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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.
NMNM138850

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.
NAILED IT FED COM
241H 329308

2. Name of Operator
TAP ROCK OPERATING LLC

9. API Well No.
30-015-46881

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
PURPLE SAGE WOLFCAMP/null

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface LOT 4 / 305 FSL / 384 FWL / LAT 32.0009916 / LONG -103.8420742
At proposed prod. zone NWSW / 2464 FSL / 331 FWL / LAT 32.012844 / LONG -103.8422585

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 36/T26S/R30E/NMP

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

12. County or Parish
~~GRANT~~ Eddy

13. State
NM

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

16. No of acres in lease
320

17. Spacing Unit dedicated to this well
289.2

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

19. Proposed Depth
12133 feet / 16486 feet

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3007 feet

22. Approximate date work will start*
01/01/2020

23. Estimated duration
30 days

## 24. Attachments

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

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

| 25. Signature | Name *(Printed/Typed)* | Date |
|---|---|---|
| (Electronic Submission) | Brian Wood / Ph: (720) 460-3316 | 10/21/2019 |
| Title: President | | |
| Approved by *(Signature)* | Name *(Printed/Typed)* | Date |
| (Electronic Submission) | Cody Layton / Ph: (575) 234-5959 | 02/27/2020 |
| 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

RWP 3-18-20

(Continued on page 2)

*(Instructions on page 2)

**Approval Date: 02/27/2020**

## INSTRUCTIONS

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

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

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

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

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

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

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

## NOTICES

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

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

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

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

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

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

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

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



(Continued on page 3)

## Additional Operator Remarks

### Location of Well

0. SHL: LOT 4 / 305 FSL / 384 FWL / TWSP: 26S / RANGE: 30E / SECTION: 36 / LAT: 32.0009916 / LONG: -103.8420742 ( TVD: 0 feet, MD: 0 feet )

PPP: NWNW / 820 FSL / 331 FWL / TWSP: 26S / RANGE: 30E / SECTION: 36 / LAT: 32.002408 / LONG: -103.842238 ( TVD: 12126 feet, MD: 12696 feet )

PPP: LOT 4 / 21 FSL / 384 FWL / TWSP: 26S / RANGE: 30E / SECTION: 36 / LAT: 32.0002139 / LONG: -103.8420742 ( TVD: 10703 feet, MD: 10713 feet )

BHL: NWSW / 2464 FSL / 331 FWL / TWSP: 26S / RANGE: 30E / SECTION: 25 / LAT: 32.012844 / LONG: -103.8422585 ( TVD: 12133 feet, MD: 16486 feet )

## BLM Point of Contact

Name: Tyler Hill

Title: LIE

Phone: (575) 234-5972

Email: tjhill@blm.gov

**Review and Appeal Rights**

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

**PECOS DISTRICT**
**SURFACE USE**
**CONDITIONS OF APPROVAL**

| | |
|---|---|
| OPERATOR'S NAME: | Tap Rock Operating LLC |
| LEASE NO.: | NMNM138850 |
| COUNTY: | Lea |

**The following conditions of approval are only applicable to the portion of road residing in the SWSW quarter of Section 25, T26S, R30E.**

**See page two for the applicable wells and their legal descriptions.**

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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.





**Approval Date: 02/27/2020**

| | | SHL | | | | | BHL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Well Name | ULSTR | Footage | | Coordinates | | ULSTR | Footage | | Coordinates | |
| W2W2 Pad (Slot 1) | Nailed It Fed Com 201H | L4 36-26S-30E | 330 FSL | 279 FWL | 32.0010601 | -103.8424129 | NWSW 25-26S-30E | 2464 FSL | 638 FWL | 32.0128419 | -103.8412680 |
| | Nailed It Fed Com 205H | L4 36-26S-30E | 330 FSL | 304 FWL | 32.0010602 | -103.8423323 | NWSW 25-26S-30E | 2464 FSL | 1254 FWL | 32.0128378 | -103.8392806 |
| | Nailed It Fed Com 211H | L4 36-26S-30E | 305 FSL | 279 FWL | 32.0009914 | -103.8424129 | NWSW 25-26S-30E | 2464 FSL | 331 FWL | 32.0128440 | -103.8422585 |
| | Nailed It Fed Com 215H | L4 36-26S-30E | 305 FSL | 304 FWL | 32.0009915 | -103.8423323 | NWSW 25-26S-30E | 2464 FSL | 946 FWL | 32.0128399 | -103.8402743 |
| | Nailed It Fed Com 221H | L4 36-26S-30E | 330 FSL | 384 FWL | 32.0010603 | -103.8420742 | NWSW 25-26S-30E | 2464 FSL | 331 FWL | 32.0128440 | -103.8422585 |
| | Nailed It Fed Com 225H | L4 36-26S-30E | 330 FSL | 434 FWL | 32.0010604 | -103.8419129 | NWSW 25-26S-30E | 2464 FSL | 1170 FWL | 32.0128384 | -103.8395516 |
| | Nailed It Fed Com 231H | L4 36-26S-30E | 330 FSL | 409 FWL | 32.0010604 | -103.8419936 | NWSW 25-26S-30E | 2464 FSL | 750 FWL | 32.0128412 | -103.8409067 |
| | Nailed It Fed Com 241H | L4 36-26S-30E | 305 FSL | 384 FWL | 32.0009916 | -103.8420742 | NWSW 25-26S-30E | 2464 FSL | 331 FWL | 32.0128440 | -103.8422585 |
| | Nailed It Fed Com 245H | L4 36-26S-30E | 305 FSL | 434 FWL | 32.0009917 | -103.8419129 | NWSW 25-26S-30E | 2464 FSL | 1170 FWL | 32.0128384 | -103.8395516 |
| E2W2 Pad (Slot 2) | Nailed It Fed Com 202H | L3 36-26S-30E | 230 FSL | 1840 FWL | 32.0007876 | -103.8373781 | NESW 25-26S-30E | 2465 FSL | 1870 FWL | 32.0128336 | -103.8372932 |
| | Nailed It Fed Com 207H | L3 36-26S-30E | 230 FSL | 1865 FWL | 32.0007876 | -103.8372974 | NESW 25-26S-30E | 2465 FSL | 2486 FWL | 32.0128294 | -103.8353058 |
| | Nailed It Fed Com 212H | L3 36-26S-30E | 205 FSL | 1840 FWL | 32.0007189 | -103.8373780 | NESW 25-26S-30E | 2464 FSL | 1562 FWL | 32.0128357 | -103.8382869 |
| | Nailed It Fed Com 217H | L3 36-26S-30E | 205 FSL | 1865 FWL | 32.0007189 | -103.8372974 | NESW 25-26S-30E | 2465 FSL | 2178 FWL | 32.0128315 | -103.8362995 |
| | Nailed It Fed Com 222H | L3 36-26S-30E | 230 FSL | 1970 FWL | 32.0007878 | -103.8369587 | NESW 25-26S-30E | 2465 FSL | 2010 FWL | 32.0128327 | -103.8368415 |
| | Nailed It Fed Com 232H | L3 36-26S-30E | 205 FSL | 1970 FWL | 32.0007190 | -103.8369587 | NESW 25-26S-30E | 2465 FSL | 2430 FWL | 32.0128298 | -103.8354865 |
| | Nailed It Fed Com 235H | L3 36-26S-30E | 230 FSL | 1945 FWL | 32.0007877 | -103.8370394 | NESW 25-26S-30E | 2464 FSL | 1590 FWL | 32.0128355 | -103.8381966 |
| | Nailed It Fed Com 242H | L3 36-26S-30E | 205 FSL | 1945 FWL | 32.0007190 | -103.8370393 | NESW 25-26S-30E | 2465 FSL | 2010 FWL | 32.0128327 | -103.8368415 |
| W2E2 Pad (Slot 3) | Nailed It Fed Com 203H | L2 36-26S-30E | 701 FSL | 2225 FEL | 32.0020849 | -103.8332991 | NWSE 25-26S-30E | 2465 FSL | 2178 FEL | 32.0128248 | -103.8331593 |
| | Nailed It Fed Com 206H | L2 36-26S-30E | 701 FSL | 2200 FEL | 32.0020849 | -103.8332184 | NWSE 25-26S-30E | 2465 FSL | 1562 FEL | 32.0128206 | -103.8311720 |
| | Nailed It Fed Com 213H | L2 36-26S-30E | 676 FSL | 2225 FEL | 32.0020162 | -103.8332990 | NWSE 25-26S-30E | 2465 FSL | 2486 FEL | 32.0128269 | -103.8341530 |
| | Nailed It Fed Com 216H | L2 36-26S-30E | 676 FSL | 2200 FEL | 32.0020162 | -103.8332184 | NWSE 25-26S-30E | 2465 FSL | 1870 FEL | 32.0128227 | -103.8321657 |
| | Nailed It Fed Com 223H | L2 36-26S-30E | 701 FSL | 2120 FEL | 32.0020850 | -103.8329603 | NWSE 25-26S-30E | 2465 FSL | 2430 FEL | 32.0128266 | -103.8339724 |
| | Nailed It Fed Com 226H | L2 36-26S-30E | 701 FSL | 2070 FEL | 32.0020851 | -103.8327990 | NWSE 25-26S-30E | 2465 FSL | 1590 FEL | 32.0128207 | -103.8312623 |
| | Nailed It Fed Com 233H | L2 36-26S-30E | 701 FSL | 2095 FEL | 32.0020851 | -103.8328797 | NWSE 25-26S-30E | 2465 FSL | 2010 FEL | 32.0128237 | -103.8326173 |
| | Nailed It Fed Com 243H | L2 36-26S-30E | 676 FSL | 2120 FEL | 32.0020163 | -103.8329603 | NWSE 25-26S-30E | 2465 FSL | 2430 FEL | 32.0128266 | -103.8339724 |
| | Nailed It Fed Com 246H | L2 36-26S-30E | 676 FSL | 2070 FEL | 32.0020164 | -103.8327990 | NWSE 25-26S-30E | 2465 FSL | 1590 FEL | 32.0128207 | -103.8312623 |
| E2E2 Pad (Slot 4) | Nailed It Fed Com 204H | L1 36-26S-30E | 766 FSL | 588 FEL | 32.0022660 | -103.8280170 | NESE 25-26S-30E | 2466 FSL | 946 FEL | 32.0128162 | -103.8291846 |
| | Nailed It Fed Com 208H | L1 36-26S-30E | 766 FSL | 563 FEL | 32.0022660 | -103.8279364 | NESE 25-26S-30E | 2466 FSL | 331 FEL | 32.0128119 | -103.8272004 |
| | Nailed It Fed Com 214H | L1 36-26S-30E | 741 FSL | 588 FEL | 32.0021972 | -103.8280170 | NESE 25-26S-30E | 2465 FSL | 1254 FEL | 32.0128184 | -103.8301783 |
| | Nailed It Fed Com 218H | L1 36-26S-30E | 741 FSL | 563 FEL | 32.0021973 | -103.8279363 | NESE 25-26S-30E | 2466 FSL | 638 FEL | 32.0128141 | -103.8281909 |
| | Nailed It Fed Com 224H | L1 36-26S-30E | 766 FSL | 668 FEL | 32.0022659 | -103.8282751 | NESE 25-26S-30E | 2466 FSL | 750 FEL | 32.0128149 | -103.8285522 |
| | Nailed It Fed Com 234H | L1 36-26S-30E | 741 FSL | 668 FEL | 32.0021971 | -103.8282750 | NESE 25-26S-30E | 2466 FSL | 331 FEL | 32.0128119 | -103.8272004 |
| | Nailed It Fed Com 236H | L1 36-26S-30E | 766 FSL | 693 FEL | 32.0022658 | -103.8283557 | NESE 25-26S-30E | 2465 FSL | 1170 FEL | 32.0128178 | -103.8299072 |
| | Nailed It Fed Com 244H | L1 36-26S-30E | 741 FSL | 693 FEL | 32.0021971 | -103.8283557 | NESE 25-26S-30E | 2466 FSL | 750 FEL | 32.0128149 | -103.8285522 |



**Approval Date: 02/27/2020**

## 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.

## SPECIAL REQUIREMENT(S)

**Cave/Karst:**
**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.

## CONSTRUCTION

### A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road. 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.

### B. 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.

### C. 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.

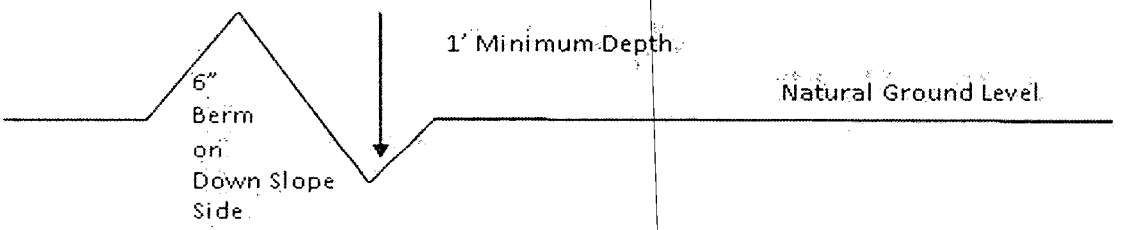
**Ditching**
Ditching shall be required on both sides of the road.

**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

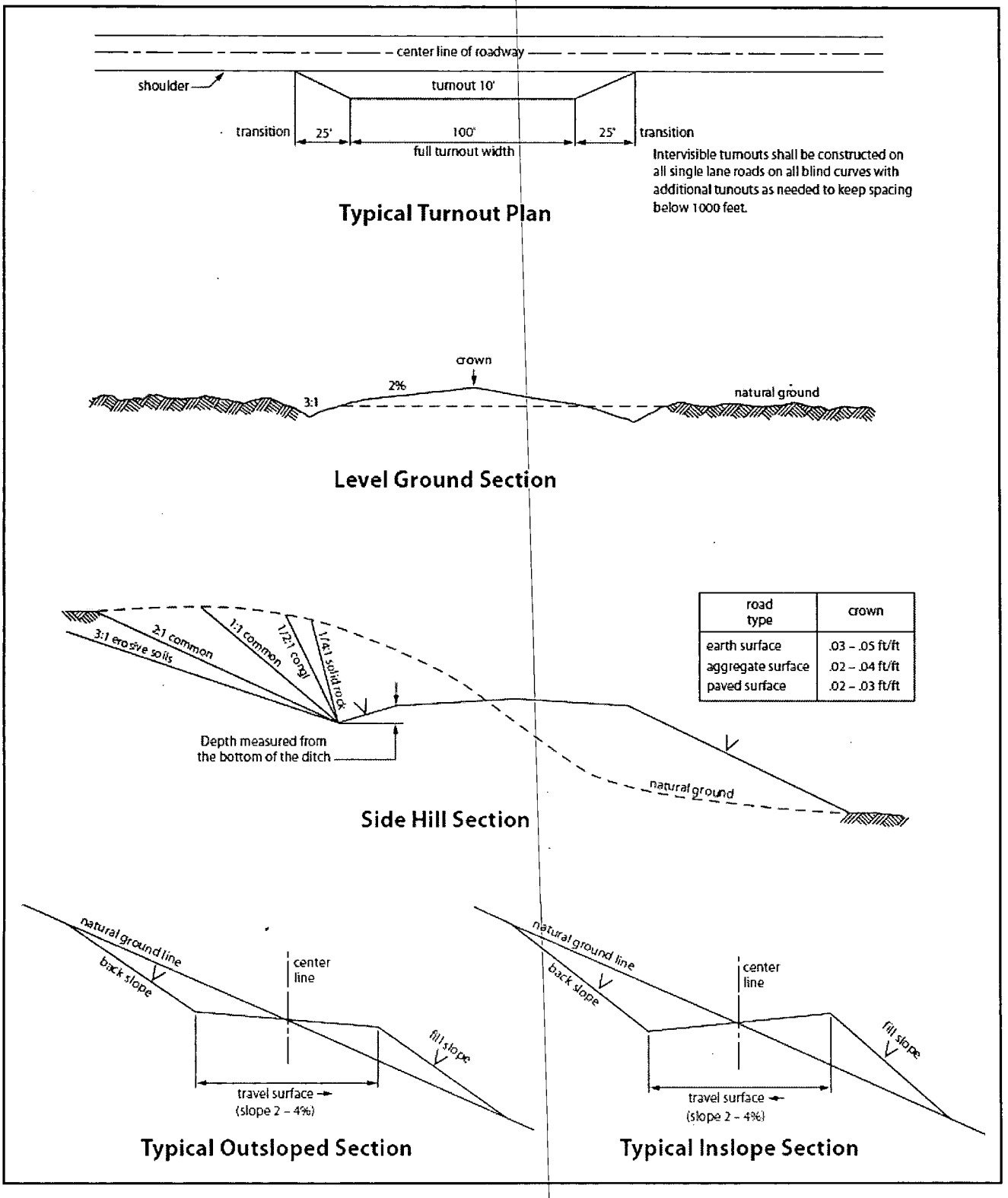



Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

**Seed Mixture 2, for Sandy 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 |
|---|---|
| Sand dropseed (Sporobolus cryptandrus) | 1.0 |
| Sand love grass (Eragrostis trichodes) | 1.0 |
| Plains bristlegrass (Setaria macrostachya) | 2.0 |

*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 |
| **WELL NAME & NO.:** | Nailed It Fed Com 241H |
| **SURFACE HOLE FOOTAGE:** | 230 FSL / 1840 FWL |
| **BOTTOM HOLE FOOTAGE** | 2465 FSL / 1870 FWL |
| **LOCATION:** | Sec 36 / 26S / 30E / NMP |
| **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 920 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.

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

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing 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.

AFMSS

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

# Operator Certification Data Report

02/28/2020

## Operator Certification

*I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.*

**NAME:** Brian Wood **Signed on:** 08/29/2019

**Title:** President

**Street Address:** 37 Verano Looop

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

**Phone:** (505)466-8120

**Email address:** afmss@permitswest.com

## Field Representative

**Representative Name:**

**Street Address:**

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

**Phone:** (505)466-8120

**Email address:** afmss@permitswest.com

AFMSS

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

# Application Data Report

02/28/2020

**APD ID:** 10400047771 **Submission Date:** 10/21/2019

**Operator Name:** TAP ROCK OPERATING LLC

**Well Name:** NAILED IT FED COM **Well Number:** 241H

**Well Type:** CONVENTIONAL GAS WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

## Section 1 - General

**APD ID:** 10400047771 **Tie to previous NOS?** **Submission Date:** 10/21/2019

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

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

**Lease number:** NMNM138850 **Lease Acres:** 320

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

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

**Agreement number:**

**Agreement name:**

**Keep application confidential?** N

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

**Operator letter of designation:**

## Operator Info

**Operator Organization Name:** TAP ROCK OPERATING LLC

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

**Operator PO Box:**

**Operator City:** Golden **State:** CO

**Operator Phone:** (720)460-3316

**Operator Internet Address:**

## Section 2 - Well Information

**Well in Master Development Plan?** NO **Master Development Plan name:**

**Well in Master SUPO?** NO **Master SUPO name:**

**Well in Master Drilling Plan?** NO **Master Drilling Plan name:**

**Well Name:** NAILED IT FED COM **Well Number:** 241H **Well API Number:**

**Field/Pool or Exploratory?** Field and Pool **Field Name:** PURPLE SAGE WOLFCAMP **Pool Name:**

**Is the proposed well in an area containing other mineral resources?** OTHER,NATURAL GAS,OIL

**Operator Name:** TAP ROCK OPERATING LLC

**Well Name:** NAILED IT FED COM **Well Number:** 241H

**Is the proposed well in an area containing other mineral resources?** OTHER,NATURAL GAS,OIL

**Describe other minerals:** Salt

**Is the proposed well in a Helium production area?** N **Use Existing Well Pad?** N **New surface disturbance?**

**Type of Well Pad:** MULTIPLE WELL **Multiple Well Pad Name:** Nailed It Fed Com **Number:** Slot 1

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

**Well Work Type:** Drill

**Well Type:** CONVENTIONAL GAS WELL

**Describe Well Type:**

**Well sub-Type:** INFILL

**Describe sub-type:**

**Distance to town:** 20 Miles **Distance to nearest well:** 25 FT **Distance to lease line:** 305 FT

**Reservoir well spacing assigned acres Measurement:** 289.2 Acres

**Well plat:** Nailed_241H_C102_GCP_101119_20191013101652.pdf

**Well work start Date:** 01/01/2020 **Duration:** 30 DAYS

## Section 3 - Well Location Table

**Survey Type:** RECTANGULAR

**Describe Survey Type:**

**Datum:** NAD83 **Vertical Datum:** NAVD88

**Survey number:** 11401 **Reference Datum:** GROUND LEVEL

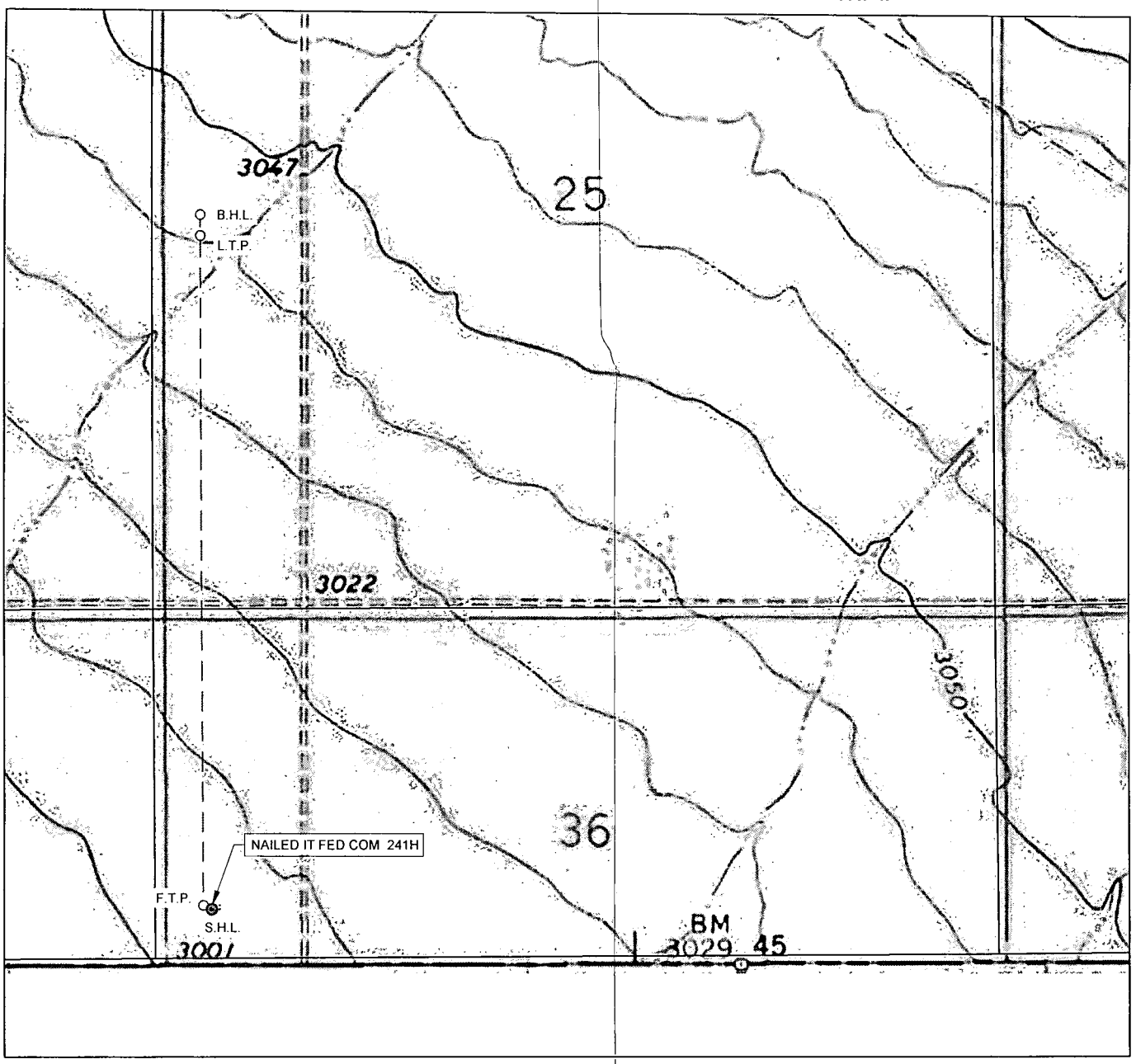
| Wellbore | NS-Foot | NS Indicator | EW-Foot | EW Indicator | Twsp | Range | Section | Aliquot/Lot/Tract | Latitude | Longitude | County | State | Meridian | Lease Type | Lease Number | Elevation | MD | TVD | Will this well produce from this lease? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SHL Leg #1 | 305 | FSL | 384 | FWL | 26S | 30E | 36 | Lot 4 | 32.0009916 | -103.8420742 | GRANT | NEW MEXICO | NEW MEXICO | S | STATE | 3007 | 0 | 0 | Y |
| KOP Leg #1 | 21 | FSL | 384 | FWL | 26S | 30E | 36 | Lot 4 | 32.0002139 | -103.8420742 | EDDY | NEW MEXICO | NEW MEXICO | S | STATE | -8545 | 11562 | 11552 | Y |
| PPP Leg #1-1 | 21 | FSL | 384 | FWL | 26S | 30E | 36 | Lot 4 | 32.0002139 | -103.8420742 | EDDY | NEW MEXICO | NEW MEXICO | S | STATE | -7696 | 10713 | 10703 | Y |

**Operator Name:** TAP ROCK OPERATING LLC

**Well Name:** NAILED IT FED COM **Well Number:** 241H

| Wellbore | NS-Foot | NS Indicator | EW-Foot | EW Indicator | Twsp | Range | Section | Aliquot/Lot/Tract | Latitude | Longitude | County | State | Meridian | Lease Type | Lease Number | Elevation | MD | TVD | Will this well produce from this lease? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PPP Leg #1-2 | 820 | FSL | 331 | FWL | 26S | 30E | 36 | Aliquot NWNW | 32.002408 | -103.842238 | EDDY | NEW MEXICO | NEW MEXICO | S | STATE | -9119 | 12696 | 12126 | Y |
| EXIT Leg #1 | 2464 | FSL | 331 | FWL | 26S | 30E | 25 | Aliquot NWSW | 32.012844 | -103.842585 | EDDY | NEW MEXICO | NEW MEXICO | F | NMNM 138850 | -9126 | 16486 | 12133 | Y |
| BHL Leg #1 | 2464 | FSL | 331 | FWL | 26S | 30E | 25 | Aliquot NWSW | 32.012844 | -103.842585 | EDDY | NEW MEXICO | NEW MEXICO | F | NMNM 138850 | -9126 | 16486 | 12133 | Y |

# LOCATION & ELEVATION VERIFICATION MAP




TAP ROCK

LEASE NAME & WELL NO.: NAILED IT FED COM 241H

SECTION 36 TWP 26-S RGE 30-E SURVEY N.M.P.M.
COUNTY EDDY STATE NM ELEVATION 3007'
DESCRIPTION 305' FSL & 384' FWL

LATITUDE N 32.0009916 LONGITUDE W 103.8420742

-N-

SCALE: 1" = 1000'
0' 500' 1000'

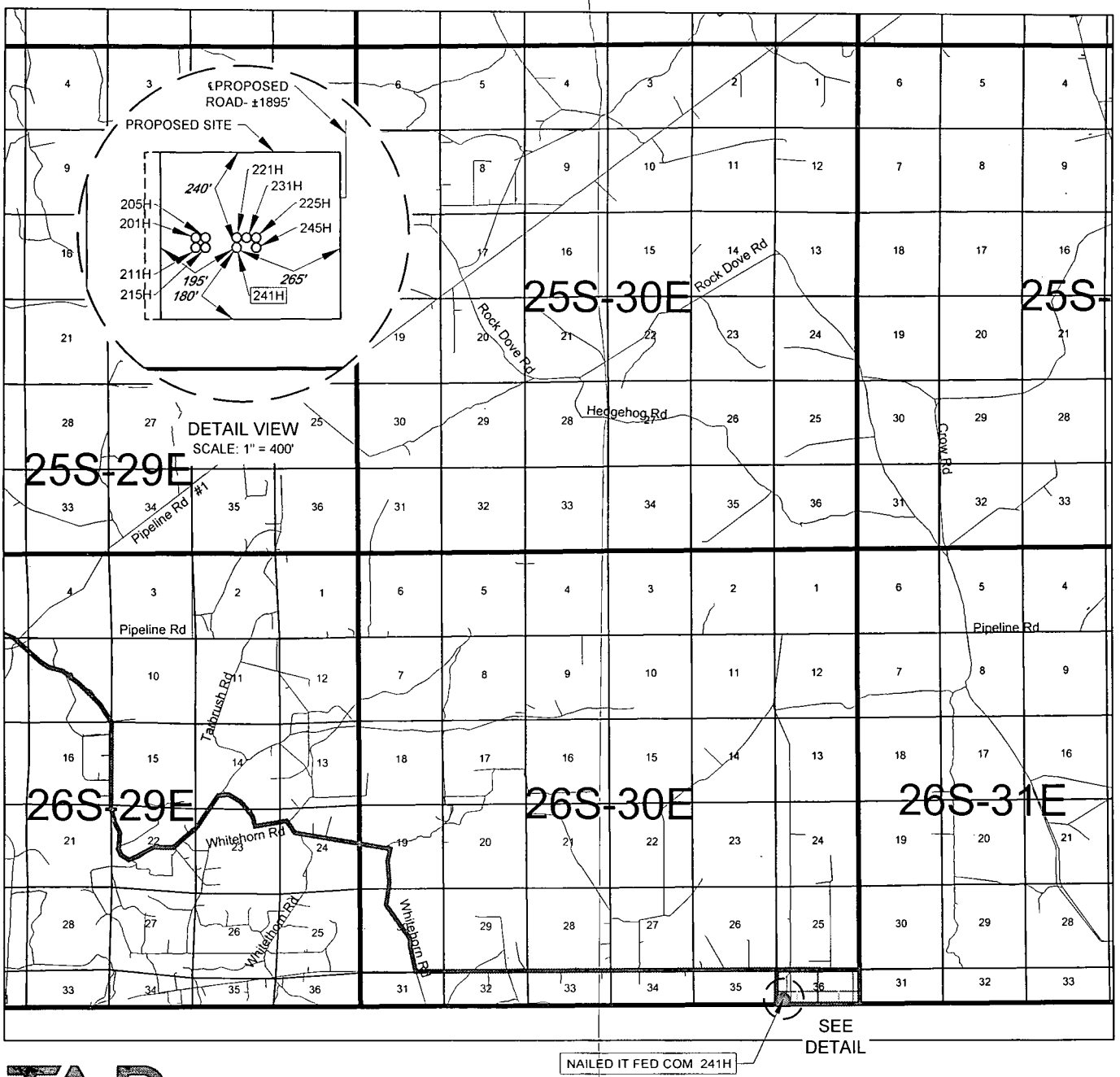
THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY TAP ROCK OPERATING, LLC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF 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 OF 1983, EAST ZONE, 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.: NAILED IT FED COM 241H

SECTION 36 TWP 26-S RGE 30-E SURVEY N.M.P.M.
COUNTY EDDY STATE NM
DESCRIPTION 305' FSL & 384' FWL

DISTANCE & DIRECTION

FROM INT. OF US-285 & COUNTY RD 720, 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 NORTHEAST (LEFT) ON LEASE RD. ±5.5 MILES, THENCE EAST (LEFT) ON STATE LINE RD. ±4.5, THENCE SOUTH ON A PROPOSED RD. ±1893 FEET TO A POINT ±293 FEET NORTHEAST OF THE LOCATION.

-N-

SCALE: 1" = 10000'

0' 5000' 10000'

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.

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WWW.TOPOGRAPHIC.COM

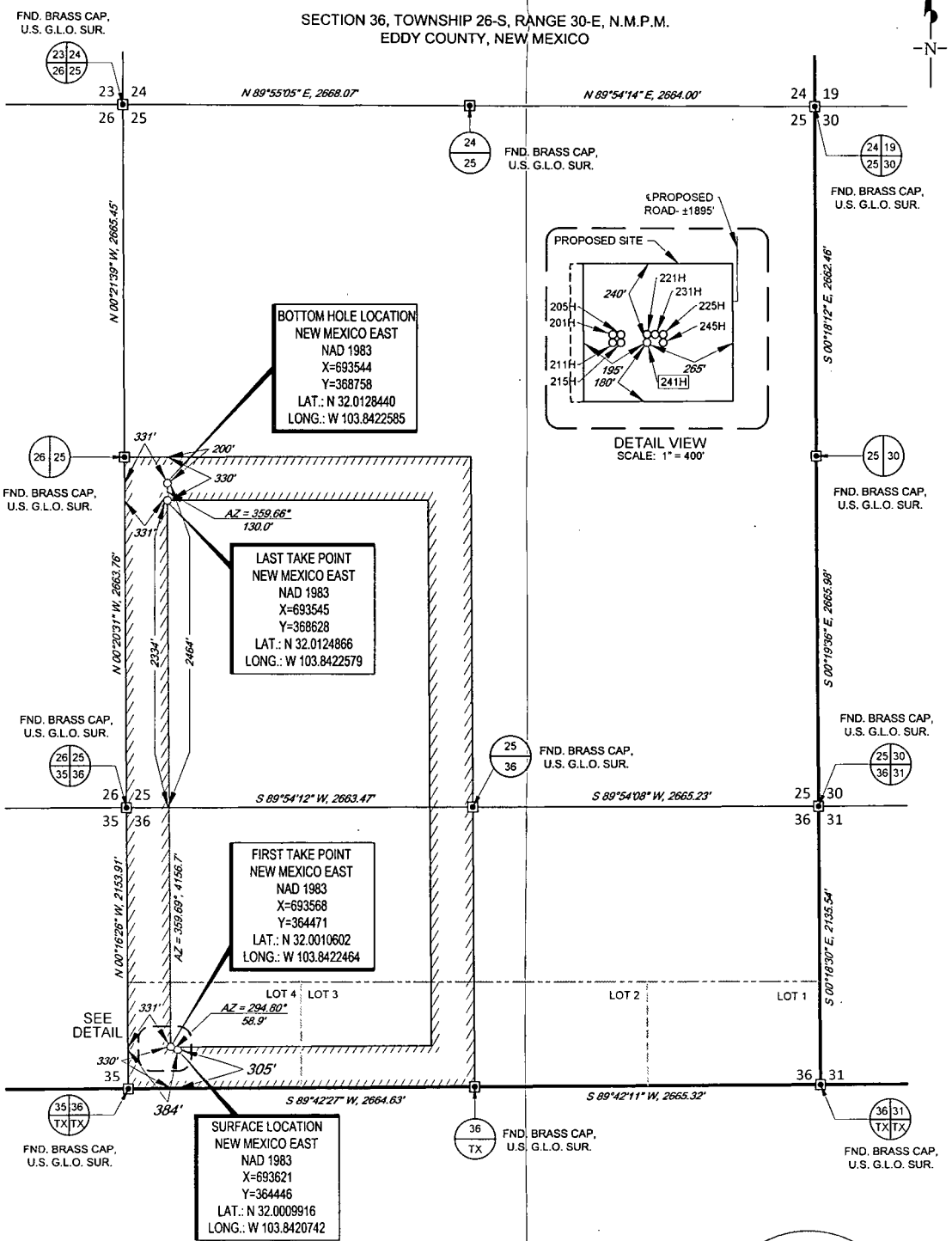
SCALE: 1" = 1000'

0' 500' 1000'

TAP ROCK

# EXHIBIT 2A

SECTION 36, TOWNSHIP 26-S, RANGE 30-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO




LEASE NAME & WELL NO.: NAILED IT FED COM 241H

SECTION 36 TWP 26-S RGE 30-E SURVEY N.M.P.M.
COUNTY EDDY STATE NM
DESCRIPTION 305' FSL & 384' FWL

DISTANCE & DIRECTION

FROM INT. OF US-285 & COUNTY RD 720, 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 NORTHEAST (LEFT) ON LEASE RD. ±5.5 MILES, THENCE EAST (LEFT) ON STATE LINE RD. ±4.5, THENCE SOUTH ON A PROPOSED RD. ±1893 FEET TO A POINT ±293 FEET NORTHEAST OF THE LOCATION.

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

THIS 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
AUGUST 14, 2019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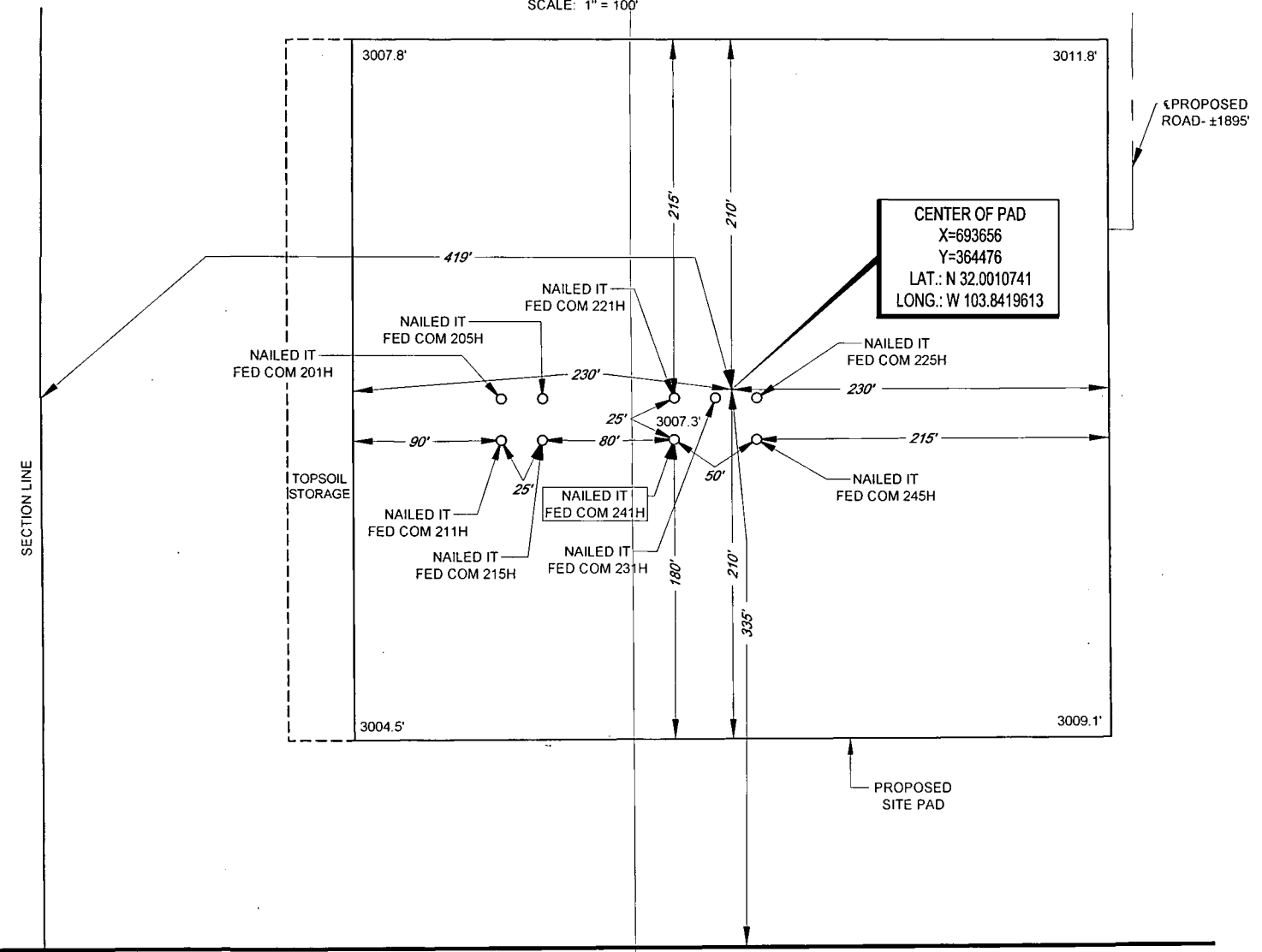
WWW.TOPOGRAPHIC.COM

# EXHIBIT 2B

TAP ROCK

SECTION 36, TOWNSHIP 26-S, RANGE 30-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

DETAIL VIEW
SCALE: 1" = 100'




LEASE NAME & WELL NO.: NAILED IT FED COM 241H

241H LATITUDE N 32.0009916 241H LONGITUDE W 103.8420742

CENTER OF PAD IS 335' FSL & 419' FWL

-N-

SCALE: 1" = 100'

0' 50' 100'

JOHN TREVOR CARNEGIE
NEW MEXICO
11401
REGISTERED PROFESSIONAL SURVEYOR

John Trevor Carnegie, P.S. No. 11401

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET. ELEVATIONS USED ARE NAVD88, OBTAINED THROUGH AN OPUS SOLUTION.

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.

ORIGINAL DOCUMENT SIZE: 8.5" X 11"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S:\SURVEY\TAPROCK\NAILED_IT_UNIT\FINAL_PRODUCTS\LO_NAILED_IT_FED_COM_241H.DWG 10/2/2019 9:46:10 AM hperezgomez

AFMSS

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

# Drilling Plan Data Report

02/28/2020

**APD ID:** 10400047771

**Submission Date:** 10/21/2019

Highlighted data reflects the most recent changes

**Operator Name:** TAP ROCK OPERATING LLC

**Well Name:** NAILED IT FED COM

**Well Number:** 241H

Show Final Text

**Well Type:** CONVENTIONAL GAS WELL

**Well Work Type:** Drill

## Section 1 - Geologic Formations

| Formation ID | Formation Name | Elevation | True Vertical Depth | Measured Depth | Lithologies | Mineral Resources | Producing Formation |
|---|---|---|---|---|---|---|---|
| 543619 | QUATERNARY | 3007 | 0 | 0 | OTHER : None | NONE | N |
| 543620 | RUSTLER | 2184 | 823 | 823 | ANHYDRITE | OTHER : Salt | N |
| 543621 | SALADO | 1634 | 1373 | 1373 | SALT | OTHER : Salt | N |
| 543622 | BASE OF SALT | -406 | 3413 | 3416 | SALT | OTHER : Salt | N |
| 543623 | LAMAR | -616 | 3623 | 3627 | LIMESTONE | NONE | N |
| 543624 | BELL CANYON | -636 | 3643 | 3647 | SANDSTONE | NATURAL GAS, OIL | N |
| 543625 | CHERRY CANYON | -1756 | 4763 | 4770 | SANDSTONE | NATURAL GAS, OIL | N |
| 543626 | BRUSHY CANYON | -2711 | 5718 | 5727 | SANDSTONE | NATURAL GAS, OIL | N |
| 543627 | BONE SPRING | -4456 | 7463 | 7472 | LIMESTONE | NATURAL GAS, OIL | N |
| 543628 | BONE SPRING 1ST | -5401 | 8408 | 8417 | SANDSTONE | NATURAL GAS, OIL | N |
| 543629 | BONE SPRING 2ND | -5751 | 8758 | 8767 | SANDSTONE | NATURAL GAS, OIL | N |
| 543630 | BONE SPRING 3RD | -6636 | 9643 | 9652 | SANDSTONE | NATURAL GAS, OIL | N |
| 543631 | WOLFCAMP | -7696 | 10703 | 10712 | OTHER : Shale | NATURAL GAS, OIL | Y |

## Section 2 - Blowout Prevention

**Operator Name:** TAP ROCK OPERATING LLC

**Well Name:** NAILED IT FED COM **Well Number:** 241H

**Pressure Rating (PSI):** 5M **Rating Depth:** 15000

**Equipment:** A 15,000 a 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.

**Requesting Variance?** YES

**Variance request:** A 15,000 a 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.

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

**Choke Diagram Attachment:**

Nailed_Choke_032918_20190920135825.pdf

**BOP Diagram Attachment:**

BOP_Diagram_101619_20191021093500.pdf

## Section 3 - Casing

| Casing ID | String Type | Hole Size | Csg Size | Condition | Standard | Tapered String | Top Set MD | Bottom Set MD | Top Set TVD | Bottom Set TVD | Top Set MSL | Bottom Set MSL | Calculated casing length MD | Grade | Weight | Joint Type | Collapse SF | Burst SF | Joint SF Type | Joint SF | Body SF Type | Body SF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SURFACE | 17.5 | 13.375 | NEW | API | N | 0 | 900 | 0 | 900 | 3007 | 2107 | 900 | J-55 | 54.5 | BUTT | 1.13 | 1.15 | DRY | 1.6 | DRY | 1.6 |
| 2 | INTERMEDIATE | 8.75 | 7.625 | NEW | API | N | 0 | 3400 | 0 | 3395 | 3009 | -388 | 3400 | P-110 | 29.7 | BUTT | 1.13 | 1.15 | DRY | 1.6 | DRY | 1.6 |
| 3 | INTERMEDIATE | 12.25 | 9.625 | NEW | API | N | 0 | 3700 | 0 | 3695 | 3009 | -688 | 3700 | J-55 | 40 | BUTT | 1.13 | 1.15 | DRY | 1.6 | DRY | 1.6 |
| 4 | PRODUCTION | 6.75 | 5.5 | NEW | API | N | 0 | 11260 | 0 | 11251 | 3009 | -8244 | 11260 | P-110 | 20 | OTHER - TXP | 1.13 | 1.15 | DRY | 1.6 | DRY | 1.6 |
| 5 | INTERMEDIATE | 8.75 | 7.625 | NEW | API | Y | 3400 | 11460 | 3395 | 11451 | -387 | -8444 | 8060 | P-110 | 29.7 | OTHER - W-513 | 1.13 | 1.15 | DRY | 1.6 | DRY | 1.6 |
| 6 | PRODUCTION | 6.75 | 5.0 | NEW | API | Y | 11260 | 16500 | 11251 | 12133 | -8244 | -9126 | 5240 | P-110 | 18 | OTHER - W-521 | 1.13 | 1.13 | DRY | 1.6 | DRY | 1.6 |

**Operator Name:** TAP ROCK OPERATING LLC

**Well Name:** NAILED IT FED COM **Well Number:** 241H

**Casing Attachments**

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

Nailed_Casing_Design_Assumptions_20190920135858.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

Nailed_Casing_Design_Assumptions_20190920135935.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

Nailed_Casing_Design_Assumptions_20190920135916.pdf

**Operator Name:** TAP ROCK OPERATING LLC

**Well Name:** NAILED IT FED COM **Well Number:** 241H

**Casing Attachments**

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

Nailed_Casing_Design_Assumptions_20190920140042.pdf

Nailed_5.5in_TXP_Casing_Spec_20190920140047.PDF

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

Nailed_7.625in_W513_Casing_Spec_20190920140001.pdf

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

Nailed_Casing_Design_Assumptions_20190920140009.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

Nailed_5in_W521_Casing_Spec_20190920140236.pdf

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

Nailed_Casing_Design_Assumptions_20190920140243.pdf

## Section 4 - Cement

**Operator Name:** TAP ROCK OPERATING LLC

**Well Name:** NAILED IT FED COM **Well Number:** 241H

| String Type | Lead/Tail | Stage Tool Depth | Top MD | Bottom MD | Quantity(sx) | Yield | Density | Cu Ft | Excess% | Cement type | Additives |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PRODUCTION | Lead | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | None | 0 |
| PRODUCTION | Tail | | 10960 | 16500 | 454 | 1.71 | 14.2 | 777 | 25 | Class H | Fluid Loss + Dispersant + Retarder + LCM |
| INTERMEDIATE | Lead | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | None | None |
| PRODUCTION | Lead | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | None | None |
| SURFACE | Lead | | 0 | 585 | 451 | 1.8 | 13.5 | 813 | 100 | Class C | None |
| SURFACE | Tail | | 585 | 900 | 324 | 1.35 | 14.8 | 438 | 100 | Class C | 5% NCl + LCM |
| INTERMEDIATE | Lead | | 0 | 2960 | 702 | 2.18 | 12.7 | 1529 | 65 | Class C | Bentonite + 1% CaCL2 + 8% NaCl + LCM |
| INTERMEDIATE | Tail | | 2960 | 3700 | 287 | 1.33 | 14.8 | 382 | 65 | Class C | 5% NaCl + LCM |
| INTERMEDIATE | Lead | | 3400 | 10160 | 334 | 2.87 | 11.5 | 958 | 35 | TXI | Fluid Loss + Dispersant + Retarder + LCM |
| INTERMEDIATE | Tail | | 10460 | 11460 | 107 | 1.27 | 15 | 136 | 35 | Class H | Fluid Loss + Dispersant + Retarder + LCM |

## Section 5 - Circulating Medium

**Mud System Type:** Closed

**Will an air or gas system be Used?** NO

**Description of the equipment for the circulating system in accordance with Onshore Order #2:**

**Diagram of the equipment for the circulating system in accordance with Onshore Order #2:**

**Describe what will be on location to control well or mitigate other conditions:** All necessary mud products (e. g., barite, cedar bark) for weight addition and fluid loss control will always be on site. Mud program is subject to change due to hole conditions.

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

## Circulating Medium Table

**Operator Name:** TAP ROCK OPERATING LLC

**Well Name:** NAILED IT FED COM **Well Number:** 241H

| Top Depth | Bottom Depth | Mud Type | Min Weight (lbs/gal) | Max Weight (lbs/gal) | Density (lbs/cu ft) | Gel Strength (lbs/100 sqft) | PH | Viscosity (CP) | Salinity (ppm) | Filtration (cc) | Additional Characteristics |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 900 | OTHER : Fresh water spud mud | 8.3 | 8.3 | | | | | | | |
| 900 | 3700 | OTHER : Brine Water | 10 | 10 | | | | | | | |
| 3700 | 11460 | OTHER : Fresh water/cut brine | 9 | 9 | | | | | | | |
| 11460 | 16500 | OIL-BASED MUD | 13 | 13 | | | | | | | |

## Section 6 - Test, Logging, Coring

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

Electric Logging Program: No open-hole logs are planned at this time for the pilot hole.

GR will be collected while drilling through the MWD tools from 9.625 casing shoe to TD.

A 2-person mud logging program will be used from 9.625 casing shoe to TD.

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

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

GAMMA RAY LOG,CEMENT BOND LOG,

**Coring operation description for the well:**

No DSTs or cores are planned at this time.

## Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 8500 **Anticipated Surface Pressure:** 5830

**Anticipated Bottom Hole Temperature(F):** 175

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

**Describe:**

**Contingency Plans geoharzards description:**

**Contingency Plans geohazards attachment:**

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

**Hydrogen sulfide drilling operations plan:**

Nailed_Slot1_H2S_Plan_20190920140707.pdf

## Section 8 - Other Information

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

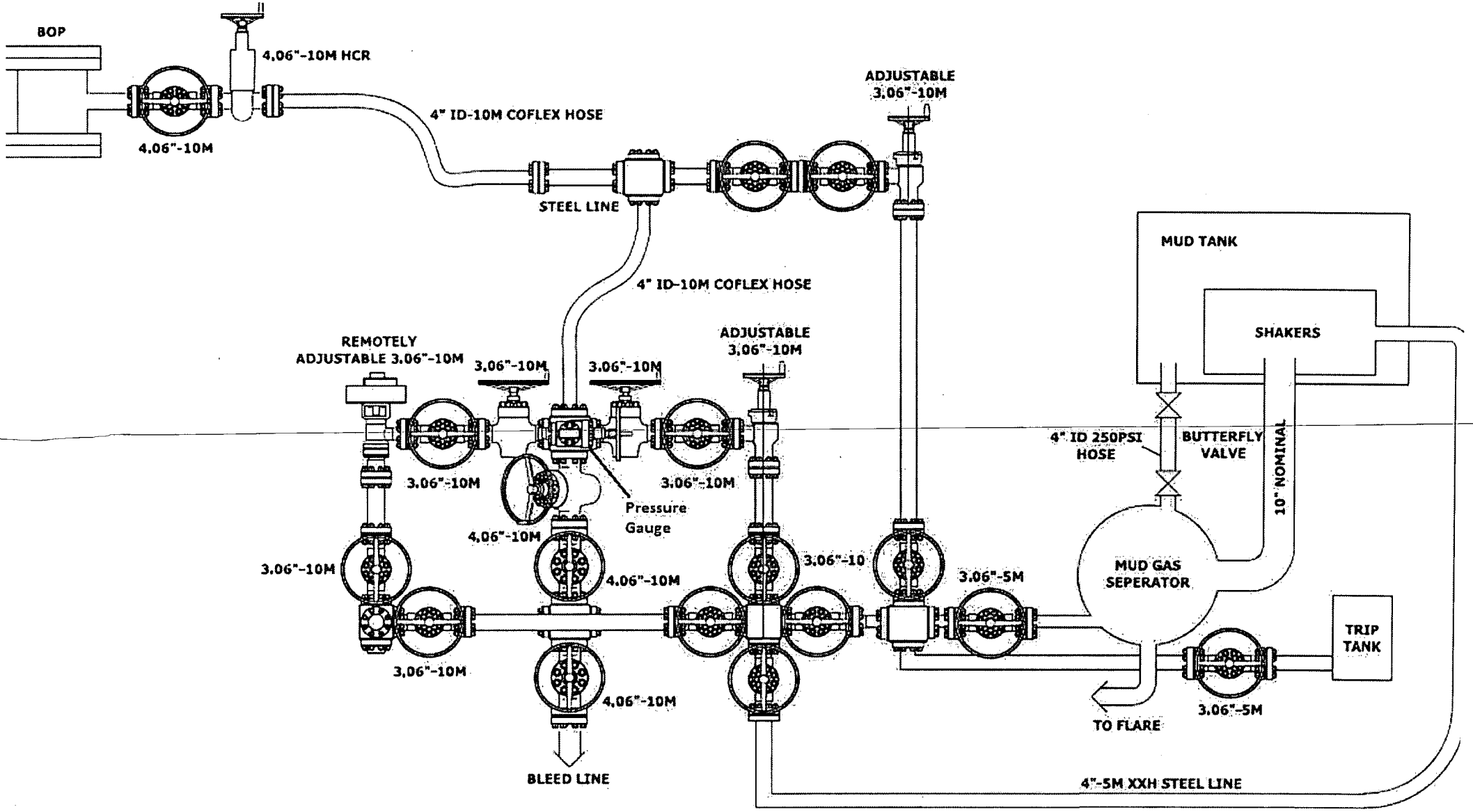
Nailed_241H_Horizontal_Plan_20190920145235.pdf

**Other proposed operations facets description:**

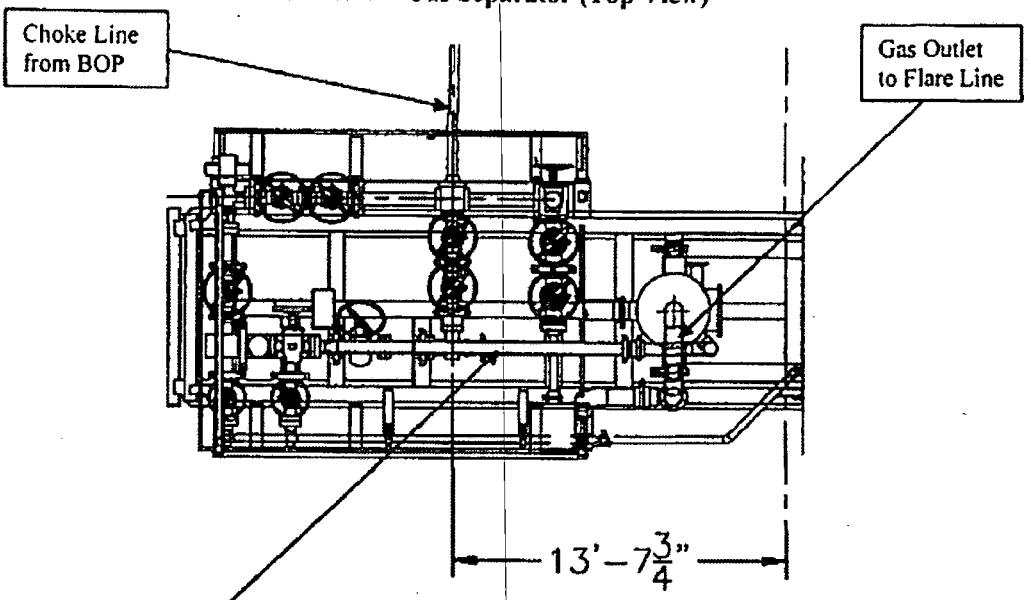
**Other proposed operations facets attachment:**

CoFlex_Certs_20190920140800.pdf
Nailed_241H_Anticollision_Report_20190920145306.pdf
Nailed_241H_Drill_Plan_v2_020420_20200205114307.pdf
Wellhead_4T_012720_20200205114330.pdf

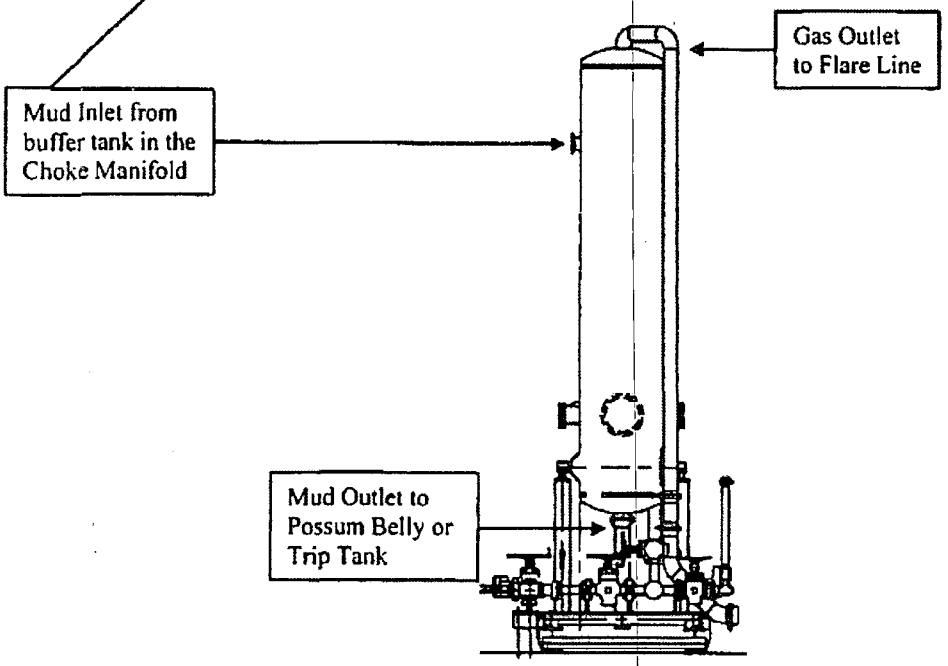
**Other Variance attachment:**


BOP
4.06"-10M HCR
4.06"-10M
4" ID-10M COFLEX HOSE
ADJUSTABLE
3.06"-10M
STEEL LINE
4" ID-10M COFLEX HOSE
MUD TANK
SHAKERS
REMOTELY
ADJUSTABLE 3.06"-10M
3.06"-10M
3.06"-10M
ADJUSTABLE
3.06"-10M
4" ID 250PSI
HOSE
BUTTERFLY
VALVE
10" NOMINAL
3.06"-10M
3.06"-10M
Pressure
Gauge
4.06"-10M
3.06"-10M
4.06"-10M
3.06"-10
3.06"-5M
MUD GAS
SEPERATOR
TRIP
TANK
3.06"-10M
4.06"-10M
3.06"-5M
TO FLARE
BLEED LINE
4"-5M XXH STEEL LINE

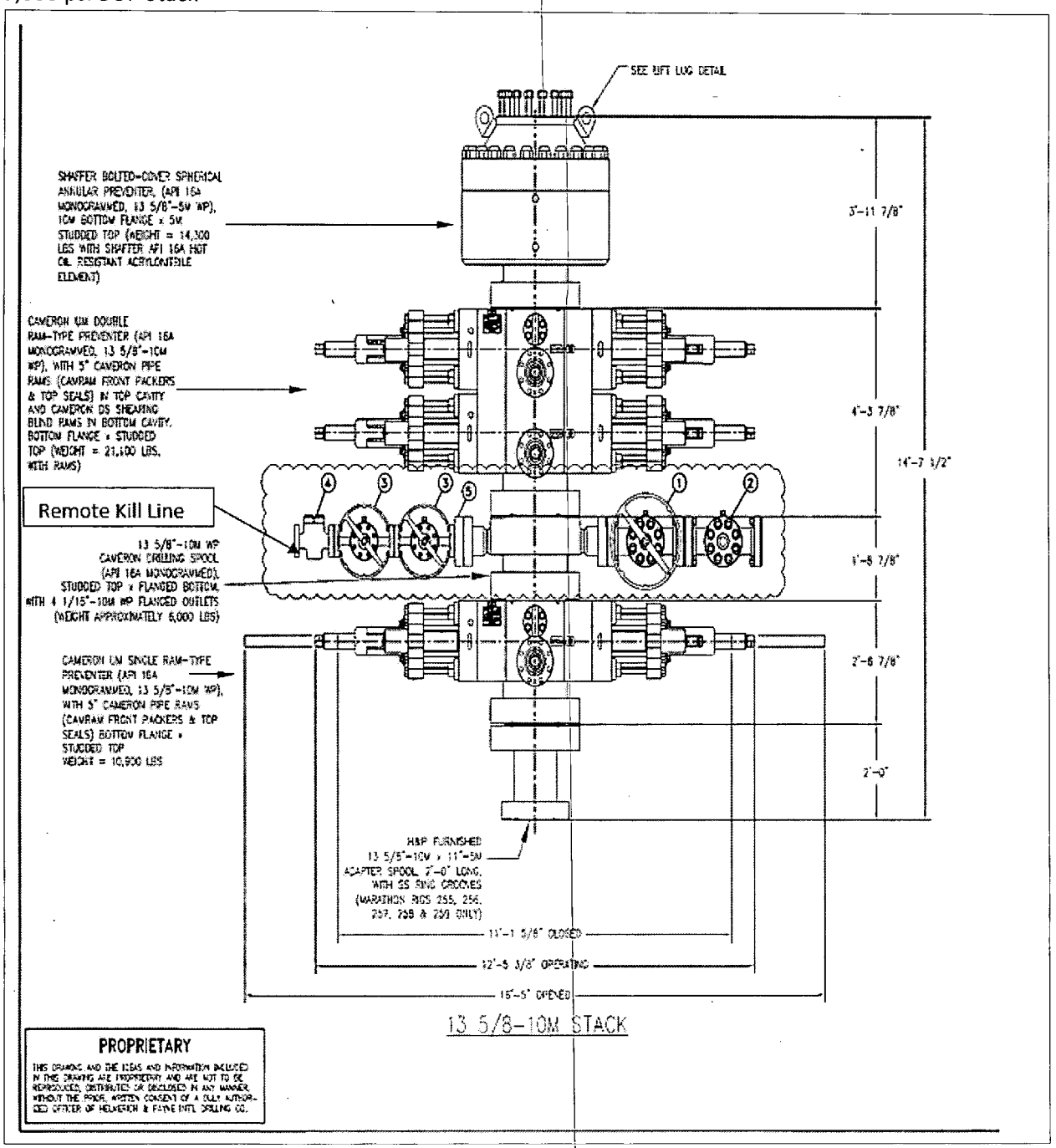
**Choke Manifold – Gas Separator (Top View)**




**Choke Manifold – Gas Separator (Side View)**

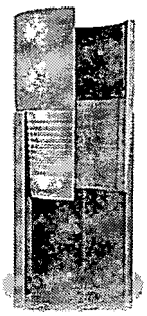


5,000 psi BOP Stack

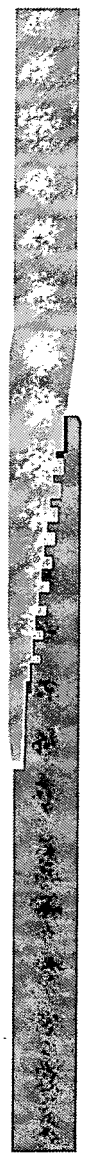


# Wedge 513®

Printed on: 01/30/2018



| | | | | | |
|---|---|---|---|---|---|
| **Outside Diameter** | **7.625** in. | **Min. Wall Thickness** | **87.5%** | **(*) Grade P110** | |
| **Wall Thickness** | **0.375** in. | **Connection OD Option** | **REGULAR** | **COUPLING** | **PIPE BODY** |
| **Grade** | **P110*** | **Drift** | **API Standard** | Body: **White**<br>1st Band: -<br>2nd Band: - | 1st Band: **White**<br>2nd Band: -<br>3rd Band: - |
| | | **Type** | **Casing** | 3rd Band: - | 4th Band: - |



| | | | | | |
|---|---|---|---|---|---|
| **GEOMETRY** | | | | | |
| Nominal OD | **7.625** in. | Nominal Weight | **29.70** lbs/ft | Drift | **6.75** in. |
| Nominal ID | **6.875** in. | Wall Thickness | **0.375** in. | Plain End Weight | **29.06** lbs/ft |
| OD Tolerance | **API** | | | | |
| **PERFORMANCE** | | | | | |
| Body Yield Strength | **940** x1000 lbs | Internal Yield | **9470** psi | SMYS | **110000** psi |
| Collapse | **5350** psi | | | | |
| **GEOMETRY** | | | | | |
| Connection OD | **7.625** in. | Connection ID | **6.800** in. | Make-up Loss | **4.420** in. |
| Threads per in | **3.29** | Connection OD Option | **REGULAR** | | |
| **PERFORMANCE** | | | | | |
| Tension Efficiency | **60.0** % | Joint Yield Strength | **564.000** x1000 lbs | Internal Pressure Capacity | **9470.000** psi |
| Compression Efficiency | **75.2** % | Compression Strength | **706.880** x1000 lbs | Max. Allowable Bending | **39.6** °/100 ft |
| External Pressure Capacity | **5350.000** psi | | | | |
| **MAKE-UP TORQUES** | | | | | |
| Minimum | **9000** ft-lbs | Optimum | **10800** ft-lbs | Maximum | **15800** ft-lbs |
| **OPERATION LIMIT TORQUES** | | | | | |
| Operating Torque | **47000** ft-lbs | Yield Torque | **70000** ft-lbs | | |

**Notes**

This connection is fully interchangeable with:

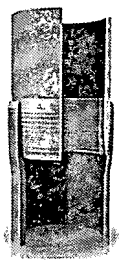
Wedge 523® - 7.625 in. - 29.7 lbs/ft

Connections with Dopeless® Technology are fully compatible with the same connection in its Standard version

For further information on concepts indicated in this datasheet, download the Datasheet Manual from www.tenaris.com

# Wedge 521®

Printed on: 05/22/2018



| | | | | | |
|---|---|---|---|---|---|
| **Outside Diameter** | **5.000** in. | **Min. Wall Thickness** | **87.5%** | **(*) Grade P110-IC** | |
| **Wall Thickness** | **0.362** in. | **Connection OD Option** | **REGULAR** | **COUPLING** | **PIPE BODY** |
| **Grade** | **P110-IC*** | **Drift** | **API Standard** | Body: **White**<br>1st Band: -<br>2nd Band: - | 1st Band: **White**<br>2nd Band: **Pale Green**<br>3rd Band: - |
| | | **Type** | **Casing** | 3rd Band: - | 4th Band: - |

| | | | | | |
|---|---|---|---|---|---|
| **GEOMETRY** | | | | | |
| Nominal OD | **5.000** in. | Nominal Weight | **18.00** lbs/ft | Drift | **4.151** in. |
| Nominal ID | **4.276** in. | Wall Thickness | **0.362** in. | Plain End Weight | **17.95** lbs/ft |
| OD Tolerance | **API** | | | | |
| **PERFORMANCE** | | | | | |
| Body Yield Strength | **580** x1000 lbs | Internal Yield | **13940** psi | SMYS | **110000** psi |
| Collapse | **14840** psi | | | | |
| **GEOMETRY** | | | | | |
| Connection OD | **5.359** in. | Connection ID | **4.226** in. | Make-up Loss | **3.620** in. |
| Threads per in | **3.36** | Connection OD Option | **REGULAR** | | |
| **PERFORMANCE** | | | | | |
| Tension Efficiency | **73.8** % | Joint Yield Strength | **428.040** x1000 lbs | Internal Pressure Capacity | **13940.000** psi |
| Compression Efficiency | **88.7** % | Compression Strength | **514.460** x1000 lbs | Max. Allowable Bending | **74.5** °/100 ft |
| External Pressure Capacity | **14840.000** psi | | | | |
| **MAKE-UP TORQUES** | | | | | |
| Minimum | **6100** ft-lbs | Optimum | **7300** ft-lbs | Maximum | **10700** ft-lbs |
| **OPERATION LIMIT TORQUES** | | | | | |
| Operating Torque | **17300** ft-lbs | Yield Torque | **26000** ft-lbs | | |

**Notes**

This connection is fully interchangeable with:

Wedge 521® - 5 in. - 13 / 15 lbs/ft

Connections with Dopeless® Technology are fully compatible with the same connection in its Standard version

For further information on concepts indicated in this datasheet, download the Datasheet Manual from www.tenaris.com

## Casing Design Assumptions

- Gas gravity 0.7
- Pore pressure gradient .468 psi/ft above the Wolfcamp, .676 psi/ft Wolfcamp and below
- .676 psi/ft fracture gradient above the Wolfcamp, .832 psi/ft Wolfcamp and below.
- 60°F average surface temperature and 1.5°/100ft temperature gradient
- Cementing loads based on slurries listed in Cement table, and post cement static loading
- Strings landed at neutral weight
- Gas kicks assumed at each casing shoe
- External pressure calculated with fluid gradients and pore pressure
- Production string load tested with completion fluid density and rate
- Tubing leak tested in production scenario

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- Production string load tested with completion fluid density and rate
- Tubing leak tested in production scenario

5.5”, 20#, P-110, TXP connection (modified buttress connection that provides a torque rating of nearly 24000ft-lbs)

TXP® BTC

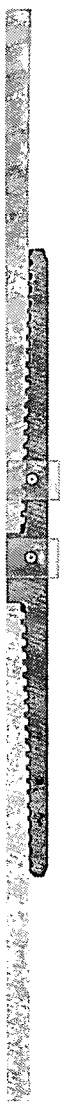
SHARE | EXPORT DATA | PRINT

| | | | |
|---|---|---|---|
| Outside Diameter | 5.500 in. | Min. Wall Thickness | 87.5% |
| Wall Thickness | 0.361 in. | Drift | API Standard |
| Grade | P110 | Type | Casing |
| | | Connection OD Option | REGULAR |

Clear Filters | Compare | Request Info

CONNECTION INFORMATION

- Blanking Dimensions
- Connection's Page
- Brochure
- Datasheet Manual



**PIPE BODY DATA**

**GEOMETRY**

| | | | | | |
|---|---|---|---|---|---|
| Nominal OD | 5.500 in. | Nominal Weight | 20 lbs/ft | Drift | 4.653 in. |
| Nominal ID | 4.778 in. | Wall Thickness | 0.361 in. | Plain End Weight | 19.83 lbs/ft |
| OD Tolerance | API | | | | |

**PERFORMANCE**

| | | | | | |
|---|---|---|---|---|---|
| Body Yield Strength | 641 x1000 lbs | Internal Yield | 12640 psi | SMYS | 110000 psi |
| Collapse | 11100 psi | | | | |

**CONNECTION DATA**

**GEOMETRY**

| | | | | | |
|---|---|---|---|---|---|
| Connection OD | 6.100 in. | Coupling Length | 9.450 in. | Connection ID | 4.766 in. |
| Make-up Loss | 4.204 in. | Threads per in | 5 | Connection OD Option | REGULAR |

**PERFORMANCE**

| | | | | | |
|---|---|---|---|---|---|
| Tension Efficiency | 100.0 % | Joint Yield Strength | 641.000 x1000 lbs | Internal Pressure Capacity [1] | 12640.000 psi |
| Compression Efficiency | 100 % | Compression Strength | 641.000 x1000 lbs | Max. Allowable Bending | 92 °/100 ft |
| External Pressure Capacity | 11100.000 psi | | | | |

**MAKE-UP TORQUES**

| | | | | | |
|---|---|---|---|---|---|
| Minimum | 11270 ft-lbs | Optimum | 12520 ft-lbs | Maximum | 13770 ft-lbs |

**OPERATION LIMIT TORQUES**

| | | | |
|---|---|---|---|
| Operating Torque | 21500 ft-lbs | Yield Torque | 23900 ft-lbs |

## Casing Design Assumptions

- Gas gravity 0.7
- Pore pressure gradient .468 psi/ft above the Wolfcamp, .676 psi/ft Wolfcamp and below
- .676 psi/ft fracture gradient above the Wolfcamp, .832 psi/ft Wolfcamp and below.
- 60°F average surface temperature and 1.5°/100ft temperature gradient
- Cementing loads based on slurries listed in Cement table, and post cement static loading
- Strings landed at neutral weight
- Gas kicks assumed at each casing shoe
- External pressure calculated with fluid gradients and pore pressure
- Production string load tested with completion fluid density and rate
- Tubing leak tested in production scenario

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

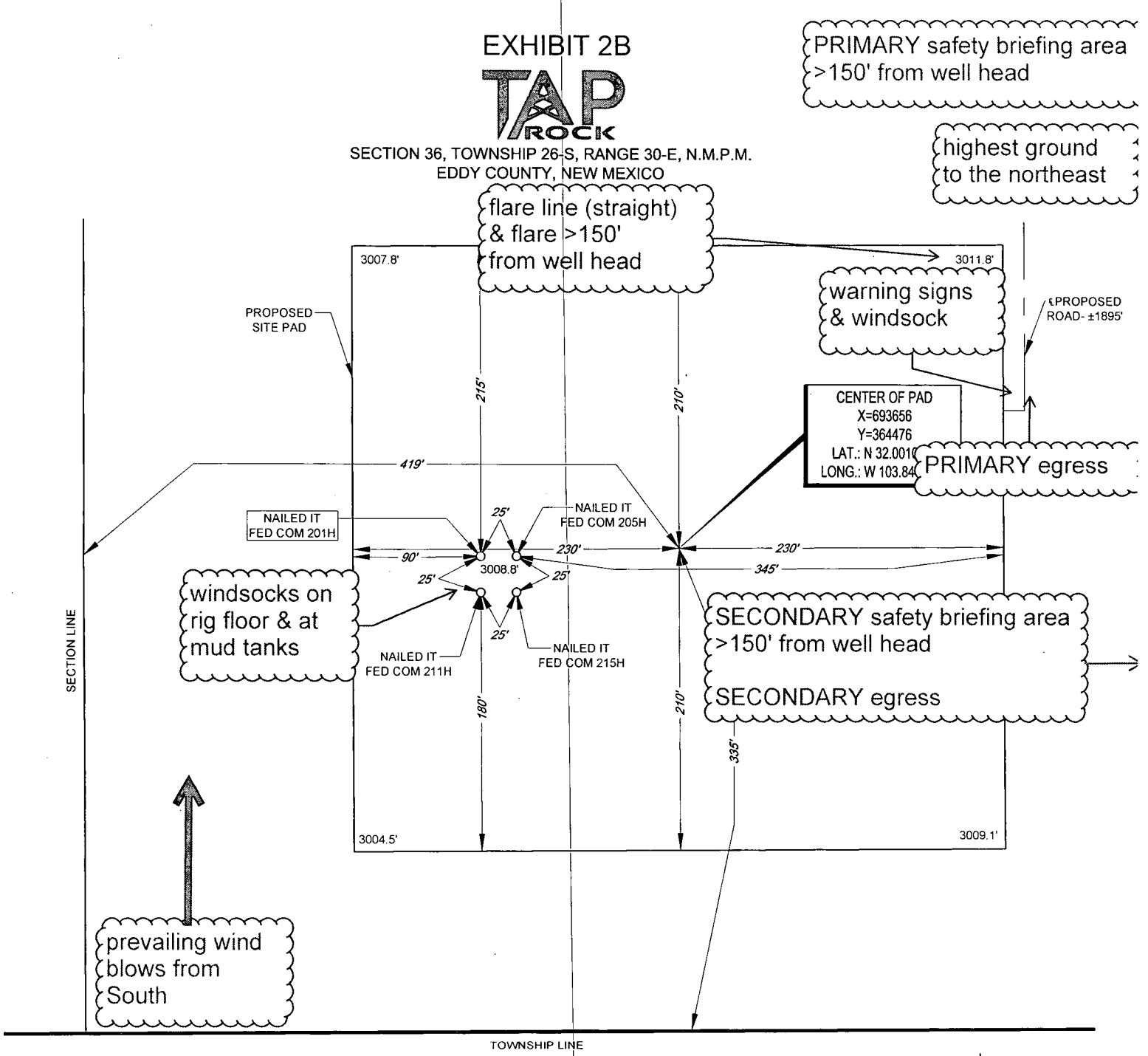
11 Emergency Contacts

| 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

TAP ROCK

SECTION 36, TOWNSHIP 26-S, RANGE 30-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO




LEASE NAME & WELL NO.: NAILED IT FED COM 201H

201H LATITUDE N 32.0010601 201H LONGITUDE W 103.8424129

CENTER OF PAD IS 335' FSL & 419' FWL

-N-

SCALE: 1" = 100'

0' 50' 100'

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

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

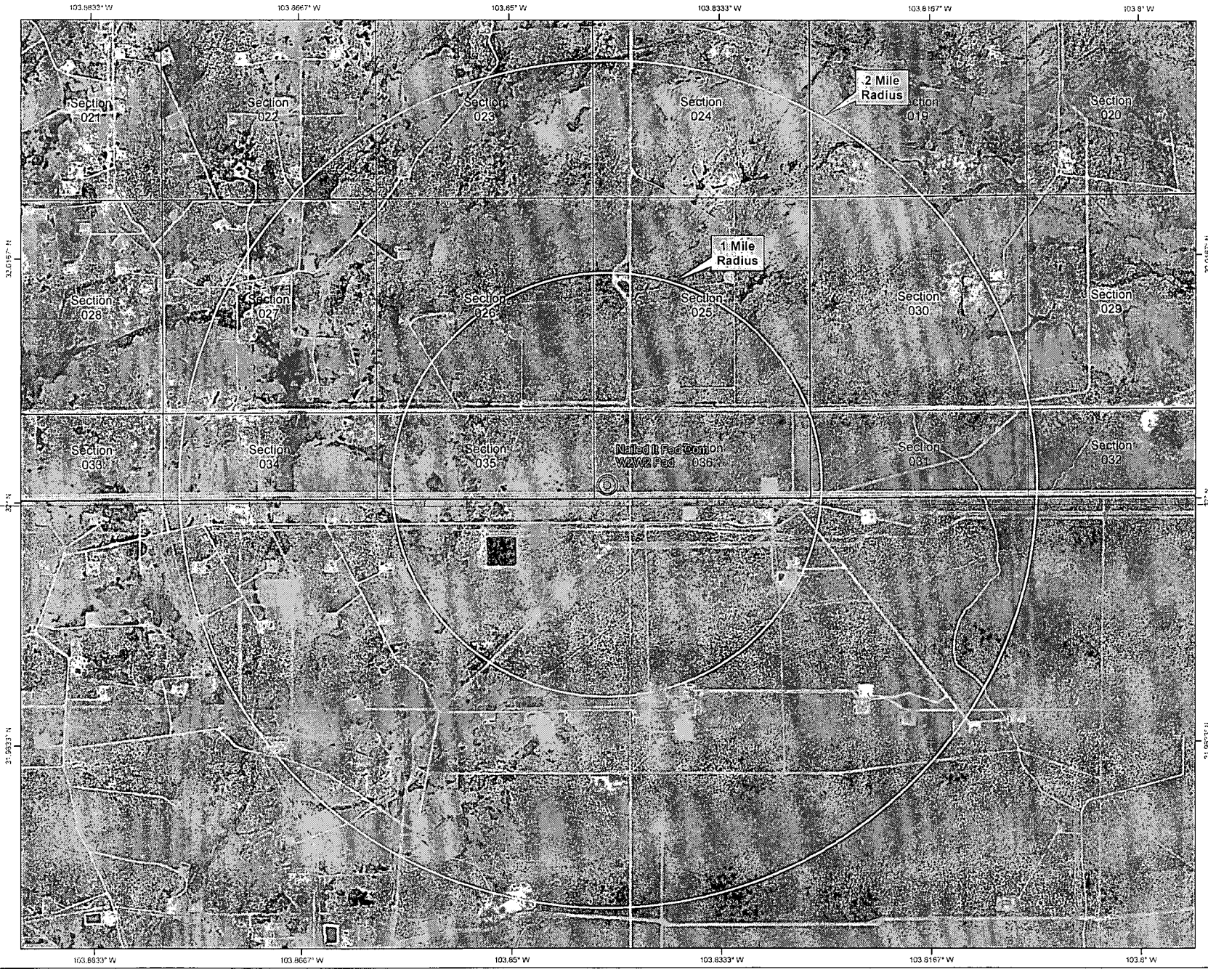

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM


ORIGINAL DOCUMENT SIZE: 8.5" X 11"

# Tap Rock Operating, LLC

**Nailed It Fed Com**
**W2W2 Pad**
**H2S Contingency Plan:**
**Radius Map**

Section 36, Township 26S, Range 30E
Eddy County, New Mexico




Center of Pad

1:27,000

0 0.25 0.5 1

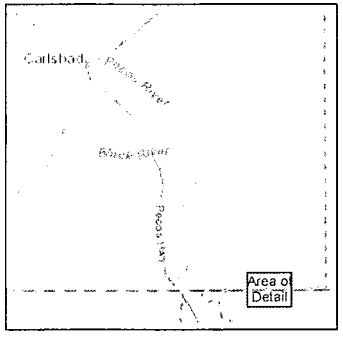
Miles

N

NAD 1983 New Mexico State Plane East
FIPS 3001 Feet

PERMITS WEST, Inc.

Prepared by Permits West, Inc., August 21, 2019
for Tap Rock Operating, LLC



TAP ROCK

Tap Rock Operating, LLC.
Project: Eddy County, NM (NAD83)
Site: Nailed It Fed Com
Well: 241H
Wellbore: OH
Plan: Plan #1 (241H/OH)

## WELL DETAILS: 241H

Ground Elevation:: 3007.0
RKB Elevation: WELL @ 3033.0usft (26' KB)
Rig Name: 26' KB

Surface Hole Location

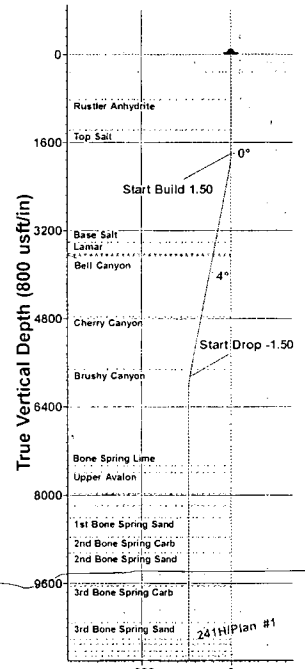
| Northing | Easting | Latitude | Longitude |
|---|---|---|---|
| 364446.21 | 693621.15 | 32° 0' 3.570 N | 103° 50' 31.467 W |

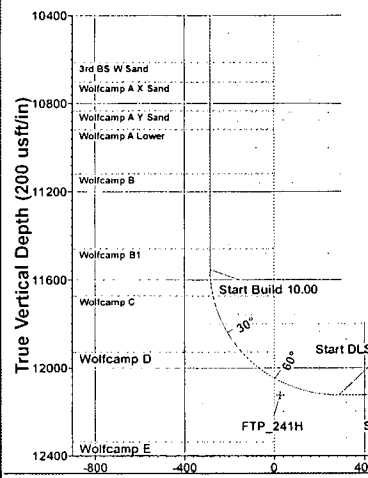

Azimuths to Grid North
True North: -0.26°
Magnetic North: 6.57°

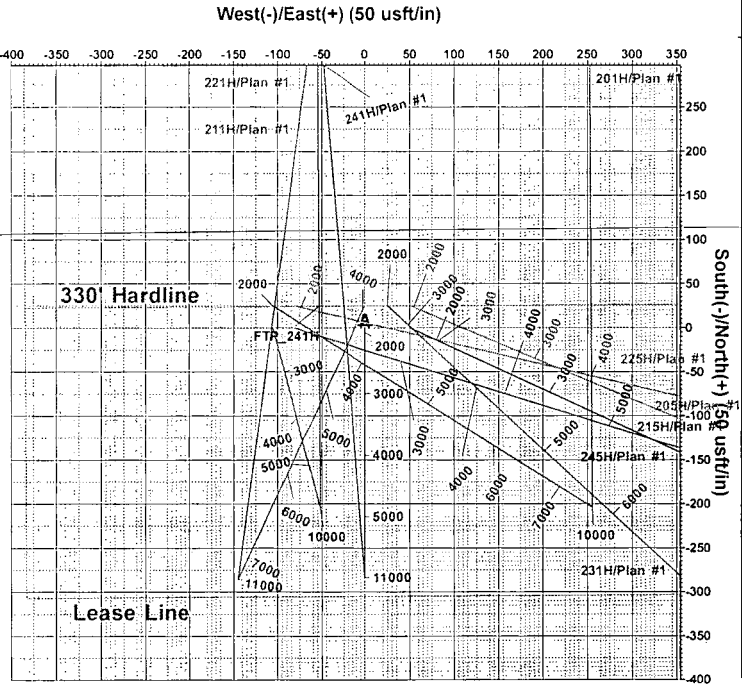
Magnetic Field
Strength: 47555.9snT
Dip Angle: 59.79°
Date: 8/25/2019
Model: IGRF2015

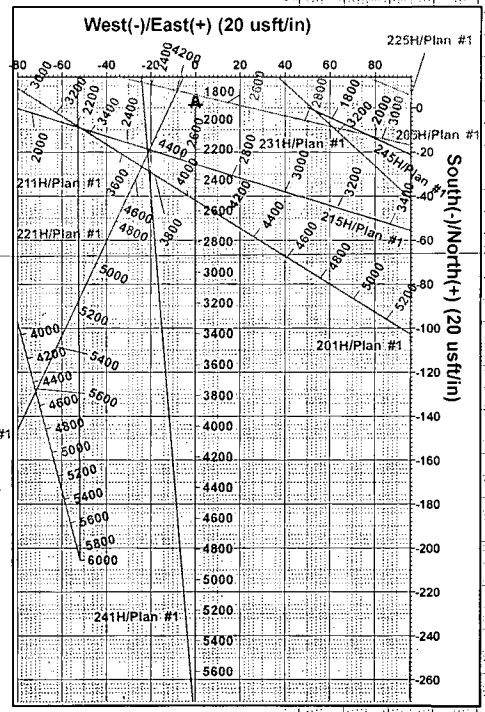
## Section Details

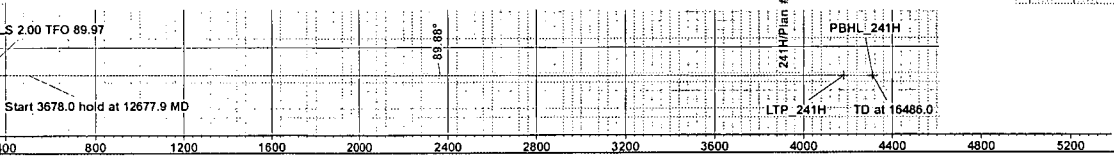
| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | DLeg | TFace | VSect | Target |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 2 | 1800.0 | 0.00 | 0.00 | 1800.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 3 | 2066.7 | 4.00 | 180.00 | 2066.5 | -9.3 | 0.0 | 1.50 | 180.00 | -9.3 | |
| 4 | 5866.7 | 4.00 | 180.00 | 5857.2 | -274.4 | 0.0 | 0.00 | 0.00 | -274.4 | |
| 5 | 6133.3 | 0.00 | 0.00 | 6123.6 | -283.7 | 0.0 | 1.50 | 180.00 | -283.7 | |
| 6 | 11561.7 | 0.00 | 0.00 | 11552.0 | -283.7 | 0.0 | 0.00 | 0.00 | -283.7 | |
| 7 | 12460.6 | 89.88 | 355.34 | 12125.0 | 286.2 | -46.5 | 10.00 | 355.34 | 286.5 | |
| 8 | 12677.9 | 89.88 | 359.69 | 12125.5 | 503.3 | -55.9 | 2.00 | 89.97 | 503.6 | |
| 9 | 16356.0 | 89.88 | 359.69 | 12133.0 | 4181.3 | -75.9 | 0.00 | 0.00 | 4181.7 | LTP_241H |
| 10 | 16486.0 | 89.88 | 359.69 | 12133.3 | 4311.3 | -76.7 | 0.00 | 0.00 | 4311.7 | PBHL_241H |







PROJECT DETAILS: Eddy County, NM (NAD83)
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level
Local North: Grid

Plan: Plan #1 (241H/OH)
Created By: Matt Higgins Date: 0:23, August 26 2019

# Tap Rock Operating, LLC.

**Eddy County, NM (NAD83)**
**Nailed It Fed Com**
**241H**

**OH**

**Plan: Plan #1**

# Standard Planning Report

**26 August, 2019**

| Project | Eddy County, NM (NAD83) | | |
|---|---|---|---|
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | New Mexico Eastern Zone | | |

| Site | Nailed It Fed Com | | | | |
|---|---|---|---|---|---|
| Site Position: | | Northing: | 364,471.20 usft | Latitude: | 32° 0' 3.817 N |
| From: | Lat/Long | Easting: | 693,621.04 usft | Longitude: | 103° 50' 31.467 W |
| Position Uncertainty: | 2.0 usft | Slot Radius: | 13-3/16 " | Grid Convergence: | 0.26 ° |

| Well | 241H | | | | | |
|---|---|---|---|---|---|---|
| Well Position | +N/-S | -25.0 usft | Northing: | 364,446.21 usft | Latitude: | 32° 0' 3.570 N |
| | +E/-W | 0.1 usft | Easting: | 693,621.15 usft | Longitude: | 103° 50' 31.467 W |
| Position Uncertainty | | 2.0 usft | Wellhead Elevation: | 0.0 usft | Ground Level: | 3,007.0 usft |

| Wellbore | OH | | | |
|---|---|---|---|---|
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2015 | 8/25/2019 | 6.83 | 59.79 | 47,556 |

| 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 | 359.69 |

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 | |
| 1,800.0 | 0.00 | 0.00 | 1,800.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2,066.7 | 4.00 | 180.00 | 2,066.5 | -9.3 | 0.0 | 1.50 | 1.50 | 0.00 | 180.00 | |
| 5,866.7 | 4.00 | 180.00 | 5,857.2 | -274.4 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 6,133.3 | 0.00 | 0.00 | 6,123.6 | -283.7 | 0.0 | 1.50 | -1.50 | 0.00 | 180.00 | |
| 11,561.7 | 0.00 | 0.00 | 11,552.0 | -283.7 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 12,460.6 | 89.88 | 355.34 | 12,125.0 | 286.2 | -46.5 | 10.00 | 10.00 | 0.00 | 355.34 | |
| 12,677.9 | 89.88 | 359.69 | 12,125.5 | 503.3 | -55.9 | 2.00 | 0.00 | 2.00 | 89.97 | |
| 16,356.0 | 89.88 | 359.69 | 12,133.0 | 4,181.3 | -75.9 | 0.00 | 0.00 | 0.00 | 0.00 | LTP_241H |
| 16,486.0 | 89.88 | 359.69 | 12,133.3 | 4,311.3 | -76.7 | 0.00 | 0.00 | 0.00 | 0.00 | PBHL_241H |

Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 100.0 | 0.00 | 0.00 | 100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 300.0 | 0.00 | 0.00 | 300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 400.0 | 0.00 | 0.00 | 400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 500.0 | 0.00 | 0.00 | 500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 600.0 | 0.00 | 0.00 | 600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 700.0 | 0.00 | 0.00 | 700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 800.0 | 0.00 | 0.00 | 800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 823.0 | 0.00 | 0.00 | 823.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| **Rustler Anhydrite** | | | | | | | | | |
| 900.0 | 0.00 | 0.00 | 900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,000.0 | 0.00 | 0.00 | 1,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,100.0 | 0.00 | 0.00 | 1,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,200.0 | 0.00 | 0.00 | 1,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,300.0 | 0.00 | 0.00 | 1,300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,373.0 | 0.00 | 0.00 | 1,373.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| **Top Salt** | | | | | | | | | |
| 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 |
| 1,600.0 | 0.00 | 0.00 | 1,600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,700.0 | 0.00 | 0.00 | 1,700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,800.0 | 0.00 | 0.00 | 1,800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| **Start Build 1.50** | | | | | | | | | |
| 1,900.0 | 1.50 | 180.00 | 1,900.0 | -1.3 | 0.0 | -1.3 | 1.50 | 1.50 | 0.00 |
| 2,000.0 | 3.00 | 180.00 | 1,999.9 | -5.2 | 0.0 | -5.2 | 1.50 | 1.50 | 0.00 |
| 2,066.7 | 4.00 | 180.00 | 2,066.5 | -9.3 | 0.0 | -9.3 | 1.50 | 1.50 | 0.00 |
| **Start 3800.0 hold at 2066.7 MD** | | | | | | | | | |
| 2,100.0 | 4.00 | 180.00 | 2,099.7 | -11.6 | 0.0 | -11.6 | 0.00 | 0.00 | 0.00 |
| 2,200.0 | 4.00 | 180.00 | 2,199.5 | -18.6 | 0.0 | -18.6 | 0.00 | 0.00 | 0.00 |
| 2,300.0 | 4.00 | 180.00 | 2,299.2 | -25.6 | 0.0 | -25.6 | 0.00 | 0.00 | 0.00 |
| 2,400.0 | 4.00 | 180.00 | 2,399.0 | -32.6 | 0.0 | -32.6 | 0.00 | 0.00 | 0.00 |
| 2,500.0 | 4.00 | 180.00 | 2,498.7 | -39.5 | 0.0 | -39.5 | 0.00 | 0.00 | 0.00 |
| 2,600.0 | 4.00 | 180.00 | 2,598.5 | -46.5 | 0.0 | -46.5 | 0.00 | 0.00 | 0.00 |
| 2,700.0 | 4.00 | 180.00 | 2,698.2 | -53.5 | 0.0 | -53.5 | 0.00 | 0.00 | 0.00 |
| 2,800.0 | 4.00 | 180.00 | 2,798.0 | -60.5 | 0.0 | -60.5 | 0.00 | 0.00 | 0.00 |
| 2,900.0 | 4.00 | 180.00 | 2,897.8 | -67.4 | 0.0 | -67.4 | 0.00 | 0.00 | 0.00 |
| 3,000.0 | 4.00 | 180.00 | 2,997.5 | -74.4 | 0.0 | -74.4 | 0.00 | 0.00 | 0.00 |
| 3,100.0 | 4.00 | 180.00 | 3,097.3 | -81.4 | 0.0 | -81.4 | 0.00 | 0.00 | 0.00 |
| 3,200.0 | 4.00 | 180.00 | 3,197.0 | -88.4 | 0.0 | -88.4 | 0.00 | 0.00 | 0.00 |
| 3,300.0 | 4.00 | 180.00 | 3,296.8 | -95.3 | 0.0 | -95.3 | 0.00 | 0.00 | 0.00 |
| 3,400.0 | 4.00 | 180.00 | 3,396.5 | -102.3 | 0.0 | -102.3 | 0.00 | 0.00 | 0.00 |
| 3,416.5 | 4.00 | 180.00 | 3,413.0 | -103.5 | 0.0 | -103.5 | 0.00 | 0.00 | 0.00 |
| **Base Salt** | | | | | | | | | |
| 3,500.0 | 4.00 | 180.00 | 3,496.3 | -109.3 | 0.0 | -109.3 | 0.00 | 0.00 | 0.00 |
| 3,600.0 | 4.00 | 180.00 | 3,596.0 | -116.3 | 0.0 | -116.3 | 0.00 | 0.00 | 0.00 |
| 3,622.0 | 4.00 | 180.00 | 3,618.0 | -117.8 | 0.0 | -117.8 | 0.00 | 0.00 | 0.00 |
| **Delaware Mountain Gp** | | | | | | | | | |
| 3,627.0 | 4.00 | 180.00 | 3,623.0 | -118.1 | 0.0 | -118.1 | 0.00 | 0.00 | 0.00 |
| **Lamar** | | | | | | | | | |
| 3,647.1 | 4.00 | 180.00 | 3,643.0 | -119.5 | 0.0 | -119.5 | 0.00 | 0.00 | 0.00 |
| **Bell Canyon** | | | | | | | | | |
| 3,662.1 | 4.00 | 180.00 | 3,658.0 | -120.6 | 0.0 | -120.6 | 0.00 | 0.00 | 0.00 |
| **Ramsey Sand** | | | | | | | | | |
| 3,700.0 | 4.00 | 180.00 | 3,695.8 | -123.2 | 0.0 | -123.2 | 0.00 | 0.00 | 0.00 |
| 3,800.0 | 4.00 | 180.00 | 3,795.6 | -130.2 | 0.0 | -130.2 | 0.00 | 0.00 | 0.00 |
| 3,900.0 | 4.00 | 180.00 | 3,895.3 | -137.2 | 0.0 | -137.2 | 0.00 | 0.00 | 0.00 |
| 4,000.0 | 4.00 | 180.00 | 3,995.1 | -144.2 | 0.0 | -144.2 | 0.00 | 0.00 | 0.00 |
| 4,100.0 | 4.00 | 180.00 | 4,094.8 | -151.1 | 0.0 | -151.1 | 0.00 | 0.00 | 0.00 |
| 4,200.0 | 4.00 | 180.00 | 4,194.6 | -158.1 | 0.0 | -158.1 | 0.00 | 0.00 | 0.00 |
| 4,300.0 | 4.00 | 180.00 | 4,294.3 | -165.1 | 0.0 | -165.1 | 0.00 | 0.00 | 0.00 |
| 4,400.0 | 4.00 | 180.00 | 4,394.1 | -172.1 | 0.0 | -172.1 | 0.00 | 0.00 | 0.00 |
| 4,500.0 | 4.00 | 180.00 | 4,493.9 | -179.0 | 0.0 | -179.0 | 0.00 | 0.00 | 0.00 |
| 4,600.0 | 4.00 | 180.00 | 4,593.6 | -186.0 | 0.0 | -186.0 | 0.00 | 0.00 | 0.00 |
| 4,700.0 | 4.00 | 180.00 | 4,693.4 | -193.0 | 0.0 | -193.0 | 0.00 | 0.00 | 0.00 |
| 4,769.8 | 4.00 | 180.00 | 4,763.0 | -197.9 | 0.0 | -197.9 | 0.00 | 0.00 | 0.00 |

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) |
|---|---|---|---|---|---|---|---|---|---|
| **Cherry Canyon** | | | | | | | | | |
| 4,800.0 | 4.00 | 180.00 | 4,793.1 | -200.0 | 0.0 | -200.0 | 0.00 | 0.00 | 0.00 |
| 4,900.0 | 4.00 | 180.00 | 4,892.9 | -206.9 | 0.0 | -206.9 | 0.00 | 0.00 | 0.00 |
| 5,000.0 | 4.00 | 180.00 | 4,992.6 | -213.9 | 0.0 | -213.9 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 4.00 | 180.00 | 5,092.4 | -220.9 | 0.0 | -220.9 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 4.00 | 180.00 | 5,192.2 | -227.9 | 0.0 | -227.9 | 0.00 | 0.00 | 0.00 |
| 5,300.0 | 4.00 | 180.00 | 5,291.9 | -234.9 | 0.0 | -234.8 | 0.00 | 0.00 | 0.00 |
| 5,400.0 | 4.00 | 180.00 | 5,391.7 | -241.8 | 0.0 | -241.8 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 4.00 | 180.00 | 5,491.4 | -248.8 | 0.0 | -248.8 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 4.00 | 180.00 | 5,591.2 | -255.8 | 0.0 | -255.8 | 0.00 | 0.00 | 0.00 |
| 5,700.0 | 4.00 | 180.00 | 5,690.9 | -262.8 | 0.0 | -262.7 | 0.00 | 0.00 | 0.00 |
| 5,727.1 | 4.00 | 180.00 | 5,718.0 | -264.6 | 0.0 | -264.6 | 0.00 | 0.00 | 0.00 |
| **Brushy Canyon** | | | | | | | | | |
| 5,800.0 | 4.00 | 180.00 | 5,790.7 | -269.7 | 0.0 | -269.7 | 0.00 | 0.00 | 0.00 |
| 5,866.7 | 4.00 | 180.00 | 5,857.2 | -274.4 | 0.0 | -274.4 | 0.00 | 0.00 | 0.00 |
| **Start Drop -1.50** | | | | | | | | | |
| 5,900.0 | 3.50 | 180.00 | 5,890.5 | -276.6 | 0.0 | -276.6 | 1.50 | -1.50 | 0.00 |
| 6,000.0 | 2.00 | 180.00 | 5,990.3 | -281.4 | 0.0 | -281.4 | 1.50 | -1.50 | 0.00 |
| 6,100.0 | 0.50 | 180.00 | 6,090.3 | -283.5 | 0.0 | -283.5 | 1.50 | -1.50 | 0.00 |
| 6,133.3 | 0.00 | 0.00 | 6,123.6 | -283.7 | 0.0 | -283.7 | 1.50 | -1.50 | 0.00 |
| **Start 5428.4 hold at 6133.3 MD** | | | | | | | | | |
| 6,200.0 | 0.00 | 0.00 | 6,190.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 6,300.0 | 0.00 | 0.00 | 6,290.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 6,400.0 | 0.00 | 0.00 | 6,390.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 6,500.0 | 0.00 | 0.00 | 6,490.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 6,600.0 | 0.00 | 0.00 | 6,590.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 6,700.0 | 0.00 | 0.00 | 6,690.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 6,800.0 | 0.00 | 0.00 | 6,790.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 6,900.0 | 0.00 | 0.00 | 6,890.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 7,000.0 | 0.00 | 0.00 | 6,990.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 7,100.0 | 0.00 | 0.00 | 7,090.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 7,200.0 | 0.00 | 0.00 | 7,190.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 7,300.0 | 0.00 | 0.00 | 7,290.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 0.00 | 0.00 | 7,390.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 7,472.7 | 0.00 | 0.00 | 7,463.0 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| **Bone Spring Lime** | | | | | | | | | |
| 7,500.0 | 0.00 | 0.00 | 7,490.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 7,592.7 | 0.00 | 0.00 | 7,583.0 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| **Upper Avalon** | | | | | | | | | |
| 7,600.0 | 0.00 | 0.00 | 7,590.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 7,700.0 | 0.00 | 0.00 | 7,690.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 7,800.0 | 0.00 | 0.00 | 7,790.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 7,900.0 | 0.00 | 0.00 | 7,890.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 7,977.7 | 0.00 | 0.00 | 7,968.0 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| **Middle Avalon** | | | | | | | | | |
| 8,000.0 | 0.00 | 0.00 | 7,990.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 8,100.0 | 0.00 | 0.00 | 8,090.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 8,200.0 | 0.00 | 0.00 | 8,190.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 8,202.7 | 0.00 | 0.00 | 8,193.0 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| **Lower Avalon** | | | | | | | | | |
| 8,300.0 | 0.00 | 0.00 | 8,290.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 8,400.0 | 0.00 | 0.00 | 8,390.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 8,417.7 | 0.00 | 0.00 | 8,408.0 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| **1st Bone Spring Sand** | | | | | | | | | |
| 8,500.0 | 0.00 | 0.00 | 8,490.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 8,600.0 | 0.00 | 0.00 | 8,590.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 8,700.0 | 0.00 | 0.00 | 8,690.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 8,767.7 | 0.00 | 0.00 | 8,758.0 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| **2nd Bone Spring Carb** | | | | | | | | | |
| 8,800.0 | 0.00 | 0.00 | 8,790.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 8,900.0 | 0.00 | 0.00 | 8,890.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 9,000.0 | 0.00 | 0.00 | 8,990.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 9,052.7 | 0.00 | 0.00 | 9,043.0 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| **2nd Bone Spring Sand** | | | | | | | | | |
| 9,100.0 | 0.00 | 0.00 | 9,090.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |

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) |
|---|---|---|---|---|---|---|---|---|---|
| 9,200.0 | 0.00 | 0.00 | 9,190.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 9,300.0 | 0.00 | 0.00 | 9,290.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 9,400.0 | 0.00 | 0.00 | 9,390.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 9,500.0 | 0.00 | 0.00 | 9,490.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 9,600.0 | 0.00 | 0.00 | 9,590.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 9,652.7 | 0.00 | 0.00 | 9,643.0 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| **3rd Bone Spring Carb** | | | | | | | | | |
| 9,700.0 | 0.00 | 0.00 | 9,690.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 9,800.0 | 0.00 | 0.00 | 9,790.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 9,900.0 | 0.00 | 0.00 | 9,890.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 10,000.0 | 0.00 | 0.00 | 9,990.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 10,100.0 | 0.00 | 0.00 | 10,090.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 10,200.0 | 0.00 | 0.00 | 10,190.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 10,300.0 | 0.00 | 0.00 | 10,290.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 10,322.7 | 0.00 | 0.00 | 10,313.0 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| **3rd Bone Spring Sand** | | | | | | | | | |
| 10,400.0 | 0.00 | 0.00 | 10,390.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 10,500.0 | 0.00 | 0.00 | 10,490.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 10,600.0 | 0.00 | 0.00 | 10,590.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 10,622.7 | 0.00 | 0.00 | 10,613.0 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| **3rd BS W Sand** | | | | | | | | | |
| 10,700.0 | 0.00 | 0.00 | 10,690.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 10,712.7 | 0.00 | 0.00 | 10,703.0 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| **Wolfcamp A X Sand** | | | | | | | | | |
| 10,800.0 | 0.00 | 0.00 | 10,790.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 10,842.7 | 0.00 | 0.00 | 10,833.0 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| **Wolfcamp A Y Sand** | | | | | | | | | |
| 10,900.0 | 0.00 | 0.00 | 10,890.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 10,927.7 | 0.00 | 0.00 | 10,918.0 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| **Wolfcamp A Lower** | | | | | | | | | |
| 11,000.0 | 0.00 | 0.00 | 10,990.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 11,100.0 | 0.00 | 0.00 | 11,090.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 11,127.7 | 0.00 | 0.00 | 11,118.0 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| **Wolfcamp B** | | | | | | | | | |
| 11,200.0 | 0.00 | 0.00 | 11,190.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 11,300.0 | 0.00 | 0.00 | 11,290.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 11,400.0 | 0.00 | 0.00 | 11,390.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 11,467.7 | 0.00 | 0.00 | 11,458.0 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| **Wolfcamp B1** | | | | | | | | | |
| 11,500.0 | 0.00 | 0.00 | 11,490.3 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| 11,561.7 | 0.00 | 0.00 | 11,552.0 | -283.7 | 0.0 | -283.7 | 0.00 | 0.00 | 0.00 |
| **Start Build 10.00** | | | | | | | | | |
| 11,600.0 | 3.83 | 355.34 | 11,590.3 | -282.4 | -0.1 | -282.4 | 10.00 | 10.00 | 0.00 |
| 11,650.0 | 8.83 | 355.34 | 11,640.0 | -276.9 | -0.6 | -276.9 | 10.00 | 10.00 | 0.00 |
| 11,683.6 | 12.19 | 355.34 | 11,673.0 | -270.8 | -1.0 | -270.8 | 10.00 | 10.00 | 0.00 |
| **Wolfcamp C** | | | | | | | | | |
| 11,700.0 | 13.83 | 355.34 | 11,689.0 | -267.1 | -1.3 | -267.1 | 10.00 | 10.00 | 0.00 |
| 11,750.0 | 18.83 | 355.34 | 11,736.9 | -253.1 | -2.5 | -253.1 | 10.00 | 10.00 | 0.00 |
| 11,800.0 | 23.83 | 355.34 | 11,783.5 | -235.0 | -4.0 | -235.0 | 10.00 | 10.00 | 0.00 |
| 11,850.0 | 28.83 | 355.34 | 11,828.3 | -212.9 | -5.8 | -212.9 | 10.00 | 10.00 | 0.00 |
| 11,900.0 | 33.83 | 355.34 | 11,871.0 | -187.0 | -7.9 | -187.0 | 10.00 | 10.00 | 0.00 |
| 11,950.0 | 38.83 | 355.34 | 11,911.3 | -157.5 | -10.3 | -157.4 | 10.00 | 10.00 | 0.00 |
| 11,971.8 | 41.01 | 355.34 | 11,928.0 | -143.5 | -11.4 | -143.5 | 10.00 | 10.00 | 0.00 |
| **Wolfcamp D** | | | | | | | | | |
| 12,000.0 | 43.83 | 355.34 | 11,948.8 | -124.6 | -13.0 | -124.5 | 10.00 | 10.00 | 0.00 |
| 12,050.0 | 48.83 | 355.34 | 11,983.3 | -88.6 | -15.9 | -88.5 | 10.00 | 10.00 | 0.00 |
| 12,100.0 | 53.83 | 355.34 | 12,014.5 | -49.7 | -19.1 | -49.6 | 10.00 | 10.00 | 0.00 |
| 12,150.0 | 58.83 | 355.34 | 12,042.3 | -8.2 | -22.5 | -8.1 | 10.00 | 10.00 | 0.00 |
| 12,200.0 | 63.83 | 355.34 | 12,066.2 | 35.5 | -26.0 | 35.7 | 10.00 | 10.00 | 0.00 |
| 12,250.0 | 68.83 | 355.34 | 12,086.3 | 81.1 | -29.7 | 81.3 | 10.00 | 10.00 | 0.00 |
| 12,300.0 | 73.83 | 355.34 | 12,102.3 | 128.3 | -33.6 | 128.5 | 10.00 | 10.00 | 0.00 |
| 12,350.0 | 78.83 | 355.34 | 12,114.1 | 176.7 | -37.5 | 176.9 | 10.00 | 10.00 | 0.00 |
| 12,400.0 | 83.82 | 355.34 | 12,121.7 | 226.0 | -41.5 | 226.2 | 10.00 | 10.00 | 0.00 |
| 12,450.0 | 88.82 | 355.34 | 12,124.9 | 275.7 | -45.6 | 275.9 | 10.00 | 10.00 | 0.00 |
| 12,460.6 | 89.88 | 355.34 | 12,125.0 | 286.2 | -46.5 | 286.5 | 10.00 | 10.00 | 0.00 |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| **Start DLS 2.00 TFO 89.97** | | | | | | | | | |
| 12,500.0 | 89.88 | 356.13 | 12,125.1 | 325.6 | -49.4 | 325.8 | 2.00 | 0.00 | 2.00 |
| 12,600.0 | 89.88 | 358.13 | 12,125.3 | 425.4 | -54.4 | 425.7 | 2.00 | 0.00 | 2.00 |
| 12,677.9 | 89.88 | 359.69 | 12,125.5 | 503.3 | -55.9 | 503.6 | 2.00 | 0.00 | 2.00 |
| **Start 3678.0 hold at 12677.9 MD** | | | | | | | | | |
| 12,700.0 | 89.88 | 359.69 | 12,125.5 | 525.4 | -56.0 | 525.7 | 0.00 | 0.00 | 0.00 |
| 12,800.0 | 89.88 | 359.69 | 12,125.7 | 625.4 | -56.5 | 625.7 | 0.00 | 0.00 | 0.00 |
| 12,900.0 | 89.88 | 359.69 | 12,125.9 | 725.4 | -57.1 | 725.7 | 0.00 | 0.00 | 0.00 |
| 13,000.0 | 89.88 | 359.69 | 12,126.1 | 825.4 | -57.6 | 825.7 | 0.00 | 0.00 | 0.00 |
| 13,100.0 | 89.88 | 359.69 | 12,126.3 | 925.4 | -58.2 | 925.7 | 0.00 | 0.00 | 0.00 |
| 13,200.0 | 89.88 | 359.69 | 12,126.5 | 1,025.4 | -58.7 | 1,025.7 | 0.00 | 0.00 | 0.00 |
| 13,300.0 | 89.88 | 359.69 | 12,126.7 | 1,125.4 | -59.3 | 1,125.7 | 0.00 | 0.00 | 0.00 |
| 13,400.0 | 89.88 | 359.69 | 12,126.9 | 1,225.4 | -59.8 | 1,225.7 | 0.00 | 0.00 | 0.00 |
| 13,500.0 | 89.88 | 359.69 | 12,127.1 | 1,325.4 | -60.4 | 1,325.7 | 0.00 | 0.00 | 0.00 |
| 13,600.0 | 89.88 | 359.69 | 12,127.3 | 1,425.4 | -60.9 | 1,425.7 | 0.00 | 0.00 | 0.00 |
| 13,700.0 | 89.88 | 359.69 | 12,127.5 | 1,525.4 | -61.5 | 1,525.7 | 0.00 | 0.00 | 0.00 |
| 13,800.0 | 89.88 | 359.69 | 12,127.8 | 1,625.4 | -62.0 | 1,625.7 | 0.00 | 0.00 | 0.00 |
| 13,900.0 | 89.88 | 359.69 | 12,128.0 | 1,725.4 | -62.5 | 1,725.7 | 0.00 | 0.00 | 0.00 |
| 14,000.0 | 89.88 | 359.69 | 12,128.2 | 1,825.4 | -63.1 | 1,825.7 | 0.00 | 0.00 | 0.00 |
| 14,100.0 | 89.88 | 359.69 | 12,128.4 | 1,925.4 | -63.6 | 1,925.7 | 0.00 | 0.00 | 0.00 |
| 14,200.0 | 89.88 | 359.69 | 12,128.6 | 2,025.4 | -64.2 | 2,025.7 | 0.00 | 0.00 | 0.00 |
| 14,300.0 | 89.88 | 359.69 | 12,128.8 | 2,125.4 | -64.7 | 2,125.7 | 0.00 | 0.00 | 0.00 |
| 14,400.0 | 89.88 | 359.69 | 12,129.0 | 2,225.4 | -65.3 | 2,225.7 | 0.00 | 0.00 | 0.00 |
| 14,500.0 | 89.88 | 359.69 | 12,129.2 | 2,325.4 | -65.8 | 2,325.7 | 0.00 | 0.00 | 0.00 |
| 14,600.0 | 89.88 | 359.69 | 12,129.4 | 2,425.4 | -66.4 | 2,425.7 | 0.00 | 0.00 | 0.00 |
| 14,700.0 | 89.88 | 359.69 | 12,129.6 | 2,525.4 | -66.9 | 2,525.7 | 0.00 | 0.00 | 0.00 |
| 14,800.0 | 89.88 | 359.69 | 12,129.8 | 2,625.4 | -67.5 | 2,625.7 | 0.00 | 0.00 | 0.00 |
| 14,900.0 | 89.88 | 359.69 | 12,130.0 | 2,725.4 | -68.0 | 2,725.7 | 0.00 | 0.00 | 0.00 |
| 15,000.0 | 89.88 | 359.69 | 12,130.2 | 2,825.4 | -68.5 | 2,825.7 | 0.00 | 0.00 | 0.00 |
| 15,100.0 | 89.88 | 359.69 | 12,130.4 | 2,925.4 | -69.1 | 2,925.7 | 0.00 | 0.00 | 0.00 |
| 15,200.0 | 89.88 | 359.69 | 12,130.6 | 3,025.4 | -69.6 | 3,025.7 | 0.00 | 0.00 | 0.00 |
| 15,300.0 | 89.88 | 359.69 | 12,130.8 | 3,125.4 | -70.2 | 3,125.7 | 0.00 | 0.00 | 0.00 |
| 15,400.0 | 89.88 | 359.69 | 12,131.0 | 3,225.4 | -70.7 | 3,225.7 | 0.00 | 0.00 | 0.00 |
| 15,500.0 | 89.88 | 359.69 | 12,131.2 | 3,325.4 | -71.3 | 3,325.7 | 0.00 | 0.00 | 0.00 |
| 15,600.0 | 89.88 | 359.69 | 12,131.4 | 3,425.4 | -71.8 | 3,425.7 | 0.00 | 0.00 | 0.00 |
| 15,700.0 | 89.88 | 359.69 | 12,131.7 | 3,525.4 | -72.4 | 3,525.7 | 0.00 | 0.00 | 0.00 |
| 15,800.0 | 89.88 | 359.69 | 12,131.9 | 3,625.4 | -72.9 | 3,625.7 | 0.00 | 0.00 | 0.00 |
| 15,900.0 | 89.88 | 359.69 | 12,132.1 | 3,725.4 | -73.5 | 3,725.7 | 0.00 | 0.00 | 0.00 |
| 16,000.0 | 89.88 | 359.69 | 12,132.3 | 3,825.4 | -74.0 | 3,825.7 | 0.00 | 0.00 | 0.00 |
| 16,100.0 | 89.88 | 359.69 | 12,132.5 | 3,925.4 | -74.5 | 3,925.7 | 0.00 | 0.00 | 0.00 |
| 16,200.0 | 89.88 | 359.69 | 12,132.7 | 4,025.4 | -75.1 | 4,025.7 | 0.00 | 0.00 | 0.00 |
| 16,300.0 | 89.88 | 359.69 | 12,132.9 | 4,125.4 | -75.6 | 4,125.7 | 0.00 | 0.00 | 0.00 |
| 16,356.0 | 89.88 | 359.69 | 12,133.0 | 4,181.3 | -75.9 | 4,181.7 | 0.00 | 0.00 | 0.00 |
| **Start 130.0 hold at 16356.0 MD** | | | | | | | | | |
| 16,400.0 | 89.88 | 359.69 | 12,133.1 | 4,225.3 | -76.2 | 4,225.7 | 0.00 | 0.00 | 0.00 |
| 16,486.0 | 89.88 | 359.69 | 12,133.3 | 4,311.3 | -76.7 | 4,311.7 | 0.00 | 0.00 | 0.00 |
| **TD at 16486.0** | | | | | | | | | |

**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 |
|---|---|---|---|---|---|---|---|---|---|
| FTP_241H | 0.00 | 0.00 | 12,125.0 | 24.7 | -53.5 | 364,470.93 | 693,567.66 | 32° 0' 3.817 N | 103° 50' 32.087 W |
| - plan misses target center by 63.4usft at 12215.8usft MD (12073.0 TVD, 49.7 N, -27.2 E) | | | | | | | | | |
| - Point | | | | | | | | | |
| LTP_241H | 0.00 | 0.00 | 12,133.0 | 4,181.3 | -75.9 | 368,627.54 | 693,545.21 | 32° 0' 44.952 N | 103° 50' 32.128 W |
| - plan hits target center | | | | | | | | | |
| - Point | | | | | | | | | |
| PBHL_241H | 0.00 | 0.00 | 12,133.3 | 4,311.3 | -76.7 | 368,757.55 | 693,544.43 | 32° 0' 46.238 N | 103° 50' 32.131 W |
| - plan misses target center by 0.1usft at 16486.0usft MD (12133.3 TVD, 4311.3 N, -76.7 E) | | | | | | | | | |
| - Point | | | | | | | | | |

## Formations

| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|---|---|---|---|---|---|
| 823.0 | 823.0 | Rustler Anhydrite | | | |
| 1,373.0 | 1,373.0 | Top Salt | | | |
| 3,416.5 | 3,413.0 | Base Salt | | | |
| 3,622.0 | 3,618.0 | Delaware Mountain Gp | | | |
| 3,627.0 | 3,623.0 | Lamar | | | |
| 3,647.1 | 3,643.0 | Bell Canyon | | | |
| 3,662.1 | 3,658.0 | Ramsey Sand | | | |
| 4,769.8 | 4,763.0 | Cherry Canyon | | | |
| 5,727.1 | 5,718.0 | Brushy Canyon | | | |
| 7,472.7 | 7,463.0 | Bone Spring Lime | | | |
| 7,592.7 | 7,583.0 | Upper Avalon | | | |
| 7,977.7 | 7,968.0 | Middle Avalon | | | |
| 8,202.7 | 8,193.0 | Lower Avalon | | | |
| 8,417.7 | 8,408.0 | 1st Bone Spring Sand | | | |
| 8,767.7 | 8,758.0 | 2nd Bone Spring Carb | | | |
| 9,052.7 | 9,043.0 | 2nd Bone Spring Sand | | | |
| 9,652.7 | 9,643.0 | 3rd Bone Spring Carb | | | |
| 10,322.7 | 10,313.0 | 3rd Bone Spring Sand | | | |
| 10,622.7 | 10,613.0 | 3rd BS W Sand | | | |
| 10,712.7 | 10,703.0 | Wolfcamp A X Sand | | | |
| 10,842.7 | 10,833.0 | Wolfcamp A Y Sand | | | |
| 10,927.7 | 10,918.0 | Wolfcamp A Lower | | | |
| 11,127.7 | 11,118.0 | Wolfcamp B | | | |
| 11,467.7 | 11,458.0 | Wolfcamp B1 | | | |
| 11,683.6 | 11,673.0 | Wolfcamp C | | | |
| 11,971.8 | 11,928.0 | Wolfcamp D | | | |

## Plan Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates +N/-S (usft) | Local Coordinates +E/-W (usft) | Comment |
|---|---|---|---|---|
| 1,800.0 | 1,800.0 | 0.0 | 0.0 | Start Build 1.50 |
| 2,066.7 | 2,066.5 | -9.3 | 0.0 | Start 3800.0 hold at 2066.7 MD |
| 5,866.7 | 5,857.2 | -274.4 | 0.0 | Start Drop -1.50 |
| 6,133.3 | 6,123.6 | -283.7 | 0.0 | Start 5428.4 hold at 6133.3 MD |
| 11,561.7 | 11,552.0 | -283.7 | 0.0 | Start Build 10.00 |
| 12,460.6 | 12,125.0 | 286.2 | -46.5 | Start DLS 2.00 TFO 89.97 |
| 12,677.9 | 12,125.5 | 503.3 | -55.9 | Start 3678.0 hold at 12677.9 MD |
| 16,356.0 | 12,133.0 | 4,181.3 | -75.9 | Start 130.0 hold at 16356.0 MD |
| 16,486.0 | 12,133.3 | 4,311.3 | -76.7 | TD at 16486.0 |

# Hydrostatic Test Certificate

ContiTech

| Certificate Number | COM Order Reference | Customer Name & Address |
|---|---|---|
| 938562 | 938562 | HELMERICH & PAYNE DRILLING CO<br>1434 SOUTH BOULDER AVE<br>TULSA, OK 74119<br>USA |
| **Customer Purchase Order No:** | 740043386 | |
| **Project:** | HOW | |

| Test Center Address | Accepted by COM Inspection | Accepted by Client Inspection |
|---|---|---|
| ContiTech Oil & Marine Corp.<br>11535 Brittmoore Park Drive<br>Houston, TX 77041<br>USA | Signed: Roger Suarez<br>Date: 3/13/17 | |

We certify that the goods detailed hereon have been inspected as described below by our Quality Management System, and to the best of our knowledge are found to conform the requirements of the above referenced purchase order as issued to ContiTech Oil & Marine Corporation.

| Item | Part No. | Description | Qnty | Serial Number | Work. Press. | Test Press. | Test Time (minutes) |
|---|---|---|---|---|---|---|---|
| 20 | | RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL | 1 | 53631 | 10,000 psi | 15,000 psi | 60 |
| 30 | | RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL | 1 | 54500 | 10,000 psi | 15,000 psi | 60 |
| 40 | | RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL | 1 | 56838 | 10,000 psi | 15,000 psi | 60 |
| 50 | | RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL | 1 | 56489 | 10,000 psi | 15,000 psi | 60 |
| 60 | | RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL | 1 | 61475 | 10,000 psi | 15,000 psi | 60 |
| 80 | | RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL | 1 | 60197 | 10,000 psi | 15,000 psi | 60 |
| 90 | | RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL | 1 | 39474 | 10,000 psi | 15,000 psi | 60 |
| 100 | | RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL | 1 | 60887 | 10,000 psi | 15,000 psi | 60 |

# Certificate of Conformity

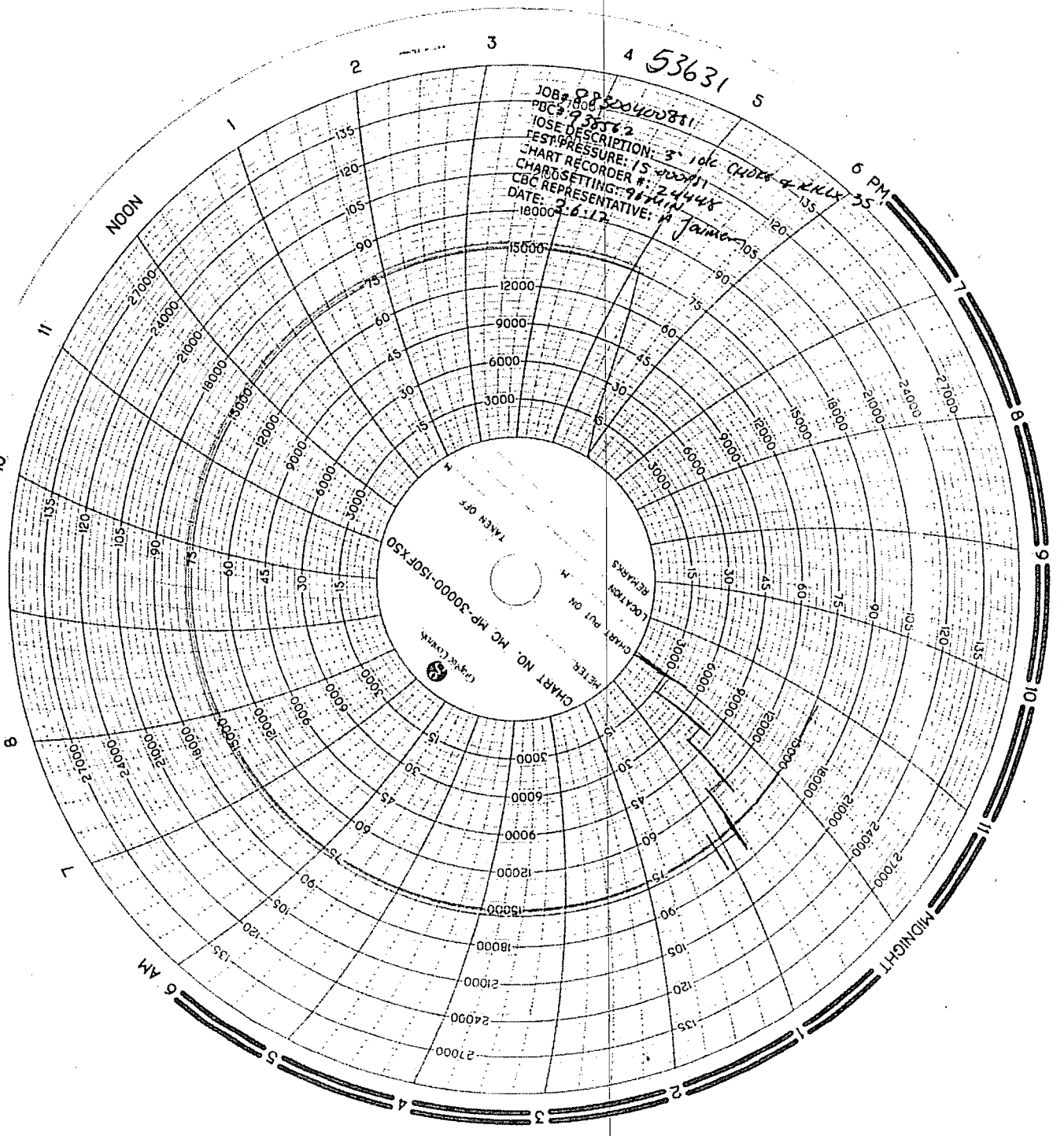
ContiTech

| Certificate Number | COM Order Reference | Customer Name & Address |
|---|---|---|
| 938562 | 938562 | HELMERICH & PAYNE DRILLING CO<br>1434 SOUTH BOULDER AVE<br>TULSA, OK 74119<br>USA |
| **Customer Purchase Order No:** | 740043386 | |
| **Project:** | HOW | |

| Test Center Address | Accepted by COM Inspection | Accepted by Client Inspection |
|---|---|---|
| ContiTech Oil & Marine Corp.<br>11535 Brittmoore Park Drive<br>Houston, TX 77041<br>USA | Signed: Roger Suarez<br>Date: 6/13/17 | |

We certify that the items detailed below meet the requirements of the customer's Purchase Order referenced above, and are in conformance with the specifications given below.

| Item | Part No. | Description | Qnty | Serial Number | Specifications |
|---|---|---|---|---|---|
| 20 | | RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL | 1 | 53631 | ContiTech Standard |
| 30 | | RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL | 1 | 54500 | ContiTech Standard |
| 40 | | RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL | 1 | 56838 | ContiTech Standard |
| 50 | | RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL | 1 | 56489 | ContiTech Standard |
| 60 | | RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL | 1 | 61475 | ContiTech Standard |
| 80 | | RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL | 1 | 60197 | ContiTech Standard |
| 90 | | RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL | 1 | 39474 | ContiTech Standard |
| 100 | | RECERTIFICATION - 3" ID 10K Choke and Kill Hose x 35 ft OAL | 1 | 60887 | ContiTech Standard |


53631
JOB# 88200400881
PDC# 935562
JOSE DESCRIPTION: 3" 10dc CHOKE & KILL
TEST PRESSURE: 15,000 psi
CHART RECORDER #: 24448
CHART SETTING: 9 AM
CBC REPRESENTATIVE: M Jaimes
DATE: 2.6.12
CHART NO. MC MP-30000-15OF-X50
TAKEN OFF
LOCATION
REMARKS
CHART PUT ON
METER
NOON
MIDNIGHT
6 PM
6 AM

## Hose Inspection Report

**ContiTech Oil & Marine**

| Customer | Customer Reference # | CBC Reference # | CBC Inspector | Date of Inspection |
|---|---|---|---|---|
| H&P Drilling | 740043386 | COM938562 | A. Jaimes | 03/06/2017 |

| **Hose Manufacturer** | Contitech Rubber Industrial |
|---|---|

| | | | |
|---|---|---|---|
| **Hose Serial #** | 53631 | **Date of Manufacture** | 08/2008 |
| **Hose I.D.** | 3" | **Working Pressure** | 10000PSI |
| **Hose Type** | Choke and Kill | **Test Pressure** | 15000PSI |
| **Manufacturing Standard** | API 16C | | |

**Connections**

| **End A:** 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange | **End B:** 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange |
|---|---|
| • No damage | • No damage |
| **Material:** Carbon Steel | **Material:** Carbon Steel |
| **Seal Face:** BX155 | **Seal Face:** BX155 |
| **Length Before Hydro Test:** 35' | **Length After Hydro test:** 35' |

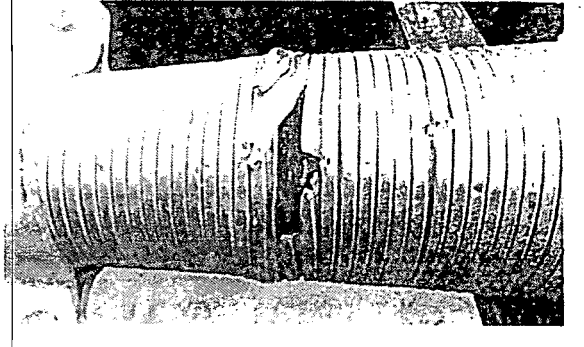
**Conclusion:** Hose #53631 passed the external inspection with minor damage to the hose armor. Internal borescope showed no damage to the liner. Hose #53631 passed the hydrostatic pressure test by holding a pressure of 15,000PSI for 60 minutes. **Hose #53631 is suitable for continued service.**

**Recommendations:** In general the hose should be inspected on a regular on-going basis. The frequency and degree of the inspection should as a minimum follow these guidelines:

Visual inspection: Every 3 to 6 months (or during installation/removal)
Annual: In-situ pressure test (in addition to the 3 to 6 monthly inspections)
Initial 5 years service: Major inspection
2nd Major inspection: Following subsequent 3 year life cycle
(Detailed description of test regime available upon request, QCP 206-1)

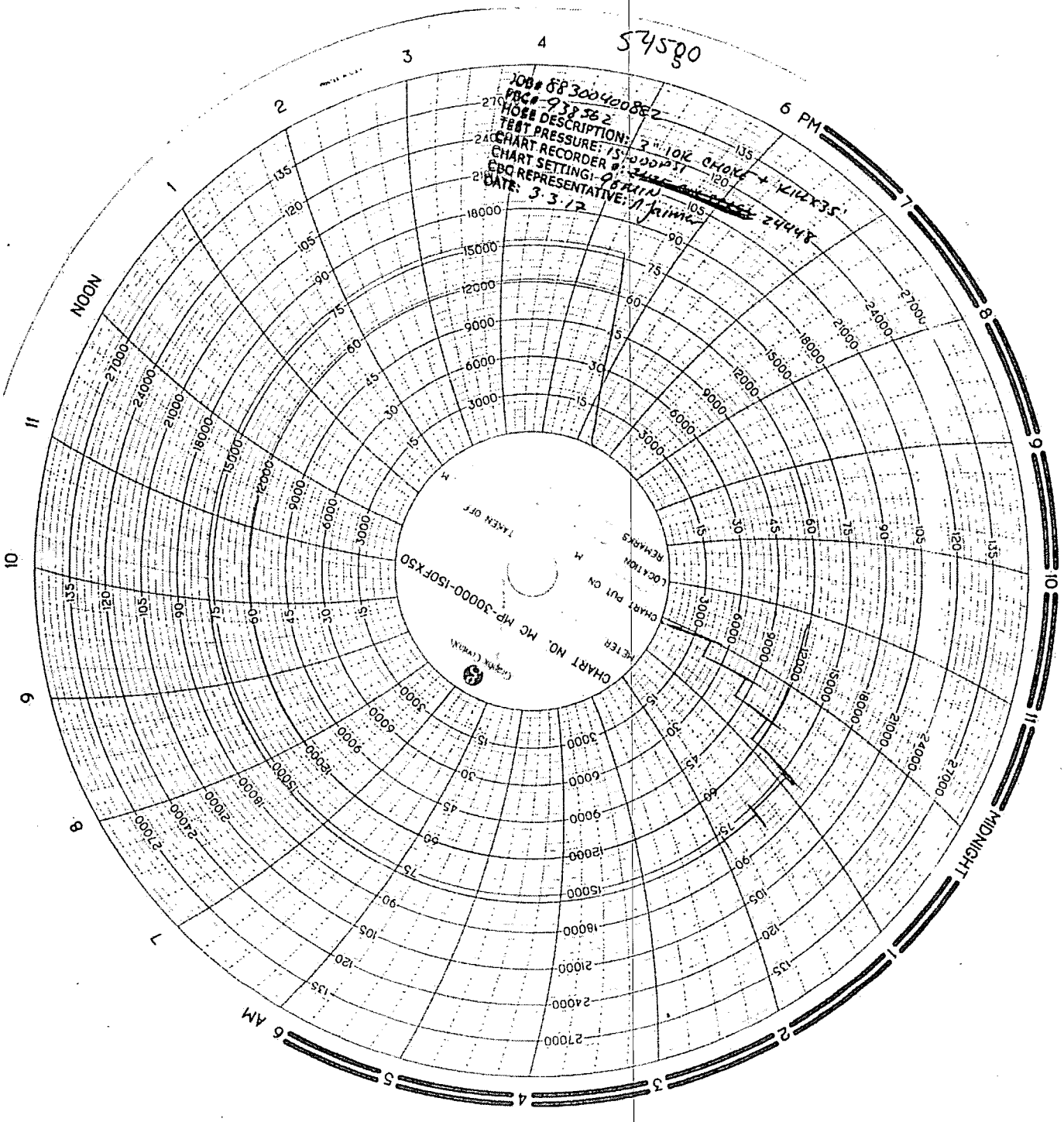
**NOTE: There are a number of critical elements in the hose that cannot be thoroughly checked through standard inspection techniques. Away from dissecting the hose body, the best way to evaluate the condition of the hose is through review of the operating conditions recorded during the hose service life, in particular maximums and peak conditions.

| **External Damage Post – Hydro test** | |
|---|---|
| Approx. Distance from End A | 3' |
| Width | 8" |
| Length | 3" |
| Depth | To hose body |
| Notes | Broken armor |



**Issued By:** Alejandro Jaimes
**Date:** 03/10/2017

**Checked By:** Gerson Mejia-Lazo
**Date:** 03/10/2017


57590
JOB# 8830040082
PBC# 93836
HOSE DESCRIPTION: 3" 10K CHOKE + KILL X35'
TEST PRESSURE: 15,000 PSI
CHART RECORDER #: 24448
CHART SETTING- 60 MIN
EBO REPRESENTATIVE: A. Jaime
DATE: 3.3.17
CHART NO. MC MP-30000-150FX50
METER
CHART PUT ON
LOCATION
REMARKS
TAKEN OFF
NOON
MIDNIGHT
6 PM
6 AM

## Hose Inspection Report

**ContiTech Oil & Marine**

| Customer | Customer Reference # | CBC Reference # | CBC Inspector | Date of Inspection |
|---|---|---|---|---|
| H&P Drilling | 740043386 | COM938562 | A. Jaimes | 03/03/2017 |

| **Hose Manufacturer** | Contitech Rubber Industrial |
|---|---|

| | | | |
|---|---|---|---|
| **Hose Serial #** | 54500 | **Date of Manufacture** | 01/2009 |
| **Hose I.D.** | 3" | **Working Pressure** | 10000PSI |
| **Hose Type** | Choke and Kill | **Test Pressure** | 15000PSI |
| **Manufacturing Standard** | API 16C | | |

**Connections**

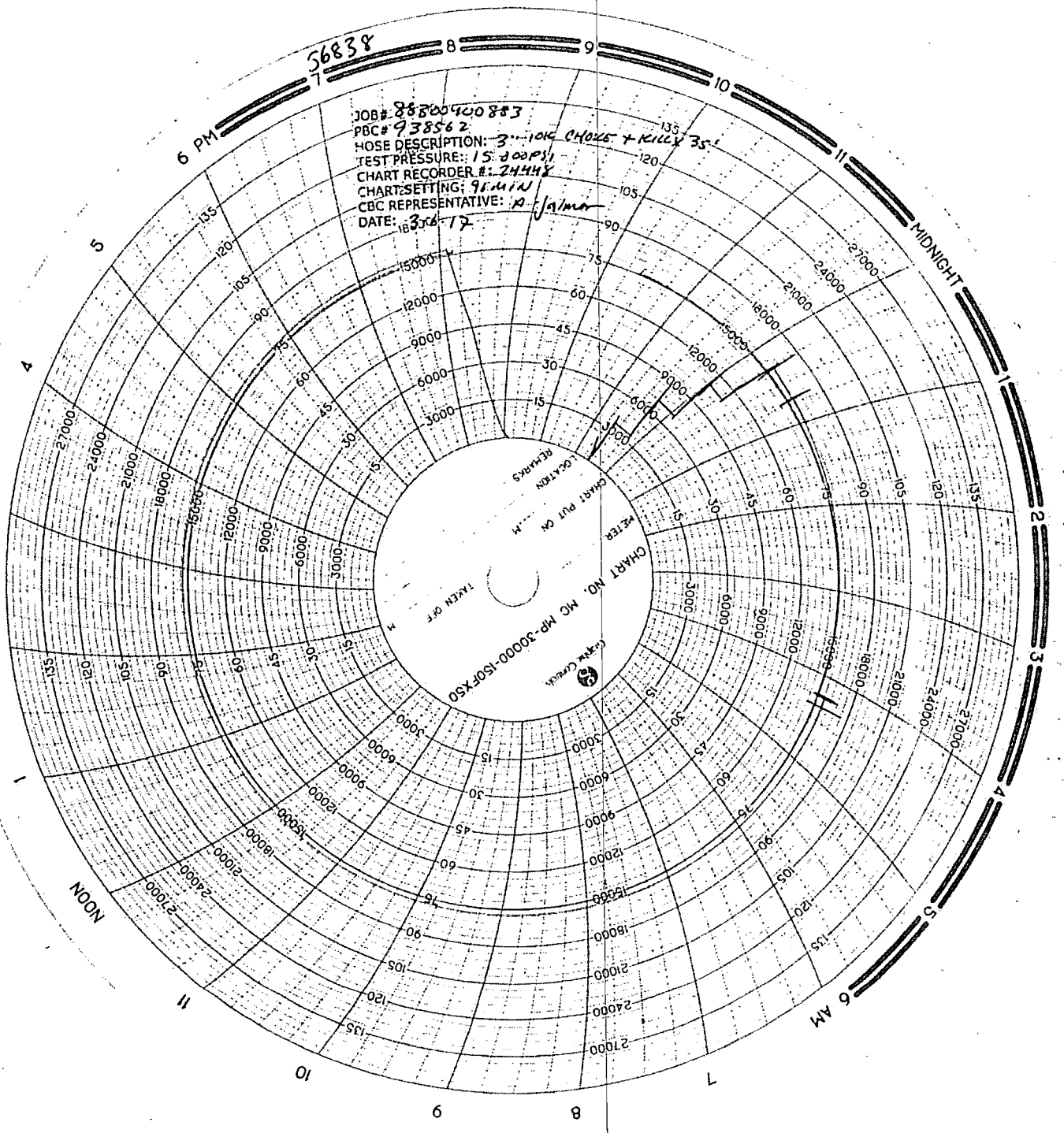
| **End A:** 3.1/8" 5KPsi API Spec 6A Type 6BX Flange | **End B:** 3.1/8" 5Kpsi API Spec 6A Type 6BX Flange |
|---|---|
| • No damage | • No damage |
| **Material:** Carbon Steel | **Material:** Carbon Steel |
| **Seal Face:** BX155 | **Seal Face:** BX155 |
| **Length Before Hydro Test:** 35' | **Length After Hydro test:** 35' |

**Conclusion:** Hose #54500 passed the external inspection with no notable damages to the hose armor. Internal borescope of the hose showed no damage to the liner. Hose #54500 passed the hydrostatic pressure test by holding a pressure of 15,000PSI for 60 minutes. **Hose #54500 is suitable for continued service.**

**Recommendations:** In general the hose should be inspected on a regular on-going basis. The frequency and degree of the inspection should as a minimum follow these guidelines:

Visual inspection: Every 3 to 6 months (or during installation/removal)
Annual: In-situ pressure test (in addition to the 3 to 6 monthly inspections)
Initial 5 years service: Major inspection
2nd Major inspection: Following subsequent 3 year life cycle
(Detailed description of test regime available upon request, QCP 206-1)

**NOTE: There are a number of critical elements in the hose that cannot be thoroughly checked through standard inspection techniques. Away from dissecting the hose body, the best way to evaluate the condition of the hose is through review of the operating conditions recorded during the hose service life, in particular maximums and peak conditions.


56838
JOB# 8850040883
PBC# 938562
HOSE DESCRIPTION: 3" 10K CHOKE + KILL 35'
TEST PRESSURE: 15,000PSI
CHART RECORDER #: 24448
CHART SETTING: 90 MIN
CBC REPRESENTATIVE: A. [illegal]
DATE: 8-3-17
CHART NO. MC MP-30000-150FX50
TAKEN OFF
CHART PUT ON
METER
LOCATION
REMARKS
6 PM
MIDNIGHT
6 AM
NOON

## Hose Inspection Report

**ContiTech Oil & Marine**

| Customer | Customer Reference # | CBC Reference # | CBC Inspector | Date of Inspection |
|---|---|---|---|---|
| H&P Drilling | 740043386 | COM938562 | A. Jaimes | 03/06/2017 |

| **Hose Manufacturer** | Contitech Rubber Industrial |
|---|---|

| | | | |
|---|---|---|---|
| **Hose Serial #** | 56838 | **Date of Manufacture** | 11/2010 |
| **Hose I.D.** | 3" | **Working Pressure** | 10000PSI |
| **Hose Type** | Choke and Kill | **Test Pressure** | 15000PSI |
| **Manufacturing Standard** | API 16C | | |

**Connections**

| **End A:** 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange | **End B:** 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange |
|---|---|
| • No damage | • No damage |
| **Material:** Carbon Steel | **Material:** Carbon Steel |
| **Seal Face:** BX155 | **Seal Face:** BX155 |
| **Length Before Hydro Test:** 35' | **Length After Hydro test:** 35' |

**Conclusion:** Hose #56838 passed the external inspection with no notable damage to the hose armor. Internal borescope of the hose showed no damage to the liner. Hose #56838 passed the hydrostatic pressure test by holding a pressure of 15,000PSI for 60 minutes. **Hose #56838 is suitable for continued service.**

**Recommendations:** In general the hose should be inspected on a regular on-going basis. The frequency and degree of the inspection should as a minimum follow these guidelines:

Visual Inspection: Every 3 to 6 months (or during installation/removal)
Annual: In-situ pressure test (in addition to the 3 to 6 monthly inspections)
Initial 5 years service: Major inspection
2nd Major inspection: Following subsequent 3 year life cycle
(Detailed description of test regime available upon request, QCP 206-1)

**NOTE: There are a number of critical elements in the hose that cannot be thoroughly checked through standard inspection techniques. Away from dissecting the hose body, the best way to evaluate the condition of the hose is through review of the operating conditions recorded during the hose service life, in particular maximums and peak conditions.

Drilling Operations Plan
Nailed It Fed Com #241H
Tap Rock Operating, LLC
SHL 305' FSL & 384' FWL, Sec. 36
BHL 2464' FSL & 331' FWL, Sec. 25
T. 26S., R. 30E Eddy County, NM

## 4. Casing & Cement

All Casing will be new.

| Section | 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 | 900 | 0 | 900 | J-55 | 54.5 | BUTT | 1.13 | 1.15 | 1.6 |
| 1st Intermediate | 12 1/4 | 9 5/8 | API | No | 0 | 3700 | 0 | 3695 | J-55 | 40 | BUTT | 1.13 | 1.15 | 1.6 |
| 2nd Intermediate | 8 3/4 | 7 5/8 | API | No | 0 | 3400 | 0 | 3395 | P-110 | 29.7 | BUTT | 1.13 | 1.15 | 1.6 |
| 2nd Intermediate | 8 3/4 | 7 5/8 | NON API | Yes | 3400 | 11460 | 3395 | 11451 | P-110 | 29.7 | W-513 | 1.13 | 1.15 | 1.6 |
| Production | 6 3/4 | 5 1/2 | NON API | No | 0 | 11260 | 0 | 11251 | P-110 | 20 | TXP | 1.13 | 1.15 | 1.6 |
| Production | 6 3/4 | 5 | NON API | Yes | 11260 | 16500 | 11251 | 12133 | P-110 | 18 | W-521 | 1.13 | 1.15 | 1.6 |

| Name | Type | Top MD | Sacks | Yield | Cu. Ft | Weight | Excess | Cement | Additives |
|---|---|---|---|---|---|---|---|---|---|
| Surface | Lead | 0 | 451 | 1.8 | 813 | 13.5 | 100% | C | None |
| | Tail | 585 | 324 | 1.35 | 438 | 14.8 | 100% | C | 5% NCl + LCM |
| 1st Intermediate | Lead | 0 | 702 | 2.18 | 1529 | 12.7 | 65% | C | Bentonite + 1% CaCL2 + 8% NaCl + LCM |
| | Tail | 2960 | 287 | 1.33 | 382 | 14.8 | 65% | C | 5% NaCl + LCM |
| 2nd Intermediate | Lead | 3400 | 334 | 2.87 | 958 | 11.5 | 35% | TXI | Fluid Loss + Dispersant + Retarder + LCM |
| | Tail | 10460 | 107 | 1.27 | 136 | 15 | 35% | H | Fluid Loss + Dispersant + Retarder + LCM |
| Production | Tail | 10960 | 454 | 1.71 | 777 | 14.2 | 25% | H | Fluid Loss + Dispersant + Retarder + LCM |

## 5. Mud Program

| Name | Top | Bottom | Type | Mud Weight | Visc | Fluid Loss |
|---|---|---|---|---|---|---|
| Surface | 0 | 900 | FW Spud Mud | 8.30 | 28 | NC |
| Intermediate | 900 | 3700 | Brine Water | 10.00 | 30-32 | NC |
| Intermediate 2 | 3700 | 11460 | FW/Cut Brine | 9.00 | 30-32 | NC |
| Production | 11460 | 16500 | Oil Base Mud | 13.50 | 15-20 | <10 |

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.

## 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 ≈8,500 psi. Expected bottom hole temperature is ≈175° F.

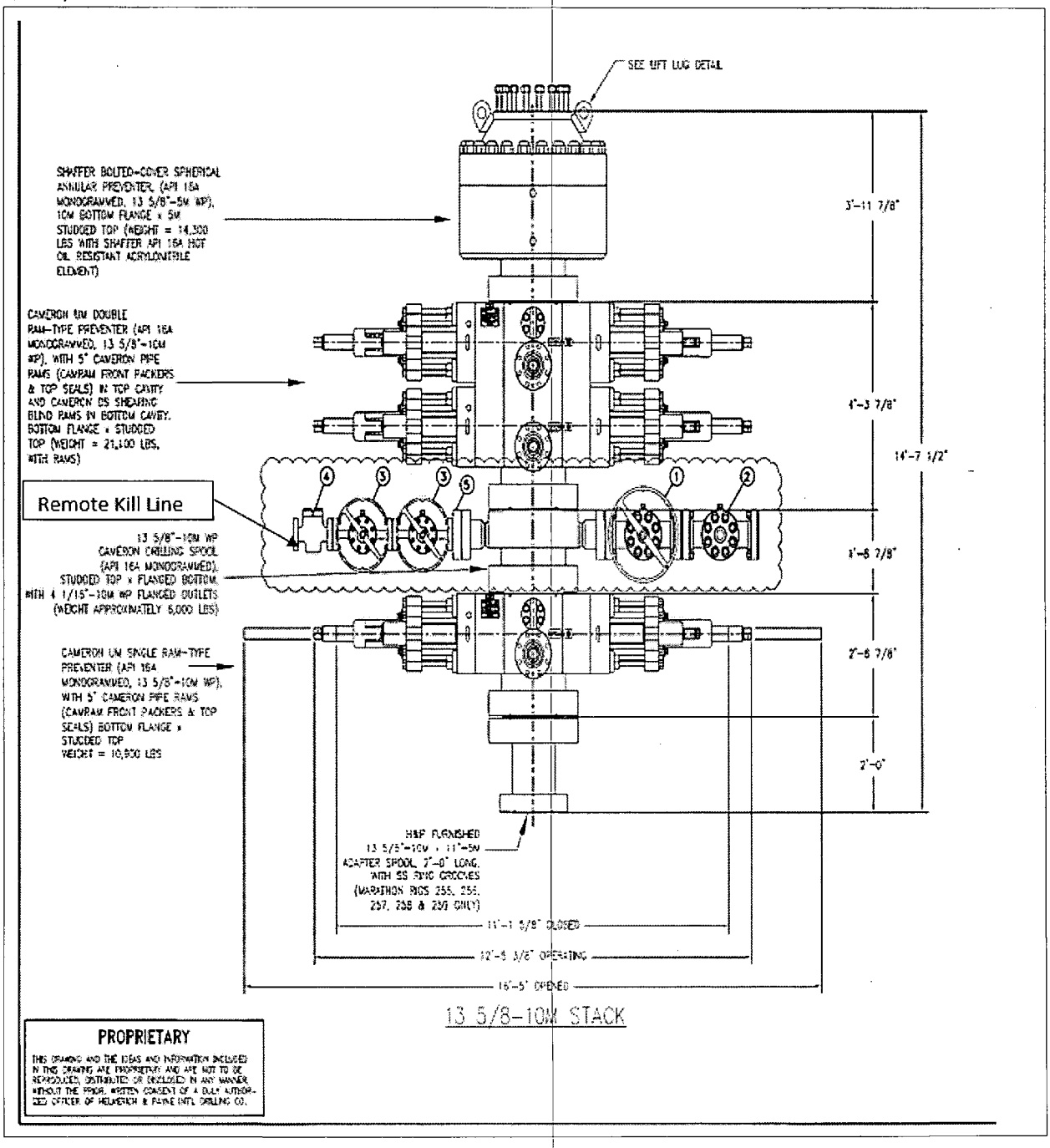
Tap Rock does not anticipate that there will be enough H2S from the surface to the Wolfcamp formations to meet the BLM's Onshore Order 6 requirements for the submission of an "H2S Drilling Operation Plan" or "Public Protection Plan" for drilling and completing this well. Tap Rock has an H2S safety package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

**8. Other Information**

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

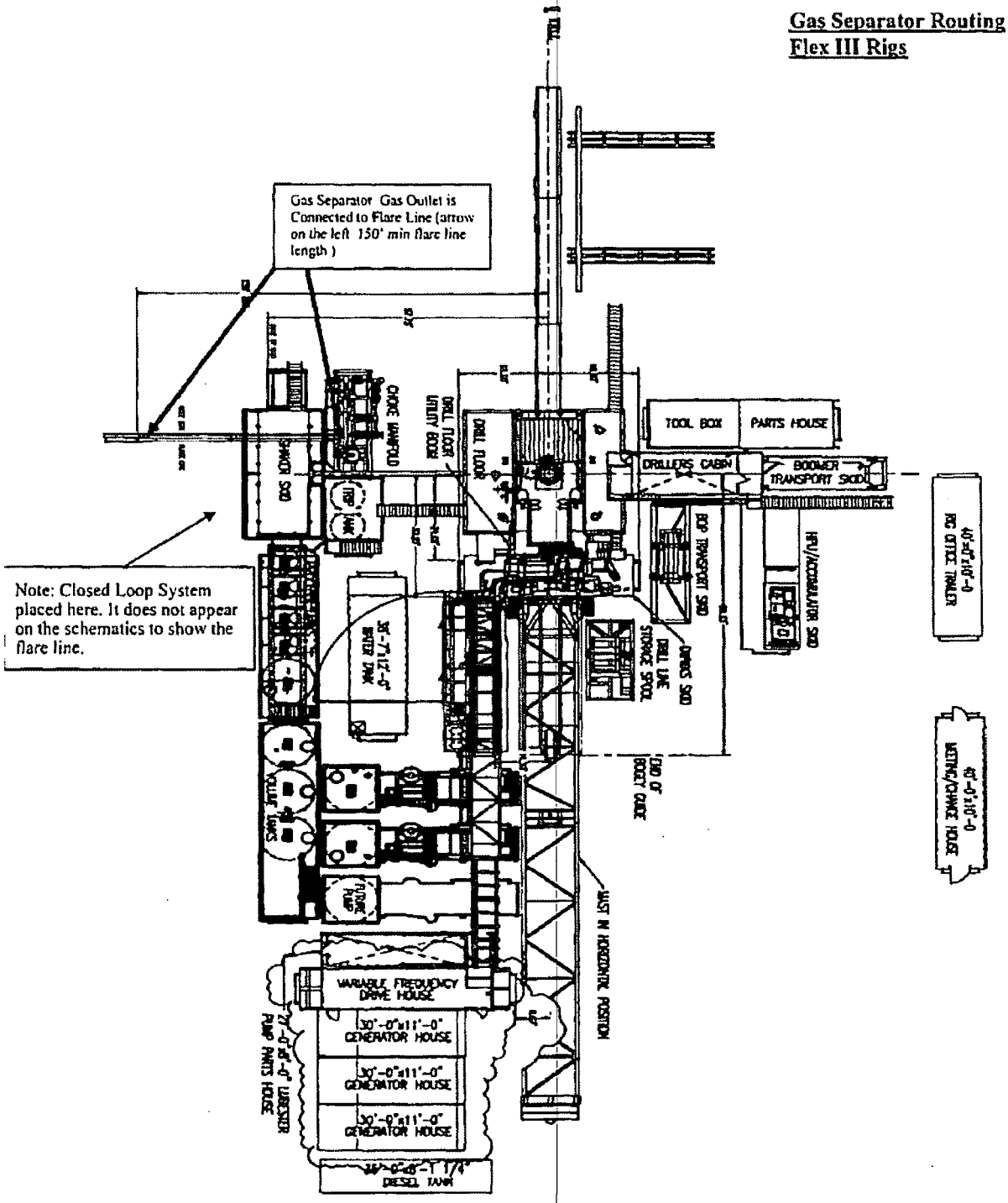
Drilling Operations Plan
Nailed It Fed Com #241H
Tap Rock Operating, LLC
SHL 305' FSL & 384' FWL, Sec. 36
BHL 2464' FSL & 331' FWL, Sec. 25
T. 26S., R. 30E Eddy County, NM

5,000 psi BOP Stack

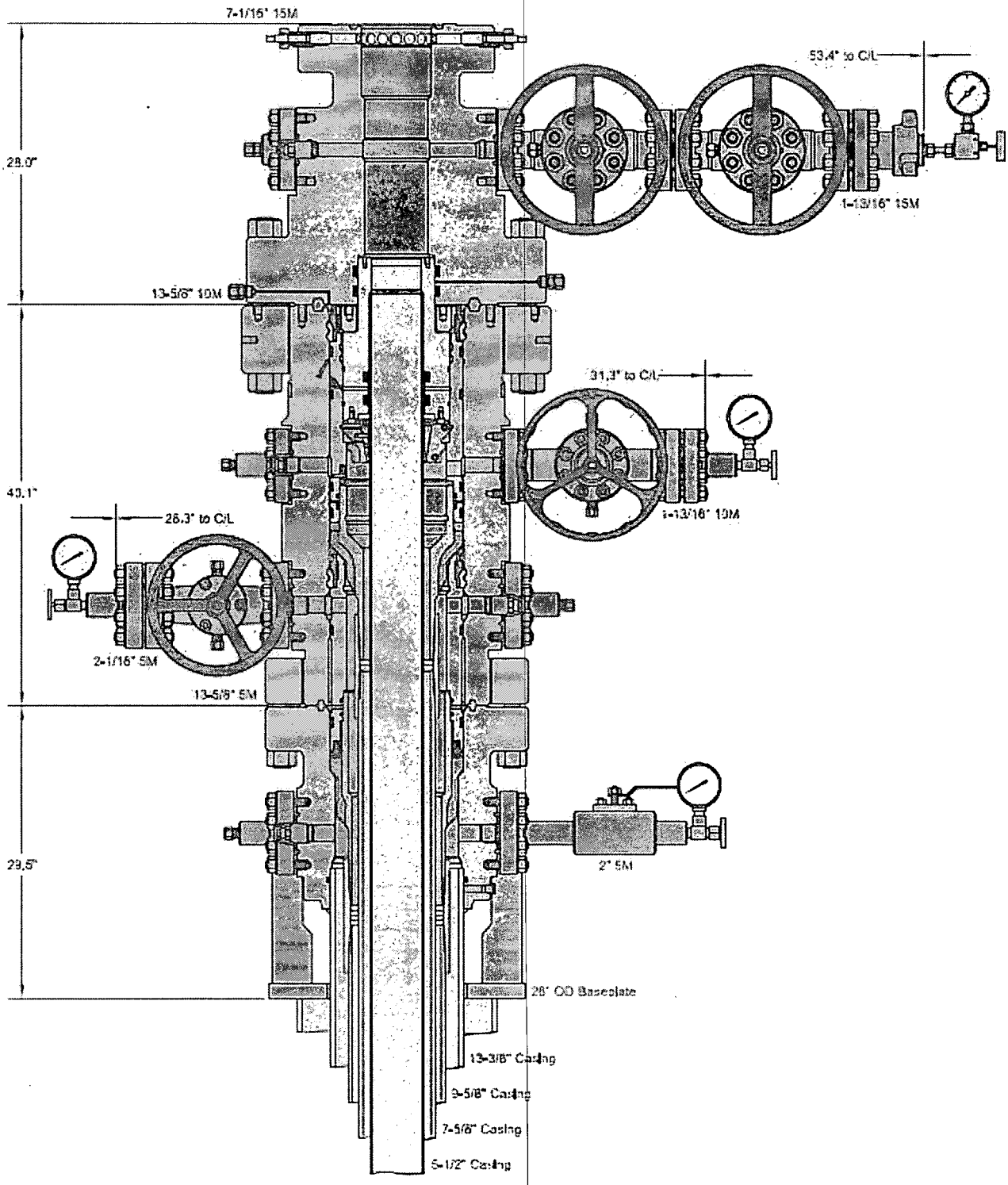


Drilling Operations Plan
Nailed It Fed Com #241H
Tap Rock Operating, LLC
SHL 305' FSL & 384' FWL, Sec. 36
BHL 2464' FSL & 331' FWL, Sec. 25
T. 26S., R. 30E Eddy County, NM

**Gas Separator Routing**
**Flex III Rigs**

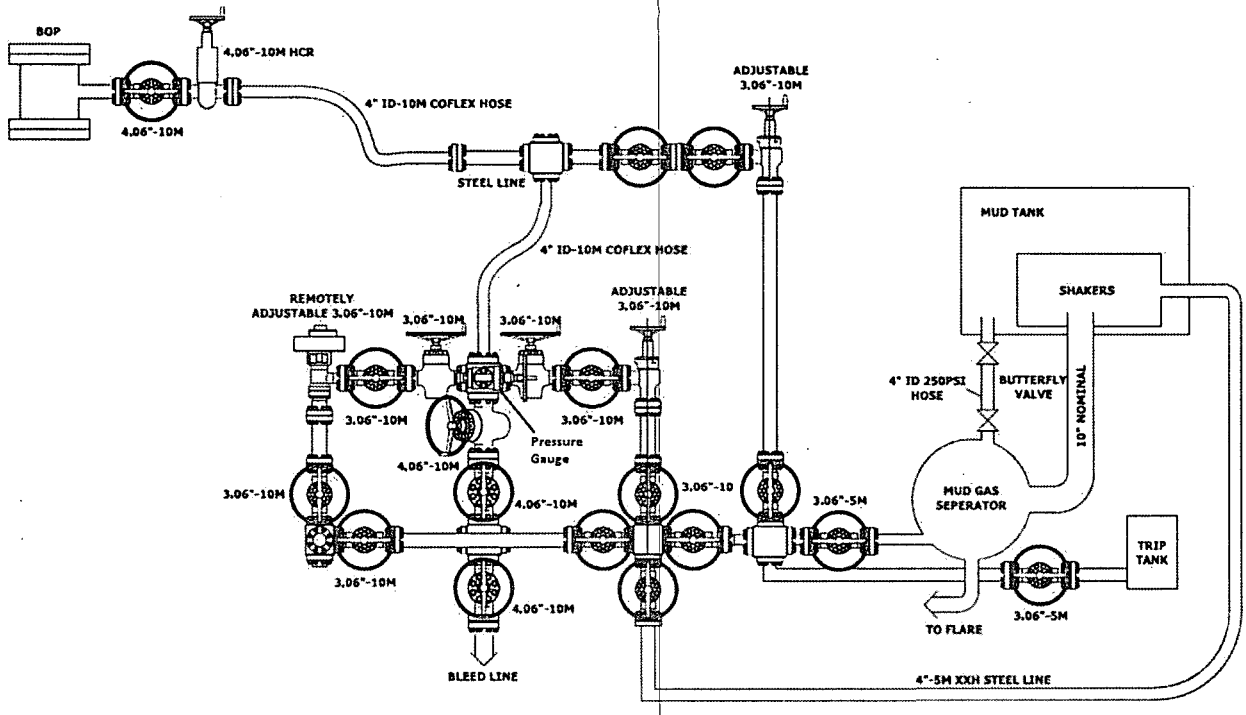


Multi-bowl Wellhead

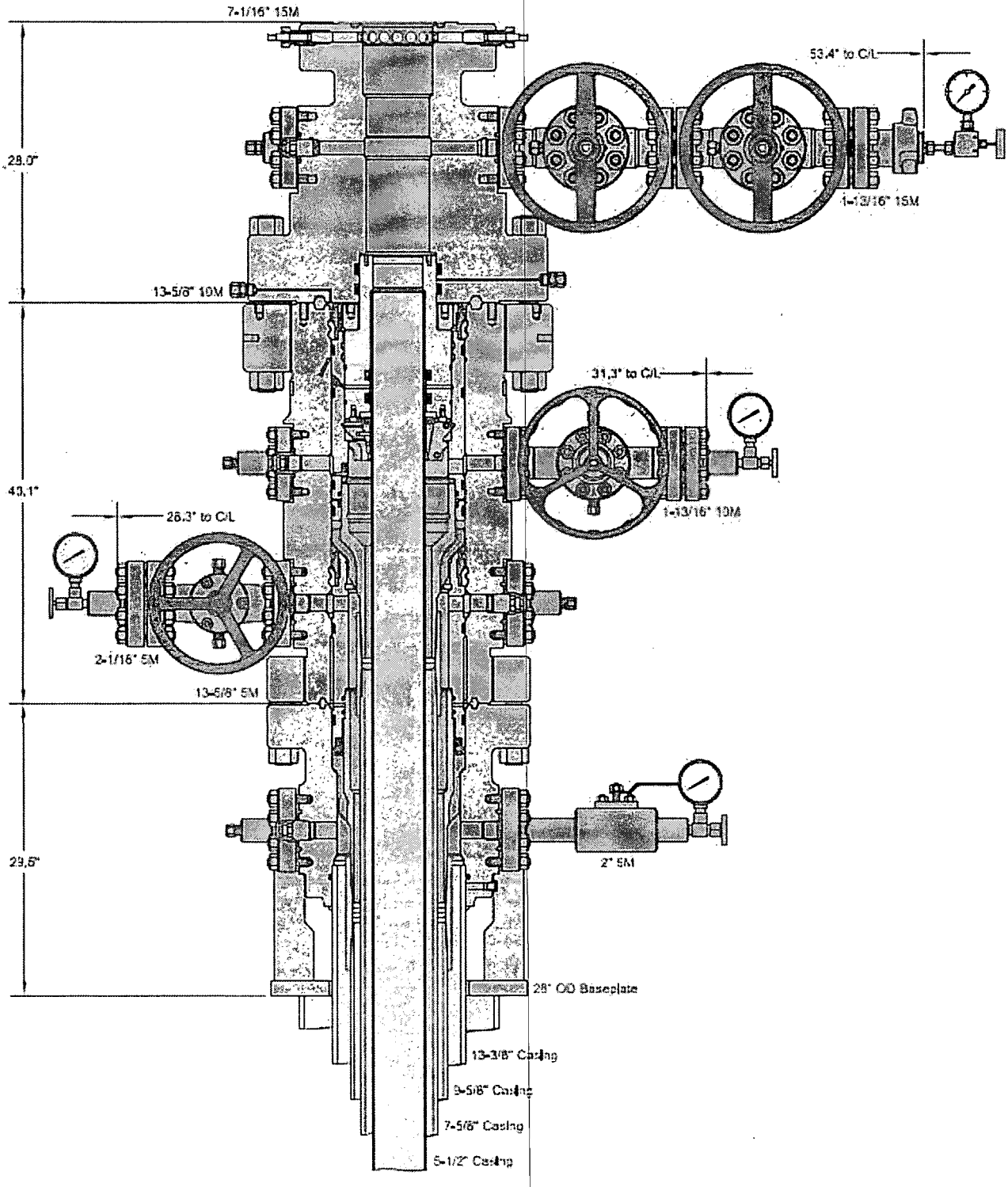


Drilling Operations Plan
Nailed It Fed Com #241H
Tap Rock Operating, LLC
SHL 305' FSL & 384' FWL, Sec. 36
BHL 2464' FSL & 331' FWL, Sec. 25
T. 26S., R. 30E Eddy County, NM

10M Choke Layout



Multi-bowl Wellhead



**APD ID:** 10400047771 **Submission Date:** 10/21/2019

**Operator Name:** TAP ROCK OPERATING LLC

**Well Name:** NAILED IT FED COM **Well Number:** 241H

**Well Type:** CONVENTIONAL GAS WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

## Section 1 - Existing Roads

**Will existing roads be used?** YES

**Existing Road Map:**

Nailed_Existing_Roads_Map_012220_20200205114445.pdf

**Existing Road Purpose:** ACCESS **Row(s) Exist?** NO

### ROW ID(s)

**ID:**

**Do the existing roads need to be improved?** NO

**Existing Road Improvement Description:**

**Existing Road Improvement Attachment:**

## Section 2 - New or Reconstructed Access Roads

**Will new roads be needed?** YES

**New Road Map:**

Nailed_New_Roads_Map_Plats_011720_20200205114526.pdf

**New road type:** LOCAL

**Length:** 4553.52 Feet **Width (ft.):** 30

**Max slope (%):** 0 **Max grade (%):** 1

**Army Corp of Engineers (ACOE) permit required?** N

**ACOE Permit Number(s):**

**New road travel width:** 24

**New road access erosion control:** Crowned and ditched

**New road access plan or profile prepared?** N

**New road access plan attachment:**

**Access road engineering design?** N

**Access road engineering design attachment:**

**Turnout?** N

**Access surfacing type:** OTHER

**Access topsoil source:** ONSITE

**Access surfacing type description:** Caliche

**Access onsite topsoil source depth:** 6

**Offsite topsoil source description:**

**Onsite topsoil removal process:** Grader

**Access other construction information:** . Pipelines that are crossed will be padded.

**Access miscellaneous information:**

**Number of access turnouts:** **Access turnout map:**

## Drainage Control

**New road drainage crossing:** OTHER

**Drainage Control comments:** Crowned and ditched

**Road Drainage Control Structures (DCS) description:** None

**Road Drainage Control Structures (DCS) attachment:**

## Access Additional Attachments

## Section 3 - Location of Existing Wells

**Existing Wells Map?** YES

**Attach Well map:**

Nailed_Slot1_Well_Map_v1_082119_20200205114709.pdf

## Section 4 - Location of Existing and/or Proposed Production Facilities

**Submit or defer a Proposed Production Facilities plan?** SUBMIT

**Production Facilities description:** Production facilities will be located off-pad, on separate central tank battery (CTB) sites. The W2 Facility will service the W2W2 and E2W2 well pads while the E2 Facility will service the W2E2 and E2E2 well pads. The W2 facility (400 x 400) will be built 30 north of the W2W2 well pad. Topsoil will be piled north of the CTB. Flare and/or CBU will be set on the northwest corner while the tank battery and process equipment (e.g. separators, heater-treaters) will be on the east side of the CTB. The E2 facility (400 x 400) will be built 60 north of the E2E2 well pad. Topsoil will be piled north of the CTB. Flare and/or CBU will be set on the northeast corner while the tank battery and process equipment (e.g. separators, heater-treaters) will be on the west side of the CTB. Tap Rock will install 2,989.44 of 4 buried steel flowlines from the well pads to the two (2) CTBs. There is no powerline planned at this time.

**Production Facilities map:**

Nailed_Production_Facilities_011720_20200205114741.pdf

**Operator Name:** TAP ROCK OPERATING LLC

**Well Name:** NAILED IT FED COM **Well Number:** 241H

## Section 5 - Location and Types of Water Supply

### Water Source Table

**Water source type:** GW WELL

**Water source use type:** SURFACE CASING
STIMULATION
DUST CONTROL
INTERMEDIATE/PRODUCTION CASING

**Source latitude:** **Source longitude:**

**Source datum:**

**Water source permit type:** WATER WELL

**Water source transport method:** TRUCKING

**Source land ownership:** PRIVATE

**Source transportation land ownership:** PRIVATE

**Water source volume (barrels):** 17000 **Source volume (acre-feet):** 2.19118264

**Source volume (gal):** 714000

**Water source and transportation map:**

Nailed_H2O_Source_Map_20200205114914.pdf

**Water source comments:** Fresh water will be trucked from an existing pond on private land in NW Section 3, Texas & Pacific Railroad Block 56, Loving County, Texas to each of the 4 well pads.
**New water well?** N

### New Water Well Info

**Well latitude:** **Well Longitude:** **Well datum:**

**Well target aquifer:**

**Est. depth to top of aquifer(ft):** **Est thickness of aquifer:**

**Aquifer comments:**

**Aquifer documentation:**

**Well depth (ft):** **Well casing type:**

**Well casing outside diameter (in.):** **Well casing inside diameter (in.):**

**New water well casing?** **Used casing source:**

**Operator Name:** TAP ROCK OPERATING LLC

**Well Name:** NAILED IT FED COM **Well Number:** 241H

**Drilling method:** **Drill material:**

**Grout material:** **Grout depth:**

**Casing length (ft.):** **Casing top depth (ft.):**

**Well Production type:** **Completion Method:**

**Water well additional information:**

**State appropriation permit:**

**Additional information attachment:**

## Section 6 - Construction Materials

**Using any construction materials:** YES

**Construction Materials description:** NM One Call (811) will be notified before construction starts. Top 6 of soil and brush will be stockpiled on a side of the well pads. Closed loop mud system will be used. Caliche will be hauled from existing caliche pits on private land in SENW Section 12, Texas & Pacific Railroad Block 57, Loving County, Texas.
**Construction Materials source location attachment:**

Nailed_Construction_Materials_20200205115040.pdf

## Section 7 - Methods for Handling Waste

**Waste type:** DRILLING

**Waste content description:** Drill cuttings, mud, salts, and other chemicals

**Amount of waste:** 550 barrels

**Waste disposal frequency :** Daily

**Safe containment description:** Steel mud tanks

**Safe containmant attachment:**

**Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** PRIVATE
**Disposal type description:** Fee Fee Fed - SUPO not required

**Disposal location description:** Mud tanks will be hauled to a state approved disposal site, e. g., Petro Waste Environmental LP at Orla, Texas. (Texas Railroad Commission permit number STF-0101, P012234, P012236.)

**Waste type:** GARBAGE

**Waste content description:** Trash

**Amount of waste:** 10 barrels

**Waste disposal frequency :** Daily

**Safe containment description:** Portable trash cage

**Safe containmant attachment:**

**Waste disposal type:** OTHER **Disposal location ownership:** OTHER

**Disposal type description:** Public

**Disposal location description:** Eddy County landfill

**Waste type:** SEWAGE

**Waste content description:** Black and grey water

**Amount of waste:** 5 barrels

**Waste disposal frequency :** Daily

**Safe containment description:** Plastic holding tanks and chemical toilets

**Safe containmant attachment:**

**Waste disposal type:** OTHER **Disposal location ownership:** OTHER

**Disposal type description:** Public

**Disposal location description:** Carlsbad wastewater treatment plant

## Reserve Pit

**Reserve Pit being used?** NO

**Temporary disposal of produced water into reserve pit?** NO

**Reserve pit length (ft.)** **Reserve pit width (ft.)**

**Reserve pit depth (ft.)** **Reserve pit volume (cu. yd.)**

**Is at least 50% of the reserve pit in cut?**

**Reserve pit liner**

**Reserve pit liner specifications and installation description**

## Cuttings Area

**Cuttings Area being used?** NO

**Are you storing cuttings on location?** Y

**Description of cuttings location** Steel tanks on pad

**Cuttings area length (ft.)** **Cuttings area width (ft.)**

**Cuttings area depth (ft.)** **Cuttings area volume (cu. yd.)**

**Is at least 50% of the cuttings area in cut?**

**WCuttings area liner**

**Cuttings area liner specifications and installation description**

**Operator Name:** TAP ROCK OPERATING LLC

**Well Name:** NAILED IT FED COM **Well Number:** 241H

## Section 8 - Ancillary Facilities

**Are you requesting any Ancillary Facilities?:** N

**Ancillary Facilities attachment:**

**Comments:**

## Section 9 - Well Site Layout

**Well Site Layout Diagram:**

Nailed_Slot1_Well_Site_Layout_101119_20200205115407.pdf

**Comments:**

## Section 10 - Plans for Surface Reclamation

**Type of disturbance:** New Surface Disturbance

**Multiple Well Pad Name:** Nailed It Fed Com

**Multiple Well Pad Number:** Slot 1

**Recontouring attachment:**

Nailed_Slot1_Interim_Rec_010320_20200205115458.pdf

Nailed_Recontour_plats_All_Pads_20200205115532.pdf

**Drainage/Erosion control construction:** Crowned and ditched

**Drainage/Erosion control reclamation:** Harrowed on the contour

**Well pad proposed disturbance (acres):** 19.28

**Road proposed disturbance (acres):** 3.14

**Powerline proposed disturbance (acres):** 0

**Pipeline proposed disturbance (acres):** 2.06

**Other proposed disturbance (acres):** 8.08

**Total proposed disturbance:** 32.56

**Well pad interim reclamation (acres):** 1.84

**Road interim reclamation (acres):** 0

**Powerline interim reclamation (acres):** 0

**Pipeline interim reclamation (acres):** 2.06

**Other interim reclamation (acres):** 0

**Total interim reclamation:** 3.9000000000000004

**Well pad long term disturbance (acres):** 17.44

**Road long term disturbance (acres):** 3.14

**Powerline long term disturbance (acres):** 0

**Pipeline long term disturbance (acres):** 0

**Other long term disturbance (acres):** 8.08

**Total long term disturbance:** 28.660000000000004

**Disturbance Comments:**

**Reconstruction method:** Interim reclamation will be completed within 6 months of completing the last well on the pad. Interim reclamation will consist of shrinking the 4 well pads by removing caliche and reclaiming portions of each pad. Disturbed areas will be contoured to match pre-construction grades.

**Topsoil redistribution:** Soil and brush will be evenly spread over disturbed areas and harrowed on the contour. Disturbed areas will be seeded in accordance with the landowners requirements. Stockpiled topsoil will be retained on one edge of each well pad. This soil will be used to cover the remainder of the pads when the wells are plugged and the pads reclaimed. Once the last well is plugged, the rest of the pad and associated roads will be similarly reclaimed within 6 months of plugging. Noxious weeds will be controlled.

**Soil treatment:** None

**Existing Vegetation at the well pad:** Mesquite and/or Creosote bush

**Existing Vegetation at the well pad attachment:**

**Existing Vegetation Community at the road:** Mesquite and/or Creosote bush

**Existing Vegetation Community at the road attachment:**

**Existing Vegetation Community at the pipeline:** Mesquite and/or Creosote bush

**Existing Vegetation Community at the pipeline attachment:**

**Existing Vegetation Community at other disturbances:** Mesquite and/or Creosote bush

**Existing Vegetation Community at other disturbances attachment:**

**Non native seed used?** N

**Non native seed description:**

**Seedling transplant description:**

**Will seedlings be transplanted for this project?** N

**Seedling transplant description attachment:**

**Will seed be harvested for use in site reclamation?** N

**Seed harvest description:**

**Seed harvest description attachment:**

## Seed Management

### Seed Table

| Seed Summary | |
|---|---|
| **Seed Type** | **Pounds/Acre** |

**Total pounds/Acre:**

**Seed reclamation attachment:**

## Operator Contact/Responsible Official Contact Info

**First Name:** **Last Name:**

**Phone:** **Email:**

**Seedbed prep:**

**Seed BMP:**

**Seed method:**

**Existing invasive species?** N

**Existing invasive species treatment description:**

**Existing invasive species treatment attachment:**

**Weed treatment plan description:** To BLM standards

**Weed treatment plan attachment:**

**Monitoring plan description:** To BLM standards

**Monitoring plan attachment:**

**Success standards:** To BLM satisfaction

**Pit closure description:** No pit

**Pit closure attachment:**

## Section 11 - Surface Ownership

**Disturbance type:** WELL PAD

**Describe:**

**Surface Owner:** STATE GOVERNMENT

**Other surface owner description:**

**BIA Local Office:**

**BOR Local Office:**

**COE Local Office:**

**DOD Local Office:**

**NPS Local Office:**

**State Local Office:** SANTA FE

**Military Local Office:**

**USFWS Local Office:**

**Other Local Office:**

**USFS Region:**

**USFS Forest/Grassland:** **USFS Ranger District:**

**Disturbance type:** EXISTING ACCESS ROAD

**Describe:**

**Surface Owner:** STATE GOVERNMENT

**Other surface owner description:**

**BIA Local Office:**

**BOR Local Office:**

**COE Local Office:**

**DOD Local Office:**

**NPS Local Office:**

**State Local Office:** SANTA FE

**Military Local Office:**

**USFWS Local Office:**

**Other Local Office:**

**USFS Region:**

**USFS Forest/Grassland:** **USFS Ranger District:**

**Disturbance type:** NEW ACCESS ROAD

**Describe:**

**Surface Owner:** STATE GOVERNMENT

**Other surface owner description:**

**BIA Local Office:**

**BOR Local Office:**

**COE Local Office:**

**DOD Local Office:**

**NPS Local Office:**

**State Local Office:** SANTA FE

**Military Local Office:**

**USFWS Local Office:**

**Other Local Office:**

**USFS Region:**

**USFS Forest/Grassland:** **USFS Ranger District:**

**Operator Name:** TAP ROCK OPERATING LLC

**Well Name:** NAILED IT FED COM **Well Number:** 241H

**Disturbance type:** PIPELINE

**Describe:**

**Surface Owner:** STATE GOVERNMENT

**Other surface owner description:**

**BIA Local Office:**

**BOR Local Office:**

**COE Local Office:**

**DOD Local Office:**

**NPS Local Office:**

**State Local Office:** SANTA FE

**Military Local Office:**

**USFWS Local Office:**

**Other Local Office:**

**USFS Region:**

**USFS Forest/Grassland:** **USFS Ranger District:**

**Disturbance type:** OTHER

**Describe:** Central Tank Battery

**Surface Owner:** STATE GOVERNMENT

**Other surface owner description:**

**BIA Local Office:**

**BOR Local Office:**

**COE Local Office:**

**DOD Local Office:**

**NPS Local Office:**

**State Local Office:** SANTA FE

**Military Local Office:**

**USFWS Local Office:**

**Other Local Office:**

**USFS Region:**

**USFS Forest/Grassland:** **USFS Ranger District:**

## Section 12 - Other Information

**Right of Way needed?** N **Use APD as ROW?**

**ROW Type(s):**

## ROW Applications

**SUPO Additional Information:** All well pads will be on New Mexico State Lands. Only a small ~50 segment of road will be constructed on BLM lands.
**Use a previously conducted onsite?** N

**Previous Onsite information:**

## Other SUPO Attachment

Nailed_SUPO_20200205115730.pdf

# Tap Rock Operating, LLC

**Proposed Nailed It Fed Com Drive Map**

Eddy County, New Mexico