liquid tanks. Once the vessel or tank is depressurized to lowest acceptable sales outlet pressure, usually around 20 psig, a temporary low-pressure flowline is connected from the vessel or tank to the Vapor Recovery Unit (VRU) for further pressure reduction. Once depressurized to less than 1-2 psig, the remaining natural gas in the vessel or tank is vented to atmosphere through a controlled pressure relief valve. Once the vessel or tank is depressurized to atmospheric pressure, the vessel or tank can be safely opened, and maintenance performed.



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

# Drilling Plan Data Report

12/20/2025

APD ID: 10400107982

Submission Date: 10/23/2025

Highlighted data reflects the most recent changes

Operator Name: TAP ROCK OPERATING LLC

Well Name: UPSLOPE FED COM

Well Number: 154H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

## Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
17044863	QUATERNARY	3490	0	0	OTHER : None	NONE	N
17044864	RUSTLER ANHYDRITE	3453	37	37	ANHYDRITE	NONE	N
17044865	TOP OF SALT	3153	337	337	SALT	OTHER : Salt	N
17044866	BASE OF SALT	2254	1236	1238	SANDSTONE	NONE	N
17044876	DELAWARE	2028	1462	1466	OTHER, SANDSTONE : Mountain Group	NATURAL GAS, OIL	N
17044877	LAMAR	2027	1463	1467	SANDSTONE	NATURAL GAS, OIL	N
17044878	BELL CANYON	1998	1492	1496	SANDSTONE	NATURAL GAS, OIL	N
17044875	RAMSEY SAND	1905	1585	1590	LIMESTONE	NATURAL GAS, OIL	N
17044879	CHERRY CANYON	1080	2410	2423	SANDSTONE	NATURAL GAS, OIL	N
17044867	BRUSHY CANYON	160	3330	3352	OTHER : Carbonate	NATURAL GAS, OIL	N
17044868	BONE SPRING LIME	-1184	4674	4709	OTHER : Carbonate	NATURAL GAS, OIL	N
17044869	AVALON SAND	-1284	4774	4810	OTHER : Upper - Carbonate	NATURAL GAS, OIL	N
17044870	AVALON SAND	-1525	5015	5054	OTHER : Middle - Carbonate	NATURAL GAS, OIL	N
17044871	AVALON SAND	-1920	5410	5453	OTHER, SANDSTONE : Lower	NATURAL GAS, OIL	N
17044872	BONE SPRING 1ST	-2091	5581	5625	SANDSTONE	NATURAL GAS, OIL	N
17044873	BONE SPRING 2ND	-2448	5938	5985	OTHER : Carbonate	NATURAL GAS, OIL	N
17044874	BONE SPRING 2ND	-2847	6337	6386	SANDSTONE	NATURAL GAS, OIL	Y

**Operator Name:** TAP ROCK OPERATING LLC

**Well Name:** UPSLOPE FED COM

**Well Number:** 154H

**Section 2 - Blowout Prevention**

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

**Rating Depth:** 20000

**Equipment:** At 18,157', a 5M pressure control system is required. The 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 43 CFR 3172 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 43 CFR 3172. 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 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. If this well is batch drilled, after cementing a casing string, a 5M dry hole cap with bleed off valve will be installed. The rig will then walk to another well on the pad. Tap Rock Operating requests to only test BOP connection breaks after rig walks per the procedures and stipulations set forth in the "BOP Shell Test Procedure" document emailed to the BLM on 8/11/22.

**Testing Procedure:** After surface casing is set and the BOP is nipped 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 250 psi low, 2500 psi high.

**Choke Diagram Attachment:**

5M\_Choke\_Diagram\_20251023152950.pdf

**BOP Diagram Attachment:**

5M\_BOP\_Diagram\_20251023152957.pdf

**Section 3 - Casing**

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	14.75	11.75	NEW	API	N	0	400	0	400	3490	3090	400	J-55	42	BUTT	1.13	1.15	DRY	1.6	DRY	1.6
2	INTERMEDIATE	11	8.625	NEW	API	N	0	1516	0	1512	3490	1978	1516	J-55	32	BUTT	1.13	1.15	DRY	1.6	DRY	1.6
3	PRODUCTION	7.875	5.5	NEW	NON API	N	0	18157	0	6649	3490	-3159	18157	P-110	20	OTHER - TPN	1.13	1.15	DRY	1.6	DRY	1.6

**Operator Name:** TAP ROCK OPERATING LLC

**Well Name:** UPSLOPE FED COM

**Well Number:** 154H

**Casing Attachments**

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Casing\_Design\_Assumptions\_20251023153031.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Casing\_Design\_Assumptions\_20251023153053.pdf

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

**Inspection Document:**

**Spec Document:**

5.5in\_TPN\_Casing\_Spec\_20251023153117.pdf

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Casing\_Design\_Assumptions\_20251023153127.pdf

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**Section 4 - Cement**

**Operator Name:** TAP ROCK OPERATING LLC

**Well Name:** UPSLOPE FED COM

**Well Number:** 154H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	0	0	0	0	0	0	None	None
SURFACE	Tail		0	400	261	1.33	14.8	347	100	Class C	5% NCI + LCM
INTERMEDIATE	Lead		0	1016	141	2.7	11	380	75	Class C	Bentonite + 1% CaCL2 + 8% NaCl + LCM
INTERMEDIATE	Tail		1016	1516	124	1.33	14.8	165	30	Class C	5% NaCl + LCM
PRODUCTION	Lead		0	6697	402	3.35	10.5	1348	20	Class C	Fluid Loss + Dispersant + Retarder + LCM
PRODUCTION	Tail		6697	18157	1464	1.63	13.2	2386	20	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 43 CFR 3172:**

**Diagram of the equipment for the circulating system in accordance with 43 CFR 3172:**

**Describe what will be on location to control well or mitigate other conditions:** All necessary mud products (i.e., barite, pac) 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.

**Describe the mud monitoring system utilized:** Fluid Loss + Dispersant + Retarder + LCM

### Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	400	OTHER : Fresh Water Spud Mud	8.4	8.4							
400	1516	SALT SATURATED	10	10							

**Operator Name:** TAP ROCK OPERATING LLC

**Well Name:** UPSLOPE FED COM

**Well Number:** 154H

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
1516	1815 7	OTHER : Fresh Water/Cut Brine	9	9							

### 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. GR will be collected while drilling through the MWD tools from KOP to TD. A 2-person mud logging program will be used from KOP 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:**

GAMMA RAY LOG, CEMENT BOND LOG, MUD LOG/ GEOLOGICAL LITHOLOGY LOG,

**Coring operation description for the well:**

No DSTs or cores are planned at this time.

### Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 3111

**Anticipated Surface Pressure:** 1533

**Anticipated Bottom Hole Temperature(F):** 150

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

**Describe:**

**Contingency Plans geohazards description:**

**Contingency Plans geohazards**

**Hydrogen Sulfide drilling operations plan required?** YES

**Hydrogen sulfide drilling operations**

Upslope\_152H\_154H\_H2S\_Plan\_v2\_20251023153349.pdf

**Operator Name:** TAP ROCK OPERATING LLC

**Well Name:** UPSLOPE FED COM

**Well Number:** 154H

### Section 8 - Other Information

**Proposed horizontal/directional/multi-lateral plan submission:**

Upslope\_154H\_Directional\_Plan\_20251023153405.pdf

**Other proposed operations facets description:**

**Other proposed operations facets attachment:**

Upslope\_154H\_Drill\_Plan\_20251023153417.pdf

Upslope\_154H\_Anticollision\_Report\_20251023153427.pdf

CoFlex\_Certs\_20251023153442.pdf

BOP\_Shell\_Test\_Procedure\_20251023153452.pdf

Wellhead\_Diagram\_3T\_20251023153502.pdf

Upslope\_WMP\_20251023153503.pdf

**Other Variance request(s)?:** N

**Other Variance attachment:**



Company: Tap Rock Operating  
 Well: Upslope Fed Com 154H  
 County: Eddy County, New Mexico (NAD 83)  
 Rig: H&P 466  
 Wellbore: Wellbore #1  
 Design: Design #1  
 Date: 12:31, September 25 2025

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

WELL DETAILS: Upslope Fed Com 154H

		+N/-S	+E/-W	GL @ 3490.00	Well @ 3516.00usft (H&P 466)					
		Northing	Easting	Latitude	Longitude					
		-25.10	0.24	415204.63	528688.81	32° 8' 29.291 N	104° 22' 27.120 W			
SECTION DETAILS										
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation	
0.00	0.00	0.00	0.00	-25.10	0.24	0.00	0.000	0.00	KOP, 1.00°/100' Build	
500.00	0.00	0.00	500.00	-25.10	0.24	0.00	0.000	0.00	Begin 7.96° Tangent	
1296.50	7.96	168.66	1293.93	-79.30	11.10	1.00	168.663	-7.27	Begin 1.00°/100' Drop	
5801.46	7.96	168.66	5755.44	-691.36	133.82	0.00	0.000	-89.41	Begin Vertical Hold	
6597.96	0.00	0.00	6549.37	-745.55	144.69	1.00	180.000	-96.69	KOP, 11.00°/100' Build	
6697.96	0.00	0.00	6649.37	-745.55	144.69	0.00	0.000	-96.69	Begin 92.00° Lateral	
7534.32	92.00	274.14	7169.93	-706.59	-392.95	11.00	274.144	437.22	Begin 2.00°/100' Drop	
9618.24	92.00	274.14	7097.20	-556.08	-2470.15	0.00	0.000	2500.00	Hold 91.50° Inc, 274.14° Azm	
9643.06	91.50	274.14	7096.44	-554.29	-2494.89	2.00	179.983	2524.57	Hold 91.50° Inc, 269.09° Azm	
10095.39	91.50	274.14	7084.57	-521.61	-2945.89	0.00	0.000	2972.43	Begin 2.00°/100' Drop & Turn	
10348.28	91.49	269.08	7077.97	-514.49	-3198.52	2.00	-90.130	3224.04	Hold 91.49° Inc, 269.09° Azm	
12791.30	91.49	269.08	7014.60	-553.49	-5640.40	0.00	0.000	5663.19	Begin 2.00°/100' Build & Turn	
12851.51	91.50	267.88	7013.03	-555.08	-5700.57	2.00	-89.561	5723.34	Hold 91.50° Inc, 267.88° Azm	
18157.99	91.50	267.88	6874.57	-751.28	-11001.61	0.00	0.000	11025.79	PBHL	



DESIGN TARGET DETAILS

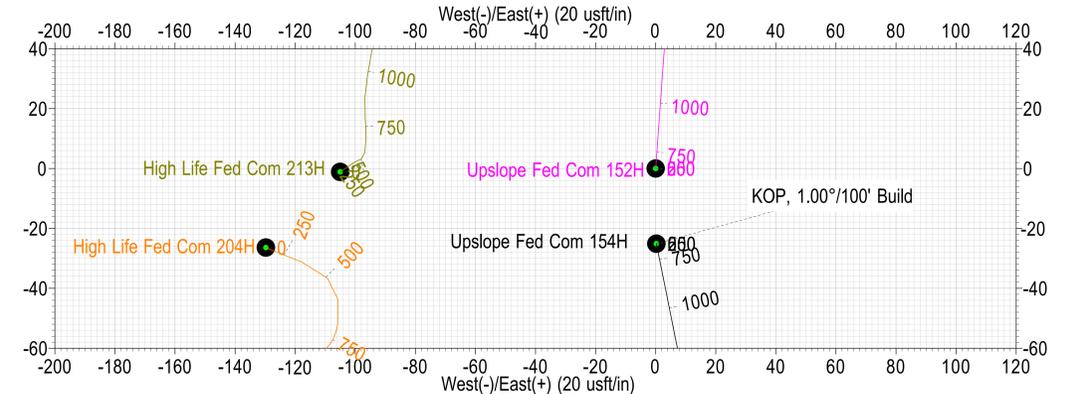
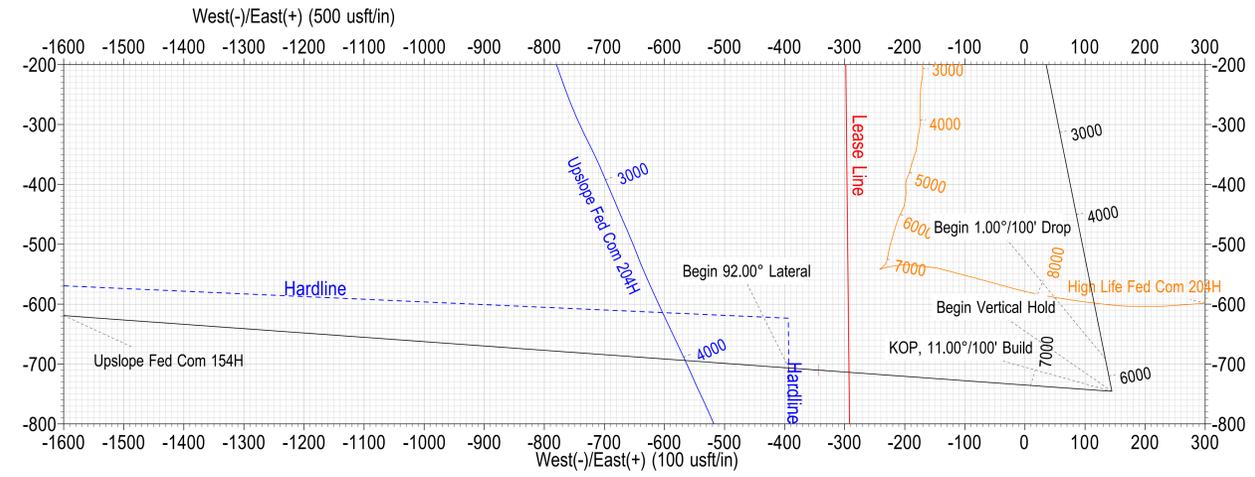
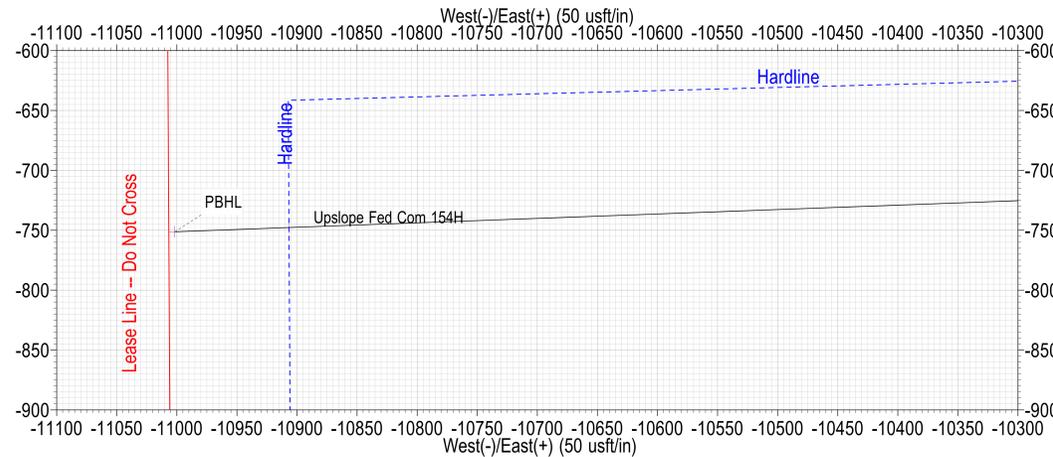
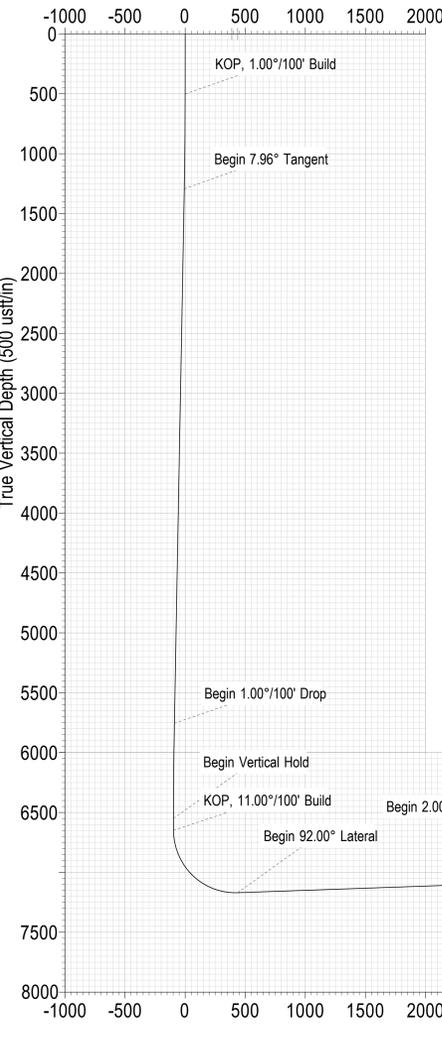
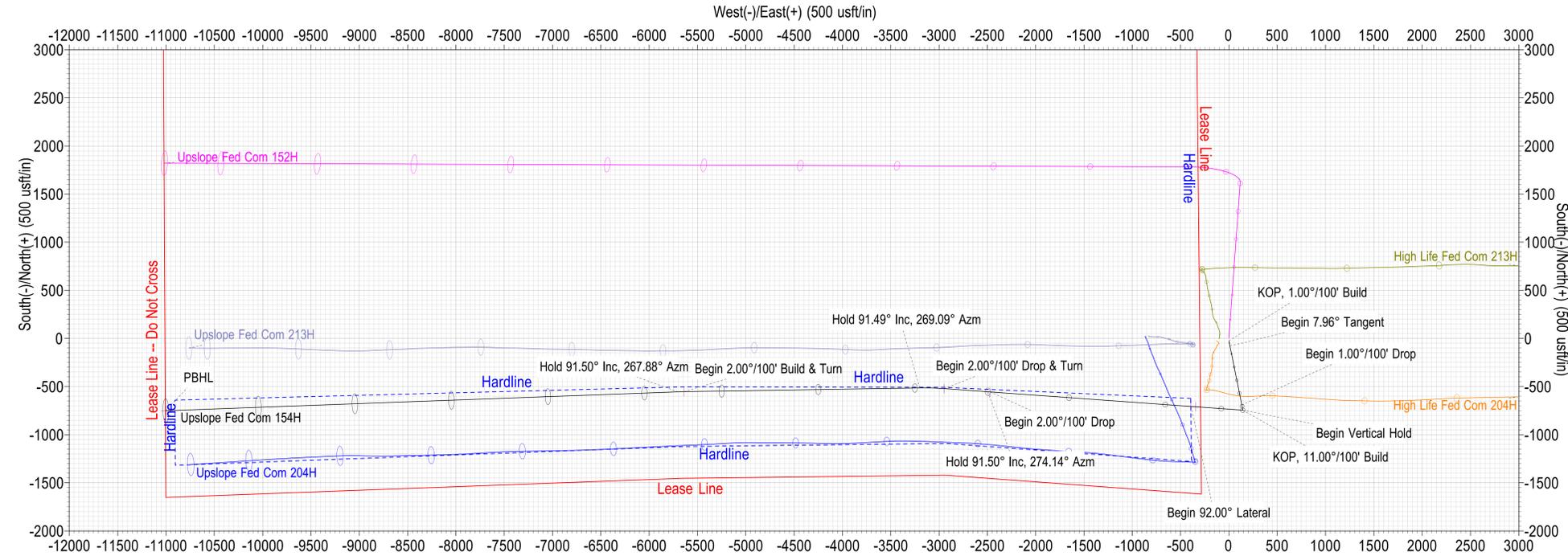
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP_Upslope Fed Com 154H	0.00	-706.59	-392.95	414523.14	528295.62	32° 8' 22.545 N	104° 22' 31.690 W
KOP_Upslope Fed Com 154H	0.00	-710.29	-342.94	414519.44	528345.64	32° 8' 22.509 N	104° 22' 31.108 W
LTP_Upslope Fed Com 154H	0.00	-747.71	-10906.65	414482.02	517781.92	32° 8' 22.081 N	104° 24' 33.975 W
PBHL_Upslope Fed Com 154H	6874.57	-751.28	-11001.61	414478.45	517686.96	32° 8' 22.045 N	104° 24' 35.079 W
PI1_Upslope Fed Com 154H	7084.57	-521.61	-2945.89	414708.12	525742.68	32° 8' 24.365 N	104° 23' 1.384 W
PI2_Upslope Fed Com 154H	7014.60	-553.49	-5640.40	414676.24	523048.17	32° 8' 24.036 N	104° 23' 32.724 W
T1-2500' VS_Upslope Fed Com 154H	7097.20	-556.08	-2470.15	414673.65	526218.42	32° 8' 24.026 N	104° 22' 55.851 W

SURVEY PROGRAM

Depth From	Depth To	Survey/Plan	Tool
0.00	18157.99	Design #1 (Wellbore #1)	MWD+IFR1+SAG+FDIR



To convert a Magnetic Direction to a Grid Direction, Add 6.838°  
 To convert a Magnetic Direction to a True Direction, Add 6.817° East  
 To convert a True Direction to a Grid Direction, Add 0.022°





**Tap Rock Operating**  
Eddy County, New Mexico (NAD 83)  
Upslope Fed Com (152H, 154H)  
Upslope Fed Com 154H

**Wellbore #1**

**Plan: Design #1**

**Standard Planning Report**

**25 September, 2025**





Planning Report



<b>Database:</b>	TRG_EDMConroe	<b>Local Co-ordinate Reference:</b>	Well Upslope Fed Com 154H
<b>Company:</b>	Tap Rock Operating	<b>TVD Reference:</b>	Well @ 3516.00usft (H&P 466)
<b>Project:</b>	Eddy County, New Mexico (NAD 83)	<b>MD Reference:</b>	Well @ 3516.00usft (H&P 466)
<b>Site:</b>	Upslope Fed Com (152H, 154H)	<b>North Reference:</b>	Grid
<b>Well:</b>	Upslope Fed Com 154H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

<b>Project</b>	Eddy County, New Mexico (NAD 83)		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	New Mexico Eastern Zone		

<b>Site</b>	Upslope Fed Com (152H, 154H)				
<b>Site Position:</b>		<b>Northing:</b>	415,229.73 usft	<b>Latitude:</b>	32° 8' 29.539 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	528,688.57 usft	<b>Longitude:</b>	104° 22' 27.123 W
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "		

<b>Well</b>	Upslope Fed Com 154H					
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>	415,204.63 usf	<b>Latitude:</b>	32° 8' 29.291 N
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>	528,688.81 usf	<b>Longitude:</b>	104° 22' 27.120 W
<b>Position Uncertainty</b>	0.00 usft		<b>Wellhead Elevation:</b>	usf	<b>Ground Level:</b>	3,490.00 usft
<b>Grid Convergence:</b>	-0.022 °					

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM2025	9/25/2025	6.817	59.533	47,053.70

<b>Design</b>	Design #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	266.22

<b>Plan Survey Tool Program</b>	<b>Date</b>	9/25/2025		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	18,157.99 Design #1 (Wellbore #1)	MWD+IFR1+SAG+FDIR	
			OWSG MWD + IFR1 + Sag	



Planning Report



<b>Database:</b>	TRG_EDMConroe	<b>Local Co-ordinate Reference:</b>	Well Upslope Fed Com 154H
<b>Company:</b>	Tap Rock Operating	<b>TVD Reference:</b>	Well @ 3516.00usft (H&P 466)
<b>Project:</b>	Eddy County, New Mexico (NAD 83)	<b>MD Reference:</b>	Well @ 3516.00usft (H&P 466)
<b>Site:</b>	Upslope Fed Com (152H, 154H)	<b>North Reference:</b>	Grid
<b>Well:</b>	Upslope Fed Com 154H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.000	
1,296.50	7.96	168.66	1,293.93	-54.19	10.87	1.00	1.00	0.00	168.663	
5,801.46	7.96	168.66	5,755.44	-666.26	133.58	0.00	0.00	0.00	0.000	
6,597.96	0.00	0.00	6,549.37	-720.45	144.45	1.00	-1.00	0.00	180.000	
6,697.96	0.00	0.00	6,649.37	-720.45	144.45	0.00	0.00	0.00	0.000	
7,534.32	92.00	274.14	7,169.93	-681.49	-393.19	11.00	11.00	0.00	274.144	
9,618.24	92.00	274.14	7,097.20	-530.98	-2,470.39	0.00	0.00	0.00	0.000	T1-2500' VS_Upslo
9,643.06	91.50	274.14	7,096.44	-529.19	-2,495.13	2.00	-2.00	0.00	179.983	
10,095.39	91.50	274.14	7,084.57	-496.51	-2,946.13	0.00	0.00	0.00	0.000	PI1_Upslope Fed C
10,348.29	91.49	269.08	7,077.97	-489.39	-3,198.75	2.00	-0.01	-2.00	-90.130	
12,791.30	91.49	269.08	7,014.60	-528.39	-5,640.64	0.00	0.00	0.00	0.000	PI2_Upslope Fed C
12,851.51	91.50	267.88	7,013.03	-529.98	-5,700.81	2.00	0.01	-2.00	-89.561	
18,157.99	91.50	267.88	6,874.57	-726.18	-11,001.85	0.00	0.00	0.00	0.000	PBHL_Upslope Fec



Planning Report



<b>Database:</b>	TRG_EDMConroe	<b>Local Co-ordinate Reference:</b>	Well Upslope Fed Com 154H
<b>Company:</b>	Tap Rock Operating	<b>TVD Reference:</b>	Well @ 3516.00usft (H&P 466)
<b>Project:</b>	Eddy County, New Mexico (NAD 83)	<b>MD Reference:</b>	Well @ 3516.00usft (H&P 466)
<b>Site:</b>	Upslope Fed Com (152H, 154H)	<b>North Reference:</b>	Grid
<b>Well:</b>	Upslope Fed Com 154H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

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	
37.00	0.00	0.00	37.00	0.00	0.00	0.00	0.00	0.00	0.00	
<b>Rustler</b>										
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	
337.00	0.00	0.00	337.00	0.00	0.00	0.00	0.00	0.00	0.00	
<b>Top Salt</b>										
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	
<b>KOP, 1.00°/100' Build</b>										
600.00	1.00	168.66	599.99	-0.86	0.17	-0.11	1.00	1.00	0.00	
700.00	2.00	168.66	699.96	-3.42	0.69	-0.46	1.00	1.00	0.00	
800.00	3.00	168.66	799.86	-7.70	1.54	-1.03	1.00	1.00	0.00	
900.00	4.00	168.66	899.68	-13.68	2.74	-1.84	1.00	1.00	0.00	
1,000.00	5.00	168.66	999.37	-21.38	4.29	-2.87	1.00	1.00	0.00	
1,100.00	6.00	168.66	1,098.90	-30.77	6.17	-4.13	1.00	1.00	0.00	
1,200.00	7.00	168.66	1,198.26	-41.87	8.40	-5.62	1.00	1.00	0.00	
1,238.04	7.38	168.66	1,236.00	-46.54	9.33	-6.25	1.00	1.00	0.00	
<b>Base Salt</b>										
1,296.50	7.96	168.66	1,293.93	-54.19	10.87	-7.27	1.00	1.00	0.00	
<b>Begin 7.96° Tangent</b>										
1,300.00	7.96	168.66	1,297.40	-54.67	10.96	-7.34	0.00	0.00	0.00	
1,400.00	7.96	168.66	1,396.44	-68.26	13.69	-9.16	0.00	0.00	0.00	
1,466.20	7.96	168.66	1,462.00	-77.25	15.49	-10.37	0.00	0.00	0.00	
<b>Delaware Mountain Gp</b>										
1,467.21	7.96	168.66	1,463.00	-77.39	15.52	-10.39	0.00	0.00	0.00	
<b>Lamar</b>										
1,496.49	7.96	168.66	1,492.00	-81.37	16.31	-10.92	0.00	0.00	0.00	
<b>Bell Canyon</b>										
1,500.00	7.96	168.66	1,495.47	-81.84	16.41	-10.98	0.00	0.00	0.00	
1,590.40	7.96	168.66	1,585.00	-94.13	18.87	-12.63	0.00	0.00	0.00	
<b>Ramsey Sand</b>										
1,600.00	7.96	168.66	1,594.51	-95.43	19.13	-12.81	0.00	0.00	0.00	
1,700.00	7.96	168.66	1,693.54	-109.02	21.86	-14.63	0.00	0.00	0.00	
1,800.00	7.96	168.66	1,792.58	-122.60	24.58	-16.45	0.00	0.00	0.00	
1,900.00	7.96	168.66	1,891.62	-136.19	27.31	-18.28	0.00	0.00	0.00	
2,000.00	7.96	168.66	1,990.65	-149.78	30.03	-20.10	0.00	0.00	0.00	
2,100.00	7.96	168.66	2,089.69	-163.36	32.75	-21.92	0.00	0.00	0.00	
2,200.00	7.96	168.66	2,188.72	-176.95	35.48	-23.75	0.00	0.00	0.00	
2,300.00	7.96	168.66	2,287.76	-190.53	38.20	-25.57	0.00	0.00	0.00	
2,400.00	7.96	168.66	2,386.79	-204.12	40.93	-27.39	0.00	0.00	0.00	
2,423.43	7.96	168.66	2,410.00	-207.30	41.56	-27.82	0.00	0.00	0.00	
<b>Cherry Canyon</b>										
2,500.00	7.96	168.66	2,485.83	-217.71	43.65	-29.22	0.00	0.00	0.00	
2,600.00	7.96	168.66	2,584.86	-231.29	46.37	-31.04	0.00	0.00	0.00	
2,700.00	7.96	168.66	2,683.90	-244.88	49.10	-32.86	0.00	0.00	0.00	
2,800.00	7.96	168.66	2,782.93	-258.47	51.82	-34.69	0.00	0.00	0.00	
2,900.00	7.96	168.66	2,881.97	-272.05	54.55	-36.51	0.00	0.00	0.00	
3,000.00	7.96	168.66	2,981.00	-285.64	57.27	-38.33	0.00	0.00	0.00	
3,100.00	7.96	168.66	3,080.04	-299.23	59.99	-40.16	0.00	0.00	0.00	
3,200.00	7.96	168.66	3,179.07	-312.81	62.72	-41.98	0.00	0.00	0.00	
3,300.00	7.96	168.66	3,278.11	-326.40	65.44	-43.80	0.00	0.00	0.00	



Planning Report



<b>Database:</b>	TRG_EDMConroe	<b>Local Co-ordinate Reference:</b>	Well Upslope Fed Com 154H
<b>Company:</b>	Tap Rock Operating	<b>TVD Reference:</b>	Well @ 3516.00usft (H&P 466)
<b>Project:</b>	Eddy County, New Mexico (NAD 83)	<b>MD Reference:</b>	Well @ 3516.00usft (H&P 466)
<b>Site:</b>	Upslope Fed Com (152H, 154H)	<b>North Reference:</b>	Grid
<b>Well:</b>	Upslope Fed Com 154H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

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)	
3,352.40	7.96	168.66	3,330.00	-333.52	66.87	-44.76	0.00	0.00	0.00	
<b>Brushy Canyon</b>										
3,400.00	7.96	168.66	3,377.14	-339.98	68.17	-45.63	0.00	0.00	0.00	
3,500.00	7.96	168.66	3,476.18	-353.57	70.89	-47.45	0.00	0.00	0.00	
3,600.00	7.96	168.66	3,575.22	-367.16	73.61	-49.27	0.00	0.00	0.00	
3,700.00	7.96	168.66	3,674.25	-380.74	76.34	-51.10	0.00	0.00	0.00	
3,800.00	7.96	168.66	3,773.29	-394.33	79.06	-52.92	0.00	0.00	0.00	
3,900.00	7.96	168.66	3,872.32	-407.92	81.79	-54.74	0.00	0.00	0.00	
4,000.00	7.96	168.66	3,971.36	-421.50	84.51	-56.57	0.00	0.00	0.00	
4,100.00	7.96	168.66	4,070.39	-435.09	87.24	-58.39	0.00	0.00	0.00	
4,200.00	7.96	168.66	4,169.43	-448.68	89.96	-60.21	0.00	0.00	0.00	
4,300.00	7.96	168.66	4,268.46	-462.26	92.68	-62.04	0.00	0.00	0.00	
4,400.00	7.96	168.66	4,367.50	-475.85	95.41	-63.86	0.00	0.00	0.00	
4,500.00	7.96	168.66	4,466.53	-489.43	98.13	-65.68	0.00	0.00	0.00	
4,600.00	7.96	168.66	4,565.57	-503.02	100.86	-67.51	0.00	0.00	0.00	
4,700.00	7.96	168.66	4,664.60	-516.61	103.58	-69.33	0.00	0.00	0.00	
4,709.49	7.96	168.66	4,674.00	-517.90	103.84	-69.50	0.00	0.00	0.00	
<b>Bone Spring Lime</b>										
4,800.00	7.96	168.66	4,763.64	-530.19	106.30	-71.15	0.00	0.00	0.00	
4,810.46	7.96	168.66	4,774.00	-531.61	106.59	-71.34	0.00	0.00	0.00	
<b>Upper Avalon</b>										
4,900.00	7.96	168.66	4,862.67	-543.78	109.03	-72.98	0.00	0.00	0.00	
5,000.00	7.96	168.66	4,961.71	-557.37	111.75	-74.80	0.00	0.00	0.00	
5,053.81	7.96	168.66	5,015.00	-564.68	113.22	-75.78	0.00	0.00	0.00	
<b>Middle Avalon</b>										
5,100.00	7.96	168.66	5,060.74	-570.95	114.48	-76.62	0.00	0.00	0.00	
5,200.00	7.96	168.66	5,159.78	-584.54	117.20	-78.45	0.00	0.00	0.00	
5,300.00	7.96	168.66	5,258.82	-598.13	119.92	-80.27	0.00	0.00	0.00	
5,400.00	7.96	168.66	5,357.85	-611.71	122.65	-82.09	0.00	0.00	0.00	
5,452.66	7.96	168.66	5,410.00	-618.87	124.08	-83.05	0.00	0.00	0.00	
<b>Lower Avalon</b>										
5,500.00	7.96	168.66	5,456.89	-625.30	125.37	-83.92	0.00	0.00	0.00	
5,600.00	7.96	168.66	5,555.92	-638.88	128.10	-85.74	0.00	0.00	0.00	
5,625.32	7.96	168.66	5,581.00	-642.32	128.79	-86.20	0.00	0.00	0.00	
<b>1st Bone Spring Sand</b>										
5,700.00	7.96	168.66	5,654.96	-652.47	130.82	-87.56	0.00	0.00	0.00	
5,801.46	7.96	168.66	5,755.44	-666.26	133.58	-89.41	0.00	0.00	0.00	
<b>Begin 1.00°/100' Drop</b>										
5,900.00	6.98	168.66	5,853.14	-678.82	136.10	-91.10	1.00	-1.00	0.00	
5,985.42	6.13	168.66	5,938.00	-688.38	138.02	-92.38	1.00	-1.00	0.00	
<b>2nd Bone Spring Carb</b>										
6,000.00	5.98	168.66	5,952.50	-689.88	138.32	-92.58	1.00	-1.00	0.00	
6,100.00	4.98	168.66	6,052.04	-699.25	140.20	-93.84	1.00	-1.00	0.00	
6,200.00	3.98	168.66	6,151.73	-706.90	141.73	-94.87	1.00	-1.00	0.00	
6,300.00	2.98	168.66	6,251.55	-712.86	142.93	-95.67	1.00	-1.00	0.00	
6,385.54	2.12	168.66	6,337.00	-716.59	143.68	-96.17	1.00	-1.00	0.00	
<b>2nd Bone Spring Sand</b>										
6,400.00	1.98	168.66	6,351.45	-717.10	143.78	-96.24	1.00	-1.00	0.00	
6,500.00	0.98	168.66	6,451.42	-719.63	144.29	-96.58	1.00	-1.00	0.00	
6,597.96	0.00	0.00	6,549.37	-720.45	144.45	-96.69	1.00	-1.00	0.00	
<b>Begin Vertical Hold</b>										
6,600.00	0.00	0.00	6,551.41	-720.45	144.45	-96.69	0.00	0.00	0.00	



Planning Report



<b>Database:</b>	TRG_EDMConroe	<b>Local Co-ordinate Reference:</b>	Well Upslope Fed Com 154H
<b>Company:</b>	Tap Rock Operating	<b>TVD Reference:</b>	Well @ 3516.00usft (H&P 466)
<b>Project:</b>	Eddy County, New Mexico (NAD 83)	<b>MD Reference:</b>	Well @ 3516.00usft (H&P 466)
<b>Site:</b>	Upslope Fed Com (152H, 154H)	<b>North Reference:</b>	Grid
<b>Well:</b>	Upslope Fed Com 154H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

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)	
6,697.96	0.00	0.00	6,649.37	-720.45	144.45	-96.69	0.00	0.00	0.00	
<b>KOP, 11.00°/100' Build</b>										
6,700.00	0.22	274.14	6,651.41	-720.45	144.45	-96.68	11.00	11.00	0.00	
6,750.00	5.72	274.14	6,701.33	-720.26	141.86	-94.11	11.00	11.00	0.00	
6,784.99	9.57	274.14	6,736.00	-719.93	137.21	-89.50	11.00	11.00	0.00	
<b>3rd Bone Spring Carb</b>										
6,800.00	11.22	274.14	6,750.76	-719.73	134.51	-86.82	11.00	11.00	0.00	
6,850.00	16.72	274.14	6,799.26	-718.86	122.47	-74.86	11.00	11.00	0.00	
6,900.00	22.22	274.14	6,846.39	-717.65	105.85	-58.36	11.00	11.00	0.00	
6,950.00	27.72	274.14	6,891.69	-716.13	84.81	-37.46	11.00	11.00	0.00	
7,000.00	33.22	274.14	6,934.77	-714.30	59.53	-12.35	11.00	11.00	0.00	
7,050.00	38.72	274.14	6,975.22	-712.17	30.24	16.73	11.00	11.00	0.00	
7,100.00	44.22	274.14	7,012.67	-709.78	-2.77	49.52	11.00	11.00	0.00	
7,150.00	49.72	274.14	7,046.77	-707.14	-39.22	85.71	11.00	11.00	0.00	
7,200.00	55.22	274.14	7,077.21	-704.28	-78.75	124.97	11.00	11.00	0.00	
7,250.00	60.72	274.14	7,103.72	-701.21	-121.02	166.94	11.00	11.00	0.00	
7,300.00	66.22	274.14	7,126.04	-697.98	-165.62	211.23	11.00	11.00	0.00	
7,350.00	71.72	274.14	7,143.97	-694.61	-212.15	257.44	11.00	11.00	0.00	
7,400.00	77.22	274.14	7,157.35	-691.13	-260.18	305.13	11.00	11.00	0.00	
7,450.00	82.72	274.14	7,166.05	-687.57	-309.27	353.88	11.00	11.00	0.00	
7,500.00	88.22	274.14	7,169.99	-683.97	-358.96	403.23	11.00	11.00	0.00	
7,534.32	92.00	274.14	7,169.93	-681.49	-393.19	437.22	11.00	11.00	0.00	
<b>Begin 92.00° Lateral</b>										
7,600.00	92.00	274.14	7,167.63	-676.75	-458.66	502.23	0.00	0.00	0.00	
7,700.00	92.00	274.14	7,164.14	-669.53	-558.33	601.22	0.00	0.00	0.00	
7,800.00	92.00	274.14	7,160.65	-662.30	-658.01	700.20	0.00	0.00	0.00	
7,900.00	92.00	274.14	7,157.16	-655.08	-757.69	799.19	0.00	0.00	0.00	
8,000.00	92.00	274.14	7,153.67	-647.86	-857.37	898.18	0.00	0.00	0.00	
8,100.00	92.00	274.14	7,150.18	-640.64	-957.05	997.16	0.00	0.00	0.00	
8,200.00	92.00	274.14	7,146.69	-633.41	-1,056.72	1,096.15	0.00	0.00	0.00	
8,300.00	92.00	274.14	7,143.20	-626.19	-1,156.40	1,195.13	0.00	0.00	0.00	
8,400.00	92.00	274.14	7,139.71	-618.97	-1,256.08	1,294.12	0.00	0.00	0.00	
8,500.00	92.00	274.14	7,136.22	-611.75	-1,355.76	1,393.10	0.00	0.00	0.00	
8,600.00	92.00	274.14	7,132.73	-604.52	-1,455.43	1,492.09	0.00	0.00	0.00	
8,700.00	92.00	274.14	7,129.24	-597.30	-1,555.11	1,591.07	0.00	0.00	0.00	
8,800.00	92.00	274.14	7,125.75	-590.08	-1,654.79	1,690.06	0.00	0.00	0.00	
8,900.00	92.00	274.14	7,122.26	-582.86	-1,754.47	1,789.05	0.00	0.00	0.00	
9,000.00	92.00	274.14	7,118.77	-575.63	-1,854.15	1,888.03	0.00	0.00	0.00	
9,100.00	92.00	274.14	7,115.28	-568.41	-1,953.82	1,987.02	0.00	0.00	0.00	
9,200.00	92.00	274.14	7,111.79	-561.19	-2,053.50	2,086.00	0.00	0.00	0.00	
9,300.00	92.00	274.14	7,108.30	-553.97	-2,153.18	2,184.99	0.00	0.00	0.00	
9,400.00	92.00	274.14	7,104.81	-546.74	-2,252.86	2,283.97	0.00	0.00	0.00	
9,500.00	92.00	274.14	7,101.32	-539.52	-2,352.53	2,382.96	0.00	0.00	0.00	
9,600.00	92.00	274.14	7,097.83	-532.30	-2,452.21	2,481.95	0.00	0.00	0.00	
9,618.24	92.00	274.14	7,097.20	-530.98	-2,470.39	2,500.00	0.00	0.00	0.00	
<b>Begin 2.00°/100' Drop</b>										
9,643.06	91.50	274.14	7,096.44	-529.19	-2,495.13	2,524.57	2.00	-2.00	0.00	
<b>Hold 91.50° Inc, 274.14° Azm</b>										
9,700.00	91.50	274.14	7,094.95	-525.07	-2,551.91	2,580.95	0.00	0.00	0.00	
9,800.00	91.50	274.14	7,092.32	-517.85	-2,651.61	2,679.96	0.00	0.00	0.00	
9,900.00	91.50	274.14	7,089.70	-510.62	-2,751.32	2,778.97	0.00	0.00	0.00	
10,000.00	91.50	274.14	7,087.07	-503.40	-2,851.02	2,877.98	0.00	0.00	0.00	
10,095.39	91.50	274.14	7,084.57	-496.51	-2,946.13	2,972.43	0.00	0.00	0.00	



Planning Report



<b>Database:</b>	TRG_EDMConroe	<b>Local Co-ordinate Reference:</b>	Well Upslope Fed Com 154H
<b>Company:</b>	Tap Rock Operating	<b>TVD Reference:</b>	Well @ 3516.00usft (H&P 466)
<b>Project:</b>	Eddy County, New Mexico (NAD 83)	<b>MD Reference:</b>	Well @ 3516.00usft (H&P 466)
<b>Site:</b>	Upslope Fed Com (152H, 154H)	<b>North Reference:</b>	Grid
<b>Well:</b>	Upslope Fed Com 154H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

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)	
<b>Begin 2.00°/100' Drop &amp; Turn</b>										
10,100.00	91.50	274.05	7,084.45	-496.18	-2,950.72	2,977.00	2.00	0.00	-2.00	
10,200.00	91.50	272.05	7,081.83	-490.86	-3,050.54	3,076.25	2.00	-0.01	-2.00	
10,300.00	91.49	270.05	7,079.22	-489.02	-3,150.49	3,175.86	2.00	-0.01	-2.00	
10,348.29	91.49	269.08	7,077.97	-489.39	-3,198.75	3,224.04	2.00	-0.01	-2.00	
<b>Hold 91.49° Inc, 269.09° Azm</b>										
10,400.00	91.49	269.08	7,076.63	-490.21	-3,250.45	3,275.67	0.00	0.00	0.00	
10,500.00	91.49	269.08	7,074.03	-491.81	-3,350.40	3,375.52	0.00	0.00	0.00	
10,600.00	91.49	269.08	7,071.44	-493.40	-3,450.35	3,475.36	0.00	0.00	0.00	
10,700.00	91.49	269.08	7,068.85	-495.00	-3,550.31	3,575.20	0.00	0.00	0.00	
10,800.00	91.49	269.08	7,066.25	-496.60	-3,650.26	3,675.04	0.00	0.00	0.00	
10,900.00	91.49	269.08	7,063.66	-498.19	-3,750.21	3,774.88	0.00	0.00	0.00	
11,000.00	91.49	269.08	7,061.06	-499.79	-3,850.17	3,874.72	0.00	0.00	0.00	
11,100.00	91.49	269.08	7,058.47	-501.39	-3,950.12	3,974.57	0.00	0.00	0.00	
11,200.00	91.49	269.08	7,055.88	-502.98	-4,050.07	4,074.41	0.00	0.00	0.00	
11,300.00	91.49	269.08	7,053.28	-504.58	-4,150.03	4,174.25	0.00	0.00	0.00	
11,400.00	91.49	269.08	7,050.69	-506.18	-4,249.98	4,274.09	0.00	0.00	0.00	
11,500.00	91.49	269.08	7,048.09	-507.77	-4,349.94	4,373.93	0.00	0.00	0.00	
11,600.00	91.49	269.08	7,045.50	-509.37	-4,449.89	4,473.77	0.00	0.00	0.00	
11,700.00	91.49	269.08	7,042.91	-510.96	-4,549.84	4,573.62	0.00	0.00	0.00	
11,800.00	91.49	269.08	7,040.31	-512.56	-4,649.80	4,673.46	0.00	0.00	0.00	
11,900.00	91.49	269.08	7,037.72	-514.16	-4,749.75	4,773.30	0.00	0.00	0.00	
12,000.00	91.49	269.08	7,035.13	-515.75	-4,849.70	4,873.14	0.00	0.00	0.00	
12,100.00	91.49	269.08	7,032.53	-517.35	-4,949.66	4,972.98	0.00	0.00	0.00	
12,200.00	91.49	269.08	7,029.94	-518.95	-5,049.61	5,072.83	0.00	0.00	0.00	
12,300.00	91.49	269.08	7,027.34	-520.54	-5,149.56	5,172.67	0.00	0.00	0.00	
12,400.00	91.49	269.08	7,024.75	-522.14	-5,249.52	5,272.51	0.00	0.00	0.00	
12,500.00	91.49	269.08	7,022.16	-523.74	-5,349.47	5,372.35	0.00	0.00	0.00	
12,600.00	91.49	269.08	7,019.56	-525.33	-5,449.42	5,472.19	0.00	0.00	0.00	
12,700.00	91.49	269.08	7,016.97	-526.93	-5,549.38	5,572.03	0.00	0.00	0.00	
12,791.30	91.49	269.08	7,014.60	-528.39	-5,640.64	5,663.19	0.00	0.00	0.00	
<b>Begin 2.00°/100' Build &amp; Turn</b>										
12,800.00	91.49	268.91	7,014.37	-528.54	-5,649.33	5,671.88	2.00	0.02	-2.00	
12,851.51	91.50	267.88	7,013.03	-529.98	-5,700.81	5,723.34	2.00	0.01	-2.00	
<b>Hold 91.50° Inc, 267.88° Azm</b>										
12,900.00	91.50	267.88	7,011.77	-531.77	-5,749.24	5,771.78	0.00	0.00	0.00	
13,000.00	91.50	267.88	7,009.16	-535.47	-5,849.14	5,871.71	0.00	0.00	0.00	
13,100.00	91.50	267.88	7,006.55	-539.17	-5,949.04	5,971.63	0.00	0.00	0.00	
13,200.00	91.50	267.88	7,003.94	-542.87	-6,048.94	6,071.56	0.00	0.00	0.00	
13,300.00	91.50	267.88	7,001.33	-546.56	-6,148.83	6,171.48	0.00	0.00	0.00	
13,400.00	91.50	267.88	6,998.72	-550.26	-6,248.73	6,271.41	0.00	0.00	0.00	
13,500.00	91.50	267.88	6,996.11	-553.96	-6,348.63	6,371.33	0.00	0.00	0.00	
13,600.00	91.50	267.88	6,993.50	-557.66	-6,448.53	6,471.25	0.00	0.00	0.00	
13,700.00	91.50	267.88	6,990.89	-561.35	-6,548.42	6,571.18	0.00	0.00	0.00	
13,800.00	91.50	267.88	6,988.28	-565.05	-6,648.32	6,671.10	0.00	0.00	0.00	
13,900.00	91.50	267.88	6,985.67	-568.75	-6,748.22	6,771.03	0.00	0.00	0.00	
14,000.00	91.50	267.88	6,983.07	-572.44	-6,848.12	6,870.95	0.00	0.00	0.00	
14,100.00	91.50	267.88	6,980.46	-576.14	-6,948.01	6,970.87	0.00	0.00	0.00	
14,200.00	91.50	267.88	6,977.85	-579.84	-7,047.91	7,070.80	0.00	0.00	0.00	
14,300.00	91.50	267.88	6,975.24	-583.54	-7,147.81	7,170.72	0.00	0.00	0.00	
14,400.00	91.50	267.88	6,972.63	-587.23	-7,247.71	7,270.65	0.00	0.00	0.00	
14,500.00	91.50	267.88	6,970.02	-590.93	-7,347.60	7,370.57	0.00	0.00	0.00	
14,600.00	91.50	267.88	6,967.41	-594.63	-7,447.50	7,470.50	0.00	0.00	0.00	



Planning Report



<b>Database:</b>	TRG_EDMConroe	<b>Local Co-ordinate Reference:</b>	Well Upslope Fed Com 154H
<b>Company:</b>	Tap Rock Operating	<b>TVD Reference:</b>	Well @ 3516.00usft (H&P 466)
<b>Project:</b>	Eddy County, New Mexico (NAD 83)	<b>MD Reference:</b>	Well @ 3516.00usft (H&P 466)
<b>Site:</b>	Upslope Fed Com (152H, 154H)	<b>North Reference:</b>	Grid
<b>Well:</b>	Upslope Fed Com 154H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

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)	
14,700.00	91.50	267.88	6,964.80	-598.33	-7,547.40	7,570.42	0.00	0.00	0.00	
14,800.00	91.50	267.88	6,962.19	-602.02	-7,647.30	7,670.34	0.00	0.00	0.00	
14,900.00	91.50	267.88	6,959.58	-605.72	-7,747.19	7,770.27	0.00	0.00	0.00	
15,000.00	91.50	267.88	6,956.97	-609.42	-7,847.09	7,870.19	0.00	0.00	0.00	
15,100.00	91.50	267.88	6,954.36	-613.12	-7,946.99	7,970.12	0.00	0.00	0.00	
15,200.00	91.50	267.88	6,951.75	-616.81	-8,046.89	8,070.04	0.00	0.00	0.00	
15,300.00	91.50	267.88	6,949.14	-620.51	-8,146.79	8,169.96	0.00	0.00	0.00	
15,400.00	91.50	267.88	6,946.53	-624.21	-8,246.68	8,269.89	0.00	0.00	0.00	
15,500.00	91.50	267.88	6,943.93	-627.91	-8,346.58	8,369.81	0.00	0.00	0.00	
15,600.00	91.50	267.88	6,941.32	-631.60	-8,446.48	8,469.74	0.00	0.00	0.00	
15,700.00	91.50	267.88	6,938.71	-635.30	-8,546.38	8,569.66	0.00	0.00	0.00	
15,800.00	91.50	267.88	6,936.10	-639.00	-8,646.27	8,669.59	0.00	0.00	0.00	
15,900.00	91.50	267.88	6,933.49	-642.70	-8,746.17	8,769.51	0.00	0.00	0.00	
16,000.00	91.50	267.88	6,930.88	-646.39	-8,846.07	8,869.43	0.00	0.00	0.00	
16,100.00	91.50	267.88	6,928.27	-650.09	-8,945.97	8,969.36	0.00	0.00	0.00	
16,200.00	91.50	267.88	6,925.66	-653.79	-9,045.86	9,069.28	0.00	0.00	0.00	
16,300.00	91.50	267.88	6,923.05	-657.49	-9,145.76	9,169.21	0.00	0.00	0.00	
16,400.00	91.50	267.88	6,920.44	-661.18	-9,245.66	9,269.13	0.00	0.00	0.00	
16,500.00	91.50	267.88	6,917.83	-664.88	-9,345.56	9,369.05	0.00	0.00	0.00	
16,600.00	91.50	267.88	6,915.22	-668.58	-9,445.45	9,468.98	0.00	0.00	0.00	
16,700.00	91.50	267.88	6,912.61	-672.27	-9,545.35	9,568.90	0.00	0.00	0.00	
16,800.00	91.50	267.88	6,910.00	-675.97	-9,645.25	9,668.83	0.00	0.00	0.00	
16,900.00	91.50	267.88	6,907.39	-679.67	-9,745.15	9,768.75	0.00	0.00	0.00	
17,000.00	91.50	267.88	6,904.79	-683.37	-9,845.04	9,868.68	0.00	0.00	0.00	
17,100.00	91.50	267.88	6,902.18	-687.06	-9,944.94	9,968.60	0.00	0.00	0.00	
17,200.00	91.50	267.88	6,899.57	-690.76	-10,044.84	10,068.52	0.00	0.00	0.00	
17,300.00	91.50	267.88	6,896.96	-694.46	-10,144.74	10,168.45	0.00	0.00	0.00	
17,400.00	91.50	267.88	6,894.35	-698.16	-10,244.63	10,268.37	0.00	0.00	0.00	
17,500.00	91.50	267.88	6,891.74	-701.85	-10,344.53	10,368.30	0.00	0.00	0.00	
17,600.00	91.50	267.88	6,889.13	-705.55	-10,444.43	10,468.22	0.00	0.00	0.00	
17,700.00	91.50	267.88	6,886.52	-709.25	-10,544.33	10,568.14	0.00	0.00	0.00	
17,800.00	91.50	267.88	6,883.91	-712.95	-10,644.22	10,668.07	0.00	0.00	0.00	
17,900.00	91.50	267.88	6,881.30	-716.64	-10,744.12	10,767.99	0.00	0.00	0.00	
18,000.00	91.50	267.88	6,878.69	-720.34	-10,844.02	10,867.92	0.00	0.00	0.00	
18,100.00	91.50	267.88	6,876.08	-724.04	-10,943.92	10,967.84	0.00	0.00	0.00	
18,157.99	91.50	267.88	6,874.57	-726.18	-11,001.85	11,025.79	0.00	0.00	0.00	
<b>PBHL</b>										



Planning Report



<b>Database:</b>	TRG_EDMConroe	<b>Local Co-ordinate Reference:</b>	Well Upslope Fed Com 154H
<b>Company:</b>	Tap Rock Operating	<b>TVD Reference:</b>	Well @ 3516.00usft (H&P 466)
<b>Project:</b>	Eddy County, New Mexico (NAD 83)	<b>MD Reference:</b>	Well @ 3516.00usft (H&P 466)
<b>Site:</b>	Upslope Fed Com (152H, 154H)	<b>North Reference:</b>	Grid
<b>Well:</b>	Upslope Fed Com 154H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LTP_Upslope Fed Coi - hit/miss target - Shape - Point	0.00	360.00	0.00	-722.61	-10,906.89	414,482.02	517,781.93	32° 8' 22.081 N	104° 24' 33.975 W
- plan misses target center by 6875.23usft at 18157.99usft MD (6874.57 TVD, -726.18 N, -11001.85 E)									
KOP_Upslope Fed Cc - Point	0.00	0.00	0.00	-685.19	-343.17	414,519.44	528,345.64	32° 8' 22.509 N	104° 22' 31.108 W
- plan misses target center by 766.32usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
FTP_Upslope Fed Co - Point	0.00	0.00	0.00	-681.49	-393.19	414,523.14	528,295.62	32° 8' 22.545 N	104° 22' 31.690 W
- plan misses target center by 786.79usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
PBHL Upslope Fed C - Point	0.00	360.00	6,874.57	-726.18	-11,001.85	414,478.45	517,686.96	32° 8' 22.045 N	104° 24' 35.079 W
- plan hits target center									
PI2_Upslope Fed Con - Point	0.00	360.00	7,014.60	-528.39	-5,640.64	414,676.24	523,048.17	32° 8' 24.036 N	104° 23' 32.724 W
- plan hits target center									
PI1_Upslope Fed Con - Point	0.00	360.00	7,084.57	-496.51	-2,946.13	414,708.12	525,742.68	32° 8' 24.365 N	104° 23' 1.384 W
- plan hits target center									
T1-2500' VS Upslope - Point	0.00	360.00	7,097.20	-530.98	-2,470.39	414,673.65	526,218.42	32° 8' 24.026 N	104° 22' 55.851 W
- plan hits target center									

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
37.00	37.00	Rustler				
337.00	337.00	Top Salt				
1,238.04	1,236.00	Base Salt				
1,466.20	1,462.00	Delaware Mountain Gp				
1,467.21	1,463.00	Lamar				
1,496.49	1,492.00	Bell Canyon				
1,590.40	1,585.00	Ramsey Sand				
2,423.43	2,410.00	Cherry Canyon				
3,352.40	3,330.00	Brushy Canyon				
4,709.49	4,674.00	Bone Spring Lime				
4,810.46	4,774.00	Upper Avalon				
5,053.81	5,015.00	Middle Avalon				
5,452.66	5,410.00	Lower Avalon				
5,625.32	5,581.00	1st Bone Spring Sand				
5,985.42	5,938.00	2nd Bone Spring Carb				
6,385.54	6,337.00	2nd Bone Spring Sand				
6,784.99	6,736.00	3rd Bone Spring Carb				



Planning Report



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<b>Company:</b>	Tap Rock Operating	<b>TVD Reference:</b>	Well @ 3516.00usft (H&P 466)
<b>Project:</b>	Eddy County, New Mexico (NAD 83)	<b>MD Reference:</b>	Well @ 3516.00usft (H&P 466)
<b>Site:</b>	Upslope Fed Com (152H, 154H)	<b>North Reference:</b>	Grid
<b>Well:</b>	Upslope Fed Com 154H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
500.00	500.00	0.00	0.00	KOP, 1.00°/100' Build
1,296.50	1,293.93	-54.19	10.87	Begin 7.96° Tangent
5,801.46	5,755.44	-666.26	133.58	Begin 1.00°/100' Drop
6,597.96	6,549.37	-720.45	144.45	Begin Vertical Hold
6,697.96	6,649.37	-720.45	144.45	KOP, 11.00°/100' Build
7,534.32	7,169.93	-681.49	-393.19	Begin 92.00° Lateral
9,618.24	7,097.20	-530.98	-2,470.39	Begin 2.00°/100' Drop
9,643.06	7,096.44	-529.19	-2,495.13	Hold 91.50° Inc, 274.14° Azm
10,095.39	7,084.57	-496.51	-2,946.13	Begin 2.00°/100' Drop & Turn
10,348.29	7,077.97	-489.39	-3,198.75	Hold 91.49° Inc, 269.09° Azm
12,791.30	7,014.60	-528.39	-5,640.64	Begin 2.00°/100' Build & Turn
12,851.51	7,013.03	-529.98	-5,700.81	Hold 91.50° Inc, 267.88° Azm
18,157.99	6,874.57	-726.18	-11,001.85	PBHL

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b> Tap Rock Operating LLC
<b>WELL NAME &amp; NO.:</b> Upslope Fed Com 154H
<b>LOCATION:</b> Sec 11-25E-25E-NMP
<b>COUNTY:</b> <input style="width: 150px;" type="text" value="Eddy County, New Mexico"/>

Create COAs

<b>H<sub>2</sub>S</b>	<b>Cave / Karst</b>	<b>Waste Prevention Rule</b>
<input style="width: 100%;" type="text" value="Not Reported"/>	<input style="width: 100%;" type="text" value="Critical"/>	<input style="width: 100%;" type="text" value="Waste Minimization Plan"/>
<b>Potash</b>	<b>R-111-Q Design</b>	
<input style="width: 100%;" type="text" value="None"/>	<input style="width: 100%;" type="text"/>	
<b>Wellhead</b>	<b>Casing</b>	
<input style="width: 100%;" type="text" value="Multibowl"/>	<input style="width: 100%;" type="text" value="3-String Well"/>	
<input checked="" type="checkbox"/> Flex Hose <input checked="" type="checkbox"/> Break Testing	<input type="checkbox"/> Liner <input type="checkbox"/> Fluid Filled <input type="checkbox"/> Casing Clearance	
	<b>Cementing</b>	
	<input type="checkbox"/> DV Tool <input type="checkbox"/> Bradenhead <input type="checkbox"/> Echometer <input type="checkbox"/> Offline Cement <input type="checkbox"/> Open Annulus <input type="checkbox"/> Pilot Hole	
<b>Special Requirements</b>		
<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> Water Disposal	<input checked="" type="checkbox"/> COM <input type="checkbox"/> Unit

**A. HYDROGEN SULFIDE**

Hydrogen Sulfide (H<sub>2</sub>S) monitors shall be installed prior to drilling out the surface shoe. If H<sub>2</sub>S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet 43 CFR 3176 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 11-3/4 inch surface casing shall be set at approximately 400 feet (a minimum of 70' into the Rustler Anhydrite, above the salt, and below usable fresh water) 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 (including lead cement.)
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **8-5/8** inch intermediate casing is **cement to surface**. If cement does not circulate, see B.1.a, c-d above.
    - **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry** due to the presence of cave/karst, Capitan Reef, or potash features.
  3. The minimum required fill of cement behind the **5-1/2** inch production casing is **cement to surface**. If cement does not circulate, see B.1.a, c-d above.
    - **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry** due to the presence of cave/karst, Capitan Reef, or potash features.

### C. PRESSURE CONTROL

1. Operator has proposed a multi-bowl wellhead assembly. 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 43 CFR 3172 must be followed.
2. 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).
3. Break testing has been approved for this well ONLY on those intervals utilizing a 5M BOPE or less. **(Annular preventer must be tested to a minimum of 70% of BOPE**

**working pressure and shall be higher than the MASP.)** If in the event break testing is not utilized, then a full BOPE test would be conducted.

- a. Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation. **BOPE Break Testing is NOT permitted to drill the production hole section.**
- b. While in transfer between wells, BOPE shall be secured by the hydraulic carrier or cradle.
- c. A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- d. As a minimum, a full BOPE test shall be performed at 21-day intervals.
- e. In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per **43 CFR 3172**. Any well control event while drilling require notification to the BLM Petroleum Engineer (**575-706-2779**) prior to the commencement of any BOPE Break Testing operations.

#### **D. SPECIAL REQUIREMENT(S)**

##### **Communitization Agreement:**

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, 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.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in 43 CFR 3171 and 3172.
- 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)

### Contact Eddy County Petroleum Engineering Inspection Staff:

Email or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220;  
[BLM NM CFO DrillingNotifications@BLM.GOV](mailto:BLM_NM_CFO_DrillingNotifications@BLM.GOV); (575) 361-2822

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
    - i. Notify the BLM when moving in and removing the Spudder Rig.
    - ii. Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
    - iii. BOP/BOPE test to be conducted per **43 CFR 3172** as soon as 2<sup>nd</sup> 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. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

### 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 of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity 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 integrity 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-Q 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 **43 CFR 3172**.
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:
    - i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    - ii. 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.
    - iii. Manufacturer representative shall install the test plug for the initial BOP test.
    - iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
    - v. 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.
    - i. 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 cement), 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).
    - ii. 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 cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
    - iii. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve

open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR 3172** 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 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

- iv. 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.
- v. The results of the test shall be reported to the appropriate BLM office.
- vi. 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.
- vii. 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.
- viii. 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 **43 CFR 3172**.

### **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.



## 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 Windssocks and / Wind Streamers:

- Windssocks at mud pit area should be high enough to be visible
- Windssock 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

<b>Emergency Contacts</b>		
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	720.772.5090	

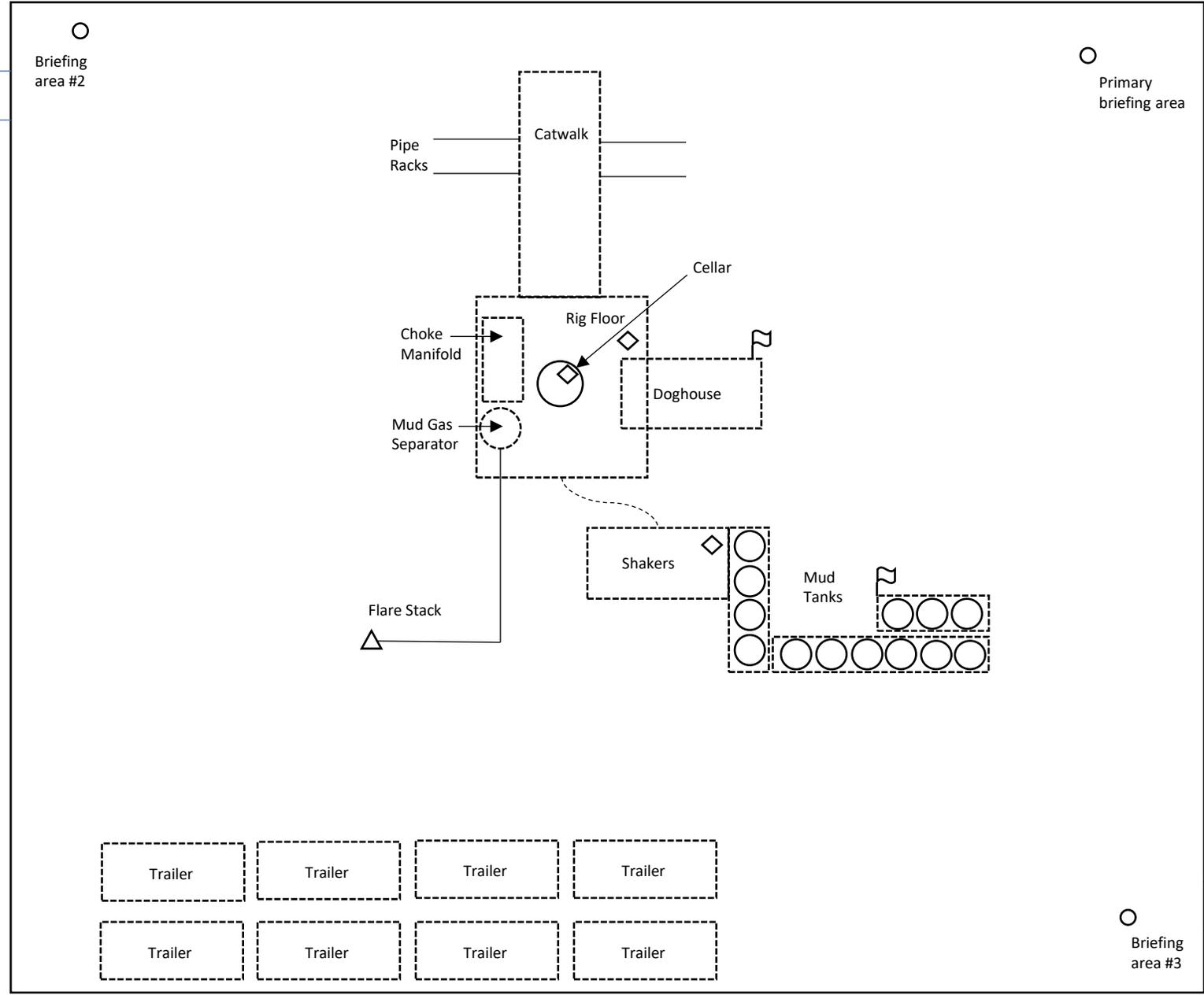
Rig Diagram  
High Life Fed Com  
Slot 2 Pad  
Tap Rock Operating, LLC  
11-25S-25E  
Eddy County, NM



-  Briefing Area
-  Current Well
-  Flare Stack
-  H2S Monitor
-  Wind Indicator
-  Mud Gas Separator

420'

CTB  
Access



Condition  
Warning  
Sign

Access  
Road

Condition  
Warning  
Sign

Access  
Road

Briefing  
area #3

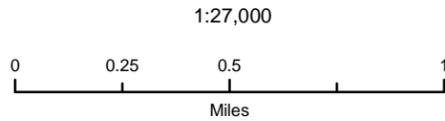


# Tap Rock Operating LLC

High Life Fed Com Slot 2 Pad  
H2S Contingency Plan:  
2 Mile Radius Map

Sec. 11, Township 25S, Range 25E  
Eddy County, New Mexico

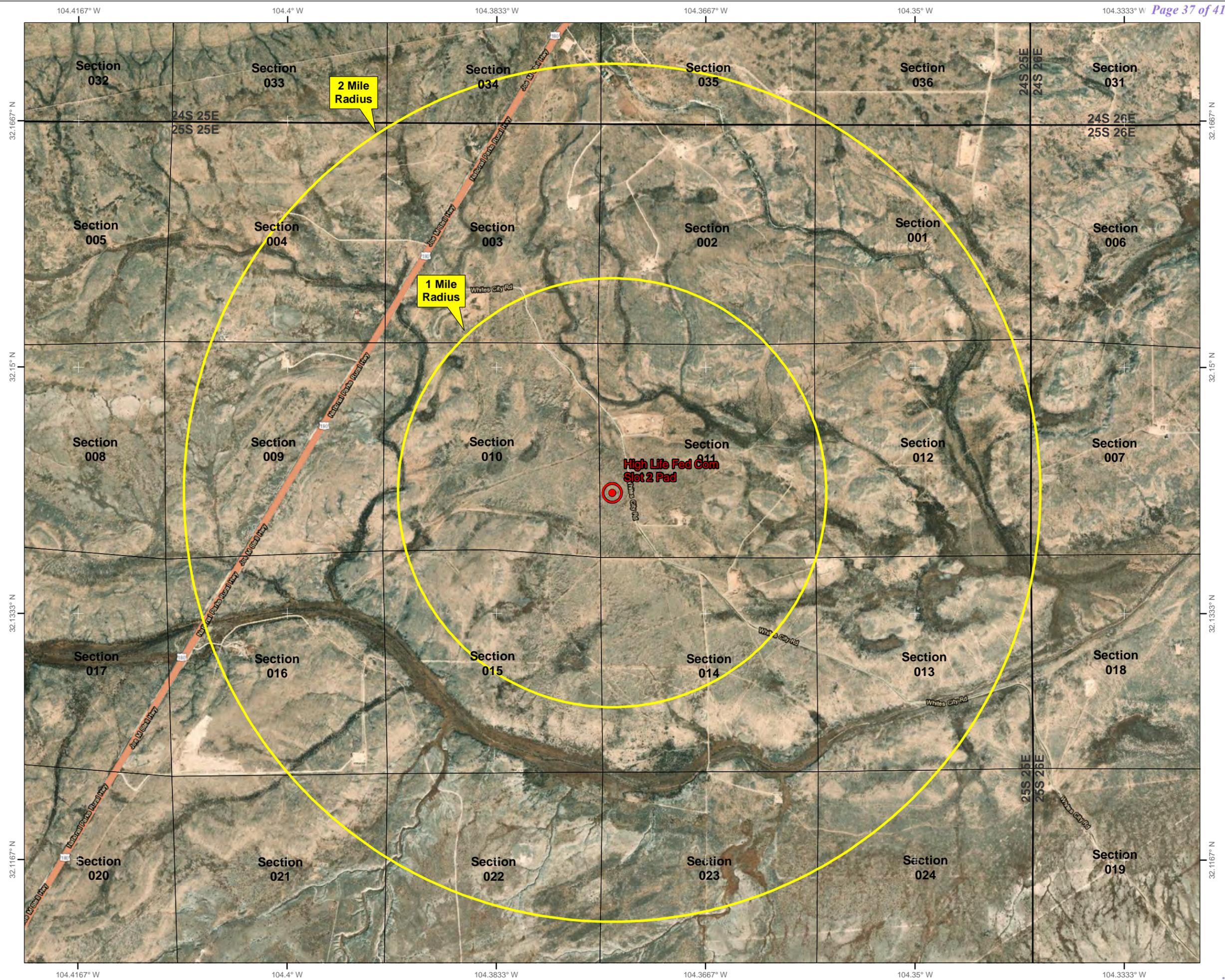
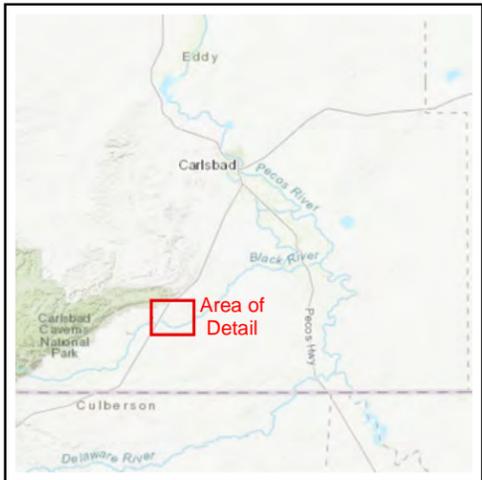
 Well Pad Location

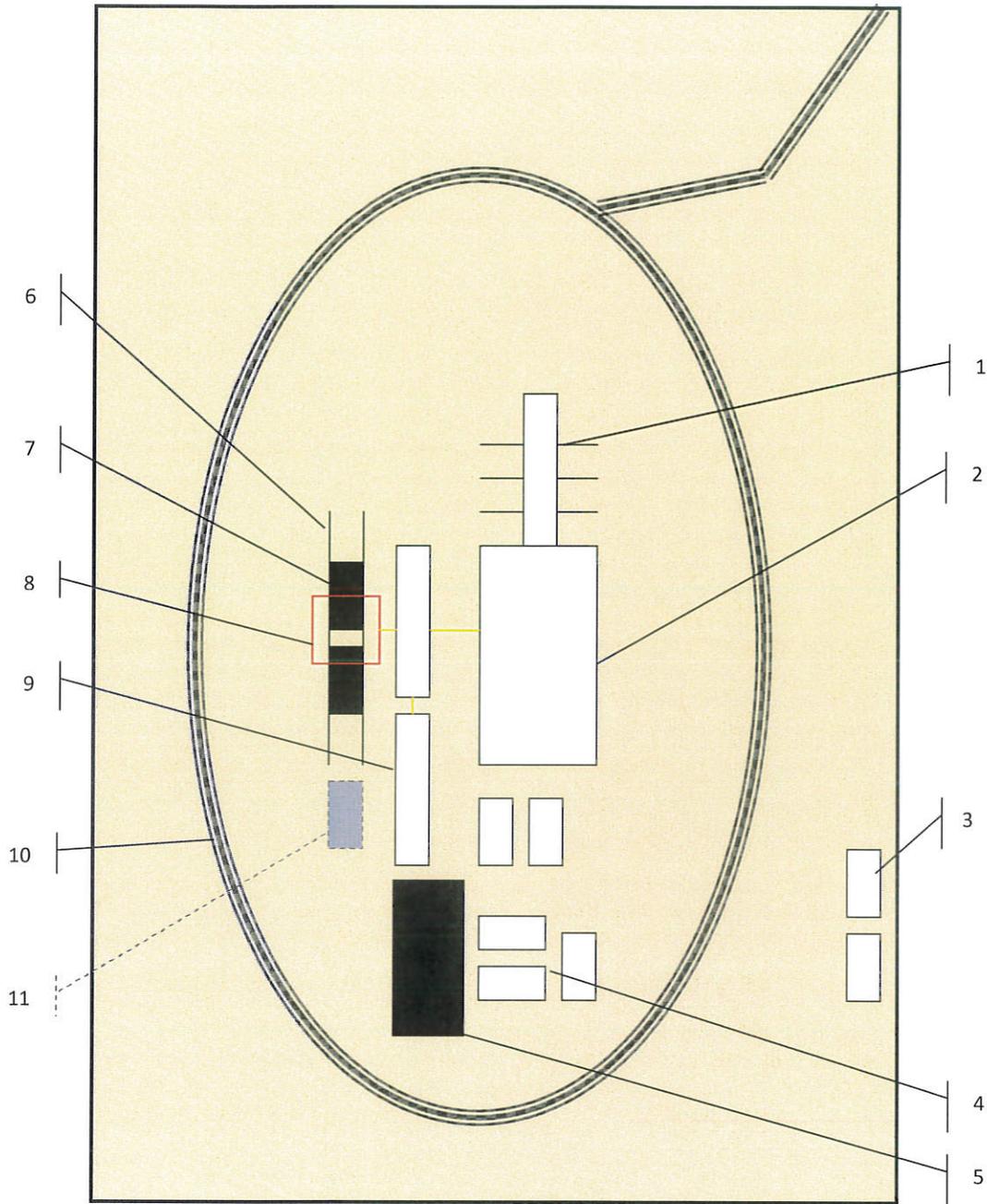


NAD 1983 New Mexico State Plane East  
FIPS 3001 Feet



Prepared by Permits West, Inc., June 29, 2023  
for Tap Rock Operating, LLC





**Schematic Closed Loop Drilling Rig\***

- 1. Pipe Rack
- 2. Drill Rig
- 3. House Trailers/ Offices
- 4. Generator/Fuel/Storage
- 5. Overflow-Frac Tank
- 6. Skids
- 7. Roll Offs
- 8. Hopper or Centrifuge
- 9. Mud Tanks
- 10. Loop Drive
- 11. Generator (only for use with centrifuge)

\*Not drawn to scale: Closed loop system requires at least 30 feet beyond mud tanks. Ideally 60 feet would be available

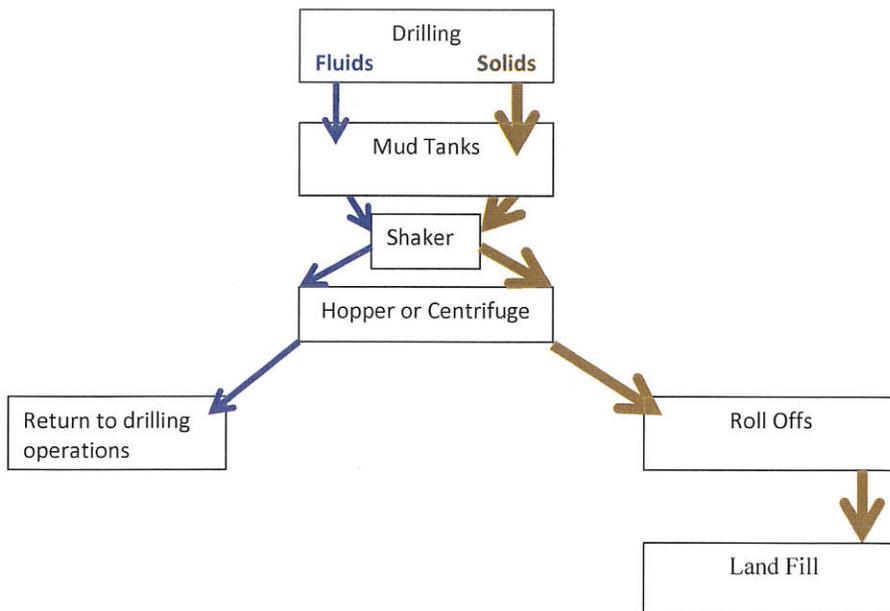


Above: Centrifugal Closed Loop System



Closed Loop Drilling System: Mud tanks to right (1)  
Hopper in air to settle out solids (2)  
Water return pipe (3)  
Shaker between hopper and mud tanks (4)  
Roll offs on skids (5)

### Flow Chart for Drilling Fluids and Solids



Photos Courtesy of Gandy Corporation Oil Field Service

Sante Fe Main Office  
Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/ocd/contact-us>

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

ACKNOWLEDGMENTS

Action 536670

**ACKNOWLEDGMENTS**

Operator: TAP ROCK OPERATING, LLC 1700 Lincoln St Denver, CO 80203	OGRID: 372043
	Action Number: 536670
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

**ACKNOWLEDGMENTS**

<input checked="" type="checkbox"/>	I hereby certify that no additives containing PFAS chemicals will be added to the completion or recompletion of this well.
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CONDITIONS

Action 536670

**CONDITIONS**

Operator: TAP ROCK OPERATING, LLC 1700 Lincoln St Denver, CO 80203	OGRID: 372043
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	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

**CONDITIONS**

Created By	Condition	Condition Date
permitsw	Cement is required to circulate on both surface and intermediate1 strings of casing.	12/22/2025
permitsw	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	12/22/2025
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	2/20/2026
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	2/20/2026
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string.	2/20/2026
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.	2/20/2026
ward.rikala	If the method of isolation was not by circulation, a CBL must be performed; if strata isolation is not achieved, then remediation will be required before further operations.	2/20/2026