Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
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
224H 327308

2. Name of Operator
TAP ROCK OPERATING LLC

9. API Well No.
30-015-46883

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory
602 Park Point Drive Suite 200, Golden, CO 80401	(720) 460-3316	PURPLE SAGE WOLFCAMP/null

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface LOT 1 / 766 FSL / 668 FEL / LAT 32.0022659 / LONG -103.8282751
At proposed prod. zone NESE / 2466 FSL / 750 FEL / LAT 32.0128149 / LONG -103.8285522

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*	12. County or Parish	13. State
20 miles	EDDY	NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
766 feet	320	288.4

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
25 feet	11760 feet / 16125 feet	FED: NMB001443

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3045 feet	01/01/2020	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	02/24/2020

Title	Office
Assistant Field Manager Lands & Minerals	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

3-19-20
RWP

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 02/24/2020

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.

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Additional Operator Remarks

Location of Well

0. SHL: LOT 1 / 766 FSL / 668 FEL / TWSP: 26S / RANGE: 30E / SECTION: 36 / LAT: 32.0022659 / LONG: -103.8282751 (TVD: 0 feet, MD: 0 feet)

PPP: LOT 1 / 44 FSL / 835 FEL / TWSP: 26S / RANGE: 30E / SECTION: 36 / LAT: 32.000289 / LONG: -103.8288138 (TVD: 10812 feet, MD: 10873 feet)

BHL: NESE / 2466 FSL / 750 FEL / TWSP: 26S / RANGE: 30E / SECTION: 25 / LAT: 32.0128149 / LONG: -103.8285522 (TVD: 11760 feet, MD: 16125 feet)

BLM Point of Contact

Name: Candy Vigil

Title: LIE

Phone: (575) 234-5982

Email: cvigil@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.

☐ **General Provisions**
☐ **Permit Expiration**
☐ **Archaeology, Paleontology, and Historical Sites**
☐ **Noxious Weeds**
☒ **Special Requirements**
Cave/Karst
☐ **Construction**
Notification
Federal Mineral Material Pits
Roads
☐ **Road Section Diagram**

Approval Date: 02/24/2020

		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: 02/24/2020

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.

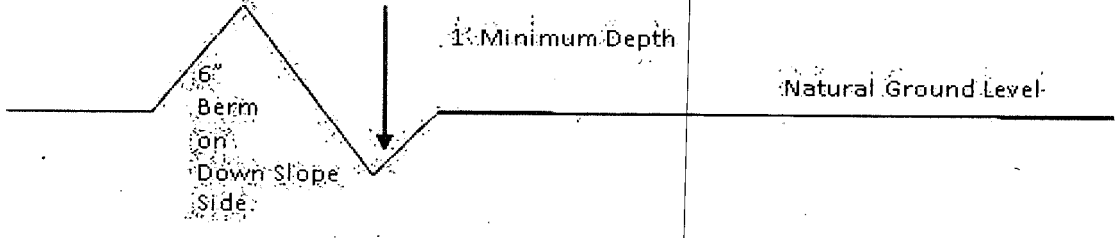
Ditching
Ditching shall be required on both sides of the road.

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

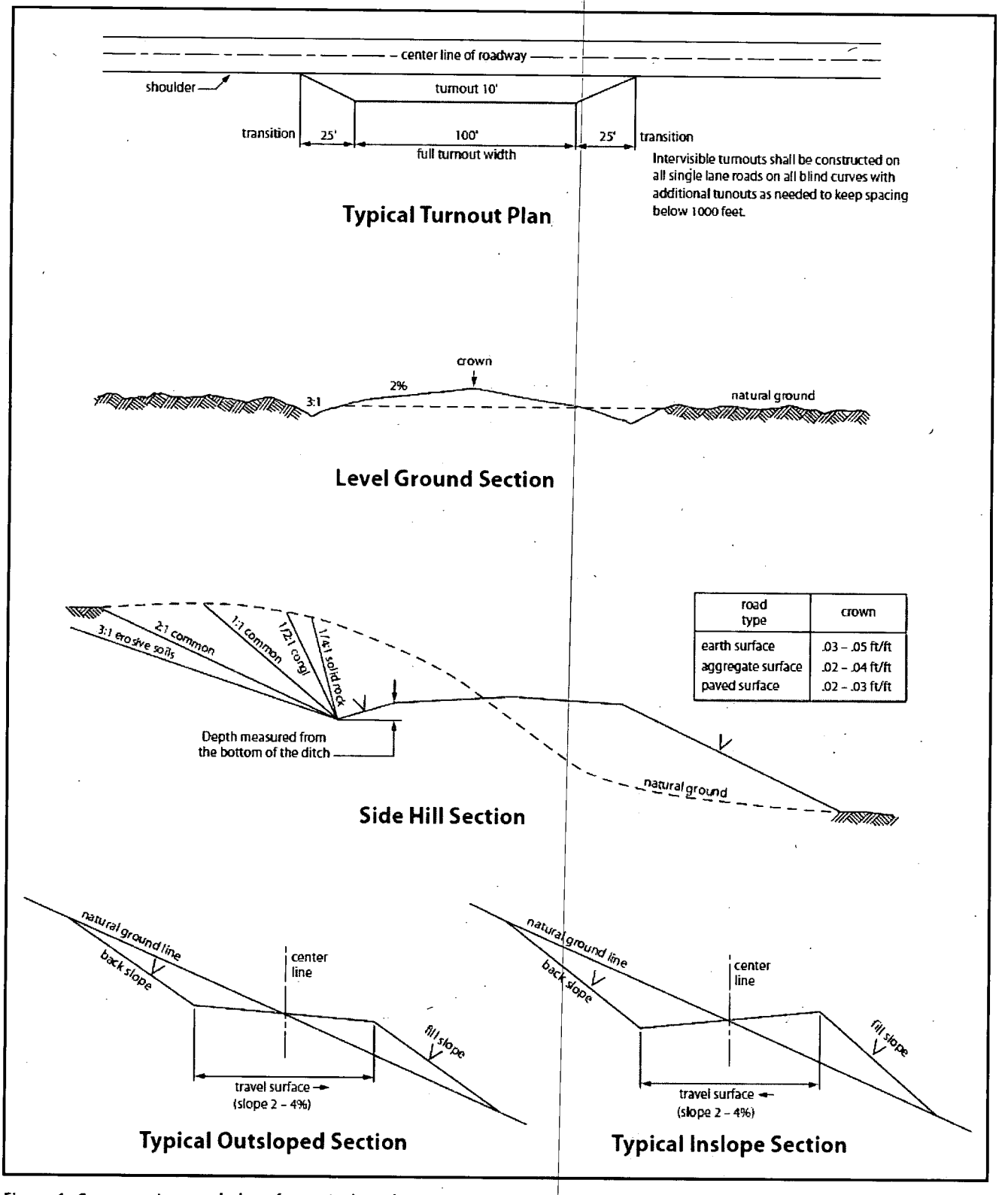


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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 224H
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

02/25/2020

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:** 09/02/2019

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

02/25/2020

APD ID: 10400048141 **Submission Date:** 10/21/2019

Operator Name: TAP ROCK OPERATING LLC

Well Name: NAILED IT FED COM **Well Number:** 224H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400048141 **Tie to previous NOS?** N **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:**

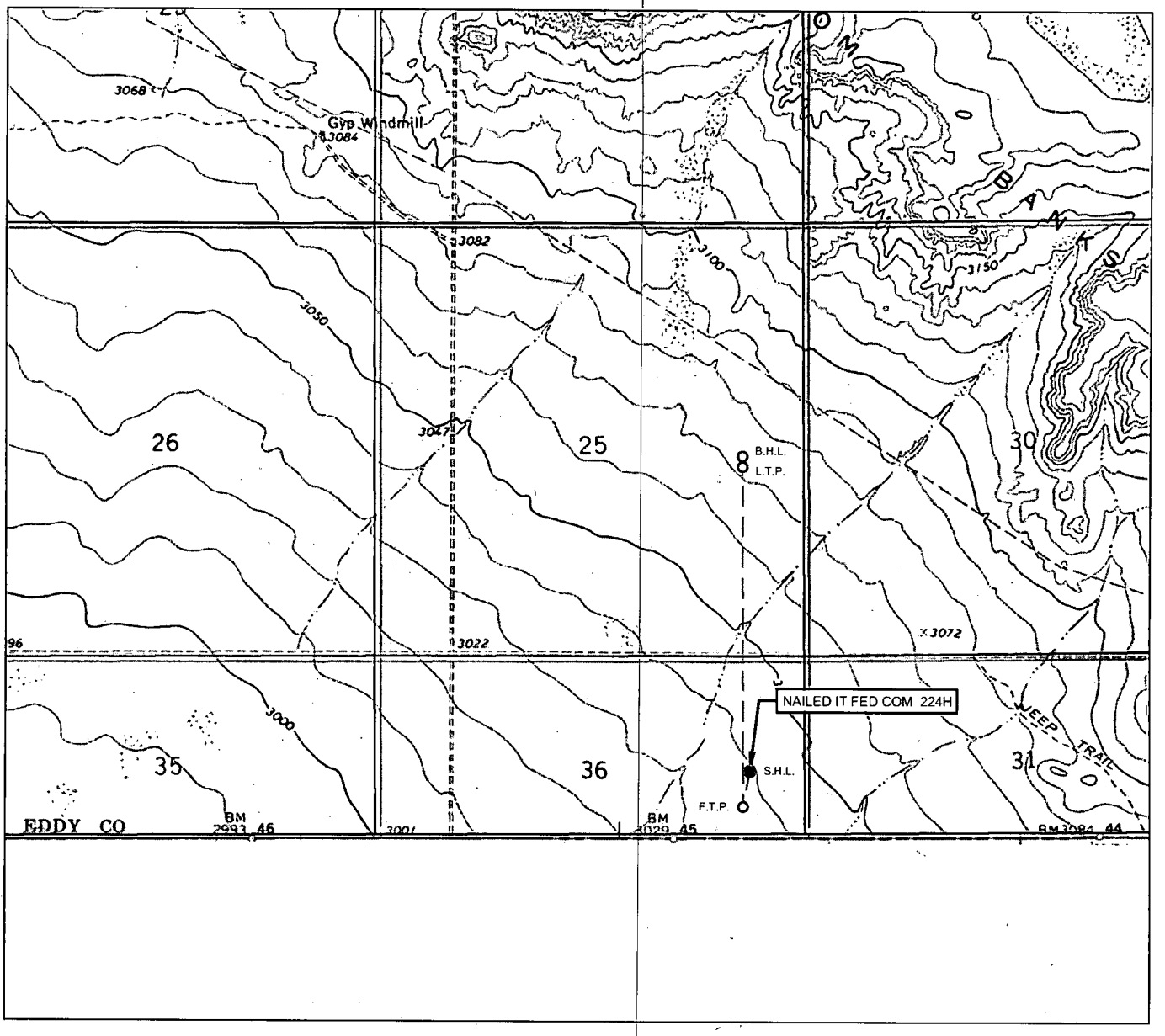
Well in Master Drilling Plan? NO **Master Drilling Plan name:**

Well Name: NAILED IT FED COM **Well Number:** 224H **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

LOCATION & ELEVATION VERIFICATION MAP



TAP ROCK

LEASE NAME & WELL NO.: NAILED IT FED COM 224H

SECTION 36 TWP. 26-S RGE 30-E SURVEY N.M.P.M.
COUNTY EDDY STATE NM ELEVATION 3045'
DESCRIPTION 766' FSL & 668' FEL

LATITUDE N 32.0022659 LONGITUDE W 103.8282751

-N-

SCALE: 1" = 2000'
0' 1000' 2000'

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

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

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TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

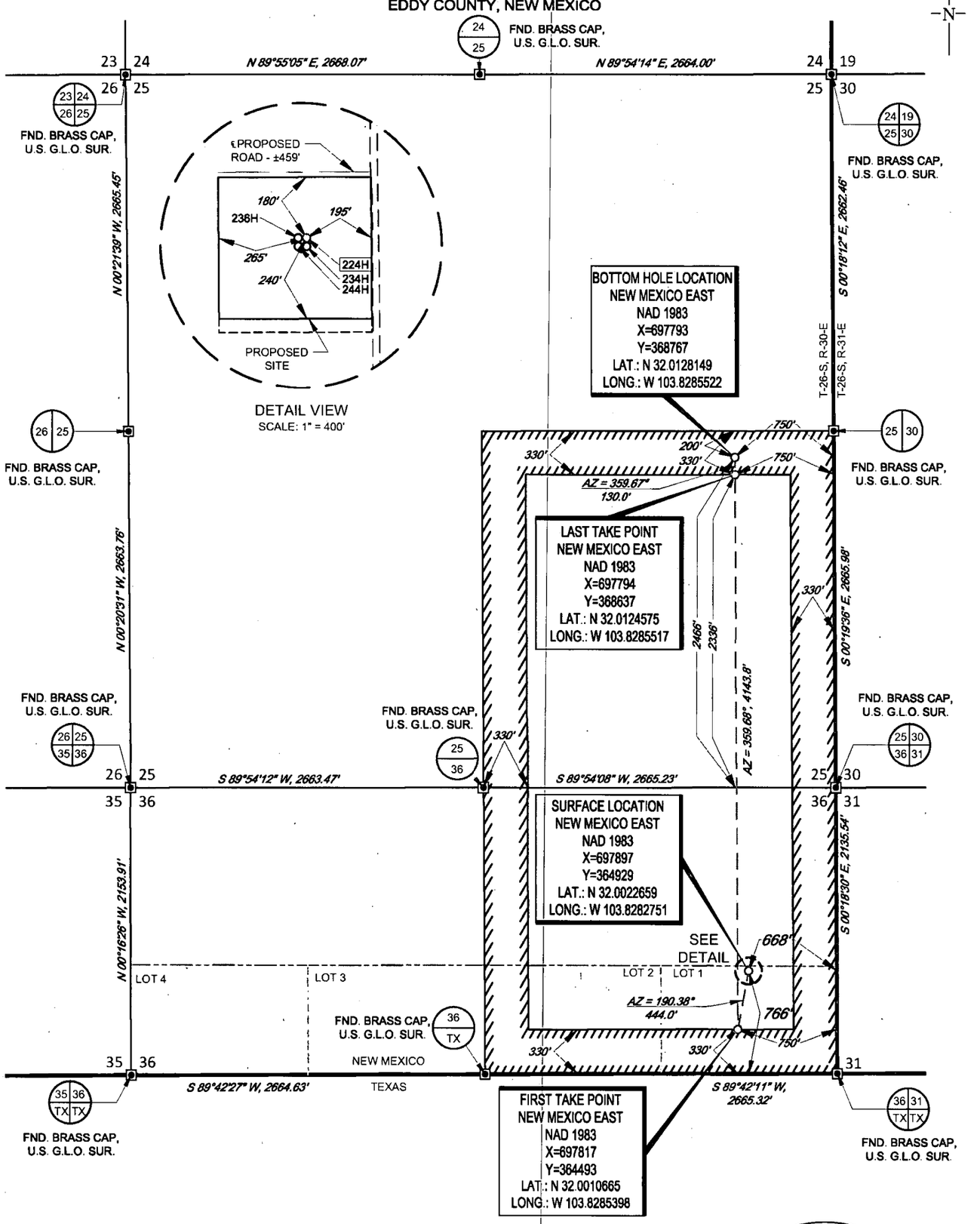
SCALE: 1" = 1000'

0' 500' 1000'

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 224H

SECTION 36 **TWP** 26-S **RGE** 30-E **SURVEY** N.M.P.M.
COUNTY EDDY **STATE** NM
DESCRIPTION 766' FSL & 668' FEL

DISTANCE & DIRECTION

FROM INT. OF US-285 & COUNTY RD 396, 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 WEST (RIGHT) ON PROPOSED RD. ±3.0 MILES, THENCE EAST (LEFT) ON STATE LINE RD. ±7.0 MILES, THENCE SOUTH (RIGHT) ON A LEASE RD. ± 0.2 MILES, THENCE WEST (RIGHT) ON PROPOSED RD. ±226 FEET TO A POINT ±195 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
AUGUST14, 2019

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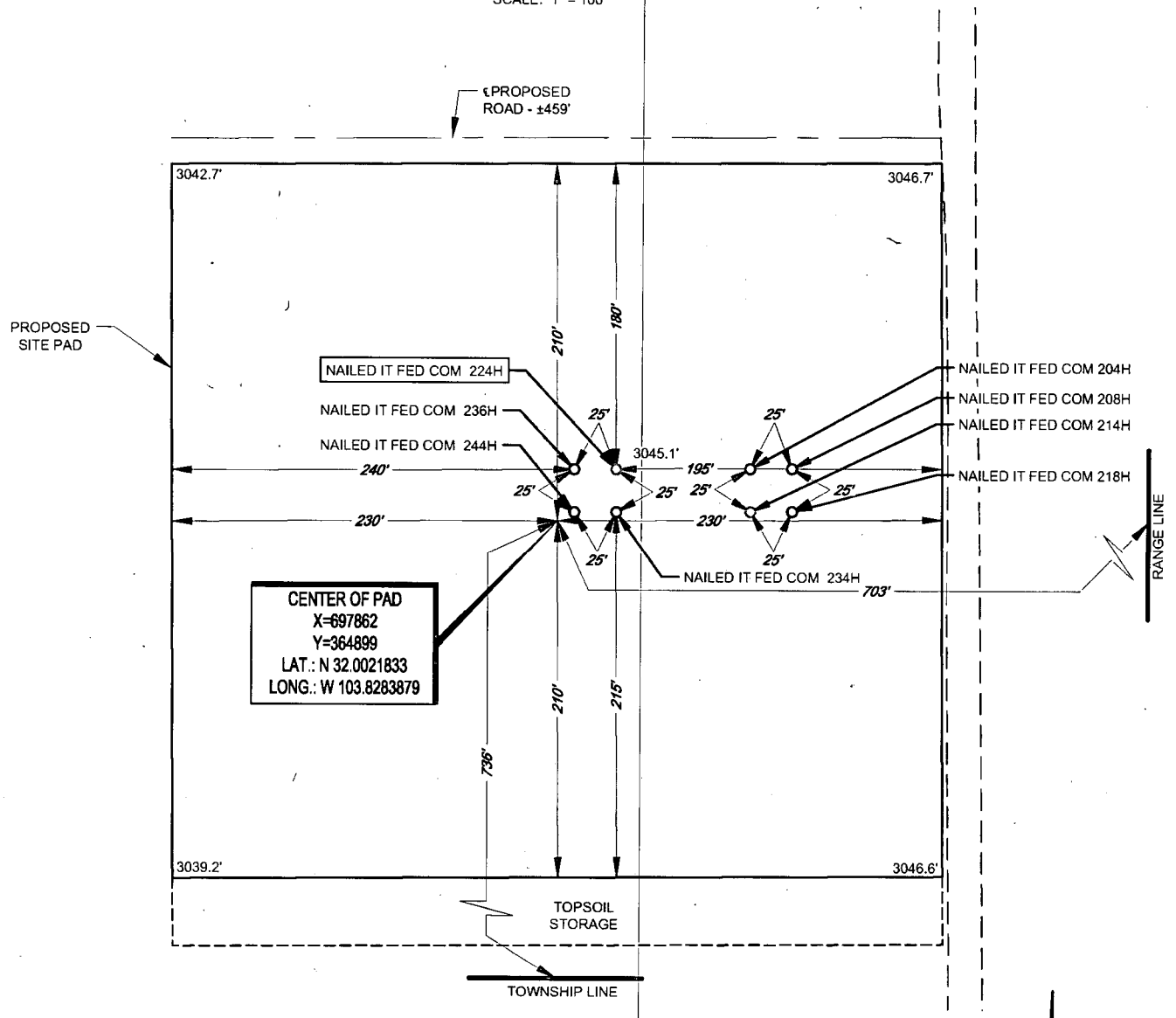
EXHIBIT 2B

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 224H

224H LATITUDE N 32.0022659 224H LONGITUDE W 103.8282751

CENTER OF PAD IS 736' FSL & 703' FEL

-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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TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
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Drilling Plan Data Report
02/25/2020

APD ID: 10400048141
Submission Date: 10/21/2019
Operator Name: TAP ROCK OPERATING LLC
Well Name: NAILED IT FED COM
Well Number: 224H
Well Type: CONVENTIONAL GAS WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
548895	QUATERNARY	3045	0	0	OTHER : None	NONE	N
548896	RUSTLER	2185	860	860	ANHYDRITE	OTHER : Salt	N
548897	SALADO	1633	1412	1412	SALT	OTHER : Salt	N
548898	BASE OF SALT	-406	3451	3455	SALT	OTHER : Salt	N
548899	LAMAR	-618	3663	3671	LIMESTONE	NONE	N
548900	BELL CANYON	-637	3682	3690	SANDSTONE	NATURAL GAS, OIL	N
548901	CHERRY CANYON	-1827	4872	4898	SANDSTONE	NATURAL GAS, OIL	N
548902	BRUSHY CANYON	-2780	5825	5866	SANDSTONE	NATURAL GAS, OIL	N
548903	BONE SPRING	-4529	7574	7635	LIMESTONE	NATURAL GAS, OIL	N
548904	BONE SPRING 1ST	-5474	8519	8580	SANDSTONE	NATURAL GAS, OIL	N
548905	BONE SPRING 2ND	-5824	8869	8930	SANDSTONE	NATURAL GAS, OIL	N
548906	BONE SPRING 3RD	-6708	9753	9814	SANDSTONE	NATURAL GAS, OIL	N
548907	WOLFCAMP	-7767	10812	10873	OTHER : Shale	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: TAP ROCK OPERATING LLC

Well Name: NAILED IT FED COM **Well Number:** 224H

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

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

Requesting Variance? YES

Variance request: Tap Rock requests a variance to run a multi-bowl speed head for setting the Intermediate 1, Intermediate 2, and Production Strings. Tap Rock requests a variance to drill this well using a co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached. The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used. Tap Rock requests a variance to have the option of batch drilling this well with other wells on the same pad. In the event that this well is batch drilled, after drilling surface, 1st intermediate, and 2nd intermediate hole sections and cementing 2nd intermediate casing, a 10M dry hole cap with bleed off valve will be installed. The rig will then walk to another well on the pad. When the rig returns to this well and BOPs are installed, the operator will perform a full BOP test. Tap Rock requests a variance to run 7-5/8" BTC casing inside 9-5/8" BTC casing will be less than the 0.422" stand off regulation. Through conversations with BLM representatives, Tap Rock has received approval for this design as long as the 7-5/8" flush casing was run throughout the entire 300' cement tie back section between 9-5/8" and 7-5/8" casing. Tap Rock requests approval to possibly utilize a spudder rig to drill and set casing for the surface interval on this well. The spudder rig will be possibly utilized in order to reduce cost and save time. The wellhead will be installed and tested as soon as the surface casing is cut off per the existing COAs. A blind flange with the same pressure rating as the wellhead will be installed on the well. Once the spudder rig is removed, Tap Rock will secure the wellhead area by placing a guard rail around the cellar. Pressure will be monitored and a means for intervention will be maintained while the drilling rig is not over the well. Spudder rig operations are expected to take 2-3 days per well. Three wells on the pad will have surface casing set by the spudder rig as a part of this operation. The BLM will be notified 24 hours prior to commencing spudder rig operations. Within 90 days of the departure of the spudder rig, drilling operations will recommence on these wells. This rig will have a BOP stack equal or greater to the pressure rating required in the COAs. The BLM will be notified 24 hours before the larger rig moves on the pre-set wells. Tap Rock will have supervision on the spudder rig to ensure compliance with all BLM and NMOCD regulations.

Testing Procedure: After surface casing is set and the BOP is nipped up, the BOP pressure tests will be made with a third party tester to 250 psi low, 5000 psi high, and the annular preventer will be tested to 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_20190927111106.pdf

BOP Diagram Attachment:

5M_BOP_Stack_20200204144304.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

Operator Name: TAP ROCK OPERATING LLC

Well Name: NAILED IT FED COM **Well Number:** 224H

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	950	0	950	3045	2095	950	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	3391	3009	-346	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	3691	3009	-646	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	10900	0	10838	3009	-7793	10900	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	11100	3391	11038	-346	-7993	7700	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	10900	16125	10838	11760	-7793	-8715	5225	P-110	18	OTHER - W-521	1.13	1.13	DRY	1.6	DRY	1.6

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_20190927111151.pdf

Operator Name: TAP ROCK OPERATING LLC

Well Name: NAILED IT FED COM **Well Number:** 224H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Nailed_Casing_Design_Assumptions_20190927111232.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Nailed_Casing_Design_Assumptions_20190927111215.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Nailed_5.5in_TXP_Casing_Spec_20190927111325.PDF

Nailed_Casing_Design_Assumptions_20190927111332.pdf

Operator Name: TAP ROCK OPERATING LLC

Well Name: NAILED IT FED COM **Well Number:** 224H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Nailed_7.625in_W513_Casing_Spec_20190927111257.pdf

Casing Design Assumptions and Worksheet(s):

Nailed_Casing_Design_Assumptions_20190927111305.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Nailed_5in_W521_Casing_Spec_20190927111359.pdf

Casing Design Assumptions and Worksheet(s):

Nailed_Casing_Design_Assumptions_20190927111405.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Lead		0	0	0	0	0	0	0	None	0
PRODUCTION	Tail		10600	16125	453	1.71	14.2	774	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

Operator Name: TAP ROCK OPERATING LLC

Well Name: NAILED IT FED COM **Well Number:** 224H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	570	440	1.8	13.5	792	100	Class C	None
SURFACE	Tail		570	950	391	1.35	14.8	528	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	10100	317	2.87	11.5	909	35	TXI	Fluid Loss + Dispersant + Retarder + LCM
INTERMEDIATE	Tail		10100	11100	107	1.27	15	136	35	Class H	Fluid Loss + Dispersant + Retarder + LCM

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

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

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

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	950	OTHER : Fresh water spud mud	8.3	8.3							
950	3700	OTHER : Brine Water	10	10							
3700	11100	OTHER : Fresh water/cut brine	9	9							

Operator Name: TAP ROCK OPERATING LLC

Well Name: NAILED IT FED COM **Well Number:** 224H

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
11100	16125	OIL-BASED MUD	12	12							

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: 7330 **Anticipated Surface Pressure:** 4742

Anticipated Bottom Hole Temperature(F): 170

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Nailed_Slot4_H2S_Plan_20190927112209.pdf

Operator Name: TAP ROCK OPERATING LLC

Well Name: NAILED IT FED COM **Well Number:** 224H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

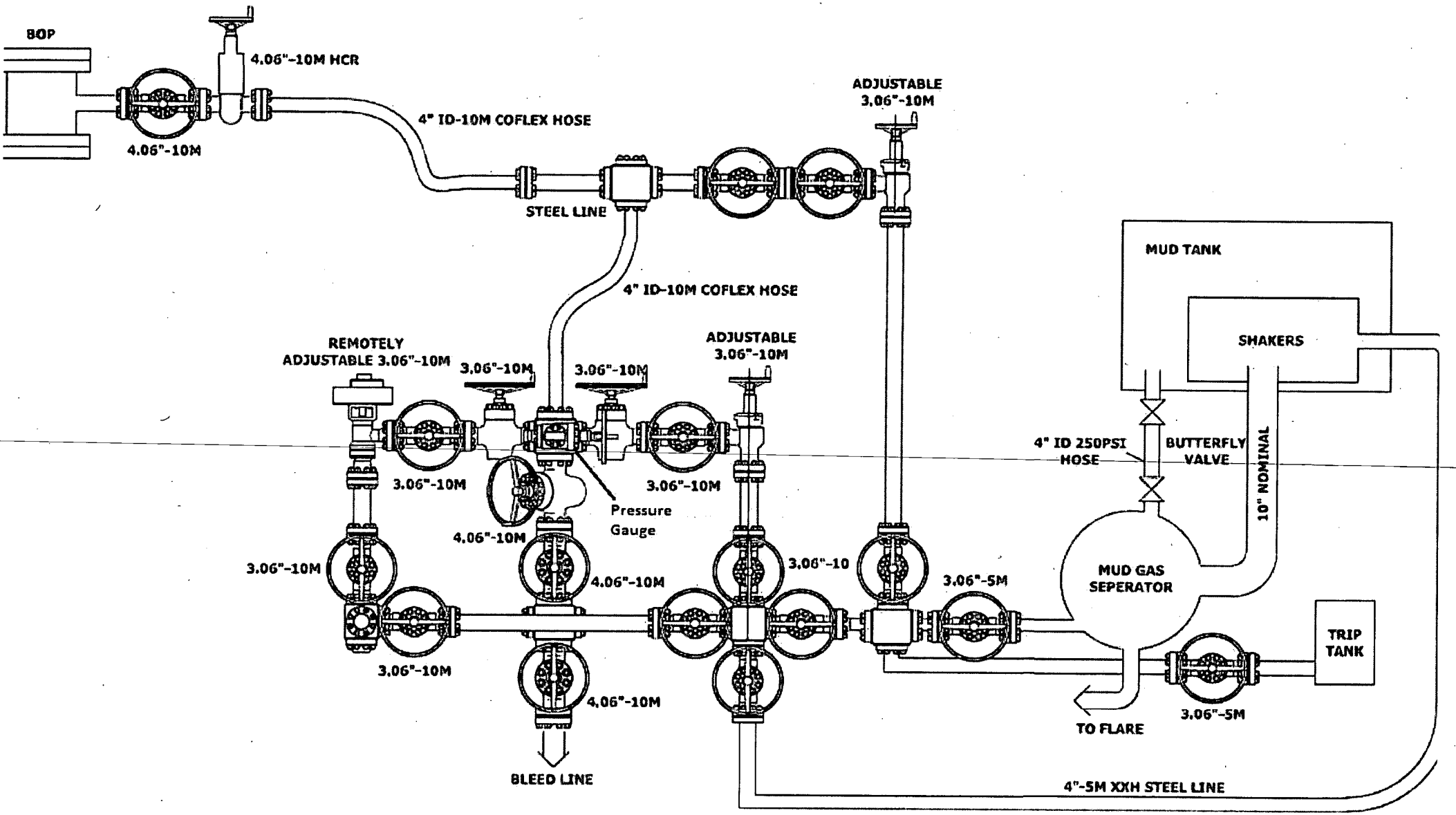
Nailed_224H_Horizontal_Plan_20190927112233.pdf

Other proposed operations facets description:

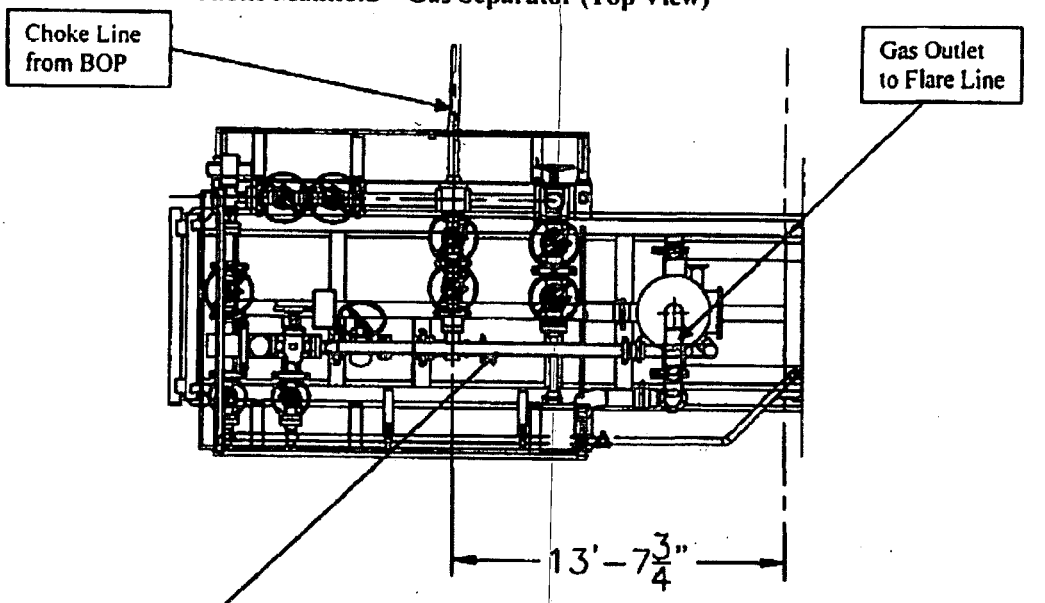
Other proposed operations facets attachment:

CoFlex_Certs_20190927112320.pdf
Nailed_224H_Anticollision_Report_20190927112353.pdf
Nailed_224H_Drill_Plan_v2_020420_20200204144544.pdf
Wellhead_4T_012720_20200204144557.pdf

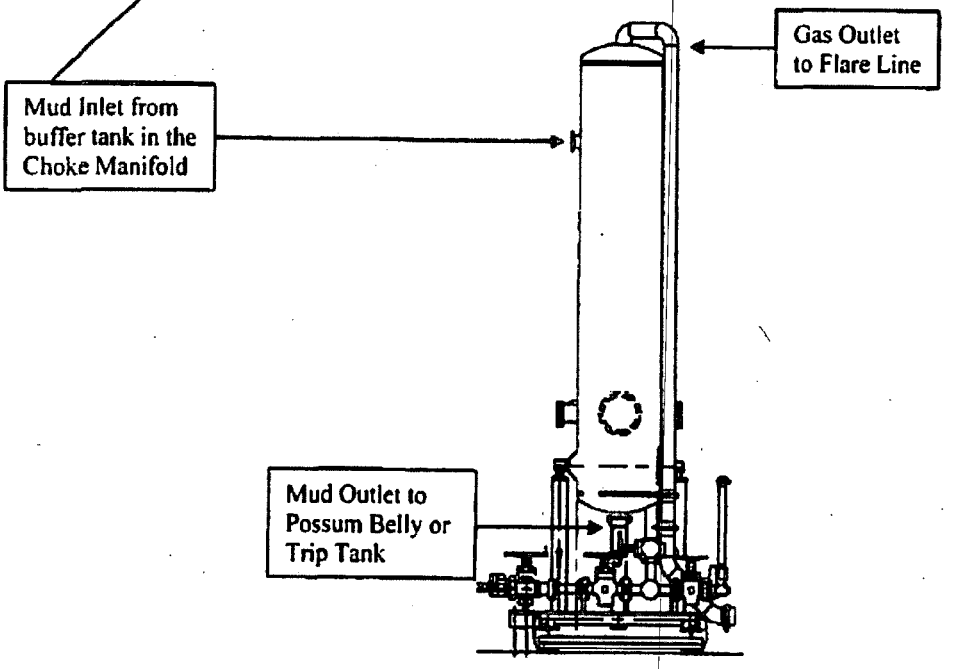
Other Variance attachment:


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

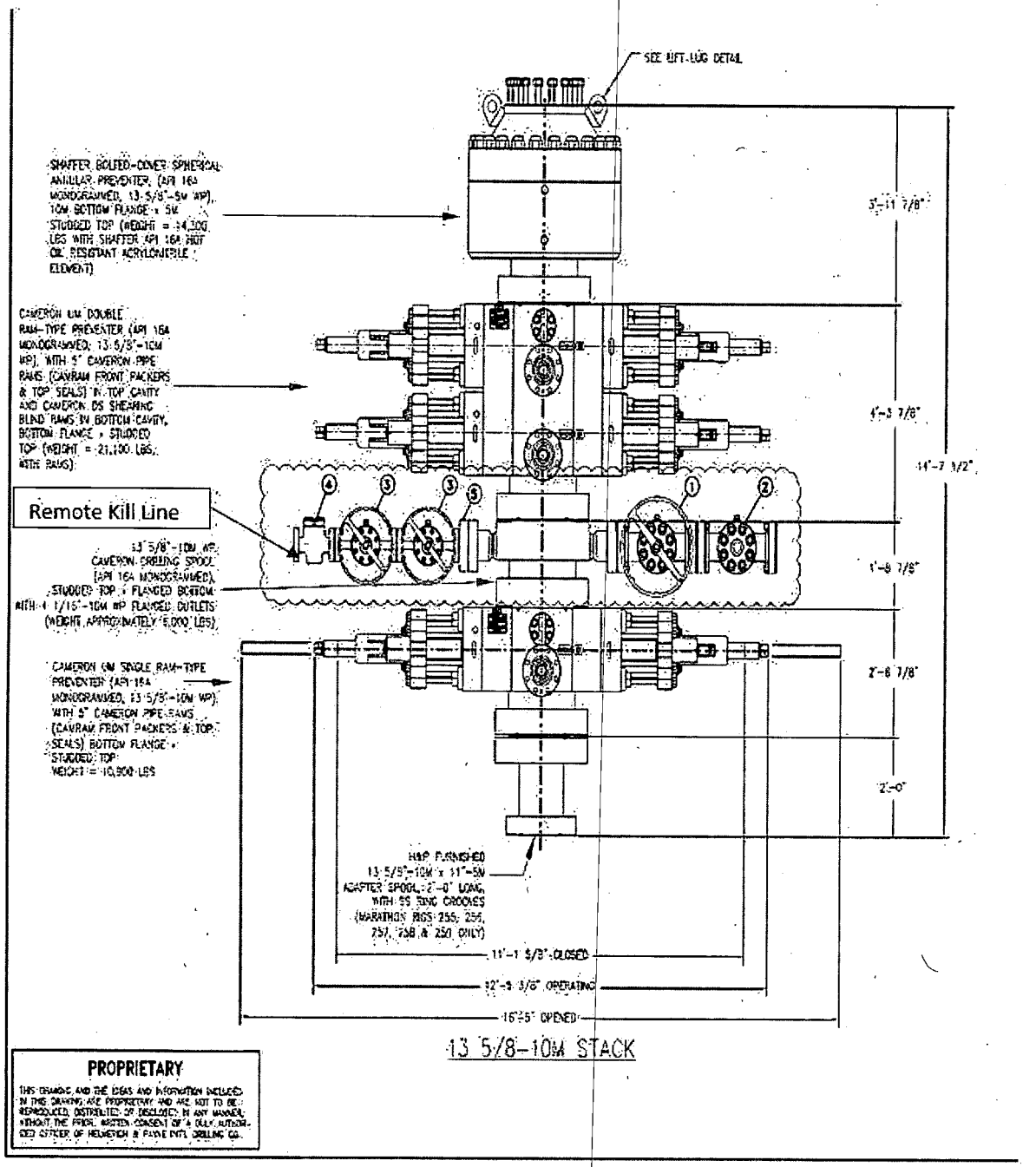
Choke Manifold – Gas Separator (Top View)



Choke Manifold – Gas Separator (Side View)



5,000 psi BOP Stack



13 5/8–10M 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** 1st Band: - 2nd Band: -	1st Band: **White** 2nd Band: - 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** 1st Band: - 2nd Band: -	1st Band: **White** 2nd Band: **Pale Green** 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

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.
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- Strings landed at neutral weight
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- 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

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

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

TAP ROCK

Hydrogen Sulfide Drilling

Operations Plan

Tap Rock Resources

1 H2S safety instructions to the following:

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

2 H2S Detection and Alarm Systems:

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

3 Windsocks and / Wind Streamers:

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

4 Condition Flags and Signs:

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

5 Well Control Equipment:

- See Drilling Operations Plan Schematics

6 Communication:

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

7 Drilling Stem Testing:

- No DST cores are planned at this time

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

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

11 Emergency Contacts

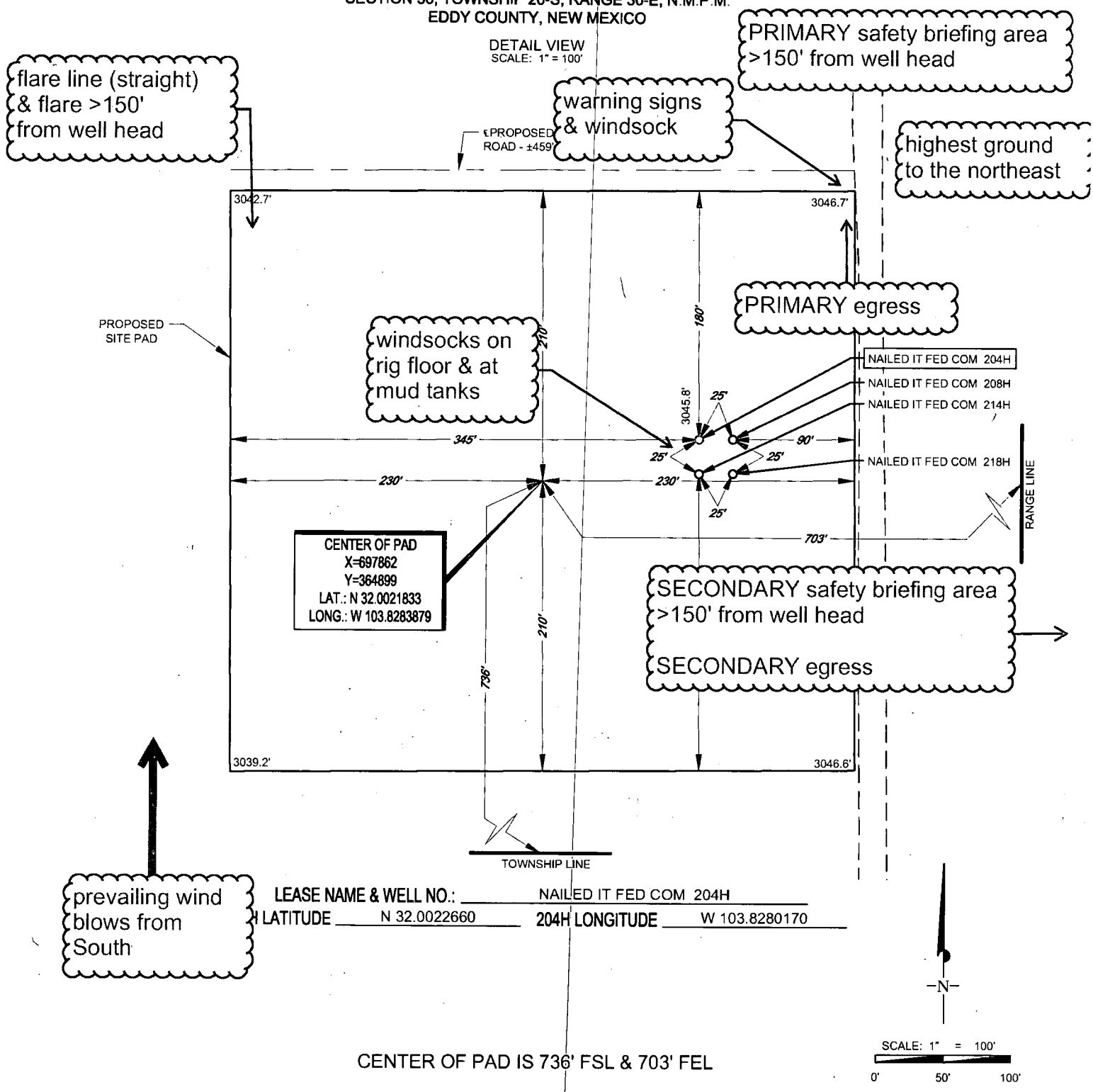
Emergency Contacts		
Carlsbad Police Department	575.887.7551	911
Carlsbad Medical Center	575.887.4100	911
Eddy County Fire Service	575.628.5450	911
Eddy County Sherriff	575.887.7551	911
Lea County Fire Service	575.391.2983	911
Lea County Sherriff	575.396.3611	911
Jal Police Department	575.395.2121	911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

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'



CENTER OF PAD IS 736' FSL & 703' FEL

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

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

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

ORIGINAL DOCUMENT SIZE: 8.5" X 11"

Tap Rock Resources, LLC.
Project: Eddy Co, NM
Site: Nailed It Fed Com
Well: 224H
Wellbore: OH
Plan: Plan #1 (224H/OH)

WELL DETAILS: 224H

Ground Elevation:: 3030.0
RKB Elevation: WELL @ 3071.0usft (26' RKB)
Rig Name: 26' RKB

Surface Hole Location

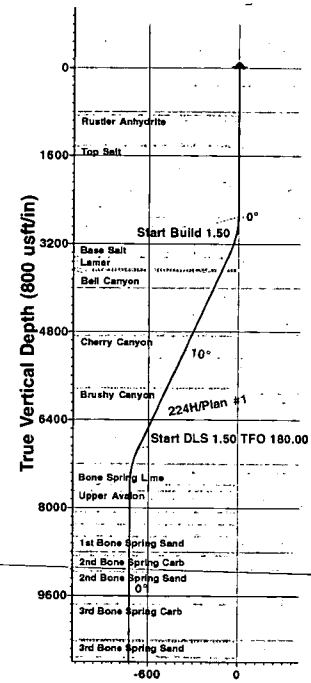
Northing	Easting	Latitude	Longitude
364929.48	697896.57	32° 0' 8.157 N	103° 49' 41.790 W

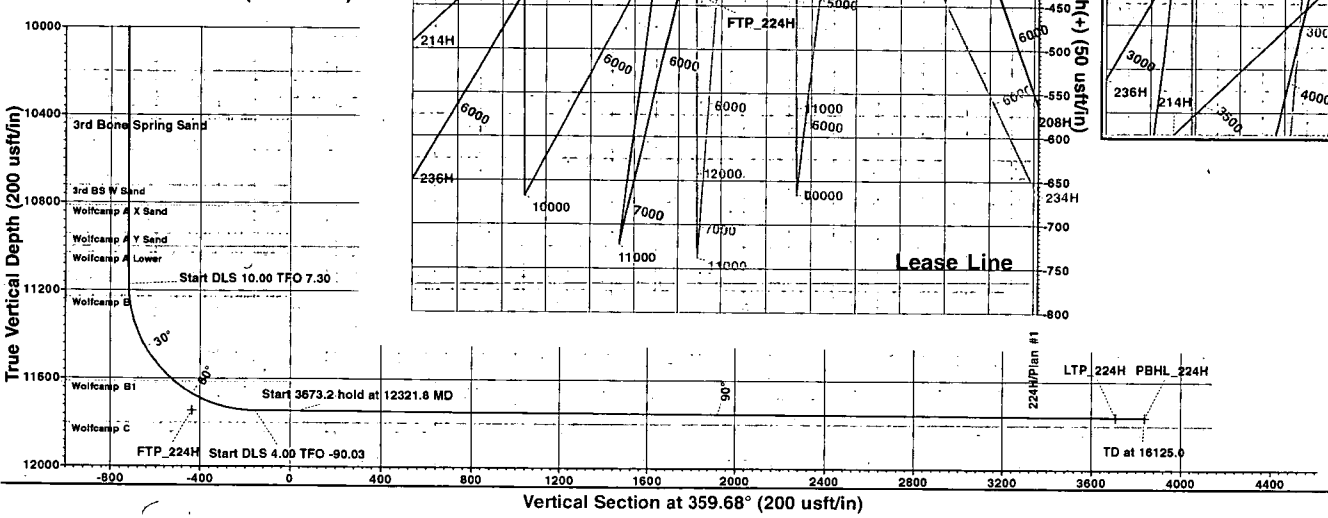
Azimuths to Grid North
True North: -0.27°
Magnetic North: 6.55°

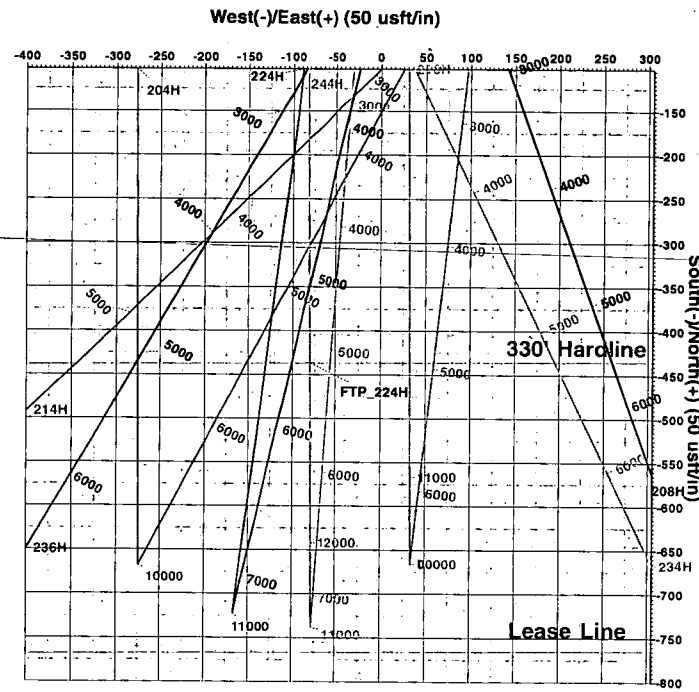
Magnetic Field
Strength: 47555.3snT
Dip Angle: 59.79°
Date: 9/3/2019
Model: IGRF2015

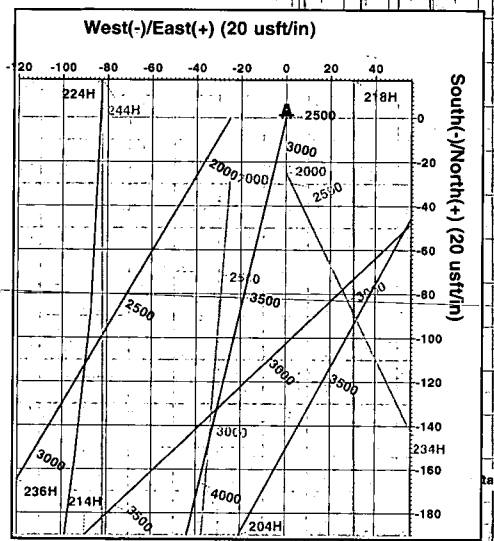
Section Details

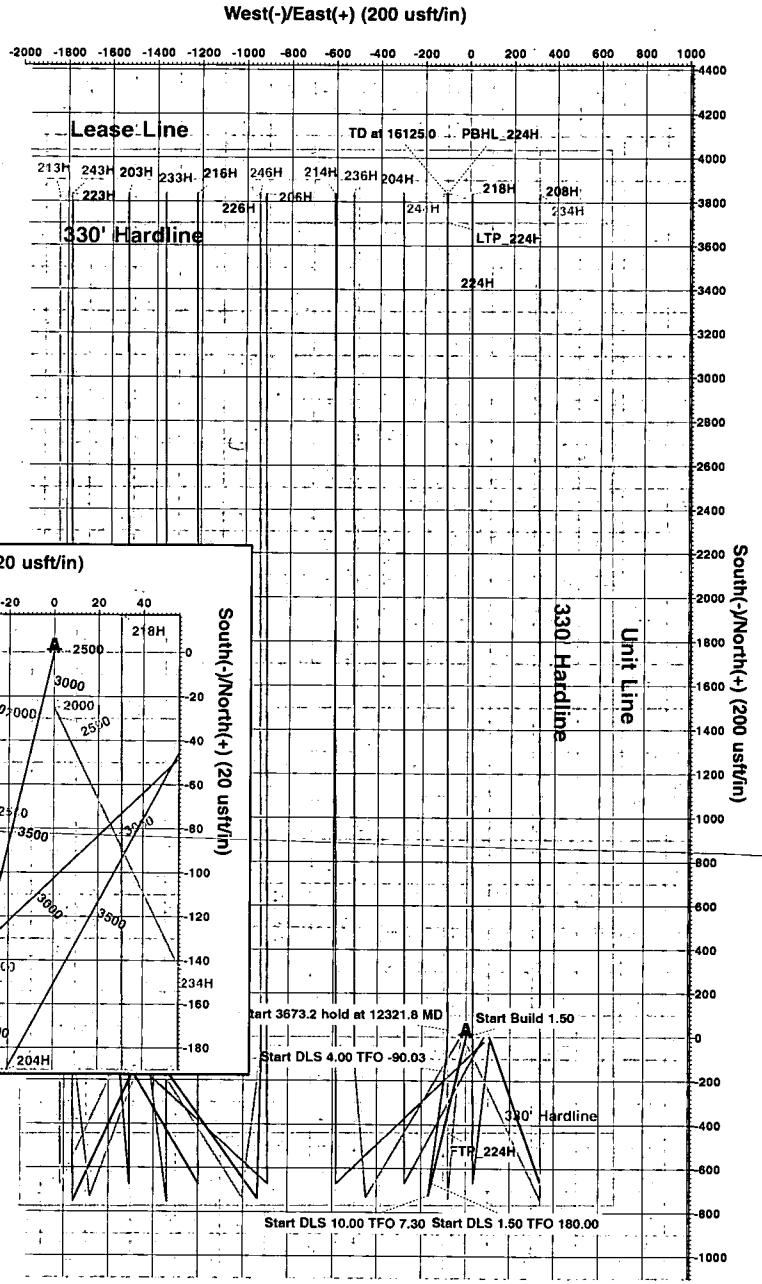
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	2700.0	0.00	0.00	2700.0	0.0	0.0	0.00	0.00	0.0	
3	3366.7	10.00	193.00	3363.3	-56.5	-13.1	1.50	193.00	-56.5	
4	6966.7	10.00	193.00	6908.6	-665.7	-153.7	0.00	0.00	-664.8	
5	7633.3	0.00	0.00	7571.9	-722.2	-166.7	1.50	180.00	-721.3	
6	11233.5	0.00	0.00	11172.0	-722.2	-166.7	0.00	0.00	-721.3	
7	12131.3	89.78	7.30	11745.0	-156.0	-94.2	10.00	7.30	-155.5	
8	12321.8	89.78	359.68	11745.7	34.0	-82.6	4.00	-90.03	34.4	
9	15995.0	89.78	359.68	11760.0	3707.0	-103.1	0.00	0.00	3707.6	LTP_224H
10	16125.0	89.78	359.68	11760.5	3837.1	-103.8	0.00	0.00	3837.6	PBHL_224H











PROJECT DETAILS: Eddy Co, NM
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 (224H/OH)
Created By: MIH Consulting Date: 20:20, September 20 2019

Tap Rock Resources

Eddy Co, NM
Nailed It Fed Com
224H

OH

Plan: Plan #1

Standard Planning Report

04 September, 2019

Project	Eddy Co, NM				
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:**	364,379.32 usft	**Latitude:**	32° 0' 2.836 N
From:	Lat/Long	**Easting:**	695,207.24 usft	**Longitude:**	103° 50' 13.051 W
Position Uncertainty:	2.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.26 °

Well	224H					
Well Position	**+N/-S**	550.2 usft	**Northing:**	364,929.48 usft	**Latitude:**	32° 0' 8.157 N
	+E/-W	2,689.3 usft	**Easting:**	697,896.57 usft	**Longitude:**	103° 49' 41.790 W
Position Uncertainty		2.0 usft	**Wellhead Elevation:**		**Ground Level:**	3,045.0 usft

Wellbore	OH				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	9/3/2019	6.82	59.79	47,555.30498219

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	359.68	

Plan Survey Tool Program **Date** 9/4/2019

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	16,125.0	Plan #1 (OH)	MWD	
				MWD - Standard	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,366.7	10.00	193.00	3,363.3	-56.5	-13.1	1.50	1.50	0.00	193.00	
6,966.7	10.00	193.00	6,908.6	-665.7	-153.7	0.00	0.00	0.00	0.00	
7,633.3	0.00	0.00	7,571.9	-722.2	-166.7	1.50	-1.50	25.05	180.00	
11,233.5	0.00	0.00	11,172.0	-722.2	-166.7	0.00	0.00	0.00	0.00	
12,131.3	89.78	7.30	11,745.0	-156.0	-94.2	10.00	10.00	0.00	7.30	
12,321.8	89.78	359.68	11,745.7	34.0	-82.6	4.00	0.00	-4.00	-90.03	
15,995.0	89.78	359.68	11,760.0	3,707.0	-103.1	0.00	0.00	0.00	0.00	LTP_224H
16,125.0	89.78	359.68	11,760.5	3,837.1	-103.8	0.00	0.00	0.00	0.00	PBHL_224H

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
860.0	0.00	0.00	860.0	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
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,412.0	0.00	0.00	1,412.0	0.0	0.0	0.0	0.00	0.00	0.00
Top Salt									
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
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 1.50									
2,800.0	1.50	193.00	2,800.0	-1.3	-0.3	-1.3	1.50	1.50	0.00
2,900.0	3.00	193.00	2,899.9	-5.1	-1.2	-5.1	1.50	1.50	0.00
3,000.0	4.50	193.00	2,999.7	-11.5	-2.6	-11.5	1.50	1.50	0.00
3,100.0	6.00	193.00	3,099.3	-20.4	-4.7	-20.4	1.50	1.50	0.00
3,200.0	7.50	193.00	3,198.6	-31.8	-7.4	-31.8	1.50	1.50	0.00
3,300.0	9.00	193.00	3,297.5	-45.8	-10.6	-45.8	1.50	1.50	0.00
3,366.7	10.00	193.00	3,363.3	-56.5	-13.1	-56.5	1.50	1.50	0.00
Start 3600.0 hold at 3366.7 MD									
3,400.0	10.00	193.00	3,396.1	-62.2	-14.4	-62.1	0.00	0.00	0.00
3,455.7	10.00	193.00	3,451.0	-71.6	-16.5	-71.5	0.00	0.00	0.00
Base Salt									
3,500.0	10.00	193.00	3,494.6	-79.1	-18.3	-79.0	0.00	0.00	0.00
3,600.0	10.00	193.00	3,593.1	-96.0	-22.2	-95.9	0.00	0.00	0.00
3,663.9	10.00	193.00	3,656.0	-106.8	-24.7	-106.7	0.00	0.00	0.00
Delaware Mountain Gp									
3,671.0	10.00	193.00	3,663.0	-108.0	-24.9	-107.9	0.00	0.00	0.00
Lamar									
3,690.3	10.00	193.00	3,682.0	-111.3	-25.7	-111.2	0.00	0.00	0.00
Bell Canyon									
3,700.0	10.00	193.00	3,691.6	-112.9	-26.1	-112.8	0.00	0.00	0.00
3,702.5	10.00	193.00	3,694.0	-113.4	-26.2	-113.2	0.00	0.00	0.00
Ramsey Sand									
3,800.0	10.00	193.00	3,790.0	-129.9	-30.0	-129.7	0.00	0.00	0.00
3,900.0	10.00	193.00	3,888.5	-146.8	-33.9	-146.6	0.00	0.00	0.00
4,000.0	10.00	193.00	3,987.0	-163.7	-37.8	-163.5	0.00	0.00	0.00
4,100.0	10.00	193.00	4,085.5	-180.6	-41.7	-180.4	0.00	0.00	0.00
4,200.0	10.00	193.00	4,184.0	-197.5	-45.6	-197.3	0.00	0.00	0.00
4,300.0	10.00	193.00	4,282.4	-214.5	-49.5	-214.2	0.00	0.00	0.00
4,400.0	10.00	193.00	4,380.9	-231.4	-53.4	-231.1	0.00	0.00	0.00
4,500.0	10.00	193.00	4,479.4	-248.3	-57.3	-248.0	0.00	0.00	0.00
4,600.0	10.00	193.00	4,577.9	-265.2	-61.2	-264.9	0.00	0.00	0.00
4,700.0	10.00	193.00	4,676.4	-282.1	-65.1	-281.8	0.00	0.00	0.00
4,800.0	10.00	193.00	4,774.8	-299.1	-69.0	-298.7	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)
4,898.7	10.00	193.00	4,872.0	-315.8	-72.9	-315.3	0.00	0.00	0.00
Cherry Canyon									
4,900.0	10.00	193.00	4,873.3	-316.0	-72.9	-315.6	0.00	0.00	0.00
5,000.0	10.00	193.00	4,971.8	-332.9	-76.9	-332.5	0.00	0.00	0.00
5,100.0	10.00	193.00	5,070.3	-349.8	-80.8	-349.4	0.00	0.00	0.00
5,200.0	10.00	193.00	5,168.8	-366.7	-84.7	-366.3	0.00	0.00	0.00
5,300.0	10.00	193.00	5,267.2	-383.7	-88.6	-383.2	0.00	0.00	0.00
5,400.0	10.00	193.00	5,365.7	-400.6	-92.5	-400.1	0.00	0.00	0.00
5,500.0	10.00	193.00	5,464.2	-417.5	-96.4	-417.0	0.00	0.00	0.00
5,600.0	10.00	193.00	5,562.7	-434.4	-100.3	-433.9	0.00	0.00	0.00
5,700.0	10.00	193.00	5,661.2	-451.3	-104.2	-450.7	0.00	0.00	0.00
5,800.0	10.00	193.00	5,759.7	-468.3	-108.1	-467.6	0.00	0.00	0.00
5,866.4	10.00	193.00	5,825.0	-479.5	-110.7	-478.9	0.00	0.00	0.00
Brushy Canyon									
5,900.0	10.00	193.00	5,858.1	-485.2	-112.0	-484.5	0.00	0.00	0.00
6,000.0	10.00	193.00	5,956.6	-502.1	-115.9	-501.4	0.00	0.00	0.00
6,100.0	10.00	193.00	6,055.1	-519.0	-119.8	-518.3	0.00	0.00	0.00
6,200.0	10.00	193.00	6,153.6	-535.9	-123.7	-535.2	0.00	0.00	0.00
6,300.0	10.00	193.00	6,252.1	-552.9	-127.6	-552.1	0.00	0.00	0.00
6,400.0	10.00	193.00	6,350.5	-569.8	-131.5	-569.0	0.00	0.00	0.00
6,500.0	10.00	193.00	6,449.0	-586.7	-135.4	-585.9	0.00	0.00	0.00
6,600.0	10.00	193.00	6,547.5	-603.6	-139.4	-602.8	0.00	0.00	0.00
6,700.0	10.00	193.00	6,646.0	-620.5	-143.3	-619.7	0.00	0.00	0.00
6,800.0	10.00	193.00	6,744.5	-637.5	-147.2	-636.6	0.00	0.00	0.00
6,900.0	10.00	193.00	6,842.9	-654.4	-151.1	-653.5	0.00	0.00	0.00
6,966.7	10.00	193.00	6,908.6	-665.7	-153.7	-664.8	0.00	0.00	0.00
Start DLS 1.50 TFO 180.00									
7,000.0	9.50	193.00	6,941.4	-671.2	-154.9	-670.3	1.50	-1.50	0.00
7,100.0	8.00	193.00	7,040.3	-686.0	-158.4	-685.1	1.50	-1.50	0.00
7,200.0	6.50	193.00	7,139.5	-698.3	-161.2	-697.4	1.50	-1.50	0.00
7,300.0	5.00	193.00	7,239.0	-708.0	-163.5	-707.1	1.50	-1.50	0.00
7,400.0	3.50	193.00	7,338.7	-715.3	-165.1	-714.3	1.50	-1.50	0.00
7,500.0	2.00	193.00	7,438.6	-719.9	-166.2	-719.0	1.50	-1.50	0.00
7,600.0	0.50	193.00	7,538.5	-722.1	-166.7	-721.1	1.50	-1.50	0.00
7,633.3	0.00	0.00	7,571.9	-722.2	-166.7	-721.3	1.50	-1.50	501.00
Start 3600.1 hold at 7633.3 MD									
7,635.5	0.00	0.00	7,574.0	-722.2	-166.7	-721.3	0.00	0.00	0.00
Bone Spring Lime									
7,700.0	0.00	0.00	7,638.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
7,753.5	0.00	0.00	7,692.0	-722.2	-166.7	-721.3	0.00	0.00	0.00
Upper Avalon									
7,800.0	0.00	0.00	7,738.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
7,900.0	0.00	0.00	7,838.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
8,000.0	0.00	0.00	7,938.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
8,100.0	0.00	0.00	8,038.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
8,140.5	0.00	0.00	8,079.0	-722.2	-166.7	-721.3	0.00	0.00	0.00
Middle Avalon									
8,200.0	0.00	0.00	8,138.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
8,300.0	0.00	0.00	8,238.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
8,364.5	0.00	0.00	8,303.0	-722.2	-166.7	-721.3	0.00	0.00	0.00
Lower Avalon									
8,400.0	0.00	0.00	8,338.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
8,500.0	0.00	0.00	8,438.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
8,580.5	0.00	0.00	8,519.0	-722.2	-166.7	-721.3	0.00	0.00	0.00
1st Bone Spring Sand									
8,600.0	0.00	0.00	8,538.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
8,700.0	0.00	0.00	8,638.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
8,800.0	0.00	0.00	8,738.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
8,900.0	0.00	0.00	8,838.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
8,930.5	0.00	0.00	8,869.0	-722.2	-166.7	-721.3	0.00	0.00	0.00
2nd Bone Spring Carb									
9,000.0	0.00	0.00	8,938.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
9,100.0	0.00	0.00	9,038.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
9,200.0	0.00	0.00	9,138.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
9,215.5	0.00	0.00	9,154.0	-722.2	-166.7	-721.3	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)
2nd Bone Spring Sand									
9,300.0	0.00	0.00	9,238.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
9,400.0	0.00	0.00	9,338.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
9,500.0	0.00	0.00	9,438.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
9,600.0	0.00	0.00	9,538.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
9,700.0	0.00	0.00	9,638.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
9,800.0	0.00	0.00	9,738.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
9,814.5	0.00	0.00	9,753.0	-722.2	-166.7	-721.3	0.00	0.00	0.00
3rd Bone Spring Carb									
9,900.0	0.00	0.00	9,838.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
10,000.0	0.00	0.00	9,938.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
10,100.0	0.00	0.00	10,038.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
10,200.0	0.00	0.00	10,138.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
10,300.0	0.00	0.00	10,238.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
10,400.0	0.00	0.00	10,338.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
10,482.5	0.00	0.00	10,421.0	-722.2	-166.7	-721.3	0.00	0.00	0.00
3rd Bone Spring Sand									
10,500.0	0.00	0.00	10,438.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
10,600.0	0.00	0.00	10,538.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
10,700.0	0.00	0.00	10,638.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
10,782.5	0.00	0.00	10,721.0	-722.2	-166.7	-721.3	0.00	0.00	0.00
3rd BS W Sand									
10,800.0	0.00	0.00	10,738.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
10,873.5	0.00	0.00	10,812.0	-722.2	-166.7	-721.3	0.00	0.00	0.00
Wolfcamp A X Sand									
10,900.0	0.00	0.00	10,838.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
11,000.0	0.00	0.00	10,938.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
11,002.5	0.00	0.00	10,941.0	-722.2	-166.7	-721.3	0.00	0.00	0.00
Wolfcamp A Y Sand									
11,089.5	0.00	0.00	11,028.0	-722.2	-166.7	-721.3	0.00	0.00	0.00
Wolfcamp A Lower									
11,100.0	0.00	0.00	11,038.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
11,200.0	0.00	0.00	11,138.5	-722.2	-166.7	-721.3	0.00	0.00	0.00
11,233.5	0.00	0.00	11,172.0	-722.2	-166.7	-721.3	0.00	0.00	0.00
Start DLS 10.00 TFO 7.30									
11,250.0	1.65	7.30	11,188.5	-722.0	-166.7	-721.0	10.00	10.00	44.11
11,288.5	5.51	7.30	11,227.0	-719.6	-166.4	-718.6	10.00	10.00	0.00
Wolfcamp B									
11,300.0	6.65	7.30	11,238.4	-718.4	-166.2	-717.4	10.00	10.00	0.00
11,350.0	11.65	7.30	11,287.7	-710.5	-165.2	-709.5	10.00	10.00	0.00
11,400.0	16.65	7.30	11,336.2	-698.4	-163.7	-697.4	10.00	10.00	0.00
11,450.0	21.65	7.30	11,383.4	-682.1	-161.6	-681.2	10.00	10.00	0.00
11,500.0	26.65	7.30	11,429.0	-661.8	-159.0	-660.9	10.00	10.00	0.00
11,550.0	31.65	7.30	11,472.7	-637.7	-155.9	-636.8	10.00	10.00	0.00
11,600.0	36.65	7.30	11,514.1	-609.8	-152.3	-609.0	10.00	10.00	0.00
11,650.0	41.65	7.30	11,552.8	-578.5	-148.3	-577.7	10.00	10.00	0.00
11,700.0	46.65	7.30	11,588.7	-544.0	-143.9	-543.2	10.00	10.00	0.00
11,733.6	50.01	7.30	11,611.0	-519.1	-140.7	-518.3	10.00	10.00	0.00
Wolfcamp B1									
11,750.0	51.65	7.30	11,621.4	-506.5	-139.1	-505.7	10.00	10.00	0.00
11,800.0	56.65	7.30	11,650.6	-466.3	-134.0	-465.5	10.00	10.00	0.00
11,850.0	61.65	7.30	11,676.3	-423.7	-128.5	-423.0	10.00	10.00	0.00
11,873.9	64.04	7.30	11,687.2	-402.6	-125.8	-401.9	10.00	10.00	0.00
FTP_224H									
11,894.7	66.12	7.30	11,696.0	-383.9	-123.4	-383.2	10.00	10.00	0.00
FTP_236H									
11,900.0	66.65	7.30	11,698.1	-379.1	-122.8	-378.4	10.00	10.00	0.00
11,950.0	71.65	7.30	11,715.9	-332.8	-116.8	-332.1	10.00	10.00	0.00
11,967.7	73.42	7.30	11,721.2	-316.1	-114.7	-315.4	10.00	10.00	0.00
FTP_234H									
12,000.0	76.65	7.30	11,729.5	-285.1	-110.7	-284.5	10.00	10.00	0.00
FTP_244H									
12,050.0	81.65	7.30	11,738.9	-236.4	-104.5	-235.8	10.00	10.00	0.00
12,100.0	86.65	7.30	11,744.0	-187.1	-98.2	-186.5	10.00	10.00	0.00
12,131.3	89.78	7.30	11,745.0	-156.0	-94.2	-155.5	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 4.00 TFO -90.03									
12,200.0	89.78	4.55	11,745.3	-87.7	-87.1	-87.2	4.00	0.00	-4.00
12,300.0	89.78	0.55	11,745.7	12.2	-82.7	12.6	4.00	0.00	-4.00
12,321.8	89.78	359.68	11,745.7	34.0	-82.6	34.4	4.00	0.00	-4.00
Start 3673.2 hold at 12321.8 MD									
12,400.0	89.78	359.68	11,746.0	112.2	-83.1	112.6	0.00	0.00	0.00
12,500.0	89.78	359.68	11,746.4	212.2	-83.6	212.6	0.00	0.00	0.00
12,600.0	89.78	359.68	11,746.8	312.2	-84.2	312.6	0.00	0.00	0.00
12,700.0	89.78	359.68	11,747.2	412.2	-84.7	412.6	0.00	0.00	0.00
12,800.0	89.78	359.68	11,747.6	512.2	-85.3	512.6	0.00	0.00	0.00
12,900.0	89.78	359.68	11,748.0	612.1	-85.8	612.6	0.00	0.00	0.00
13,000.0	89.78	359.68	11,748.4	712.1	-86.4	712.6	0.00	0.00	0.00
13,100.0	89.78	359.68	11,748.8	812.1	-86.9	812.6	0.00	0.00	0.00
13,200.0	89.78	359.68	11,749.1	912.1	-87.5	912.6	0.00	0.00	0.00
13,300.0	89.78	359.68	11,749.5	1,012.1	-88.1	1,012.6	0.00	0.00	0.00
13,400.0	89.78	359.68	11,749.9	1,112.1	-88.6	1,112.6	0.00	0.00	0.00
13,500.0	89.78	359.68	11,750.3	1,212.1	-89.2	1,212.6	0.00	0.00	0.00
13,600.0	89.78	359.68	11,750.7	1,312.1	-89.7	1,312.6	0.00	0.00	0.00
13,700.0	89.78	359.68	11,751.1	1,412.1	-90.3	1,412.6	0.00	0.00	0.00
13,800.0	89.78	359.68	11,751.5	1,512.1	-90.8	1,512.6	0.00	0.00	0.00
13,900.0	89.78	359.68	11,751.9	1,612.1	-91.4	1,612.6	0.00	0.00	0.00
14,000.0	89.78	359.68	11,752.3	1,712.1	-92.0	1,712.6	0.00	0.00	0.00
14,100.0	89.78	359.68	11,752.6	1,812.1	-92.5	1,812.6	0.00	0.00	0.00
14,200.0	89.78	359.68	11,753.0	1,912.1	-93.1	1,912.6	0.00	0.00	0.00
14,300.0	89.78	359.68	11,753.4	2,012.1	-93.6	2,012.6	0.00	0.00	0.00
14,400.0	89.78	359.68	11,753.8	2,112.1	-94.2	2,112.6	0.00	0.00	0.00
14,500.0	89.78	359.68	11,754.2	2,212.1	-94.7	2,212.6	0.00	0.00	0.00
14,600.0	89.78	359.68	11,754.6	2,312.1	-95.3	2,312.6	0.00	0.00	0.00
14,700.0	89.78	359.68	11,755.0	2,412.1	-95.8	2,412.6	0.00	0.00	0.00
14,800.0	89.78	359.68	11,755.4	2,512.1	-96.4	2,512.6	0.00	0.00	0.00
14,900.0	89.78	359.68	11,755.7	2,612.1	-97.0	2,612.6	0.00	0.00	0.00
15,000.0	89.78	359.68	11,756.1	2,712.1	-97.5	2,712.6	0.00	0.00	0.00
15,100.0	89.78	359.68	11,756.5	2,812.1	-98.1	2,812.6	0.00	0.00	0.00
15,200.0	89.78	359.68	11,756.9	2,912.1	-98.6	2,912.6	0.00	0.00	0.00
15,300.0	89.78	359.68	11,757.3	3,012.1	-99.2	3,012.6	0.00	0.00	0.00
15,400.0	89.78	359.68	11,757.7	3,112.1	-99.7	3,112.6	0.00	0.00	0.00
15,500.0	89.78	359.68	11,758.1	3,212.1	-100.3	3,212.6	0.00	0.00	0.00
15,600.0	89.78	359.68	11,758.5	3,312.1	-100.9	3,312.6	0.00	0.00	0.00
15,700.0	89.78	359.68	11,758.9	3,412.1	-101.4	3,412.6	0.00	0.00	0.00
15,800.0	89.78	359.68	11,759.2	3,512.1	-102.0	3,512.6	0.00	0.00	0.00
15,900.0	89.78	359.68	11,759.6	3,612.1	-102.5	3,612.6	0.00	0.00	0.00
15,995.0	89.78	359.68	11,760.0	3,707.0	-103.1	3,707.6	0.00	0.00	0.00
Start 130.0 hold at 15995.0 MD - LTP_224H									
16,000.0	89.78	359.68	11,760.0	3,712.1	-103.1	3,712.6	0.00	0.00	0.00
16,100.0	89.78	359.68	11,760.4	3,812.1	-103.6	3,812.6	0.00	0.00	0.00
16,125.0	89.78	359.68	11,760.5	3,837.1	-103.8	3,837.6	0.00	0.00	0.00
TD at 16125.0 - PBHL_224H									

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_224H - plan misses target center by 81.2usft at 11873.9usft MD (11687.2 TVD, -402.6 N, -125.8 E) - Point	0.00	0.00	11,745.0	-436.7	-80.0	364,492.79	697,816.55	32° 0' 3.839 N	103° 49' 42.743 W
LTP_224H - plan hits target center - Point	0.00	0.00	11,760.0	3,707.0	-103.1	368,636.53	697,793.51	32° 0' 44.847 N	103° 49' 42.786 W
PBHL_224H - plan hits target center - Point	0.00	0.00	11,760.5	3,837.1	-103.8	368,766.54	697,792.75	32° 0' 46.134 N	103° 49' 42.788 W
FTP_236H - plan misses target center by 441.2usft at 11894.7usft MD (11696.0 TVD, -383.9 N, -123.4 E) - Point	0.00	0.01	11,919.0	-438.9	-500.0	364,490.61	697,396.55	32° 0' 3.837 N	103° 49' 47.621 W
FTP_234H - plan misses target center by 514.1usft at 11967.7usft MD (11721.2 TVD, -316.1 N, -114.7 E) - Point	0.00	0.01	11,932.0	-434.5	338.9	364,494.96	698,235.50	32° 0' 3.842 N	103° 49' 37.878 W
FTP_244H - plan misses target center by 548.6usft at 11994.5usft MD (11728.2 TVD, -290.4 N, -111.4 E) - Point	0.00	0.00	12,256.0	-436.7	-80.0	364,492.79	697,816.55	32° 0' 3.839 N	103° 49' 42.743 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
860.0	860.0	Rustler Anhydrite			
1,412.0	1,412.0	Top Salt			
3,455.7	3,451.0	Base Salt			
3,663.9	3,656.0	Delaware Mountain Gp			
3,671.0	3,663.0	Lamar			
3,690.3	3,682.0	Bell Canyon			
3,702.5	3,694.0	Ramsey Sand			
4,898.7	4,872.0	Cherry Canyon			
5,866.4	5,825.0	Brushy Canyon			
7,635.5	7,574.0	Bone Spring Lime			
7,753.5	7,692.0	Upper Avalon			
8,140.5	8,079.0	Middle Avalon			
8,364.5	8,303.0	Lower Avalon			
8,580.5	8,519.0	1st Bone Spring Sand			
8,930.5	8,869.0	2nd Bone Spring Carb			
9,215.5	9,154.0	2nd Bone Spring Sand			
9,814.5	9,753.0	3rd Bone Spring Carb			
10,482.5	10,421.0	3rd Bone Spring Sand			
10,782.5	10,721.0	3rd BS W Sand			
10,873.5	10,812.0	Wolfcamp A X Sand			
11,002.5	10,941.0	Wolfcamp A Y Sand			
11,089.5	11,028.0	Wolfcamp A Lower			
11,288.5	11,227.0	Wolfcamp B			
11,733.6	11,611.0	Wolfcamp B1			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2,700.0	2,700.0	0.0	0.0	Start Build 1.50
3,366.7	3,363.3	-56.5	-13.1	Start 3600.0 hold at 3366.7 MD
6,966.7	6,908.6	-665.7	-153.7	Start DLS 1.50 TFO 180.00
7,633.3	7,571.9	-722.2	-166.7	Start 3600.1 hold at 7633.3 MD
11,233.5	11,172.0	-722.2	-166.7	Start DLS 10.00 TFO 7.30
12,131.3	11,745.0	-156.0	-94.2	Start DLS 4.00 TFO -90.03
12,321.8	11,745.7	34.0	-82.6	Start 3673.2 hold at 12321.8 MD
15,995.0	11,760.0	3,707.0	-103.1	Start 130.0 hold at 15995.0 MD
16,125.0	11,760.5	3,837.1	-103.8	TD at 16125.0