Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMLC062376

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.
TICKETY BOO 2109 FED COM
131H

2. Name of Operator
NOVO OIL AND GAS NORTHERN DELAWARE LLC

9. API Well No.
30-015-55625

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory
300 N MARIENFIELD STREET SUITE 1000, MIDLAND, T	(432) 695-4222	HACKBERRY/BONE SPRING, NW

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface SENW / 1649 FNL / 1705 FWL / LAT 32.6486141 / LONG -103.9800276
At proposed prod. zone NWNW / 10 FNL / 330 FWL / LAT 32.6821188 / LONG -103.984478

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 21/T19S/R30E/NMP

14. Distance in miles and direction from nearest town or post office*	12. County or Parish	13. State
12 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
935 feet		720.0

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
20 feet	8052 feet / 20244 feet	FED:

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3310 feet	02/01/2024	90 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: (432) 695-4222	06/05/2023

Title
Permitting Agent

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	CODY LAYTON / Ph: (575) 234-5959	09/24/2024

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

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 09/24/2024

INSTRUCTIONS

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

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

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

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

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

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

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

NOTICES

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

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

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

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

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

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

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

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

(Continued on page 3)

Additional Operator Remarks

Location of Well

0. SHL: SENW / 1649 FNL / 1705 FWL / TWSP: 19S / RANGE: 30E / SECTION: 21 / LAT: 32.6486141 / LONG: -103.9800276 (TVD: 0 feet, MD: 0 feet)

PPP: SWSW / 0 FNL / 330 FWL / TWSP: 19S / RANGE: 30E / SECTION: 16 / LAT: 32.6531471 / LONG: -103.9844922 (TVD: 8052 feet, MD: 9684 feet)

PPP: NWNW / 1220 FNL / 330 FWL / TWSP: 19S / RANGE: 30E / SECTION: 21 / LAT: 32.6497945 / LONG: -103.9844938 (TVD: 8052 feet, MD: 8484 feet)

PPP: SWSW / 0 FNL / 330 FWL / TWSP: 19S / RANGE: 30E / SECTION: 9 / LAT: 32.6676505 / LONG: -103.9844851 (TVD: 8052 feet, MD: 14964 feet)

BHL: NWNW / 10 FNL / 330 FWL / TWSP: 19S / RANGE: 30E / SECTION: 9 / LAT: 32.6821188 / LONG: -103.984478 (TVD: 8052 feet, MD: 20244 feet)

BLM Point of Contact

Name: TENILLE C MOLINA
Title: Land Law Examiner
Phone: (575) 234-2224
Email: TCMOLINA@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.

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015-55625	97020	HACKBERRY; BONE SPRING, NW

[4] Property Code	[5] Property Name	[6] Well Number
335711	TICKETY BOO 2109 FED COM	131H

[7] OGRID No.	[8] Operator Name	[9] Elevation
372920	NOVO OIL & GAS NORTHERN DELAWARE, LLC	3310.4

[10] Surface Location

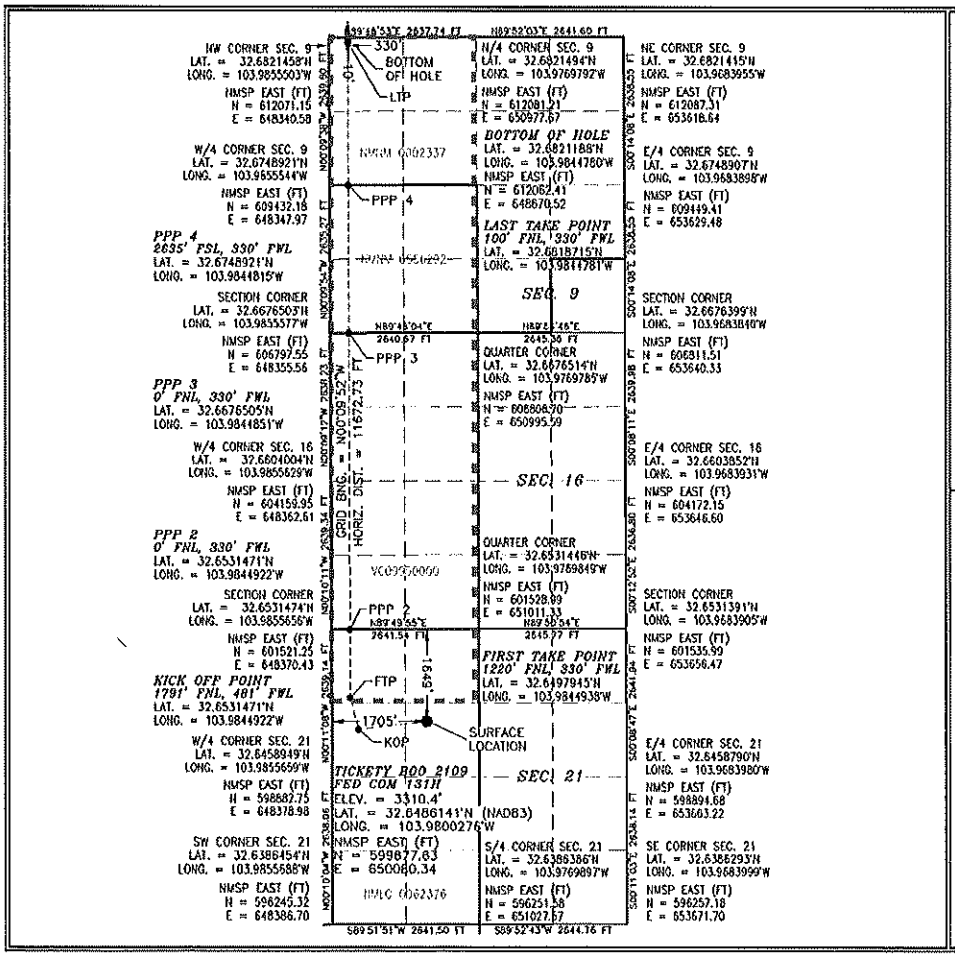
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	21	19 S	30 E		1649	NORTH	1705	WEST	EDDY

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	9	19 S	30 E		10	NORTH	330	WEST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
720			

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



[17] OPERATOR CERTIFICATION

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

Cory Walk — 05-03-2023
Signature — Date

Cory Walk
Printed Name

cory@permitswest.com
E-mail Address

[18] SURVEYOR CERTIFICATION

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

MARCH 29, 2023
Date of Survey

Signature and Seal of Professional Surveyor:
Certificate Number: FILIMON F. JARAMILLO NM PS 12797

State of New Mexico
Energy, Minerals and Natural Resources Department

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description
Effective May 25, 2021

I. Operator: NOVO Oil & Gas Northern Delaware, LLC **OGRID:** 372920 **Date:** 3/12/2024

II. Type: ☑ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.
If Other, please describe: _____.

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

Well Name	API	ULSTR	Footages	Anticipated Oil	Anticipated Gas	Anticipated Prod Water
Tickety Boo 2109 Fed Com 131H		F-21-T19S-R30E	1649' FNL - 1705' FWL	1600 BOPD	1900 MCFD	4700 BWPD
Tickety Boo 2109 Fed Com 132H		F-21-T19S-R30E	1677' FNL - 1733' FWL	1600 BOPD	1900 MCFD	4700 BWPD
Tickety Boo 2109 Fed Com 133H		F-21-T19S-R30E	1706' FNL – 1760' FWL	1600 BOPD	1900 MCFD	4700 BWPD

SEE ATTACHMENT

IV. Central Delivery Point Name: Tickety Boo CTB [See 19.15.27.9(D)(1) NMAC]

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

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Tickety Boo 2109 Fed Com 131H		6/11/2025	6/30/2025	8/1/2025	10/1/2025	10/1/2025
Tickety Boo 2109 Fed Com 132H		6/11/2025	6/30/2025	8/1/2025	10/1/2025	10/1/2025
Tickety Boo 2109 Fed Com 133H		6/11/2025	6/30/2025	8/1/2025	10/1/2025	10/1/2025

SEE ATTACHMENT

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

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

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

WELL NAME & NUMBER	API	UL/SECT/T/R	FOOTAGES	ANTICIPATED OIL BBL/D	ANTICIPATED GAS MCF/D	ANTICIPATED WATER BBL/D
Tickety Boo 2109 Fed Com 121H				1400	1900	4700
Tickety Boo 2109 Fed Com 122H				1400	1900	4700
Tickety Boo 2109 Fed Com 123H				1400	1900	4700
Tickety Boo 2109 Fed Com 111H				1400	1900	4700
Tickety Boo 2109 Fed Com 112H				1400	1900	4700
Tickety Boo 2109 Fed Com 113H				1400	1900	4700

WELL NAME & NUMBER	API	SPUD	TD	COMPLETION DATE	FLOWBACK DATE	FIRST PRODUCTION
Tickety Boo 2109 Fed Com 121H		6/11/2025	6/30/2025	8/1/2025	10/1/2025	10/1/2025
Tickety Boo 2109 Fed Com 122H		6/11/2025	6/30/2025	8/1/2025	10/1/2025	10/1/2025
Tickety Boo 2109 Fed Com 123H		6/11/2025	6/30/2025	8/1/2025	10/1/2025	10/1/2025
Tickety Boo 2109 Fed Com 111H		6/11/2025	6/30/2025	8/1/2025	10/1/2025	10/1/2025
Tickety Boo 2109 Fed Com 112H		6/11/2025	6/30/2025	8/1/2025	10/1/2025	10/1/2025
Tickety Boo 2109 Fed Com 113H		6/11/2025	6/30/2025	8/1/2025	10/1/2025	10/1/2025

Section 2 – Enhanced Plan
Effective April 1, 2022

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

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

IX. Anticipated Natural Gas Production:

Well Name	API	Anticipated Average Natural Gas Rate	Anticipated Volume of Natural Gas for the First Year

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Volume of Natural Gas for the First Year

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

XII. Line Capacity. Operator □ does □ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).
□ Attach Operator's plan to manage production in response to the increased line pressure.

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

Section 3 – Certifications

Effective May 25, 2021

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

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

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

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

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

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

Section 4 – Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:
   - **(a)** Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or
   - **(b)** Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, not later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file and update for each Natural Gas Management Plan until the Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.
   - **(c)** OCD may deny or conditionally approve and APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

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

Signature:	Jennifer Elrod
Printed Name:	JENNIFER ELROD
Title:	SR. REGULATORY ANALYST
E-mail Address:	jennifer.elrod@permres.com
Date:	3/14/2024
Phone:	(940)452-6214

OIL CONSERVATION DIVISION

(Only applicable when submitted as a standalone form)

Approved By:	
Title:	
Approval Date:	
Conditions of Approval:	

Permian Resources Operating, LLC (372165)
NOVO Oil & Gas Northern Delaware, LLC

Natural Gas Management Plan Descriptions

VI. Separation Equipment:

Permian Resources Operating, LLC (Permian) utilizes a production forecast from our Reservoir Engineering team to appropriately size each permanent, 3-phase separator and heater treater utilized for production operations. Our goal is to maintain 5 minutes of retention time in the test vessel and 20 minutes in the heater treater at peak production rates. The gas produced is routed from the separator to the gas sales line.

VII. Operational Practices:

Drilling

During Permian's drilling operations it is uncommon for venting or flaring to occur. If flaring is needed due to safety concerns, gas will be routed to a flare and volumes will be estimated.

Flowback

During completion/recompletion flowback operations, after separation flowback begins and as soon as it is technically feasible, Permian routes gas though a permanent separator and the controlled facility where the gas is either sold or flared through a high-pressure flare if needed.

Production

Per 19.15.27.8.D, Permian's facilities are designed to minimize waste. Our produced gas will only be vented or flared in an emergency or malfunction situation, except as allowed for normal operations noted in 19.15.27.8.D(2) & (4). All gas that is flared is metered. All gas that may be vented will be estimated.

Performance Standards

Permian utilizes a production forecast from our Reservoir Engineering team to appropriately size each permanent, 3-phase separator and heater treater utilized for production operations.

All of Permian's permanent storage tanks associated with production operations which are routed to a flare or control device are equipped with an automatic gauging system.

All of Permian's flare stacks, both currently installed and for future installation, are:

1) Appropriately sized and designed to ensure proper combustion effciency.

2)Equipped with an automatic ignitor or continuous pilot.

3) Anchored and located at least 100 feet from the well and storage tanks.

Permian's field operations and HSE teams have implemented an AVO inspection schedule that adheres to the requirements of 19.15.27.8.E(5).

All of our operations and facilities are designed to minimize waste. We routinely employ the following methods and practices:

- Closed-loop systems
- Enclosed and properly sized tanks

- Vapor recovery units to maximize recovery of low-pressure gas streams and potential unauthorized emissions
- Low-emitting or electric engines whenever practical
- Combustors and flare stacks in the event of a malfunction or emergency
- Routine facility inspections to identify leaking components, functioning control devices, such as flares and combustors, and repair / replacement of malfunctioning components where applicable

Measurement or estimation

Permian measures or estimates the volumes of natural gas vented, flared and/or beneficially used for all of our drilling, completing and producing wells. We utilize accepted industry standards and methodology which can be independently verified. Annual GOR testing is completed on our wells and will be submitted as required by the OCD. None of our equipment is designed to allow diversion around metering elements except during inspection, maintenance and repair operations.

VIII. Best Management Practices:

Permian Resources utilizes the following BMPs to minimize venting during active and planned maintenance activities:

- Use a closed-loop process wherever possible during planned maintenance activities, such as blowdowns, liquid removal, and work over operations.
- Employ low-emitting or electric engines for equipment, such as compressors
- Adhere to a strict preventative maintenance program which includes routine facility inspections, identification of component malfunctions, and repairing or replacing components such as hatches, seals, valves, etc. where applicable
- Utilize vapor recovery units (VRU's) to maximize recovery of volumes of low-pressure gas streams and potential unauthorized emissions
- Route low pressure gas and emissions streams to a combustion device to prevent venting where necessary

Enhanced Natural Gas Management Plan

Operator's Plan to Manage Production in Response to Increased Line Pressure

Permian Resources Operating, LLC (Permian) anticipates that its existing wells connected to the same portion of the natural gas gathering system will continue to meet anticipated increases in line pressure caused by the new wells. Permian will actively monitor line pressure throughout the field and will make necessary adjustments to existing production separators' pressures to send gas to sales. Permian also plans to implement automated alarms on all flare meters to alert of flaring events as they occur. The alarms will send notifications to field operations and engineering staff via text message and email at every occurrence of flaring. In addition, Permian plans to implement automated alarms on all flare meters to alert of any continuous flaring event that has continued for at least 4 hours. The alarms will send notifications to field operations and engineering management. Permian personnel will promptly respond to these alarms, communicate with midstream partners, and take the appropriate action to reduce flaring caused by high line pressure from new well production.

AFMSS

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

Drilling Plan Data Report
10/01/2024

APD ID: 10400092248 **Submission Date:** 06/05/2023

Operator Name: NOVO OIL AND GAS NORTHERN DELAWARE LLC

Well Name: TICKETY BOO 2109 FED COM **Well Number:** 131H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
14203994	RUSTLER	3105	235	235	SANDSTONE	USEABLE WATER	N
14203996	TOP SALT	2770	335	335	SALT	NONE	N
14203997	YATES	1545	1560	1560	ANHYDRITE, SHALE	NONE	N
14203998	CAPITAN REEF	990	2115	2115	SANDSTONE	NONE	N
14203999	DELAWARE SAND	-990	4095	4095	SANDSTONE	NATURAL GAS, OIL	N
14204000	BRUSHY CANYON	-1860	4965	4965	SANDSTONE	NATURAL GAS, OIL	N
14204001	BONE SPRING LIME	-2805	5910	5910	LIMESTONE, SHALE	NATURAL GAS, OIL	N
14204003	BONE SPRING 1ST	-4165	7270	7270	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

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

Equipment: BOPE with working pressure ratings in excess of anticipated maximum surface pressure will be utilized for well control from drill out of surface casing to TMD. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested. All BOPE connections shall be flanged, welded or clamped. All choke lines shall be straight unless targeted with running tees or tee blocks are used, and choke lines shall be anchored to prevent whip and reduce vibrations. All valves in the choke line & the choke manifold shall be full opening as to not cause restrictions and to allow for straight fluid paths to minimize potential erosion. All gauges utilized in the well control system shall be of a type designed for drilling fluid service. A top drive inside BOP valve will be utilized at all times. Subs equipped with full opening valves sized to fit the drill pipe and collars will be available on the rig floor in the open position. The key to operate said valve equipped subs will be on the rig floor at all times. The accumulator system will have sufficient capacity to open the HCR and close all three sets of rams plus the annular preventer while retaining at least 300 psi above precharge on the closing manifold (accumulator system shall be capable of doing so without using the closing unit pumps). The fluid reservoir capacity will be double the usable fluid volume of the accumulator system capacity, and the fluid level will be maintained at the manufacturer's recommended level. Prior to connecting the closing unit to the BOP stack, an accumulator precharge pressure test shall be performed to ensure the precharge pressure is within 100 psi of the desired precharge pressure (only nitrogen gas will be used to precharge). Two independent power sources will be made available at all times to power the closing unit pumps so that the

Operator Name: NOVO OIL AND GAS NORTHERN DELAWARE LLC

Well Name: TICKETY BOO 2109 FED COM **Well Number:** 131H

pumps can automatically start when the closing valve manifold pressure has decreased to the preset level. Closing unit pumps will be sized to allow opening of HCR and closing of annular preventer on 5" drill pipe achieving at least 200 psi above precharge pressure with the accumulator system isolated from service in less than two minutes. A valve shall be installed in the closing line as close to the annular preventer as possible to act as a locking device; the valve shall be maintained in the open position and shall be closed only when the power source for the accumulator system is inoperative. Remote controls capable of opening and closing all preventers & the HCR shall be readily accessible to the driller; master controls with the same capability will be operable at the accumulator. The wellhead will be a multibowl speed head allowing for hangoff of intermediate casing & isolation of the 133/8 x 95/8 annulus without breaking the connection between the BOP & wellhead to install an additional casing head. A wear bushing will be installed & inspected frequently to guard against internal wear to wellhead. VBRs (variablebore rams) will be run in upper rambody of BOP stack to provide redundancy to annular preventer while RIH w/ production casing

Requesting Variance? YES

Variance request: Variance is requested: Break testing, flex hose, and offline cement variances, see attachments in section 8.

Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per 43 CFR 3172 requirements. The BOP test shall be performed before drilling out of the surface casing shoe and will occur at a minimum: a. when initially installed b. whenever any seal subject to test pressure is broken c. following related repairs d. at 30 day intervals e. checked daily as to mechanical operating conditions. The ram type preventer(s) will be tested using a test plug to 250 psi (low) and 5,000 psi (high) (casinghead WP) with a test plug upon its installation onto the 13 surface casing. If a test plug is not used, the ram type preventer(s) shall be tested to 70% of the minimum internal yield pressure of the casing. The annular type preventer(s) shall be tested to 3500 psi. Pressure will be maintained for at least 10 minutes or until provisions of the test are met, whichever is longer. If the bleed line is connected into the buffer tank (header), all BOP equipment including the buffer tank and associated valves will be rated at the required BOP pressure. The BLM office will be provided with a minimum of four (4) hours notice of BOP testing to allow witnessing. The BOP Configuration, choke manifold layout, and accumulator system, will be in compliance with 43 CFR 3172 for a 5,000 psi system. A remote accumulator and a multibowl system will be used, please see attachment in section 8 for multibowl procedure. Pressures, capacities, and specific placement and use of the manual and/or hydraulic controls, accumulator controls, bleed lines, etc., will be identified at the time of the BLM 'witnessed BOP test. Any remote controls will be capable of both opening and closing all preventers and shall be readily accessible. Pipe rams will be operationally checked each 24hour period. Blind rams will be operationally checked on each trip out of the hole. These checked will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP), choke lines, and choke manifold. See attached schematics.

Choke Diagram Attachment:

Tickety_Boo_Fed_Com_2109_Choke_Diagram_20240313082530.pdf

BOP Diagram Attachment:

Tickety_Boo_Fed_Com_2109_BOP_Diagram_20240313082537.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: NOVO OIL AND GAS NORTHERN DELAWARE LLC

Well Name: TICKETY BOO 2109 FED COM **Well Number:** 131H

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	260	0	260	3310	3050	260	J-55	54.5	BUTT	8.8	4.2	DRY	7.96	DRY	7.47
2	INTERMEDIATE	12.25	10.75	NEW	API	N	0	1585	0	1585	3311	1725	1585	J-55	45.5	BUTT	9.3	4.19	DRY	6.18	DRY	6.04
3	INTERMEDIATE	9.875	8.625	NEW	NON API	N	0	4045	0	4045	3310	-735	4045	OTHER	32	OTHER - MO-FXL	6.36	2.63	DRY	3.44	DRY	4.99
4	PRODUCTION	7.875	5.5	NEW	NON API	N	0	20244	0	8052	3311	-4742	20244	OTHER	20	OTHER - GeoConn	2.65	2.77	DRY	2.46	DRY	2.46

Casing Attachments

Casing ID: 1 **String** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Tickety_Boo_Fed_Com_2109_Casing_Assumptions_Worksheet_20240313082716.pdf

Casing ID: 2 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Tickety_Boo_Fed_Com_2109_Casing_Assumptions_Worksheet_20240313083232.pdf

Operator Name: NOVO OIL AND GAS NORTHERN DELAWARE LLC

Well Name: TICKETY BOO 2109 FED COM **Well Number:** 131H

Casing Attachments

Casing ID: 3 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tickety_Boo_Fed_Com_2109_Intermediate_Casing_Spec_Sheet_20240313083352.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Tickety_Boo_Fed_Com_2109_Casing_Assumptions_Worksheet_20240313083649.pdf

Casing ID: 4 **String** PRODUCTION

Inspection Document:

Spec Document:

Tickety_Boo_Fed_Com_2109_Prod_Casing_Spec_Sheet_20240313082935.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Tickety_Boo_Fed_Com_2109_Casing_Assumptions_Worksheet_20240313083026.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
SURFACE	Lead		0	260	210	1.34	14.8	280	50	CLASS C	ACCELERATOR
INTERMEDIATE	Lead		0	1260	190	1.88	12.9	350	50	Class C	EconoCemHLC + 5% Salt + 5% KolSeal
INTERMEDIATE	Tail		1260	1585	80	1.34	14.8	100	50	Class C	Retarder
INTERMEDIATE	Lead		0	3230	290	1.88	12.9	530	50	Class C	EconoCemHLC + 5% Salt + 5% KolSeal

Operator Name: NOVO OIL AND GAS NORTHERN DELAWARE LLC

Well Name: TICKETY BOO 2109 FED COM **Well Number:** 131H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Tail		3230	4045	100	1.33	14.8	130	25	Class C	Retarder
PRODUCTION	Lead		3545	7730	420	2.41	11.5	990	40	CLASS H	POZ, Extender, Fluid Loss, Dispersant, Retarder
PRODUCTION	Tail		7730	20244	1580	1.73	12.5	2720	25	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder

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: Sufficient quantities of mud materials will be on the well site at all times for the purpose of assuring well control and maintaining wellbore integrity. Surface interval will employ fresh water mud. The intermediate hole will utilize a saturated brine fluid to inhibit salt washout. The production hole will employ brine based and oil base fluid to inhibit formation reactivity and of the appropriate density to maintain well control.

Describe the mud monitoring system utilized: Centrifuge separation system. Open tank monitoring with EDR will be used for drilling fluids and return volumes. Open tank monitoring will be used for cement and cuttings return volumes. Mud properties will be monitored at least every 24 hours using industry accepted mud check

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
8484	20244	OIL-BASED MUD	9	10							
0	260	SPUD MUD	8.6	9.5							
260	1585	SALT SATURATED	10	10							
1585	4045	WATER-BASED MUD	8.6	9.5							

Operator Name: NOVO OIL AND GAS NORTHERN DELAWARE LLC

Well Name: TICKETY BOO 2109 FED COM **Well Number:** 131H

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
4045	8484	OTHER : BRINE	9	10							

Section 6 - Test, Logging, Coring

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

Will utilize MWD/LWD (Gamma Ray logging) from intermediate hole to TD of the well.

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

GAMMA RAY LOG,DIRECTIONAL SURVEY,

Coring operation description for the well:

No core or drill stem test is planned.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4190 **Anticipated Surface Pressure:** 2418

Anticipated Bottom Hole Temperature(F): 138

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

TB_H2S_Plan_v2_20230816102736.pdf

Operator Name: NOVO OIL AND GAS NORTHERN DELAWARE LLC

Well Name: TICKETY BOO 2109 FED COM **Well Number:** 131H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

TICKETY_BOO__FED_131H_SVY_RPT_20240313090320.pdf

TICKETY_BOO__FED_131H_AC_RPT_20240313090320.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Tickety_Boo_Fed_Com_2109_FLEX_HOSE_20240313090409.pdf

Tickety_Boo_Fed_Com_2109_131H_WBD_20240313090409.pdf

Tickety_Boo_Fed_Com_2109_Multi_Bowl_Diagram_20240313090409.pdf

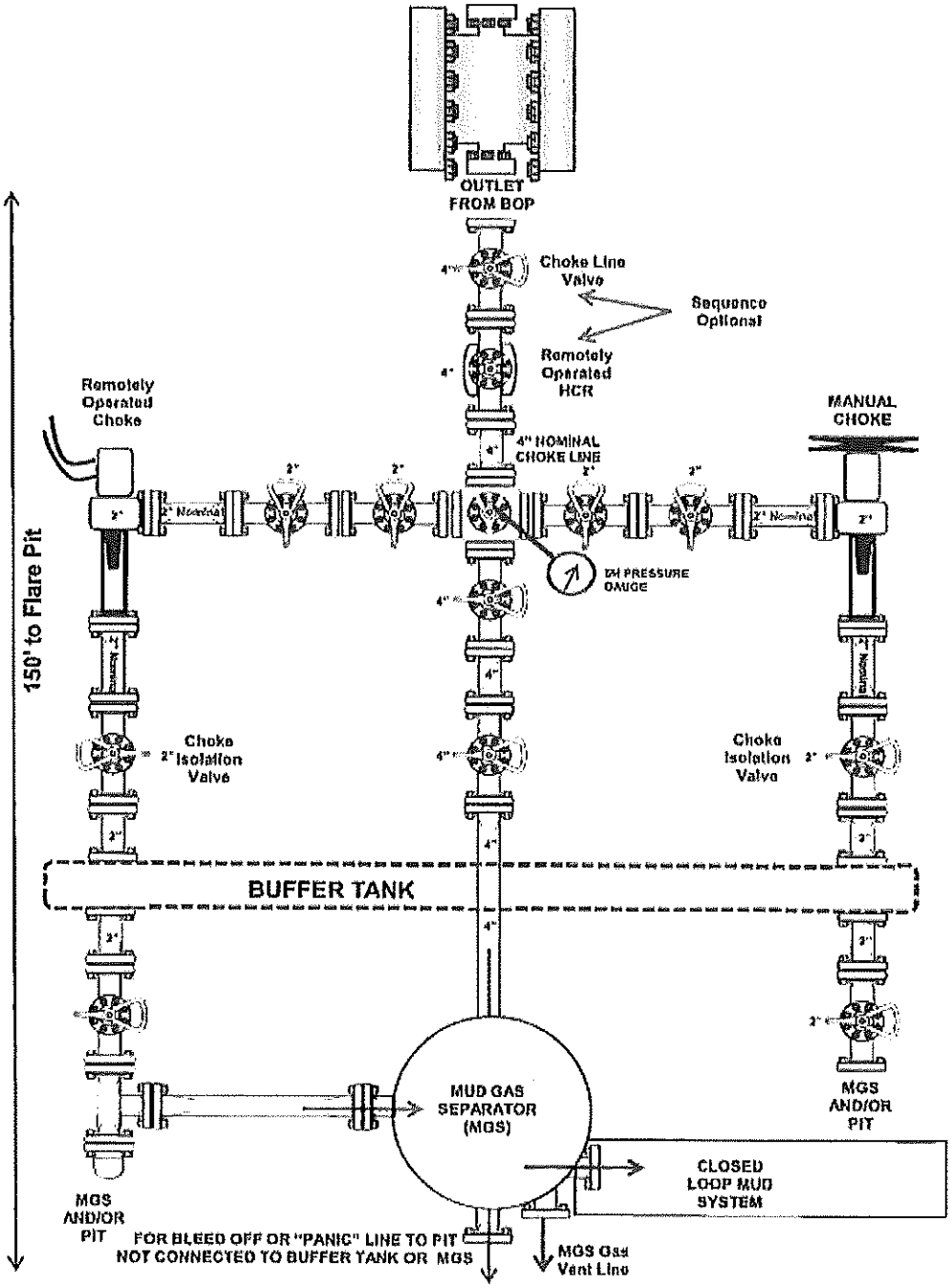
Tickety_Boo_Fed_Com_2109_131H_Drilling_Packet_20240313090409.pdf

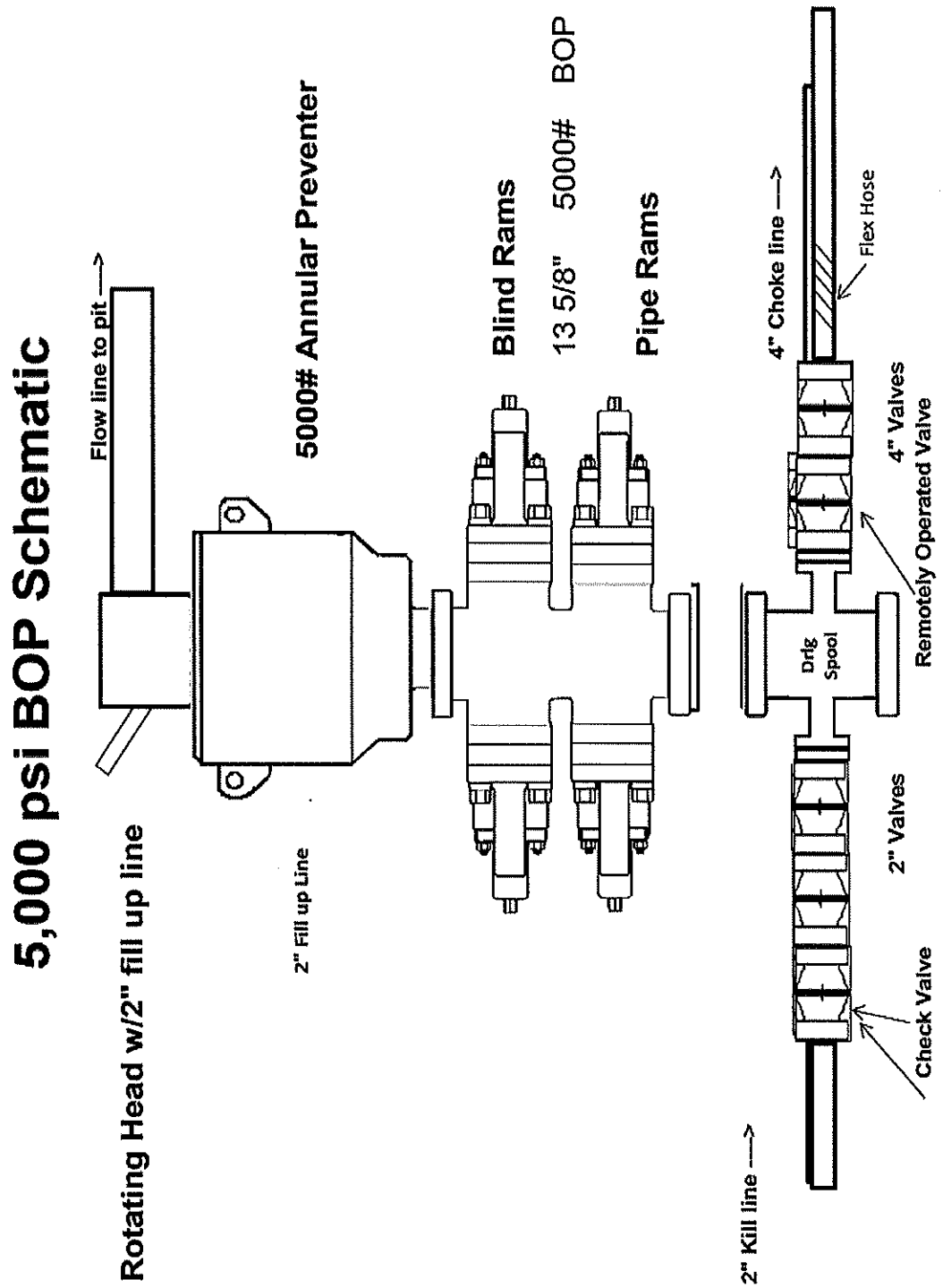
Other Variance attachment:

Tickety_Boo_Fed_Com_2109_Batch_Drilling_Offline_Cement_Variance_20240313090425.pdf

Tickety_Boo_Fed_Com_2109_BOP_Break_Testing_Variance_Procedure_20240313090426.pdf

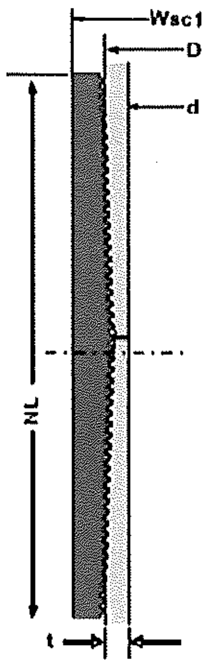
5M Choke Manifold Equipment (WITH MGS + CLOSED LOOP)




5,000 psi BOP Schematic
Rotating Head w/2" fill up line
Flow line to pit
5000# Annular Preventer
2" Fill up Line
Blind Rams
13 5/8" 5000# BOP
Pipe Rams
4" Choke line
Flex Hose
4" Valves
Remotely Operated Valve
Drlg Spool
2" Valves
Check Valve
2" Kill line

Metal One Corp. Metal One	GEOCONN-SC Pipe Body: SeAH P110RY(SMYS110ksi) & 95%RBW *1 Coupling: P110CY (SMYS110ksi) Connection Data Sheet	Page	MAI GC 5.5 20 SeAH PRY 95%RW
			SC-CplgOD 6.050 P110CY
		Date	29-Sep-21
		Rev.	0

GEOCONN-SC



Geometry

Pipe Body

	Imperial		S.I.	
Grade *1	SeAH P110RY	-	SeAH P110RY	
SMYS	110	ksi	110	ksi
Pipe OD (D)	5.500	in	139.70	mm
Weight	20.00	lb/ft	29.80	kg/m
Wall Thickness (t)	0.361	in	9.17	mm
Pipe ID (d)	4.778	in	121.36	mm
Drift Dia.	4.653	in	118.19	mm

Connection

	Imperial		S.I.	
Coupling SMYS	110	ksi	110	ksi
Coupling OD (Wsc1)	6.050	in	153.67	mm
Coupling Length (NL)	8.350	in	212.09	mm
Make up Loss	4.125	in	104.78	mm
Pipe Critical Area	5.83	in^2	3,760	mm^2
Box Critical Area	6.00	in^2	3,874	mm^2
Thread Taper	1 / 16 (3/4" per ft)			
Number of Threads	5 TPI			

Performance

Performance Properties for Pipe Body

	Imperial		S.I.	
S.M.Y.S.	641	kips	2,852	kN
M.I.Y.P. *1	13,720	psi	94.62	MPa
Collapse Strength	11,100	psi	76.55	MPa

Note S.M.Y.S. = Specified Minimum YIELD Strength of Pipe body

M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body

*1 Pipe: SeAH P110RY (SMYS110ksi), Min Wall Thickness of Pipe Body: 95% of Nom wall

Performance Properties for Connection

Min. Connection Joint Strength	100% of S.M.Y.S.
Min. Compression Yield	100% of S.M.Y.S.
Internal Pressure	100% of M.I.Y.P.
External Pressure	100% of Collapse Strength
Max. DLS (deg. /100ft)	>90

Recommended Torque

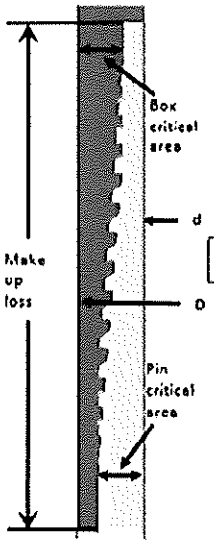
Min.	14,600	ft-lb	19,700	N-m
Opti.	16,200	ft-lb	21,900	N-m
Max.	17,800	ft-lb	24,100	N-m
Operational Max.	19,500	ft-lb	26,400	N-m

Note : Operational Max. torque can be applied for high torque application

Metal One Corp. *Metal One*	MO-FXL *1 Pipe Body: BMP P110HSCY MinYS125ksi Min95%WT Connection Data Sheet	CDS#	MO-FXL 8-5/8 32.0 P110HSCY MinYS125ksi Min95%WT
		Date	8-Sep-21

Geometry

MO-FXL



Pipe Body

	Imperial		S.I.	
Grade *1	P110HSCY		P110HSCY	
MinYS *1	125	ksi	125	ksi
Pipe OD (D)	8 5/8	in	219.08	mm
Weight	32.00	lb/ft	47.68	kg/m
Actual weight	31.10		46.34	kg/m
Wall Thickness (t)	0.352	in	8.94	mm
Pipe ID (d)	7.921	in	201.19	mm
Pipe body cross section	9.149	in^2	5,902	mm^2
Drift Dia.	7.796	in	198.02	mm
-	-	-	-	-

Connection

Box OD (W)	8.625	in	219.08	mm
PIN ID	7.921	in	201.19	mm
Make up Loss	3.847	in	97.71	mm
Box Critical Area	5.853	in^2	3686	mm^2
Joint load efficiency	69	%	69	%
Thread Taper	1 / 10 (1.2" per ft)			
Number of Threads	5 TPI			

Performance

Performance Properties for Pipe Body

S.M.Y.S. *1	1,144	kips	5,087	kN
M.I.Y.P. *1	9,690	psi	66.83	MPa
Collapse Strength *1	4,300	psi	29.66	MPa

Note S.M.Y.S.= Specified Minimum YIELD Strength of Pipe body
M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body
*1: BMP P110HSCY: MinYS125ksi, Min95%WT, Collapse Strength 4,300psi

Performance Properties for Connection

Tensile Yield load	789 kips (69% of S.M.Y.S.)	
Min. Compression Yield	789 kips (69% of S.M.Y.S.)	
Internal Pressure	6,780 psi (70% of M.I.Y.P.)	
External Pressure	100% of Collapse Strength	
Max. DLS (deg /100ft)	29	

Recommended Torque

Min.	13,600	ft-lb	18,400	N-m
Opti.	14,900	ft-lb	20,200	N-m
Max.	16,200	ft-lb	21,900	N-m
Operational Max.	28,400	ft-lb	38,500	N-m

Note : Operational Max. torque can be applied for high torque application

Permian Resources Casing Design Criteria

A sundry will be requested if any lesser grade or different size casing is substituted. All casing will be centralized as specified in On Shore Order II. Casing will be tested as specified in On Shore Order II.

Casing Design Assumptions:

Surface

1) Burst Design Loads
   a) Displacement to Gas
      (1) Internal: Assumes a full column of gas in the casing with a gas gradient of 0.7 psi/ft in the absence of better information. It is limited to the controlling pressure based on the maximum expected pore pressure within the next drilling interval.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
      (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
   b) Lost Returns with Mud Drop
      (1) Internal: Lost circulation at the TD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

Intermediate I

1) Burst Design Loads
   a) Displacement to Gas
      (1) Internal: Assumes a full column of gas in the casing with a gas gradient of 0.7 psi/ft in the absence of better information. It is limited to the controlling pressure based on the maximum expected pore pressure within the next drilling interval.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.

(2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.

2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
      (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
   b) Lost Returns with Mud Drop
      (1) Internal: Lost circulation at the TD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

Intermediate or Intermediate II

1) Burst Design Loads
   a) Gas Kick Profile
      (1) Internal: Load profile based on influx encountered in lateral portion of wellbore with a maximum influx volume of 150 bbl and a kick intensity of 1.5 ppg using maximum anticipated MW of 9.9 ppg.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
      (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
   b) Lost Returns with Mud Drop
      (1) Internal: Lost circulation at the deepest TVD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

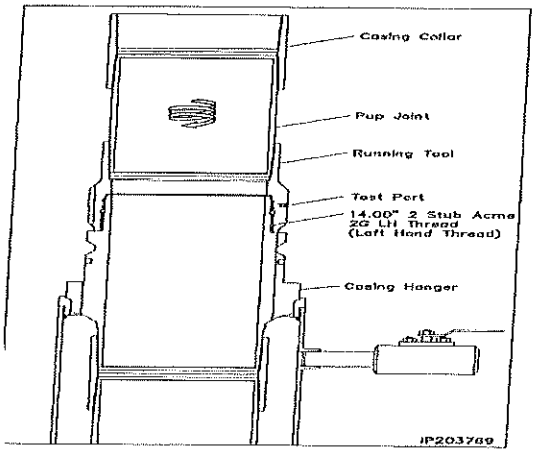
Production

1) Burst Design Loads
   a) Injection Down Casing
      (1) Internal: Surface pressure plus injection fluid gradient.
      (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test (Drilling)
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   c) Casing Pressure Test (Production)
      (1) Internal: The design pressure test should be the greater of the planned test pressure prior to simulation down the casing, the regulatory test pressure, and the expected gas lift system pressure. The design test fluid should be the fluid associated with the pressure test having the greatest pressure.
      (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
   d) Tubing Leak
      (1) Internal: SITP plus a packer fluid gradient to the top of packer.
      (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
   b) Full Evacuation
      (1) Internal: Full void pipe.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

Permian Resources
Multi-Well Pad Batch Drilling & Off Line Cement Procedure

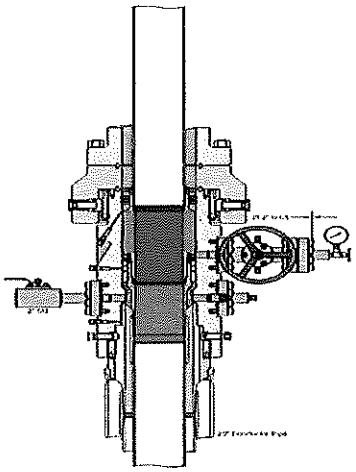
Surface Casing - PR intends to Batch set and offline cement all surface casing to a depth approved in the APD. Surface Holes will be batch drilled by a big rig. Appropriate notifications will be made prior to spudding the well, running, and cementing casing and prior to skidding to the rig to the next well on pad.

1. Drill Surface hole to Approved Depth with Surface Preset Rig and perform wellbore cleanup cycles. Trip out and rack back drilling BHA.
2. Run casing with Cactus Multibowl system, with baseplate supported by Conductor.
3. Circulate 1.5 csg capacity.
4. Flow test – Confirm well is static.
5. Install cap flange.
6. Skid rig to next well on pad
7. Remove cap flange (confirm well is static before removal)
    a) If well is not static use the casing outlet valves to kill well
    b) Drillers method will be used in well control event
    c) High pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
    d) Kill mud will be circulated once influx is circulated out of hole
    e) Confirm well is static and remove cap flange to start offline cement operations
8. Install offline cement tool.
9. Rig up cementers.
10. Circulate bottoms up with cement truck
11. Commence planned cement job, take returns through the annulus wellhead valve
12. After plug is bumped confirm floats hold and well is static
13. Perform green cement casing test.
    a) Test Surface casing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst.
14. Rig down cementers and equipment
15. Install night cap with pressure gauge to monitor.

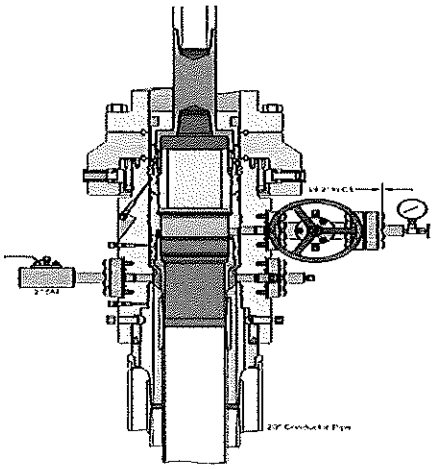


Intermediate 1 Casing – PR intends to Batch set all intermediate 1 casing strings to a depth approved in the APD, typically set into end of salts. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.
Rig will remove the nightcap and install and test BOPE (testing will be performed on the first Intermediate 1 as per requested break testing variance).
Install wear bushing then drill out 20" shoe-track.

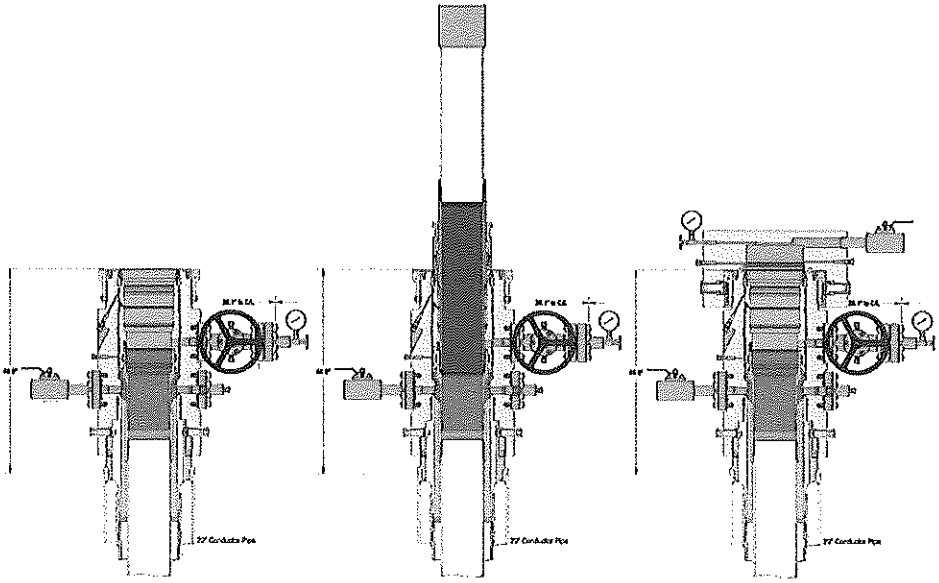
1. Drill Intermediate 1 hole to approved casing point. Trip out of hole with BHA to run Casing.
2. Remove wear bushing then run and land Intermediate 1 casing with mandrel hanger in wellhead.
3. Flow test – Confirm well is static.
4. Set Annular packoff and pressure test. Test to 5k.
5. Install BPV, Nipple down BOP and install cap flange.
6. Skid rig to next well on pad
7. Remove cap flange (confirm well is static before removal)
    a) If well is not static use the casing outlet valves to kill well
    b) Drillers method will be used in well control event
    c) High pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
    d) Kill mud will be circulated once influx is circulated out of hole
    e) Confirm well is static and remove cap flange to start offline cement operations
8. Install offline cement tool.
9. Rig up cementers.
10. Circulate bottoms up with cement truck
11. Commence planned cement job, take returns through the annulus wellhead valve
12. After plug is bumped confirm floats hold and well is static
13. Perform green cement casing test.
    a) Test casing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst.
14. Rig down cementers and equipment



Run Intermediate Casing
Land Intermediate Casing on Mandrel Hanger
Cement Intermediate Casing
Retrieve Running Tool



Run Packoff
Test Upper and Lower Seals
Engage Lockring
Retrieve Running Tool



Intermediate 2 Casing – PR intends to Batch set all Intermediate 2 casing strings to a depth approved in the APD, typically set into Captain past losses. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

1. Rig will remove the nightcap and install and test BOPE (testing will be performed on the first Intermediate 2 as per requested break testing variance).
2. Install wear bushing then drill out Intermediate 1 shoe-track.
3. Drill Intermediate 2 hole to approved casing point. Trip out of hole with BHA to run Casing.
4. Remove wear bushing then run and land Intermediate 2 casing with mandrel hanger in wellhead.
5. Flow test – Confirm well is static.
6. Set Annular packoff and pressure test. Test to 5k.
7. Install BPV, Nipple down BOP and install cap flange.
8. Skid rig to next well on pad
9. Remove cap flange (confirm well is static before removal)
    a) If well is not static use the casing outlet valves to kill well
    b) Drillers method will be used in well control event
    c) High pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
    d) Kill mud will be circulated once influx is circulated out of hole
    e) Confirm well is static and remove cap flange to start offline cement operations
10. Install offline cement tool.
11. Rig up cementers.
12. Circulate bottoms up with cement truck
13. Commence planned cement job, take returns through the annulus wellhead valve
14. After plug is bumped confirm floats hold and well is static
15. Perform green cement casing test.
    a) Test casing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst.
16. Rig down cementers and equipment
17. Install night cap with pressure gauge to monitor.

Production Casing – PR intends to Batch set all Production casings. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

1. Rig will remove the nightcap and install and test BOPE.
2. Install wear bushing then drill Intermediate shoe-track.
3. Drill Vertical hole to KOP – Trip out for Curve BHA.
4. Drill Curve, landing in production interval – Trip for Lateral BHA.
5. Drill Lateral / Production hole to Permitted BHL, perform cleanup cycles and trip out to run Production Casing.
6. Remove wear bushing then run Production casing to TD landing casing mandrel in wellhead.
7. Cement Production string to surface with floats holding.

Permian Resources
BOP Break Testing Variance Procedure

Subject: Request for a Variance Allowing break Testing of the Blowout Preventer Equipment (BOPE). Permian Resources requests a variance to ONLY test broken pressure seals on the BOPE and function test BOP when skidding a drilling rig between multiple wells on a pad.

Background

Title 43 CFR 3172, Drilling Operations, Sections 6.b.9.iv states that the BOP test must be performed whenever any seal subject to test pressure is broken. The current interpretation of the Bureau of Land Management (BLM) requires a complete BOP test and not just a test of the
affected component. 43 CFR 3172.13, Variances from minimum standards states, "An operator may request the authorized officer to approve a variance from any of the minimum standards prescribed in §§ 3172.6 through 3172.12. All such requests shall be submitted in writing to the appropriate authorized officer and provide information as to the circumstances which warrant approval of the variance(s) requested and the proposed alternative methods by which the related minimum standard(s) are to be satisfied. The authorized officer, after considering all relevant factors, if appropriate, may approve the requested variance(s) if it is determined that the proposed alternative(s) meet or exceed the objectives of the applicable minimum standard(s).". Permian Resources feels the break testing the BOPE is such a situation. Therefore, as per 43 CFR 3172.13, Permian Resources submits this request for the variance.

Supporting Documentation

The language used in 43 CFR 3172 became effective on December 19, 1988 and has remained the standard for regulating BLM onshore drilling operations for over 30 years. During this time, there have been significant changes in drilling technology. The BLM continues to use the variance request process to allow for the use of modern technology and acceptable engineering practices that have arisen since 43 CFR 3172 was originally released. The Permian Resources drilling rig fleet has many modern upgrades that allow the intact BOP stack to be moved between well slots on a multi-well pad, as well as, wellhead designs that incorporate quick connects facilitating release of the BOP from the wellhead without breaking any BOP stack components apart. These technologies have been used extensively offshore, and other regulators, API, and many operators around the world have endorsed break testing as safe and reliable.

Figure 1: Winch System attached to BOP Stack

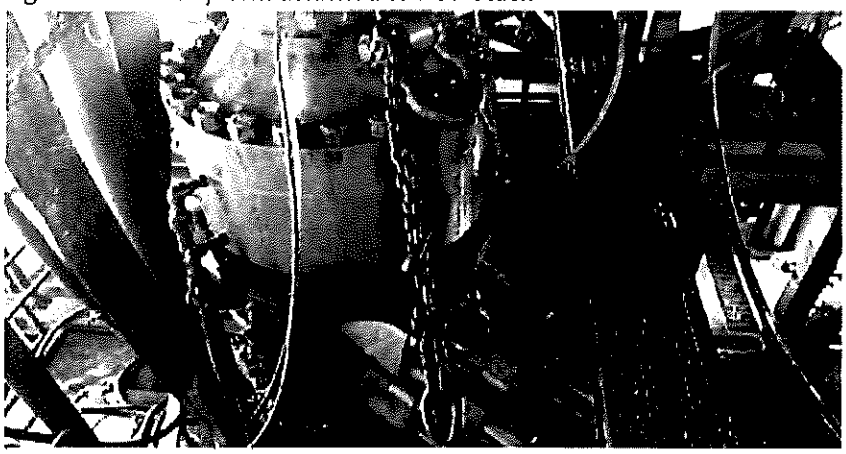
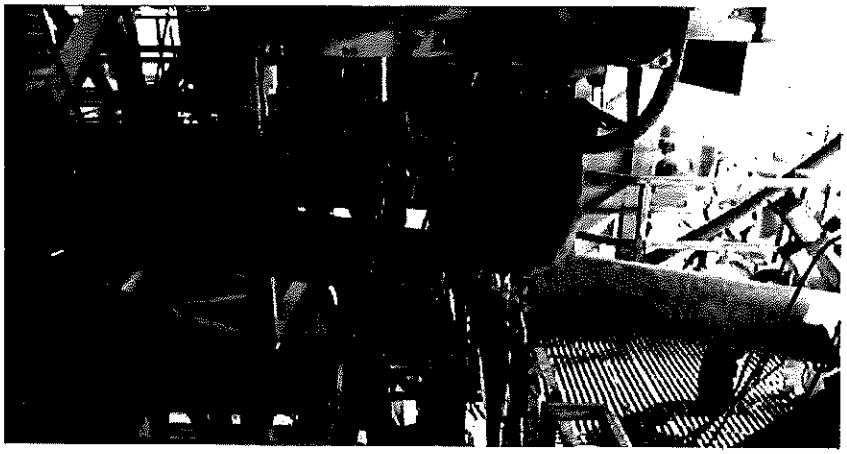


Figure 2: BOP Winch System



American Petroleum Institute (API) standards, specification and recommended practices are considered the industry standard and are consistently utilized and referenced by the industry. 43 CFR 3172 recognizes API recommended Practices (RP) 53 in its original development. API Standard 53, Well Control Equipment Systems for Drilling Wells (Fifth Edition, December 2018, Annex C, Table C.4) recognizes break testing as an acceptable practice. Specifically, API Standard 53, Section 5.3.7.1 states "A pressure test of the pressure containing component shall be performed following the disconnection or repair, limited to the affected component." See Table C.4 below for reference.

62 API STANDARD 53

Table C.4—Initial Pressure Testing, Surface BOP Stacks

Component to be Pressure Tested	Pressure Test—Low Pressure[a] psig (MPa)	Pressure Test—High Pressure[a]	
		Change Out of Component, Elastomer, or Ring Gasket	No Change Out of Component, Elastomer, or Ring Gasket
Annular preventer[b]	250 to 350 (1.72 to 2.41)	RWP of annular preventer	MASP or 70% annular RWP, whichever is lower.
Fixed pipe, variable bore, blind, and BSR preventers[c,e]	250 to 350 (1.72 to 2.41)	RWP of ram preventer or wellhead system, whichever is lower	ITP
Choke and kill line and BOP side outlet valves below ram preventers (both sides)	250 to 350 (1.72 to 2.41)	RWP of side outlet valve or wellhead system, whichever is lower	ITP
Choke manifold—upstream of chokes[f]	250 to 350 (1.72 to 2.41)	RWP of ram preventers or wellhead system, whichever is lower	ITP
Choke manifold—downstream of chokes[f]	250 to 350 (1.72 to 2.41)	RWP of valve(s), line(s), or MASP for the well program, whichever is lower	
Kelly, kelly valves, drill pipe safety valves, IBOPs	250 to 350 (1.72 to 2.41)	MASP for the well program	

[a] Pressure test evaluation periods shall be a minimum of five minutes.
No visible leaks.
The pressure shall remain stable during the evaluation period. The pressure shall not decrease below the intended test pressure.
[b] Annular(s) and VBR(s) shall be pressure tested on the largest and smallest OD drill pipe to be used in well program.
[c] For pad drilling operations, moving from one wellhead to another within the 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.
[e] For surface offshore operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented during the initial test. For land operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented at commissioning and annually.
[f] Adjustable chokes are not required to be full sealing devices. Pressure testing against a closed choke is not required.

The Bureau of Safety and Environmental Enforcement (BSEE), Department of Interior, has also utilized the API standards, specification and best practices in the development of its offshore oil and gas regulations and incorporates them by reference within its regulations.

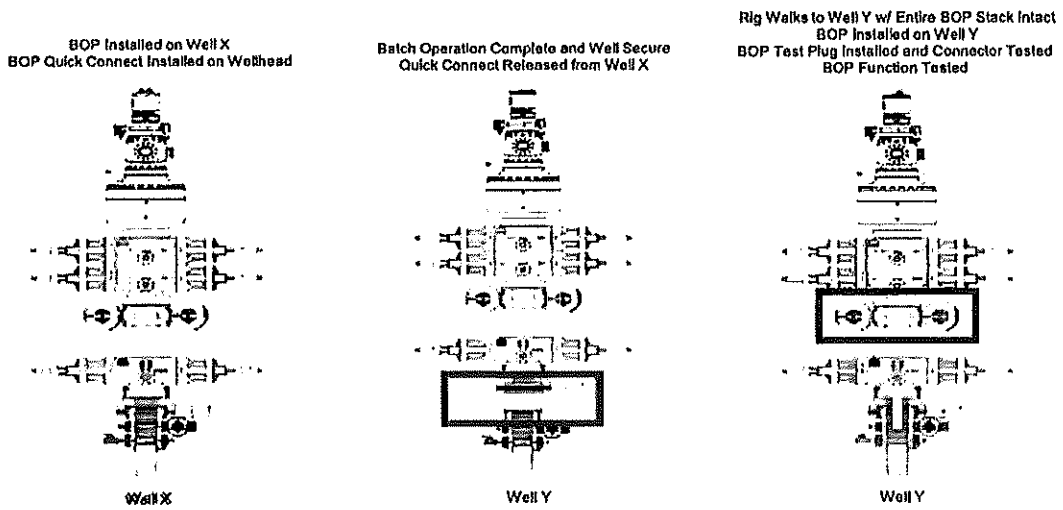
Break testing has been approved by the BLM in the past with other operators based on the detailed information provided in this document.

Permian Resources feels break testing and our current procedures meet the intent of 43 CFR 3172 and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. Permian Resources internal standards require complete BOPE tests more often than that of 43 CFR 3172 (every 21 days). In addition to function testing the annular, pipe rams and blind rams after each BOP nipple up, Permian Resources performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of 43 CFR 3172.

Procedures

1) Permian Resources will use this document for our break testing plan for New Mexico Delaware Basin. The summary below will be referenced in the APD or Sundry Notice and receive approval prior to implementing this variance.
2) Permian Resources will perform BOP break testing on multi-wells pads where multiple intermediate sections can be drilled and cased within the 21-day BOP test window.
   a)A full BOP test will be conducted on the first well on the pad.
   b)The first intermediate hole section drilled on the pad will be the deepest. All the remaining hole sections will be the same formation depth or shallower.
   c) A full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
   d) A full BOP test will be required prior to drilling any production hole.
3) After performing a complete BOP test on the first well, the intermediate hole section will be drilled and cased, two breaks would be made on the BOP equipment.
   a) Between the HCV valve and choke line connection
   b)Between the BOP quick connect and the wellhead
4) The BOP is then lifted and removed from the wellhead by a hydraulic system.
5) After skidding to the next well, the BOP is moved to the wellhead by the same hydraulic system and installed.
6) The connections mentioned in 3a and 3b will then be reconnected.
7) Install test plug into the wellhead using test joint or drill pipe.
8) A shell test is performed against the upper pipe rams testing the two breaks.
9) The shell test will consist of a 250 psi low test and a high test to the value submitted in the APD or Sundry (e.g. 5,000 psi or 10,000psi).
10) Function tests will be performed on the following components: lower pipe rams, blind rams, and annular.
11) For a multi-well pad the same two breaks on the BOP would be made and on the next wells and steps 4 through 10 would be repeated.
12) A second break test would only be done if the intermediate hole section being drilled could not be completed within the 21 day BOP test window.

Note: Picture below highlights BOP components that will be tested during batch operations



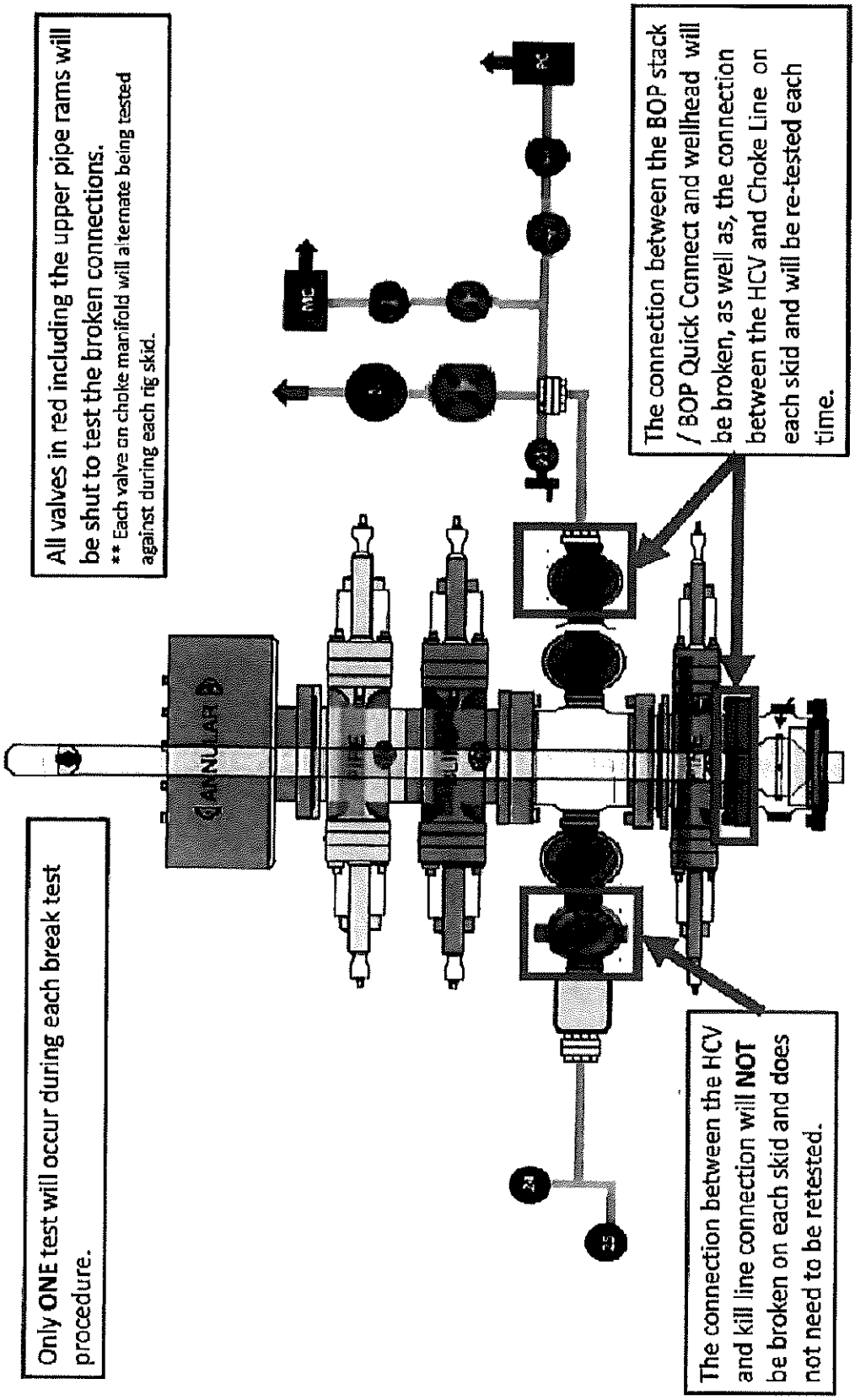
Summary

A variance is requested to ONLY test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API Standard 53 states, that for pad drilling operations, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

The BOP will be secured by a hydraulic carrier or cradle. The BLM will be contacted if a Well Control
event occurs prior to the commencement of a BOPE Break Testing operation.

Based on public data and the supporting documentation submitted herein to the BLM, we will request permission to ONLY retest broken pressure seals if the following conditions are met:

1) After a full BOP test is conducted on the first well on the pad.
2) The first intermediate hole section drilled on the pad will be the deepest. All the remaining hole sections will be the same depth or shallower.
3) A full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
4) A full BOP test will be required prior to drilling the production hole.


All valves in red including the upper pipe rams will be shut to test the broken connections.
** Each valve on choke manifold will alternate being tested against during each rig skid.
The connection between the BOP stack / BOP Quick Connect and wellhead will be broken, as well as, the connection between the HCV and Choke Line on each skid and will be re-tested each time.
Only ONE test will occur during each break test procedure.
The connection between the HCV and kill line connection will NOT be broken on each skid and does not need to be retested.
ANNULAR
PIPE
BLIND
MC

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	NOVO Oil & Gas Northern Delaware LLC
WELL NAME & NO.:	Tickety Boo 2109 Fed Com 131H
LOCATION:	Sec 21-19S-30E-NMP
COUNTY:	Eddy County, New Mexico

OPERATOR MUST SUBMIT A SUNDRY THAT SHOWS WELL WILL COMPLY WITH R-111-Q REQUIREMENTS (WHICH THEN MUST BE APPROVED) PRIOR TO SPUD. REACH OUT TO BLM ENGINEER OR REFER TO UPDATED RULE FOR NEW REQUIREMENTS.

COA

H_2S	○ No		○ Yes	
Potash / WIPP	○ None	○ Secretary	◉ R-111-Q	☐ Open Annulus
	Operator must submit design that complies with R-111-Q requirements via sundry before spud.			☐ WIPP
Cave / Karst	○ Low	○ Medium	◉ High	○ Critical
Wellhead	○ Conventional	◉ Multibowl	○ Both	○ Diverter
Cementing	☐ Primary Squeeze	☐ Cont. Squeeze	☐ EchoMeter	☐ DV Tool
Special Req	☑ Capitan Reef	☐ Water Disposal	☑ COM	☐ Unit
Waste Prev.	○ Self-Certification	○ Waste Min. Plan	◉ APD Submitted prior to 06/10/2024	
Additional Language	☑ Flex Hose	☐ Casing Clearance	☐ Pilot Hole	☑ Break Testing
	☑ Four-String	☑ Offline Cementing	☐ Fluid-Filled	

Operator must test BOP (at minimum every 21 days, not 30 days) when break testing. The attached procedure has the correct number of days, however the testing description within the APD is inconsistent with the attachment. Operator has informed BLM they plan to sundry and will include this with the other corrections for the well.

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 43 CFR 3176 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

APD is within the R-111-Q defined boundary. Operator must follow all procedures and requirements listed within the updated order.

Approval Date: 09/24/2024

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **400** feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. ***Set depth adjusted per BLM geologist.***

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic-type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or **500 pounds compressive strength**, whichever is greater. (This is to include the lead cement)
    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **10-3/4** inch intermediate casing ***(set at 2,014' per BLM geologist)*** 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, Capitan Reef, or potash.**

    ❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:
    - Switch to freshwater mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.
    - Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

3. The minimum required fill of cement behind the **8-5/8** inch intermediate casing ***(set at 3,700' per BLM geologist)*** is:

    - Cement should tie-back **500 feet or 50 feet on top of the Capitan Reef, whichever is closer to surface** into the previous casing but not higher than USGS Marker Bed No. 126. **Operator must verify top of cement per R-111-Q requirements.** Submit results to the BLM. If cement does not circulate, contact

the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

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

    - Cement should tie-back **500 feet or 50 feet on top of the Capitan Reef, whichever is closer to surface** into the previous casing but not higher than USGS Marker Bed No. 126. **Operator must verify top of cement per R-111-Q requirements.** Submit results to the BLM. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. If the cement does not circulate and one-inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
    e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172 must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or

certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in 43 CFR 3171 and 3172.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

BOPE Break Testing Variance

- BOPE Break Testing is ONLY permitted for intervals utilizing a 5M BOPE or less. **(Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP.)**
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer **(575-706-2779)** prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted Choose an item. 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per **43 CFR 3172**.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

Offline Cementing
Contact the BLM prior to the commencement of any offline cementing procedure.

Engineer may elect to vary this language. Speak with Chris about implementing changes and whether that change seems reasonable.

GENERAL REQUIREMENTS

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

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

Contact Eddy County Petroleum Engineering Inspection Staff:
Email or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220;
BLM_NM_CFO_DrillingNotifications@BLM.GOV; (575) 361-2822

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
    a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
    b. When the operator proposes to set surface casing with Spudder Rig
        i. Notify the BLM when moving in and removing the Spudder Rig.
        ii. Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
        iii. BOP/BOPE test to be conducted per **43 CFR 3172** as soon as 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. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

A. CASING

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

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-Q potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR 3172.**
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's

requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
    i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    ii. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    iii. Manufacturer representative shall install the test plug for the initial BOP test.
    iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
    v. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
    i. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
    ii. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve

open. (only applies to single stage cement jobs, prior to the cement setting up.)

iii. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

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

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

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

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

viii. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR 3172**.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

disposed of on the well location or surrounding area. Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

Approval Date: 09/24/2024

NEW MEXICO

(SP) EDDY
TICKETY BOO FED COM
TICKETY BOO FED COM 2109 131H

OWB

Plan: PWP0

Standard Planning Report - Geographic

26 February, 2024

Permian Resources

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well TICKETY BOO FED COM 2109 131H
Company:	NEW MEXICO	**TVD Reference:**	KB=30 @ 3340.0usft
Project:	(SP) EDDY	**MD Reference:**	KB=30 @ 3340.0usft
Site:	TICKETY BOO FED COM	**North Reference:**	Grid
Well:	TICKETY BOO FED COM 2109 131H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Project (SP) EDDY

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

Site TICKETY BOO FED COM

Site Position:		**Northing:**	596,245.32 usft	**Latitude:**	32° 38' 19.124 N
From:	Map	**Easting:**	648,386.70 usft	**Longitude:**	103° 59' 8.048 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "		

Well TICKETY BOO FED COM 2109 131H

Well Position	**+N/-S**	0.0 usft	**Northing:**	599,877.63 usft	**Latitude:**	32° 38' 55.011 N
	+E/-W	0.0 usft	**Easting:**	650,080.34 usft	**Longitude:**	103° 58' 48.100 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,310.0 usft
Grid Convergence:		0.19 °				

Wellbore OWB

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	7.97	60.56	49,004.40238300

Design PWP0

Audit Notes:

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

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	353.40

Plan Survey Tool Program **Date** 2/26/2024

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	20,244.6	PWP0 (OWB)	MWD OWSG_Rev2_ MWD - Star	

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	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,677.2	13.54	267.63	2,670.9	-3.3	-79.6	2.00	2.00	0.00	267.63	
7,730.4	13.54	267.63	7,583.6	-52.2	-1,261.9	0.00	0.00	0.00	0.00	
8,484.7	90.00	359.84	8,052.0	424.9	-1,376.0	12.00	10.14	12.22	92.14	FTP-TBFC 131H
20,244.6	90.00	359.84	8,052.0	12,184.8	-1,409.8	0.00	0.00	0.00	0.00	BHL-TBFC 131H

Permian Resources

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well TICKETY BOO FED COM 2109 131H
Company:	NEW MEXICO	**TVD Reference:**	KB=30 @ 3340.0usft
Project:	(SP) EDDY	**MD Reference:**	KB=30 @ 3340.0usft
Site:	TICKETY BOO FED COM	**North Reference:**	Grid
Well:	TICKETY BOO FED COM 2109 131H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	599,877.63	650,080.34	32° 38' 55.011 N	103° 58' 48.100 W
100.0	0.00	0.00	100.0	0.0	0.0	599,877.63	650,080.34	32° 38' 55.011 N	103° 58' 48.100 W
200.0	0.00	0.00	200.0	0.0	0.0	599,877.63	650,080.34	32° 38' 55.011 N	103° 58' 48.100 W
300.0	0.00	0.00	300.0	0.0	0.0	599,877.63	650,080.34	32° 38' 55.011 N	103° 58' 48.100 W
400.0	0.00	0.00	400.0	0.0	0.0	599,877.63	650,080.34	32° 38' 55.011 N	103° 58' 48.100 W
500.0	0.00	0.00	500.0	0.0	0.0	599,877.63	650,080.34	32° 38' 55.011 N	103° 58' 48.100 W
600.0	0.00	0.00	600.0	0.0	0.0	599,877.63	650,080.34	32° 38' 55.011 N	103° 58' 48.100 W
700.0	0.00	0.00	700.0	0.0	0.0	599,877.63	650,080.34	32° 38' 55.011 N	103° 58' 48.100 W
800.0	0.00	0.00	800.0	0.0	0.0	599,877.63	650,080.34	32° 38' 55.011 N	103° 58' 48.100 W
900.0	0.00	0.00	900.0	0.0	0.0	599,877.63	650,080.34	32° 38' 55.011 N	103° 58' 48.100 W
1,000.0	0.00	0.00	1,000.0	0.0	0.0	599,877.63	650,080.34	32° 38' 55.011 N	103° 58' 48.100 W
1,100.0	0.00	0.00	1,100.0	0.0	0.0	599,877.63	650,080.34	32° 38' 55.011 N	103° 58' 48.100 W
1,200.0	0.00	0.00	1,200.0	0.0	0.0	599,877.63	650,080.34	32° 38' 55.011 N	103° 58' 48.100 W
1,300.0	0.00	0.00	1,300.0	0.0	0.0	599,877.63	650,080.34	32° 38' 55.011 N	103° 58' 48.100 W
1,400.0	0.00	0.00	1,400.0	0.0	0.0	599,877.63	650,080.34	32° 38' 55.011 N	103° 58' 48.100 W
1,500.0	0.00	0.00	1,500.0	0.0	0.0	599,877.63	650,080.34	32° 38' 55.011 N	103° 58' 48.100 W
1,600.0	0.00	0.00	1,600.0	0.0	0.0	599,877.63	650,080.34	32° 38' 55.011 N	103° 58' 48.100 W
1,700.0	0.00	0.00	1,700.0	0.0	0.0	599,877.63	650,080.34	32° 38' 55.011 N	103° 58' 48.100 W
1,800.0	0.00	0.00	1,800.0	0.0	0.0	599,877.63	650,080.34	32° 38' 55.011 N	103° 58' 48.100 W
1,900.0	0.00	0.00	1,900.0	0.0	0.0	599,877.63	650,080.34	32° 38' 55.011 N	103° 58' 48.100 W
2,000.0	0.00	0.00	2,000.0	0.0	0.0	599,877.63	650,080.34	32° 38' 55.011 N	103° 58' 48.100 W
Start Build 2.00									
2,100.0	2.00	267.63	2,100.0	-0.1	-1.7	599,877.56	650,078.60	32° 38' 55.010 N	103° 58' 48.120 W
2,200.0	4.00	267.63	2,199.8	-0.3	-7.0	599,877.34	650,073.37	32° 38' 55.008 N	103° 58' 48.181 W
2,300.0	6.00	267.63	2,299.5	-0.6	-15.7	599,876.98	650,064.66	32° 38' 55.005 N	103° 58' 48.283 W
2,400.0	8.00	267.63	2,398.7	-1.2	-27.9	599,876.48	650,052.49	32° 38' 55.000 N	103° 58' 48.425 W
2,500.0	10.00	267.63	2,497.5	-1.8	-43.5	599,875.83	650,036.86	32° 38' 54.994 N	103° 58' 48.608 W
2,600.0	12.00	267.63	2,595.6	-2.6	-62.5	599,875.04	650,017.80	32° 38' 54.987 N	103° 58' 48.831 W
2,677.2	13.54	267.63	2,670.9	-3.3	-79.6	599,874.34	650,000.75	32° 38' 54.981 N	103° 58' 49.031 W
Start 5053.3 hold at 2677.2 MD									
2,700.0	13.54	267.63	2,693.1	-3.5	-84.9	599,874.12	649,995.41	32° 38' 54.979 N	103° 58' 49.093 W
2,800.0	13.54	267.63	2,790.3	-4.5	-108.3	599,873.15	649,972.01	32° 38' 54.970 N	103° 58' 49.367 W
2,900.0	13.54	267.63	2,887.5	-5.5	-131.7	599,872.18	649,948.61	32° 38' 54.961 N	103° 58' 49.640 W
3,000.0	13.54	267.63	2,984.7	-6.4	-155.1	599,871.21	649,925.22	32° 38' 54.952 N	103° 58' 49.914 W
3,100.0	13.54	267.63	3,082.0	-7.4	-178.5	599,870.24	649,901.82	32° 38' 54.944 N	103° 58' 50.188 W
3,200.0	13.54	267.63	3,179.2	-8.4	-201.9	599,869.28	649,878.42	32° 38' 54.935 N	103° 58' 50.462 W
3,300.0	13.54	267.63	3,276.4	-9.3	-225.3	599,868.31	649,855.02	32° 38' 54.926 N	103° 58' 50.735 W
3,400.0	13.54	267.63	3,373.6	-10.3	-248.7	599,867.34	649,831.63	32° 38' 54.917 N	103° 58' 51.009 W
3,500.0	13.54	267.63	3,470.8	-11.3	-272.1	599,866.37	649,808.23	32° 38' 54.908 N	103° 58' 51.283 W
3,600.0	13.54	267.63	3,568.1	-12.2	-295.5	599,865.40	649,784.83	32° 38' 54.899 N	103° 58' 51.556 W
3,700.0	13.54	267.63	3,665.3	-13.2	-318.9	599,864.43	649,761.43	32° 38' 54.891 N	103° 58' 51.830 W
3,800.0	13.54	267.63	3,762.5	-14.2	-342.3	599,863.47	649,738.04	32° 38' 54.882 N	103° 58' 52.104 W
3,900.0	13.54	267.63	3,859.7	-15.1	-365.7	599,862.50	649,714.64	32° 38' 54.873 N	103° 58' 52.377 W
4,000.0	13.54	267.63	3,956.9	-16.1	-389.1	599,861.53	649,691.24	32° 38' 54.864 N	103° 58' 52.651 W
4,100.0	13.54	267.63	4,054.1	-17.1	-412.5	599,860.56	649,667.84	32° 38' 54.855 N	103° 58' 52.925 W
4,200.0	13.54	267.63	4,151.4	-18.0	-435.9	599,859.59	649,644.45	32° 38' 54.847 N	103° 58' 53.199 W
4,300.0	13.54	267.63	4,248.6	-19.0	-459.3	599,858.62	649,621.05	32° 38' 54.838 N	103° 58' 53.472 W
4,400.0	13.54	267.63	4,345.8	-20.0	-482.7	599,857.66	649,597.65	32° 38' 54.829 N	103° 58' 53.746 W
4,500.0	13.54	267.63	4,443.0	-20.9	-506.1	599,856.69	649,574.25	32° 38' 54.820 N	103° 58' 54.020 W
4,600.0	13.54	267.63	4,540.2	-21.9	-529.5	599,855.72	649,550.85	32° 38' 54.811 N	103° 58' 54.293 W
4,700.0	13.54	267.63	4,637.5	-22.9	-552.9	599,854.75	649,527.46	32° 38' 54.803 N	103° 58' 54.567 W
4,800.0	13.54	267.63	4,734.7	-23.9	-576.3	599,853.78	649,504.06	32° 38' 54.794 N	103° 58' 54.841 W
4,900.0	13.54	267.63	4,831.9	-24.8	-599.7	599,852.81	649,480.66	32° 38' 54.785 N	103° 58' 55.115 W
5,000.0	13.54	267.63	4,929.1	-25.8	-623.1	599,851.85	649,457.26	32° 38' 54.776 N	103° 58' 55.388 W

Permian Resources

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well TICKETY BOO FED COM 2109 131H
Company:	NEW MEXICO	**TVD Reference:**	KB=30 @ 3340.0usft
Project:	(SP) EDDY	**MD Reference:**	KB=30 @ 3340.0usft
Site:	TICKETY BOO FED COM	**North Reference:**	Grid
Well:	TICKETY BOO FED COM 2109 131H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,100.0	13.54	267.63	5,026.3	-26.8	-646.5	599,850.88	649,433.87	32° 38' 54.767 N	103° 58' 55.662 W
5,200.0	13.54	267.63	5,123.6	-27.7	-669.9	599,849.91	649,410.47	32° 38' 54.758 N	103° 58' 55.936 W
5,300.0	13.54	267.63	5,220.8	-28.7	-693.3	599,848.94	649,387.07	32° 38' 54.750 N	103° 58' 56.209 W
5,400.0	13.54	267.63	5,318.0	-29.7	-716.7	599,847.97	649,363.67	32° 38' 54.741 N	103° 58' 56.483 W
5,500.0	13.54	267.63	5,415.2	-30.6	-740.1	599,847.00	649,340.28	32° 38' 54.732 N	103° 58' 56.757 W
5,600.0	13.54	267.63	5,512.4	-31.6	-763.5	599,846.04	649,316.88	32° 38' 54.723 N	103° 58' 57.030 W
5,700.0	13.54	267.63	5,609.7	-32.6	-786.9	599,845.07	649,293.48	32° 38' 54.714 N	103° 58' 57.304 W
5,800.0	13.54	267.63	5,706.9	-33.5	-810.3	599,844.10	649,270.08	32° 38' 54.706 N	103° 58' 57.578 W
5,900.0	13.54	267.63	5,804.1	-34.5	-833.7	599,843.13	649,246.69	32° 38' 54.697 N	103° 58' 57.852 W
6,000.0	13.54	267.63	5,901.3	-35.5	-857.1	599,842.16	649,223.29	32° 38' 54.688 N	103° 58' 58.125 W
6,100.0	13.54	267.63	5,998.5	-36.4	-880.5	599,841.19	649,199.89	32° 38' 54.679 N	103° 58' 58.399 W
6,200.0	13.54	267.63	6,095.8	-37.4	-903.9	599,840.23	649,176.49	32° 38' 54.670 N	103° 58' 58.673 W
6,300.0	13.54	267.63	6,193.0	-38.4	-927.2	599,839.26	649,153.10	32° 38' 54.661 N	103° 58' 58.946 W
6,400.0	13.54	267.63	6,290.2	-39.3	-950.6	599,838.29	649,129.70	32° 38' 54.653 N	103° 58' 59.220 W
6,500.0	13.54	267.63	6,387.4	-40.3	-974.0	599,837.32	649,106.30	32° 38' 54.644 N	103° 58' 59.494 W
6,600.0	13.54	267.63	6,484.6	-41.3	-997.4	599,836.35	649,082.90	32° 38' 54.635 N	103° 58' 59.767 W
6,700.0	13.54	267.63	6,581.9	-42.2	-1,020.8	599,835.38	649,059.50	32° 38' 54.626 N	103° 59' 0.041 W
6,800.0	13.54	267.63	6,679.1	-43.2	-1,044.2	599,834.42	649,036.11	32° 38' 54.617 N	103° 59' 0.315 W
6,900.0	13.54	267.63	6,776.3	-44.2	-1,067.6	599,833.45	649,012.71	32° 38' 54.609 N	103° 59' 0.589 W
7,000.0	13.54	267.63	6,873.5	-45.2	-1,091.0	599,832.48	648,989.31	32° 38' 54.600 N	103° 59' 0.862 W
7,100.0	13.54	267.63	6,970.7	-46.1	-1,114.4	599,831.51	648,965.91	32° 38' 54.591 N	103° 59' 1.136 W
7,200.0	13.54	267.63	7,068.0	-47.1	-1,137.8	599,830.54	648,942.52	32° 38' 54.582 N	103° 59' 1.410 W
7,300.0	13.54	267.63	7,165.2	-48.1	-1,161.2	599,829.57	648,919.12	32° 38' 54.573 N	103° 59' 1.683 W
7,400.0	13.54	267.63	7,262.4	-49.0	-1,184.6	599,828.60	648,895.72	32° 38' 54.564 N	103° 59' 1.957 W
7,500.0	13.54	267.63	7,359.6	-50.0	-1,208.0	599,827.64	648,872.32	32° 38' 54.556 N	103° 59' 2.231 W
7,600.0	13.54	267.63	7,456.8	-51.0	-1,231.4	599,826.67	648,848.93	32° 38' 54.547 N	103° 59' 2.504 W
7,700.0	13.54	267.63	7,554.0	-51.9	-1,254.8	599,825.70	648,825.53	32° 38' 54.538 N	103° 59' 2.778 W
7,730.4	13.54	267.63	7,583.6	-52.2	-1,261.9	599,825.41	648,818.41	32° 38' 54.535 N	103° 59' 2.861 W
Start DLS 12.00 TFO 92.14									
7,750.0	13.65	277.63	7,602.7	-52.0	-1,266.5	599,825.62	648,813.83	32° 38' 54.538 N	103° 59' 2.915 W
7,775.0	14.36	289.71	7,626.9	-50.6	-1,272.4	599,827.05	648,807.99	32° 38' 54.552 N	103° 59' 2.983 W
7,800.0	15.60	300.29	7,651.1	-47.8	-1,278.2	599,829.80	648,802.16	32° 38' 54.579 N	103° 59' 3.051 W
7,825.0	17.27	309.11	7,675.1	-43.8	-1,284.0	599,833.83	648,796.38	32° 38' 54.619 N	103° 59' 3.119 W
7,850.0	19.26	316.30	7,698.8	-38.5	-1,289.7	599,839.16	648,790.65	32° 38' 54.672 N	103° 59' 3.186 W
7,875.0	21.48	322.12	7,722.2	-31.9	-1,295.4	599,845.75	648,784.99	32° 38' 54.738 N	103° 59' 3.252 W
7,900.0	23.86	326.86	7,745.3	-24.0	-1,300.9	599,853.60	648,779.41	32° 38' 54.816 N	103° 59' 3.316 W
7,925.0	26.36	330.77	7,767.9	-15.0	-1,306.4	599,862.68	648,773.94	32° 38' 54.906 N	103° 59' 3.380 W
7,950.0	28.95	334.04	7,790.1	-4.7	-1,311.8	599,872.96	648,768.58	32° 38' 55.008 N	103° 59' 3.442 W
7,975.0	31.60	336.81	7,811.7	6.8	-1,317.0	599,884.43	648,763.35	32° 38' 55.121 N	103° 59' 3.503 W
8,000.0	34.31	339.18	7,832.6	19.4	-1,322.1	599,897.04	648,758.27	32° 38' 55.246 N	103° 59' 3.562 W
8,025.0	37.06	341.25	7,853.0	33.1	-1,327.0	599,910.76	648,753.34	32° 38' 55.382 N	103° 59' 3.619 W
8,050.0	39.84	343.07	7,872.5	47.9	-1,331.8	599,925.56	648,748.58	32° 38' 55.529 N	103° 59' 3.674 W
8,075.0	42.64	344.68	7,891.3	63.8	-1,336.3	599,941.39	648,744.01	32° 38' 55.685 N	103° 59' 3.727 W
8,100.0	45.47	346.14	7,909.3	80.6	-1,340.7	599,958.21	648,739.64	32° 38' 55.852 N	103° 59' 3.778 W
8,125.0	48.31	347.46	7,926.4	98.3	-1,344.9	599,975.98	648,735.48	32° 38' 56.028 N	103° 59' 3.826 W
8,150.0	51.16	348.66	7,942.5	117.0	-1,348.8	599,994.64	648,731.54	32° 38' 56.213 N	103° 59' 3.871 W
8,175.0	54.03	349.78	7,957.7	136.5	-1,352.5	600,014.15	648,727.82	32° 38' 56.406 N	103° 59' 3.914 W
8,200.0	56.91	350.81	7,971.9	156.8	-1,356.0	600,034.45	648,724.36	32° 38' 56.607 N	103° 59' 3.953 W
8,225.0	59.79	351.78	7,985.0	177.8	-1,359.2	600,055.48	648,721.14	32° 38' 56.815 N	103° 59' 3.990 W
8,250.0	62.68	352.69	7,997.0	199.6	-1,362.2	600,077.19	648,718.18	32° 38' 57.030 N	103° 59' 4.024 W
8,275.0	65.58	353.56	8,007.9	221.9	-1,364.9	600,099.52	648,715.49	32° 38' 57.251 N	103° 59' 4.055 W
8,300.0	68.48	354.39	8,017.7	244.8	-1,367.3	600,122.41	648,713.08	32° 38' 57.478 N	103° 59' 4.082 W
8,325.0	71.39	355.19	8,026.3	268.2	-1,369.4	600,145.79	648,710.95	32° 38' 57.709 N	103° 59' 4.106 W
8,350.0	74.30	355.95	8,033.6	292.0	-1,371.2	600,169.61	648,709.10	32° 38' 57.945 N	103° 59' 4.127 W

Permian Resources

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well TICKETY BOO FED COM 2109 131H
Company:	NEW MEXICO	**TVD Reference:**	KB=30 @ 3340.0usft
Project:	(SP) EDDY	**MD Reference:**	KB=30 @ 3340.0usft
Site:	TICKETY BOO FED COM	**North Reference:**	Grid
Well:	TICKETY BOO FED COM 2109 131H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,375.0	77.21	356.70	8,039.8	316.2	-1,372.8	600,193.79	648,707.55	32° 38' 58.184 N	103° 59' 4.144 W
8,400.0	80.12	357.43	8,044.7	340.6	-1,374.0	600,218.26	648,706.30	32° 38' 58.426 N	103° 59' 4.158 W
8,425.0	83.03	358.15	8,048.4	365.3	-1,375.0	600,242.97	648,705.35	32° 38' 58.671 N	103° 59' 4.168 W
8,450.0	85.95	358.86	8,050.8	390.2	-1,375.6	600,267.85	648,704.70	32° 38' 58.917 N	103° 59' 4.174 W
8,475.0	88.87	359.56	8,051.9	415.2	-1,376.0	600,292.82	648,704.35	32° 38' 59.164 N	103° 59' 4.177 W
8,484.7	90.00	359.84	8,052.0	424.9	-1,376.0	600,302.53	648,704.30	32° 38' 59.260 N	103° 59' 4.178 W
Start 11759.9 hold at 8484.7 MD									
8,500.0	90.00	359.84	8,052.0	440.2	-1,376.1	600,317.81	648,704.26	32° 38' 59.411 N	103° 59' 4.178 W
8,600.0	90.00	359.84	8,052.0	540.2	-1,376.4	600,417.81	648,703.97	32° 39' 0.401 N	103° 59' 4.177 W
8,700.0	90.00	359.84	8,052.0	640.2	-1,376.7	600,517.81	648,703.68	32° 39' 1.391 N	103° 59' 4.177 W
8,800.0	90.00	359.84	8,052.0	740.2	-1,376.9	600,617.81	648,703.40	32° 39' 2.380 N	103° 59' 4.176 W
8,900.0	90.00	359.84	8,052.0	840.2	-1,377.2	600,717.81	648,703.11	32° 39' 3.370 N	103° 59' 4.176 W
9,000.0	90.00	359.84	8,052.0	940.2	-1,377.5	600,817.81	648,702.82	32° 39' 4.359 N	103° 59' 4.175 W
9,100.0	90.00	359.84	8,052.0	1,040.2	-1,377.8	600,917.81	648,702.54	32° 39' 5.349 N	103° 59' 4.175 W
9,200.0	90.00	359.84	8,052.0	1,140.2	-1,378.1	601,017.81	648,702.25	32° 39' 6.338 N	103° 59' 4.174 W
9,300.0	90.00	359.84	8,052.0	1,240.2	-1,378.4	601,117.81	648,701.96	32° 39' 7.328 N	103° 59' 4.174 W
9,400.0	90.00	359.84	8,052.0	1,340.2	-1,378.7	601,217.81	648,701.67	32° 39' 8.317 N	103° 59' 4.173 W
9,500.0	90.00	359.84	8,052.0	1,440.2	-1,379.0	601,317.81	648,701.39	32° 39' 9.307 N	103° 59' 4.173 W
9,600.0	90.00	359.84	8,052.0	1,540.2	-1,379.2	601,417.81	648,701.10	32° 39' 10.296 N	103° 59' 4.172 W
9,700.0	90.00	359.84	8,052.0	1,640.2	-1,379.5	601,517.81	648,700.81	32° 39' 11.286 N	103° 59' 4.172 W
9,800.0	90.00	359.84	8,052.0	1,740.2	-1,379.8	601,617.81	648,700.53	32° 39' 12.275 N	103° 59' 4.171 W
9,900.0	90.00	359.84	8,052.0	1,840.2	-1,380.1	601,717.81	648,700.24	32° 39' 13.265 N	103° 59' 4.171 W
10,000.0	90.00	359.84	8,052.0	1,940.2	-1,380.4	601,817.81	648,699.95	32° 39' 14.254 N	103° 59' 4.170 W
10,100.0	90.00	359.84	8,052.0	2,040.2	-1,380.7	601,917.81	648,699.66	32° 39' 15.244 N	103° 59' 4.170 W
10,200.0	90.00	359.84	8,052.0	2,140.2	-1,381.0	602,017.81	648,699.38	32° 39' 16.233 N	103° 59' 4.169 W
10,300.0	90.00	359.84	8,052.0	2,240.2	-1,381.3	602,117.81	648,699.09	32° 39' 17.223 N	103° 59' 4.169 W
10,400.0	90.00	359.84	8,052.0	2,340.2	-1,381.5	602,217.81	648,698.80	32° 39' 18.212 N	103° 59' 4.168 W
10,500.0	90.00	359.84	8,052.0	2,440.2	-1,381.8	602,317.81	648,698.51	32° 39' 19.202 N	103° 59' 4.168 W
10,600.0	90.00	359.84	8,052.0	2,540.2	-1,382.1	602,417.81	648,698.23	32° 39' 20.192 N	103° 59' 4.167 W
10,700.0	90.00	359.84	8,052.0	2,640.2	-1,382.4	602,517.81	648,697.94	32° 39' 21.181 N	103° 59' 4.167 W
10,800.0	90.00	359.84	8,052.0	2,740.2	-1,382.7	602,617.81	648,697.65	32° 39' 22.171 N	103° 59' 4.167 W
10,900.0	90.00	359.84	8,052.0	2,840.2	-1,383.0	602,717.80	648,697.37	32° 39' 23.160 N	103° 59' 4.166 W
11,000.0	90.00	359.84	8,052.0	2,940.2	-1,383.3	602,817.80	648,697.08	32° 39' 24.150 N	103° 59' 4.166 W
11,100.0	90.00	359.84	8,052.0	3,040.2	-1,383.6	602,917.80	648,696.79	32° 39' 25.139 N	103° 59' 4.165 W
11,200.0	90.00	359.84	8,052.0	3,140.2	-1,383.8	603,017.80	648,696.50	32° 39' 26.129 N	103° 59' 4.165 W
11,300.0	90.00	359.84	8,052.0	3,240.2	-1,384.1	603,117.80	648,696.22	32° 39' 27.118 N	103° 59' 4.164 W
11,400.0	90.00	359.84	8,052.0	3,340.2	-1,384.4	603,217.80	648,695.93	32° 39' 28.108 N	103° 59' 4.164 W
11,500.0	90.00	359.84	8,052.0	3,440.2	-1,384.7	603,317.80	648,695.64	32° 39' 29.097 N	103° 59' 4.163 W
11,600.0	90.00	359.84	8,052.0	3,540.2	-1,385.0	603,417.80	648,695.35	32° 39' 30.087 N	103° 59' 4.163 W
11,700.0	90.00	359.84	8,052.0	3,640.2	-1,385.3	603,517.80	648,695.07	32° 39' 31.076 N	103° 59' 4.162 W
11,800.0	90.00	359.84	8,052.0	3,740.2	-1,385.6	603,617.80	648,694.78	32° 39' 32.066 N	103° 59' 4.162 W
11,900.0	90.00	359.84	8,052.0	3,840.2	-1,385.9	603,717.80	648,694.49	32° 39' 33.055 N	103° 59' 4.161 W
12,000.0	90.00	359.84	8,052.0	3,940.2	-1,386.1	603,817.80	648,694.21	32° 39' 34.045 N	103° 59' 4.161 W
12,100.0	90.00	359.84	8,052.0	4,040.2	-1,386.4	603,917.80	648,693.92	32° 39' 35.034 N	103° 59' 4.160 W
12,200.0	90.00	359.84	8,052.0	4,140.2	-1,386.7	604,017.80	648,693.63	32° 39' 36.024 N	103° 59' 4.160 W
12,300.0	90.00	359.84	8,052.0	4,240.2	-1,387.0	604,117.80	648,693.34	32° 39' 37.013 N	103° 59' 4.159 W
12,400.0	90.00	359.84	8,052.0	4,340.2	-1,387.3	604,217.80	648,693.06	32° 39' 38.003 N	103° 59' 4.159 W
12,500.0	90.00	359.84	8,052.0	4,440.2	-1,387.6	604,317.80	648,692.77	32° 39' 38.993 N	103° 59' 4.158 W
12,600.0	90.00	359.84	8,052.0	4,540.2	-1,387.9	604,417.80	648,692.48	32° 39' 39.982 N	103° 59' 4.158 W
12,700.0	90.00	359.84	8,052.0	4,640.2	-1,388.1	604,517.80	648,692.20	32° 39' 40.972 N	103° 59' 4.157 W
12,800.0	90.00	359.84	8,052.0	4,740.2	-1,388.4	604,617.80	648,691.91	32° 39' 41.961 N	103° 59' 4.157 W
12,900.0	90.00	359.84	8,052.0	4,840.2	-1,388.7	604,717.80	648,691.62	32° 39' 42.951 N	103° 59' 4.156 W
13,000.0	90.00	359.84	8,052.0	4,940.2	-1,389.0	604,817.80	648,691.33	32° 39' 43.940 N	103° 59' 4.156 W
13,100.0	90.00	359.84	8,052.0	5,040.2	-1,389.3	604,917.80	648,691.05	32° 39' 44.930 N	103° 59' 4.155 W

Permian Resources

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well TICKETY BOO FED COM 2109 131H
Company:	NEW MEXICO	**TVD Reference:**	KB=30 @ 3340.0usft
Project:	(SP) EDDY	**MD Reference:**	KB=30 @ 3340.0usft
Site:	TICKETY BOO FED COM	**North Reference:**	Grid
Well:	TICKETY BOO FED COM 2109 131H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
13,200.0	90.00	359.84	8,052.0	5,140.2	-1,389.6	605,017.80	648,690.76	32° 39' 45.919 N	103° 59' 4.155 W
13,300.0	90.00	359.84	8,052.0	5,240.2	-1,389.9	605,117.79	648,690.47	32° 39' 46.909 N	103° 59' 4.154 W
13,400.0	90.00	359.84	8,052.0	5,340.2	-1,390.2	605,217.79	648,690.18	32° 39' 47.898 N	103° 59' 4.154 W
13,500.0	90.00	359.84	8,052.0	5,440.2	-1,390.4	605,317.79	648,689.90	32° 39' 48.888 N	103° 59' 4.153 W
13,600.0	90.00	359.84	8,052.0	5,540.2	-1,390.7	605,417.79	648,689.61	32° 39' 49.877 N	103° 59' 4.153 W
13,700.0	90.00	359.84	8,052.0	5,640.2	-1,391.0	605,517.79	648,689.32	32° 39' 50.867 N	103° 59' 4.152 W
13,800.0	90.00	359.84	8,052.0	5,740.2	-1,391.3	605,617.79	648,689.04	32° 39' 51.856 N	103° 59' 4.152 W
13,900.0	90.00	359.84	8,052.0	5,840.2	-1,391.6	605,717.79	648,688.75	32° 39' 52.846 N	103° 59' 4.152 W
14,000.0	90.00	359.84	8,052.0	5,940.2	-1,391.9	605,817.79	648,688.46	32° 39' 53.835 N	103° 59' 4.151 W
14,100.0	90.00	359.84	8,052.0	6,040.2	-1,392.2	605,917.79	648,688.17	32° 39' 54.825 N	103° 59' 4.151 W
14,200.0	90.00	359.84	8,052.0	6,140.2	-1,392.5	606,017.79	648,687.89	32° 39' 55.814 N	103° 59' 4.150 W
14,300.0	90.00	359.84	8,052.0	6,240.2	-1,392.7	606,117.79	648,687.60	32° 39' 56.804 N	103° 59' 4.150 W
14,400.0	90.00	359.84	8,052.0	6,340.2	-1,393.0	606,217.79	648,687.31	32° 39' 57.793 N	103° 59' 4.149 W
14,500.0	90.00	359.84	8,052.0	6,440.2	-1,393.3	606,317.79	648,687.03	32° 39' 58.783 N	103° 59' 4.149 W
14,600.0	90.00	359.84	8,052.0	6,540.2	-1,393.6	606,417.79	648,686.74	32° 39' 59.773 N	103° 59' 4.148 W
14,700.0	90.00	359.84	8,052.0	6,640.2	-1,393.9	606,517.79	648,686.45	32° 40' 0.762 N	103° 59' 4.148 W
14,800.0	90.00	359.84	8,052.0	6,740.2	-1,394.2	606,617.79	648,686.16	32° 40' 1.752 N	103° 59' 4.147 W
14,900.0	90.00	359.84	8,052.0	6,840.2	-1,394.5	606,717.79	648,685.88	32° 40' 2.741 N	103° 59' 4.147 W
15,000.0	90.00	359.84	8,052.0	6,940.2	-1,394.8	606,817.79	648,685.59	32° 40' 3.731 N	103° 59' 4.146 W
15,100.0	90.00	359.84	8,052.0	7,040.2	-1,395.0	606,917.79	648,685.30	32° 40' 4.720 N	103° 59' 4.146 W
15,200.0	90.00	359.84	8,052.0	7,140.2	-1,395.3	607,017.79	648,685.01	32° 40' 5.710 N	103° 59' 4.145 W
15,300.0	90.00	359.84	8,052.0	7,240.2	-1,395.6	607,117.79	648,684.73	32° 40' 6.699 N	103° 59' 4.145 W
15,400.0	90.00	359.84	8,052.0	7,340.2	-1,395.9	607,217.79	648,684.44	32° 40' 7.689 N	103° 59' 4.144 W
15,500.0	90.00	359.84	8,052.0	7,440.2	-1,396.2	607,317.79	648,684.15	32° 40' 8.678 N	103° 59' 4.144 W
15,600.0	90.00	359.84	8,052.0	7,540.2	-1,396.5	607,417.79	648,683.87	32° 40' 9.668 N	103° 59' 4.143 W
15,700.0	90.00	359.84	8,052.0	7,640.2	-1,396.8	607,517.78	648,683.58	32° 40' 10.657 N	103° 59' 4.143 W
15,800.0	90.00	359.84	8,052.0	7,740.2	-1,397.1	607,617.78	648,683.29	32° 40' 11.647 N	103° 59' 4.142 W
15,900.0	90.00	359.84	8,052.0	7,840.2	-1,397.3	607,717.78	648,683.00	32° 40' 12.636 N	103° 59' 4.142 W
16,000.0	90.00	359.84	8,052.0	7,940.2	-1,397.6	607,817.78	648,682.72	32° 40' 13.626 N	103° 59' 4.141 W
16,100.0	90.00	359.84	8,052.0	8,040.1	-1,397.9	607,917.78	648,682.43	32° 40' 14.615 N	103° 59' 4.141 W
16,200.0	90.00	359.84	8,052.0	8,140.1	-1,398.2	608,017.78	648,682.14	32° 40' 15.605 N	103° 59' 4.140 W
16,300.0	90.00	359.84	8,052.0	8,240.1	-1,398.5	608,117.78	648,681.85	32° 40' 16.594 N	103° 59' 4.140 W
16,400.0	90.00	359.84	8,052.0	8,340.1	-1,398.8	608,217.78	648,681.57	32° 40' 17.584 N	103° 59' 4.139 W
16,500.0	90.00	359.84	8,052.0	8,440.1	-1,399.1	608,317.78	648,681.28	32° 40' 18.573 N	103° 59' 4.139 W
16,600.0	90.00	359.84	8,052.0	8,540.1	-1,399.4	608,417.78	648,680.99	32° 40' 19.563 N	103° 59' 4.138 W
16,700.0	90.00	359.84	8,052.0	8,640.1	-1,399.6	608,517.78	648,680.71	32° 40' 20.553 N	103° 59' 4.138 W
16,800.0	90.00	359.84	8,052.0	8,740.1	-1,399.9	608,617.78	648,680.42	32° 40' 21.542 N	103° 59' 4.137 W
16,900.0	90.00	359.84	8,052.0	8,840.1	-1,400.2	608,717.78	648,680.13	32° 40' 22.532 N	103° 59' 4.137 W
17,000.0	90.00	359.84	8,052.0	8,940.1	-1,400.5	608,817.78	648,679.84	32° 40' 23.521 N	103° 59' 4.136 W
17,100.0	90.00	359.84	8,052.0	9,040.1	-1,400.8	608,917.78	648,679.56	32° 40' 24.511 N	103° 59' 4.136 W
17,200.0	90.00	359.84	8,052.0	9,140.1	-1,401.1	609,017.78	648,679.27	32° 40' 25.500 N	103° 59' 4.136 W
17,300.0	90.00	359.84	8,052.0	9,240.1	-1,401.4	609,117.78	648,678.98	32° 40' 26.490 N	103° 59' 4.135 W
17,400.0	90.00	359.84	8,052.0	9,340.1	-1,401.6	609,217.78	648,678.70	32° 40' 27.479 N	103° 59' 4.135 W
17,500.0	90.00	359.84	8,052.0	9,440.1	-1,401.9	609,317.78	648,678.41	32° 40' 28.469 N	103° 59' 4.134 W
17,600.0	90.00	359.84	8,052.0	9,540.1	-1,402.2	609,417.78	648,678.12	32° 40' 29.458 N	103° 59' 4.134 W
17,700.0	90.00	359.84	8,052.0	9,640.1	-1,402.5	609,517.78	648,677.83	32° 40' 30.448 N	103° 59' 4.133 W
17,800.0	90.00	359.84	8,052.0	9,740.1	-1,402.8	609,617.78	648,677.55	32° 40' 31.437 N	103° 59' 4.133 W
17,900.0	90.00	359.84	8,052.0	9,840.1	-1,403.1	609,717.78	648,677.26	32° 40' 32.427 N	103° 59' 4.132 W
18,000.0	90.00	359.84	8,052.0	9,940.1	-1,403.4	609,817.78	648,676.97	32° 40' 33.416 N	103° 59' 4.132 W
18,100.0	90.00	359.84	8,052.0	10,040.1	-1,403.7	609,917.78	648,676.68	32° 40' 34.406 N	103° 59' 4.131 W
18,200.0	90.00	359.84	8,052.0	10,140.1	-1,403.9	610,017.77	648,676.40	32° 40' 35.395 N	103° 59' 4.131 W
18,300.0	90.00	359.84	8,052.0	10,240.1	-1,404.2	610,117.77	648,676.11	32° 40' 36.385 N	103° 59' 4.130 W
18,400.0	90.00	359.84	8,052.0	10,340.1	-1,404.5	610,217.77	648,675.82	32° 40' 37.374 N	103° 59' 4.130 W
18,500.0	90.00	359.84	8,052.0	10,440.1	-1,404.8	610,317.77	648,675.54	32° 40' 38.364 N	103° 59' 4.129 W
18,600.0	90.00	359.84	8,052.0	10,540.1	-1,405.1	610,417.77	648,675.25	32° 40' 39.353 N	103° 59' 4.129 W

Permian Resources

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well TICKETY BOO FED COM 2109 131H
Company:	NEW MEXICO	**TVD Reference:**	KB=30 @ 3340.0usft
Project:	(SP) EDDY	**MD Reference:**	KB=30 @ 3340.0usft
Site:	TICKETY BOO FED COM	**North Reference:**	Grid
Well:	TICKETY BOO FED COM 2109 131H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
18,700.0	90.00	359.84	8,052.0	10,640.1	-1,405.4	610,517.77	648,674.96	32° 40' 40.343 N	103° 59' 4.128 W
18,800.0	90.00	359.84	8,052.0	10,740.1	-1,405.7	610,617.77	648,674.67	32° 40' 41.332 N	103° 59' 4.128 W
18,900.0	90.00	359.84	8,052.0	10,840.1	-1,406.0	610,717.77	648,674.39	32° 40' 42.322 N	103° 59' 4.127 W
19,000.0	90.00	359.84	8,052.0	10,940.1	-1,406.2	610,817.77	648,674.10	32° 40' 43.312 N	103° 59' 4.127 W
19,100.0	90.00	359.84	8,052.0	11,040.1	-1,406.5	610,917.77	648,673.81	32° 40' 44.301 N	103° 59' 4.126 W
19,200.0	90.00	359.84	8,052.0	11,140.1	-1,406.8	611,017.77	648,673.53	32° 40' 45.291 N	103° 59' 4.126 W
19,300.0	90.00	359.84	8,052.0	11,240.1	-1,407.1	611,117.77	648,673.24	32° 40' 46.280 N	103° 59' 4.125 W
19,400.0	90.00	359.84	8,052.0	11,340.1	-1,407.4	611,217.77	648,672.95	32° 40' 47.270 N	103° 59' 4.125 W
19,500.0	90.00	359.84	8,052.0	11,440.1	-1,407.7	611,317.77	648,672.66	32° 40' 48.259 N	103° 59' 4.124 W
19,600.0	90.00	359.84	8,052.0	11,540.1	-1,408.0	611,417.77	648,672.38	32° 40' 49.249 N	103° 59' 4.124 W
19,700.0	90.00	359.84	8,052.0	11,640.1	-1,408.3	611,517.77	648,672.09	32° 40' 50.238 N	103° 59' 4.123 W
19,800.0	90.00	359.84	8,052.0	11,740.1	-1,408.5	611,617.77	648,671.80	32° 40' 51.228 N	103° 59' 4.123 W
19,900.0	90.00	359.84	8,052.0	11,840.1	-1,408.8	611,717.77	648,671.51	32° 40' 52.217 N	103° 59' 4.122 W
20,000.0	90.00	359.84	8,052.0	11,940.1	-1,409.1	611,817.77	648,671.23	32° 40' 53.207 N	103° 59' 4.122 W
20,100.0	90.00	359.84	8,052.0	12,040.1	-1,409.4	611,917.77	648,670.94	32° 40' 54.196 N	103° 59' 4.121 W
20,200.0	90.00	359.84	8,052.0	12,140.1	-1,409.7	612,017.77	648,670.65	32° 40' 55.186 N	103° 59' 4.121 W
20,244.6	90.00	359.84	8,052.0	12,184.8	-1,409.8	612,062.41	648,670.52	32° 40' 55.628 N	103° 59' 4.121 W
TD at 20244.6									

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
BHL-TBFC 131H - plan hits target center - Point	0.00	0.00	8,052.0	12,184.8	-1,409.8	612,062.41	648,670.52	32° 40' 55.628 N	103° 59' 4.121 W
LTP-TBFC 131H - plan hits target center - Point	0.00	0.00	8,052.0	12,094.8	-1,409.6	611,972.45	648,670.78	32° 40' 54.737 N	103° 59' 4.121 W
FTP-TBFC 131H - plan hits target center - Point	0.00	0.00	8,052.0	424.9	-1,376.0	600,302.53	648,704.30	32° 38' 59.260 N	103° 59' 4.178 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2,000.0	2,000.0	0.0	0.0	Start Build 2.00
2,677.2	2,670.9	-3.3	-79.6	Start 5053.3 hold at 2677.2 MD
7,730.4	7,583.6	-52.2	-1,261.9	Start DLS 12.00 TFO 92.14
8,484.7	8,052.0	424.9	-1,376.0	Start 11759.9 hold at 8484.7 MD
20,244.6	8,052.0	12,184.8	-1,409.8	TD at 20244.6

NEW MEXICO

(SP) EDDY
TICKETY BOO FED COM
TICKETY BOO FED COM 2109 131H

OWB
PWP0

Anticollision Report

26 February, 2024

Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well TICKETY BOO FED COM 2109 131H
Project:	(SP) EDDY	**TVD Reference:**	KB=30 @ 3340.0usft
Reference Site:	TICKETY BOO FED COM	**MD Reference:**	KB=30 @ 3340.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	TICKETY BOO FED COM 2109 131H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Compass
Reference Design:	PWP0	**Offset TVD Reference:**	Offset Datum

Reference	PWP0		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum centre distance of 800.0usft	**Error Surface:**	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	**Casing Method:**	Not applied

Survey Tool Program **Date** 2/26/2024

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	20,244.6	PWP0 (OWB)	MWD	OWSG_Rev2_ MWD - Standard

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
TICKETY BOO FED COM						
TICKETY BOO FED COM 2109 132H - OWB - PWP0	2,000.0	2,000.0	39.5	25.4	2.800	CC
TICKETY BOO FED COM 2109 132H - OWB - PWP0	2,200.0	2,201.8	39.6	24.1	2.554	ES
TICKETY BOO FED COM 2109 132H - OWB - PWP0	2,300.0	2,301.8	40.9	24.7	2.527	SF
TICKETY BOO FED COM 2109 133H - OWB - PWP0	2,000.0	2,000.0	79.2	65.1	5.609	CC, ES
TICKETY BOO FED COM 2109 133H - OWB - PWP0	2,100.0	2,098.0	81.6	66.8	5.509	SF

Offset Design: TICKETY BOO FED COM - TICKETY BOO FED COM 2109 132H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Rule Assigned:** — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	134.71	-27.8	28.1	39.5				
100.0	100.0	100.0	100.0	0.3	0.3	134.71	-27.8	28.1	39.5	39.0	0.50	78.791	
200.0	200.0	200.0	200.0	0.6	0.6	134.71	-27.8	28.1	39.5	38.3	1.22	32.443	
300.0	300.0	300.0	300.0	1.0	1.0	134.71	-27.8	28.1	39.5	37.6	1.94	20.427	
400.0	400.0	400.0	400.0	1.3	1.3	134.71	-27.8	28.1	39.5	36.9	2.65	14.906	
500.0	500.0	500.0	500.0	1.7	1.7	134.71	-27.8	28.1	39.5	36.2	3.37	11.735	
600.0	600.0	600.0	600.0	2.0	2.0	134.71	-27.8	28.1	39.5	35.5	4.09	9.676	
700.0	700.0	700.0	700.0	2.4	2.4	134.71	-27.8	28.1	39.5	34.7	4.80	8.232	
800.0	800.0	800.0	800.0	2.8	2.8	134.71	-27.8	28.1	39.5	34.0	5.52	7.163	
900.0	900.0	900.0	900.0	3.1	3.1	134.71	-27.8	28.1	39.5	33.3	6.24	6.339	
1,000.0	1,000.0	1,000.0	1,000.0	3.5	3.5	134.71	-27.8	28.1	39.5	32.6	6.95	5.686	
1,100.0	1,100.0	1,100.0	1,100.0	3.8	3.8	134.71	-27.8	28.1	39.5	31.9	7.67	5.155	
1,200.0	1,200.0	1,200.0	1,200.0	4.2	4.2	134.71	-27.8	28.1	39.5	31.2	8.39	4.714	
1,300.0	1,300.0	1,300.0	1,300.0	4.6	4.6	134.71	-27.8	28.1	39.5	30.4	9.11	4.343	
1,400.0	1,400.0	1,400.0	1,400.0	4.9	4.9	134.71	-27.8	28.1	39.5	29.7	9.82	4.026	
1,500.0	1,500.0	1,500.0	1,500.0	5.3	5.3	134.71	-27.8	28.1	39.5	29.0	10.54	3.752	
1,600.0	1,600.0	1,600.0	1,600.0	5.6	5.6	134.71	-27.8	28.1	39.5	28.3	11.26	3.513	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	134.71	-27.8	28.1	39.5	27.6	11.97	3.303	
1,800.0	1,800.0	1,800.0	1,800.0	6.3	6.3	134.71	-27.8	28.1	39.5	26.9	12.69	3.116	
1,900.0	1,900.0	1,900.0	1,900.0	6.7	6.7	134.71	-27.8	28.1	39.5	26.1	13.41	2.949	
2,000.0	2,000.0	2,000.0	2,000.0	7.1	7.1	134.71	-27.8	28.1	39.5	25.4	14.12	2.800	CC
2,100.0	2,100.0	2,100.9	2,100.9	7.4	7.4	-132.87	-27.9	26.3	39.6	24.7	14.82	2.668	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well TICKETY BOO FED COM 2109 131H
Project:	(SP) EDDY	**TVD Reference:**	KB=30 @ 3340.0usft
Reference Site:	TICKETY BOO FED COM	**MD Reference:**	KB=30 @ 3340.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	TICKETY BOO FED COM 2109 131H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Compass
Reference Design:	PWP0	**Offset TVD Reference:**	Offset Datum

Offset Design: TICKETY BOO FED COM - TICKETY BOO FED COM 2109 132H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Rule Assigned:** — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,200.0	2,199.8	2,201.8	2,201.7	7.8	7.8	-132.74	-28.2	21.0	39.6	24.1	16.50	2.554 ES	
2,300.0	2,299.5	2,301.8	2,301.4	8.1	8.1	-134.46	-28.6	14.1	40.9	24.7	16.19	2.527 SF	
2,400.0	2,398.7	2,401.7	2,401.0	8.5	8.5	-139.12	-29.0	7.2	44.8	27.9	16.87	2.656	
2,500.0	2,497.5	2,501.3	2,500.4	8.8	8.8	-145.29	-29.4	0.3	51.8	34.3	17.56	2.951	
2,600.0	2,595.6	2,600.5	2,599.4	9.2	9.2	-151.51	-29.8	-6.6	62.3	44.1	18.25	3.415	
2,677.2	2,670.9	2,676.8	2,675.5	9.5	9.4	-155.78	-30.1	-11.9	73.0	54.2	18.79	3.885	
2,700.0	2,693.1	2,699.3	2,697.9	9.6	9.5	-156.93	-30.2	-13.4	76.5	57.5	18.94	4.037	
2,800.0	2,790.3	2,797.9	2,796.3	10.0	9.9	-160.92	-30.6	-20.2	92.1	72.4	19.63	4.689	
2,900.0	2,887.5	2,896.5	2,894.7	10.4	10.2	-163.74	-31.0	-27.1	108.0	87.6	20.33	5.311	
3,000.0	2,984.7	2,995.1	2,993.0	10.8	10.6	-165.84	-31.4	-33.9	124.0	103.0	21.02	5.900	
3,100.0	3,082.0	3,093.7	3,091.4	11.3	10.9	-167.46	-31.8	-40.7	140.3	118.5	21.72	6.456	
3,200.0	3,179.2	3,192.3	3,189.8	11.7	11.3	-168.74	-32.2	-47.5	156.6	134.1	22.43	6.980	
3,300.0	3,276.4	3,290.9	3,288.2	12.1	11.6	-169.78	-32.5	-54.4	172.9	149.8	23.14	7.474	
3,400.0	3,373.6	3,389.6	3,386.5	12.6	12.0	-170.64	-32.9	-61.2	189.3	165.5	23.84	7.940	
3,500.0	3,470.8	3,488.2	3,484.9	13.1	12.3	-171.36	-33.3	-68.0	205.8	181.2	24.56	8.379	
3,600.0	3,568.1	3,586.8	3,583.3	13.5	12.7	-171.98	-33.7	-74.8	222.2	197.0	25.27	8.794	
3,700.0	3,665.3	3,685.4	3,681.6	14.0	13.1	-172.51	-34.1	-81.7	238.7	212.7	25.99	9.187	
3,800.0	3,762.5	3,784.0	3,780.0	14.5	13.4	-172.97	-34.5	-88.5	255.2	228.5	26.70	9.558	
3,900.0	3,859.7	3,882.6	3,878.4	14.9	13.8	-173.38	-34.9	-95.3	271.7	244.3	27.42	9.910	
4,000.0	3,956.9	3,981.2	3,976.8	15.4	14.1	-173.74	-35.3	-102.1	288.3	260.1	28.14	10.244	
4,100.0	4,054.1	4,079.8	4,075.1	15.9	14.5	-174.06	-35.7	-109.0	304.8	276.0	28.86	10.561	
4,200.0	4,151.4	4,178.4	4,173.5	16.4	14.9	-174.34	-36.1	-115.8	321.4	291.8	29.59	10.862	
4,300.0	4,248.6	4,277.0	4,271.9	16.9	15.2	-174.60	-36.5	-122.6	337.9	307.6	30.31	11.148	
4,400.0	4,345.8	4,375.6	4,370.2	17.4	15.6	-174.84	-36.8	-129.5	354.5	323.5	31.04	11.421	
4,500.0	4,443.0	4,474.3	4,468.6	17.8	16.0	-175.05	-37.2	-136.3	371.1	339.3	31.76	11.682	
4,600.0	4,540.2	4,572.9	4,567.0	18.3	16.3	-175.25	-37.6	-143.1	387.6	355.1	32.49	11.930	
4,700.0	4,637.5	4,671.5	4,665.4	18.8	16.7	-175.43	-38.0	-149.9	404.2	371.0	33.22	12.168	
4,800.0	4,734.7	4,770.1	4,763.7	19.3	17.0	-175.59	-38.4	-156.8	420.8	386.8	33.95	12.395	
4,900.0	4,831.9	4,868.7	4,862.1	19.8	17.4	-175.75	-38.8	-163.6	437.4	402.7	34.68	12.612	
5,000.0	4,929.1	4,967.3	4,960.5	20.3	17.8	-175.89	-39.2	-170.4	454.0	418.6	35.41	12.820	
5,100.0	5,026.3	5,065.9	5,058.8	20.8	18.1	-176.02	-39.6	-177.2	470.6	434.4	36.14	13.020	
5,200.0	5,123.6	5,164.5	5,157.2	21.3	18.5	-176.14	-40.0	-184.1	487.1	450.3	36.87	13.211	
5,300.0	5,220.8	5,263.1	5,255.6	21.8	18.9	-176.26	-40.4	-190.9	503.7	466.1	37.61	13.395	
5,400.0	5,318.0	5,361.7	5,354.0	22.3	19.2	-176.36	-40.8	-197.7	520.3	482.0	38.34	13.571	
5,500.0	5,415.2	5,460.3	5,452.3	22.9	19.6	-176.46	-41.1	-204.5	536.9	497.9	39.07	13.741	
5,600.0	5,512.4	5,558.9	5,550.7	23.4	20.0	-176.56	-41.5	-211.4	553.5	513.7	39.81	13.904	
5,700.0	5,609.7	5,657.6	5,649.1	23.9	20.3	-176.65	-41.9	-218.2	570.1	529.6	40.54	14.062	
5,800.0	5,706.9	5,756.2	5,747.4	24.4	20.7	-176.73	-42.3	-225.0	586.7	545.5	41.28	14.213	
5,900.0	5,804.1	5,854.8	5,845.8	24.9	21.1	-176.81	-42.7	-231.8	603.3	561.3	42.02	14.359	
6,000.0	5,901.3	5,953.4	5,944.2	25.4	21.4	-176.89	-43.1	-238.7	619.9	577.2	42.75	14.500	
6,100.0	5,998.5	6,052.0	6,042.6	25.9	21.8	-176.96	-43.5	-245.5	636.5	593.1	43.49	14.637	
6,200.0	6,095.8	6,150.6	6,140.9	26.4	22.2	-177.03	-43.9	-252.3	653.1	608.9	44.23	14.768	
6,300.0	6,193.0	6,249.2	6,239.3	26.9	22.5	-177.09	-44.3	-259.1	669.8	624.8	44.96	14.895	
6,400.0	6,290.2	6,347.8	6,337.7	27.4	22.9	-177.15	-44.7	-266.0	686.4	640.7	45.70	15.018	
6,500.0	6,387.4	6,446.4	6,436.0	28.0	23.3	-177.21	-45.0	-272.8	703.0	656.5	46.44	15.137	
6,600.0	6,484.6	6,545.0	6,534.4	28.5	23.6	-177.27	-45.4	-279.6	719.6	672.4	47.18	15.252	
6,700.0	6,581.9	6,643.6	6,632.8	29.0	24.0	-177.32	-45.8	-286.4	736.2	688.3	47.92	15.363	
6,800.0	6,679.1	6,742.3	6,731.2	29.5	24.4	-177.37	-46.2	-293.3	752.8	704.1	48.66	15.471	
6,900.0	6,776.3	6,840.9	6,829.5	30.0	24.7	-177.42	-46.6	-300.1	769.4	720.0	49.40	15.576	
7,000.0	6,873.5	6,939.5	6,927.9	30.5	25.1	-177.47	-47.0	-306.9	786.0	735.9	50.14	15.677	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well TICKETY BOO FED COM 2109 131H
Project:	(SP) EDDY	**TVD Reference:**	KB=30 @ 3340.0usft
Reference Site:	TICKETY BOO FED COM	**MD Reference:**	KB=30 @ 3340.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	TICKETY BOO FED COM 2109 131H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Compass
Reference Design:	PWP0	**Offset TVD Reference:**	Offset Datum

Offset Design: TICKETY BOO FED COM - TICKETY BOO FED COM 2109 133H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	135.76	-56.8	55.3	79.2				
100.0	100.0	100.0	100.0	0.3	0.3	135.76	-56.8	55.3	79.2	78.7	0.50	157.861	
200.0	200.0	200.0	200.0	0.6	0.6	135.76	-56.8	55.3	79.2	78.0	1.22	65.002	
300.0	300.0	300.0	300.0	1.0	1.0	135.76	-56.8	55.3	79.2	77.3	1.94	40.927	
400.0	400.0	400.0	400.0	1.3	1.3	135.76	-56.8	55.3	79.2	76.6	2.65	29.866	
500.0	500.0	500.0	500.0	1.7	1.7	135.76	-56.8	55.3	79.2	75.9	3.37	23.511	
600.0	600.0	600.0	600.0	2.0	2.0	135.76	-56.8	55.3	79.2	75.1	4.09	19.386	
700.0	700.0	700.0	700.0	2.4	2.4	135.76	-56.8	55.3	79.2	74.4	4.80	16.493	
800.0	800.0	800.0	800.0	2.8	2.8	135.76	-56.8	55.3	79.2	73.7	5.52	14.351	
900.0	900.0	900.0	900.0	3.1	3.1	135.76	-56.8	55.3	79.2	73.0	6.24	12.701	
1,000.0	1,000.0	1,000.0	1,000.0	3.5	3.5	135.76	-56.8	55.3	79.2	72.3	6.95	11.392	
1,100.0	1,100.0	1,100.0	1,100.0	3.8	3.8	135.76	-56.8	55.3	79.2	71.6	7.67	10.327	
1,200.0	1,200.0	1,200.0	1,200.0	4.2	4.2	135.76	-56.8	55.3	79.2	70.8	8.39	9.445	
1,300.0	1,300.0	1,300.0	1,300.0	4.6	4.6	135.76	-56.8	55.3	79.2	70.1	9.11	8.701	
1,400.0	1,400.0	1,400.0	1,400.0	4.9	4.9	135.76	-56.8	55.3	79.2	69.4	9.82	8.066	
1,500.0	1,500.0	1,500.0	1,500.0	5.3	5.3	135.76	-56.8	55.3	79.2	68.7	10.54	7.517	
1,600.0	1,600.0	1,600.0	1,600.0	5.6	5.6	135.76	-56.8	55.3	79.2	68.0	11.26	7.038	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	135.76	-56.8	55.3	79.2	67.3	11.97	6.617	
1,800.0	1,800.0	1,800.0	1,800.0	6.3	6.3	135.76	-56.8	55.3	79.2	66.5	12.69	6.243	
1,900.0	1,900.0	1,900.0	1,900.0	6.7	6.7	135.76	-56.8	55.3	79.2	65.8	13.41	5.909	
2,000.0	2,000.0	2,000.0	2,000.0	7.1	7.1	135.76	-56.8	55.3	79.2	65.1	14.12	5.609	CC, ES
2,100.0	2,100.0	2,098.0	2,098.0	7.4	7.4	-133.59	-56.7	56.9	81.6	66.8	14.81	5.509	SF
2,200.0	2,199.8	2,195.4	2,195.2	7.8	7.7	-138.15	-56.6	61.9	89.1	73.6	15.47	5.759	
2,300.0	2,299.5	2,292.1	2,291.6	8.1	8.1	-144.13	-56.5	70.0	102.6	86.5	16.13	6.360	
2,400.0	2,398.7	2,389.8	2,388.9	8.5	8.4	-149.77	-56.3	79.1	120.7	103.9	16.80	7.183	
2,500.0	2,497.5	2,486.7	2,485.4	8.8	8.8	-154.48	-56.1	88.0	142.8	125.3	17.48	8.170	
2,600.0	2,595.6	2,582.7	2,580.9	9.2	9.1	-158.31	-55.9	96.9	168.8	150.6	18.15	9.300	
2,677.2	2,670.9	2,656.0	2,653.9	9.5	9.4	-160.75	-55.8	103.7	191.4	172.7	18.66	10.254	
2,700.0	2,693.1	2,677.6	2,675.5	9.6	9.4	-161.43	-55.8	105.7	198.4	179.6	18.82	10.544	
2,800.0	2,790.3	2,772.3	2,769.7	10.0	9.8	-163.94	-55.6	114.4	229.5	210.0	19.48	11.778	
2,900.0	2,887.5	2,866.9	2,863.9	10.4	10.1	-165.86	-55.4	123.2	260.8	240.7	20.15	12.943	
3,000.0	2,984.7	2,961.5	2,958.2	10.8	10.5	-167.36	-55.3	131.9	292.4	271.5	20.82	14.042	
3,100.0	3,082.0	3,056.2	3,052.4	11.3	10.8	-168.58	-55.1	140.7	324.1	302.6	21.50	15.076	
3,200.0	3,179.2	3,150.8	3,146.6	11.7	11.2	-169.57	-54.9	149.4	355.9	333.7	22.17	16.049	
3,300.0	3,276.4	3,245.4	3,240.9	12.1	11.5	-170.41	-54.8	158.2	387.8	364.9	22.86	16.967	
3,400.0	3,373.6	3,340.1	3,335.1	12.6	11.9	-171.11	-54.6	166.9	419.7	396.2	23.54	17.832	
3,500.0	3,470.8	3,434.7	3,429.3	13.1	12.2	-171.72	-54.4	175.7	451.8	427.5	24.22	18.649	
3,600.0	3,568.1	3,529.4	3,523.6	13.5	12.6	-172.25	-54.2	184.4	483.8	458.9	24.91	19.421	
3,700.0	3,665.3	3,624.0	3,617.8	14.0	12.9	-172.71	-54.1	193.2	515.9	490.3	25.60	20.150	
3,800.0	3,762.5	3,718.6	3,712.0	14.5	13.3	-173.12	-53.9	201.9	548.0	521.7	26.29	20.842	
3,900.0	3,859.7	3,813.3	3,806.3	14.9	13.6	-173.48	-53.7	210.6	580.1	553.1	26.99	21.497	
4,000.0	3,956.9	3,907.9	3,900.5	15.4	14.0	-173.80	-53.6	219.4	612.3	584.6	27.68	22.119	
4,100.0	4,054.1	4,002.6	3,994.7	15.9	14.3	-174.09	-53.4	228.1	644.4	616.0	28.38	22.710	
4,200.0	4,151.4	4,097.2	4,089.0	16.4	14.7	-174.36	-53.2	236.9	676.6	647.5	29.07	23.272	
4,300.0	4,248.6	4,191.8	4,183.2	16.9	15.0	-174.60	-53.0	245.6	708.8	679.0	29.77	23.807	
4,400.0	4,345.8	4,286.5	4,277.4	17.4	15.4	-174.82	-52.9	254.4	741.0	710.5	30.47	24.317	
4,500.0	4,443.0	4,381.1	4,371.7	17.8	15.8	-175.02	-52.7	263.1	773.2	742.0	31.17	24.803	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

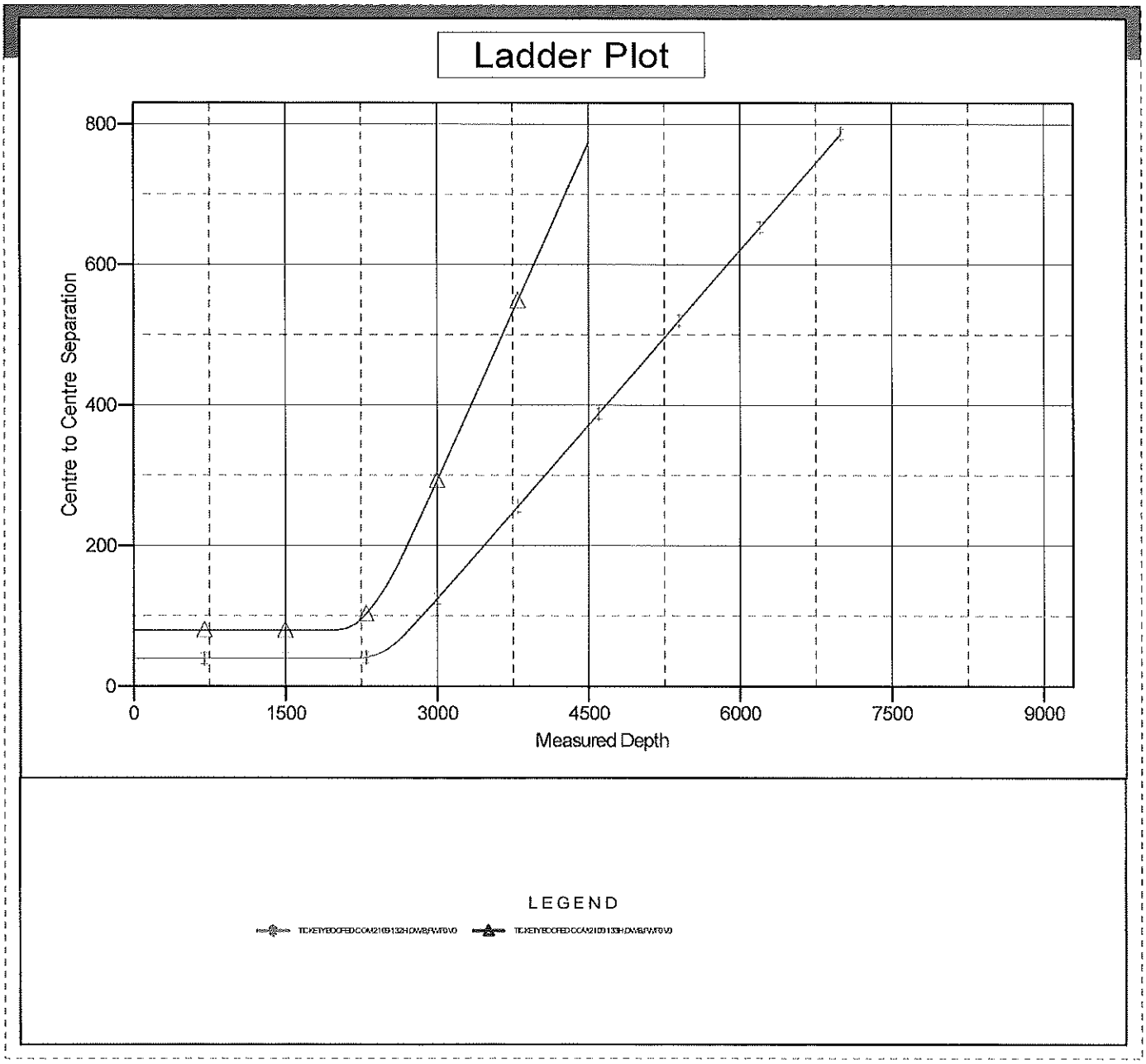
Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well TICKETY BOO FED COM 2109 131H
Project:	(SP) EDDY	**TVD Reference:**	KB=30 @ 3340.0usft
Reference Site:	TICKETY BOO FED COM	**MD Reference:**	KB=30 @ 3340.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	TICKETY BOO FED COM 2109 131H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Compass
Reference Design:	PWP0	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to KB=30 @ 3340.0usft
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: TICKETY BOO FED COM 2109 131H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.19°



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Central Meridian is 104° 20' 0.000 W

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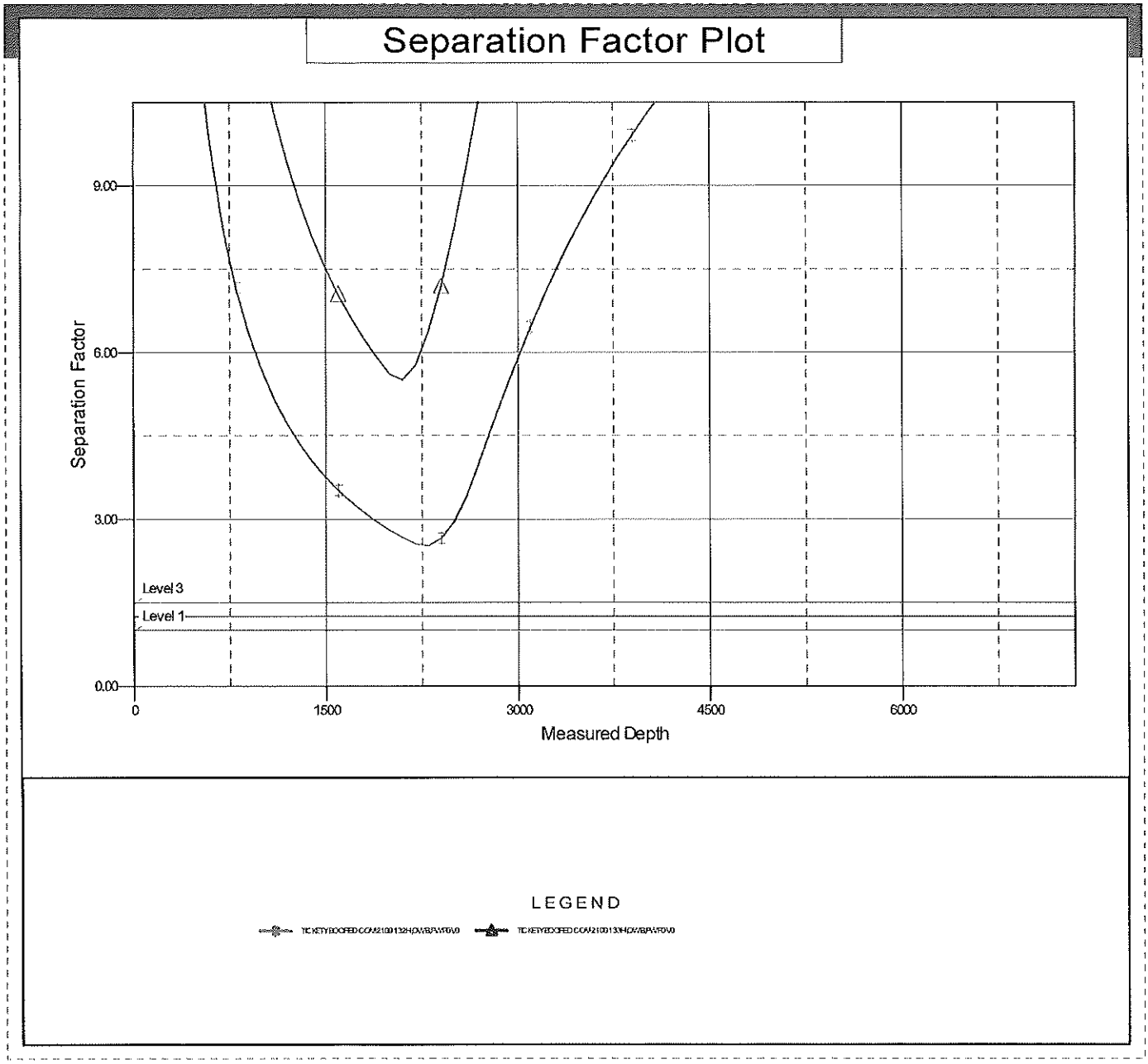
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.19°

Separation Factor Plot



CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

NOVO

H_2S Drilling Operations Plan

a. All personnel will be trained in H_2S working conditions as required by Onshore Order 6 before drilling out of the surface casing.

b. Two briefing areas will be established. Each will be at least 150' from the wellhead, perpendicular from one another, and easily entered and exited. See H_2S page 5 for more details.

c. H_2S Safety Equipment/Systems:

i. Well Control Equipment

- Flare line will be ≥150' from the wellhead and ignited by a pilot light.
- Beware of SO_2 created by flaring.
- Choke manifold will include a remotely operated choke.
- Mud gas separator

ii. Protective Equipment for Essential Personnel

- Every person on site will be required to wear a personal H_2S and SO_2 monitor at all times while on site. Monitors will not be worn on hard hats. Monitors will be worn on the front of the chest.
- One self-contained breathing apparatus (SCBA) 30-minute rescue pack will be at each briefing area. Two 30-minute SCBA packs will be stored in the safety trailer.
- Four work/escape packs will be on the rig floor. Each pack will have a long enough hose to allow unimpaired work activity.
- Four emergency escape packs will be in the doghouse for emergency evacuation.
- Hand signals will be used when wearing protective breathing apparatus.
- Stokes litter or stretcher
- Two full OSHA compliant body harnesses
- A 100-foot long x 5/8" OSHA compliant rope
- One 20-pound ABC fire extinguisher

iii. H_2S Detection & Monitoring Equipment

- Every person on site will be required to wear a personal H_2S and SO_2 monitor at all times while on site. Monitors will not be worn on hard hats. Monitors will be worn on the front of the chest.
- A stationary detector with three sensors will be in the doghouse.
- Sensors will be installed on the rig floor, bell nipple, and at the end of the flow line or where drilling fluids are discharged.
- Visual alarm will be triggered at 10 ppm.
- Audible alarm will be triggered at 10 ppm.
- Calibration will occur at least every 30 days. Gas sample tubes will be kept in the safety trailer.

iv. Visual Warning System

- Color-coded H_2S condition sign will be set at the entrance to the pad.
- Color-coded condition flag will be installed to indicate current H_2S conditions.
- Two wind socks will be installed that will be visible from all sides.

v. Mud Program

- A water based mud with a pH of $\geq$10 will be maintained to control corrosion, H_2S gas returns to the surface, and minimize sulfide stress cracking and embrittlement.
- Drilling mud containing H_2S gas will be degassed at an optimum location for the rig configuration.
- This gas will be piped into the flare system.
- Enough mud additives will be on location to scavenge and/or neutralize H_2S where formation pressures are unknown.

vi. Metallurgy

- All equipment that has the potential to be exposed to H_2S will be suitable for H_2S service.
- Equipment that will meet these metallurgical standards include the drill string, casing, wellhead, BOP assembly, casing head and spool, rotating head, kill lines, choke, choke manifold and lines, valves, mud-gas separators, DST tools, test units, tubing, flanges, and other related equipment (elastomer packings and seals).

vii. Communication from well site

- Cell phones and/or two-way radios will be used to communicate from the well site.

d. A remote-controlled choke, mud-gas separator, and a rotating head will be installed before drilling or testing any formation expected to contain H_2S.

Company Personnel to be Notified

Kurt Shipley, Vice-President - Operations	Office: (405) 609-1596

Local & County Agencies

Loving Fire Department	911 or (575) 745-3600
Eddy County Sheriff (Carlsbad)	911 (575) 887-7551
Eddy County Emergency Management (Carlsbad)	(575) 887-9511
Carlsbad Medical Center Hospital	(575) 887-4100
Eddy County South Road Department (Carlsbad)	(575) 885-4835

State Agencies

NM State Police (Carlsbad)	(575) 885-3138
NM Oil Conservation (Artesia)	(575) 748-1283
NM Oil Conservation (Santa Fe)	(505) 476-3440
NM Dept. of Transportation (Roswell)	(575) 637-7201

Federal Agencies

BLM Carlsbad Field Office	(575) 706-2779
On-Call (Eddy County)	(575) 361-2822
On-Call (Lea County)	(575) 689-5981
National Response Center	(800) 424-8802
US EPA Region 6 (Dallas)	(800) 887-6063
	(214) 665-6444

Residents within 2 miles: none

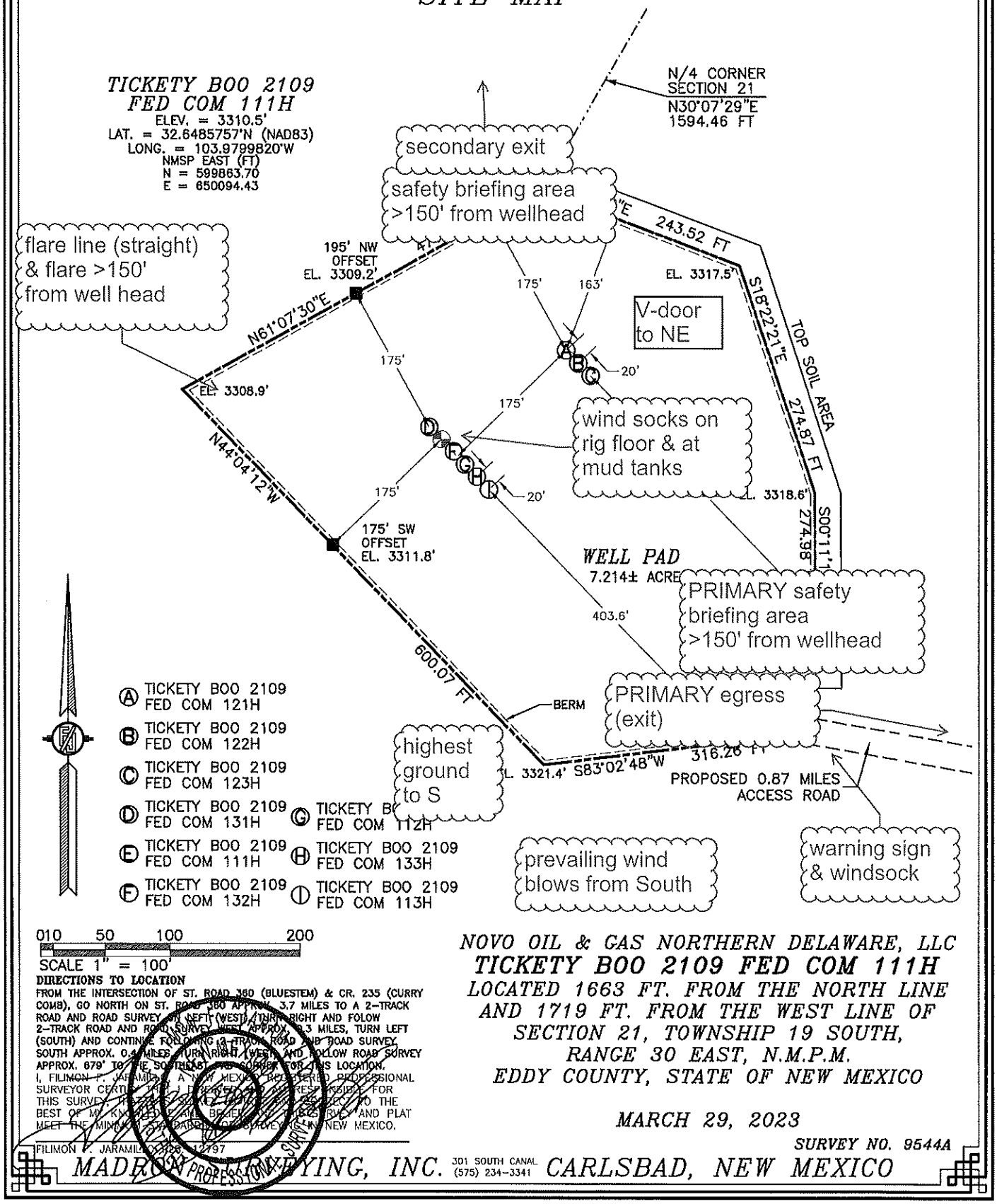
Air Evacuation

Med Flight Air Ambulance (Albuquerque)	(800) 842-4431
Lifeguard (Albuquerque)	(888) 866-7256

Veterinarians

Desert Willow Veterinary Services (Carlsbad)	(575) 885-3399
Animal Care Center (Carlsbad)	(575) 885-5352

SECTION 21, TOWNSHIP 19 SOUTH, RANGE 30 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SITE MAP



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF ST. ROAD 360 (BLUESTEM) & CR. 235 (CURRY COMB), GO NORTH ON ST. ROAD 360 APPROX. 3.7 MILES TO A 2-TRACK ROAD AND ROAD SURVEY ON LEFT (WEST) / TURN RIGHT AND FOLOW 2-TRACK ROAD AND ROAD SURVEY WEST APPROX. 0.3 MILES, TURN LEFT (SOUTH) AND CONTINUE FOLLOWING 2-TRACK ROAD AND ROAD SURVEY SOUTH APPROX. 0.4 MILES, TURN RIGHT (WEST) AND FOLLOW ROAD SURVEY APPROX. 679' TO THE SOUTHEAST CORNER FOR THIS LOCATION.

I, FILIMON P. JARAMILLO, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I PREPARED OR SUPERVISED THE PREPARATION OF THIS SURVEY, THAT THIS SURVEY WAS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FURTHER CERTIFY THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

FILIMON P. JARAMILLO NO. 12797

NOVO OIL & GAS NORTHERN DELAWARE, LLC
TICKETY BOO 2109 FED COM 111H
LOCATED 1663 FT. FROM THE NORTH LINE AND 1719 FT. FROM THE WEST LINE OF SECTION 21, TOWNSHIP 19 SOUTH, RANGE 30 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

MARCH 29, 2023

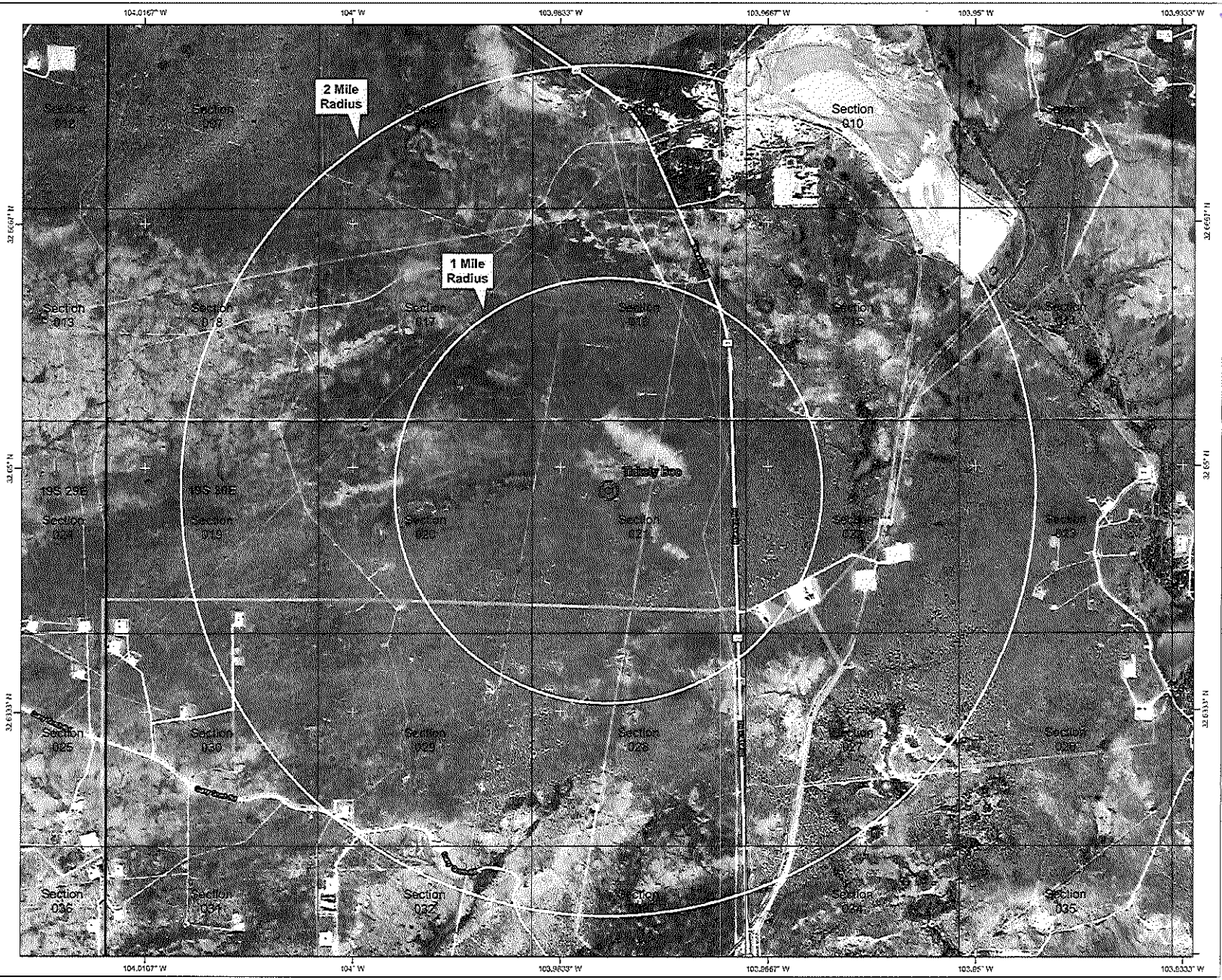
SURVEY NO. 9544A

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 *CARLSBAD, NEW MEXICO*

Novo Oil and Gas Northern Delaware

Tickety Boo
H_2S Contingency Plan:
Radius Map

Section 21, Township 19S, Range 30E
Eddy County, New Mexico



Well Pad Location

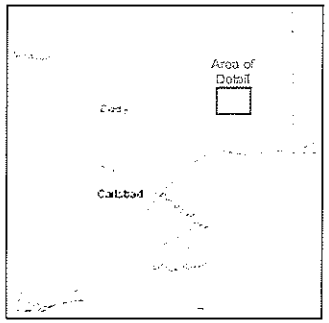
1:27,000
0 0.25 0.5 1
Miles

N

NAD 1983 New Mexico State Plane East
FIPS 3001 Feet

PERMITS WEST

Prepared by Permits West, Inc., May 2, 2023
for Novo Oil and Gas Northern Delaware, LLC



Operator Name: NOVO OIL AND GAS NORTHERN DELAWARE LLC

Well Name: TICKETY BOO 2109 FED COM **Well Number:** 131H

Disposal type description: Public

Disposal location description: Carlsbad wastewater treatment plant

Waste type: GARBAGE

Waste content description: Trash

Amount of waste: 10 barrels

Waste disposal frequency : Daily

Safe containment description: Portable trash cage

Safe containmant attachment:

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

Disposal type description: Public

Disposal location description: Eddy County landfill

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit? NO

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

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

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

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? Y

Description of cuttings location Steel tanks on pad

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

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

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

WCuttings area liner

Cuttings area liner specifications and installation description

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 388786

CONDITIONS

Operator: NOVO OIL & GAS NORTHERN DELAWARE, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID: 372920
	Action Number: 388786
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	10/31/2024
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	10/31/2024
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string.	10/31/2024
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing.	10/31/2024
ward.rikala	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	10/31/2024
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.	10/31/2024
ward.rikala	This well is within the Capitan Reef. The 1st intermediate string shall be sat and cemented back to surface immediately above the top of the Capitan Reef. The 2nd intermediate string shall be sat and cemented back to surface immediately below the base of the Capitan Reef.	10/31/2024
ward.rikala	Operator shall comply with all of the R-111-Q requirements.	10/31/2024