

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

Form C-101
August 1, 2011

Permit 349559

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address Permian Resources Operating, LLC 1001 17th Street, Suite 1800 Denver, CO 80202		2. OGRID Number 372165
		3. API Number 30-025-51988
4. Property Code 332479	5. Property Name MARGARITA 12 STATE COM	6. Well No. 301H

7. Surface Location

UL - Lot B	Section 12	Township 22S	Range 34E	Lot Idn B	Feet From 780	N/S Line N	Feet From 1415	E/W Line E	County Lea
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8. Proposed Bottom Hole Location

UL - Lot J	Section 36	Township 21S	Range 34E	Lot Idn J	Feet From 2543	N/S Line S	Feet From 1650	E/W Line E	County Lea
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9. Pool Information

GRAMA RIDGE;BONE SPRING, NE	28435
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Additional Well Information

11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3589
16. Multiple N	17. Proposed Depth 17244	18. Formation 1st Bone Spring Sand	19. Contractor	20. Spud Date 1/7/2024
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ We will be using a closed-loop system in lieu of lined pits

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17.5	13.375	54.5	1822	1380	0
Int1	12.25	9.625	40	5679	1490	0
Prod	7.875	5.5	20	17244	1080	9109
Prod	8.75	5.5	20	10009	570	5179

Casing/Cement Program: Additional Comments

Drilling 8.75 hole size for the curve and 7.875 hole size for the lateral for the 5.5 production casing string. Intermediate cement will be using a DV Tool set @ 3804.

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Pipe	10000	5000	Cameron

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒ if applicable.		OIL CONSERVATION DIVISION	
Signature:			
Printed Name:	Electronically filed by Kanicia Schlichting	Approved By:	Paul F Kautz
Title:	Regulatory Specialist	Title:	Geologist
Email Address:	Kanicia.Schlichting@permianres.com	Approved Date:	9/14/2023
Date:	9/6/2023	Phone:	432-232-2875
		Expiration Date: 9/14/2025	
		Conditions of Approval Attached	

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

☐ AMENDED REPORT

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.

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

Form APD Conditions

Permit 349559

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: Permian Resources Operating, LLC [372165] 1001 17th Street, Suite 1800 Denver, CO 80202	API Number: 30-025-51988
	Well: MARGARITA 12 STATE COM #301H

OCD Reviewer	Condition
pkautz	Notify OCD 24 hours prior to casing & cement
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104
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
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
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing
pkautz	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud
pkautz	IF ON ANY STRING CEMENT DOES NOT CIRCULATE, A RCBL MUST BE RUN ON THAT STRING OF CASING.

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: PERMIAN RESOURCES OPERATING, LLC **OGRID:** 372165 **Date:** 06 / 28 / 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
Margarita 12 State Com	301H	B-12-T22S-R34E	780 FNL, 1415 FEL	1394 BOPD	1677 MCF/D	10588 BWPD
Margarita 12 State Com	302H	B-12-T22S-R34E	780 FNL, 1385 FEL	1046 BOPD	1258 MCF/D	7941 BWPD

IV. Central Delivery Point Name: Chorizo 601H Run 2 CRP [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
Margarita 12 State Com	301H	1/8/2024	1/23/2024	2/8/2024	2/16/2024	2/21/2024
Margarita 12 State Com	302H	12/25/2023	1/8/2024	2/8/2024	2/16/2024	2/21/2024

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 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: Jackson Taylor
Title: Director of Midstream & Marketing
E-mail Address: jackson.taylor@permianres.com
Date: 7/24/2023
Phone: (432) 400-1048
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

Permian Resources Operating, LLC (372165)

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 through 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 efficiency.
- 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

Permian Resources Operating, LLC (372165)

- 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:

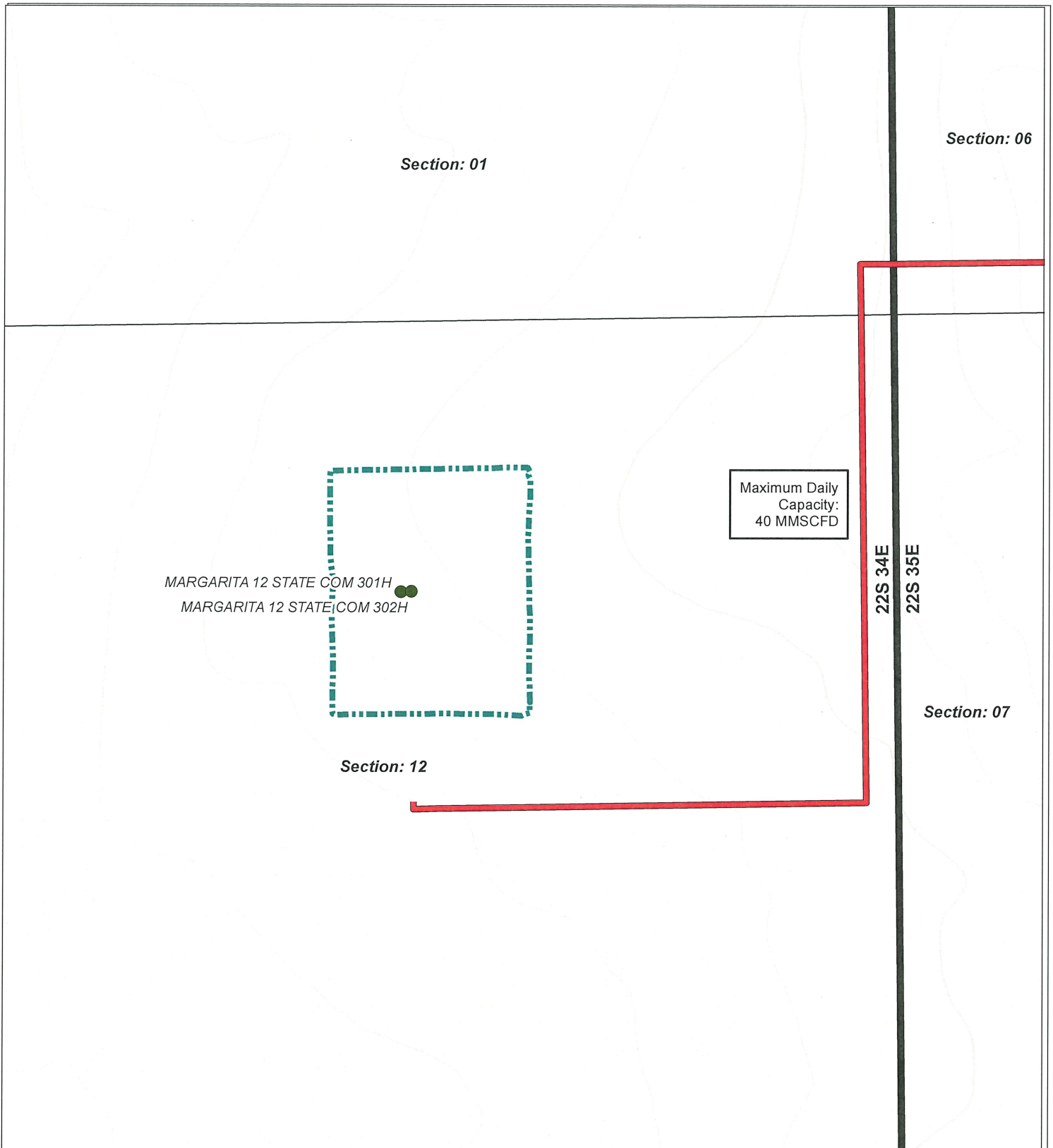
Permian Resources utilizes the following BMPs to minimize venting during active and planned maintenance activities:

- 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.



- Margarita 301 and 302 SHL
- Pad / Battery Outlines
- Gas Takeaway

PERMIAN
RESOURCES

**NM APD
Margarita 301/302
Gas Takeaway**

A: Thomas.Douglass D: 4/27/2023

0 87.5 175 350
Feet





Permian Resources Operating, LLC

**Lea County, NM (NAD 83 NME)
Margarita Pad - Sec 12 T22S R34E
Margarita 12 State Com 301H**

OWB

Plan: Plan #1

Standard Planning Report

22 August, 2023



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Margarita 12 State Com 301H
Company:	Permian Resources Operating, LLC	TVD Reference:	KB @ 3618.9usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB @ 3618.9usft
Site:	Margarita Pad - Sec 12 T22S R34E	North Reference:	Grid
Well:	Margarita 12 State Com 301H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #1		

Project	Lea County, NM (NAD 83 NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Margarita Pad - Sec 12 T22S R34E					
Site Position:		Northing:	514,579.81 usft	Latitude:	32° 24' 40.802 N	
From:	Map	Easting:	823,318.40 usft	Longitude:	103° 25' 10.546 W	
Position Uncertainty:		0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.49

Well	Margarita 12 State Com 301H					
Well Position	+N/-S	0.0 usft	Northing:	514,579.81 usft	Latitude:	32° 24' 40.802 N
	+E/-W	0.0 usft	Easting:	823,318.40 usft	Longitude:	103° 25' 10.546 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	3,588.9 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	8/15/2023	6.29	60.04	47,619.98540810

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	359.63

Plan Survey Tool Program	Date	8/22/2023		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	17,243.6 Plan #1 (OWB)	MWD	
			OWSG MWD - Standard	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,899.8	8.00	344.58	1,898.5	26.8	-7.4	2.00	2.00	0.00	344.58	
8,044.6	8.00	344.58	7,983.5	850.8	-234.7	0.00	0.00	0.00	0.00	
8,444.3	0.00	0.00	8,382.0	877.6	-242.1	2.00	-2.00	0.00	180.00	
9,109.3	0.00	0.00	9,047.0	877.6	-242.1	0.00	0.00	0.00	0.00	
10,009.3	90.00	359.63	9,620.0	1,450.6	-245.8	10.00	10.00	-0.04	359.63	
17,243.6	90.00	359.63	9,620.0	8,684.7	-292.9	0.00	0.00	0.00	0.00	LTP/BHL M12 SC 301



Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Margarita 12 State Com 301H
Company:	Permian Resources Operating, LLC	TVD Reference:	KB @ 3618.9usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB @ 3618.9usft
Site:	Margarita Pad - Sec 12 T22S R34E	North Reference:	Grid
Well:	Margarita 12 State Com 301H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
Nudge 2°/100 at 1500.00 MD									
1,600.0	2.00	344.58	1,600.0	1.7	-0.5	1.7	2.00	2.00	0.00
1,700.0	4.00	344.58	1,699.8	6.7	-1.9	6.7	2.00	2.00	0.00
1,800.0	6.00	344.58	1,799.5	15.1	-4.2	15.2	2.00	2.00	0.00
1,899.8	8.00	344.58	1,898.5	26.8	-7.4	26.9	2.00	2.00	0.00
Hold 8° inc at 1899.80 MD									
2,000.0	8.00	344.58	1,997.7	40.3	-11.1	40.4	0.00	0.00	0.00
2,100.0	8.00	344.58	2,096.8	53.7	-14.8	53.8	0.00	0.00	0.00
2,200.0	8.00	344.58	2,195.8	67.1	-18.5	67.2	0.00	0.00	0.00
2,300.0	8.00	344.58	2,294.8	80.5	-22.2	80.7	0.00	0.00	0.00
2,400.0	8.00	344.58	2,393.8	93.9	-25.9	94.1	0.00	0.00	0.00
2,500.0	8.00	344.58	2,492.9	107.3	-29.6	107.5	0.00	0.00	0.00
2,600.0	8.00	344.58	2,591.9	120.7	-33.3	120.9	0.00	0.00	0.00
2,700.0	8.00	344.58	2,690.9	134.1	-37.0	134.4	0.00	0.00	0.00
2,800.0	8.00	344.58	2,790.0	147.6	-40.7	147.8	0.00	0.00	0.00
2,900.0	8.00	344.58	2,889.0	161.0	-44.4	161.2	0.00	0.00	0.00
3,000.0	8.00	344.58	2,988.0	174.4	-48.1	174.7	0.00	0.00	0.00
3,100.0	8.00	344.58	3,087.0	187.8	-51.8	188.1	0.00	0.00	0.00
3,200.0	8.00	344.58	3,186.1	201.2	-55.5	201.5	0.00	0.00	0.00
3,300.0	8.00	344.58	3,285.1	214.6	-59.2	215.0	0.00	0.00	0.00
3,400.0	8.00	344.58	3,384.1	228.0	-62.9	228.4	0.00	0.00	0.00
3,500.0	8.00	344.58	3,483.1	241.4	-66.6	241.8	0.00	0.00	0.00
3,600.0	8.00	344.58	3,582.2	254.8	-70.3	255.3	0.00	0.00	0.00
3,700.0	8.00	344.58	3,681.2	268.2	-74.0	268.7	0.00	0.00	0.00
3,800.0	8.00	344.58	3,780.2	281.6	-77.7	282.1	0.00	0.00	0.00
3,900.0	8.00	344.58	3,879.3	295.0	-81.4	295.6	0.00	0.00	0.00
4,000.0	8.00	344.58	3,978.3	308.5	-85.1	309.0	0.00	0.00	0.00
4,100.0	8.00	344.58	4,077.3	321.9	-88.8	322.4	0.00	0.00	0.00
4,200.0	8.00	344.58	4,176.3	335.3	-92.5	335.9	0.00	0.00	0.00
4,300.0	8.00	344.58	4,275.4	348.7	-96.2	349.3	0.00	0.00	0.00
4,400.0	8.00	344.58	4,374.4	362.1	-99.9	362.7	0.00	0.00	0.00
4,500.0	8.00	344.58	4,473.4	375.5	-103.6	376.2	0.00	0.00	0.00
4,600.0	8.00	344.58	4,572.5	388.9	-107.3	389.6	0.00	0.00	0.00
4,700.0	8.00	344.58	4,671.5	402.3	-111.0	403.0	0.00	0.00	0.00
4,800.0	8.00	344.58	4,770.5	415.7	-114.7	416.5	0.00	0.00	0.00
4,900.0	8.00	344.58	4,869.5	429.1	-118.4	429.9	0.00	0.00	0.00
5,000.0	8.00	344.58	4,968.6	442.5	-122.1	443.3	0.00	0.00	0.00

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Margarita 12 State Com 301H
Company:	Permian Resources Operating, LLC	TVD Reference:	KB @ 3618.9usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB @ 3618.9usft
Site:	Margarita Pad - Sec 12 T22S R34E	North Reference:	Grid
Well:	Margarita 12 State Com 301H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,100.0	8.00	344.58	5,067.6	456.0	-125.8	456.8	0.00	0.00	0.00
5,200.0	8.00	344.58	5,166.6	469.4	-129.5	470.2	0.00	0.00	0.00
5,300.0	8.00	344.58	5,265.7	482.8	-133.2	483.6	0.00	0.00	0.00
5,400.0	8.00	344.58	5,364.7	496.2	-136.9	497.1	0.00	0.00	0.00
5,500.0	8.00	344.58	5,463.7	509.6	-140.6	510.5	0.00	0.00	0.00
5,600.0	8.00	344.58	5,562.7	523.0	-144.3	523.9	0.00	0.00	0.00
5,700.0	8.00	344.58	5,661.8	536.4	-148.0	537.3	0.00	0.00	0.00
5,800.0	8.00	344.58	5,760.8	549.8	-151.7	550.8	0.00	0.00	0.00
5,900.0	8.00	344.58	5,859.8	563.2	-155.4	564.2	0.00	0.00	0.00
6,000.0	8.00	344.58	5,958.8	576.6	-159.1	577.6	0.00	0.00	0.00
6,100.0	8.00	344.58	6,057.9	590.0	-162.8	591.1	0.00	0.00	0.00
6,200.0	8.00	344.58	6,156.9	603.4	-166.5	604.5	0.00	0.00	0.00
6,300.0	8.00	344.58	6,255.9	616.9	-170.2	617.9	0.00	0.00	0.00
6,400.0	8.00	344.58	6,355.0	630.3	-173.8	631.4	0.00	0.00	0.00
6,500.0	8.00	344.58	6,454.0	643.7	-177.5	644.8	0.00	0.00	0.00
6,600.0	8.00	344.58	6,553.0	657.1	-181.2	658.2	0.00	0.00	0.00
6,700.0	8.00	344.58	6,652.0	670.5	-184.9	671.7	0.00	0.00	0.00
6,800.0	8.00	344.58	6,751.1	683.9	-188.6	685.1	0.00	0.00	0.00
6,900.0	8.00	344.58	6,850.1	697.3	-192.3	698.5	0.00	0.00	0.00
7,000.0	8.00	344.58	6,949.1	710.7	-196.0	712.0	0.00	0.00	0.00
7,100.0	8.00	344.58	7,048.2	724.1	-199.7	725.4	0.00	0.00	0.00
7,200.0	8.00	344.58	7,147.2	737.5	-203.4	738.8	0.00	0.00	0.00
7,300.0	8.00	344.58	7,246.2	750.9	-207.1	752.3	0.00	0.00	0.00
7,400.0	8.00	344.58	7,345.2	764.3	-210.8	765.7	0.00	0.00	0.00
7,500.0	8.00	344.58	7,444.3	777.8	-214.5	779.1	0.00	0.00	0.00
7,600.0	8.00	344.58	7,543.3	791.2	-218.2	792.6	0.00	0.00	0.00
7,700.0	8.00	344.58	7,642.3	804.6	-221.9	806.0	0.00	0.00	0.00
7,800.0	8.00	344.58	7,741.3	818.0	-225.6	819.4	0.00	0.00	0.00
7,900.0	8.00	344.58	7,840.4	831.4	-229.3	832.9	0.00	0.00	0.00
8,000.0	8.00	344.58	7,939.4	844.8	-233.0	846.3	0.00	0.00	0.00
8,044.6	8.00	344.58	7,983.5	850.8	-234.7	852.3	0.00	0.00	0.00
Drop 2°/100 at 8044.60 MD									
8,100.0	6.89	344.58	8,038.5	857.7	-236.6	859.2	2.00	-2.00	0.00
8,200.0	4.89	344.58	8,138.0	867.6	-239.3	869.1	2.00	-2.00	0.00
8,300.0	2.89	344.58	8,237.7	874.1	-241.1	875.7	2.00	-2.00	0.00
8,400.0	0.89	344.58	8,337.7	877.3	-242.0	878.8	2.00	-2.00	0.00
8,444.3	0.00	0.00	8,382.0	877.6	-242.1	879.2	2.00	-2.00	0.00
Vertical at 8444.30 MD									
8,500.0	0.00	0.00	8,437.7	877.6	-242.1	879.2	0.00	0.00	0.00
8,600.0	0.00	0.00	8,537.7	877.6	-242.1	879.2	0.00	0.00	0.00
8,700.0	0.00	0.00	8,637.7	877.6	-242.1	879.2	0.00	0.00	0.00
8,800.0	0.00	0.00	8,737.7	877.6	-242.1	879.2	0.00	0.00	0.00
8,900.0	0.00	0.00	8,837.7	877.6	-242.1	879.2	0.00	0.00	0.00
9,000.0	0.00	0.00	8,937.7	877.6	-242.1	879.2	0.00	0.00	0.00
9,109.3	0.00	0.00	9,047.0	877.6	-242.1	879.2	0.00	0.00	0.00
KOP 10°/100 at 9109.30 MD									
9,150.0	4.07	359.63	9,087.6	879.1	-242.1	880.6	10.00	10.00	0.00
9,200.0	9.07	359.63	9,137.3	884.8	-242.1	886.3	10.00	10.00	0.00
9,250.0	14.07	359.63	9,186.3	894.8	-242.2	896.3	10.00	10.00	0.00
9,300.0	19.07	359.63	9,234.2	909.1	-242.3	910.6	10.00	10.00	0.00
9,350.0	24.07	359.63	9,280.7	927.4	-242.4	929.0	10.00	10.00	0.00
9,400.0	29.07	359.63	9,325.4	949.8	-242.5	951.3	10.00	10.00	0.00
9,450.0	34.07	359.63	9,368.0	976.0	-242.7	977.5	10.00	10.00	0.00

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Margarita 12 State Com 301H
Company:	Permian Resources Operating, LLC	TVD Reference:	KB @ 3618.9usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB @ 3618.9usft
Site:	Margarita Pad - Sec 12 T22S R34E	North Reference:	Grid
Well:	Margarita 12 State Com 301H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,500.0	39.07	359.63	9,408.1	1,005.7	-242.9	1,007.3	10.00	10.00	0.00
9,550.0	44.07	359.63	9,445.5	1,038.9	-243.1	1,040.4	10.00	10.00	0.00
9,552.9	44.35	359.63	9,447.5	1,040.9	-243.1	1,042.4	10.00	10.00	0.00
FTP M12 SC 301H									
9,600.0	49.07	359.63	9,479.9	1,075.2	-243.4	1,076.7	10.00	10.00	0.00
9,650.0	54.07	359.63	9,510.9	1,114.3	-243.6	1,115.9	10.00	10.00	0.00
9,700.0	59.07	359.63	9,538.5	1,156.1	-243.9	1,157.6	10.00	10.00	0.00
9,750.0	64.07	359.63	9,562.3	1,200.0	-244.2	1,201.6	10.00	10.00	0.00
9,800.0	69.07	359.63	9,582.1	1,245.9	-244.5	1,247.4	10.00	10.00	0.00
9,850.0	74.07	359.63	9,597.9	1,293.3	-244.8	1,294.8	10.00	10.00	0.00
9,900.0	79.07	359.63	9,609.6	1,341.9	-245.1	1,343.5	10.00	10.00	0.00
9,950.0	84.07	359.63	9,616.9	1,391.3	-245.4	1,392.9	10.00	10.00	0.00
10,000.0	89.07	359.63	9,619.9	1,441.2	-245.7	1,442.8	10.00	10.00	0.00
10,009.3	90.00	359.63	9,620.0	1,450.6	-245.8	1,452.1	10.00	10.00	0.00
LP at 10009.30 MD									
10,100.0	90.00	359.63	9,620.0	1,541.2	-246.4	1,542.8	0.00	0.00	0.00
10,200.0	90.00	359.63	9,620.0	1,641.2	-247.0	1,642.8	0.00	0.00	0.00
10,300.0	90.00	359.63	9,620.0	1,741.2	-247.7	1,742.8	0.00	0.00	0.00
10,400.0	90.00	359.63	9,620.0	1,841.2	-248.4	1,842.8	0.00	0.00	0.00
10,500.0	90.00	359.63	9,620.0	1,941.2	-249.0	1,942.8	0.00	0.00	0.00
10,600.0	90.00	359.63	9,620.0	2,041.2	-249.7	2,042.8	0.00	0.00	0.00
10,700.0	90.00	359.63	9,620.0	2,141.2	-250.3	2,142.8	0.00	0.00	0.00
10,800.0	90.00	359.63	9,620.0	2,241.2	-251.0	2,242.8	0.00	0.00	0.00
10,900.0	90.00	359.63	9,620.0	2,341.2	-251.6	2,342.8	0.00	0.00	0.00
11,000.0	90.00	359.63	9,620.0	2,441.2	-252.3	2,442.8	0.00	0.00	0.00
11,100.0	90.00	359.63	9,620.0	2,541.2	-252.9	2,542.8	0.00	0.00	0.00
11,200.0	90.00	359.63	9,620.0	2,641.2	-253.6	2,642.8	0.00	0.00	0.00
11,300.0	90.00	359.63	9,620.0	2,741.2	-254.2	2,742.8	0.00	0.00	0.00
11,400.0	90.00	359.63	9,620.0	2,841.2	-254.9	2,842.8	0.00	0.00	0.00
11,500.0	90.00	359.63	9,620.0	2,941.2	-255.5	2,942.8	0.00	0.00	0.00
11,600.0	90.00	359.63	9,620.0	3,041.2	-256.2	3,042.8	0.00	0.00	0.00
11,700.0	90.00	359.63	9,620.0	3,141.2	-256.8	3,142.8	0.00	0.00	0.00
11,800.0	90.00	359.63	9,620.0	3,241.2	-257.5	3,242.8	0.00	0.00	0.00
11,900.0	90.00	359.63	9,620.0	3,341.2	-258.1	3,342.8	0.00	0.00	0.00
12,000.0	90.00	359.63	9,620.0	3,441.2	-258.8	3,442.8	0.00	0.00	0.00
12,100.0	90.00	359.63	9,620.0	3,541.2	-259.4	3,542.8	0.00	0.00	0.00
12,200.0	90.00	359.63	9,620.0	3,641.2	-260.1	3,642.8	0.00	0.00	0.00
12,300.0	90.00	359.63	9,620.0	3,741.2	-260.7	3,742.8	0.00	0.00	0.00
12,400.0	90.00	359.63	9,620.0	3,841.2	-261.4	3,842.8	0.00	0.00	0.00
12,500.0	90.00	359.63	9,620.0	3,941.2	-262.0	3,942.8	0.00	0.00	0.00
12,600.0	90.00	359.63	9,620.0	4,041.2	-262.7	4,042.8	0.00	0.00	0.00
12,700.0	90.00	359.63	9,620.0	4,141.2	-263.3	4,142.8	0.00	0.00	0.00
12,800.0	90.00	359.63	9,620.0	4,241.2	-264.0	4,242.8	0.00	0.00	0.00
12,900.0	90.00	359.63	9,620.0	4,341.2	-264.6	4,342.8	0.00	0.00	0.00
13,000.0	90.00	359.63	9,620.0	4,441.2	-265.3	4,442.8	0.00	0.00	0.00
13,100.0	90.00	359.63	9,620.0	4,541.2	-265.9	4,542.8	0.00	0.00	0.00
13,200.0	90.00	359.63	9,620.0	4,641.2	-266.6	4,642.8	0.00	0.00	0.00
13,300.0	90.00	359.63	9,620.0	4,741.2	-267.2	4,742.8	0.00	0.00	0.00
13,400.0	90.00	359.63	9,620.0	4,841.2	-267.9	4,842.8	0.00	0.00	0.00
13,500.0	90.00	359.63	9,620.0	4,941.2	-268.5	4,942.8	0.00	0.00	0.00
13,600.0	90.00	359.63	9,620.0	5,041.2	-269.2	5,042.8	0.00	0.00	0.00
13,700.0	90.00	359.63	9,620.0	5,141.2	-269.8	5,142.8	0.00	0.00	0.00
13,800.0	90.00	359.63	9,620.0	5,241.2	-270.5	5,242.8	0.00	0.00	0.00
13,900.0	90.00	359.63	9,620.0	5,341.2	-271.1	5,342.8	0.00	0.00	0.00

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Margarita 12 State Com 301H
Company:	Permian Resources Operating, LLC	TVD Reference:	KB @ 3618.9usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB @ 3618.9usft
Site:	Margarita Pad - Sec 12 T22S R34E	North Reference:	Grid
Well:	Margarita 12 State Com 301H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
14,000.0	90.00	359.63	9,620.0	5,441.2	-271.8	5,442.8	0.00	0.00	0.00	
14,100.0	90.00	359.63	9,620.0	5,541.2	-272.4	5,542.8	0.00	0.00	0.00	
14,200.0	90.00	359.63	9,620.0	5,641.2	-273.1	5,642.8	0.00	0.00	0.00	
14,300.0	90.00	359.63	9,620.0	5,741.2	-273.7	5,742.8	0.00	0.00	0.00	
14,400.0	90.00	359.63	9,620.0	5,841.1	-274.4	5,842.8	0.00	0.00	0.00	
14,500.0	90.00	359.63	9,620.0	5,941.1	-275.0	5,942.8	0.00	0.00	0.00	
14,600.0	90.00	359.63	9,620.0	6,041.1	-275.7	6,042.8	0.00	0.00	0.00	
14,700.0	90.00	359.63	9,620.0	6,141.1	-276.3	6,142.8	0.00	0.00	0.00	
14,800.0	90.00	359.63	9,620.0	6,241.1	-277.0	6,242.8	0.00	0.00	0.00	
14,900.0	90.00	359.63	9,620.0	6,341.1	-277.6	6,342.8	0.00	0.00	0.00	
15,000.0	90.00	359.63	9,620.0	6,441.1	-278.3	6,442.8	0.00	0.00	0.00	
15,100.0	90.00	359.63	9,620.0	6,541.1	-278.9	6,542.8	0.00	0.00	0.00	
15,200.0	90.00	359.63	9,620.0	6,641.1	-279.6	6,642.8	0.00	0.00	0.00	
15,300.0	90.00	359.63	9,620.0	6,741.1	-280.2	6,742.8	0.00	0.00	0.00	
15,400.0	90.00	359.63	9,620.0	6,841.1	-280.9	6,842.8	0.00	0.00	0.00	
15,500.0	90.00	359.63	9,620.0	6,941.1	-281.5	6,942.8	0.00	0.00	0.00	
15,600.0	90.00	359.63	9,620.0	7,041.1	-282.2	7,042.8	0.00	0.00	0.00	
15,700.0	90.00	359.63	9,620.0	7,141.1	-282.8	7,142.8	0.00	0.00	0.00	
15,800.0	90.00	359.63	9,620.0	7,241.1	-283.5	7,242.8	0.00	0.00	0.00	
15,900.0	90.00	359.63	9,620.0	7,341.1	-284.1	7,342.8	0.00	0.00	0.00	
16,000.0	90.00	359.63	9,620.0	7,441.1	-284.8	7,442.8	0.00	0.00	0.00	
16,100.0	90.00	359.63	9,620.0	7,541.1	-285.4	7,542.8	0.00	0.00	0.00	
16,200.0	90.00	359.63	9,620.0	7,641.1	-286.1	7,642.8	0.00	0.00	0.00	
16,300.0	90.00	359.63	9,620.0	7,741.1	-286.7	7,742.8	0.00	0.00	0.00	
16,400.0	90.00	359.63	9,620.0	7,841.1	-287.4	7,842.8	0.00	0.00	0.00	
16,500.0	90.00	359.63	9,620.0	7,941.1	-288.0	7,942.8	0.00	0.00	0.00	
16,600.0	90.00	359.63	9,620.0	8,041.1	-288.7	8,042.8	0.00	0.00	0.00	
16,700.0	90.00	359.63	9,620.0	8,141.1	-289.3	8,142.8	0.00	0.00	0.00	
16,800.0	90.00	359.63	9,620.0	8,241.1	-290.0	8,242.8	0.00	0.00	0.00	
16,900.0	90.00	359.63	9,620.0	8,341.1	-290.6	8,342.8	0.00	0.00	0.00	
17,000.0	90.00	359.63	9,620.0	8,441.1	-291.3	8,442.8	0.00	0.00	0.00	
17,100.0	90.00	359.63	9,620.0	8,541.1	-291.9	8,542.8	0.00	0.00	0.00	
17,200.0	90.00	359.63	9,620.0	8,641.1	-292.6	8,642.8	0.00	0.00	0.00	
17,243.6	90.00	359.63	9,620.0	8,684.7	-292.9	8,686.4	0.00	0.00	0.00	
TD at 17243.60 MD - LTP/BHL M12 SC 301H										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude		Longitude
FTP M12 SC 301H	0.00	0.00	9,620.0	877.6	-242.1	515,457.43	823,076.32	32° 24' 49.507 N		103° 25' 13.283 W
- plan misses target center by 237.5usft at 9552.9usft MD (9447.5 TVD, 1040.9 N, -243.1 E)										
- Point										
LTP/BHL M12 SC 301H	0.00	0.00	9,620.0	8,684.7	-292.9	523,264.51	823,025.52	32° 26' 6.758 N		103° 25' 13.097 W
- plan hits target center										
- Point										

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Margarita 12 State Com 301H
Company:	Permian Resources Operating, LLC	TVD Reference:	KB @ 3618.9usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	KB @ 3618.9usft
Site:	Margarita Pad - Sec 12 T22S R34E	North Reference:	Grid
Well:	Margarita 12 State Com 301H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,500.0	1,500.0	0.0	0.0	Nudge 2°/100 at 1500.00 MD
1,899.8	1,898.5	26.8	-7.4	Hold 8° inc at 1899.80 MD
8,044.6	7,983.5	850.8	-234.7	Drop 2°/100 at 8044.60 MD
8,444.3	8,382.0	877.6	-242.1	Vertical at 8444.30 MD
9,109.3	9,047.0	877.6	-242.1	KOP 10°/100 at 9109.30 MD
10,009.3	9,620.0	1,450.6	-245.8	LP at 10009.30 MD
17,243.6	9,620.0	8,684.7	-292.9	TD at 17243.60 MD