Rec'd 04/14/2020 - NMOCD

Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM038636

6. If Indian, Allotee or Tribe Name:

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

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

8. Lease Name and Well No.: WTG FED COM 218H

2. Name of Operator: TAP ROCK OPERATING LLC

9. API Well No.: 30 015 47041

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

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

10. Field and Pool, or Exploratory: COTTON DRAW BONE SPRING/null

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

At surface: NENE / 288 FNL / 915 FEL / LAT 32.019277 / LONG -103.966092

At proposed prod. zone: LOT 12 / 20 FSL / 638 FEL / LAT 32.0001559 / LONG -103.9660119

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 27/T26S/R29E/NMP

14. Distance in miles and direction from nearest town or post office*: 15 miles

12. County or Parish: EDDY

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 288 feet

16. No of acres in lease: 441.5

17. Spacing Unit dedicated to this well: 441.71

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

19. Proposed Depth: 10205 feet / 17151 feet

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 2885 feet

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

23. Estimated duration: 60 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature: (Electronic Submission)

Name *(Printed/Typed)*: Brian Wood / Ph: (720) 460-3316

Date: 08/21/2019

Title: President

Approved by *(Signature)*: (Electronic Submission)

Name *(Printed/Typed)*: Cody Layton / Ph: (575) 234-5959

Date: 02/26/2020

Title: Assistant Field Manager Lands & Minerals

Office: Carlsbad Field Office

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

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

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 02/26/2020

Entered 04/15/2020 - KMS NMOCD

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

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

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

☐ **AMENDED REPORT**

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1]API Number	[2]Pool Code	[3]Pool Name
30-015 47041	98220	PURPLE SAGE; WOLFCAMP

[4]Property Code	[5]Property Name	[6]Well Number
326330	WTG FED COM	218H

[7]OGRID No.	[8]Operator Name	[9]Elevation
372043	TAP ROCK OPERATING, LLC.	2885'

[10]Surface Location

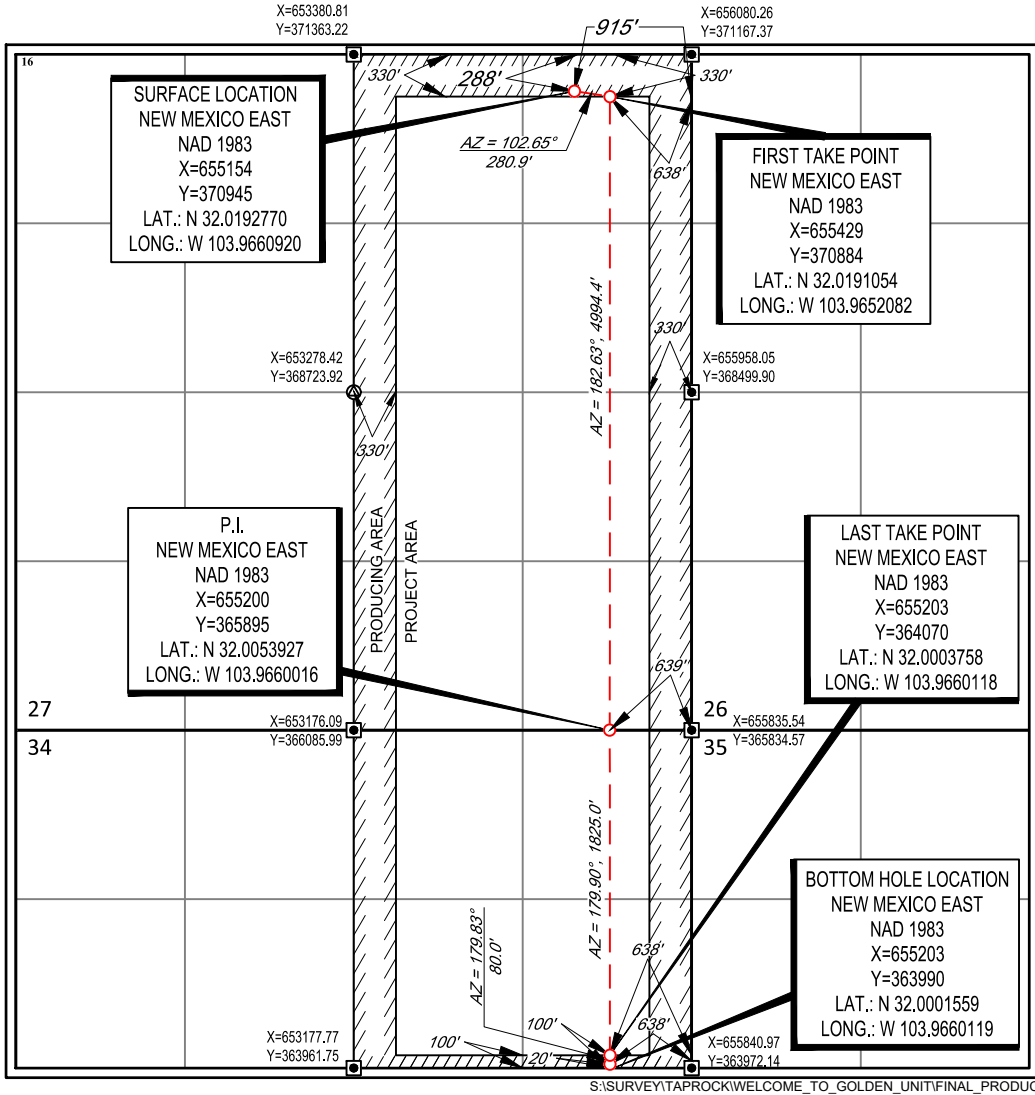
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	27	26-S	29-E	–	288'	NORTH	915'	EAST	EDDY

[11]Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
12	34	26-S	29-E	–	20'	SOUTH	638'	EAST	EDDY

[12]Dedicated Acres	[13]Joint or Infill	[14]Consolidation Code	[15]Order No.
441.71			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



[17]OPERATOR CERTIFICATION

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

Cory Walk 07-19-19
Signature Date

Cory Walk
Printed Name

cory@permitswest.com
E-mail Address

[18]SURVEYOR CERTIFICATION

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

06/06/2019
Date of Survey
Signature and Seal of Professional Surveyor

JOHN A. CARNEGIE
NEW MEXICO
11401
REGISTERED PROFESSIONAL SURVEYOR

Certificate Number

S:\SURVEY\TAPROCK\WELCOME_TO_GOLDEN_UNIT\FINAL_PRODUCTS\LO_WTG_FED COM_218H_REV1.DWG 6/6/2019 8:57:50 AM kmatheny

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Tap Rock Operating, LLC
LEASE NO.:	NMNM038636
WELL NAME & NO.:	Welcome to Golden 201H, 205H, 211H, 215H
LOCATION:	Section 27, T. 26 S., R29 E.
COUNTY:	Eddy County

Well Footages:

Well Pad 1

WTG Fed Com 202H:
Surface Hole Location: 285' FNL & 2000' FWL, Section 27, T. 26 S., R. 29 E.
Bottom Hole Location: 30' FSL & 1870' FWL, Section 34, T. 26 S., R. 29 E.

WTG Fed Com 207H:
Surface Hole Location: 284' FNL & 2025' FWL, Section 27, T. 26 S., R. 29 E.
Bottom Hole Location: 30' FSL & 2486' FWL, Section 34, T. 26 S., R. 29 E.

WTG Fed Com 212H:
Surface Hole Location: 260' FNL & 2000' FWL, Section 27, T. 26 S., R. 29 E.
Bottom Hole Location: 30' FSL & 1562' FWL, Section 34, T. 26 S., R. 29 E.

WTG Fed Com 217H:
Surface Hole Location: 259' FNL & 2025' FWL, Section 27, T. 26 S., R. 29 E.
Bottom Hole Location: 30' FSL & 2178' FWL, Section 34, T. 26 S., R. 29 E

Well Pad 2

WTG Fed Com 203H:
Surface Hole Location: 407' FNL & 2114' FEL, Section 27, T. 26 S., R. 29 E.
Bottom Hole Location: 20' FSL & 2178' FEL, Section 34, T. 26 S., R. 29 E

WTG Fed Com 206H:
Surface Hole Location: 406' FNL & 2089' FEL, Section 27, T. 26 S., R. 29 E.
Bottom Hole Location: 20' FSL & 1562' FEL, Section 34, T. 26 S., R. 29 E

WTG Fed Com 213H:
Surface Hole Location: 382' FNL & 2114' FEL, Section 27, T. 26 S., R. 29 E.
Bottom Hole Location: 20' FSL & 2486' FEL, Section 34, T. 26 S., R. 29 E

WTG Fed Com 216H:
Surface Hole Location: 381' FNL & 2089' FEL, Section 27, T. 26 S., R. 29 E.
Bottom Hole Location: 20' FSL & 1870' FEL, Section 34, T. 26 S., R. 29 E

Well Pad 3

WTG Fed Com 204H:
Surface Hole Location: 315' FNL & 939' FEL, Section 27, T. 26 S., R. 29 E.
Bottom Hole Location: 20' FSL & 946' FEL, Section 34, T. 26 S., R. 29 E

WTG Fed Com 208H:
Surface Hole Location: 313' FNL & 914' FEL, Section 27, T. 26 S., R. 29 E.
Bottom Hole Location: 20' FSL & 331' FEL, Section 34, T. 26 S., R. 29 E

WTG Fed Com 214H:
Surface Hole Location: 290' FNL & 940' FEL, Section 27, T. 26 S., R. 29 E.
Bottom Hole Location: 20' FSL & 1254' FEL, Section 34, T. 26 S., R. 29 E

WTG Fed Com 218H:
Surface Hole Location: 288' FNL & 915' FEL, Section 27, T. 26 S., R. 29 E.
Bottom Hole Location: 20' FSL & 638' FEL, Section 34, T. 26 S., R. 29 E

WTG Fed Com 234H:
Surface Hole Location: 319' FNL & 1019' FEL, Section 27, T. 26 S., R. 29 E.
Bottom Hole Location: 20' FSL & 331' FEL, Section 34, T. 26 S., R. 29 E

WTG Fed Com 244H:
Surface Hole Location: 294' FNL & 1020' FEL, Section 27, T. 26 S., R. 29 E.
Bottom Hole Location: 20' FSL & 750' FEL, Section 34, T. 26 S., R. 29 E

EXHIBIT NO. 1

Date of Issue:
November 5, 2019

Bureau of Land Management, Carlsbad Field Office
620 E. Greene Street Carlsbad, NM 88220

NM-038636

Cultural and Archaeological Resources

BLM Report No.
19-0575

NOTICE OF STIPULATIONS

Historic properties in the vicinity of this project are protected by federal law. In order to ensure that they are not damaged or destroyed by construction activities, the project proponent and construction supervisors shall ensure that the following stipulations are implemented.

Project Name:	**Welcome to Golden, Tap Rock Operating, LLC**
	1). A 3-day preconstruction call-in notification. Contact BLM Inspection and Enforcement at
Required	***2. Professional archaeological monitoring***. Contact your BLM project archaeologist at (575) 234-6231 for assistance.
A. ☒	These stipulations must be given to your monitor at least **5 days** prior to the start of construction.
B. ☒	No construction, including vegetation removal or other site prep may begin prior to the arrival of the monitor.
	3. Cultural site barrier fencing. (Your monitor will assist you).
A. ☐	A temporary site protection barrier(s) shall be erected prior to all ground-disturbing activities. The minimum barrier(s) shall consist of upright wooden survey lath spaced no more than ten (10) feet apart and marked with blue ribbon flagging or blue paint. There shall be no construction activities or vehicular traffic past the barrier(s) at any time.
B. ☐	A permanent, 4-strand barbed wire fence strung on standard "T-posts" shall be erected prior to all ground-disturbing activities. No construction activities or vehicle traffic are allowed past the fence.
Required	***4. The archaeological monitor shall:***
A. ☐	
B. ☒	Observe all ground-disturbing activities within 100 feet of cultural site LA 122417. The southern edge of the site is near the proposed undertaking. Any construction, including the road maintenance, must take place 100 ft away from the site.
C. ☐	Ensure that the proposed
D. ☐	Ensure the proposed reroute for the .
E. ☒	Submit a brief monitoring report within 30 days of completion of monitoring.
Other:	If any human skeletal remains or funerary objects, or other significant subsurface cultural resources are encountered during the monitoring, all activities shall cease and a BLM-CFO archaeologist shall be notified immediately. IF THE CONTRACT ARCHAEOLOGIST DOES NOT KNOW WHERE THE SITE(S) ARE LOCATED, PLEASE COME BY THE CARLSBAD BLM AND MAPS AND OTHER DATA WILL BE PROVIDED, UPON REQUEST, TO THE CONTRACT ARCHAEOLOGIST.

Site Protection and Employee Education: It is the responsibility of the project proponent and his construction supervisor to inform all employees and subcontractors that cultural and archaeological sites are to be avoided by all personnel, vehicles, and equipment; and that it is illegal to collect, damage, or disturb cultural resources on Public Lands.

For assistance contact: Elia Perez (575) 234-6231 Aaron Whaley (575) 234-5986

Approval Date: 02/26/2020

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See information below discussing NAGPRA.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Cave/Karst

Construction:

General Construction:

- No blasting
- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction, and no additional construction shall occur until clearance has been issued by the Authorized Officer.
- All linear surface disturbance activities will avoid sinkholes and other karst features to lessen the possibility of encountering near surface voids during construction, minimize changes to runoff, and prevent untimely leaks and spills from entering the karst drainage system.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

Pad Construction:

- The pad will be constructed and leveled by adding the necessary fill and caliche – no blasting.
- The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.
- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g., caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.

- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised (i.e. an access road crossing the berm cannot be lower than the berm height).
- Following a rain event, all fluids will vacuumed off of the pad and hauled off-site and disposed at a proper disposal facility.

Tank Battery Construction:

- The pad will be constructed and leveled by adding the necessary fill and caliche – no blasting.
- All tank battery locations and facilities will be lined and bermed.
- The liner should be at least 20 mil in thickness and installed with a 4 oz. felt backing, or equivalent, to prevent tears or punctures.
- Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Road Construction:

- Turnout ditches and drainage leadoffs will not be constructed in such a manner as to alter the natural flow of water into or out of cave or karst features.
- Special restoration stipulations or realignment may be required if subsurface features are discovered during construction.

Buried Pipeline/Cable Construction:

- Rerouting of the buried line(s) may be required if a subsurface void is encountered during construction to minimize the potential subsidence/collapse of the feature(s) as well as the possibility of leaks/spills entering the karst drainage system.

Powerline Construction:

- Smaller powerlines will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems.
- Larger powerlines will adjust their pole spacing to avoid cave and karst features.
- Special restoration stipulations or realignment may be required if subsurface voids are encountered.

Surface Flowlines Installation:

- Flowlines will be routed around sinkholes and other karst features to minimize the possibility of leaks/spills from entering the karst drainage system.

Leak Detection System:

- A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating values and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present.
- A leak detection plan will be submitted to BLM that incorporates an automatic shut off system (see below) to minimize the effects of an undesirable event that could negatively sensitive cave/karst resources.
- Well heads, pipelines (surface and buried), storage tanks, and all supporting equipment should be monitored regularly after installation to promptly identify and fix leaks.

Automatic Shut-off Systems:

- Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and groundwater concerns:

Closed Loop System:

- A closed loop system using steel tanks will be utilized during drilling – no pits
- All fluids and cuttings will be hauled off-site and disposed of properly at an authorized site

Rotary Drilling with Fresh Water:

- Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:

- The kick off point for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:

- ALL lost circulation zones between surface and the base of the cave occurrence zone will be logged and reported in the drilling report.
- If a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, regardless of the type of drilling machinery used, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:

- Additional plugging conditions of approval may be required upon well abandonment in high and medium karst potential occurrence zones.
- The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:

- The operator will perform annual pressure monitoring on all casing annuli and reported in a sundry notice.
- If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

CULTURAL RESOURCES:

The southern edge of LA 122417 must be avoided by at least 100 feet. Any construction, including road maintenance, that takes place within 100 feet of the site, should be conducted with an archaeological monitor present.

RANGE RESOURCES:

Cattleguards

Where a permanent cattleguard is approved, an appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s). Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations. A gate shall be constructed on one side of the cattleguard and fastened securely to H-braces.

Fence Requirement

Where entry granted across a fence line, the fence must be braced and tied off on both sides of the passageway prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Livestock Watering Requirement:
Any damage to structures that provide water to livestock throughout the life of the well, caused by operations from the well site, must be immediately corrected by the operator. The operator must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

WATERSHED RESOURCES:
The entire well pad(s) will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The compacted berm shall be constructed at a minimum of 12 inches with impermeable mineral material (e.g. caliche). Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The top soil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control. If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank or 24 hour production, whichever is greater. Automatic shut off, check valves, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

When crossing ephemeral drainages the pipeline(s) will be buried to a minimum depth of 48 inches from the top of pipe to ground level. Erosion control methods such as gabions and/or rock aprons should be placed on both up and downstream sides of the pipeline crossing. In addition, curled (weed free) wood/straw fiber wattles/logs and/or silt fences should be placed on the downstream side for sediment control during construction and maintained until soils and vegetation have stabilized. Water bars should be placed within the ROW to divert and dissipate surface runoff. A pipeline access road is not permitted to cross these ephemeral drainages. Traffic should be diverted to a preexisting route. Additional seeding may be required in floodplains and drainages to restore energy dissipating vegetation.

Prior to pipeline installation/construction a leak detection plan will be developed. The method(s) could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event

Texas Hornshell Mussel:

Oil and Gas and Associated Infrastructure Mitigation Measures for Zone D – CCA Boundary Requirements:

- Provide CEHMM with the permit, lease grant, or other authorization form BLM, if applicable.
- Provide CEHMM with plats or other electronic media describing the new surface disturbance for the project.

VRM IV:

- Above-ground structures including meter housing that are not subject to safety requirements are painted a flat non-reflective paint color, Shale Green from the BLM Standard Environmental Color Chart (CC-001: June 2013).

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing

The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

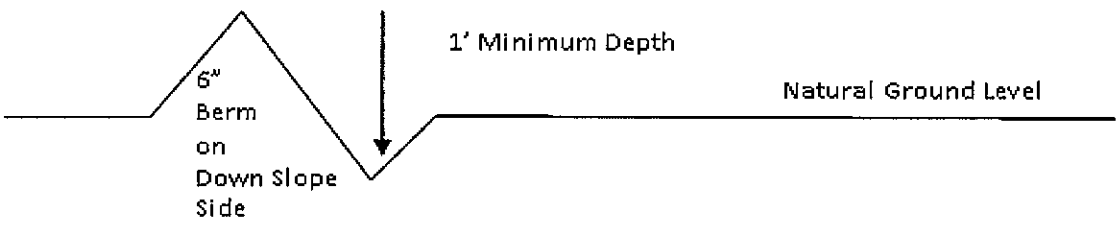
Ditching
Ditching shall be required on both sides of the road.

Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be

determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$\text{400 foot road with 4\% road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Cattle guards
An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement
Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access
Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

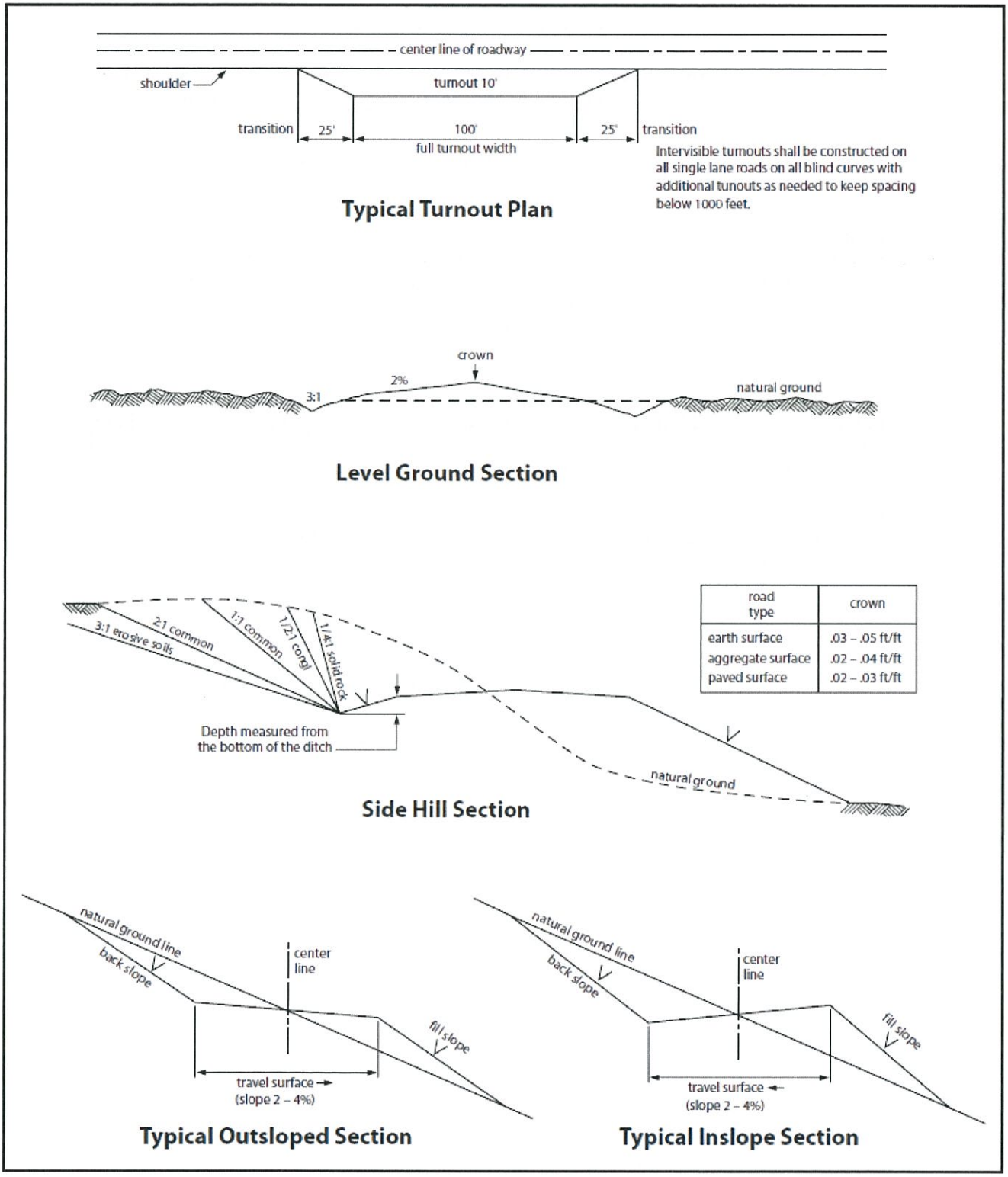


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures
Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

VIII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

IX. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of **36** inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be **30** feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed **30** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)

- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed **30** feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)

- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

( ) seed mixture 1	(X) seed mixture 3
( ) seed mixture 2	( ) seed mixture 4
( ) seed mixture 2/LPC	( ) Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

17. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes associated roads, pipeline corridor and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

18. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench

for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.

For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the Grant and attachments, including stipulations, survey plat(s) and/or map(s), shall be on location during construction. BLM personnel may request to review a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, Holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC § 2601 *et seq.* (1982) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant (*see* 40 CFR, Part 702-799 and in particular, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. Holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. § 9601, *et seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et seq.*) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way Holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way Holder on the Right-of-Way. This provision applies without regard to whether a release is caused by Holder, its agent, or unrelated third parties.

4. Holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. Holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

   a. Activities of Holder including, but not limited to: construction, operation, maintenance, and termination of the facility;

   b. Activities of other parties including, but not limited to:
      (1) Land clearing
      (2) Earth-disturbing and earth-moving work
      (3) Blasting
      (4) Vandalism and sabotage;

   c. Acts of nature.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of Holder, regardless of fault. Upon failure of Holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he/she deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of Holder. Such action by the Authorized Officer shall not relieve Holder of any responsibility as provided herein.

6. All construction and maintenance activity shall be confined to the authorized right-of-way width of 30 feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline shall be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline shall be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity shall be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation shall be allowed unless approved in writing by the Authorized Officer.

8. Holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline shall be "snaked" around hummocks and dunes rather than suspended across these features.

9. The pipeline shall be buried with a minimum of 6 inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

16. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, powerline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

17. Surface pipelines shall be less than or equal to 4 inches and a working pressure below 125 psi.

Seed Mixture 3, for Shallow Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains Bristlegrass (*Setaria macrostachya*)	1.0
Green Sprangletop (*Leptochloa dubia*)	2.0
Sideoats Grama (*Bouteloua curtipendula)*	5.0

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	TAP ROCK OPERATING LLC
LEASE NO.:	NMNM
WELL NAME & NO.:	WTG FED COM / 218H
SURFACE HOLE FOOTAGE:	284'/N & 2025'/E
BOTTOM HOLE FOOTAGE	30'/S & 2486'/E
LOCATION:	Section 27, T.26 S., R.29 E., NMPM
COUNTY:	Eddy County, New Mexico

COA

H2S	○ Yes	◉ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	○ Low	○ Medium	◉ High
Cave/Karst Potential	○ Critical		
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl	○ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately 620 feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and above the salt) and cemented to the surface.

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

hours or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8** 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 cave/karst or potash.**

❖ In High Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

3. The minimum required fill of cement behind the **7-5/8** 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 cave/karst or potash.**

❖ In High Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:

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

C. PRESSURE CONTROL

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

2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.

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

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

    a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
    b. When the operator proposes to set surface casing with Spudder Rig
        - Notify the BLM when moving in and removing the Spudder Rig.
        - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
        - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

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

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

    b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

    c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for

the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. The results of the test shall be reported to the appropriate BLM office.

f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

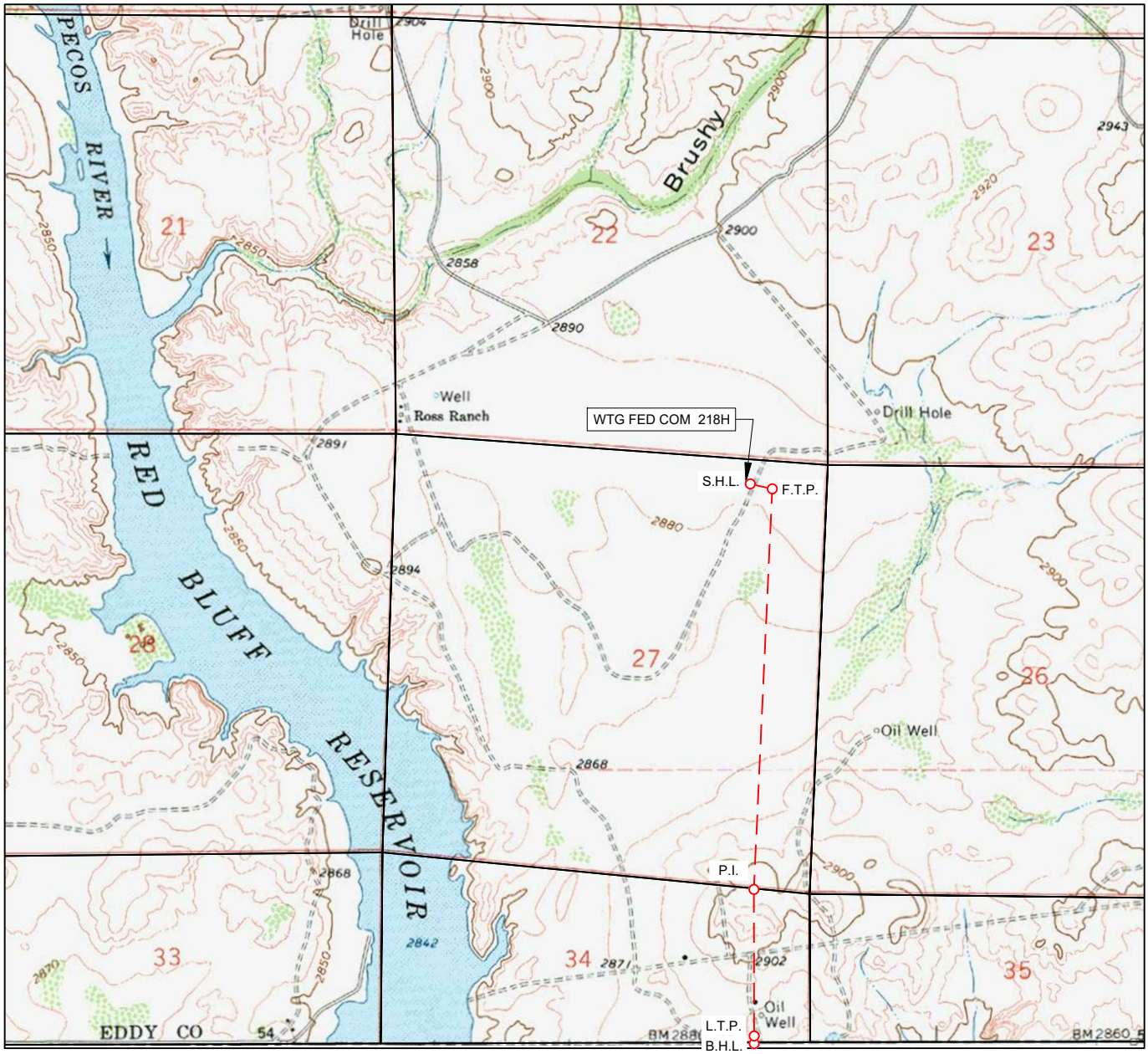
Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

LOCATION & ELEVATION VERIFICATION MAP



TAP ROCK

LEASE NAME & WELL NO.: WTG FED COM 218H

SECTION 27 TWP 26-S RGE 29-E SURVEY N.M.P.M.
COUNTY EDDY STATE NM ELEVATION 2885'
DESCRIPTION 288' FNL & 915' FEL

LATITUDE N 32.0192770 LONGITUDE W 103.9660920

–N–

SCALE: 1" = 2000'

0' 1000' 2000'

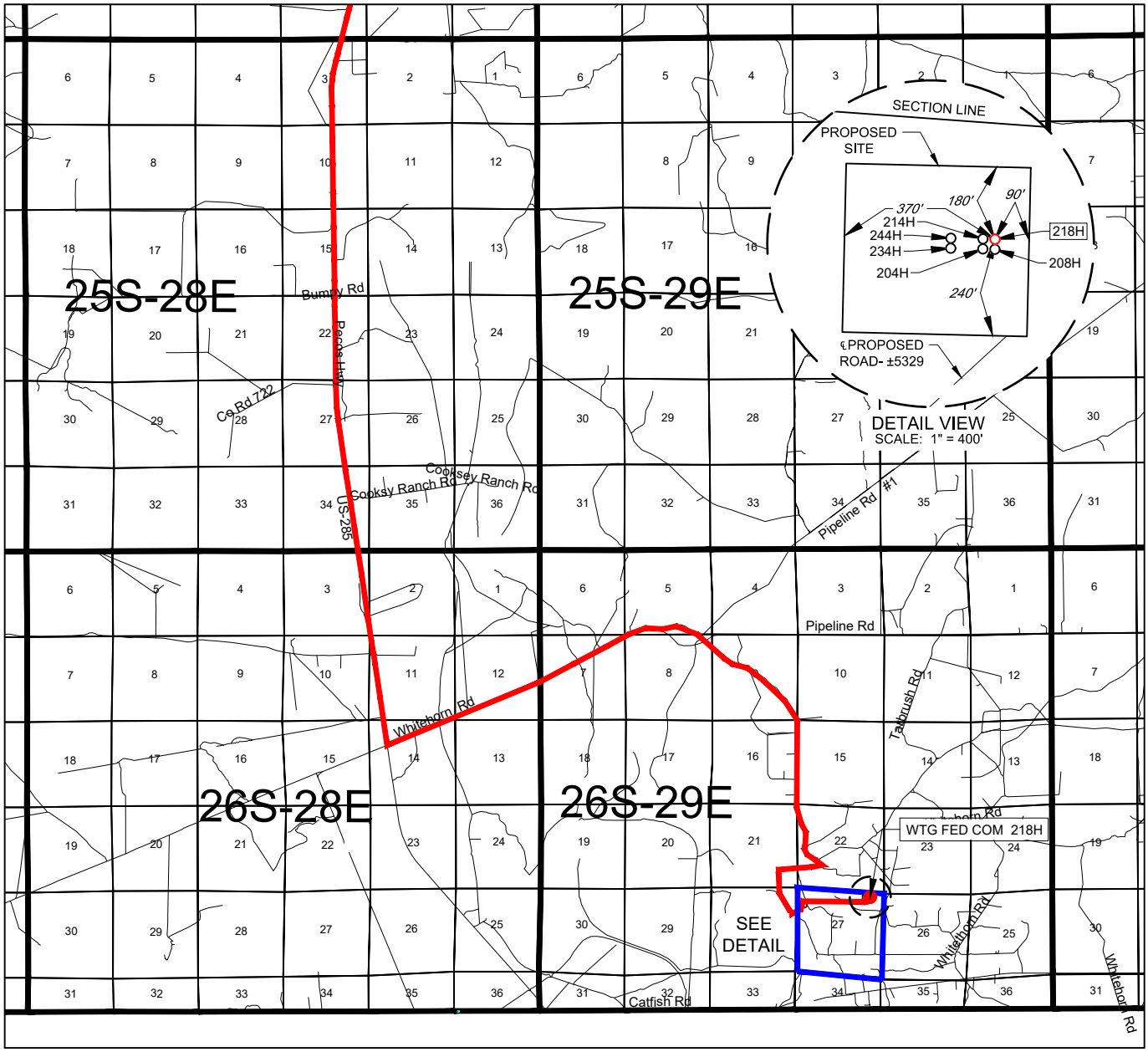
THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY TAP ROCK OPERATING, LLC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF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

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

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

EXHIBIT 2

VICINITY MAP

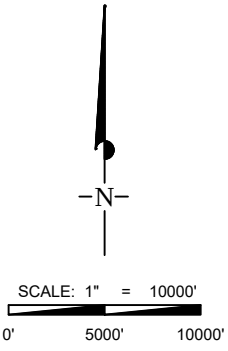


TAP ROCK

LEASE NAME & WELL NO.: WTG FED COM 218H

SECTION 27 TWP 26-S RGE 29-E SURVEY N.M.P.M.
COUNTY EDDY STATE NM
DESCRIPTION 288' FNL & 915' FEL

DISTANCE & DIRECTION
FROM INT. OF US-285 & BLACK RIVER VILLAGE RD., GO SOUTH ON US-285 ±12.6 MILES, THENCE EAST (LEFT) ON WHITEHORN RD. ±2.4 MILES, THENCE NORTH (LEFT) ON LONGHORN RD. ±1.9 MILES, THENCE SOUTH (RIGHT) ON WHITEHORN RD. ±3.3 MILES, THENCE SOUTH (RIGHT) ON LEASE RD. ±1.2 MILES, THENCE NORTHEAST (LEFT) ON A PROPOSED RD. ±0.7 MILES TO A POINT ±243 FEET SOUTHEAST OF THE LOCATION.



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

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

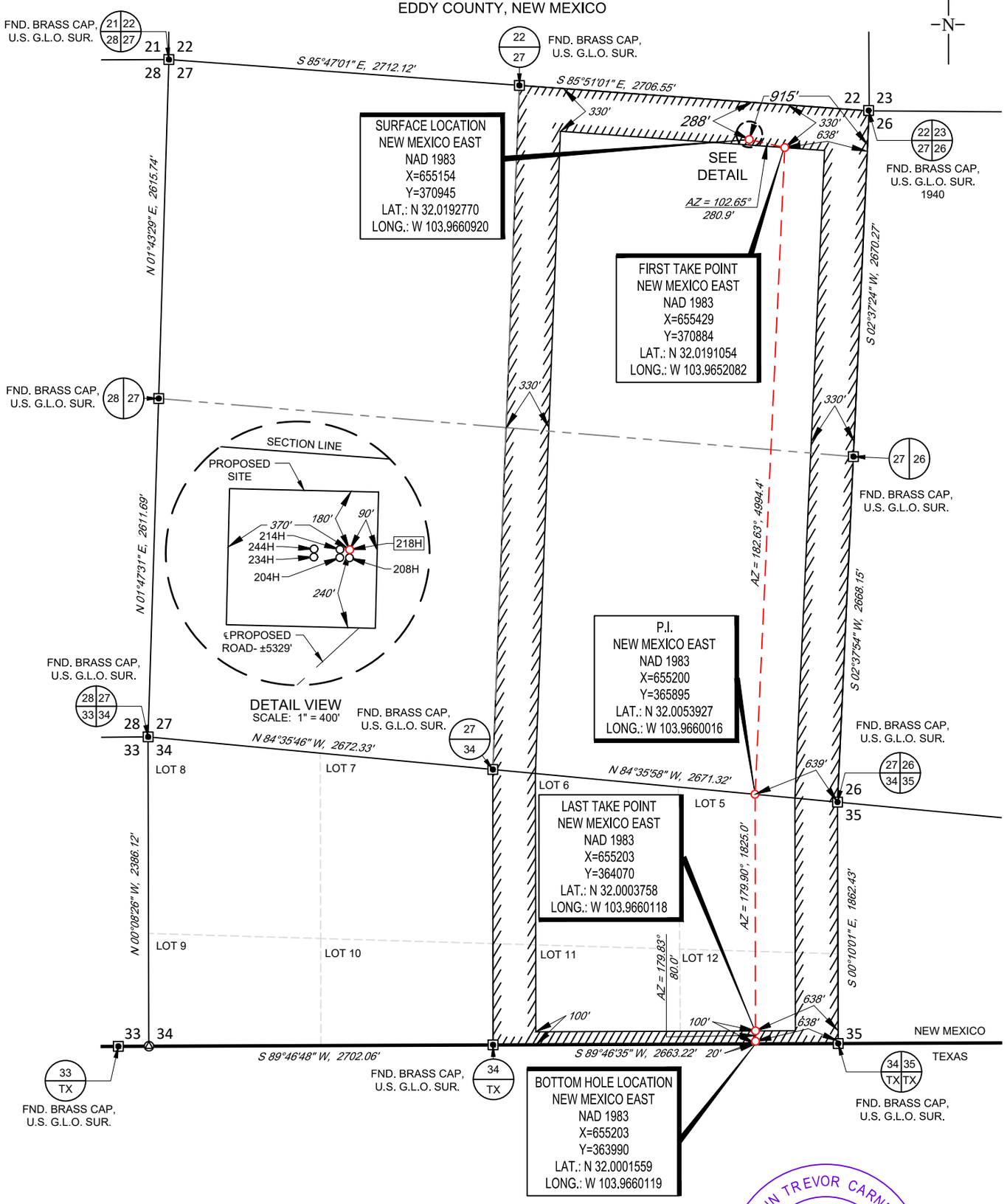
TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

SCALE: 1" = 1000'

0' 500' 1000'

EXHIBIT 2A

SECTION 27, TOWNSHIP 26-S, RANGE 29-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



LEASE NAME & WELL NO.: WTG FED COM 218H

SECTION 27 TWP 26-S RGE 29-E SURVEY N.M.P.M.
COUNTY EDDY STATE NM
DESCRIPTION 288' FNL & 915' FEL

DISTANCE & DIRECTION
FROM INT. OF US-285 & BLACK RIVER VILLAGE RD., GO SOUTH ON US-285 ±12.6 MILES, THENCE EAST (LEFT) ON WHITEHORN RD. ±2.4 MILES, THENCE NORTH (LEFT) ON LONGHORN RD. ±1.9 MILES, THENCE SOUTH (RIGHT) ON WHITEHORN RD. ±3.3 MILES, THENCE SOUTH (RIGHT) ON LEASE RD. ±1.2 MILES, THENCE NORTHEAST (LEFT) ON A PROPOSED RD. ±0.7 MILES TO A POINT ±243 FEET SOUTHEAST OF THE LOCATION.

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

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

JOHN TREVOR CARNEGIE
NEW MEXICO
11401
REGISTERED PROFESSIONAL SURVEYOR

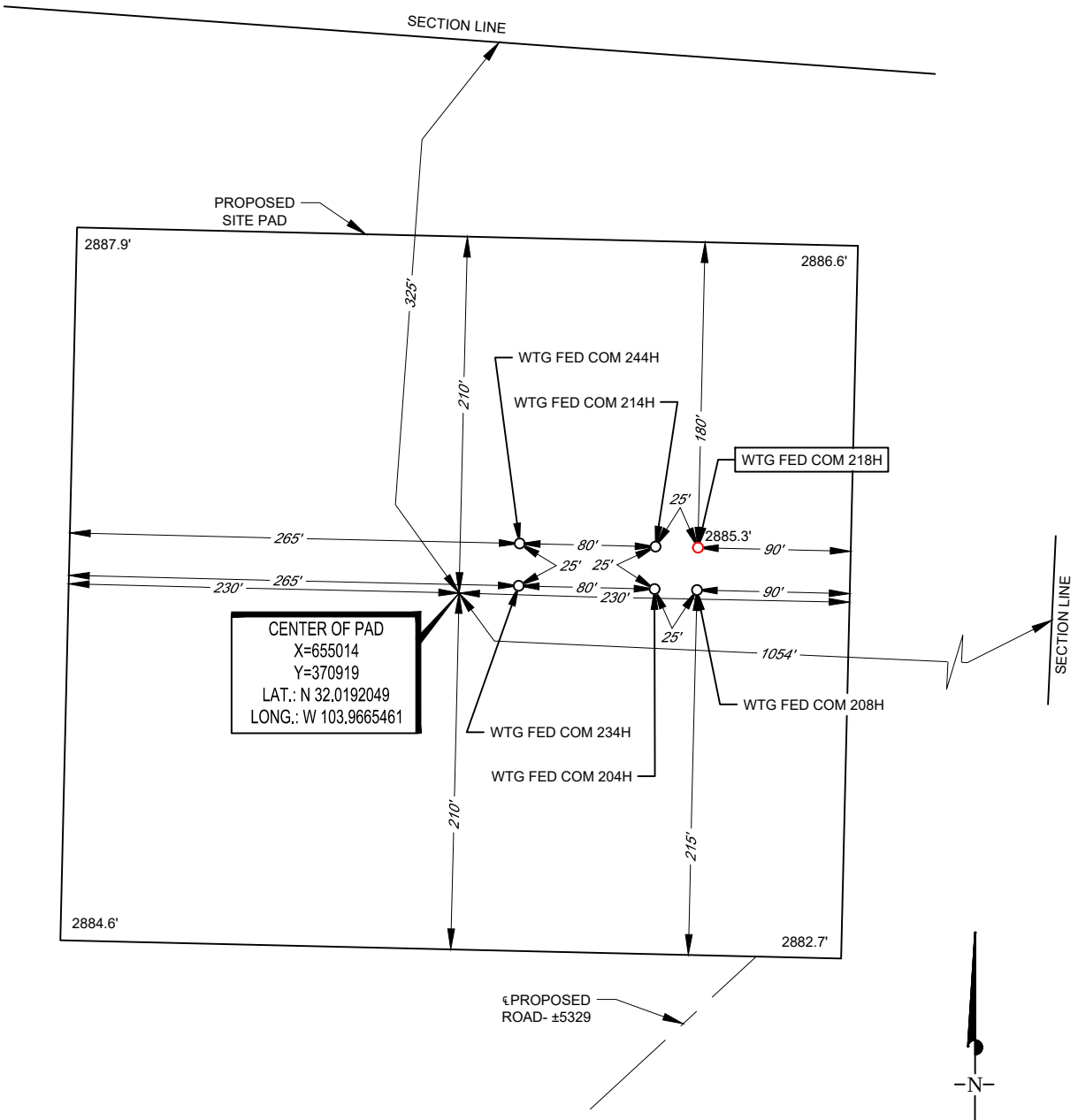
John Trevor Carnegie, P.S. No. 11401
JUNE 6, 2019

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

EXHIBIT 2B

SECTION 27, TOWNSHIP 26-S, RANGE 29-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

DETAIL VIEW
SCALE: 1" = 100'



LEASE NAME & WELL NO.: WTG FED COM 218H

218H LATITUDE N 32.0192770 218H LONGITUDE W 103.9660920

CENTER OF PAD IS 325' FNL & 1054' FEL

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

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

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

ORIGINAL DOCUMENT SIZE: 8.5" X 11"

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

State of New Mexico
Energy, Minerals and Natural Resources Department

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

Submit Original
to Appropriate
District Office

GAS CAPTURE PLAN

Date: 06/12/2019

☒ Original Operator & OGRID No.: 372043

☐ Amended - Reason for Amendment:

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

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

Well(s)/Production Facility – Name of facility

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

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
WTG Fed Com #204H		A Sec 27 T.26S. R.29E	315' FNL 939' FEL	+/- 2,500	21 days	Gas will be flared for ~21 days during flowback before being turned to the TB. Time est. depends on sales connect and well cleanup.
WTG Fed Com #208H		A Sec 27 T.26S. R.29E	313' FNL 914' FEL	+/- 2,500	21 days	Gas will be flared for ~21 days during flowback before being turned to the TB. Time est. depends on sales connect and well cleanup.
WTG Fed Com #214H		A Sec 27 T.26S. R.29E	290' FNL 940' FEL	+/- 2,500	21 days	Gas will be flared for ~21 days during flowback before being turned to the TB. Time est. depends on sales connect and well cleanup.
WTG Fed Com #218H		A Sec 27 T.26S. R.29E	288' FNL 915' FEL	+/- 2,500	21 days	Gas will be flared for ~21 days during flowback before being turned to the TB. Time est. depends on sales connect and well cleanup.

WTG Fed Com #234H		A Sec 27 T.26S. R.29E	319' FNL 1019' FEL	+/- 2,500	21 days	Gas will be flared for ~21 days during flowback before being turned to the TB. Time est. depends on sales connect and well cleanup.
WTG Fed Com #244H		A Sec 27 T.26S. R.29E	294' FNL 1020' FEL	+/- 2,500	21 days	Gas will be flared for ~21 days during flowback before being turned to the TB. Time est. depends on sales connect and well cleanup.

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to Salt Creek Midstream and will be connected to Salt Creek Midstream low/high pressure gathering system located in Eddy County, New Mexico. It will require ~15,000' of pipeline to connect the facility to low/high pressure gathering system. Tap Rock Operating, LLC provides (periodically) to Salt Creek Midstream a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Tap Rock Operating, LLC and Salt Creek Midstream have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Salt Creek Midstream Processing Plant located in Reeves County, Texas. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

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

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

Alternatives to Reduce Flaring

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

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

Hydrogen Sulfide Drilling

Operations Plan

Tap Rock Resources

1 H2S safety instructions to the following:

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

2 H2S Detection and Alarm Systems:

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

3 Windsocks and / Wind Streamers:

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

4 Condition Flags and Signs:

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

5 Well Control Equipment:

- See Drilling Operations Plan Schematics

6 Communication:

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

7 Drilling Stem Testing:

- No DST cores are planned at this time

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

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

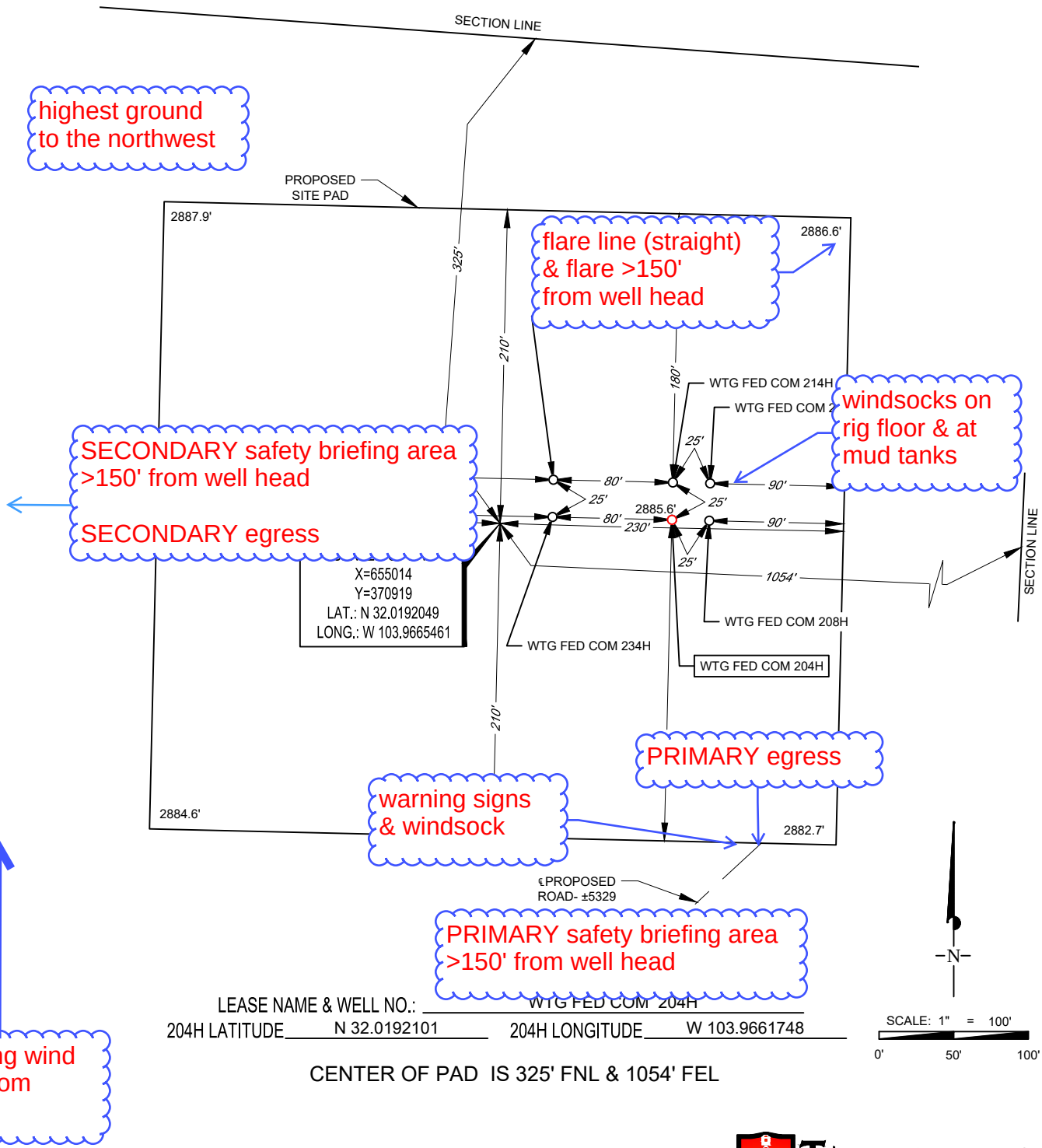
11 Emergency Contacts

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

EXHIBIT 2B

SECTION 27, TOWNSHIP 26-S, RANGE 29-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

DETAIL VIEW
SCALE: 1" = 100'



LEASE NAME & WELL NO.: WTG FED COM 204H

204H LATITUDE N 32.0192101 204H LONGITUDE W 103.9661748

CENTER OF PAD IS 325' FNL & 1054' FEL

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

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

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

ORIGINAL DOCUMENT SIZE: 8.5" X 11"

Tap Rock Operating, LLC

WTG Fed Com
E2E2 Pad
H2S Contingency Plan:
Radius Map

Section 27, Township 26S, Range 29E
Eddy County, New Mexico

Center of Pad

1:27,000

0 0.25 0.5 1

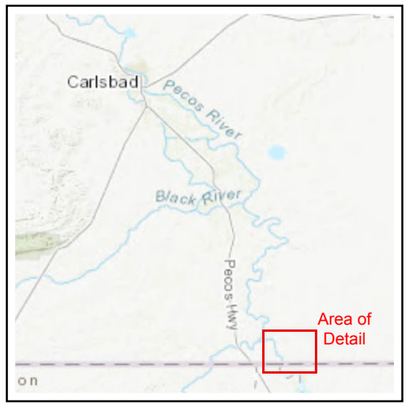
Miles

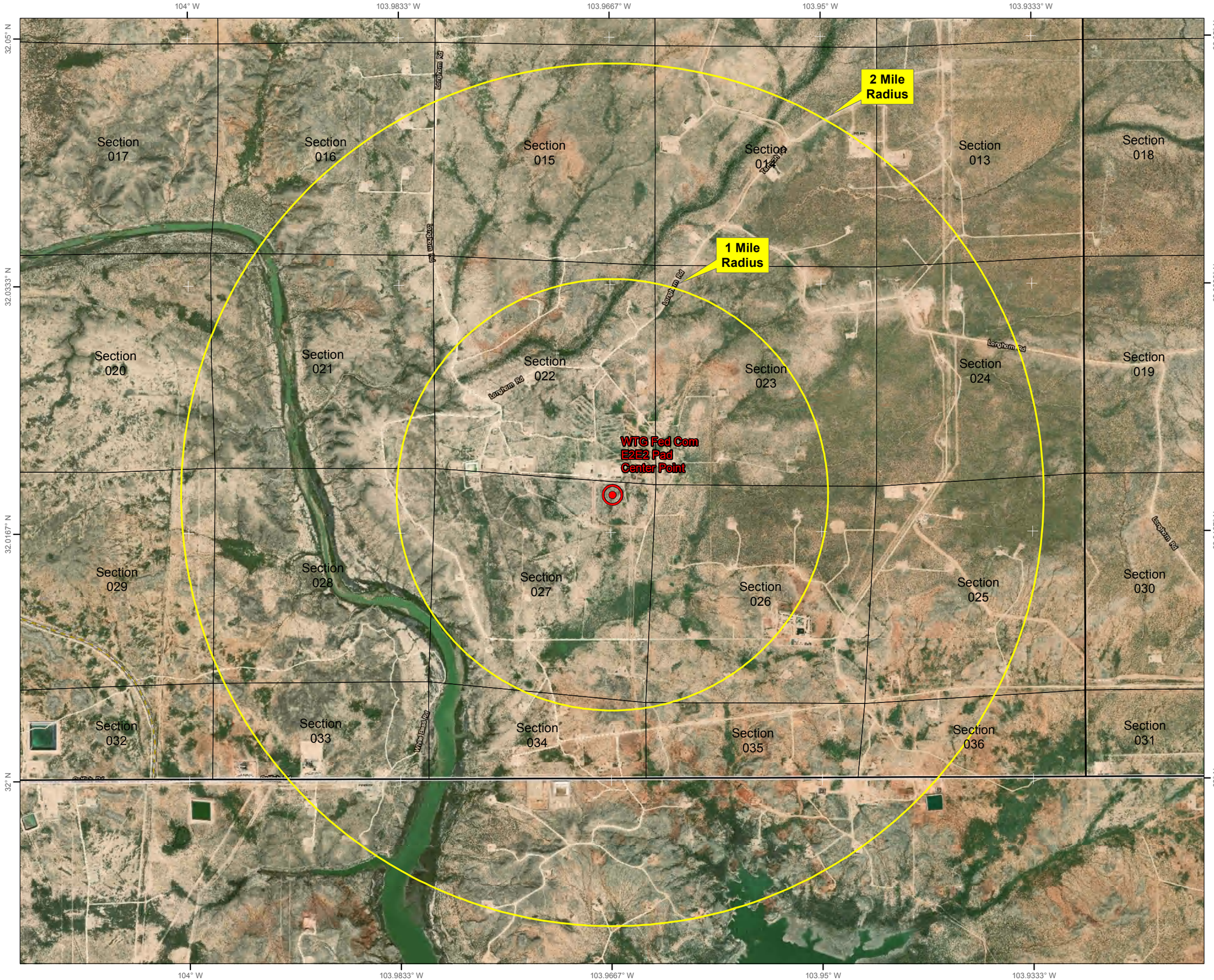
N

NAD 1983 New Mexico State Plane East
FIPS 3001 Feet

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS

Prepared by Permits West, Inc., October 22, 2018
for Tap Rock Operating, LLC





Tap Rock Resources, LLC

Eddy County, NM (NAD 83 NME)
(WTG Fed) Sec-27_T26-S_R-29-E
WTG Fed Com #218H

OWB

Plan: Plan #1

Standard Planning Report

17 June, 2019

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well WTG Fed Com #218H
Company:	Tap Rock Resources, LLC	**TVD Reference:**	KB @ 2911.0usft
Project:	Eddy County, NM (NAD 83 NME)	**MD Reference:**	KB @ 2911.0usft
Site:	(WTG Fed) Sec-27_T26-S_R-29-E	**North Reference:**	Grid
Well:	WTG Fed Com #218H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #1		

Project Eddy County, NM (NAD 83 NME)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site (WTG Fed) Sec-27_T26-S_R-29-E

Site Position:		**Northing:**	371,035.00 usft	**Latitude:**	32° 1' 10.419 N
From:	Map	**Easting:**	651,080.00 usft	**Longitude:**	103° 58' 45.255 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.19 °

Well WTG Fed Com #218H

Well Position	**+N/-S**	-90.0 usft	**Northing:**	370,945.00 usft	**Latitude:**	32° 1' 9.394 N
	+E/-W	4,074.0 usft	**Easting:**	655,154.00 usft	**Longitude:**	103° 57' 57.936 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	2,885.0 usft

Wellbore OWB

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	06/13/19	6.91	59.79	47,574.88595317

Design Plan #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	182.63

Plan Survey Tool Program **Date** 06/17/19

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	17,151.0	Plan #1 (OWB)	MWD	
				OWSG MWD - Standard	

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well WTG Fed Com #218H
Company:	Tap Rock Resources, LLC	**TVD Reference:**	KB @ 2911.0usft
Project:	Eddy County, NM (NAD 83 NME)	**MD Reference:**	KB @ 2911.0usft
Site:	(WTG Fed) Sec-27_T26-S_R-29-E	**North Reference:**	Grid
Well:	WTG Fed Com #218H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #1		

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,721.6	4.43	59.44	1,721.4	4.4	7.4	2.00	2.00	0.00	59.44	
5,791.0	4.43	59.44	5,778.6	164.2	278.2	0.00	0.00	0.00	0.00	
6,012.6	0.00	0.00	6,000.0	168.6	285.5	2.00	-2.00	0.00	180.00	
9,694.7	0.00	0.00	9,682.1	168.6	285.5	0.00	0.00	0.00	0.00	
10,599.1	90.44	182.63	10,255.0	-408.1	259.1	10.00	10.00	-19.61	182.63	
15,246.0	90.44	182.63	10,219.5	-5,050.0	46.0	0.00	0.00	0.00	0.00	PI (WTG Fed Com
15,387.1	90.44	179.81	10,218.4	-5,191.1	43.0	2.00	0.00	-2.00	-90.03	
17,151.1	90.44	179.81	10,205.0	-6,955.0	49.0	0.00	0.00	0.00	0.00	PBHL (WTG Fed C

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well WTG Fed Com #218H
Company:	Tap Rock Resources, LLC	**TVD Reference:**	KB @ 2911.0usft
Project:	Eddy County, NM (NAD 83 NME)	**MD Reference:**	KB @ 2911.0usft
Site:	(WTG Fed) Sec-27_T26-S_R-29-E	**North Reference:**	Grid
Well:	WTG Fed Com #218H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
549.0	0.00	0.00	549.0	0.0	0.0	0.0	0.00	0.00	0.00
Rustler Anhydrite									
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
933.0	0.00	0.00	933.0	0.0	0.0	0.0	0.00	0.00	0.00
Top Salt									
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
NUDGE - Build 2.00									
1,600.0	2.00	59.44	1,600.0	0.9	1.5	-1.0	2.00	2.00	0.00
1,700.0	4.00	59.44	1,699.8	3.5	6.0	-3.8	2.00	2.00	0.00
1,721.6	4.43	59.44	1,721.4	4.4	7.4	-4.7	2.00	2.00	0.00
HOLD - 4069.4 at 1721.6 MD									
1,800.0	4.43	59.44	1,799.5	7.4	12.6	-8.0	0.00	0.00	0.00
1,900.0	4.43	59.44	1,899.2	11.4	19.2	-12.2	0.00	0.00	0.00
2,000.0	4.43	59.44	1,998.9	15.3	25.9	-16.5	0.00	0.00	0.00
2,100.0	4.43	59.44	2,098.6	19.2	32.6	-20.7	0.00	0.00	0.00
2,200.0	4.43	59.44	2,198.3	23.2	39.2	-24.9	0.00	0.00	0.00
2,300.0	4.43	59.44	2,298.0	27.1	45.9	-29.2	0.00	0.00	0.00
2,400.0	4.43	59.44	2,397.8	31.0	52.5	-33.4	0.00	0.00	0.00
2,500.0	4.43	59.44	2,497.5	34.9	59.2	-37.6	0.00	0.00	0.00
2,600.0	4.43	59.44	2,597.2	38.9	65.8	-41.8	0.00	0.00	0.00
2,691.1	4.43	59.44	2,688.0	42.4	71.9	-45.7	0.00	0.00	0.00
Base Salt									
2,700.0	4.43	59.44	2,696.9	42.8	72.5	-46.1	0.00	0.00	0.00
2,800.0	4.43	59.44	2,796.6	46.7	79.1	-50.3	0.00	0.00	0.00
2,900.0	4.43	59.44	2,896.3	50.7	85.8	-54.5	0.00	0.00	0.00
2,930.8	4.43	59.44	2,927.0	51.9	87.8	-55.8	0.00	0.00	0.00
Delaware Mountain Gp									
2,960.9	4.43	59.44	2,957.0	53.0	89.8	-57.1	0.00	0.00	0.00
Lamar									
2,961.9	4.43	59.44	2,958.0	53.1	89.9	-57.2	0.00	0.00	0.00
Bell Canyon									
3,000.0	4.43	59.44	2,996.0	54.6	92.4	-58.8	0.00	0.00	0.00
3,002.0	4.43	59.44	2,998.0	54.7	92.6	-58.9	0.00	0.00	0.00
Ramsey Sand									
3,100.0	4.43	59.44	3,095.7	58.5	99.1	-63.0	0.00	0.00	0.00
3,200.0	4.43	59.44	3,195.4	62.4	105.8	-67.2	0.00	0.00	0.00
3,300.0	4.43	59.44	3,295.1	66.4	112.4	-71.5	0.00	0.00	0.00
3,400.0	4.43	59.44	3,394.8	70.3	119.1	-75.7	0.00	0.00	0.00
3,500.0	4.43	59.44	3,494.5	74.2	125.7	-79.9	0.00	0.00	0.00

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well WTG Fed Com #218H
Company:	Tap Rock Resources, LLC	**TVD Reference:**	KB @ 2911.0usft
Project:	Eddy County, NM (NAD 83 NME)	**MD Reference:**	KB @ 2911.0usft
Site:	(WTG Fed) Sec-27_T26-S_R-29-E	**North Reference:**	Grid
Well:	WTG Fed Com #218H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #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)
3,600.0	4.43	59.44	3,594.2	78.2	132.4	-84.1	0.00	0.00	0.00
3,700.0	4.43	59.44	3,693.9	82.1	139.0	-88.4	0.00	0.00	0.00
3,800.0	4.43	59.44	3,793.6	86.0	145.7	-92.6	0.00	0.00	0.00
3,871.6	4.43	59.44	3,865.0	88.8	150.4	-95.6	0.00	0.00	0.00
Cherry Canyon									
3,900.0	4.43	59.44	3,893.3	89.9	152.3	-96.8	0.00	0.00	0.00
4,000.0	4.43	59.44	3,993.0	93.9	159.0	-101.1	0.00	0.00	0.00
4,100.0	4.43	59.44	4,092.7	97.8	165.6	-105.3	0.00	0.00	0.00
4,200.0	4.43	59.44	4,192.4	101.7	172.3	-109.5	0.00	0.00	0.00
4,300.0	4.43	59.44	4,292.1	105.7	178.9	-113.8	0.00	0.00	0.00
4,400.0	4.43	59.44	4,391.8	109.6	185.6	-118.0	0.00	0.00	0.00
4,500.0	4.43	59.44	4,491.5	113.5	192.3	-122.2	0.00	0.00	0.00
4,600.0	4.43	59.44	4,591.2	117.4	198.9	-126.4	0.00	0.00	0.00
4,700.0	4.43	59.44	4,690.9	121.4	205.6	-130.7	0.00	0.00	0.00
4,800.0	4.43	59.44	4,790.6	125.3	212.2	-134.9	0.00	0.00	0.00
4,900.0	4.43	59.44	4,890.3	129.2	218.9	-139.1	0.00	0.00	0.00
5,000.0	4.43	59.44	4,990.0	133.2	225.5	-143.4	0.00	0.00	0.00
5,100.0	4.43	59.44	5,089.7	137.1	232.2	-147.6	0.00	0.00	0.00
5,200.0	4.43	59.44	5,189.4	141.0	238.8	-151.8	0.00	0.00	0.00
5,300.0	4.43	59.44	5,289.1	144.9	245.5	-156.1	0.00	0.00	0.00
5,400.0	4.43	59.44	5,388.8	148.9	252.1	-160.3	0.00	0.00	0.00
5,500.0	4.43	59.44	5,488.5	152.8	258.8	-164.5	0.00	0.00	0.00
5,528.6	4.43	59.44	5,517.0	153.9	260.7	-165.7	0.00	0.00	0.00
Brushy Canyon									
5,600.0	4.43	59.44	5,588.2	156.7	265.5	-168.7	0.00	0.00	0.00
5,700.0	4.43	59.44	5,687.9	160.7	272.1	-173.0	0.00	0.00	0.00
5,791.0	4.43	59.44	5,778.6	164.2	278.2	-176.8	0.00	0.00	0.00
DROP - -2.00									
5,800.0	4.25	59.44	5,787.6	164.6	278.7	-177.2	2.00	-2.00	0.00
5,900.0	2.25	59.44	5,887.4	167.5	283.6	-180.3	2.00	-2.00	0.00
6,000.0	0.25	59.44	5,987.4	168.6	285.5	-181.5	2.00	-2.00	0.00
6,012.6	0.00	0.00	6,000.0	168.6	285.5	-181.5	2.00	-2.00	0.00
HOLD - 3682.0 at 6012.6 MD									
6,100.0	0.00	0.00	6,087.4	168.6	285.5	-181.5	0.00	0.00	0.00
6,200.0	0.00	0.00	6,187.4	168.6	285.5	-181.5	0.00	0.00	0.00
6,300.0	0.00	0.00	6,287.4	168.6	285.5	-181.5	0.00	0.00	0.00
6,400.0	0.00	0.00	6,387.4	168.6	285.5	-181.5	0.00	0.00	0.00
6,500.0	0.00	0.00	6,487.4	168.6	285.5	-181.5	0.00	0.00	0.00
6,600.0	0.00	0.00	6,587.4	168.6	285.5	-181.5	0.00	0.00	0.00
6,630.6	0.00	0.00	6,618.0	168.6	285.5	-181.5	0.00	0.00	0.00
Bone Spring Lime									
6,700.0	0.00	0.00	6,687.4	168.6	285.5	-181.5	0.00	0.00	0.00
6,758.6	0.00	0.00	6,746.0	168.6	285.5	-181.5	0.00	0.00	0.00
Upper Avalon									
6,800.0	0.00	0.00	6,787.4	168.6	285.5	-181.5	0.00	0.00	0.00
6,900.0	0.00	0.00	6,887.4	168.6	285.5	-181.5	0.00	0.00	0.00
7,000.0	0.00	0.00	6,987.4	168.6	285.5	-181.5	0.00	0.00	0.00
7,100.0	0.00	0.00	7,087.4	168.6	285.5	-181.5	0.00	0.00	0.00
7,142.6	0.00	0.00	7,130.0	168.6	285.5	-181.5	0.00	0.00	0.00
Middle Avalon									
7,200.0	0.00	0.00	7,187.4	168.6	285.5	-181.5	0.00	0.00	0.00
7,300.0	0.00	0.00	7,287.4	168.6	285.5	-181.5	0.00	0.00	0.00
7,344.6	0.00	0.00	7,332.0	168.6	285.5	-181.5	0.00	0.00	0.00

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well WTG Fed Com #218H
Company:	Tap Rock Resources, LLC	**TVD Reference:**	KB @ 2911.0usft
Project:	Eddy County, NM (NAD 83 NME)	**MD Reference:**	KB @ 2911.0usft
Site:	(WTG Fed) Sec-27_T26-S_R-29-E	**North Reference:**	Grid
Well:	WTG Fed Com #218H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #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)
Lower Avalon									
7,400.0	0.00	0.00	7,387.4	168.6	285.5	-181.5	0.00	0.00	0.00
7,500.0	0.00	0.00	7,487.4	168.6	285.5	-181.5	0.00	0.00	0.00
7,600.0	0.00	0.00	7,587.4	168.6	285.5	-181.5	0.00	0.00	0.00
7,646.6	0.00	0.00	7,634.0	168.6	285.5	-181.5	0.00	0.00	0.00
1st Bone Spring Sand									
7,700.0	0.00	0.00	7,687.4	168.6	285.5	-181.5	0.00	0.00	0.00
7,800.0	0.00	0.00	7,787.4	168.6	285.5	-181.5	0.00	0.00	0.00
7,900.0	0.00	0.00	7,887.4	168.6	285.5	-181.5	0.00	0.00	0.00
7,934.6	0.00	0.00	7,922.0	168.6	285.5	-181.5	0.00	0.00	0.00
2nd Bone Spring Carb									
8,000.0	0.00	0.00	7,987.4	168.6	285.5	-181.5	0.00	0.00	0.00
8,100.0	0.00	0.00	8,087.4	168.6	285.5	-181.5	0.00	0.00	0.00
8,196.6	0.00	0.00	8,184.0	168.6	285.5	-181.5	0.00	0.00	0.00
2nd Bone Spring Sand									
8,200.0	0.00	0.00	8,187.4	168.6	285.5	-181.5	0.00	0.00	0.00
8,300.0	0.00	0.00	8,287.4	168.6	285.5	-181.5	0.00	0.00	0.00
8,400.0	0.00	0.00	8,387.4	168.6	285.5	-181.5	0.00	0.00	0.00
8,500.0	0.00	0.00	8,487.4	168.6	285.5	-181.5	0.00	0.00	0.00
8,600.0	0.00	0.00	8,587.4	168.6	285.5	-181.5	0.00	0.00	0.00
8,700.0	0.00	0.00	8,687.4	168.6	285.5	-181.5	0.00	0.00	0.00
8,800.0	0.00	0.00	8,787.4	168.6	285.5	-181.5	0.00	0.00	0.00
8,802.6	0.00	0.00	8,790.0	168.6	285.5	-181.5	0.00	0.00	0.00
3rd Bone Spring Carb									
8,900.0	0.00	0.00	8,887.4	168.6	285.5	-181.5	0.00	0.00	0.00
9,000.0	0.00	0.00	8,987.4	168.6	285.5	-181.5	0.00	0.00	0.00
9,100.0	0.00	0.00	9,087.4	168.6	285.5	-181.5	0.00	0.00	0.00
9,200.0	0.00	0.00	9,187.4	168.6	285.5	-181.5	0.00	0.00	0.00
9,300.0	0.00	0.00	9,287.4	168.6	285.5	-181.5	0.00	0.00	0.00
9,400.0	0.00	0.00	9,387.4	168.6	285.5	-181.5	0.00	0.00	0.00
9,466.6	0.00	0.00	9,454.0	168.6	285.5	-181.5	0.00	0.00	0.00
3rd Bone Spring Sand									
9,500.0	0.00	0.00	9,487.4	168.6	285.5	-181.5	0.00	0.00	0.00
9,600.0	0.00	0.00	9,587.4	168.6	285.5	-181.5	0.00	0.00	0.00
9,694.6	0.00	0.00	9,682.0	168.6	285.5	-181.5	0.00	0.00	0.00
KOP - DLS 10.00 TFO 182.63									
9,694.7	0.00	0.00	9,682.1	168.6	285.5	-181.5	0.00	0.00	0.00
9,700.0	0.53	182.63	9,687.4	168.6	285.5	-181.5	10.00	10.00	0.00
9,750.0	5.53	182.63	9,737.3	165.9	285.4	-178.9	10.00	10.00	0.00
9,776.9	8.22	182.63	9,764.0	162.7	285.3	-175.6	10.00	10.00	0.00
3rd BS W Sand									
9,800.0	10.53	182.63	9,786.8	159.0	285.1	-171.9	10.00	10.00	0.00
9,850.0	15.53	182.63	9,835.5	147.7	284.6	-160.6	10.00	10.00	0.00
9,869.3	17.46	182.63	9,854.0	142.2	284.3	-155.1	10.00	10.00	0.00
Wolfcamp A X Sand									
9,900.0	20.53	182.63	9,883.0	132.2	283.9	-145.1	10.00	10.00	0.00
9,950.0	25.53	182.63	9,929.0	112.7	283.0	-125.6	10.00	10.00	0.00
9,983.7	28.90	182.63	9,959.0	97.3	282.3	-110.2	10.00	10.00	0.00
Wolfcamp A Y Sand									
10,000.0	30.53	182.63	9,973.1	89.2	281.9	-102.1	10.00	10.00	0.00
10,050.0	35.53	182.63	10,015.1	62.0	280.6	-74.8	10.00	10.00	0.00
10,100.0	40.53	182.63	10,054.4	31.3	279.2	-44.1	10.00	10.00	0.00

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well WTG Fed Com #218H
Company:	Tap Rock Resources, LLC	**TVD Reference:**	KB @ 2911.0usft
Project:	Eddy County, NM (NAD 83 NME)	**MD Reference:**	KB @ 2911.0usft
Site:	(WTG Fed) Sec-27_T26-S_R-29-E	**North Reference:**	Grid
Well:	WTG Fed Com #218H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #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)
10,112.7	41.80	182.63	10,064.0	22.9	278.9	-35.7	10.00	10.00	0.00
Wolfcamp A Lower									
10,150.0	45.53	182.63	10,091.0	-2.8	277.7	-9.9	10.00	10.00	0.00
10,200.0	50.53	182.63	10,124.4	-39.9	276.0	27.2	10.00	10.00	0.00
10,250.0	55.53	182.63	10,154.5	-79.8	274.1	67.2	10.00	10.00	0.00
10,300.0	60.53	182.63	10,180.9	-122.2	272.2	109.6	10.00	10.00	0.00
10,350.0	65.53	182.63	10,203.6	-166.7	270.1	154.1	10.00	10.00	0.00
10,400.0	70.53	182.63	10,222.3	-213.0	268.0	200.5	10.00	10.00	0.00
10,450.0	75.53	182.63	10,236.9	-260.7	265.8	248.3	10.00	10.00	0.00
10,500.0	80.53	182.63	10,247.2	-309.6	263.6	297.2	10.00	10.00	0.00
10,550.0	85.53	182.63	10,253.3	-359.1	261.3	346.8	10.00	10.00	0.00
10,598.9	90.42	182.63	10,255.0	-408.0	259.1	395.6	10.00	10.00	0.00
EOC - 4647.0 hold at 10598.9 MD									
10,599.1	90.44	182.63	10,255.0	-408.1	259.1	395.8	10.00	10.00	0.00
10,700.0	90.44	182.63	10,254.3	-508.9	254.4	496.7	0.00	0.00	0.00
10,800.0	90.44	182.63	10,253.5	-608.8	249.9	596.7	0.00	0.00	0.00
10,900.0	90.44	182.63	10,252.7	-708.7	245.3	696.7	0.00	0.00	0.00
11,000.0	90.44	182.63	10,252.0	-808.6	240.7	796.7	0.00	0.00	0.00
11,100.0	90.44	182.63	10,251.2	-908.5	236.1	896.7	0.00	0.00	0.00
11,200.0	90.44	182.63	10,250.4	-1,008.4	231.5	996.7	0.00	0.00	0.00
11,300.0	90.44	182.63	10,249.7	-1,108.3	226.9	1,096.7	0.00	0.00	0.00
11,400.0	90.44	182.63	10,248.9	-1,208.2	222.3	1,196.7	0.00	0.00	0.00
11,500.0	90.44	182.63	10,248.2	-1,308.1	217.8	1,296.7	0.00	0.00	0.00
11,600.0	90.44	182.63	10,247.4	-1,408.0	213.2	1,396.7	0.00	0.00	0.00
11,700.0	90.44	182.63	10,246.6	-1,507.9	208.6	1,496.7	0.00	0.00	0.00
11,800.0	90.44	182.63	10,245.9	-1,607.7	204.0	1,596.7	0.00	0.00	0.00
11,900.0	90.44	182.63	10,245.1	-1,707.6	199.4	1,696.7	0.00	0.00	0.00
12,000.0	90.44	182.63	10,244.3	-1,807.5	194.8	1,796.7	0.00	0.00	0.00
12,100.0	90.44	182.63	10,243.6	-1,907.4	190.2	1,896.7	0.00	0.00	0.00
12,200.0	90.44	182.63	10,242.8	-2,007.3	185.7	1,996.7	0.00	0.00	0.00
12,300.0	90.44	182.63	10,242.0	-2,107.2	181.1	2,096.7	0.00	0.00	0.00
12,400.0	90.44	182.63	10,241.3	-2,207.1	176.5	2,196.7	0.00	0.00	0.00
12,500.0	90.44	182.63	10,240.5	-2,307.0	171.9	2,296.7	0.00	0.00	0.00
12,600.0	90.44	182.63	10,239.7	-2,406.9	167.3	2,396.7	0.00	0.00	0.00
12,700.0	90.44	182.63	10,239.0	-2,506.8	162.7	2,496.7	0.00	0.00	0.00
12,800.0	90.44	182.63	10,238.2	-2,606.7	158.2	2,596.7	0.00	0.00	0.00
12,900.0	90.44	182.63	10,237.4	-2,706.6	153.6	2,696.7	0.00	0.00	0.00
13,000.0	90.44	182.63	10,236.7	-2,806.5	149.0	2,796.7	0.00	0.00	0.00
13,100.0	90.44	182.63	10,235.9	-2,906.3	144.4	2,896.7	0.00	0.00	0.00
13,200.0	90.44	182.63	10,235.1	-3,006.2	139.8	2,996.7	0.00	0.00	0.00
13,300.0	90.44	182.63	10,234.4	-3,106.1	135.2	3,096.7	0.00	0.00	0.00
13,400.0	90.44	182.63	10,233.6	-3,206.0	130.6	3,196.6	0.00	0.00	0.00
13,500.0	90.44	182.63	10,232.9	-3,305.9	126.1	3,296.6	0.00	0.00	0.00
13,600.0	90.44	182.63	10,232.1	-3,405.8	121.5	3,396.6	0.00	0.00	0.00
13,700.0	90.44	182.63	10,231.3	-3,505.7	116.9	3,496.6	0.00	0.00	0.00
13,800.0	90.44	182.63	10,230.6	-3,605.6	112.3	3,596.6	0.00	0.00	0.00
13,900.0	90.44	182.63	10,229.8	-3,705.5	107.7	3,696.6	0.00	0.00	0.00
14,000.0	90.44	182.63	10,229.0	-3,805.4	103.1	3,796.6	0.00	0.00	0.00
14,100.0	90.44	182.63	10,228.3	-3,905.3	98.5	3,896.6	0.00	0.00	0.00
14,200.0	90.44	182.63	10,227.5	-4,005.2	94.0	3,996.6	0.00	0.00	0.00
14,300.0	90.44	182.63	10,226.7	-4,105.0	89.4	4,096.6	0.00	0.00	0.00
14,400.0	90.44	182.63	10,226.0	-4,204.9	84.8	4,196.6	0.00	0.00	0.00
14,500.0	90.44	182.63	10,225.2	-4,304.8	80.2	4,296.6	0.00	0.00	0.00
14,600.0	90.44	182.63	10,224.4	-4,404.7	75.6	4,396.6	0.00	0.00	0.00

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well WTG Fed Com #218H
Company:	Tap Rock Resources, LLC	**TVD Reference:**	KB @ 2911.0usft
Project:	Eddy County, NM (NAD 83 NME)	**MD Reference:**	KB @ 2911.0usft
Site:	(WTG Fed) Sec-27_T26-S_R-29-E	**North Reference:**	Grid
Well:	WTG Fed Com #218H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #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)
14,700.0	90.44	182.63	10,223.7	-4,504.6	71.0	4,496.6	0.00	0.00	0.00
14,800.0	90.44	182.63	10,222.9	-4,604.5	66.4	4,596.6	0.00	0.00	0.00
14,900.0	90.44	182.63	10,222.1	-4,704.4	61.9	4,696.6	0.00	0.00	0.00
15,000.0	90.44	182.63	10,221.4	-4,804.3	57.3	4,796.6	0.00	0.00	0.00
15,100.0	90.44	182.63	10,220.6	-4,904.2	52.7	4,896.6	0.00	0.00	0.00
15,200.0	90.44	182.63	10,219.9	-5,004.1	48.1	4,996.6	0.00	0.00	0.00
15,245.9	90.44	182.63	10,219.5	-5,049.9	46.0	5,042.5	0.00	0.00	0.00
Start DLS 2.00 TFO -89.56									
15,246.0	90.44	182.63	10,219.5	-5,050.0	46.0	5,042.6	0.00	0.00	0.00
15,300.0	90.44	181.55	10,219.1	-5,104.0	44.0	5,096.6	2.00	0.00	-2.00
15,387.0	90.44	179.81	10,218.4	-5,191.0	43.0	5,183.5	2.00	0.00	-2.00
Start 1764.0 hold at 15387.0 MD									
15,387.1	90.44	179.81	10,218.4	-5,191.1	43.0	5,183.6	2.00	0.00	-2.00
15,400.0	90.44	179.81	10,218.3	-5,204.0	43.0	5,196.5	0.00	0.00	0.00
15,500.0	90.44	179.81	10,217.6	-5,304.0	43.4	5,296.4	0.00	0.00	0.00
15,600.0	90.44	179.81	10,216.8	-5,404.0	43.7	5,396.3	0.00	0.00	0.00
15,700.0	90.44	179.81	10,216.0	-5,504.0	44.1	5,496.1	0.00	0.00	0.00
15,800.0	90.44	179.81	10,215.3	-5,604.0	44.4	5,596.0	0.00	0.00	0.00
15,900.0	90.44	179.81	10,214.5	-5,704.0	44.7	5,695.9	0.00	0.00	0.00
16,000.0	90.44	179.81	10,213.8	-5,804.0	45.1	5,795.8	0.00	0.00	0.00
16,100.0	90.44	179.81	10,213.0	-5,903.9	45.4	5,895.6	0.00	0.00	0.00
16,200.0	90.44	179.81	10,212.2	-6,003.9	45.8	5,995.5	0.00	0.00	0.00
16,300.0	90.44	179.81	10,211.5	-6,103.9	46.1	6,095.4	0.00	0.00	0.00
16,400.0	90.44	179.81	10,210.7	-6,203.9	46.4	6,195.3	0.00	0.00	0.00
16,500.0	90.44	179.81	10,210.0	-6,303.9	46.8	6,295.1	0.00	0.00	0.00
16,600.0	90.44	179.81	10,209.2	-6,403.9	47.1	6,395.0	0.00	0.00	0.00
16,700.0	90.44	179.81	10,208.4	-6,503.9	47.5	6,494.9	0.00	0.00	0.00
16,800.0	90.44	179.81	10,207.7	-6,603.9	47.8	6,594.8	0.00	0.00	0.00
16,900.0	90.44	179.81	10,206.9	-6,703.9	48.1	6,694.7	0.00	0.00	0.00
17,000.0	90.44	179.81	10,206.1	-6,803.9	48.5	6,794.5	0.00	0.00	0.00
17,100.0	90.44	179.81	10,205.4	-6,903.9	48.8	6,894.4	0.00	0.00	0.00
17,151.0	90.44	179.81	10,205.0	-6,954.9	49.0	6,945.3	0.00	0.00	0.00
TD at 17151.0									
17,151.1	90.44	179.81	10,205.0	-6,955.0	49.0	6,945.4	0.00	0.00	0.00

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well WTG Fed Com #218H
Company:	Tap Rock Resources, LLC	**TVD Reference:**	KB @ 2911.0usft
Project:	Eddy County, NM (NAD 83 NME)	**MD Reference:**	KB @ 2911.0usft
Site:	(WTG Fed) Sec-27_T26-S_R-29-E	**North Reference:**	Grid
Well:	WTG Fed Com #218H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #1		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LTP (WTG Fed Com # - plan misses target center by 0.7usft at 17071.1usft MD (10205.6 TVD, -6875.0 N, 48.7 E) - Point	0.00	0.00	10,205.0	-6,875.0	49.0	364,070.00	655,203.00	32° 0' 1.356 N	103° 57' 57.639 W
PBHL (WTG Fed Com - plan hits target center - Rectangle (sides W100.0 H1,905.0 D40.0)	-0.44	179.81	10,205.0	-6,955.0	49.0	363,990.00	655,203.00	32° 0' 0.565 N	103° 57' 57.642 W
PI (WTG Fed Com #2 - plan hits target center - Rectangle (sides W100.0 H4,995.0 D40.0)	-0.44	182.63	10,219.5	-5,050.0	46.0	365,895.00	655,200.00	32° 0' 19.417 N	103° 57' 57.601 W
FTP (WTG Fed Com # - plan misses target center by 94.9usft at 10287.3usft MD (10174.5 TVD, -111.2 N, 272.7 E) - Point	0.00	0.00	10,255.0	-61.0	275.0	370,884.00	655,429.00	32° 1' 8.781 N	103° 57' 54.745 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
549.0	549.0	Rustler Anhydrite			
933.0	933.0	Top Salt			
2,691.1	2,688.0	Base Salt			
2,930.8	2,927.0	Delaware Mountain Gp			
2,960.9	2,957.0	Lamar			
2,961.9	2,958.0	Bell Canyon			
3,002.0	2,998.0	Ramsey Sand			
3,871.6	3,865.0	Cherry Canyon			
5,528.6	5,517.0	Brushy Canyon			
6,630.6	6,618.0	Bone Spring Lime			
6,758.6	6,746.0	Upper Avalon			
7,142.6	7,130.0	Middle Avalon			
7,344.6	7,332.0	Lower Avalon			
7,646.6	7,634.0	1st Bone Spring Sand			
7,934.6	7,922.0	2nd Bone Spring Carb			
8,196.6	8,184.0	2nd Bone Spring Sand			
8,802.6	8,790.0	3rd Bone Spring Carb			
9,466.6	9,454.0	3rd Bone Spring Sand			
9,776.9	9,764.0	3rd BS W Sand			
9,869.3	9,854.0	Wolfcamp A X Sand			
9,983.7	9,959.0	Wolfcamp A Y Sand			
10,112.7	10,064.0	Wolfcamp A Lower			

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well WTG Fed Com #218H
Company:	Tap Rock Resources, LLC	**TVD Reference:**	KB @ 2911.0usft
Project:	Eddy County, NM (NAD 83 NME)	**MD Reference:**	KB @ 2911.0usft
Site:	(WTG Fed) Sec-27_T26-S_R-29-E	**North Reference:**	Grid
Well:	WTG Fed Com #218H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #1		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,500.0	1,500.0	0.0	0.0	NUDGE - Build 2.00
1,721.6	1,721.4	4.4	7.4	HOLD - 4069.4 at 1721.6 MD
5,791.0	5,778.6	164.2	278.2	DROP - -2.00
6,012.6	6,000.0	168.6	285.5	HOLD - 3682.0 at 6012.6 MD
9,694.6	9,682.0	168.6	285.5	KOP - DLS 10.00 TFO 182.63
10,598.9	10,255.0	-408.0	259.1	EOC - 4647.0 hold at 10598.9 MD
15,245.9	10,219.5	-5,049.9	46.0	Start DLS 2.00 TFO -89.56
15,387.0	10,218.4	-5,191.0	43.0	Start 1764.0 hold at 15387.0 MD
17,151.0	10,205.0	-6,954.9	49.0	TD at 17151.0

Drilling Operations Plan
WTG Fed Com #218H
Tap Rock Operating, LLC
SHL 288' FNL & 915' FEL, Sec. 27
BHL 20' FSL & 638' FEL, Sec. 34
T. 26S., R. 29E Eddy County, NM

Elevation above Sea Level: 2886'

DRILLING PROGRAM

1. Estimated Tops

Formation	TVD	MD	Lithologies	Bearing
Quaternary Deposits	0	0	Surface	None
Rustler Anhydrite	548	548		Salt
Salado	932	932	Salt	Salt
Base Salt	2687	2691		Salt
Lamar	2956	2961	Limestone	None
Bell Canyon	2957	2962	Sandstone	Hydrocarbons
Cherry Canyon	3852	3003	Sandstone	Hydrocarbons
Brushy Canyon	5504	5517	Sandstone	Hydrocarbons
Bone Spring	6605	6619	Limestone	Hydrocarbons
1st Bone Spring	7619	7633	Sandstone	Hydrocarbons
2nd Bone Spring	7907	7921	Sandstone	Hydrocarbons
3rd Bone Spring	8775	8789	Sandstone	Hydrocarbons
KOP	9682	9694	Sandstone	Hydrocarbons
Wolfcamp	9854	9869	Shale	Hydrocarbons
TD	10205	17151	Shale	Hydrocarbons

2. Notable Zones

Upper Wolfcamp is the target formation.

3. Pressure Control

Pressure Control Equipment (See Schematics):
A 15,000', 5,000 psi BOP stack consisting of 3 rams with 2 pipe rams, 1 blind ram, and 1 annular preventer will be used below surface casing to TD. See attachments for BOP and choke manifold diagrams. Also present will be an accumulator that meets the requirements of Onshore Order #2 for the pressure rating of the BOP stack. A rotating head will also be installed as needed. BOP will be inspected and operated as recommended in Onshore Order #2. A top drive check valve and sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position. The wellhead will be a multi-bowl speed head.

Drilling Operations Plan
WTG Fed Com #218H
Tap Rock Operating, LLC
SHL 288' FNL & 915' FEL, Sec. 27
BHL 20' FSL & 638' FEL, Sec. 34
T. 26S., R. 29E Eddy County, NM

BOP Test procedure will be as follows:

After surface casing is set and the BOP is nippled up, the BOP pressure tests will be made with a third party tester to 250 psi low, 5000 psi high, and the annular preventer will be tested to 2,500 psi. The BOP will be tested in this manner after nipple-up if any break of the stack occurs.

Variance Requests:
Tap Rock requests a variance to run a multi-bowl speed head for setting the Intermediate 1, Intermediate 2, and Production Strings. Tap Rock requests a variance to drill this well using a co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached. The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used. Tap Rock requests a variance to have the option of batch drilling this well with other wells on the same pad. In the event that this well is batch drilled, after drilling surface, 1st intermediate, and 2nd intermediate hole sections and cementing 2nd intermediate casing, a 10M dry hole cap with bleed off valve will be installed. The rig will then walk to another well on the pad. When the rig returns to this well and BOPs are installed, the operator will perform a full BOP test. Tap Rock requests a variance to run 7-5/8" BTC casing inside 9-5/8" BTC casing will be less than the 0.422" stand off regulation. Through conversations with BLM representatives, Tap Rock has received approval for this design as long as the 7-5/8" flush casing was run throughout the entire 300' cement tie back section between 9-5/8" and 7-5/8" casing.

Tap Rock requests approval to possibly utilize a spudder rig to drill and set casing for the surface interval on this well. The spudder rig will be possibly utilized in order to reduce cost and save time. The wellhead will be installed and tested as soon as the surface casing is cut off per the existing COAs. A blind flange with the same pressure rating as the wellhead will be installed on the well. Once the spudder rig is removed, Tap Rock will secure the wellhead area by placing a guard rail around the cellar. Pressure will be monitored and a means for intervention will be maintained while the drilling rig is not over the well. Spudder rig operations are expected to take 2-3 days per well. Three wells on the pad will have surface casing set by the spudder rig as a part of this operation. The BLM will be notified 24 hours prior to commencing spudder rig operations. Within 90 days of the departure of the spudder rig, drilling operations will recommence on these wells. This rig will have a BOP stack equal or greater to the pressure rating required in the COAs. The BLM will be notified 24 hours before the larger rig moves on the pre-set wells. Tap Rock will have supervision on the spudder rig to ensure compliance with all BLM and NMOCD regulations.

Drilling Operations Plan
WTG Fed Com #218H
Tap Rock Operating, LLC
SHL 288' FNL & 915' FEL, Sec. 27
BHL 20' FSL & 638' FEL, Sec. 34
T. 26S., R. 29E Eddy County, NM

4. Casing & Cement

All Casing will be new.

Name	Hole Size	Casing Size	Standard	Tapered	Top MD	Bottom MD	Top TVD	Btm TVD	Grade	Weight	Thread	Collapse	Burst	Tension
Surface	17 1/2	13 3/8	API	No	0	640	0	640	J-55	54.5	BUTT	1.13	1.15	1.6
1st Intermediate	12 1/4	9 5/8	API	No	0	3000	0	2996	J-55	40	BUTT	1.13	1.15	1.6
2nd Intermediate	8 3/4	7 5/8	API	No	0	2700	0	2696	P-110	29.7	BUTT	1.13	1.15	1.6
2nd Intermediate	8 3/4	7 5/8	NON API	Yes	2700	9560	2696	9547	P-110	29.7	W-513	1.13	1.15	1.6
Production	6 3/4	5 1/2	NON API	No	0	9360	0	9347	P-110	20	TXP	1.13	1.15	1.6
Production	6 3/4	5	NON API	Yes	9360	17185	9347	10205	P-110	18	W-521	1.13	1.15	1.6

Name	Type	Top MD	Sacks	Yield	Cu. Ft	Weight	Excess	Cement	Additives
Surface	Tail	0	659	1.35	889	14.8	100%	C	5% NCl + LCM
1st Intermediate	Lead	0	569	2.18	1240	12.7	65%	C	Bentonite + 1% CaCL2 + 8% NaCl + LCM
	Tail	2400	233	1.33	310	14.8	65%	C	5% NaCl + LCM
2nd Intermediate	Lead	2700	277	2.87	795	11.5	35%	TXI	Fluid Loss + Dispersant + Retarder + LCM
	Tail	8560	107	1.27	136	15	35%	H	Fluid Loss + Dispersant + Retarder + LCM
Production	Tail	8860	682	1.71	1167	14.2	25%	H	Fluid Loss + Dispersant + Retarder + LCM

5. Mud Program

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

Name	Top	Bottom	Type	Mud Weight	Visc	Fluid Loss
Surface	0	640	FW Spud Mud	8.30	28	NC
Intermediate	640	3000	Brine Water	10.00	30-32	NC
Intermediate 2	3000	9590	FW/Cut Brine	9.00	30-32	NC
Production	9590	17150	Oil Base Mud	11.50	15-20	<10

6. Cores, Tests, & Logs

- Electric Logging Program: No open-hole logs are planned at this time for the pilot hole.
- GR will be collected while drilling through the MWD tools from 9.625" casing shoe to TD.
- A 2-person mud logging program will be used from 9.625" casing shoe to TD.
- No DSTs or cores are planned at this time.
- CBL w/ CCL from as far as gravity will let it fall to TOC.

7. Down Hole Conditions

No abnormal pressure or temperature is expected. Maximum expected bottom hole pressure is ≈6,130 psi. Expected bottom hole temperature is ≈170° F.

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

8. Other Conditions

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