

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

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		5. Lease Serial No. NMLC0029406B 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. ZEPP0 5 FED COM 25H / NMNM 13795 8. Lease Name and Well No. ZEPP0 5 FEDERAL COM 016H
2. Name of Operator MAVERICK PERMIAN LLC [331199]		9. API Well No. 30-025-51558
3a. Address 1111 BAGBY ST SUITE 1600, HOUSTON, TX 77002	3b. Phone No. (include area code) (713) 437-8043	10. Field and Pool, or Exploratory MALJAMAR-YESO, WEST [44500]
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SENE / 2325 FNL / 428 FEL / LAT 32.864537 / LONG -103.781465 At proposed prod. zone SESE / 385 FSL / 387 FEL / LAT 32.842968 / LONG -103.781311		11. Sec., T. R. M. or Blk. and Survey or Area SEC 5/T17S/R32E/NMP
14. Distance in miles and direction from nearest town or post office* 1 miles		12. County or Parish LEA
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 428 feet		16. No of acres in lease 17. Spacing Unit dedicated to this well 480.0
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 20 feet		19. Proposed Depth 6083 feet / 13964 feet 20. BLM/BIA Bond No. in file FED: NMB105749546
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 4120 feet	22. Approximate date work will start* 06/01/2023	23. Estimated duration 30 days
24. Attachments		

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

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

25. Signature (Electronic Submission)	Name (Printed/Typed) BRIAN WOOD / Ph: (713) 437-8043	Date 01/09/2023
Title President		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) CODY LAYTON / Ph: (575) 234-5959	Date 05/23/2023
Title Assistant Field Manager Lands & Minerals Office Carlsbad Field Office		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

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

NGMP Rec 05/29/2023

SL

(Continued on page 2)



Approval Date: 05/23/2023

KZ
06/01/2023

*(Instructions on page 2)

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

API Number 30-025- 51558	Pool Code 44500	Pool Name MALJAMAR; YESO, WEST
Property Code 333000	Property Name ZEPPO 5 FEDERAL COM	Well Number #016H
OGRID No. 331199	Operator Name MAVERICK PERMIAN LLC	Elevation 4120'

Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	05	17 S	32 E		2325	NORTH	428	EAST	LEA

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
P	08	17 S	32 E		385	SOUTH	387	EAST	LEA

Dedicated Acres 480.00	Joint or Infill	Consolidation Code	Order No.
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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.

SURFACE LOCATION
NEW MEXICO EAST
NAD 1983
X = 710787'
Y = 678695'
LAT. = N 32.864537°
LONG. = W 103.781465°
NAD 1927
X = 669608'
Y = 678630'
LAT. = N 32.864418°
LONG. = W 103.780959°

FIRST TAKE POINT
NEW MEXICO EAST
NAD 1983
X = 710828'
Y = 678005'
LAT. = N 32.862639°
LONG. = W 103.781341°
NAD 1927
X = 669650'
Y = 677940'
LAT. = N 32.862520°
LONG. = W 103.780835°

LAST TAKE POINT / BOTTOM HOLE
NEW MEXICO EAST
NAD 1983
X = 710875'
Y = 678048'
LAT. = N 32.842968°
LONG. = W 103.781311°
NAD 1927
X = 669697'
Y = 670783'
LAT. = N 32.842849°
LONG. = W 103.780805°

Proposed Bottom Hole Location:
X = 711247' Y = 673103'
X = 711244' Y = 675742'
X = 711216' Y = 678382'
X = 711265' Y = 670464'
X = 708627' Y = 670455'

Bearings and Distances:
AZ = 176.55° 691.5'
376'
428'
392'
2264'
330'
385'
387'
HZ SPACING UNIT
AZ = 179.63° 7157.0'

Township and Range Grid:
T-16-S 31 32
T-17-S 06 05
06 05
07 08
07 08
18 17
32 33
04
09
17 16

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 Signature _____ Date 12-21-22 Cory Walk Printed Name _____ cory@permitswest.com E-mail Address _____	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. November 07, 2022 Date of Survey Matthew B. Tomerlin Signature and Seal of Professional Surveyor MATTHEW B. TOMERLIN NEW MEXICO 23203 PROFESSIONAL SURVEYOR Job No.: 22-10-2578 MATTHEW B. TOMERLIN, N.M.P.L.S. Certificate Number 23203
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State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: Maverick Permian LLC **OGRID:** 331199 **Date:** 04 / 18 / 2023

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

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Zeppo 5 Federal Com 006H	30-025-_____	H-5-117S-32E	2308 FNL 418 FEL	540	659	3508
Zeppo 5 Federal Com 016H	30-025-_____ 30-025-51558	H-5-17S-32E	2325 FNL 428 FEL	324	349	1299

IV. Central Delivery Point Name: Peridot 8 Federal Com CTB located in Sec 8, T17S, R32E [See 19.15.27.9(D)(1) NMAC]

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

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Zeppo 5 Federal Com 006H	30-025-_____	09/29/2024	10/24/2024	12/01/2024	12/08/2024	12/08/2024
Zeppo 5 Federal Com 016H	30-025-_____ 30-025-51558	09/29/2024	11/18/2024	12/21/2024	12/28/2024	12/28/2024

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

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

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

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

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices

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

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

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

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

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

Signature: 
Printed Name: Lauri M. Stanfield
Title: Sr. Regulatory Analyst
E-mail Address: Lauri.Stanfield@mavresources.com
Date: 04/18/2023
Phone: 713.437.8052
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

APPENDIX

Section 1 – Parts VI, VII, and VIII

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

- Separation equipment is sized to allow for retention of time and velocity to adequately separate oil, gas, and water at anticipated peak rates.
- All central tank battery equipment is designed to efficiently capture the remaining gas from the liquid phase.
- Valves and meters are designed to service without flow interruption or venting of gas.

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

❖ **19.15.27.8 (A) – Venting and Flaring of Natural Gas**

- Maverick Permian LLC's field operations are designed with the goal of minimizing flaring and preventing venting of natural gas. If capturing the gas is not possible then the gas using properly sized flares in accordance with state air permit rules.

❖ **19.15.27.8 (B) – Venting and Flaring During Drilling Operations**

- A properly sized flare stack will be located at a minimum of 100' from the nearest surface hole location on the pad.
- All-natural gas produced during drilling operations will be flared. Venting will only occur if there is an equipment malfunction and/or to avoid risk of an immediate and substantial adverse impact on safety, public health, or the environment.

❖ **19.15.27.8 (C) – Venting and Flaring During Completion or Recompletion Operations**

- During all phases of flowback, wells will flow through a sand separator, or other appropriate flowback separation equipment, and the well stream will be directed to a central tank battery (CTB) through properly sized flowlines.
- The CTB will have properly sized separation equipment for maximum anticipated flow rates.
- Multiple stages of separation will be used to separate gas from liquids. All gas will be routed to a sales outlet. Fluids will be routed to tanks equipped with a closed loop system that will recover any residual gas from the tanks and route such gas to a sales outlet.

❖ **19.15.27.8 (D) – Venting and Flaring During Production Operations**

- During production, the well stream will be routed to the CTB where multiple stages of separation will separate gas from liquids. All gas will be routed to a sales outlet. Fluids will be routed to tanks equipped with a closed loop system that will recover any residual gas from the tanks and route such gas to a sales outlet, minimizing tank emissions.
- Flares are equipped with auto-ignition systems and continuous pilot operations.
- Automatic gauging equipment is installed on all tanks.

❖ **19.15.27.8 (E) – Performance Standards**

- Production equipment will be designed to handle maximum anticipated rates and pressure.
- Automatic gauging equipment is installed on all tanks to minimize venting.
- All flared gas will be combusted in a flare stack that is properly sized and designed to ensure proper combustion.
- Flares are equipped with continuous pilots and auto-ignitors along with remote monitoring of the pilot status.
- Weekly AVOs will be performed on all wells and facilities that produce more than 60 MCFD.
- Gas/H₂S detectors will not be installed throughout the facilities and wellheads.

❖ **19.15.27.8 (F) – Measurement or Estimation of Vented and Flared Natural Gas**

- All high pressure flared gas is measured by equipment conforming to API 14.10.

- Meter bypasses are installed and will only be used in an upset event..
- When metering is not practical due to low pressure/low rate, the vented or flared volume will be calculated through flare flow curves through our ESG Team, as necessary.

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

- Maverick Permian LLC will use best management practices to vent as minimally as possible during well intervention operations and downhole well maintenance.
- All-natural gas is routed into a gas gathering system and directed to one of Maverick Permian LLC's multiple gas sales outlets.
- All venting events will be recorded and all start-up, shutdown, maintenance logs will be kept for control equipment.
- All control equipment will be maintained to provide highest run-time possible.
- All procedures are drafted to keep venting and flaring to the absolute minimum.



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

Drilling Plan Data Report

05/29/2023

APD ID: 10400089948

Submission Date: 01/09/2023

Highlighted data
reflects the most
recent changes

Operator Name: MAVERICK PERMIAN LLC

Well Name: ZEPP0 5 FEDERAL COM

Well Number: 016H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
9687270	QUATERNARY	4120	0	0	ALLUVIUM	NONE	N
9687269	RUSTLER ANHYDRITE	3173	947	947	ANHYDRITE	OTHER : Salt	N
9687271	SALADO	2995	1125	1125	SALT	OTHER : Salt	N
9687272	TANSILL	1949	2171	2171	SALT	OTHER : Salt	N
9687273	YATES	1810	2310	2310	ANHYDRITE, SANDSTONE, SILTSTONE	NONE	N
9687274	SEVEN RIVERS	1505	2615	2616	LIMESTONE	NONE	N
9687275	QUEEN	889	3231	3232	SANDSTONE	NONE	N
9687276	GRAYBURG	437	3683	3684	LIMESTONE, SANDSTONE	NATURAL GAS, OIL	N
9687277	SAN ANDRES	154	3966	3967	DOLOMITE	NATURAL GAS, OIL	N
9687278	GLORIETA	-1346	5466	5468	LIMESTONE, SANDSTONE	NATURAL GAS, OIL	N
9687279	PADDOCK	-1425	5545	5547	DOLOMITE	NATURAL GAS, OIL	N
9687280	BLINEBRY	-1700	5820	5840	DOLOMITE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M

Rating Depth: 10000

Equipment: Ten thousand (10M) psi working pressure Blind Rams and Pipe Rams and a five thousand (5M) psi Annular Preventer will be installed on all casing below surface casing. The annular preventor will be tested to 50% of working pressure and the 10M Rams will be tested to 5,000 psi.

Requesting Variance? YES

Variance request: A variance to the requirement of a rigid steel line connecting to the choke manifold is requested. Specifications for the flex hose are provided with the BOP schematic in exhibit section. A variance is requested for the use of flexible choke line form the BOP to Choke Manifold. If yes, specs and hydrostatic

Operator Name: MAVERICK PERMIAN LLC**Well Name:** ZEPPO 5 FEDERAL COM**Well Number:** 016H

test certification will be available in the company man's trailer and on the rig floor. The flex line will meet the API 16C requirements and have a manufacture pressure test chart. At this moment there is no data, and the flex line will be sundried at a later date.

Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and high pressure indicated above per Onshore Order 2 requirements. The system may be upgraded to a higher pressure but still be tested to the working pressure in the table above. If the system is upgraded all the components installed will be functional and tested. Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks 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) and choke lines and choke manifold. See attached schematics. In addition, the BOP equipment will be tested after any repairs to the equipment. Floor safety valves that are full open and sized to fit drill pipe and collars will be available on the rig floor in the open position when the Kelly is not in use. A formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe should be performed. The testing of the BOPE system will be as a 5M BOPE however utilizing a 10M BOPE rated system and meeting the minimum requirement and exceed this requirement. If meeting the minimum requirement of a 5M BOPE system, utilizing a 10M BOPE system a well control plan should not be required due to MASP under 5,000 psi, however Maverick Permian LLC does maintain well control plans at each well should the need arise. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.I.i. A multi-bowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. See attached schematic.

Choke Diagram Attachment:

Choke_Diagram_v2_20230308080147.pdf

BOP Diagram Attachment:

BOP_Diagram_v2_20230308080157.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	1047	0	1047	4120	3073	1047	J-55	54.5	ST&C	2.41	5.85	DRY	9.01	DRY	9.01
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	2440	0	2440	4057	1680	2440	HCL-80	40	LT&C	5.29	7.86	DRY	7.45	DRY	7.45
3	PRODUCTION	8.75	7.0	NEW	API	Y	0	5975	0	5907	4057	-1787	5975	L-80	29	LT&C	5.72	5.19	DRY	4.27	DRY	4.27
4	PRODUCTION	8.75	5.5	NEW	API	N	5975	13694	5907	6083	-1787	-1963	7719	L-80	17	BUTT	3.45	4.24	DRY	4.14	DRY	4.14

Operator Name: MAVERICK PERMIAN LLC

Well Name: ZEPPO 5 FEDERAL COM

Well Number: 016H

Casing Attachments

Casing ID: 1StringSURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Design_Assumptions_20221226083718.pdf

Casing ID: 2StringINTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Design_Assumptions_20221226083746.pdf

Casing ID: 3StringPRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing_Design_Assumptions_20230109091403.pdf

Casing Design Assumptions and Worksheet(s):

Casing_Design_Assumptions_20221226083814.pdf

Operator Name: MAVERICK PERMIAN LLC

Well Name: ZEPPO 5 FEDERAL COM

Well Number: 016H

Casing Attachments

Casing ID: 4StringPRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Design_Assumptions_20230109091512.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	700	380	2.6	11.8	988	100	Class C	2% CaCl2 and 0.25 lbm/sk Poly-E-Flake
SURFACE	Tail		700	1047	375	1.32	14.8	495	100	Class C	2% CaCl2 and 0.25 lbm/sk Poly-E-Flake
INTERMEDIATE	Lead		0	1370	350	2.19	12.4	767	75	Class C	0.6% LAP-1 & 1.5% FDP-C1026
INTERMEDIATE	Tail		1370	2440	390	1.32	14.8	515	50	Class C	0.6% LAP-1 & 1.5% FDP-C1026
PRODUCTION	Lead		0	5975	224	4.67	10.5	1046	20	65/35 C/POZ	8% Gel, 8% Gyp, 18% SFA, 1% SMS, 0.8% SA-2, 0.4 lb/sk Poly Flakes
PRODUCTION	Tail		5975	13694	1322	1.77	13	2340	20	65/35 Class C Premiu m Plus Cement /Poz	4% GEL, 4% Gypsum, 0.4% SFL-5, 0.4% SA-2, 0.15% C-49, 0.25 LBS Poly Flake

Operator Name: MAVERICK PERMIAN LLC

Well Name: ZEPPO 5 FEDERAL COM

Well Number: 016H

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: Mud weight increases at shoe depths are for pressure control. Mud weight increase in the curve and lateral section of the hole are for hole stability, not pressure control. Mud weight assumptions for casing load designs exceed anticipated maximum mud weight for balanced drilling in all hole sections. Expected mud weights in producing formation will be 0.5 to 1.0 ppg greater than formation pressure (i.e. overbalanced drilling). An industry accepted medium will be stored on location in the event that there is a loss of circulation in the well bore.

Describe the mud monitoring system utilized: The mud system will run as a closed loop system with PVT monitoring.

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	1047	OTHER : Fresh Water	8.4	8.4							
1047	2440	OTHER : Brine Water	9.5	9.5							
2440	13694	OTHER : Brine/Lube	9.7	9.7							

Section 6 - Test, Logging, Coring

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

Mud Logging/Gamma Ray/MWD

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

GAMMA RAY LOG,MUD LOG/GEOLOGICAL LITHOLOGY LOG,MEASUREMENT WHILE DRILLING,

Coring operation description for the well:

No open-hole logs are planned at this time.

Operator Name: MAVERICK PERMIAN LLC**Well Name:** ZEPPO 5 FEDERAL COM**Well Number:** 016H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 3163**Anticipated Surface Pressure:** 1824**Anticipated Bottom Hole Temperature(F):** 240**Anticipated abnormal pressures, temperatures, or potential geologic hazards?** NO**Describe:****Contingency Plans geohazards description:****Contingency Plans geohazards****Hydrogen Sulfide drilling operations plan required?** YES**Hydrogen sulfide drilling operations**

Zeppo_Pad4_H2S_Plan_RDC_20221226084010.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Zeppo_16H_Directional_Plan_20221226084025.pdf

Other proposed operations facets description:

Hydraulic fracturing will occur through the production casing. The burst design calculation assumes TOC at 0 ft., therefore, the backside of the production casing is not evacuated. The maximum pumping pressure is 10000 psi with a maximum proppant fluid weight of 9.6 ppg. The design safety factor for burst is 1.236.

Upon request, operator will provide proof of cement bonding by bond log. Operator is responsible for log interpretation and certification prior to frac treatment.

Upon request, operator will provide estimated fracture lengths, flowback storage, volumes of fluids and amount of sand to be used, and number of stages of frac procedure. Furthermore, a report of the annulus pressures before and after each stage of treatment may be requested by the BLM. The report may include chemical additives (other than proprietary), dissolved solids in frac fluid, and depth of perforations.

Gas detection equipment and pit flow monitoring equipment will be on location. A flow paddle will be installed in the flow line to monitor relative amount of mud flowing in the non-pressurized return line. Mud probes will be installed in the individual tanks to monitor pit volumes of the drilling fluid with a pit volume totalizer. Gas detecting equipment and H2S monitor alarm will be installed in the mud return system and will be monitored. A mud gas separator will be installed and operable before drilling out from the Surface Casing. The gases shall be piped into the flare system. Drilling mud containing H2S shall be degassed in accordance with API RP-49, item 5.14. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

Maverick Permian LLC has an H2S safety package on all wells. Adequate flare lines will be installed off the mud/gas separator where gas may be safely flared. All personnel will be familiar with all aspects of safe operation of equipment being used.

Other proposed operations facets attachment:

Zeppo_16H_Anticollision_Report_RDC_20221226084057.pdf

Wellhead_Diagram_SDT_3865_7in_20221227111842.pdf

Operator Name: MAVERICK PERMIAN LLC

Well Name: ZEPPO 5 FEDERAL COM

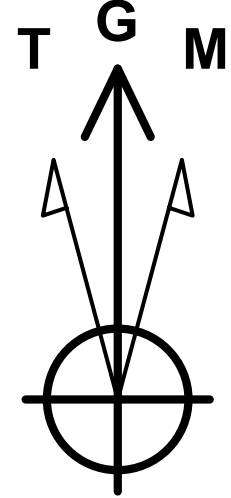
Well Number: 016H

Zeppo_16H_Drill_Plan_v2_20230308080226.pdf

Other Variance attachment:

Maverick Permian LLC

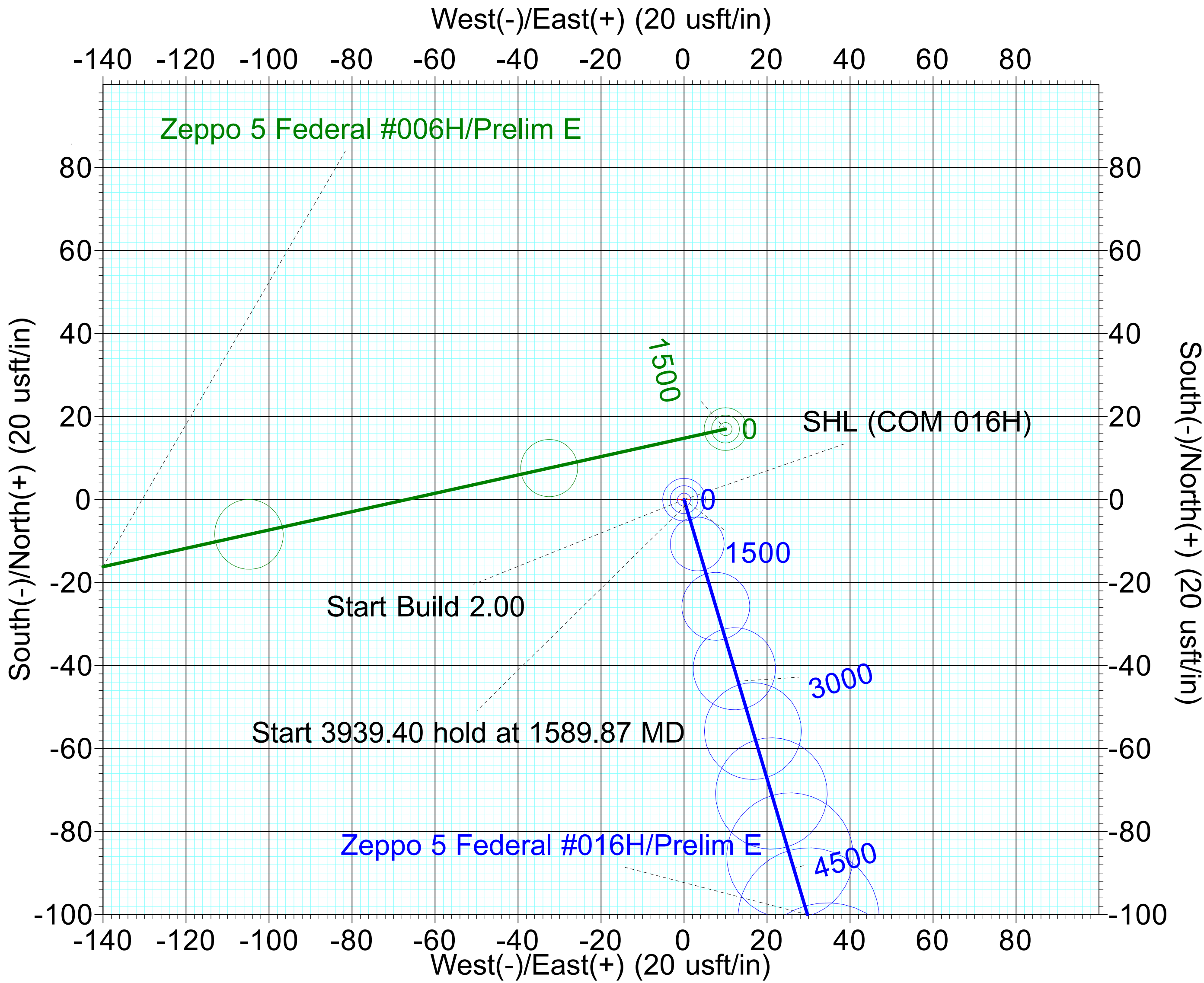
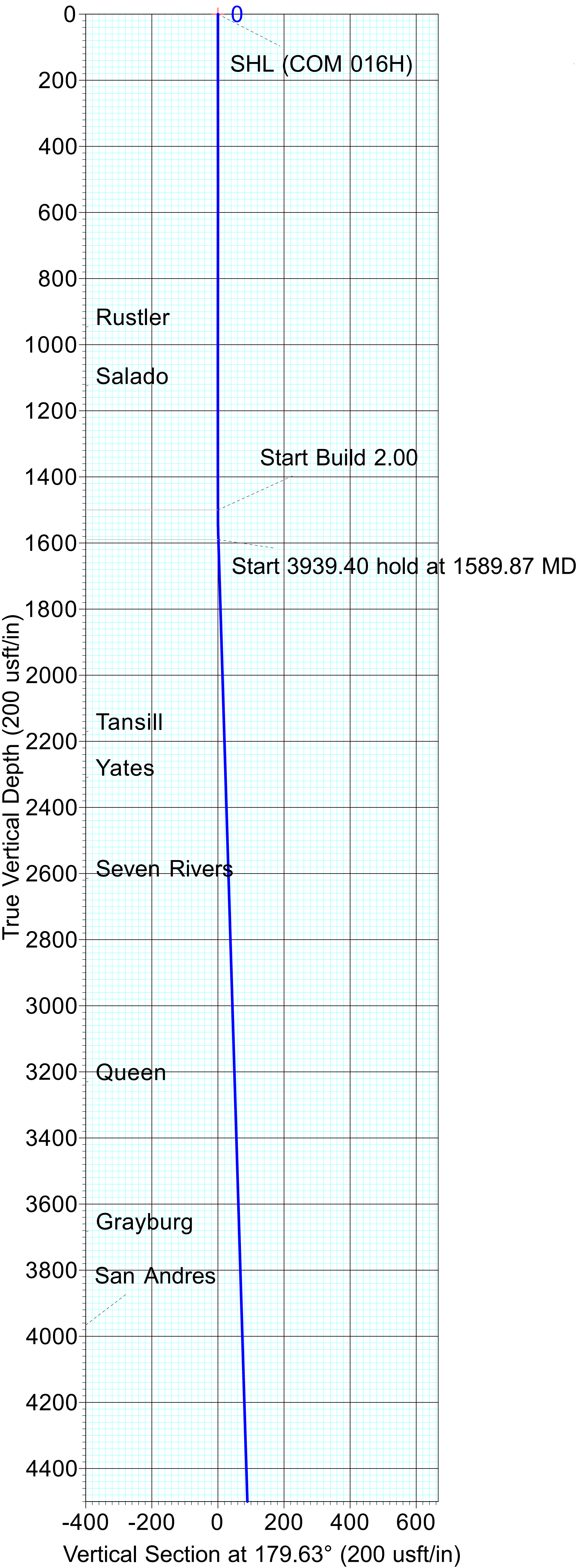
Project: Gemstone Project (NAD 83)
Site: Zeppo Pad #4
Well: Zeppo 5 Federal #016H
Wellbore: OH
Design: Prelim E



Azimuths to Grid North
True North: -0.30°
Magnetic North: 6.33°

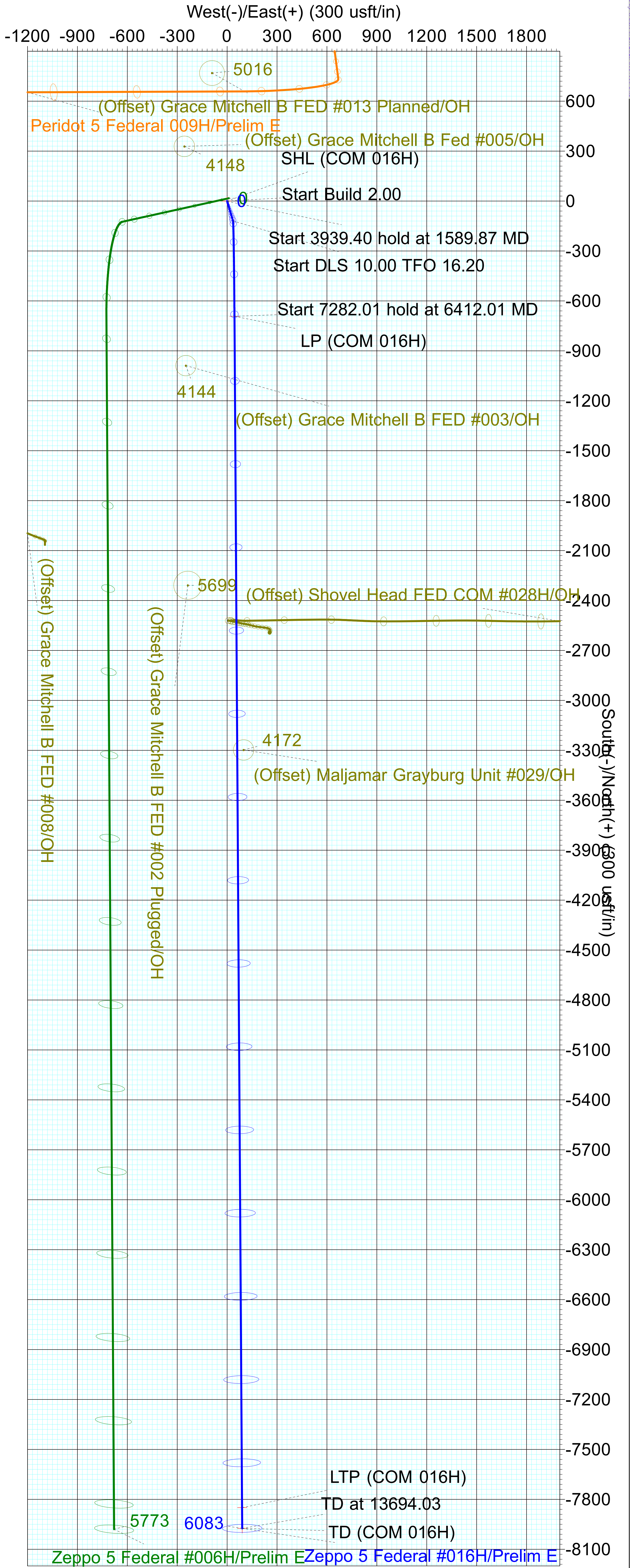
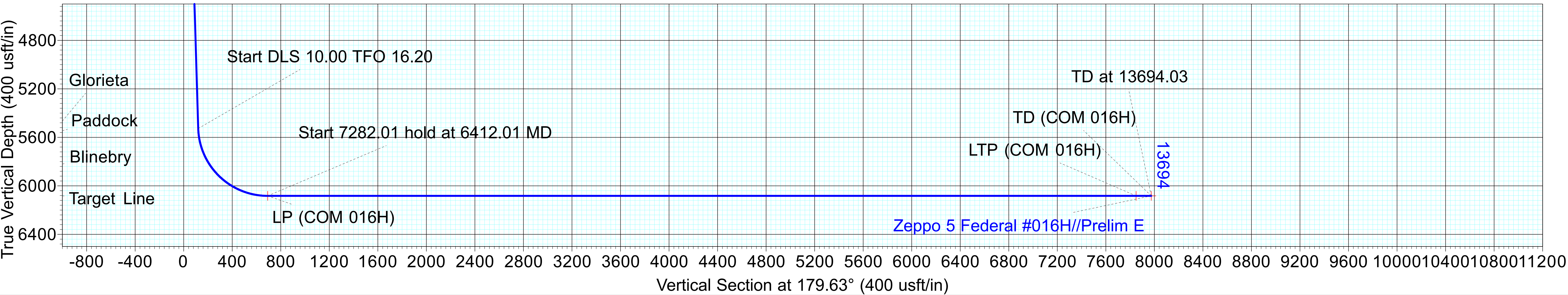
Magnetic Field
Strength: 47853.0nT
Dip Angle: 60.63°
Date: 9/8/2022
Model: HDGM_FILE

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
Referenced TVD: GE 4120' + KB 28 @ 4148.00usft



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	0.00	
3	1589.87	1.80	163.44	1589.86	-1.35	0.40	2.00	163.44	1.35	
4	5529.28	1.80	163.44	5527.32	-119.79	35.62	0.00	0.00	120.02	
5	6412.01	90.00	179.63	6083.00	-692.45	44.14	10.00	16.20	692.72	LP (COM 016H)
6	13694.03	90.00	179.63	6083.00	-7974.31	90.67	0.00	0.00	7974.73	TD (COM 016H)

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL (COM 016H)	0.00	0.00	0.00	678695.00	710787.00	32.86453729	-103.78146352
LP (COM 016H)	6083.00	-692.45	44.14	678002.55	710831.14	32.86263347	-103.78133154
LTP (COM 016H)	6083.00	-7849.31	90.67	670845.69	710877.67	32.84296213	-103.78130185
TD (COM 016H)	6083.00	-7974.31	90.67	670720.69	710877.67	32.84261856	-103.78130398



Maverick Permian LLC

Gemstone Project

Zeppo Pad #4

Zeppo 5 Federal #016H

OH

Plan: Prelim E

Standard Planning Report

13 December, 2022

Planning Report

Database:	LEAM Multi_User Db	Local Co-ordinate Reference:	Well Zeppo 5 Federal #016H
Company:	Maverick Permian LLC	TVD Reference:	GE 4120' + KB 28 @ 4148.00usft
Project:	Gemstone Project	MD Reference:	GE 4120' + KB 28 @ 4148.00usft
Site:	Zeppo Pad #4	North Reference:	Grid
Well:	Zeppo 5 Federal #016H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim E		

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

Site	Zeppo Pad #4				
Site Position:		Northing:	678,711.99 usft	Latitude:	32.86458385
From:	Map	Easting:	710,797.00 usft	Longitude:	-103.78143066
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.30

Well	Zeppo 5 Federal #016H					
Well Position	+N/-S	-16.99 usft	Northing:	678,695.00 usft	Latitude:	32.86453729
	+E/-W	-10.00 usft	Easting:	710,787.00 usft	Longitude:	-103.78146352
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	4,120.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	9/8/2022	6.63	60.63	47,853.00000000

Design	Prelim E			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	179.63

Plan Survey Tool Program	Date	12/13/2022		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	13,694.03 Prelim E (OH)	LEAM_MWD+HDGM	
			LEAM MWD + HDGM	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,589.87	1.80	163.44	1,589.86	-1.35	0.40	2.00	2.00	0.00	163.44	
5,529.28	1.80	163.44	5,527.32	-119.79	35.62	0.00	0.00	0.00	0.00	
6,412.01	90.00	179.63	6,083.00	-692.45	44.14	10.00	9.99	1.83	16.20	LP (COM 016H)
13,694.03	90.00	179.63	6,083.00	-7,974.31	90.67	0.00	0.00	0.00	0.00	TD (COM 016H)

Planning Report

Database:	LEAM Multi_User Db	Local Co-ordinate Reference:	Well Zeppo 5 Federal #016H
Company:	Maverick Permian LLC	TVD Reference:	GE 4120' + KB 28 @ 4148.00usft
Project:	Gemstone Project	MD Reference:	GE 4120' + KB 28 @ 4148.00usft
Site:	Zeppo Pad #4	North Reference:	Grid
Well:	Zeppo 5 Federal #016H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim E		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHL (COM 016H)									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
947.00	0.00	0.00	947.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,125.00	0.00	0.00	1,125.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,589.87	1.80	163.44	1,589.86	-1.35	0.40	1.35	2.00	2.00	0.00
1,600.00	1.80	163.44	1,599.98	-1.66	0.49	1.66	0.00	0.00	0.00
1,700.00	1.80	163.44	1,699.93	-4.66	1.39	4.67	0.00	0.00	0.00
1,800.00	1.80	163.44	1,799.88	-7.67	2.28	7.68	0.00	0.00	0.00
1,900.00	1.80	163.44	1,899.83	-10.68	3.17	10.70	0.00	0.00	0.00
2,000.00	1.80	163.44	1,999.78	-13.68	4.07	13.71	0.00	0.00	0.00
2,100.00	1.80	163.44	2,099.73	-16.69	4.96	16.72	0.00	0.00	0.00
2,171.30	1.80	163.44	2,171.00	-18.83	5.60	18.87	0.00	0.00	0.00
Tansill									
2,200.00	1.80	163.44	2,199.69	-19.69	5.86	19.73	0.00	0.00	0.00
2,300.00	1.80	163.44	2,299.64	-22.70	6.75	22.74	0.00	0.00	0.00
2,310.37	1.80	163.44	2,310.00	-23.01	6.84	23.06	0.00	0.00	0.00
Yates									
2,400.00	1.80	163.44	2,399.59	-25.71	7.64	25.76	0.00	0.00	0.00
2,500.00	1.80	163.44	2,499.54	-28.71	8.54	28.77	0.00	0.00	0.00
2,600.00	1.80	163.44	2,599.49	-31.72	9.43	31.78	0.00	0.00	0.00
2,615.52	1.80	163.44	2,615.00	-32.19	9.57	32.25	0.00	0.00	0.00
Seven Rivers									
2,700.00	1.80	163.44	2,699.44	-34.73	10.33	34.79	0.00	0.00	0.00
2,800.00	1.80	163.44	2,799.39	-37.73	11.22	37.81	0.00	0.00	0.00
2,900.00	1.80	163.44	2,899.34	-40.74	12.12	40.82	0.00	0.00	0.00
3,000.00	1.80	163.44	2,999.29	-43.75	13.01	43.83	0.00	0.00	0.00
3,100.00	1.80	163.44	3,099.24	-46.75	13.90	46.84	0.00	0.00	0.00
3,200.00	1.80	163.44	3,199.19	-49.76	14.80	49.85	0.00	0.00	0.00
3,231.82	1.80	163.44	3,231.00	-50.72	15.08	50.81	0.00	0.00	0.00
Queen									
3,300.00	1.80	163.44	3,299.14	-52.77	15.69	52.87	0.00	0.00	0.00
3,400.00	1.80	163.44	3,399.09	-55.77	16.59	55.88	0.00	0.00	0.00
3,500.00	1.80	163.44	3,499.05	-58.78	17.48	58.89	0.00	0.00	0.00
3,600.00	1.80	163.44	3,599.00	-61.79	18.37	61.90	0.00	0.00	0.00
3,684.05	1.80	163.44	3,683.00	-64.31	19.12	64.44	0.00	0.00	0.00
Grayburg									

Planning Report

Database:	LEAM Multi_User Db	Local Co-ordinate Reference:	Well Zeppo 5 Federal #016H
Company:	Maverick Permian LLC	TVD Reference:	GE 4120' + KB 28 @ 4148.00usft
Project:	Gemstone Project	MD Reference:	GE 4120' + KB 28 @ 4148.00usft
Site:	Zeppo Pad #4	North Reference:	Grid
Well:	Zeppo 5 Federal #016H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim E		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,700.00	1.80	163.44	3,698.95	-64.79	19.27	64.92	0.00	0.00	0.00
3,800.00	1.80	163.44	3,798.90	-67.80	20.16	67.93	0.00	0.00	0.00
3,900.00	1.80	163.44	3,898.85	-70.81	21.06	70.94	0.00	0.00	0.00
3,967.18	1.80	163.44	3,966.00	-72.83	21.66	72.96	0.00	0.00	0.00
San Andres									
4,000.00	1.80	163.44	3,998.80	-73.81	21.95	73.95	0.00	0.00	0.00
4,100.00	1.80	163.44	4,098.75	-76.82	22.84	76.97	0.00	0.00	0.00
4,200.00	1.80	163.44	4,198.70	-79.83	23.74	79.98	0.00	0.00	0.00
4,300.00	1.80	163.44	4,298.65	-82.83	24.63	82.99	0.00	0.00	0.00
4,400.00	1.80	163.44	4,398.60	-85.84	25.53	86.00	0.00	0.00	0.00
4,500.00	1.80	163.44	4,498.55	-88.85	26.42	89.01	0.00	0.00	0.00
4,600.00	1.80	163.44	4,598.50	-91.85	27.31	92.03	0.00	0.00	0.00
4,700.00	1.80	163.44	4,698.46	-94.86	28.21	95.04	0.00	0.00	0.00
4,800.00	1.80	163.44	4,798.41	-97.87	29.10	98.05	0.00	0.00	0.00
4,900.00	1.80	163.44	4,898.36	-100.87	30.00	101.06	0.00	0.00	0.00
5,000.00	1.80	163.44	4,998.31	-103.88	30.89	104.08	0.00	0.00	0.00
5,100.00	1.80	163.44	5,098.26	-106.89	31.78	107.09	0.00	0.00	0.00
5,200.00	1.80	163.44	5,198.21	-109.89	32.68	110.10	0.00	0.00	0.00
5,300.00	1.80	163.44	5,298.16	-112.90	33.57	113.11	0.00	0.00	0.00
5,400.00	1.80	163.44	5,398.11	-115.90	34.47	116.12	0.00	0.00	0.00
5,467.92	1.80	163.44	5,466.00	-117.95	35.07	118.17	0.00	0.00	0.00
Glorieta									
5,500.00	1.80	163.44	5,498.06	-118.91	35.36	119.14	0.00	0.00	0.00
5,529.28	1.80	163.44	5,527.32	-119.79	35.62	120.02	0.00	0.00	0.00
5,546.97	3.53	171.48	5,545.00	-120.60	35.78	120.83	10.00	9.80	45.44
Paddock									
5,550.00	3.83	172.12	5,548.02	-120.79	35.81	121.02	10.00	9.91	21.26
5,600.00	8.81	176.40	5,597.70	-126.27	36.28	126.50	10.00	9.96	8.55
5,650.00	13.81	177.59	5,646.72	-136.06	36.77	136.29	10.00	9.99	2.39
5,700.00	18.81	178.16	5,694.69	-150.08	37.28	150.32	10.00	10.00	1.14
5,750.00	23.80	178.50	5,741.26	-168.24	37.80	168.48	10.00	10.00	0.67
5,800.00	28.80	178.72	5,786.07	-190.38	38.34	190.62	10.00	10.00	0.45
5,839.50	32.75	178.85	5,820.00	-210.59	38.76	210.83	10.00	10.00	0.34
Blinebry									
5,850.00	33.80	178.88	5,828.77	-216.34	38.88	216.59	10.00	10.00	0.29
5,900.00	38.80	179.01	5,869.06	-245.93	39.42	246.18	10.00	10.00	0.25
5,950.00	43.80	179.11	5,906.61	-278.92	39.96	279.17	10.00	10.00	0.20
6,000.00	48.80	179.19	5,941.14	-315.05	40.49	315.31	10.00	10.00	0.17
6,050.00	53.80	179.27	5,972.39	-354.06	41.01	354.31	10.00	10.00	0.14
6,100.00	58.80	179.33	6,000.13	-395.64	41.52	395.90	10.00	10.00	0.13
6,150.00	63.80	179.39	6,024.13	-439.48	42.01	439.74	10.00	10.00	0.11
6,200.00	68.80	179.44	6,044.22	-485.24	42.48	485.51	10.00	10.00	0.10
6,250.00	73.80	179.49	6,060.25	-532.59	42.92	532.85	10.00	10.00	0.10
6,300.00	78.80	179.53	6,072.09	-581.15	43.34	581.42	10.00	10.00	0.09
6,350.00	83.80	179.58	6,079.65	-630.55	43.72	630.82	10.00	10.00	0.09
6,400.00	88.80	179.62	6,082.87	-680.43	44.07	680.70	10.00	10.00	0.09
6,412.01	90.00	179.63	6,083.00	-692.45	44.14	692.72	10.00	10.00	0.09
Target Line - LP (COM 016H)									
6,500.00	90.00	179.63	6,083.00	-780.43	44.71	780.70	0.00	0.00	0.00
6,600.00	90.00	179.63	6,083.00	-880.43	45.35	880.70	0.00	0.00	0.00
6,700.00	90.00	179.63	6,083.00	-980.43	45.98	980.70	0.00	0.00	0.00
6,800.00	90.00	179.63	6,083.00	-1,080.42	46.62	1,080.70	0.00	0.00	0.00
6,900.00	90.00	179.63	6,083.00	-1,180.42	47.26	1,180.70	0.00	0.00	0.00
7,000.00	90.00	179.63	6,083.00	-1,280.42	47.90	1,280.70	0.00	0.00	0.00

Planning Report

Database:	LEAM Multi_User Db	Local Co-ordinate Reference:	Well Zeppo 5 Federal #016H
Company:	Maverick Permian LLC	TVD Reference:	GE 4120' + KB 28 @ 4148.00usft
Project:	Gemstone Project	MD Reference:	GE 4120' + KB 28 @ 4148.00usft
Site:	Zeppo Pad #4	North Reference:	Grid
Well:	Zeppo 5 Federal #016H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim E		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
7,100.00	90.00	179.63	6,083.00	-1,380.42	48.54	1,380.70	0.00	0.00	0.00	
7,200.00	90.00	179.63	6,083.00	-1,480.42	49.18	1,480.70	0.00	0.00	0.00	
7,300.00	90.00	179.63	6,083.00	-1,580.41	49.82	1,580.70	0.00	0.00	0.00	
7,400.00	90.00	179.63	6,083.00	-1,680.41	50.46	1,680.70	0.00	0.00	0.00	
7,500.00	90.00	179.63	6,083.00	-1,780.41	51.10	1,780.70	0.00	0.00	0.00	
7,600.00	90.00	179.63	6,083.00	-1,880.41	51.74	1,880.70	0.00	0.00	0.00	
7,700.00	90.00	179.63	6,083.00	-1,980.41	52.37	1,980.70	0.00	0.00	0.00	
7,800.00	90.00	179.63	6,083.00	-2,080.40	53.01	2,080.70	0.00	0.00	0.00	
7,900.00	90.00	179.63	6,083.00	-2,180.40	53.65	2,180.70	0.00	0.00	0.00	
8,000.00	90.00	179.63	6,083.00	-2,280.40	54.29	2,280.70	0.00	0.00	0.00	
8,100.00	90.00	179.63	6,083.00	-2,380.40	54.93	2,380.70	0.00	0.00	0.00	
8,200.00	90.00	179.63	6,083.00	-2,480.40	55.57	2,480.70	0.00	0.00	0.00	
8,300.00	90.00	179.63	6,083.00	-2,580.39	56.21	2,580.70	0.00	0.00	0.00	
8,400.00	90.00	179.63	6,083.00	-2,680.39	56.85	2,680.70	0.00	0.00	0.00	
8,500.00	90.00	179.63	6,083.00	-2,780.39	57.49	2,780.70	0.00	0.00	0.00	
8,600.00	90.00	179.63	6,083.00	-2,880.39	58.12	2,880.70	0.00	0.00	0.00	
8,700.00	90.00	179.63	6,083.00	-2,980.39	58.76	2,980.70	0.00	0.00	0.00	
8,800.00	90.00	179.63	6,083.00	-3,080.38	59.40	3,080.70	0.00	0.00	0.00	
8,900.00	90.00	179.63	6,083.00	-3,180.38	60.04	3,180.70	0.00	0.00	0.00	
9,000.00	90.00	179.63	6,083.00	-3,280.38	60.68	3,280.70	0.00	0.00	0.00	
9,100.00	90.00	179.63	6,083.00	-3,380.38	61.32	3,380.70	0.00	0.00	0.00	
9,200.00	90.00	179.63	6,083.00	-3,480.38	61.96	3,480.70	0.00	0.00	0.00	
9,300.00	90.00	179.63	6,083.00	-3,580.37	62.60	3,580.70	0.00	0.00	0.00	
9,400.00	90.00	179.63	6,083.00	-3,680.37	63.24	3,680.70	0.00	0.00	0.00	
9,500.00	90.00	179.63	6,083.00	-3,780.37	63.87	3,780.70	0.00	0.00	0.00	
9,600.00	90.00	179.63	6,083.00	-3,880.37	64.51	3,880.70	0.00	0.00	0.00	
9,700.00	90.00	179.63	6,083.00	-3,980.37	65.15	3,980.70	0.00	0.00	0.00	
9,800.00	90.00	179.63	6,083.00	-4,080.36	65.79	4,080.70	0.00	0.00	0.00	
9,900.00	90.00	179.63	6,083.00	-4,180.36	66.43	4,180.70	0.00	0.00	0.00	
10,000.00	90.00	179.63	6,083.00	-4,280.36	67.07	4,280.70	0.00	0.00	0.00	
10,100.00	90.00	179.63	6,083.00	-4,380.36	67.71	4,380.70	0.00	0.00	0.00	
10,200.00	90.00	179.63	6,083.00	-4,480.36	68.35	4,480.70	0.00	0.00	0.00	
10,300.00	90.00	179.63	6,083.00	-4,580.35	68.99	4,580.70	0.00	0.00	0.00	
10,400.00	90.00	179.63	6,083.00	-4,680.35	69.62	4,680.70	0.00	0.00	0.00	
10,500.00	90.00	179.63	6,083.00	-4,780.35	70.26	4,780.70	0.00	0.00	0.00	
10,600.00	90.00	179.63	6,083.00	-4,880.35	70.90	4,880.70	0.00	0.00	0.00	
10,700.00	90.00	179.63	6,083.00	-4,980.35	71.54	4,980.70	0.00	0.00	0.00	
10,800.00	90.00	179.63	6,083.00	-5,080.34	72.18	5,080.70	0.00	0.00	0.00	
10,900.00	90.00	179.63	6,083.00	-5,180.34	72.82	5,180.70	0.00	0.00	0.00	
11,000.00	90.00	179.63	6,083.00	-5,280.34	73.46	5,280.70	0.00	0.00	0.00	
11,100.00	90.00	179.63	6,083.00	-5,380.34	74.10	5,380.70	0.00	0.00	0.00	
11,200.00	90.00	179.63	6,083.00	-5,480.33	74.74	5,480.70	0.00	0.00	0.00	
11,300.00	90.00	179.63	6,083.00	-5,580.33	75.37	5,580.70	0.00	0.00	0.00	
11,400.00	90.00	179.63	6,083.00	-5,680.33	76.01	5,680.70	0.00	0.00	0.00	
11,500.00	90.00	179.63	6,083.00	-5,780.33	76.65	5,780.70	0.00	0.00	0.00	
11,600.00	90.00	179.63	6,083.00	-5,880.33	77.29	5,880.70	0.00	0.00	0.00	
11,700.00	90.00	179.63	6,083.00	-5,980.32	77.93	5,980.70	0.00	0.00	0.00	
11,800.00	90.00	179.63	6,083.00	-6,080.32	78.57	6,080.70	0.00	0.00	0.00	
11,900.00	90.00	179.63	6,083.00	-6,180.32	79.21	6,180.70	0.00	0.00	0.00	
12,000.00	90.00	179.63	6,083.00	-6,280.32	79.85	6,280.70	0.00	0.00	0.00	
12,100.00	90.00	179.63	6,083.00	-6,380.32	80.49	6,380.70	0.00	0.00	0.00	
12,200.00	90.00	179.63	6,083.00	-6,480.31	81.12	6,480.70	0.00	0.00	0.00	
12,300.00	90.00	179.63	6,083.00	-6,580.31	81.76	6,580.70	0.00	0.00	0.00	
12,400.00	90.00	179.63	6,083.00	-6,680.31	82.40	6,680.70	0.00	0.00	0.00	

Planning Report

Database:	LEAM Multi_User Db	Local Co-ordinate Reference:	Well Zeppo 5 Federal #016H
Company:	Maverick Permian LLC	TVD Reference:	GE 4120' + KB 28 @ 4148.00usft
Project:	Gemstone Project	MD Reference:	GE 4120' + KB 28 @ 4148.00usft
Site:	Zeppo Pad #4	North Reference:	Grid
Well:	Zeppo 5 Federal #016H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim E		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
12,500.00	90.00	179.63	6,083.00	-6,780.31	83.04	6,780.70	0.00	0.00	0.00	
12,600.00	90.00	179.63	6,083.00	-6,880.31	83.68	6,880.70	0.00	0.00	0.00	
12,700.00	90.00	179.63	6,083.00	-6,980.30	84.32	6,980.70	0.00	0.00	0.00	
12,800.00	90.00	179.63	6,083.00	-7,080.30	84.96	7,080.70	0.00	0.00	0.00	
12,900.00	90.00	179.63	6,083.00	-7,180.30	85.60	7,180.70	0.00	0.00	0.00	
13,000.00	90.00	179.63	6,083.00	-7,280.30	86.24	7,280.70	0.00	0.00	0.00	
13,100.00	90.00	179.63	6,083.00	-7,380.30	86.88	7,380.70	0.00	0.00	0.00	
13,200.00	90.00	179.63	6,083.00	-7,480.29	87.51	7,480.70	0.00	0.00	0.00	
13,300.00	90.00	179.63	6,083.00	-7,580.29	88.15	7,580.70	0.00	0.00	0.00	
13,400.00	90.00	179.63	6,083.00	-7,680.29	88.79	7,680.70	0.00	0.00	0.00	
13,500.00	90.00	179.63	6,083.00	-7,780.29	89.43	7,780.70	0.00	0.00	0.00	
13,569.03	90.00	179.63	6,083.00	-7,849.32	89.87	7,849.73	0.00	0.00	0.00	
LTP (COM 016H)										
13,600.00	90.00	179.63	6,083.00	-7,880.29	90.07	7,880.70	0.00	0.00	0.00	
13,694.03	90.00	179.63	6,083.00	-7,974.31	90.67	7,974.73	0.00	0.00	0.00	
TD (COM 016H)										

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	
SHL (COM 016H) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	678,695.00	710,787.00	32.86453729	-103.78146352	
LTP (COM 016H) - plan misses target center by 0.80usft at 13569.03usft MD (6083.00 TVD, -7849.32 N, 89.87 E) - Point	0.00	0.00	6,083.00	-7,849.31	90.67	670,845.69	710,877.67	32.84296213	-103.78130185	
LP (COM 016H) - plan hits target center - Point	0.00	0.00	6,083.00	-692.45	44.14	678,002.55	710,831.14	32.86263347	-103.78133154	
TD (COM 016H) - plan hits target center - Point	0.00	0.00	6,083.00	-7,974.31	90.67	670,720.69	710,877.67	32.84261856	-103.78130398	

Planning Report

Database:	LEAM Multi_User Db	Local Co-ordinate Reference:	Well Zeppo 5 Federal #016H
Company:	Maverick Permian LLC	TVD Reference:	GE 4120' + KB 28 @ 4148.00usft
Project:	Gemstone Project	MD Reference:	GE 4120' + KB 28 @ 4148.00usft
Site:	Zeppo Pad #4	North Reference:	Grid
Well:	Zeppo 5 Federal #016H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim E		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
947.00	947.00	Rustler				
1,125.00	1,125.00	Salado				
2,171.30	2,171.00	Tansill				
2,310.37	2,310.00	Yates				
2,615.52	2,615.00	Seven Rivers				
3,231.82	3,231.00	Queen				
3,684.05	3,683.00	Grayburg				
3,967.18	3,966.00	San Andres				
5,467.92	5,466.00	Glorieta				
5,546.97	5,545.00	Paddock				
5,839.50	5,820.00	Blinebry				
6,412.01	6,083.00	Target Line				

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Maverick Permian LLC
LEASE NO.:	NMLC0029406B
LOCATION:	Section 5, T.17 S., R.32 E., NMPPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	Zeppo 5 Federal Com 16H
SURFACE HOLE FOOTAGE:	2325'/N & 428'/E
BOTTOM HOLE FOOTAGE:	385'/S & 387'/E
ATS/API ID:	ATS-23-637
APD ID:	10400089948
Sundry ID:	N/A

COA

H2S	☒ Yes	☐ No	
Potash	☒ None	☐ Secretary	☐ R-111-P
Cave/Karst Potential	☒ Low	☐ Medium	☐ High
Cave/Karst Potential	☐ Critical		
Variance	☒ None	☐ Flex Hose	☐ Other
Wellhead	☐ Conventional	☐ Multibowl	☒ Both
Wellhead Variance	☐ Diverter		
Other	☐ 4 String	☐ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Pilot Hole	☐ Open Annulus
Cementing	☐ Contingency Cement Squeeze	☐ EchoMeter	☐ Primary Cement Squeeze
Special Requirements	☐ Water Disposal	☒ COM	☐ Unit
Special Requirements	☐ Batch Sundry		
Special Requirements Variance	☐ Break Testing	☐ Offline Cementing	☐ Casing Clearance

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Grayburg** formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **986 feet** (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.
3. The minimum required fill of cement behind the **7** inch production casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1.

Option 1:

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** inch intermediate casing shoe shall be **3000 (3M)** psi.

Option 2:

Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **13-3/8** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

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

D. SPECIAL REQUIREMENT (S)**Communitization Agreement**

- The operator will submit a Communitization Agreement to the 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 Onshore Order 1 and 2.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

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

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

☒ Eddy County

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

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)
689-5981

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing 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-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin

after cut-off or once cement reaches 500 psi compressive strength (including lead 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).

- b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the 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.)
- c. 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 Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

LVO 3/27/2023



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H₂S Drilling Operations Contingency Plan

H₂S Contingency Plan Holders:

Attached is an H₂S Contingency Plan for Maverick Natural Resources, LLC and its subsidiaries, Maverick Permian, LLC and Breitburn Operating, LLC working in the West Texas and Eastern New Mexico on all leases operated by Maverick Natural Resources, LLC.

If you have any questions regarding this plan, please contact Laurie Stanfield, SR, Regulatory Analyst, Maverick Natural Resources, LLC at (713) 437-8052 or (832) 646-0429.

Regards,

A handwritten signature in black ink, appearing to read "C. Cooley", with a stylized flourish at the end.

Caleb Cooley

HSE Supervisor

office: 903.291.6511

mobile: 903.649.3015

caleb.cooley@mavresources.com

MAVERICK NATURAL RESOURCES, LLC

230 Progress Blvd, Longview, TX 75604

www.mavresources.com



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VII. Public Notification/Evacuation



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HYDROGEN SULFIDE (H₂S) OPERATIONS

Contingency Plan For Drilling Operations

Maverick Natural Resources, LLC (Including all subsidiaries)

West Texas
(Andrews County, Ector County)

Eastern New Mexico
(Lea County, Eddy County)



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I. PURPOSE

The purpose of this Contingency Plan is to provide an organized plan of action for alerting and protecting the public following the release of a potentially hazardous volume of hydrogen sulfide. This plan prescribes mandatory safety procedures to be followed in the event of a release of H₂S into the atmosphere from exploration and production operations included in the scope of this plan. The extent of action taken will be determined by the Area Superintendent and will depend on the severity and extent of the H₂S release. Any release of H₂S must be reported to the Region Superintendent, Drilling Supervisor & HSE Specialist along with it being documented in the Daily Reports.

II. SCOPE

This Contingency plan shall cover the West Texas and East New Mexico areas, which could contain H₂S exposed atmospheres and could result in a release in which the 100 ppm radius of exposure is greater than 50' yet less than 3000' and does not include a public area, and in which the 500 ppm radius of exposure does not include a public road. Radius of exposure is defined as the maximum distance from the source of release that a specified calculated average concentration of H₂S could exist under specific weather conditions.



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III. PROCEDURES

Maverick Well Site Manager or First Person on Scene

- Assess the incident the incident and ensure your own safety before entering

(Note the following)
 - Location of the Incident
 - Nature of the Incident
 - Wind Direction and weather Conditions
 - Any other assistance and support needed to enter the area safely
- Notify regional field management listed below until personal contact is made with an MNR Supervisor.
- Conduct emergency assessment of the incident and response needed to enter safely. The response may include rescue and/or the evacuation of personnel, shutting in the well Though BOP and/or notifying nearby residents or public.
- Follow the directions and support the On-Scene Incident Commander (First Maverick Permian Supervisor arriving on scene)

First Maverick Permian, LLC Supervisor on Scene (On Scene Incident Commander)

- Becomes MNR On scene Incident Commander upon arrival to location.
- Follow the principles of the **D.E.C.I.D.E.** process below to assess the incident. (Note wind direction and weather conditions and ensure everyone's safety).

DETECT the problem

ESTIMATE likely harm without intervention

CHOOSE response objectives

IDENTIFY action options

DO the best option

EVALUATE the progress



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- Notify the regional General Manager and HSE Support.
- Perform emergency response as necessary. (This may include notification & evacuation of all personnel and/or nearby residents/public, requesting assistance from regional MNR personnel or outside agencies and obtaining any safety equipment that may be required.)
- Notify appropriate local emergency response agencies of the incident as needed. Also notify the appropriate regulatory agencies as needed.
- Ensure site security during the entire active incident.
 - Set barricades and /or warning signs at or beyond the calculated 100 ppm H₂S radius of exposure (ROE). All manned barricades must be equipped with an H₂S monitor and a 2-way radio.
 - Set roadblocks and staging area as need in an effort to minimize personnel from entering the active incident area.
- Establish the Incident Command Structure by designating appropriate on-scene response personnel as follows:
 - **Planning Chief** (The individual who will keep account of activity during the incident)
 - **Public Information Officer** (The individual who will communicate updates to the media and public)
 - **Safety Officer** (The individual who will advise on the proper safety protocols during the incident)
- The Planning Chief (or designee) will begin documenting the incident on an incident log for the duration of the live incident.
- Perform a site characterization and designate the following
 - **Hot Zone** – Hazardous Area (Exposure Area)
 - **Warm Zone** – Preparation and Medical Area
 - **Cold Zone** – Staging Area, Command Post, Public Briefing Area



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- Refer all media, public to the Maverick Natural Resources, LLC On Scene Public Information Officer.
- Coordinate the attempt to stop the release of H₂S. You should consider closing upstream and downstream valves to shut-off gas supply sources, and/or plugging or clamping leaks. Igniting escaping gas to reduce the toxicity hazard should be used **ONLY AS A LAST RESORT**. (It must first be determined if the gas can be safely ignited, taking into consideration if there is a possibility of a widespread flammable atmosphere.)
- Once the emergency is over, return the situation to normal by:
 - Confirming the absence of H₂S and combustible gas throughout the area through third party clearing of the area.
 - Removing all barricades and warning signs,
 - Allowing evacuees to return to the area, and
 - Advising all parties previously notified that the emergency has ended.
- Ensure the proper regulatory authorities/agencies are notified of the incident.
- Assist MNR HSE with completing all incident reports detailing incident cause, response, and corrective actions.



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Emergency Procedures during Drilling Operations

Responsibilities

In the event of a release of potentially hazardous amounts of H₂S, all personnel will immediately proceed upwind/ crosswind to the nearest designated briefing area. The Maverick Well Site Manager will immediately, upon assessing the situation, set this into action by taking the proper procedures to contain the gas and notify appropriate personnel and agencies.

1. In an emergency situation, the Well Site Manager (WSM) on duty will have complete responsibility and authority to take whatever action is necessary to ensure that personnel's safety and protection of the well is the number one priority and the environment impact and property damage is as minimum as possible.
2. The Drilling Rig Tool pusher will assume all responsibilities of the Well Site Manager in an emergency situation in which the Well Site Manager becomes incapacitated.
3. The WSM will advise each contractor, Service Company, and all others entering the site that H₂S may be encountered and of the potential hazards that may exist.
4. Authorize the evacuation of local residents if H₂S threatens their safety.
5. Keep the number of persons on location to a minimum during hazardous operations and keep an up to date roster on who's on location at all times.
6. Direct corrective actions to control the flow of gas.
7. The Maverick Natural Resources, LLC Director of Drilling will have full responsibility to authorize the igniting of escaping gas to reduce the toxicity hazard. (This should be used **ONLY AS A LAST RESORT**)



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IV. EMERGENCY EQUIPMENT and MAINTENANCE

Emergency Equipment Suppliers

American Safety Services Incorporated (ASSI)

Odessa, TX (432) 552-7625, Artesia, NM (575) 746-1096

- H₂S monitors
- Breathing air including cascade systems
- First aid and medical supplies
- Safety equipment
- H₂S Specialist & Technicians

Standard Safety & Supply

Odessa, TX (432) 894-2988

- H₂S monitors
- Breathing air including cascade systems
- First aid and medical supplies
- Safety equipment
- H₂S Specialist

Legacy Safety & Consulting

Hobbs, NM (575) 964-8552

- H₂S monitors
- Breathing air including cascade systems
- First aid and medical supplies
- Safety equipment
- H₂S Specialist



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Emergency Equipment and Maintenance (continued)

General Information

- Materials used for repair should be suitable for use where H₂S concentrations exceed 100 ppm. In general, carbon steels having low yield strengths and a hardness below RC-22 are suitable. The engineering staff should be consulted if any doubt exists on material specifications.
- Appropriate signs should be maintained in good condition at location entrance and other locations as specified in **Texas Statewide Rule 36** and **NMOCD Rule 118**.
- All notification lists should be kept current with changes in names, telephone numbers, etc.
- All shutdown devices, alarms, monitors, breathing air systems, etc., should be maintained in accordance with applicable regulations.
- All personnel working in H₂S areas shall have received training on the hazards, characteristics, and properties of H₂S, and on procedures and safety equipment applicable for use in H₂S areas.

H₂S Safety Equipment and Monitoring Systems

An H₂S emergency response package will be maintained at locations requiring H₂S monitoring. The package will be onsite prior to cementing the surface casing and contain at a minimum the following:

4 – Fixed H₂S sensors located as follows:

- 1 – on the rig floor
- 1 – at the Bell Nipple
- 1 – at the Shale Shaker
- 1 – at the flow line or by the open pits

1 – Entrance Warning Sign located at the main entrance to the location, with warning signs and colored flags to determine the current status for entry into the location.



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2 – Windssocks that are clearly visible (one on the rig Floor, the second at the opposite end of the rig pits.

1 – Audible warning system located on rig floor

2 – Visual warning systems (Beacon Lights)

1 – Located at the rig floor

1 – Located in the mud mixing room (if applicable)

Note: All alarms (audible and visual) shall be set to alarm at 10 ppm.

2 - Briefing areas clearly marked

2 - SCBA's at each briefing area

1- SCBA located at the Drilling Rep's office

Note:

1. All SCBA's must be positive pressure type only.

2. All SCBA's must be either Scott or Drager brand.

3. All SCBA's face pieces should be size large, unless otherwise specified by the Drilling Supervisor.

5 – Emergency Escape Packs located at Top Doghouse.

*Note: Ensure provisions are included for any personnel working above rig floor in derrick.

No area personnel will be allowed to reenter the location until the area is cleared by a 3rd party safety service company.



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V. EMERGENCY CALL LIST:

Maverick Natural Resources, LLC

Carter Blanche (MNR Drilling Engineer)	(225) 892-8438
Jason Thomas (MNR HSE Director)	(903) 291-6513
David Bowen (Permian General Manager)	(505) 320-2704
Matthew Henning (New Mexico Superintendent)	(713) 594-7964
Greg Dodge (Texas Superintendent)	(231) 735-6106
Cody Chesshire (Permian HSE Specialist)	(432) 208-6402
Caleb Cooley (MNR HSE Supervisor)	(903) 649-3015
Lauri Stanfield (MNR Sr. Regulatory)	(832) 646-0429
Sarah Payne (MNR Public Information & Communications)	(713) 437-8087
Maverick Permian Emergency Contact #	(432) 309-7440

Aera Emergency Numbers

New Mexico

Hospital: Lea Co. Regional Medical Center	(575) 492-5000
Ambulance: Hobbs Fire Department	(575) 397-9308
Air Ambulance: Care Star	(888) 624-3571
Air Ambulance: Areo Star	(800) 627-2376
Fire Department: Hobbs	(575) 397-9308
Fire Department: Maljamar	(575) 676-4100
State Police: Artesia	(575) 748-9718
State Police: Hobbs	(575) 392-5580
Sheriff : Lovington	(575) 396-3611
Police : Lovington	(575) 396-2811
BLM 24 HR	(575) 393-3612
New Mexico Emergency Response Com. (Santa Fe)	(505) 476-9600
New Mexico State Emergency (Ops Ctr)	(505) 476-9635
National Emergency Response Center	(800) 424-8802

Texas

Hospital: Permian Regional Medical Center (Andrews)	(432) 523-2200
Hospital: Odessa Regional Medical Center (Odessa)	(432) 582-8000
Sheriff: Andrews County	(432) 523-5675
Sheriff: Ector County	(432) 335-3050
Fire Department: Andrews County	(432) 523-3111
Fire Department: Ector County	(432) 257-0502
Texas Highway Patrol: Andrews	(432) 524-1443
Texas Highway Patrol: Ector	(432) 363-7400



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Regulatory Agencies

Texas Railroad Commission (District 8)

10 Desta Dr. Suite 500E Midland, TX 79705

Office: (432) 684-5581

24 HR Emergency: (512) 463-6788

New Mexico Oil Conservation Commission

P.O. Box 1980 Hobbs, NM 88240

Office: (575) 393-6161

24 HR Emergency: (575) 370-3186

Bureau of Land Management (Carlsbad Field Office)

620 E. Greene St. Carlsbad, NM 88220

Office: (575) 234-5972

24 HR Emergency: (575) 393-3612

VI. Public Media Relations

Sarah Payne (713) 437-8087

The **Public Information Officer** will become Maverick Natural Resources, LLC on-scene contact point. (Once designated by the MNR On-Scene Incident Commander).

The Public Information Officer confers with Houston Office's Public Affairs team, who is responsible for assisting in the coordination of local public relations duties.

If you are the Public Information Officer, answer media questions honestly and **only with facts**, do not speculate about the cause, amount of damage, or the potential impact of the incident on the community, company, employees, or environment. (This information will be formally determined in the incident investigation.)

If you are not comfortable answering a question or if you are unsure of the answer, use terms such as the following:

- "I do not know. I will try to find out."
- "I am not qualified to answer that question, but I will try to find someone who is."
- "It is under investigation."

Note:

Do Not Say "No Comment." (This implies a cover-up.)

Do Not Disclose Names of Injured or Deceased. Confer with the Houston Office's Human Public Affairs Team, who is responsible for providing that information.



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VII. Public Notification/Evacuation

Alert and/or Evacuate People within the Exposure Area

1. **Public Notification** – If the escape of gas could result in a hazard to area residents, the general public, or employees, the person **first** observing the leak should take **immediate** steps to cause notification of any nearby residents. The avoidance of injury or loss of life should be of prime consideration and given top priority in all cases. If the incident is of such magnitude, or at such location as to create a hazardous situation, local authorities will be requested to assist in the evacuation and roadblocks of the designated area until the situation can be returned to normal.

Note: Bilingual employees may be needed to assist in notification of residents.

2. **Evacuation Procedures** – Evacuation will proceed upwind from the source of the release of H₂S. Extreme caution should be exercised in order to avoid any depressions or low-lying areas in the terrain. The public area within the radius of exposure should be evacuated in a southwesterly and southeasterly direction so as to avoid the prevailing southern wind direction.

Roadblocks and the staging area should be established as necessary for current wind conditions.

Note: In all situations, consideration should be given to wind direction and weather conditions. H₂S is heavier than air and can settle in low spots. Shifts in wind direction can also change the location of possible hazardous areas.

All Personnel working on Maverick Natural Resources, LLC property shall have Hydrogen Sulfide awareness training within the last 12 months and follow the MNR Hydrogen Sulfide Program.

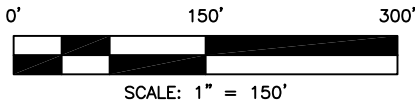
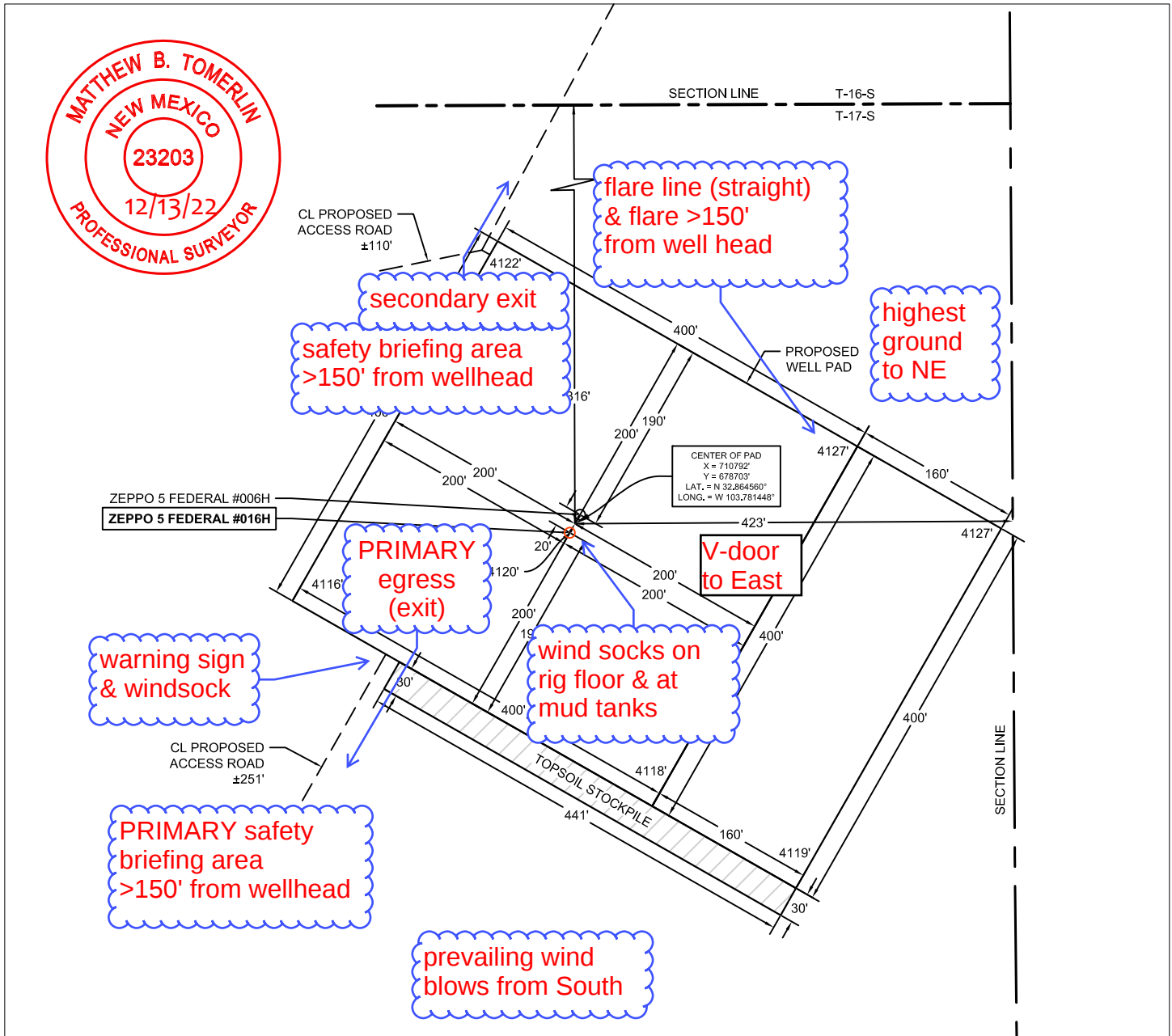


EXHIBIT 2B PAD LAYOUT



LEASE NAME AND WELL NUMBER: ZEPP0 5 FEDERAL #016H
 LATITUDE: N 32.864537 LONGITUDE: W 103.781465 ELEVATION: 4120'
 DESCRIPTION: CENTER OF PAD IS 2316' FNL & 423' FEL

LEGEND
 --- SECTION LINE
 --- TOWNSHIP/RANGE LINE
 --- PROPOSED ACCESS ROAD

NOTES

1. ALL COORDINATES, BEARINGS, AND DISTANCES CONTAINED HEREIN ARE GRID, BASED UPON THE NEW MEXICO STATE PLANE COORDINATES SYSTEM, NORTH AMERICAN DATUM 83, NEW MEXICO EAST (3001), NAVD 88.
2. THIS DOCUMENT IS BASED UPON AN ON THE GROUND SURVEY PERFORMED DURING NOVEMBER, 2022. CERTIFICATION OF THIS DOCUMENT IS ONLY TO THE LOCATION OF THIS EASEMENT IN RELATION TO RECORDED MONUMENT OF DEEDS PROVIDED BY THE CLIENT.
3. ELEVATIONS MSL, DERIVED FROM G.N.S.S. OBSERVATION AND DERIVED FROM SAID ON-THE-GROUND SURVEY.

I, MATTHEW B. TOMERLIN, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23203, DO HEREBY CERTIFY THAT THIS PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT THIS SURVEY MEETS OR EXCEEDS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF

[Signature]
 MATTHEW B. TOMERLIN, N.M. P.L.S. NO. 23203

**MAVERICK
PERMIAN LLC**

Situated in
 SECTION 05, TOWNSHIP 17 SOUTH, RANGE 32 EAST
 LEA COUNTY, NEW MEXICO



12450 Network Blvd. - Suite 300
 San Antonio, TX 78249
 Phone: 726-777-4240
 Firm No. 10194585

DRAWN BY: JW

DATE: 12/13/2022

REV.

CHECKED BY: JH

DATE: 12/13/2022

0

AFE #

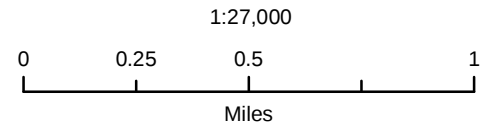
PAGE 1 OF 1

Maverick Permian LLC

Zeppo Pad 4
H₂S Contingency Plan:
Radius Map

Section 5, Township 17S, Range 32E
Lea County, New Mexico

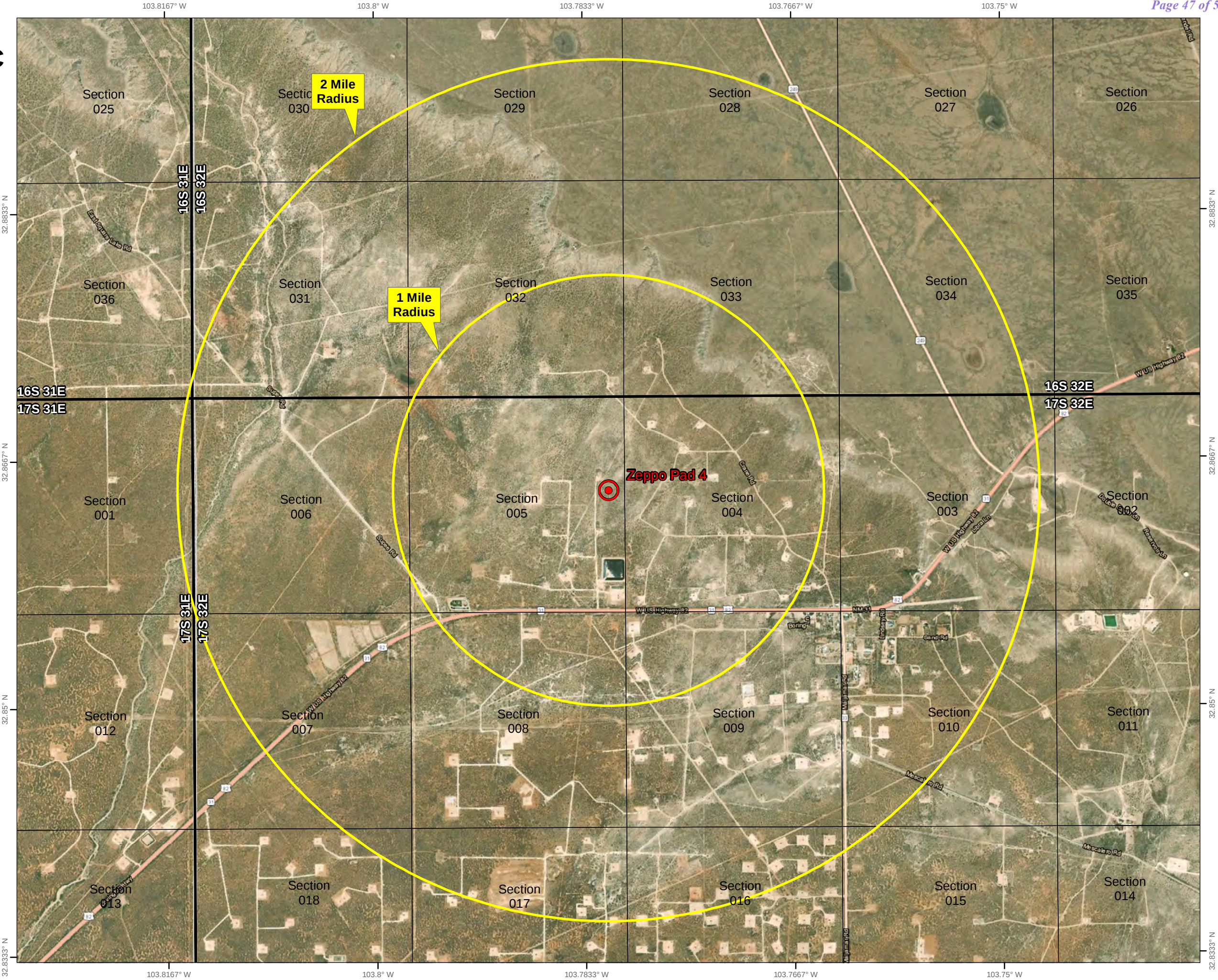
 Well Pad Location

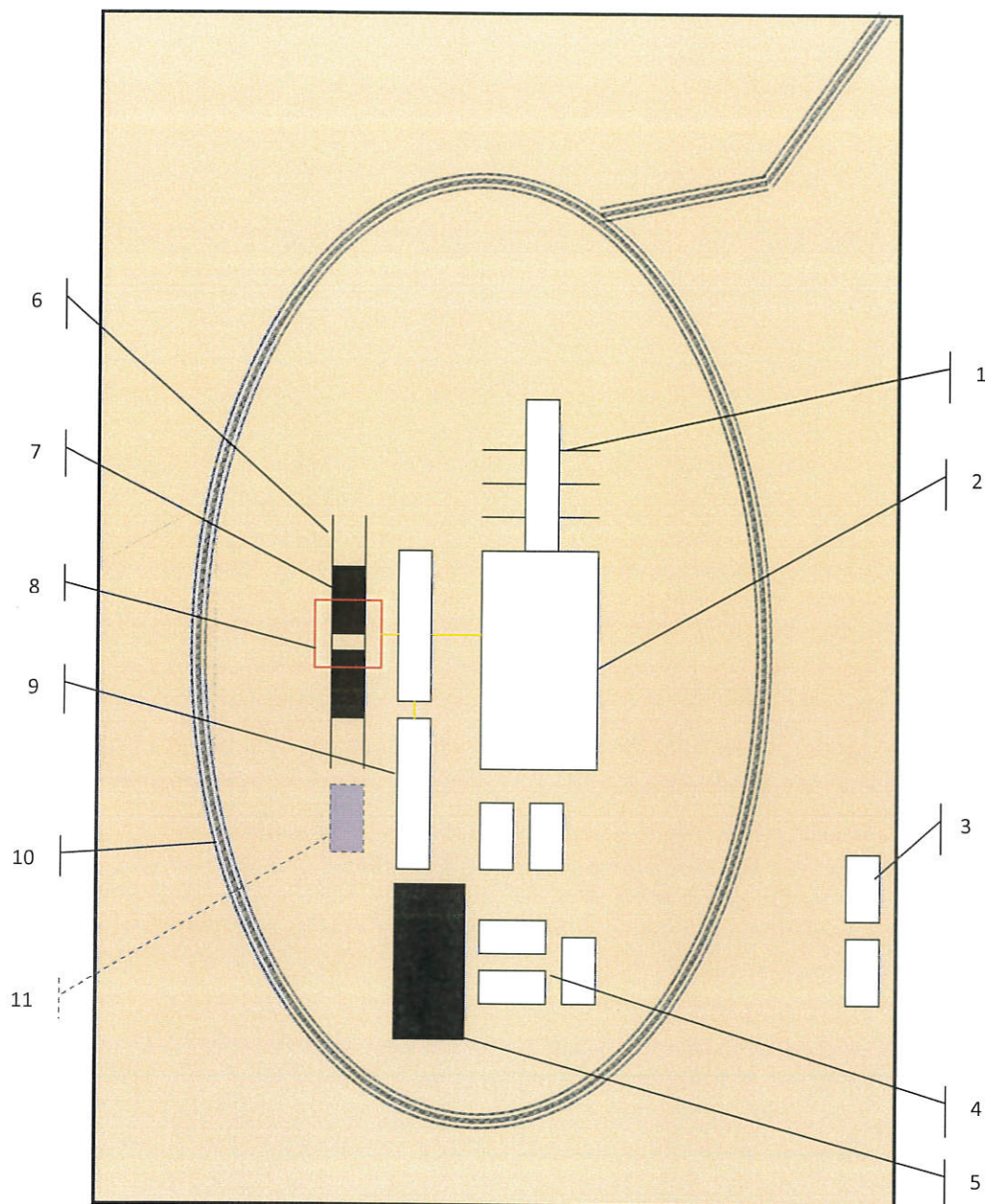


NAD 1983 New Mexico State Plane East
FIPS 3001 Feet



Prepared by Permits West, Inc., December 21, 2022
for Maverick Permian LLC





Schematic Closed Loop Drilling Rig*

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

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

PERMITS WEST, INC.
 PROVIDING PERMITS for LAND USERS
 37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

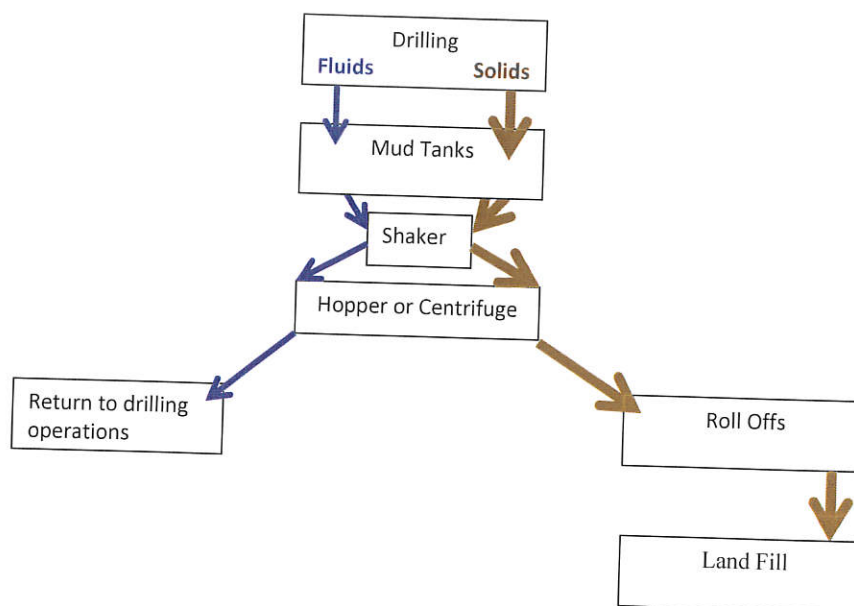


Above: Centrifugal Closed Loop System



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

Flow Chart for Drilling Fluids and Solids



Photos Courtesy of Gandy Corporation Oil
 Field Service

PERMITS WEST, INC.
 PROVIDING PERMITS for LAND USERS
 37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

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 221436

CONDITIONS

Operator: Maverick Permian LLC 1111 Bagby Street Suite 1600 Houston, TX 77002	OGRID: 331199
	Action Number: 221436
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	6/1/2023
pkautz	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	6/1/2023
pkautz	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	6/1/2023
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	6/1/2023