Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.

2. Name of Operator
----------1847Avant Operating, LLC

9. API Well No.
30-025-53272

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface

At proposed prod. zone

11. Sec., T. R. M. or Blk. and Survey or Area

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

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date
Title		
Approved by *(Signature)*	Name *(Printed/Typed)*	Date
Title	Office	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

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

APPROVED WITH CONDITIONS

Approval Date: 01/06/2023

(Continued on page 2)

*(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 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) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Frances 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	Pool Code	Pool Name
30-025-53272	98247	WC-025 G-09 S203435D;WOLFCAMP

Property Code	Property Name	Well Number
335497	LEA UNIT	710H

OGRID No.	Operator Name	Elevation
330396	~~LEGACY RESERVES OPERATING LP~~ Avant Operating, LLC -330396	3666'

Surface Location

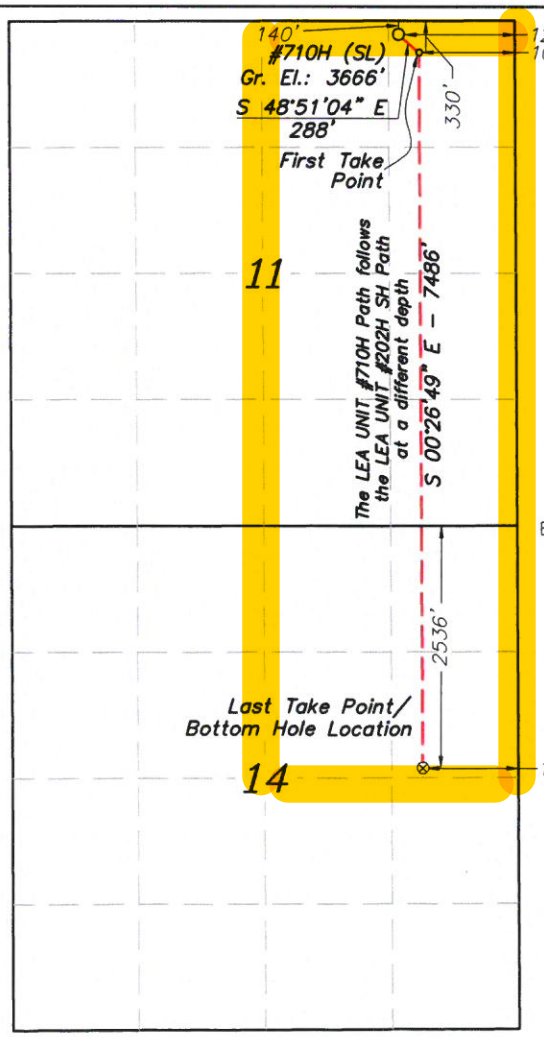
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	11	20 S	34 E		140	NORTH	1215	EAST	LEA

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
H	14	20 S	34 E		2536	NORTH	1000	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
480			

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
(NAD83)
Plane Coordinate
X = 789,891.9
Y = 580,951.0
Geodetic (D.D.)
32.59449479° N
103.52627437° W

FIRST TAKE POINT
(NAD83)
Plane Coordinate
X = 790,108.46
Y = 580,761.77
Geodetic (D.D.)
32.59397024° N
103.52557607° W

BOTTOM HOLE LOCATION & LAST TAKE POINT
(NAD83)
Plane Coordinate
X = 790,166.88
Y = 573,276.31
Geodetic (D.D.)
32.57339542° N
103.52557092° W

Scale
1" = 2000'

NOTE:
1) Plane Coordinates shown hereon are Transverse Mercator Grid and Conform to the "New Mexico Coordinate System", New Mexico East Zone, North American Datum of 1983. Distances shown hereon are mean horizontal surface values.

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.

Terri Stathem 1/13/2022
Signature Date

Terri Stathem
Printed Name

tstathem@legacyreserves.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.

December 20, 2017
Date of Survey

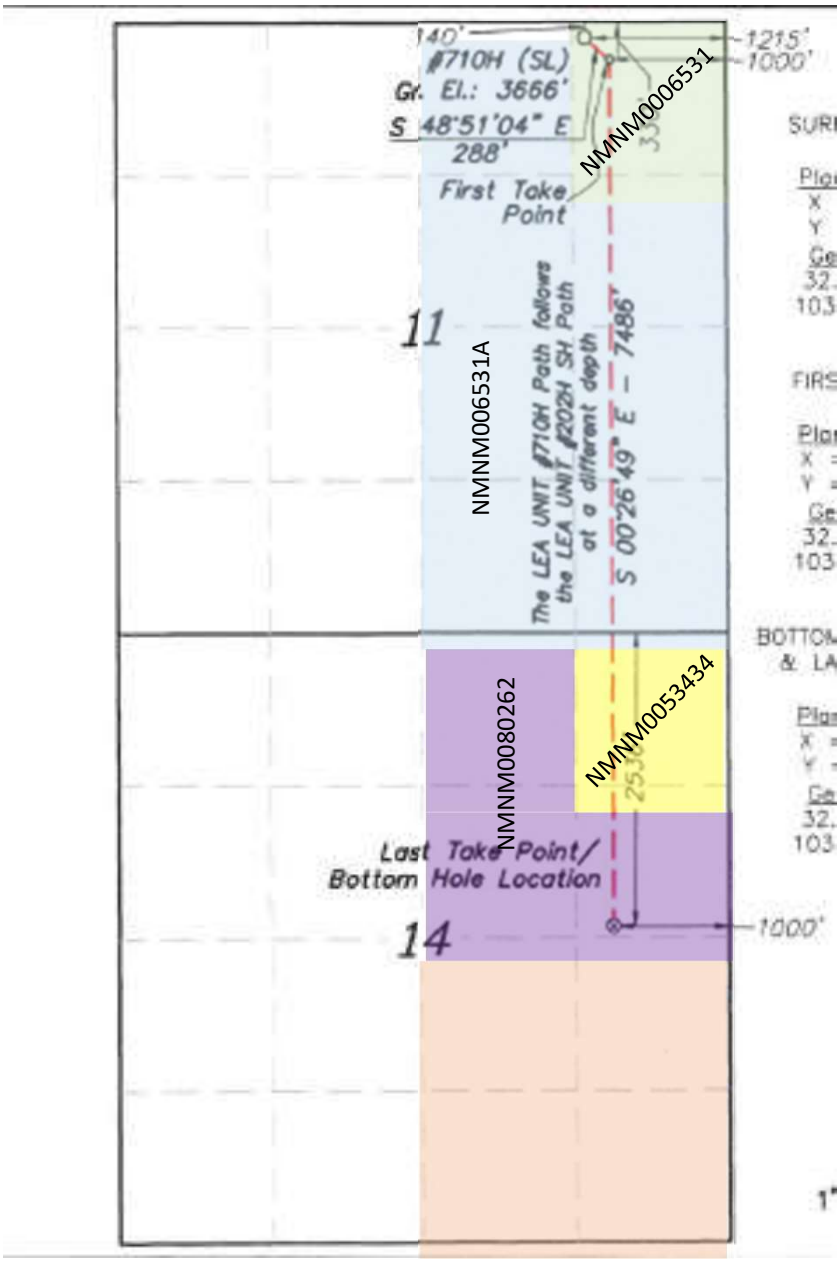
SC
Signature & Seal of Professional Surveyor

LINDSAY GYGAX NEW MEXICO 23263 PROFESSIONAL SURVEYOR 01-06-22

W.O. Num. 2017-0929 F

Certificate No. Lindsay Gygax 23263

Lea Unit 710H Lease Plat



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: Avant Operating, LLC **OGRID:** 330396 **Date:** 07/11/2024

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

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Lea Unit 640H		C-11-T20S-R34E	140FNL/1065FEL	950 BBL/D	1600 MCF/D	4000 BBL/D
Lea Unit 710H		C-11-T20S-R34E	140FNL/1215FEL	850 BBL/D	1400 MCF/D	4000 BBL/D

IV. Central Delivery Point Name: Lea Unit West WC CTB [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or 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
Lea Unit 640H		08/04/2024	09/01/2024	09/11/2024	09/26/2024	09/26/2024
Lea Unit 710H		08/04/2024	09/01/2024	09/11/2024	09/26/2024	09/26/2024

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
Lea Unit 640H		440 MCF/D	160,600 MCF
Lea Unit 710H		400 MCF/D	146,000 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
Versado Gas Processors, LLC(Targa)	Pronto Jumper	Sec 11, T20S, R34E	09/26/2024	10MMCF/D

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.

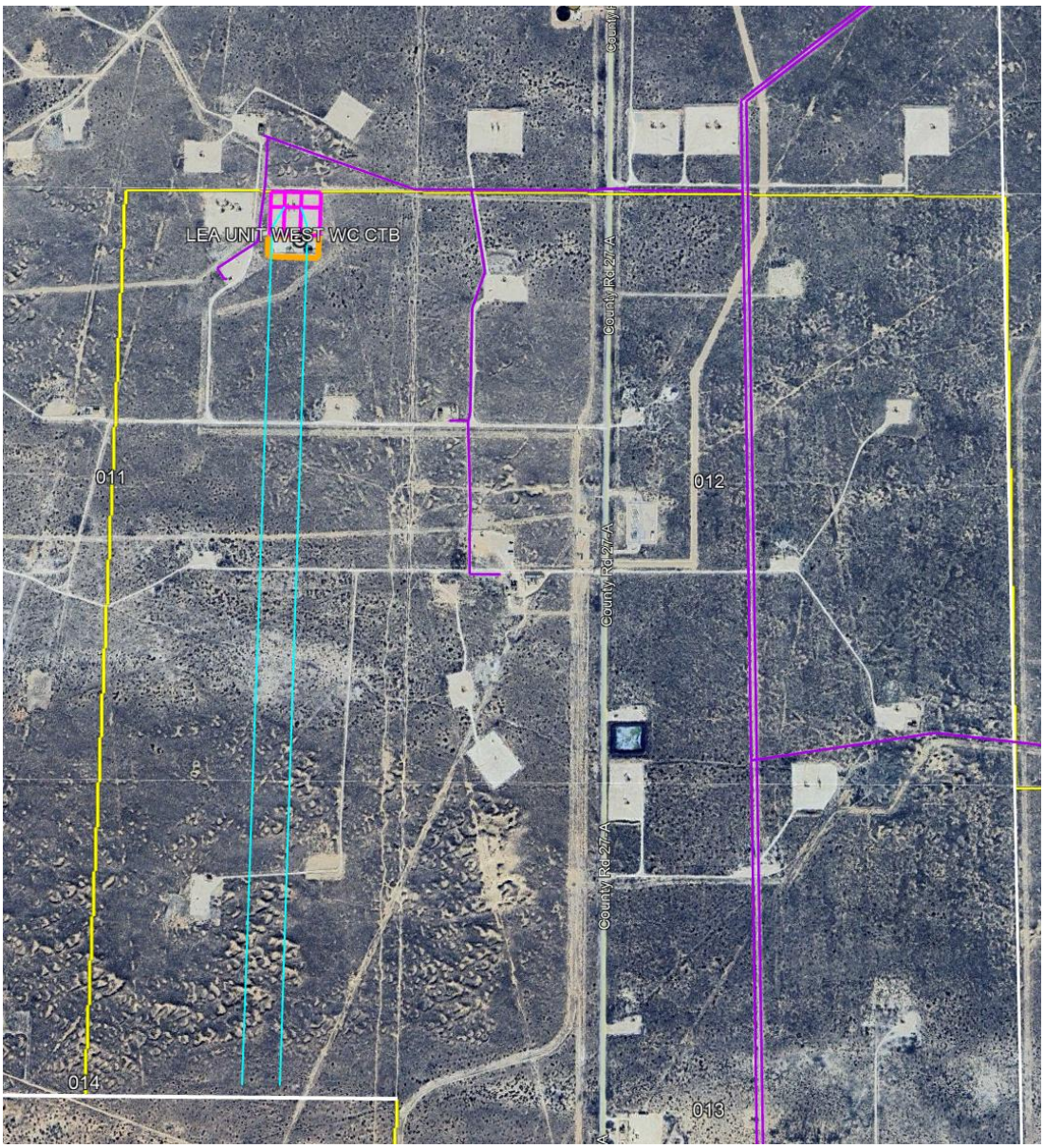
2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural 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: John Harper
Title: SVP Assets and Exploration
E-mail Address: John@avantnr.com
Date: 07/15/24
Phone: 678-988-6644

OIL CONSERVATION DIVISION **(Only applicable when submitted as a standalone form)**
Approved By:
Title:
Approval Date:
Conditions of Approval:

Map



Line Pressure Plan

When we start to see an increase in line pressure, we will communicate with our current Gas Midstream company to see how we can reduce the line pressure to ensure they can handle production. We will monitor closely and make facility adjustments to keep line pressures down. If we continue to see downstream issues with high line pressures, we will look at alternative options to capture the excess gas the pipeline cannot handle to keep line pressures low. Building a relationship with the Gas Midstream company will be a priority to ensure both parties are on the same page when new wells are coming online in order to keep line pressures low for any upgrades that need to be in place before they come online.

Avant Operating, LLC Natural Gas Management Plan

VI. Separation equipment will be sized by construction engineering staff based on stated manufacturer daily throughput capacities and anticipated daily production rates to ensure adequate capacity. Closed vent system piping, compression needs, and VRUs will be sized utilizing ProMax modelling software to ensure adequate capacity for anticipated production volumes and conditions.

VII. Avant Operating, LLC (Avant) will take the following actions to comply with the regulations listed in 19.15.27.8:

A. Avant will maximize the recovery of natural gas by minimizing the waste, as defined by 19.15.2 NMAC, of natural gas through venting and flaring. Avant will ensure that well(s) will be connected to a natural gas gathering system with sufficient capacity to transport natural gas.

B. All drilling operations will be equipped with a rig flare located at least 100' from the nearest surface hole. Rig flare will be utilized to combust any natural gas that is brought to surface during normal drilling operations. In the case of emergency venting or flaring the volumes will be estimated and reported appropriately.

C. During completion operations any natural gas brought to surface will be flared. Immediately following the finish of completion operations, all well flowback will be directed to permanent separation equipment. Produced natural gas from separation equipment will be sent to sales. It is not anticipated that gas will not meet pipeline standards. However, if natural gas does not meet gathering pipeline quality specifications, Avant will flare the natural gas for 60 days or until the natural gas meets the pipeline quality specifications. Avant will ensure that the flare is sized properly and is equipped with automatic igniter or continuous pilot. The gas sample will be analyzed twice per week and the gas will be routed into a gathering system as soon as pipeline specifications are met.

D. Avant will comply with the performance standards requirements and provisions listed in 19.15.27.8 (l) through (8). All equipment will be designed and sized to handle maximum anticipated pressures and throughputs to minimize the waste. Production storage tanks constructed after May 25, 2021, will be equipped with automatic gauging system. Flares constructed after May 25, 2021, will be equipped with automatic igniter or continuous pilot. Flares will be located at least 100' from the well and storage tanks unless otherwise approved by the division. Avant will conduct AVO inspections as described in 19.15.27.8 E (5) (a) with frequencies specified in 19.15.27.8 E (5) (b) and (c). All emergencies will be resolved as quickly and safely as feasible to minimize waste.

E. The volume of natural gas that is vented or flared as the result of malfunction or emergency during drilling and completions operations will be estimated. The volume of natural gas that is vented, flared, or beneficially used during production operations, will be measured, or estimated. Avant will install equipment to measure

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

Drilling Plan Data Report
03/20/2024

APD ID: 10400082677
Submission Date: 01/18/2022
Operator Name: LEGACY RESERVES OPERATING LP
Well Name: LEA UNIT
Well Number: 710H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
9729393	RUSTLER	3666	1627	1627	LIMESTONE, MARL, SANDSTONE	USEABLE WATER	N
9729389	YATES	236	3430	3430	ANHYDRITE, DOLOMITE, LIMESTONE, SANDSTONE	NONE	N
9729388	SR-QN-GB-SA	-143	3809	3809	ANHYDRITE, DOLOMITE, SANDSTONE	NONE	N
9729390	CAPITAN REEF	-154	3820	3820	SANDSTONE	USEABLE WATER	N
9729391	BELL CANYON	-1916	5582	5582	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
9729392	CHERRY CANYON	-2805	6471	6471	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
9729396	BRUSHY CANYON	-3441	7107	7107	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
9729397	BONE SPRING	-4526	8192	8192	LIMESTONE, SANDSTONE	NATURAL GAS, OIL	N
9729406	BONE SPRING 1ST	-5841	9507	9507	DOLOMITE, LIMESTONE	NATURAL GAS, OIL	Y
9729407	BONE SPRING 2ND	-6375	10041	10041	SANDSTONE	NATURAL GAS, OIL	Y
9729408	BONE SPRING 3RD	-7032	10698	10698	SANDSTONE, SHALE	NATURAL GAS, OIL	Y
9729409	WOLFCAMP	-7343	11009	11009	SANDSTONE, SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M
Rating Depth: 11000

Equipment: A BOP consisting of three rams, including one blind ram and two pipe rams and one annular preventer. An accumulator that meets the requirements in Onshore Order #2 for the pressure rating of the BOP stack. A rotating head may be installed as needed. A Kelly clock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.
Requesting Variance? YES

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT **Well Number:** 710H

Variance request: Co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached. The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used. Variance to include Hammer Union connections on lines downstream of the buffer tank only. Legacy requests a 5M annular variance for the 10M BOP system. See attached procedure

Testing Procedure: BOPs will be tested by an independent service company. The ram preventers, choke manifold, and safety valves will be tested as follows: Prior to drilling out the surface casing, BOPE pressure tests will be 250 psi low and 5000 psi high. Prior to drilling out the intermediate casing, BOPE pressure tests will be 250 psi low and 10,000 psi high. The Annular Preventer will be tested to 250 psi low and 2500 psi high prior to drilling out the surface casing, 250 psi low and 5000 psi high prior to drilling out the production casing. The System may be upgraded to a higher pressure but still tested to the working pressures listed. If the system is upgraded all the components installed will be functional and tested

Choke Diagram Attachment:

Lea_Unit_710H_Choke_Manifold_20220118122221.pdf

BOP Diagram Attachment:

Lea_Unit_710H_BOP_20220118122212.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	1785	0	1785	3666	1881	1785	J-55	54.5	ST&C	1.42	3.86	DRY	4.3	DRY	4.3
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	6075	0	6070	3690	-2404	6075	J-55	40	LT&C	1.25	1.27	DRY	1.94	DRY	1.94
3	PRODUCTION	8.75	5.5	NEW	API	N	0	18473	0	10990	3690	-7324	18473	P-110	20	BUTT	2.27	1.28	DRY	1.76	DRY	1.76

Casing Attachments

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT **Well Number:** 710H

Casing Attachments

Casing ID: 1 **String** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Lea_Unit_710_csg_assumptions_20220118102321.pdf

Casing ID: 2 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Lea_Unit_710_csg_assumptions_20220118102256.pdf

Casing ID: 3 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Lea_Unit_710_csg_assumptions_20220118102137.pdf

Section 4 - Cement

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT **Well Number:** 710H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1785	970	1.72	13.5	1670	100	Class C Cement	CLASS C + BENTONITE
SURFACE	Tail		0	1785	260	1.32	14.8	340	60	Class C Neat	CLASS C
INTERMEDIATE	Lead		0	6075	2115	1.94	12.6	4100	180	CLASS C	35:65 POZ C
INTERMEDIATE	Tail		0	6075	380	1.18	15.6	450	140	CLASS H NEAT	none
PRODUCTION	Lead		0	18473	1300	1.62	11.9	2100	80	CLASS H	POZ 50:50
PRODUCTION	Tail		0	18473	2650	1.34	14.2	3540	30	CLASS H	POZ 50:50

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

Describe what will be on location to control well or mitigate other conditions: Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. An electronic PVT system will be rigged up prior to spudding this well. A volume monitoring system that measures, calculates, and displays readings from the mud system on the rig to alert the crew of impending gas kicks and lost circulation. **In order to effectively run open hole logs and casing, the mud viscosity and fluid loss properties may be adjusted.

Describe the mud monitoring system utilized: PVT/Pason/Visual 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
6075	18473	OTHER : Fresh Water / CUT Brine Water	8.8	9.3							

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT **Well Number:** 710H

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
1785	6075	OTHER : Brine water	9.8	10.3							
0	1785	SPUD MUD	8.4	8.6							

Section 6 - Test, Logging, Coring

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

No DST planned

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

MUD LOG/GEOLOGIC LITHOLOGY LOG,GAMMA RAY LOG,DIRECTIONAL SURVEY,

Coring operation description for the well:

NA

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4935 **Anticipated Surface Pressure:** 2514

Anticipated Bottom Hole Temperature(F): 170

Anticipated abnormal pressures, temperatures, or potential geologic hazards? YES

Describe:

Lost circulation may be encountered in the Delaware mountain group.

Contingency Plans geoharzards description:

Lost circulation material will be available, as well as additional drilling fluid along with the fluid volume in the drilling rig pit system. Drilling fluid can be mixed on location or mixed in vendor mud plant and trucked to location if needed.

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

Lea_Unit_710_H2S_Plan_20220117154903.pdf

Lea_Unit_Rig_Layout_20220117154911.pdf

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT **Well Number:** 710H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Lea_Unit_710H_Dir_Plan_20220117154933.pdf
Lea_Unit_710H_AC_Report_Plan_20220118093116.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Lea_Unit_Caliche___Water_20220106131802.pdf
Lea_Unit_710H_NGMP_20220117154948.pdf
Lea_Unit_710H_Multibowl_WH_20220117155023.pdf
Lea_Unit_710H_Well_Control_20220118092030.pdf
Lea_Unit_710H_Drill_Plan_20220118122420.pdf

Other Variance attachment:

Lea_Unit_710H_Flex_Hose_Test_20220117155040.pdf

LEGACY RESERVES

MOTIVE DRILLING TECHNOLOGIES

WELL DETAILS: Lea Unit #710H

RKB @ 3693.0usft Ground Level: 3666.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	580951.00	789891.90	32° 35' 40.182 N	103° 31' 34.588 W

Project:	Lea County, NM (NAD83)
Site:	Lea
Well:	Lea Unit #710H
Geodetic Datum:	North American Datum 1983
Design:	Plan 1

T G M

Azimuths to Grid North
True North: -0.43°
Magnetic North: 6.30°

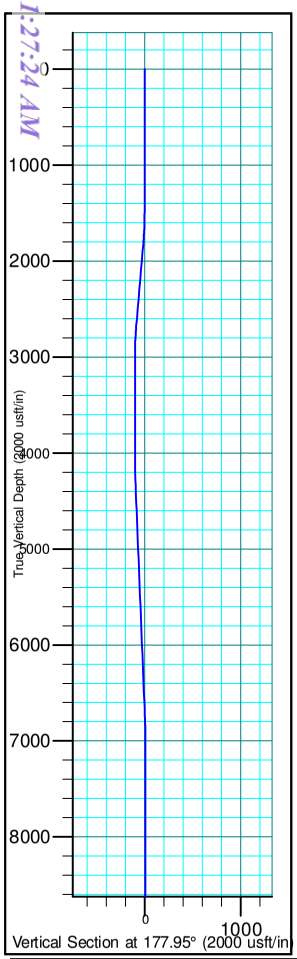
Magnetic Field
Strength: 48249.8nT
Dip Angle: 60.58°
Date: 2/27/2018
Model: HDGM_FILE

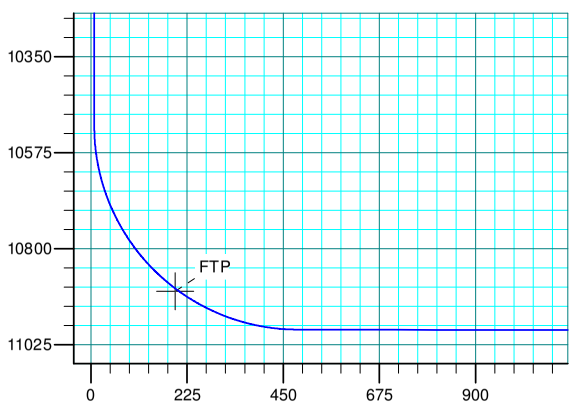
DESIGN TARGET DETAILS

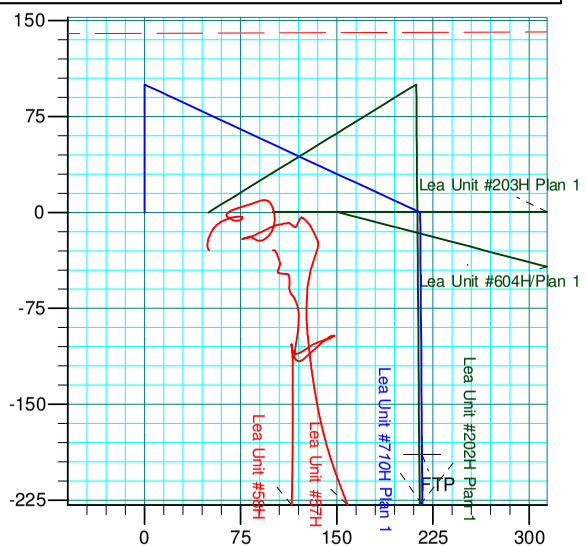
Name	TVD	+N/-S	+E/-W	Northing	Easting
BHL	11000.0	-7674.7	275.0	573276.31	790166.88
FTP	10900.0	-189.2	216.6	580761.77	790108.46

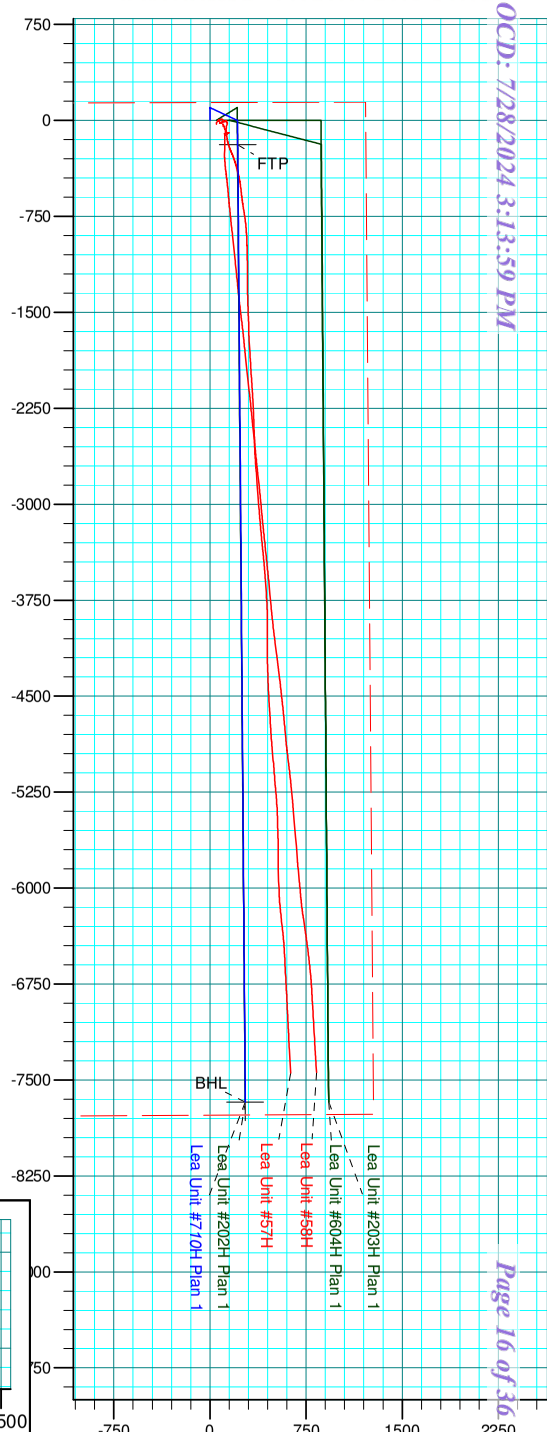
SECTION DETAILS

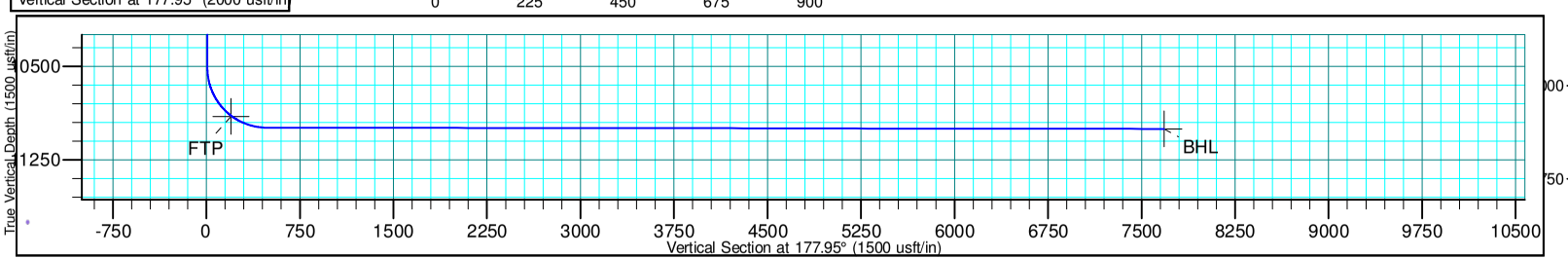
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0	
3	1824.1	4.86	0.00	1823.7	13.7	0.0	1.50	0.00	-13.7	
4	2679.7	4.86	0.00	2676.3	86.3	0.0	0.00	0.00	-86.2	
5	3003.9	0.00	0.00	3000.0	100.0	0.0	1.50	180.00	-99.9	
6	4001.8	0.00	0.00	3997.9	100.0	0.0	0.00	0.00	-99.9	
7	4341.0	5.09	114.94	4336.7	93.6	13.7	1.50	114.94	-93.1	
8	6674.7	5.09	114.94	6661.2	6.4	201.3	0.00	0.00	0.9	
9	7013.9	0.00	0.00	7000.0	0.0	215.0	1.50	180.00	7.7	
10	10526.4	0.00	0.00	10512.5	0.0	215.0	0.00	0.00	7.7	
11	11275.8	89.92	179.55	10990.0	-476.8	218.7	12.00	179.55	484.3	
12	18473.9	89.92	179.55	11000.0	-7674.7	275.0	0.00	0.00	7679.6	BHL-710H











MOTIVE
DRILLING TECHNOLOGIES

Legacy Reserves

Lea County, NM (NAD83)
Lea
Lea Unit #710H

Original Wellbore

Plan: Plan 1

Standard Planning Report

04 May, 2021

LEGACY
RESERVES

MOTIVE DRILLING TECHNOLOGIES

Planning Report

LEGACY RESERVES

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Lea Unit #710H
Company:	Legacy Reserves	**TVD Reference:**	RKB @ 3693.0usft
Project:	Lea County, NM (NAD83)	**MD Reference:**	RKB @ 3693.0usft
Site:	Lea	**North Reference:**	Grid
Well:	Lea Unit #710H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Plan 1		

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

Site	Lea				
Site Position:		**Northing:**	567,587.00 usft	**Latitude:**	32° 33' 27.391 N
From:	Map	**Easting:**	797,256.10 usft	**Longitude:**	103° 30' 9.733 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.45 °

Well	Lea Unit #701H					
Well Position	**+N/-S**	13,364.0 usft	**Northing:**	580,951.00 usft	**Latitude:**	32° 35' 40.182 N
	+E/-W	-7,364.2 usft	**Easting:**	789,891.90 usft	**Longitude:**	103° 31' 34.588 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	3,693.0 usft	**Ground Level:**	3,666.0 usft

Wellbore	Original Wellbore			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	HDGM_FILE	2/27/2018	6.73	60.58	48,249.80000000

Design	Plan 1				
Audit Notes:					
Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.0	0.0	0.0	177.95	

Plan Survey Tool Program **Date** 5/4/2021

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	18,473.9	Plan 1 (Original Wellbore)	MWD	
				MWD - Standard	

MOTIVE DRILLING TECHNOLOGIES

Planning Report

LEGACY RESERVES

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Lea Unit #710H
Company:	Legacy Reserves	**TVD Reference:**	RKB @ 3693.0usft
Project:	Lea County, NM (NAD83)	**MD Reference:**	RKB @ 3693.0usft
Site:	Lea	**North Reference:**	Grid
Well:	Lea Unit #710H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Plan 1		

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	
1,824.1	4.86	0.00	1,823.7	13.7	0.0	1.50	1.50	0.00	0.00	
2,679.7	4.86	0.00	2,676.3	86.3	0.0	0.00	0.00	0.00	0.00	
3,003.9	0.00	0.00	3,000.0	100.0	0.0	1.50	-1.50	0.00	180.00	
4,001.8	0.00	0.00	3,997.9	100.0	0.0	0.00	0.00	0.00	0.00	
4,341.0	5.09	114.94	4,336.7	93.6	13.7	1.50	1.50	0.00	114.94	
6,674.7	5.09	114.94	6,661.2	6.4	201.3	0.00	0.00	0.00	0.00	
7,013.9	0.00	0.00	7,000.0	0.0	215.0	1.50	-1.50	0.00	180.00	
10,526.4	0.00	0.00	10,512.5	0.0	215.0	0.00	0.00	0.00	0.00	
11,275.8	89.92	179.55	10,990.0	-476.8	218.7	12.00	12.00	0.00	179.55	
18,473.9	89.92	179.55	11,000.0	-7,674.7	275.0	0.00	0.00	0.00	0.00	BHL-701H

MOTIVE DRILLING TECHNOLOGIES

Planning Report

LEGACY RESERVES

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Lea Unit #710H
Company:	Legacy Reserves	**TVD Reference:**	RKB @ 3693.0usft
Project:	Lea County, NM (NAD83)	**MD Reference:**	RKB @ 3693.0usft
Site:	Lea	**North Reference:**	Grid
Well:	Lea Unit #710H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Wellbore		
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
1,600.0	1.50	0.00	1,600.0	1.3	0.0	-1.3	1.50	1.50	0.00
1,700.0	3.00	0.00	1,699.9	5.2	0.0	-5.2	1.50	1.50	0.00
1,800.0	4.50	0.00	1,799.7	11.8	0.0	-11.8	1.50	1.50	0.00
1,824.1	4.86	0.00	1,823.7	13.7	0.0	-13.7	1.50	1.50	0.00
1,900.0	4.86	0.00	1,899.3	20.2	0.0	-20.2	0.00	0.00	0.00
2,000.0	4.86	0.00	1,999.0	28.6	0.0	-28.6	0.00	0.00	0.00
2,100.0	4.86	0.00	2,098.6	37.1	0.0	-37.1	0.00	0.00	0.00
2,200.0	4.86	0.00	2,198.3	45.6	0.0	-45.6	0.00	0.00	0.00
2,300.0	4.86	0.00	2,297.9	54.1	0.0	-54.0	0.00	0.00	0.00
2,400.0	4.86	0.00	2,397.5	62.5	0.0	-62.5	0.00	0.00	0.00
2,500.0	4.86	0.00	2,497.2	71.0	0.0	-71.0	0.00	0.00	0.00
2,600.0	4.86	0.00	2,596.8	79.5	0.0	-79.4	0.00	0.00	0.00
2,679.7	4.86	0.00	2,676.3	86.3	0.0	-86.2	0.00	0.00	0.00
2,700.0	4.56	0.00	2,696.5	87.9	0.0	-87.9	1.50	-1.50	0.00
2,800.0	3.06	0.00	2,796.2	94.6	0.0	-94.5	1.50	-1.50	0.00
2,900.0	1.56	0.00	2,896.2	98.6	0.0	-98.5	1.50	-1.50	0.00
3,003.9	0.00	0.00	3,000.0	100.0	0.0	-99.9	1.50	-1.50	0.00
3,100.0	0.00	0.00	3,096.1	100.0	0.0	-99.9	0.00	0.00	0.00
3,200.0	0.00	0.00	3,196.1	100.0	0.0	-99.9	0.00	0.00	0.00
3,300.0	0.00	0.00	3,296.1	100.0	0.0	-99.9	0.00	0.00	0.00
3,400.0	0.00	0.00	3,396.1	100.0	0.0	-99.9	0.00	0.00	0.00
3,500.0	0.00	0.00	3,496.1	100.0	0.0	-99.9	0.00	0.00	0.00
3,600.0	0.00	0.00	3,596.1	100.0	0.0	-99.9	0.00	0.00	0.00
3,700.0	0.00	0.00	3,696.1	100.0	0.0	-99.9	0.00	0.00	0.00
3,800.0	0.00	0.00	3,796.1	100.0	0.0	-99.9	0.00	0.00	0.00
3,900.0	0.00	0.00	3,896.1	100.0	0.0	-99.9	0.00	0.00	0.00
4,001.8	0.00	0.00	3,997.9	100.0	0.0	-99.9	0.00	0.00	0.00
4,100.0	1.47	114.94	4,096.1	99.5	1.1	-99.4	1.50	1.50	0.00
4,200.0	2.97	114.94	4,196.1	97.8	4.7	-97.6	1.50	1.50	0.00
4,300.0	4.47	114.94	4,295.8	95.1	10.6	-94.7	1.50	1.50	0.00
4,341.0	5.09	114.94	4,336.7	93.6	13.7	-93.1	1.50	1.50	0.00
4,400.0	5.09	114.94	4,395.5	91.4	18.4	-90.7	0.00	0.00	0.00
4,500.0	5.09	114.94	4,495.1	87.7	26.4	-86.7	0.00	0.00	0.00
4,600.0	5.09	114.94	4,594.7	84.0	34.5	-82.7	0.00	0.00	0.00
4,700.0	5.09	114.94	4,694.3	80.2	42.5	-78.6	0.00	0.00	0.00
4,800.0	5.09	114.94	4,793.9	76.5	50.6	-74.6	0.00	0.00	0.00
4,900.0	5.09	114.94	4,893.5	72.7	58.6	-70.6	0.00	0.00	0.00
5,000.0	5.09	114.94	4,993.1	69.0	66.7	-66.6	0.00	0.00	0.00

MOTIVE DRILLING TECHNOLOGIES

Planning Report

LEGACY RESERVES

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Lea Unit #710H
Company:	Legacy Reserves	**TVD Reference:**	RKB @ 3693.0usft
Project:	Lea County, NM (NAD83)	**MD Reference:**	RKB @ 3693.0usft
Site:	Lea	**North Reference:**	Grid
Well:	Lea Unit #710H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Wellbore		
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	5.09	114.94	5,092.7	65.3	74.7	-62.5	0.00	0.00	0.00
5,200.0	5.09	114.94	5,192.3	61.5	82.7	-58.5	0.00	0.00	0.00
5,300.0	5.09	114.94	5,291.9	57.8	90.8	-54.5	0.00	0.00	0.00
5,400.0	5.09	114.94	5,391.5	54.0	98.8	-50.5	0.00	0.00	0.00
5,500.0	5.09	114.94	5,491.1	50.3	106.9	-46.4	0.00	0.00	0.00
5,600.0	5.09	114.94	5,590.7	46.6	114.9	-42.4	0.00	0.00	0.00
5,700.0	5.09	114.94	5,690.3	42.8	123.0	-38.4	0.00	0.00	0.00
5,800.0	5.09	114.94	5,789.9	39.1	131.0	-34.4	0.00	0.00	0.00
5,900.0	5.09	114.94	5,889.6	35.3	139.0	-30.3	0.00	0.00	0.00
6,000.0	5.09	114.94	5,989.2	31.6	147.1	-26.3	0.00	0.00	0.00
6,100.0	5.09	114.94	6,088.8	27.8	155.1	-22.3	0.00	0.00	0.00
6,200.0	5.09	114.94	6,188.4	24.1	163.2	-18.2	0.00	0.00	0.00
6,300.0	5.09	114.94	6,288.0	20.4	171.2	-14.2	0.00	0.00	0.00
6,400.0	5.09	114.94	6,387.6	16.6	179.3	-10.2	0.00	0.00	0.00
6,500.0	5.09	114.94	6,487.2	12.9	187.3	-6.2	0.00	0.00	0.00
6,600.0	5.09	114.94	6,586.8	9.1	195.3	-2.1	0.00	0.00	0.00
6,674.7	5.09	114.94	6,661.2	6.4	201.3	0.9	0.00	0.00	0.00
6,700.0	4.71	114.94	6,686.4	5.4	203.3	1.8	1.50	-1.50	0.00
6,800.0	3.21	114.94	6,786.2	2.5	209.6	5.0	1.50	-1.50	0.00
6,900.0	1.71	114.94	6,886.1	0.7	213.5	6.9	1.50	-1.50	0.00
7,000.0	0.21	114.94	6,986.1	0.0	215.0	7.7	1.50	-1.50	0.00
7,013.9	0.00	0.00	7,000.0	0.0	215.0	7.7	1.50	-1.50	0.00
7,100.0	0.00	0.00	7,086.1	0.0	215.0	7.7	0.00	0.00	0.00
7,200.0	0.00	0.00	7,186.1	0.0	215.0	7.7	0.00	0.00	0.00
7,300.0	0.00	0.00	7,286.1	0.0	215.0	7.7	0.00	0.00	0.00
7,400.0	0.00	0.00	7,386.1	0.0	215.0	7.7	0.00	0.00	0.00
7,500.0	0.00	0.00	7,486.1	0.0	215.0	7.7	0.00	0.00	0.00
7,600.0	0.00	0.00	7,586.1	0.0	215.0	7.7	0.00	0.00	0.00
7,700.0	0.00	0.00	7,686.1	0.0	215.0	7.7	0.00	0.00	0.00
7,800.0	0.00	0.00	7,786.1	0.0	215.0	7.7	0.00	0.00	0.00
7,900.0	0.00	0.00	7,886.1	0.0	215.0	7.7	0.00	0.00	0.00
8,000.0	0.00	0.00	7,986.1	0.0	215.0	7.7	0.00	0.00	0.00
8,100.0	0.00	0.00	8,086.1	0.0	215.0	7.7	0.00	0.00	0.00
8,200.0	0.00	0.00	8,186.1	0.0	215.0	7.7	0.00	0.00	0.00
8,300.0	0.00	0.00	8,286.1	0.0	215.0	7.7	0.00	0.00	0.00
8,400.0	0.00	0.00	8,386.1	0.0	215.0	7.7	0.00	0.00	0.00
8,500.0	0.00	0.00	8,486.1	0.0	215.0	7.7	0.00	0.00	0.00
8,600.0	0.00	0.00	8,586.1	0.0	215.0	7.7	0.00	0.00	0.00
8,700.0	0.00	0.00	8,686.1	0.0	215.0	7.7	0.00	0.00	0.00
8,800.0	0.00	0.00	8,786.1	0.0	215.0	7.7	0.00	0.00	0.00
8,900.0	0.00	0.00	8,886.1	0.0	215.0	7.7	0.00	0.00	0.00
9,000.0	0.00	0.00	8,986.1	0.0	215.0	7.7	0.00	0.00	0.00
9,100.0	0.00	0.00	9,086.1	0.0	215.0	7.7	0.00	0.00	0.00
9,200.0	0.00	0.00	9,186.1	0.0	215.0	7.7	0.00	0.00	0.00
9,300.0	0.00	0.00	9,286.1	0.0	215.0	7.7	0.00	0.00	0.00
9,400.0	0.00	0.00	9,386.1	0.0	215.0	7.7	0.00	0.00	0.00
9,500.0	0.00	0.00	9,486.1	0.0	215.0	7.7	0.00	0.00	0.00
9,600.0	0.00	0.00	9,586.1	0.0	215.0	7.7	0.00	0.00	0.00
9,700.0	0.00	0.00	9,686.1	0.0	215.0	7.7	0.00	0.00	0.00
9,800.0	0.00	0.00	9,786.1	0.0	215.0	7.7	0.00	0.00	0.00
9,900.0	0.00	0.00	9,886.1	0.0	215.0	7.7	0.00	0.00	0.00
10,000.0	0.00	0.00	9,986.1	0.0	215.0	7.7	0.00	0.00	0.00
10,100.0	0.00	0.00	10,086.1	0.0	215.0	7.7	0.00	0.00	0.00
10,200.0	0.00	0.00	10,186.1	0.0	215.0	7.7	0.00	0.00	0.00

MOTIVE DRILLING TECHNOLOGIES

Planning Report

LEGACY RESERVES

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Lea Unit #710H
Company:	Legacy Reserves	**TVD Reference:**	RKB @ 3693.0usft
Project:	Lea County, NM (NAD83)	**MD Reference:**	RKB @ 3693.0usft
Site:	Lea	**North Reference:**	Grid
Well:	Lea Unit #710H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Wellbore		
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)
10,300.0	0.00	0.00	10,286.1	0.0	215.0	7.7	0.00	0.00	0.00
10,400.0	0.00	0.00	10,386.1	0.0	215.0	7.7	0.00	0.00	0.00
10,500.0	0.00	0.00	10,486.1	0.0	215.0	7.7	0.00	0.00	0.00
10,526.4	0.00	0.00	10,512.5	0.0	215.0	7.7	0.00	0.00	0.00
10,550.0	2.83	179.55	10,536.0	-0.6	215.0	8.3	12.00	12.00	0.00
10,575.0	5.83	179.55	10,561.0	-2.5	215.0	10.2	12.00	12.00	0.00
10,600.0	8.83	179.55	10,585.8	-5.7	215.0	13.4	12.00	12.00	0.00
10,625.0	11.83	179.55	10,610.4	-10.1	215.1	17.8	12.00	12.00	0.00
10,650.0	14.83	179.55	10,634.7	-15.9	215.1	23.6	12.00	12.00	0.00
10,675.0	17.83	179.55	10,658.7	-22.9	215.2	30.6	12.00	12.00	0.00
10,700.0	20.83	179.55	10,682.3	-31.2	215.2	38.9	12.00	12.00	0.00
10,725.0	23.83	179.55	10,705.4	-40.7	215.3	48.4	12.00	12.00	0.00
10,750.0	26.83	179.55	10,728.0	-51.4	215.4	59.1	12.00	12.00	0.00
10,775.0	29.83	179.55	10,750.0	-63.2	215.5	70.9	12.00	12.00	0.00
10,800.0	32.83	179.55	10,771.3	-76.2	215.6	83.9	12.00	12.00	0.00
10,825.0	35.83	179.55	10,792.0	-90.3	215.7	98.0	12.00	12.00	0.00
10,850.0	38.83	179.55	10,811.9	-105.5	215.8	113.2	12.00	12.00	0.00
10,875.0	41.83	179.55	10,830.9	-121.7	216.0	129.3	12.00	12.00	0.00
10,900.0	44.83	179.55	10,849.1	-138.8	216.1	146.5	12.00	12.00	0.00
10,925.0	47.83	179.55	10,866.4	-156.9	216.2	164.5	12.00	12.00	0.00
10,950.0	50.83	179.55	10,882.6	-175.9	216.4	183.5	12.00	12.00	0.00
10,975.0	53.83	179.55	10,897.9	-195.6	216.5	203.3	12.00	12.00	0.00
11,000.0	56.83	179.55	10,912.1	-216.2	216.7	223.8	12.00	12.00	0.00
11,025.0	59.83	179.55	10,925.3	-237.5	216.9	245.1	12.00	12.00	0.00
11,050.0	62.83	179.55	10,937.3	-259.4	217.0	267.0	12.00	12.00	0.00
11,075.0	65.83	179.55	10,948.1	-281.9	217.2	289.5	12.00	12.00	0.00
11,100.0	68.83	179.55	10,957.7	-305.0	217.4	312.6	12.00	12.00	0.00
11,125.0	71.83	179.55	10,966.1	-328.5	217.6	336.1	12.00	12.00	0.00
11,150.0	74.83	179.55	10,973.3	-352.5	217.8	360.1	12.00	12.00	0.00
11,175.0	77.83	179.55	10,979.2	-376.8	218.0	384.3	12.00	12.00	0.00
11,200.0	80.83	179.55	10,983.9	-401.3	218.2	408.9	12.00	12.00	0.00
11,225.0	83.83	179.55	10,987.2	-426.1	218.3	433.6	12.00	12.00	0.00
11,250.0	86.83	179.55	10,989.2	-451.0	218.5	458.6	12.00	12.00	0.00
11,275.8	89.92	179.55	10,990.0	-476.8	218.7	484.3	12.00	12.00	0.00
11,300.0	89.92	179.55	10,990.0	-501.0	218.9	508.5	0.00	0.00	0.00
11,400.0	89.92	179.55	10,990.1	-601.0	219.7	608.5	0.00	0.00	0.00
11,500.0	89.92	179.55	10,990.3	-701.0	220.5	708.4	0.00	0.00	0.00
11,600.0	89.92	179.55	10,990.4	-801.0	221.3	808.4	0.00	0.00	0.00
11,700.0	89.92	179.55	10,990.6	-901.0	222.1	908.4	0.00	0.00	0.00
11,800.0	89.92	179.55	10,990.7	-1,001.0	222.9	1,008.3	0.00	0.00	0.00
11,900.0	89.92	179.55	10,990.8	-1,101.0	223.6	1,108.3	0.00	0.00	0.00
12,000.0	89.92	179.55	10,991.0	-1,201.0	224.4	1,208.2	0.00	0.00	0.00
12,100.0	89.92	179.55	10,991.1	-1,301.0	225.2	1,308.2	0.00	0.00	0.00
12,200.0	89.92	179.55	10,991.3	-1,401.0	226.0	1,408.2	0.00	0.00	0.00
12,300.0	89.92	179.55	10,991.4	-1,501.0	226.8	1,508.1	0.00	0.00	0.00
12,400.0	89.92	179.55	10,991.5	-1,601.0	227.6	1,608.1	0.00	0.00	0.00
12,500.0	89.92	179.55	10,991.7	-1,701.0	228.4	1,708.1	0.00	0.00	0.00
12,600.0	89.92	179.55	10,991.8	-1,801.0	229.1	1,808.0	0.00	0.00	0.00
12,700.0	89.92	179.55	10,992.0	-1,901.0	229.9	1,908.0	0.00	0.00	0.00
12,800.0	89.92	179.55	10,992.1	-2,001.0	230.7	2,007.9	0.00	0.00	0.00
12,900.0	89.92	179.55	10,992.2	-2,101.0	231.5	2,107.9	0.00	0.00	0.00
13,000.0	89.92	179.55	10,992.4	-2,200.9	232.3	2,207.9	0.00	0.00	0.00
13,100.0	89.92	179.55	10,992.5	-2,300.9	233.1	2,307.8	0.00	0.00	0.00
13,200.0	89.92	179.55	10,992.7	-2,400.9	233.9	2,407.8	0.00	0.00	0.00

MOTIVE DRILLING TECHNOLOGIES

Planning Report

LEGACY RESERVES

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Site:	Lea	**North Reference:**	Grid
Well:	Lea Unit #710H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Wellbore		
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)
13,300.0	89.92	179.55	10,992.8	-2,500.9	234.6	2,507.7	0.00	0.00	0.00
13,400.0	89.92	179.55	10,992.9	-2,600.9	235.4	2,607.7	0.00	0.00	0.00
13,500.0	89.92	179.55	10,993.1	-2,700.9	236.2	2,707.7	0.00	0.00	0.00
13,600.0	89.92	179.55	10,993.2	-2,800.9	237.0	2,807.6	0.00	0.00	0.00
13,700.0	89.92	179.55	10,993.3	-2,900.9	237.8	2,907.6	0.00	0.00	0.00
13,800.0	89.92	179.55	10,993.5	-3,000.9	238.6	3,007.5	0.00	0.00	0.00
13,900.0	89.92	179.55	10,993.6	-3,100.9	239.4	3,107.5	0.00	0.00	0.00
14,000.0	89.92	179.55	10,993.8	-3,200.9	240.1	3,207.5	0.00	0.00	0.00
14,100.0	89.92	179.55	10,993.9	-3,300.9	240.9	3,307.4	0.00	0.00	0.00
14,200.0	89.92	179.55	10,994.0	-3,400.9	241.7	3,407.4	0.00	0.00	0.00
14,300.0	89.92	179.55	10,994.2	-3,500.9	242.5	3,507.3	0.00	0.00	0.00
14,400.0	89.92	179.55	10,994.3	-3,600.9	243.3	3,607.3	0.00	0.00	0.00
14,500.0	89.92	179.55	10,994.5	-3,700.9	244.1	3,707.3	0.00	0.00	0.00
14,600.0	89.92	179.55	10,994.6	-3,800.9	244.9	3,807.2	0.00	0.00	0.00
14,700.0	89.92	179.55	10,994.7	-3,900.9	245.6	3,907.2	0.00	0.00	0.00
14,800.0	89.92	179.55	10,994.9	-4,000.9	246.4	4,007.1	0.00	0.00	0.00
14,900.0	89.92	179.55	10,995.0	-4,100.9	247.2	4,107.1	0.00	0.00	0.00
15,000.0	89.92	179.55	10,995.2	-4,200.9	248.0	4,207.1	0.00	0.00	0.00
15,100.0	89.92	179.55	10,995.3	-4,300.9	248.8	4,307.0	0.00	0.00	0.00
15,200.0	89.92	179.55	10,995.4	-4,400.9	249.6	4,407.0	0.00	0.00	0.00
15,300.0	89.92	179.55	10,995.6	-4,500.9	250.4	4,507.0	0.00	0.00	0.00
15,400.0	89.92	179.55	10,995.7	-4,600.9	251.1	4,606.9	0.00	0.00	0.00
15,500.0	89.92	179.55	10,995.9	-4,700.9	251.9	4,706.9	0.00	0.00	0.00
15,600.0	89.92	179.55	10,996.0	-4,800.9	252.7	4,806.8	0.00	0.00	0.00
15,700.0	89.92	179.55	10,996.1	-4,900.9	253.5	4,906.8	0.00	0.00	0.00
15,800.0	89.92	179.55	10,996.3	-5,000.9	254.3	5,006.8	0.00	0.00	0.00
15,900.0	89.92	179.55	10,996.4	-5,100.9	255.1	5,106.7	0.00	0.00	0.00
16,000.0	89.92	179.55	10,996.6	-5,200.9	255.8	5,206.7	0.00	0.00	0.00
16,100.0	89.92	179.55	10,996.7	-5,300.8	256.6	5,306.6	0.00	0.00	0.00
16,200.0	89.92	179.55	10,996.8	-5,400.8	257.4	5,406.6	0.00	0.00	0.00
16,300.0	89.92	179.55	10,997.0	-5,500.8	258.2	5,506.6	0.00	0.00	0.00
16,400.0	89.92	179.55	10,997.1	-5,600.8	259.0	5,606.5	0.00	0.00	0.00
16,500.0	89.92	179.55	10,997.3	-5,700.8	259.8	5,706.5	0.00	0.00	0.00
16,600.0	89.92	179.55	10,997.4	-5,800.8	260.6	5,806.4	0.00	0.00	0.00
16,700.0	89.92	179.55	10,997.5	-5,900.8	261.3	5,906.4	0.00	0.00	0.00
16,800.0	89.92	179.55	10,997.7	-6,000.8	262.1	6,006.4	0.00	0.00	0.00
16,900.0	89.92	179.55	10,997.8	-6,100.8	262.9	6,106.3	0.00	0.00	0.00
17,000.0	89.92	179.55	10,998.0	-6,200.8	263.7	6,206.3	0.00	0.00	0.00
17,100.0	89.92	179.55	10,998.1	-6,300.8	264.5	6,306.2	0.00	0.00	0.00
17,200.0	89.92	179.55	10,998.2	-6,400.8	265.3	6,406.2	0.00	0.00	0.00
17,300.0	89.92	179.55	10,998.4	-6,500.8	266.1	6,506.2	0.00	0.00	0.00
17,400.0	89.92	179.55	10,998.5	-6,600.8	266.8	6,606.1	0.00	0.00	0.00
17,500.0	89.92	179.55	10,998.7	-6,700.8	267.6	6,706.1	0.00	0.00	0.00
17,600.0	89.92	179.55	10,998.8	-6,800.8	268.4	6,806.1	0.00	0.00	0.00
17,700.0	89.92	179.55	10,998.9	-6,900.8	269.2	6,906.0	0.00	0.00	0.00
17,800.0	89.92	179.55	10,999.1	-7,000.8	270.0	7,006.0	0.00	0.00	0.00
17,900.0	89.92	179.55	10,999.2	-7,100.8	270.8	7,105.9	0.00	0.00	0.00
18,000.0	89.92	179.55	10,999.4	-7,200.8	271.6	7,205.9	0.00	0.00	0.00
18,100.0	89.92	179.55	10,999.5	-7,300.8	272.3	7,305.9	0.00	0.00	0.00
18,200.0	89.92	179.55	10,999.6	-7,400.8	273.1	7,405.8	0.00	0.00	0.00
18,300.0	89.92	179.55	10,999.8	-7,500.8	273.9	7,505.8	0.00	0.00	0.00
18,400.0	89.92	179.55	10,999.9	-7,600.8	274.7	7,605.7	0.00	0.00	0.00
18,473.9	89.92	179.55	11,000.0	-7,674.7	275.0	7,679.6	0.00	0.00	0.00

MOTIVE DRILLING TECHNOLOGIES

Planning Report

LEGACY RESERVES

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Lea Unit #710H
Company:	Legacy Reserves	**TVD Reference:**	RKB @ 3693.0usft
Project:	Lea County, NM (NAD83)	**MD Reference:**	RKB @ 3693.0usft
Site:	Lea	**North Reference:**	Grid
Well:	Lea Unit #710H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Plan 1		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP-701H - plan misses target center by 5.5usft at 10971.2usft MD (10895.7 TVD, -192.6 N, 216.5 E) - Point	0.00	0.00	10,900.0	-189.2	216.6	580,761.77	790,108.46	32° 35' 38.293 N	103° 31' 32.074 W
BHL-701H - plan hits target center - Point	0.00	0.00	11,000.0	-7,674.7	275.0	573,276.31	790,166.88	32° 34' 24.224 N	103° 31' 32.055 W

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Legacy**
LEASE NO.:	**NMNM0006531**
LOCATION:	Section 11, T.20 S., R.34 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	Lea Unit 710H
SURFACE HOLE FOOTAGE:	140'/N & 1215'/E
BOTTOM HOLE FOOTAGE	2536'/N & 1000'/E

COA

H2S	◉ Yes	○ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Cave/Karst Potential	○ Critical		
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl	○ Both
Other	☐ 4 String Area	☑ Capitan Reef	☐ WIPP
Other	☑ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☐ COM	☑ Unit

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Yates- Seven Rivers** 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 **1785** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8**

 Approval Date: 01/06/2023

hours or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

Intermediate casing must be kept 1/3rd fluid filled to meet BLM minimum collapse requirement.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
   - Cement to surface. If cement does not circulate see B.1.a, c-d above.

Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.

Contingency:

Operator is approved to use a DV Tool, the depth may be adjusted as long as the cement is changed proportionally. The operator shall contact BLM before proceeding with the DV Tool operation.

❖ In Capitan Reef Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:
(Use this for 3 string wells in the Capitan Reef, if 4 string well ensure FW based mud used across the capitan interval)

- Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.

- Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
   - Cement should tie-back at least **50 feet (4316 ft)** on top of Capitan Reef top. If cement does not circulate see B.1.a, c-d above.

Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).

2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

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

D. SPECIAL REQUIREMENT (S)

Unit Wells

The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

Commercial Well Determination

A commercial well determination shall be submitted after production has been established for at least six months. (This is not necessary for secondary recovery unit wells)

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 intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

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

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not

hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

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

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

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

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

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.
ZS070622

Hydrogen Sulfide Plan Summary

A. All personnel shall receive proper H2S training in accordance with Onshore Order III.C.3.a.

B. Briefing Area: two perpendicular areas will be designated by signs and readily accessible.

C. Required Emergency Equipment:

- Well control equipment
  a. Flare line 150' from wellhead to be ignited by flare gun.
  b. Choke manifold with a remotely operated choke.
  c. Mud/gas separator

- Protective equipment for essential personnel.

  Breathing apparatus:
  a. Rescue Packs (SCBA) — 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
  b. Work/Escape packs —4 packs shall be stored on the rig floor th sufficient air hose not to restrict work activity.
  c. Emergency Escape Packs —4 packs shall be stored in the doghouse for emergency evacuation.

  Auxiliary Rescue Equipment:
  a. Stretcher
  b. Two OSHA full body harness
  c. 100 ft 5/8 inch OSHA approved rope
  d. 1-20# class ABC fire extinguisher

- H2S detection and monitoring equipment:
  The stationary detector with three sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 14 ppm. Calibrate a minimum of every 30 days or as needed. The sensors will be placed in the following places: Rig floor / Bell nipple / End of flow line or where well bore fluid is being discharged.
  (Gas sample tubes will be stored in the safety trailer)

- Visual warning systems.
  a. One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
  b. A colored condition flag will be on display, reflecting the current condition at the site at the time.
  c. Two wind socks will be placed in strategic locations, visible from all angles.

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- Mud program:
  The mud program has been designed to minimize the volume of H2S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H2S bearing zones.

- Metallurgy:
  All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.

- Communication:
  Communication will be via cell phones and land lines where available.

Company Personnel to be Notified

John Harper, Vice President of Geoscience	Office: (720) 746-5045 Mobile: (678) 988-6644
Braden Harris, Engineer	Mobile: (406) 600-3310

Local & County Agencies

Maljamar Volunter Fire Department	911 or (575) 676-4100
Lea County Sheriff (Lovington)	911 or (575) 396-3611
Lea County Emergency Management (Lovington)	(575) 396-8602
Lea Regional Medical Center Hopital (Hobbs)	(575) 492-5000

State Agencies

NM State Police (Hobbs)	(575) 392-5588
NM Oil Conservation (Hobbs)	(575) 370-3186
NM Oil Conservation (Santa Fe)	(505) 476-3440
NM Dept. of Transportation (Roswell)	(575) 637-7201

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NATURAL RESOURCES

Federal Agencies

BLM (Carlsbad)	(575) 234-5972
BLM (Hobbs)	(575) 393-3612
National Response Center	(800) 424-8802
US EPA Region 6 (Dallas)	(800) 887-6063
	(214) 665-6444

Veterinarians

Lovington Veterinary Clinic	(575) 396-7387
Hobbs Animal Clinic	(575) 392-5563
Dal Paso Animal Hospital (Hobbs)	(575) 397-2286

Residents within 2 miles

None

Air Evacuation

AeroCare (Lubbock)	(800) 627-2376
Med Flight Air Ambulance (Albuquerque)	(800) 842-4431
Lifeguard (Albuquerque)	(888) 866-7256

AVANT
NATURAL RESOURCES

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 367826

CONDITIONS

Operator:	OGRID:
Avant Operating, LLC 1515 Wynkoop Street Denver, CO 80202	330396
	Action Number: 367826
	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	7/30/2024
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	7/30/2024
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	7/30/2024
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	7/30/2024
pkautz	If cement does not circulate on any string, a CBL is required for that string of casing	7/30/2024