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.
NMNM118731

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.
NMNM 135216A

8. Lease Name and Well No.
W LYBROOK UNIT
863H

2. Name of Operator
ENDURING RESOURCES LLC

9. API Well No. 30 045 38189

3a. Address
, ,

3b. Phone No. *(include area code)*

10. Field and Pool, or Exploratory
RUSTY GALLUP/RUSTY GALLUP OIL P

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface NENW / 1201 FNL / 2446 FWL / LAT 36.201847 / LONG -107.776801
At proposed prod. zone SWNE / 2497 FNL / 2307 FEL / LAT 36.212809 / LONG -107.792865

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 27/T23N/R9W/NMP

14. Distance in miles and direction from nearest town or post office*
59 miles

12. County or Parish
SAN JUAN

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
20 feet

16. No of acres in lease

17. Spacing Unit dedicated to this well
280.0

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
1201 feet

19. Proposed Depth
4146 feet / 10194 feet

20. BLM/BIA Bond No. in file
FED: NMB001492

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
6641 feet

22. Approximate date work will start*
05/01/2020

23. Estimated duration
30 days

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	LACEY GRANILLO / Ph: (505) 386-8205	01/22/2020

Title
Permitting Specialist

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	DAVE J MANKIEWICZ / Ph: (505) 564-7761	09/20/2021

Title	Office
AFM-Minerals	Farmington Field Office

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

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

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 09/20/2021

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

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Drive
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30 045 38189	98157	LYBROOK MANCOS W

[4] Property Code	[5] Property Name	[6] Well Number
321259	W LYBROOK UNIT	863H

[7] OGRID No.	[8] Operator Name	[9] Elevation
372286	ENDURING RESOURCES, LLC	6641'

[10] Surface Location

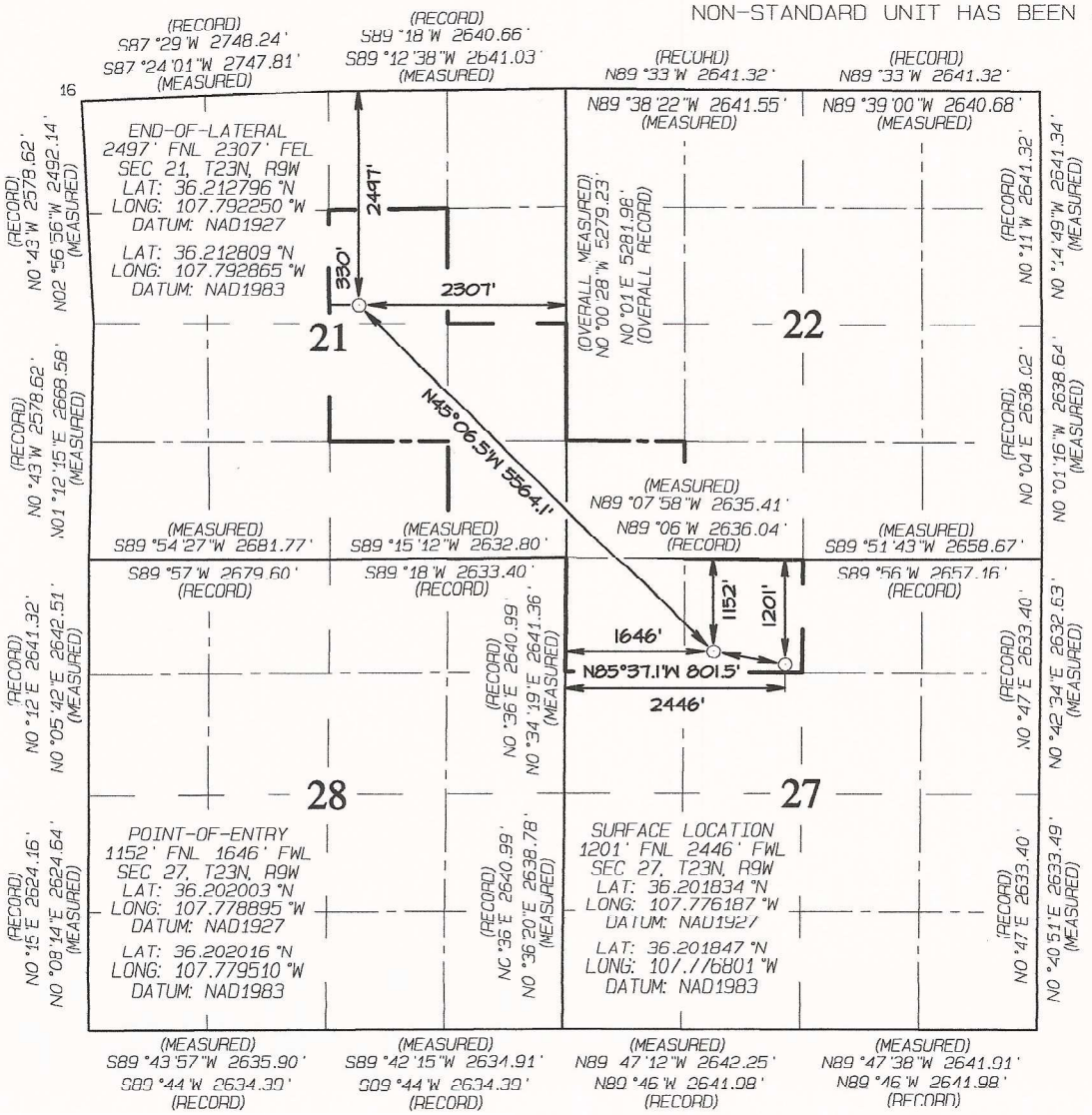
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	27	23N	9W		1201	NORTH	2446	WEST	SAN JUAN

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	21	23N	9W		2497	NORTH	2307	EAST	SAN JUAN

[12] Dedicated Acres		[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
280.00	SW/4 NE/4, N/2 SE/4 SE/4 SE/4 - Section 21 SW/4 SW/4 - Section 22 N/2 NW/4 - Section 27			R-14051 - 12,807.24 Acres

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



[17] OPERATOR CERTIFICATION

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

Signature Date

Printed Name

E-mail Address

[18] SURVEYOR CERTIFICATION

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

Date Revised: JANUARY 14, 2020
Date of Survey: MARCH 10, 2016

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
Certificate Number 15269

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: Enduring Resources, LLC **OGRID:** 120782 **Date:** 08/13/2021

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
W Lybrook Unit #730H	30-045-35843	Sec. 27, T23N, R9W	UL:C SHL:1141' FNL&2446' FWL	626	1,128	1,200
W Lybrook Unit #763H	Pending	Sec. 27, T23N, R9W	UL:C SHL:1181' FNL&2446' FWL	550	987	1,200
W Lybrook Unit #830H	30-045-35814	Sec. 27, T23N, R9W	UL:C SHL:1161' FNL&2446'FWL	638	958	1,200
W Lybrook Unit #861H From 762H	30-045-35844	Sec. 27, T23N, R9W	UL:C SHL:1121' FNL&2446'FWL	620	930	1,200
W Lybrook Unit #863H	Pending	Sec. 27, T23N, R9W	UL:C SHL:1201' FNL&2446'FWL	600	900	1,200

IV. Central Delivery Point Name: 2-9 Gas Receipt & Trunk 1 Transfer Gas Receipt [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
W Lybrook Unit #730H	30-045-35843	1/17/2022	2/5/2022	3/11/2022	3/21/2022	3/24/2022
W Lybrook Unit #763H	Pending	1/22/2022	2/15/2022	3/12/2022	3/21/2022	3/24/2022
W Lybrook Unit #830H	30-045-35814	1/20/2022	2/10/2022	2/24/2022	3/22/2022	3/25/2022
W Lybrook Unit #861H	30-045-35844	1/15/2022	1/31/2022	2/24/2022	3/22/2022	3/25/2022
W Lybrook Unit #863H	Pending	1/25/2022	2/19/2022	2/25/2022	3/23/2022	3/28/2022

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

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

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

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

Section 4 - Notices

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

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

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

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

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

Signature:
Printed Name:
Title:
E-mail Address:
Date:
Phone:

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

Attachments:

Separation Equipment: Below is a complete description of how Operator will size separation equipment to optimize gas capture.

Description of how separation equipment will be sized to optimize gas capture:
Well separation equipment is sized to have appropriate residence time and vapor space to remove gas particles on the micron scale per typical engineering calculations and/or operational experience. Furthermore, a sales scrubber downstream of the well separators is planned in order to capture any additional liquids if present. All gas is routed to end users or the sales pipeline under normal operating conditions.

Operational & Best Management Practices: Below is a complete description of the actions the Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC. Additionally, below is a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Drilling Operations:
Enduring Resources will minimize venting by:

- Gas will only be vented to the atmosphere to avoid risk of immediate or substantial adverse impact to employee safety, public health, and the environment.
- If utilized, flare stacks shall be located at a minimum of 100 feet from the nearest surface hole location

Completion Operations:
Enduring Resources will minimize venting by:

- Separator operation will commence as soon as technically feasible.
- Gas will route immediately to a collection system or applied to other beneficial use, such as a fuel source for onsite equipment.
- During initial flowback and if technically feasible, flaring shall occur rather than venting.
- If natural gas does not meet pipeline standards, gas will be vented or flared. A gas analysis will be performed twice weekly until standards are met (for up to 60 days). This is not anticipated to occur.
- If required, all venting and flaring of natural gas during flowback operations shall be performed in compliance with Subsections B, C and D of 19.15.27.8 NMAC.

Production Operations:
Enduring Resources will minimize venting by:

- Shutting in the wells if the pipeline is not available. No flaring of high pressure gas will occur.
- Utilizing gas for equipment fuel, heater fuel, and artificial lift when allowable.
- Capturing low pressure gas via a gas capture system when allowable.

In General:

- All venting and flaring from drilling, flowback and operation phases shall be reported in compliance with Subsection G of 19.15.27.8 NMAC.
- If utilized, flare stacks shall be located at a minimum of 100 feet from the nearest surface hole location and 100 ft from the permanent facility storage tanks.

Flowback Strategy
After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Gas Transporter system at that time. Based on current information, it is Operator's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring
Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease

  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines
- Power generation for grid;
- Liquids removal on lease;
- **R**einjection for underground storage;
- **R**einjection for temporary storage;
- **R**einjection for enhanced oil recovery;
- Fuel cell production; and
- **O**ther alternative beneficial uses approved by the division.

Enduring Resources LLC

San Juan Basin - W Lybrook Unit
730H Pad
863H

Wellbore #1

Plan: Design #1

Standard Planning Report

21 January, 2020

Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well 863H
Company:	Enduring Resources LLC	**TVD Reference:**	KB @ 6666.0usft (Original Well Elev)
Project:	San Juan Basin - W Lybrook Unit	**MD Reference:**	KB @ 6666.0usft (Original Well Elev)
Site:	730H Pad	**North Reference:**	Grid
Well:	863H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project San Juan Basin - W Lybrook Unit, San Juan County, New Mexico

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

Site 730H Pad, San Juan County, New Mexico

Site Position:		**Northing:**	1,892,834.72 usft	**Latitude:**	36.202012°N
From:	Lat/Long	**Easting:**	2,739,771.06 usft	**Longitude:**	107.776799°W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.03 °

Well 863H

Well Position	**+N/-S**	-60.1 usft	**Northing:**	1,892,774.65 usft	**Latitude:**	36.201847°N
	+E/-W	-0.6 usft	**Easting:**	2,739,770.50 usft	**Longitude:**	107.776801°W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	6,641.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	10.00	63.04	50,595.65754104

Design Design #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	310.07

Plan Survey Tool Program **Date** 1/21/2020

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	10,193.8	Design #1 (Wellbore #1)	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	
350.0	0.00	0.00	350.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,750.0	0.00	0.00	1,750.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,204.2	13.63	208.30	2,199.9	-47.3	-25.5	3.00	3.00	0.00	208.30	
3,542.9	13.63	208.30	3,501.0	-325.0	-175.0	0.00	0.00	0.00	0.00	863H KOP
4,469.8	88.30	312.13	4,098.0	-49.0	-683.4	9.88	8.06	11.20	103.85	
4,629.6	89.54	314.89	4,101.0	61.1	-799.3	1.89	0.78	1.73	65.81	863H POE
10,193.8	89.54	314.89	4,146.0	3,988.0	-4,741.1	0.00	0.00	0.00	0.00	863H BHL

Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well 863H
Company:	Enduring Resources LLC	**TVD Reference:**	KB @ 6666.0usft (Original Well Elev)
Project:	San Juan Basin - W Lybrook Unit	**MD Reference:**	KB @ 6666.0usft (Original Well Elev)
Site:	730H Pad	**North Reference:**	Grid
Well:	863H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #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
231.0	0.00	0.00	231.0	0.0	0.0	0.0	0.00	0.00	0.00
Ojo Alamo									
291.0	0.00	0.00	291.0	0.0	0.0	0.0	0.00	0.00	0.00
Kirtland									
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
350.0	0.00	0.00	350.0	0.0	0.0	0.0	0.00	0.00	0.00
13 3/8"									
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
606.0	0.00	0.00	606.0	0.0	0.0	0.0	0.00	0.00	0.00
Fruitland									
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
916.0	0.00	0.00	916.0	0.0	0.0	0.0	0.00	0.00	0.00
Pictured Cliffs									
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,031.0	0.00	0.00	1,031.0	0.0	0.0	0.0	0.00	0.00	0.00
Lewis									
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
1,266.0	0.00	0.00	1,266.0	0.0	0.0	0.0	0.00	0.00	0.00
Chacra_A									
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	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,750.0	0.00	0.00	1,750.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	1.50	208.30	1,800.0	-0.6	-0.3	-0.1	3.00	3.00	0.00
1,900.0	4.50	208.30	1,899.8	-5.2	-2.8	-1.2	3.00	3.00	0.00
2,000.0	7.50	208.30	1,999.3	-14.4	-7.7	-3.3	3.00	3.00	0.00
2,100.0	10.50	208.30	2,098.0	-28.2	-15.2	-6.5	3.00	3.00	0.00
2,200.0	13.50	208.30	2,195.8	-46.5	-25.0	-10.8	3.00	3.00	0.00
2,204.2	13.63	208.30	2,199.9	-47.3	-25.5	-11.0	3.00	3.00	0.00
2,292.8	13.63	208.30	2,286.0	-65.7	-35.4	-15.2	0.00	0.00	0.00
Cliff House_Basal									
2,300.0	13.63	208.30	2,293.0	-67.2	-36.2	-15.6	0.00	0.00	0.00
2,313.3	13.63	208.30	2,306.0	-70.0	-37.7	-16.2	0.00	0.00	0.00
Menefee									
2,400.0	13.63	208.30	2,390.2	-87.9	-47.4	-20.4	0.00	0.00	0.00
2,416.2	13.63	208.30	2,406.0	-91.3	-49.2	-21.2	0.00	0.00	0.00
9 5/8"									
2,500.0	13.63	208.30	2,487.4	-108.7	-58.5	-25.2	0.00	0.00	0.00
2,600.0	13.63	208.30	2,584.6	-129.4	-69.7	-30.0	0.00	0.00	0.00
2,700.0	13.63	208.30	2,681.8	-150.2	-80.9	-34.8	0.00	0.00	0.00
2,800.0	13.63	208.30	2,779.0	-170.9	-92.0	-39.6	0.00	0.00	0.00
2,900.0	13.63	208.30	2,876.1	-191.6	-103.2	-44.4	0.00	0.00	0.00
3,000.0	13.63	208.30	2,973.3	-212.4	-114.4	-49.2	0.00	0.00	0.00

Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well 863H
Company:	Enduring Resources LLC	**TVD Reference:**	KB @ 6666.0usft (Original Well Elev)
Project:	San Juan Basin - W Lybrook Unit	**MD Reference:**	KB @ 6666.0usft (Original Well Elev)
Site:	730H Pad	**North Reference:**	Grid
Well:	863H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #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)
3,100.0	13.63	208.30	3,070.5	-233.1	-125.5	-54.0	0.00	0.00	0.00
3,200.0	13.63	208.30	3,167.7	-253.9	-136.7	-58.8	0.00	0.00	0.00
3,300.0	13.63	208.30	3,264.9	-274.6	-147.9	-63.6	0.00	0.00	0.00
3,316.6	13.63	208.30	3,281.0	-278.0	-149.7	-64.4	0.00	0.00	0.00
Point Lookout									
3,400.0	13.63	208.30	3,362.1	-295.4	-159.0	-68.4	0.00	0.00	0.00
3,500.0	13.63	208.30	3,459.3	-316.1	-170.2	-73.2	0.00	0.00	0.00
3,542.9	13.63	208.30	3,501.0	-325.0	-175.0	-75.3	0.00	0.00	0.00
3,584.1	13.24	225.77	3,541.0	-332.6	-180.7	-75.8	9.88	-0.93	42.50
Mancos									
3,600.0	13.42	232.56	3,556.5	-334.9	-183.5	-75.2	9.88	1.11	42.60
3,700.0	17.91	265.91	3,653.0	-343.1	-208.1	-61.6	9.88	4.49	33.35
3,713.7	18.85	269.04	3,666.0	-343.3	-212.4	-58.5	9.88	6.80	22.75
Gallup (MNCS_A)									
3,800.0	25.56	283.11	3,745.9	-339.3	-244.5	-31.3	9.88	7.78	16.31
3,900.0	34.31	292.40	3,832.5	-323.6	-291.7	14.9	9.88	8.75	9.28
3,954.3	39.27	295.84	3,876.0	-310.3	-321.4	46.2	9.88	9.13	6.33
MNCS_B									
4,000.0	43.51	298.20	3,910.3	-296.6	-348.2	75.6	9.88	9.27	5.18
4,074.4	50.49	301.36	3,961.0	-269.5	-395.4	129.1	9.88	9.38	4.25
MNCS_C									
4,100.0	52.91	302.30	3,976.8	-258.9	-412.4	149.0	9.88	9.45	3.67
4,142.0	56.89	303.72	4,001.0	-240.2	-441.3	183.1	9.88	9.49	3.38
MNCS_Cms									
4,200.0	62.42	305.48	4,030.3	-211.7	-482.4	232.9	9.88	9.53	3.04
4,300.0	71.99	308.15	4,069.0	-156.5	-556.1	324.8	9.88	9.57	2.67
4,400.0	81.59	310.54	4,091.8	-94.8	-631.2	422.0	9.88	9.60	2.39
4,469.8	88.30	312.13	4,098.0	-49.0	-683.4	491.4	9.88	9.62	2.28
4,500.0	88.53	312.65	4,098.8	-28.6	-705.7	521.7	1.89	0.78	1.73
4,600.0	89.31	314.38	4,100.7	40.3	-778.2	621.4	1.89	0.78	1.73
4,629.6	89.54	314.89	4,101.0	61.1	-799.3	651.0	1.89	0.78	1.73
4,700.0	89.54	314.89	4,101.6	110.7	-849.1	721.1	0.00	0.00	0.00
4,800.0	89.54	314.89	4,102.4	181.3	-920.0	820.7	0.00	0.00	0.00
4,900.0	89.54	314.89	4,103.2	251.9	-990.8	920.4	0.00	0.00	0.00
5,000.0	89.54	314.89	4,104.0	322.5	-1,061.7	1,020.0	0.00	0.00	0.00
5,100.0	89.54	314.89	4,104.8	393.0	-1,132.5	1,119.7	0.00	0.00	0.00
5,200.0	89.54	314.89	4,105.6	463.6	-1,203.3	1,219.3	0.00	0.00	0.00
5,300.0	89.54	314.89	4,106.4	534.2	-1,274.2	1,319.0	0.00	0.00	0.00
5,400.0	89.54	314.89	4,107.2	604.8	-1,345.0	1,418.6	0.00	0.00	0.00
5,500.0	89.54	314.89	4,108.0	675.3	-1,415.9	1,518.2	0.00	0.00	0.00
5,600.0	89.54	314.89	4,108.8	745.9	-1,486.7	1,617.9	0.00	0.00	0.00
5,700.0	89.54	314.89	4,109.7	816.5	-1,557.6	1,717.5	0.00	0.00	0.00
5,800.0	89.54	314.89	4,110.5	887.1	-1,628.4	1,817.2	0.00	0.00	0.00
5,900.0	89.54	314.89	4,111.3	957.6	-1,699.2	1,916.8	0.00	0.00	0.00
6,000.0	89.54	314.89	4,112.1	1,028.2	-1,770.1	2,016.5	0.00	0.00	0.00
6,100.0	89.54	314.89	4,112.9	1,098.8	-1,840.9	2,116.1	0.00	0.00	0.00
6,200.0	89.54	314.89	4,113.7	1,169.4	-1,911.8	2,215.7	0.00	0.00	0.00
6,300.0	89.54	314.89	4,114.5	1,239.9	-1,982.6	2,315.4	0.00	0.00	0.00
6,400.0	89.54	314.89	4,115.3	1,310.5	-2,053.4	2,415.0	0.00	0.00	0.00
6,500.0	89.54	314.89	4,116.1	1,381.1	-2,124.3	2,514.7	0.00	0.00	0.00
6,600.0	89.54	314.89	4,116.9	1,451.7	-2,195.1	2,614.3	0.00	0.00	0.00
6,700.0	89.54	314.89	4,117.7	1,522.2	-2,266.0	2,714.0	0.00	0.00	0.00
6,800.0	89.54	314.89	4,118.6	1,592.8	-2,336.8	2,813.6	0.00	0.00	0.00

Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well 863H
Company:	Enduring Resources LLC	**TVD Reference:**	KB @ 6666.0usft (Original Well Elev)
Project:	San Juan Basin - W Lybrook Unit	**MD Reference:**	KB @ 6666.0usft (Original Well Elev)
Site:	730H Pad	**North Reference:**	Grid
Well:	863H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #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)
6,900.0	89.54	314.89	4,119.4	1,663.4	-2,407.7	2,913.2	0.00	0.00	0.00
7,000.0	89.54	314.89	4,120.2	1,734.0	-2,478.5	3,012.9	0.00	0.00	0.00
7,100.0	89.54	314.89	4,121.0	1,804.5	-2,549.3	3,112.5	0.00	0.00	0.00
7,200.0	89.54	314.89	4,121.8	1,875.1	-2,620.2	3,212.2	0.00	0.00	0.00
7,300.0	89.54	314.89	4,122.6	1,945.7	-2,691.0	3,311.8	0.00	0.00	0.00
7,400.0	89.54	314.89	4,123.4	2,016.3	-2,761.9	3,411.5	0.00	0.00	0.00
7,500.0	89.54	314.89	4,124.2	2,086.8	-2,832.7	3,511.1	0.00	0.00	0.00
7,600.0	89.54	314.89	4,125.0	2,157.4	-2,903.5	3,610.7	0.00	0.00	0.00
7,700.0	89.54	314.89	4,125.8	2,228.0	-2,974.4	3,710.4	0.00	0.00	0.00
7,800.0	89.54	314.89	4,126.6	2,298.6	-3,045.2	3,810.0	0.00	0.00	0.00
7,900.0	89.54	314.89	4,127.4	2,369.1	-3,116.1	3,909.7	0.00	0.00	0.00
8,000.0	89.54	314.89	4,128.3	2,439.7	-3,186.9	4,009.3	0.00	0.00	0.00
8,100.0	89.54	314.89	4,129.1	2,510.3	-3,257.7	4,109.0	0.00	0.00	0.00
8,200.0	89.54	314.89	4,129.9	2,580.9	-3,328.6	4,208.6	0.00	0.00	0.00
8,300.0	89.54	314.89	4,130.7	2,651.4	-3,399.4	4,308.2	0.00	0.00	0.00
8,400.0	89.54	314.89	4,131.5	2,722.0	-3,470.3	4,407.9	0.00	0.00	0.00
8,500.0	89.54	314.89	4,132.3	2,792.6	-3,541.1	4,507.5	0.00	0.00	0.00
8,600.0	89.54	314.89	4,133.1	2,863.2	-3,612.0	4,607.2	0.00	0.00	0.00
8,700.0	89.54	314.89	4,133.9	2,933.7	-3,682.8	4,706.8	0.00	0.00	0.00
8,800.0	89.54	314.89	4,134.7	3,004.3	-3,753.6	4,806.5	0.00	0.00	0.00
8,900.0	89.54	314.89	4,135.5	3,074.9	-3,824.5	4,906.1	0.00	0.00	0.00
9,000.0	89.54	314.89	4,136.3	3,145.5	-3,895.3	5,005.7	0.00	0.00	0.00
9,100.0	89.54	314.89	4,137.2	3,216.0	-3,966.2	5,105.4	0.00	0.00	0.00
9,200.0	89.54	314.89	4,138.0	3,286.6	-4,037.0	5,205.0	0.00	0.00	0.00
9,300.0	89.54	314.89	4,138.8	3,357.2	-4,107.8	5,304.7	0.00	0.00	0.00
9,400.0	89.54	314.89	4,139.6	3,427.8	-4,178.7	5,404.3	0.00	0.00	0.00
9,500.0	89.54	314.89	4,140.4	3,498.3	-4,249.5	5,504.0	0.00	0.00	0.00
9,600.0	89.54	314.89	4,141.2	3,568.9	-4,320.4	5,603.6	0.00	0.00	0.00
9,700.0	89.54	314.89	4,142.0	3,639.5	-4,391.2	5,703.2	0.00	0.00	0.00
9,800.0	89.54	314.89	4,142.8	3,710.1	-4,462.1	5,802.9	0.00	0.00	0.00
9,900.0	89.54	314.89	4,143.6	3,780.6	-4,532.9	5,902.5	0.00	0.00	0.00
10,000.0	89.54	314.89	4,144.4	3,851.2	-4,603.7	6,002.2	0.00	0.00	0.00
10,100.0	89.54	314.89	4,145.2	3,921.8	-4,674.6	6,101.8	0.00	0.00	0.00
10,193.8	89.54	314.89	4,146.0	3,988.0	-4,741.1	6,195.3	0.00	0.00	0.00

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
863H KOP - plan hits target center - Point	0.00	0.00	3,501.0	-325.0	-175.0	1,892,449.65	2,739,595.50	36.200955°N	107.777395°W
863H POE - plan hits target center - Point	0.00	0.00	4,101.0	61.1	-799.3	1,892,835.72	2,738,971.23	36.202016°N	107.779510°W
863H BHL - plan hits target center - Point	0.00	0.00	4,146.0	3,988.0	-4,741.1	1,896,762.67	2,735,029.45	36.212809°N	107.792865°W

Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well 863H
Company:	Enduring Resources LLC	**TVD Reference:**	KB @ 6666.0usft (Original Well Elev)
Project:	San Juan Basin - W Lybrook Unit	**MD Reference:**	KB @ 6666.0usft (Original Well Elev)
Site:	730H Pad	**North Reference:**	Grid
Well:	863H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
350.0	350.0	13 3/8"	13-3/8	17-1/2
2,416.2	2,406.0	9 5/8"	9-5/8	12-1/4

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
231.0	231.0	Ojo Alamo		0.00	
291.0	291.0	Kirtland		0.00	
606.0	606.0	Fruitland		0.00	
916.0	916.0	Pictured Cliffs		0.00	
1,031.0	1,031.0	Lewis		0.00	
1,266.0	1,266.0	Chacra_A		0.00	
2,292.8	2,286.0	Cliff House_Basal		0.00	
2,313.3	2,306.0	Menefee		0.00	
3,316.6	3,281.0	Point Lookout		0.00	
3,584.1	3,541.0	Mancos		0.00	
3,713.7	3,666.0	Gallup (MNCS_A)		0.00	
3,954.3	3,876.0	MNCS_B		0.00	
4,074.4	3,961.0	MNCS_C		0.00	
4,142.0	4,001.0	MNCS_Cms		0.00	

ENDURING RESOURCES IV, LLC
1050 SEVENTEENTH STREET, SUITE 2500
DENVER, COLORADO 80265

DRILLING PLAN: ***Drill, complete, and equip single lateral in the Mancos-Cms formation***

WELL INFORMATION:

Name: **W LYBROOK UNIT 863H**
API Number: *30-045*
AFE Number: *not yet assigned*
ER Well Number: *not yet assigned*
State: New Mexico
County: San Juan
Surface Elevation: 6,641 ft ASL (GL) 6,666 ft ASL (KB)
Surface Location: 27-23N-09W Sec-Twn-Rng 1,201 ft FNL 2,446 ft FWL
36.201847 ° N latitude 107.776801 ° W longitude (NAD 83)
BH Location: 21-23N-09W Sec-Twn-Rng 2,497 ft FNL 2,307 ft FEL
36.212809 ° N latitude 107.792865 ° W longitude (NAD 83)
Driving Directions: **FROM THE INTERSECTION OF US HWY 550 & US HWY 64 IN BLOOMFIELD, NM:**
South on US Hwy 550 for 38.3 miles to MM 113.4, Right (Southwest) on CR #7890 for 0.8 miles to fork, Left (South) remaining on CR #7890 for 1.3 miles to 4-way intersection, Left (Southeast) remaining on CR #7890 for 0.6 miles to fork, Right (Southwest) on CR #7890 for 0.5 miles to fork, Right (West) exiting CR #7890 onto access road for W Lybrook Unit 720H pad for 0.6 miles to fork, Left (West) onto access road for W Lybrook Unit 726H pad for 0.7 miles to fork, Left (West) for 1.4 miles to fork. Left (Southest) for 0.6 miles to W Lybrook Unit 730H Pad (wells: 730H, 763H, 830H, 861H, 863H).

GEOLOGIC AND RESERVOIR INFORMATION:

Prognosis:

Formation Tops	TVD (ft ASL)	TVD (ft KB)	MD (ft KB)	O / G / W	Pressure
Ojo Alamo	6,435	231	231	W	normal
Kirtland	6,375	291	291	W	normal
Fruitland	6,060	606	606	G, W	sub
Pictured Cliffs	5,750	916	916	G, W	sub
Lewis	5,635	1,031	1,031	G, W	normal
Chacra	5,400	1,266	1,266	G, W	normal
Cliff House	4,380	2,286	2,293	G, W	sub
Menefee	4,360	2,306	2,313	G, W	normal
Point Lookout	3,385	3,281	3,317	G, W	normal
Mancos	3,125	3,541	3,584	O,G	sub (~0.38)
Gallup (MNCS_A)	3,000	3,666	3,714	O,G	sub (~0.38)
MNCS_B	2,790	3,876	3,954	O,G	sub (~0.38)
MNCS_C	2,705	3,961	4,074	O,G	sub (~0.38)
MNCS_Cms	2,665	4,001	4,142	O,G	sub (~0.38)
P.O.E. TARGET	**2,565**	**4,101**	**4,630**	**O,G**	**sub (~0.38)**
PROJECTED TD	**2,520**	**4,146**	**10,194**	**O,G**	**sub (~0.38)**

Surface: Nacimiento
Oil & Gas Zones: Several gas bearing zones will be encountered; target formation is the Gallup
Pressure: Normal (0.43 psi/ft) or sub-normal pressure gradients anticipated in all formations
Max. pressure gradient: 0.43 psi/ft Evacuated hole gradient: 0.22 psi/ft
Maximum anticipated BH pressure, assuming maximum pressure gradient: 1,790 psi
Maximum anticipated surface pressure, assuming partially evacuated hole: 880 psi

Temperature: **Maximum anticipated BHT is 125° F or less**

H_2S INFORMATION:

H_2S Zones: Encountering hydrogen-sulfide bearing zones is **NOT** anticipated.

Safety: Sensors and alarms will be placed in the substructure, on the rig floor, above the pits, and at the shakers.

LOGGING, CORING, AND TESTING:

Mud Logs: None planned; remote geo-steering from drill out of 9-5/8" casing to TD; gas detection from drillout of 13-3/8" casing to TD.

MWD / LWD: Gamma Ray from drillout of 13-3/8" casing to TD

Open Hole Logs: None planned

Testing: None planned

Coring: None planned

Cased Hole Logs: CBL on 5-1/2" casing from deepest free-fall depth to surface

DRILLING RIG INFORMATION:

Contractor: Aztec

Rig No.: 1000

Draw Works: E80 AC 1,500 hp

Mast: Hyduke Triple (136 ft, 600,000 lbs, 10 lines)

Top Drive: NOV IDS-350PE (350 ton)

Prime Movers: 4 - GE Jenbacher Natural Gas Generator

Pumps: 2 - RS F-1600 (7,500 psi)

BOPE 1: Cameron single & double gate rams (13-5/8", 3,000 psi)

BOPE 2: Cameron annular (13-5/8", 5,000 psi)

Choke Cameron (4", 10,000 psi)

KB-GL (ft): 25

NOTE: A different rig may be used to drill the well depending on rig availability

BOPE REQUIREMENTS:

See attached diagram for details regarding BOPE specifications and configuration.

1) Rig will be equipped with upper and lower kelly cocks with handles available.

2) Inside BOP and TIW valves will be available to use on all sizes and threads of drill pipe used while drilling the well.

2) BOP accumulator will have enough capacity to open the HCR valve, close all rams and annular preventer, and retain minimum of 200 psi above precharge on the closing manifold without the use of closing pumps. The fluid reservoir capacity shall be at least double the usable fluid volume of the accumulator system capacity, and the fluid level shall be maintained at manufacturer's recommendation. There will be two additional sources of power for the closing pumps (electric and air). Sufficient nitrogen bottles will be available and will be recharged when pressure falls below manufacturer's recommended minimum.

3) BOP testing shall be conducted (a) when initially installed, (b) whenever any seal is broken or repaired, (c) if the time since the previous test exceeds 30 days. Tests will be conducted using a test plug. BOP ram preventers will be tested to 3,000 psig for 10 minutes, and the annular preventer will be tested to 1,500 psi for 10 minutes. Ram and annular preventers will be tested to 250 psi for 5 minutes. Additionally, BOP and casing strings will be tested to .22 psi/ft or 1,500 psi, whichever is greater but not exceeding 70% of yield strength of the casing, for 30 minutes, prior to drilling out 13-3/8" and 9-5/8" casing. Rams and hydraulically operated remote choke line valve will be function tested daily at a minimum.

4) Remote valve for BOP rams, HCR, and choke shall be placed in a location that is readily available to the driller. The remote BOP valve shall be capable of closing and opening the rams.

5) Manual locking devices (hand wheels) shall be intalled on rams. A valve will be installed on the annular preventer's closing line as close as possible to the preventer to act as a locking device.The valve will be maintained in the open position and shall only be closed when the there is no power to the accumulator.

FLUIDS AND SOLIDS CONTROL PROGRAM:

Fluid Measurement: Pumps shall be equipped with stroke counters with displays in the dog-house. Slow pump speed shall be recorded daily and after mudding up, at a minimum, on the drilling report. A Pit Volume Totalizer will be installed and the readout will be displayed in the dog-house. Gas-detecting equipment will be installed at the shakers, and readouts will be available in the dog-house and the in the geologist's work-station (if geologist or mud-logger is on-site).

Closed-Loop System: A fully, closed-loop system will be utilized. The system will consist of above-ground piping and above-ground storage tanks and bins. The system will not entail any earthen pits, below-grade storage, or drying pads. All equipment will be disassembled and removed from the site when drilling operations cease. The system will be capable of storing all fluids and generated cuttings and of preventing uncontrolled releases of the same. The system will be operated in an efficient manner to allow the recycling and reuse of as much fluid as possible and to minimimize the amount of fluids and solids that require disposal.

Fluid Disposal : Fluids that cannot be reused, recycled, or returned to the supplier will be hauled to and disposed of at an approved disposal site (Industrial Ecosystem, Inc. or Envirotech, Inc.).

Solids Disposal : Drilling solids will be stored (until haul-off) on-site in separate containers with no other waste, debris, or garbage products. Waste solids will be hauled to and disposed of at an approved disposal site (Industrial Ecosystem, Inc. or Envirotech, Inc.).

Fluid Program: See "Detailed Drilling Plan" section for specifics.

DETAILED DRILLING PLAN:

SURFACE: ***Drill vertically to casing setting depth (plus necessary rathole), run casing, cement casing to surface.***

0 ft (MD)	**to**	**350 ft (MD)**	**Hole Section Length:**	**350 ft**
0 ft (TVD)	**to**	**350 ft (TVD)**	**Casing Required:**	**350 ft**

Note: Surface hole may be drilled, cased, and cemented with a smaller rig in advance of the drilling rig.

Fluid:

Type	MW (ppg)	FL (mL/30 min)	PV (cp)	YP (lb/100 sqft)	pH	Comments
Fresh Water	8.4	N/C	2 - 8	2 - 12	9.0	Spud mud

Hole Size: 17-1/2"

Bit / Motor: Mill Tooth or PDC, no motor

MWD / Survey: No MWD, deviation survey

Logging: None

Casing Specs:

	Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	13.375	54.5	J-55	BTC	1,130	2,730	853,000	909,000
Loading					153	525	116,634	116,634
Min. S.F.					**7.39**	**5.20**	**7.31**	**7.79**

Assumptions: Collapse: fully evacuated casing with 8.4 ppg equivalent external pressure gradient
Burst: maximum anticipated surface pressure with 9.5 ppg fluid inside casing while drilling intermediate hole and 8.4 ppg equivalent external pressure gradient
Tension: buoyed weight in 8.4 ppg fluid with 100,000 lbs over-pull

MU Torque (ft lbs): *Minumum: N/A Optimum: N/A Maximum: N/A*

Make-up as per API Buttress Connection running procedure.

Casing Summary: Float shoe, 1 jt casing, float collar, casing to surface

Centralizers: 2 centralizers per jt stop-banded 10' from each collar on bottom 3 jts, 1 centralizer per 2 jts to surface

Cement:

Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	Hole Cap. (cuft/ft)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Class G	15.8	1.174	5.15	0.6946	100%	0	414

Calculated cement volumes assume gauge hole and the excess noted in table
Halliburton HALCEM surface cementing blend

Notify NMOCD & BLM if cement is not circulated to surface. Cement must achieve 500 psi compressive strength before drilling out.

INTERMEDIATE: ***Drill as per directional plan to casing setting depth, run casing, cement casing to surface.***

350 ft (MD)	to	2,416 ft (MD)	Hole Section Length:	2,066 ft
350 ft (TVD)	to	2,406 ft (TVD)	Casing Required:	2,416 ft

Fluid:	Type	MW (ppg)	FL (mL/30 min)	PV (cp)	YP (lb/100 sqft)	pH	Comments
	LSND (KCl)	8.8 - 9.5	20	8 - 14	8 - 14	9.0 - 9.5	

Hole Size: 12-1/4"

Bit / Motor: PDC w/mud motor

MWD / Survey: MWD Survey with inclination and azimuth survey (every 100' at a minimum), GR optional

Logging: None

Pressure Test: NU BOPE and test (as noted above); pressure test 13-3/8" casing to **1,500** psi for 30 minutes.

Casing Specs:		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	9.625	36.0	J-55	LTC	2,020	3,520	564,000	453,000
Loading					1,051	1,018	175,847	175,847
Min. S.F.					**1.92**	**3.46**	**3.21**	**2.58**

Assumptions: Collapse: fully evacuated casing with 8.4 ppg equivalent external pressure gradient
Burst: maximum anticipated surface pressure with 9.5 ppg fluid inside casing while drilling production hole and 8.4 ppg equivalent external pressure gradient
Tension: buoyed weight in 8.4 ppg fluid with 100,000 lbs over-pull

MU Torque (ft lbs): *Minumum: 3,400 Optimum: 4,530 Maximum: 5,660*

Casing Summary: Float shoe, 1 jt casing, float collar, casing to surface

Centralizers: 2 centralizers per jt stop-banded 10' from each collar on bottom 3 jts, 1 centralizer per 2 jts to surface

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	G:POZ Blend	12.3	1.987	10.16	70%	0	528
Tail	Class G	15.8	1.148	4.98	20%	1,916	164

Annular Capacity	0.3627	cuft/ft	*9-5/8" casing x 13-3/8" casing annulus*
	0.3132	cuft/ft	*9-5/8" casing x 12-1/4" hole annulus*

Calculated cement volumes assume gauge hole and the excess noted in table
Halliburton ECONOCEM & HALCEM cementing blend

Notify NMOCD & BLM if cement is not circulated to surface. Cement must achieve 500 psi compressive strength before drilling out.

PRODUCTION: ***Drill to TD following directional plan, run casing, cement casing to surface.***

2,416 ft (MD)	to	10,194 ft (MD)	Hole Section Length:	7,778 ft
2,406 ft (TVD)	to	4,146 ft (TVD)	Casing Required:	10,194 ft

Estimated KOP:	3,543	ft (MD)	3,501	ft (TVD)
Estimated Landing Point (P.O.E.):	4,630	ft (MD)	4,101	ft (TVD)
Estimated Lateral Length:	5,564	ft (MD)		

Fluid:	Type	MW (ppg)	FL (mL/30')	PV (cp)	YP (lb/100 sqft)	pH	Comments
	LSND (FW)	8.8 - 9.5	20	8 - 14	8 - 14	9.0 - 9.5	OBM as contingency

Hole Size: 8-1/2"
Bit / Motor: PDC w/mud motor
MWD / Survey: MWD with GR, inclination, and azimuth (survey every joint from KOP to Landing Point and survey every 100' minimum before KOP and after Landing Point)
Logging: GR MWD for entire section, no mud-log or cuttings sampling, no OH WL logs
Pressure Test: NU BOPE and test (as noted above); pressure test 9-5/8" casing to **1,500** psi for 30 minutes.

Casing Specs:	Size (in)	Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	5.500	17.0	P-110	LTC	7,460	10,640	546,000	445,000
Loading					2,048	8,888	249,540	249,540
Min. S.F.					**3.64**	**1.20**	**2.19**	**1.78**

Assumptions: Collapse: fully evacuated casing with 9.5 ppg fluid in the annulus (floating casing during running)
Burst: 8,500 psi maximum surface treating pressure with 10.2 ppg equivalent mud weight sand laden fluid with 8.4 ppg equivalent external pressure gradient
Tension: buoyed weight in 9.0 ppg fluid with 100,000 lbs over-pull

MU Torque (ft lbs): *Minumum: 3,470 Optimum: 4,620 Maximum: 5,780*

Casing Summary: Float shoe, 1 jt casing, float collar, 1 jt casing, float collar, 1 jt casing, toe-intitiation sleeve, 20' marker joint, toe-initiation sleeve, casing to KOP with 20' marker joints spaced evenly in lateral every 2,000', floatation sub, casing to surface. **The toe-initiation sleeves must be positioned INSIDE the 330' unit setback.**

Centralizers: *Centralizer count and placement may be adjusted based on well conditions and as-drilled surveys.*
Lateral: 1 centralizer per joint
Curve: 1 centralizer per joint from landing point to KOP
KOP to surf: 1 centralizer per 2 joints

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	G:POZ blend	12.4	1.907	9.981	50%	0	745
Tail	G:POZ blend	13.3	1.360	5.999	10%	3,714	1,201

Annular Capacity	0.2691	cuft/ft	*5-1/2" casing x 9-5/8" casing annulus*
	0.2291	cuft/ft	*5-1/2" casing x 8-1/2" hole annulus*

Calculated cement volumes assume gauge hole and the excess noted in table
Halliburton ECONOCEM & EXTENDACEM cementing blend
Notify NMOCD & BLM if cement is not circulated to surface.

Note: The lateral may be drilled outside the applicaple unit setback to maximize the length of the completed interval and to maximize resource recovery. If the well is drilled outside the setback, the toe initiation sleeve(s) and all perforations will be placed inside the setback. An unorthodox location application is not required because the completed interval will be entirely within the setback as defined and allowed by NMAC 19.15.16.7B(1), NMAC 19.15.16.14B(2), NMAC 19.15.16.15B(2) . W Lybrook Unit Order Number is R-14051.

FINISH WELL: ***ND BOP, cap well, RDMO.***

COMPLETION AND PRODUCTION PLAN:

Frac: 30 plug-and-perf stages with 180,000 bbls slickwater fluid and 8,000,000 lbs of proppant (estimated)
Flowback: Flow back through production tubing as pressures allow (ESP may be used for load recovery assitance)
Production: Produce through production tubing via gas-lift into permanent production and storage facilities

ESTIMATED START DATES:

Drilling: TBD
Completion: TBD
Production: TBD

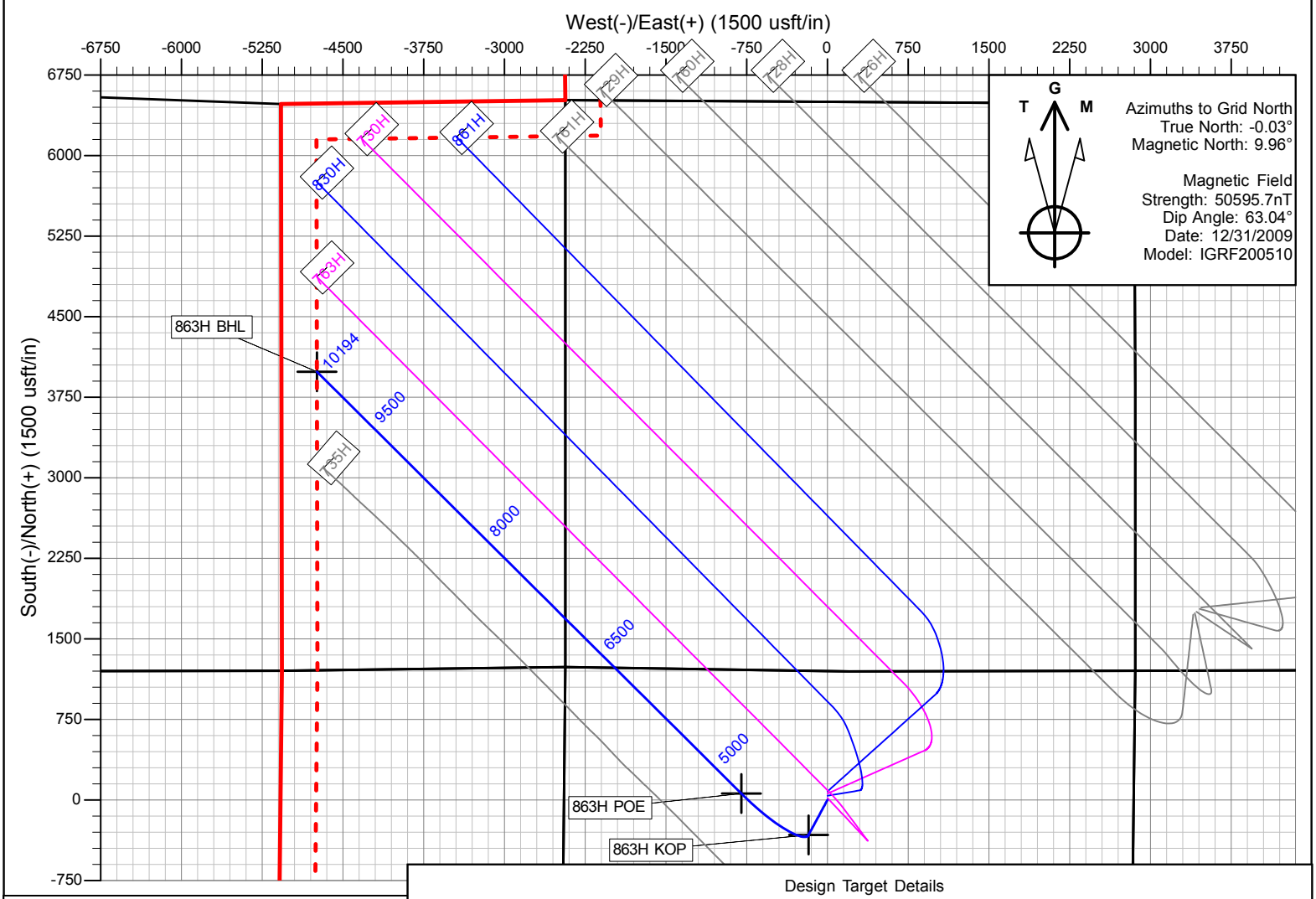
Prepared by: **Alec Bridge** **1/21/2020**

Enduring Resources LLC

Directional Drilling Plan
Plan View & Section View

W Lybrook Unit 863H

San Juan County, New Mexico
T23N - R09W - Sec.27 - Lot C
Surface Latitude: 36.201847°N
Surface Longitude: 107.776801°W
Ground Level: 6641.0
Reference Elevation: KB @ 6666.0usft (Original Well Elev)

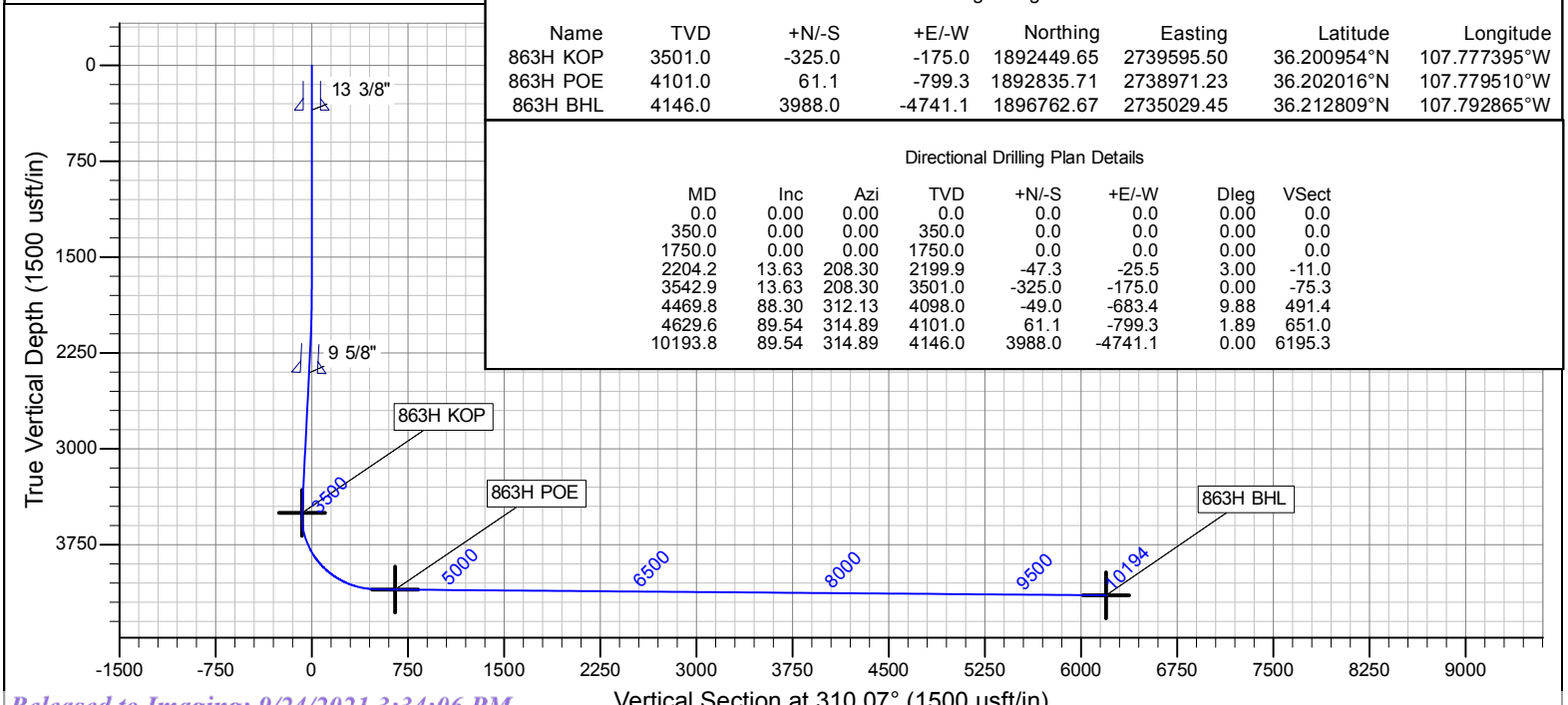


Design Target Details

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
863H KOP	3501.0	-325.0	-175.0	1892449.65	2739595.50	36.200954°N	107.777395°W
863H POE	4101.0	61.1	-799.3	1892835.71	2738971.23	36.202016°N	107.779510°W
863H BHL	4146.0	3988.0	-4741.1	1896762.67	2735029.45	36.212809°N	107.792865°W

Directional Drilling Plan Details

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0
350.0	0.00	0.00	350.0	0.0	0.0	0.00	0.0
1750.0	0.00	0.00	1750.0	0.0	0.0	0.00	0.0
2204.2	13.63	208.30	2199.9	-47.3	-25.5	3.00	-11.0
3542.9	13.63	208.30	3501.0	-325.0	-175.0	0.00	-75.3
4469.8	88.30	312.13	4098.0	-49.0	-683.4	9.88	491.4
4629.6	89.54	314.89	4101.0	61.1	-799.3	1.89	651.0
10193.8	89.54	314.89	4146.0	3988.0	-4741.1	0.00	6195.3



Enduring Resources LLC

San Juan Basin - W Lybrook Unit
730H Pad
863H

Wellbore #1

Plan: Design #1

Standard Planning Report

21 January, 2020

Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well 863H
Company:	Enduring Resources LLC	**TVD Reference:**	KB @ 6666.0usft (Original Well Elev)
Project:	San Juan Basin - W Lybrook Unit	**MD Reference:**	KB @ 6666.0usft (Original Well Elev)
Site:	730H Pad	**North Reference:**	Grid
Well:	863H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project San Juan Basin - W Lybrook Unit, San Juan County, New Mexico

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

Site 730H Pad, San Juan County, New Mexico

Site Position:		**Northing:**	1,892,834.72 usft	**Latitude:**	36.202012°N
From:	Lat/Long	**Easting:**	2,739,771.06 usft	**Longitude:**	107.776799°W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.03 °

Well 863H

Well Position	**+N/-S**	-60.1 usft	**Northing:**	1,892,774.65 usft	**Latitude:**	36.201847°N
	+E/-W	-0.6 usft	**Easting:**	2,739,770.50 usft	**Longitude:**	107.776801°W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	6,641.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	10.00	63.04	50,595.65754104

Design Design #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	310.07

Plan Survey Tool Program **Date** 1/21/2020

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	10,193.8	Design #1 (Wellbore #1)	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	
350.0	0.00	0.00	350.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,750.0	0.00	0.00	1,750.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,204.2	13.63	208.30	2,199.9	-47.3	-25.5	3.00	3.00	0.00	208.30	
3,542.9	13.63	208.30	3,501.0	-325.0	-175.0	0.00	0.00	0.00	0.00	863H KOP
4,469.8	88.30	312.13	4,098.0	-49.0	-683.4	9.88	8.06	11.20	103.85	
4,629.6	89.54	314.89	4,101.0	61.1	-799.3	1.89	0.78	1.73	65.81	863H POE
10,193.8	89.54	314.89	4,146.0	3,988.0	-4,741.1	0.00	0.00	0.00	0.00	863H BHL

Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well 863H
Company:	Enduring Resources LLC	**TVD Reference:**	KB @ 6666.0usft (Original Well Elev)
Project:	San Juan Basin - W Lybrook Unit	**MD Reference:**	KB @ 6666.0usft (Original Well Elev)
Site:	730H Pad	**North Reference:**	Grid
Well:	863H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #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
231.0	0.00	0.00	231.0	0.0	0.0	0.0	0.00	0.00	0.00
Ojo Alamo									
291.0	0.00	0.00	291.0	0.0	0.0	0.0	0.00	0.00	0.00
Kirtland									
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
350.0	0.00	0.00	350.0	0.0	0.0	0.0	0.00	0.00	0.00
13 3/8"									
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
606.0	0.00	0.00	606.0	0.0	0.0	0.0	0.00	0.00	0.00
Fruitland									
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
916.0	0.00	0.00	916.0	0.0	0.0	0.0	0.00	0.00	0.00
Pictured Cliffs									
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,031.0	0.00	0.00	1,031.0	0.0	0.0	0.0	0.00	0.00	0.00
Lewis									
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
1,266.0	0.00	0.00	1,266.0	0.0	0.0	0.0	0.00	0.00	0.00
Chacra_A									
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	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,750.0	0.00	0.00	1,750.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	1.50	208.30	1,800.0	-0.6	-0.3	-0.1	3.00	3.00	0.00
1,900.0	4.50	208.30	1,899.8	-5.2	-2.8	-1.2	3.00	3.00	0.00
2,000.0	7.50	208.30	1,999.3	-14.4	-7.7	-3.3	3.00	3.00	0.00
2,100.0	10.50	208.30	2,098.0	-28.2	-15.2	-6.5	3.00	3.00	0.00
2,200.0	13.50	208.30	2,195.8	-46.5	-25.0	-10.8	3.00	3.00	0.00
2,204.2	13.63	208.30	2,199.9	-47.3	-25.5	-11.0	3.00	3.00	0.00
2,292.8	13.63	208.30	2,286.0	-65.7	-35.4	-15.2	0.00	0.00	0.00
Cliff House_Basal									
2,300.0	13.63	208.30	2,293.0	-67.2	-36.2	-15.6	0.00	0.00	0.00
2,313.3	13.63	208.30	2,306.0	-70.0	-37.7	-16.2	0.00	0.00	0.00
Menefee									
2,400.0	13.63	208.30	2,390.2	-87.9	-47.4	-20.4	0.00	0.00	0.00
2,416.2	13.63	208.30	2,406.0	-91.3	-49.2	-21.2	0.00	0.00	0.00
9 5/8"									
2,500.0	13.63	208.30	2,487.4	-108.7	-58.5	-25.2	0.00	0.00	0.00
2,600.0	13.63	208.30	2,584.6	-129.4	-69.7	-30.0	0.00	0.00	0.00
2,700.0	13.63	208.30	2,681.8	-150.2	-80.9	-34.8	0.00	0.00	0.00
2,800.0	13.63	208.30	2,779.0	-170.9	-92.0	-39.6	0.00	0.00	0.00
2,900.0	13.63	208.30	2,876.1	-191.6	-103.2	-44.4	0.00	0.00	0.00
3,000.0	13.63	208.30	2,973.3	-212.4	-114.4	-49.2	0.00	0.00	0.00

Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well 863H
Company:	Enduring Resources LLC	**TVD Reference:**	KB @ 6666.0usft (Original Well Elev)
Project:	San Juan Basin - W Lybrook Unit	**MD Reference:**	KB @ 6666.0usft (Original Well Elev)
Site:	730H Pad	**North Reference:**	Grid
Well:	863H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #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)
3,100.0	13.63	208.30	3,070.5	-233.1	-125.5	-54.0	0.00	0.00	0.00
3,200.0	13.63	208.30	3,167.7	-253.9	-136.7	-58.8	0.00	0.00	0.00
3,300.0	13.63	208.30	3,264.9	-274.6	-147.9	-63.6	0.00	0.00	0.00
3,316.6	13.63	208.30	3,281.0	-278.0	-149.7	-64.4	0.00	0.00	0.00
Point Lookout									
3,400.0	13.63	208.30	3,362.1	-295.4	-159.0	-68.4	0.00	0.00	0.00
3,500.0	13.63	208.30	3,459.3	-316.1	-170.2	-73.2	0.00	0.00	0.00
3,542.9	13.63	208.30	3,501.0	-325.0	-175.0	-75.3	0.00	0.00	0.00
3,584.1	13.24	225.77	3,541.0	-332.6	-180.7	-75.8	9.88	-0.93	42.50
Mancos									
3,600.0	13.42	232.56	3,556.5	-334.9	-183.5	-75.2	9.88	1.11	42.60
3,700.0	17.91	265.91	3,653.0	-343.1	-208.1	-61.6	9.88	4.49	33.35
3,713.7	18.85	269.04	3,666.0	-343.3	-212.4	-58.5	9.88	6.80	22.75
Gallup (MNCS_A)									
3,800.0	25.56	283.11	3,745.9	-339.3	-244.5	-31.3	9.88	7.78	16.31
3,900.0	34.31	292.40	3,832.5	-323.6	-291.7	14.9	9.88	8.75	9.28
3,954.3	39.27	295.84	3,876.0	-310.3	-321.4	46.2	9.88	9.13	6.33
MNCS_B									
4,000.0	43.51	298.20	3,910.3	-296.6	-348.2	75.6	9.88	9.27	5.18
4,074.4	50.49	301.36	3,961.0	-269.5	-395.4	129.1	9.88	9.38	4.25
MNCS_C									
4,100.0	52.91	302.30	3,976.8	-258.9	-412.4	149.0	9.88	9.45	3.67
4,142.0	56.89	303.72	4,001.0	-240.2	-441.3	183.1	9.88	9.49	3.38
MNCS_Cms									
4,200.0	62.42	305.48	4,030.3	-211.7	-482.4	232.9	9.88	9.53	3.04
4,300.0	71.99	308.15	4,069.0	-156.5	-556.1	324.8	9.88	9.57	2.67
4,400.0	81.59	310.54	4,091.8	-94.8	-631.2	422.0	9.88	9.60	2.39
4,469.8	88.30	312.13	4,098.0	-49.0	-683.4	491.4	9.88	9.62	2.28
4,500.0	88.53	312.65	4,098.8	-28.6	-705.7	521.7	1.89	0.78	1.73
4,600.0	89.31	314.38	4,100.7	40.3	-778.2	621.4	1.89	0.78	1.73
4,629.6	89.54	314.89	4,101.0	61.1	-799.3	651.0	1.89	0.78	1.73
4,700.0	89.54	314.89	4,101.6	110.7	-849.1	721.1	0.00	0.00	0.00
4,800.0	89.54	314.89	4,102.4	181.3	-920.0	820.7	0.00	0.00	0.00
4,900.0	89.54	314.89	4,103.2	251.9	-990.8	920.4	0.00	0.00	0.00
5,000.0	89.54	314.89	4,104.0	322.5	-1,061.7	1,020.0	0.00	0.00	0.00
5,100.0	89.54	314.89	4,104.8	393.0	-1,132.5	1,119.7	0.00	0.00	0.00
5,200.0	89.54	314.89	4,105.6	463.6	-1,203.3	1,219.3	0.00	0.00	0.00
5,300.0	89.54	314.89	4,106.4	534.2	-1,274.2	1,319.0	0.00	0.00	0.00
5,400.0	89.54	314.89	4,107.2	604.8	-1,345.0	1,418.6	0.00	0.00	0.00
5,500.0	89.54	314.89	4,108.0	675.3	-1,415.9	1,518.2	0.00	0.00	0.00
5,600.0	89.54	314.89	4,108.8	745.9	-1,486.7	1,617.9	0.00	0.00	0.00
5,700.0	89.54	314.89	4,109.7	816.5	-1,557.6	1,717.5	0.00	0.00	0.00
5,800.0	89.54	314.89	4,110.5	887.1	-1,628.4	1,817.2	0.00	0.00	0.00
5,900.0	89.54	314.89	4,111.3	957.6	-1,699.2	1,916.8	0.00	0.00	0.00
6,000.0	89.54	314.89	4,112.1	1,028.2	-1,770.1	2,016.5	0.00	0.00	0.00
6,100.0	89.54	314.89	4,112.9	1,098.8	-1,840.9	2,116.1	0.00	0.00	0.00
6,200.0	89.54	314.89	4,113.7	1,169.4	-1,911.8	2,215.7	0.00	0.00	0.00
6,300.0	89.54	314.89	4,114.5	1,239.9	-1,982.6	2,315.4	0.00	0.00	0.00
6,400.0	89.54	314.89	4,115.3	1,310.5	-2,053.4	2,415.0	0.00	0.00	0.00
6,500.0	89.54	314.89	4,116.1	1,381.1	-2,124.3	2,514.7	0.00	0.00	0.00
6,600.0	89.54	314.89	4,116.9	1,451.7	-2,195.1	2,614.3	0.00	0.00	0.00
6,700.0	89.54	314.89	4,117.7	1,522.2	-2,266.0	2,714.0	0.00	0.00	0.00
6,800.0	89.54	314.89	4,118.6	1,592.8	-2,336.8	2,813.6	0.00	0.00	0.00

Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well 863H
Company:	Enduring Resources LLC	**TVD Reference:**	KB @ 6666.0usft (Original Well Elev)
Project:	San Juan Basin - W Lybrook Unit	**MD Reference:**	KB @ 6666.0usft (Original Well Elev)
Site:	730H Pad	**North Reference:**	Grid
Well:	863H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #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)
6,900.0	89.54	314.89	4,119.4	1,663.4	-2,407.7	2,913.2	0.00	0.00	0.00
7,000.0	89.54	314.89	4,120.2	1,734.0	-2,478.5	3,012.9	0.00	0.00	0.00
7,100.0	89.54	314.89	4,121.0	1,804.5	-2,549.3	3,112.5	0.00	0.00	0.00
7,200.0	89.54	314.89	4,121.8	1,875.1	-2,620.2	3,212.2	0.00	0.00	0.00
7,300.0	89.54	314.89	4,122.6	1,945.7	-2,691.0	3,311.8	0.00	0.00	0.00
7,400.0	89.54	314.89	4,123.4	2,016.3	-2,761.9	3,411.5	0.00	0.00	0.00
7,500.0	89.54	314.89	4,124.2	2,086.8	-2,832.7	3,511.1	0.00	0.00	0.00
7,600.0	89.54	314.89	4,125.0	2,157.4	-2,903.5	3,610.7	0.00	0.00	0.00
7,700.0	89.54	314.89	4,125.8	2,228.0	-2,974.4	3,710.4	0.00	0.00	0.00
7,800.0	89.54	314.89	4,126.6	2,298.6	-3,045.2	3,810.0	0.00	0.00	0.00
7,900.0	89.54	314.89	4,127.4	2,369.1	-3,116.1	3,909.7	0.00	0.00	0.00
8,000.0	89.54	314.89	4,128.3	2,439.7	-3,186.9	4,009.3	0.00	0.00	0.00
8,100.0	89.54	314.89	4,129.1	2,510.3	-3,257.7	4,109.0	0.00	0.00	0.00
8,200.0	89.54	314.89	4,129.9	2,580.9	-3,328.6	4,208.6	0.00	0.00	0.00
8,300.0	89.54	314.89	4,130.7	2,651.4	-3,399.4	4,308.2	0.00	0.00	0.00
8,400.0	89.54	314.89	4,131.5	2,722.0	-3,470.3	4,407.9	0.00	0.00	0.00
8,500.0	89.54	314.89	4,132.3	2,792.6	-3,541.1	4,507.5	0.00	0.00	0.00
8,600.0	89.54	314.89	4,133.1	2,863.2	-3,612.0	4,607.2	0.00	0.00	0.00
8,700.0	89.54	314.89	4,133.9	2,933.7	-3,682.8	4,706.8	0.00	0.00	0.00
8,800.0	89.54	314.89	4,134.7	3,004.3	-3,753.6	4,806.5	0.00	0.00	0.00
8,900.0	89.54	314.89	4,135.5	3,074.9	-3,824.5	4,906.1	0.00	0.00	0.00
9,000.0	89.54	314.89	4,136.3	3,145.5	-3,895.3	5,005.7	0.00	0.00	0.00
9,100.0	89.54	314.89	4,137.2	3,216.0	-3,966.2	5,105.4	0.00	0.00	0.00
9,200.0	89.54	314.89	4,138.0	3,286.6	-4,037.0	5,205.0	0.00	0.00	0.00
9,300.0	89.54	314.89	4,138.8	3,357.2	-4,107.8	5,304.7	0.00	0.00	0.00
9,400.0	89.54	314.89	4,139.6	3,427.8	-4,178.7	5,404.3	0.00	0.00	0.00
9,500.0	89.54	314.89	4,140.4	3,498.3	-4,249.5	5,504.0	0.00	0.00	0.00
9,600.0	89.54	314.89	4,141.2	3,568.9	-4,320.4	5,603.6	0.00	0.00	0.00
9,700.0	89.54	314.89	4,142.0	3,639.5	-4,391.2	5,703.2	0.00	0.00	0.00
9,800.0	89.54	314.89	4,142.8	3,710.1	-4,462.1	5,802.9	0.00	0.00	0.00
9,900.0	89.54	314.89	4,143.6	3,780.6	-4,532.9	5,902.5	0.00	0.00	0.00
10,000.0	89.54	314.89	4,144.4	3,851.2	-4,603.7	6,002.2	0.00	0.00	0.00
10,100.0	89.54	314.89	4,145.2	3,921.8	-4,674.6	6,101.8	0.00	0.00	0.00
10,193.8	89.54	314.89	4,146.0	3,988.0	-4,741.1	6,195.3	0.00	0.00	0.00

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
863H KOP - plan hits target center - Point	0.00	0.00	3,501.0	-325.0	-175.0	1,892,449.65	2,739,595.50	36.200955°N	107.777395°W
863H POE - plan hits target center - Point	0.00	0.00	4,101.0	61.1	-799.3	1,892,835.72	2,738,971.23	36.202016°N	107.779510°W
863H BHL - plan hits target center - Point	0.00	0.00	4,146.0	3,988.0	-4,741.1	1,896,762.67	2,735,029.45	36.212809°N	107.792865°W

Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well 863H
Company:	Enduring Resources LLC	**TVD Reference:**	KB @ 6666.0usft (Original Well Elev)
Project:	San Juan Basin - W Lybrook Unit	**MD Reference:**	KB @ 6666.0usft (Original Well Elev)
Site:	730H Pad	**North Reference:**	Grid
Well:	863H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
350.0	350.0	13 3/8"	13-3/8	17-1/2
2,416.2	2,406.0	9 5/8"	9-5/8	12-1/4

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
231.0	231.0	Ojo Alamo		0.00	
291.0	291.0	Kirtland		0.00	
606.0	606.0	Fruitland		0.00	
916.0	916.0	Pictured Cliffs		0.00	
1,031.0	1,031.0	Lewis		0.00	
1,266.0	1,266.0	Chacra_A		0.00	
2,292.8	2,286.0	Cliff House_Basal		0.00	
2,313.3	2,306.0	Menefee		0.00	
3,316.6	3,281.0	Point Lookout		0.00	
3,584.1	3,541.0	Mancos		0.00	
3,713.7	3,666.0	Gallup (MNCS_A)		0.00	
3,954.3	3,876.0	MNCS_B		0.00	
4,074.4	3,961.0	MNCS_C		0.00	
4,142.0	4,001.0	MNCS_Cms		0.00	

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Farmington District Office
6251 College Blvd, Suite A
Farmington, New Mexico 87402

In Reply Refer To:
3162.3-1(NMF0110)

* ENDURING RESOURCES LLC

#863H W LYBROOK UNIT

Lease: NMNM118731
SH: NE¼NW¼ Section 27, T.23 N., R.9W.
San Juan County, New Mexico
BH: SW¼NE¼ Section 22, T.22 N., R.6 W.
San Juan County, New Mexico
***Above Data Required on Well Sign**

GENERAL REQUIREMENTS FOR OIL AND GAS OPERATIONS ON FEDERAL AND INDIAN LEASES

The following special requirements apply and are effective when **checked**:

A. ☒ Note all surface/drilling conditions of approval attached.

B. ☒ The required wait on cement (WOC) time will be a minimum of 500 psi compressive strength at 60 degrees. Blowout preventor (BOP) nipple-up operations may then be initiated

C. ☐ Test the surface casing to a minimum of _____ psi for 30 minutes.

D. ☐ Test all casing strings below the surface casing to .22 psi/ft. of casing string length or 1500 psi, whichever is greater, but not to exceed 70% of the minimum internal yield burst) for a minimum of 30 minutes.

E. ☐ Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the Bureau of Land Management, Farmington District Office, Branch of Reservoir Management, 6251 College Blvd. Suite A, Farmington, New Mexico 87402. The effective date of the agreement must be **prior** to any sales.

F. ☒ The use of co-flex hose is authorized contingent upon the following:
1. From the BOP to the choke manifold: the co-flex hose must be hobbled on both ends and saddle to prevent whip.
2. From the choke manifold to the discharge tank: the co-flex hoses must be as straight as practical, hobbled on both ends and anchored to prevent whip.
3. The co-flex hose pressure rating must be at least commensurate with approved BOPE.

I. GENERAL

A. Full compliance with all applicable laws, regulations, and Onshore Orders, with the approved Permit to drill, and with the approved Surface Use and Operations Plan is required. Lessees and/or operators are fully accountable for the actions of their contractors and subcontractors. Failure to comply with these requirements and the filing of required reports will result in strict enforcement pursuant to 43 CFR 3163.1 or 3163.2.

B. Each well shall have a well sign in legible condition from spud date to final abandonment. The sign should show the operator's name, lease serial number, or unit name, well number, location of the well, and whether lease is Tribal or Allotted, (See 43 CFR 3162.6(b)).

C. A complete copy of the approved Application for Permit to Drill, along with any conditions of approval, shall be available to authorized personnel at the drill site whenever active drilling operations are under way.

D. For Wildcat wells only, a drilling operations progress report is to be submitted, to the BLM-Field Office, weekly from the spud date until the well is completed and the Well Completion Report (Form 3160-4) is filed. The report should be on 8-1/2 x 11 inch paper, and each page should identify the well by; operator's name, well number, location and lease number.

E. As soon as practical, notice is required of all blowouts, fires and accidents involving life-threatening injuries or loss of life. (See NTL-3A).

F. Prior approval by the BLM-Authorized Office (Drilling and Production Section) is required for variance from the approved drilling program and before commencing plugging operations, plug back work casing repair work, corrective cementing operations, or suspending drilling operations indefinitely. Emergency approval may be obtained orally, but such approval is contingent upon filing of a notice of intent (on a Sundry Notice, Form 3160-5) within three business days (original and three copies of Federal leases and an original and four copies on Indian leases). **Any changes to the approved plan or any questions regarding drilling operations should be directed to BLM during regular business hours at 505-564-7600. Emergency program changes after hours should be directed to at Virgil Lucero at 505-793-1836.**

G. The Inspection and Enforcement Section (I&E), phone number (505-564-7750) is to be notified at least 24 hours in advance of BOP test, spudding, cementing, or plugging operations so that a BLM representative may witness the operations.

H. Unless drilling operations are commenced within two years, approval of the Application for Permit to Drill will expire. A written request for a two years extension may be granted if submitted prior to expiration.

I. From the time drilling operations are initiated and until drilling operations are completed, a member of the drilling crew or the tool pusher shall maintain rig surveillance at all time, unless the well is secured with blowout preventers or cement plugs.

J. If for any reason, drilling operations are suspended for more than 90 days, a written notice must be provided to this office outlining your plans for this well.

II. REPORTING REQUIREMENTS

A. For reporting purposes, all well Sundry notices, well completion and other well actions shall be referenced by the appropriate lease, communitization agreement and/or unit agreement numbers.

B. The following reports shall be filed with the BLM-Authorized Officer within 30 days after the work is completed.

1 .Original and three copies on Federal and an Original and five copies on Indian leases of Sundry Notice (Form 3150-5), giving complete information concerning.

a. Setting of each string of casing. Show size and depth of hole, grade and weight of casing, depth set, depth of any and all cementing tools that are used, amount (in cubic feet) and types of cement used, whether cement circulated to surface and all cement tops in the casing annulus, casing test method and results, and the date work was done. Show spud date on first report submitted.

b. Intervals tested, perforated (include; size, number and location of perforations), acidized, or fractured; and results obtained. Provide date work was done on well completion report and completion sundry notice.

c. Subsequent Report of Abandonment, show the manner in which the well was plugged, including depths where casing was cut and pulled, intervals (by depths) where cement plugs were replaced, and dates of the operations.

2. Well Completion Report (Form 3160-4) will be submitted with 30 days after well has been completed.

a. Initial Bottom Hole Pressure (BHP) for the producing formations. Show the BHP on the completion report. The pressure may be: 1) measured with a bottom hole bomb, or; 2) calculated based on shut in surface pressures (minimum seven day buildup) and fluid level shot.

3. Submit a cement evaluation log, if cement is not circulated to surface.

III. DRILLER'S LOG

The following shall be entered in the daily driller's log: 1) Blowout preventer pressures tests, including test pressures and results. 2) Blowout preventer tests for proper functioning, 3) Blowout prevention drills conducted, 4) Casing run, including size, grade, weight, and depth set, 5) How pipe was cemented, including amount of cement, type, whether cement circulated to surface, location of cementing tools, etc., 6) Waiting on cement time for each casing string, 7) Casing pressure tests after cementing, including test pressure and results and 8) Estimated amounts of oil and gas recovered and/or produced during drill stem test.

IV. GAS FLARING

Gas produced from this well may not be vented or flared beyond an initial, authorized test period of * Days or 50 MMCF following its (completion)(recompletion), whichever first occurs, without the prior, written approval of the authorized officer. Should gas be vented or flared without approval beyond the test period authorized above, you may be directed to shut-in the well until the gas can be captured or approval to continue venting or flaring as uneconomic is granted. You shall be required to compensate the lessor for the portion of the gas vented or flared without approval which is determined to have been avoidably lost.

*30 days, unless a longer test period is specifically approved by the authorized officer. The 30-day period will commence upon the first gas to surface.

V. SAFETY

A. All rig heating stoves are to be of the explosion-proof type.

B. Rig safety lines are to be installed.

C. Hard hats and other Personal Protective Equipment (PPE) must be utilized.

VI. CHANGE OF PLANS OR ABANDONMENT

A. Any changes of plans required in order to mitigate unanticipated conditions encountered during drilling operations, will require approval as set forth in Section 1.F.

B. If the well is dry, it is to be plugged in accordance with 43 CFR 3162.3-4, approval of the proposed plugging program is required as set forth in Section 1.F. The report should show the total depth reached, the reason for plugging, and the proposed intervals, by depths, where cement plugs are to be placed, type of plugging mud, etc. A Subsequent Report of Abandonment is required as set forth in Section II.B.1c.

C. Unless a well has been properly cased and cemented, or properly plugged, the drilling rig must not be moved from the drill site without prior approval from the BLM-Authorized Officer.

VII. PHONE NUMBERS

A. For BOPE tests, cementing, and plugging operations the phone number is 505-564-7750 and must be called 24 hours in advance in order that a BLM representative may witness the operations.

B. Emergency program changes after hours contact:

Virgil Lucero (505) 793-1836
Joe Killins (505) 564-7736

ENDURING RESOURCES IV, LLC
1050 SEVENTEENTH STREET, SUITE 2500
DENVER, COLORADO 80265

DRILLING PLAN: ***Drill, complete, and equip single lateral in the Mancos-Cms formation***

WELL INFORMATION:

Name: **W LYBROOK UNIT 863H**
API Number: *30-045*
AFE Number: *not yet assigned*
ER Well Number: *not yet assigned*
State: New Mexico
County: San Juan
Surface Elevation: 6,641 ft ASL (GL) 6,666 ft ASL (KB)
Surface Location: 27-23N-09W Sec-Twn-Rng 1,201 ft FNL 2,446 ft FWL
36.201847 ° N latitude 107.776801 ° W longitude (NAD 83)
BH Location: 21-23N-09W Sec-Twn-Rng 2,497 ft FNL 2,307 ft FEL
36.212809 ° N latitude 107.792865 ° W longitude (NAD 83)
Driving Directions: **FROM THE INTERSECTION OF US HWY 550 & US HWY 64 IN BLOOMFIELD, NM:**
South on US Hwy 550 for 38.3 miles to MM 113.4, Right (Southwest) on CR #7890 for 0.8 miles to fork, Left (South) remaining on CR #7890 for 1.3 miles to 4-way intersection, Left (Southeast) remaining on CR #7890 for 0.6 miles to fork, Right (Southwest) on CR #7890 for 0.5 miles to fork, Right (West) exiting CR #7890 onto access road for W Lybrook Unit 720H pad for 0.6 miles to fork, Left (West) onto access road for W Lybrook Unit 726H pad for 0.7 miles to fork, Left (West) for 1.4 miles to fork. Left (Southest) for 0.6 miles to W Lybrook Unit 730H Pad (wells: 730H, 763H, 830H, 861H, 863H).

GEOLOGIC AND RESERVOIR INFORMATION:

Prognosis:

Formation Tops	TVD (ft ASL)	TVD (ft KB)	MD (ft KB)	O / G / W	Pressure
Ojo Alamo	6,435	231	231	W	normal
Kirtland	6,375	291	291	W	normal
Fruitland	6,060	606	606	G, W	sub
Pictured Cliffs	5,750	916	916	G, W	sub
Lewis	5,635	1,031	1,031	G, W	normal
Chacra	5,400	1,266	1,266	G, W	normal
Cliff House	4,380	2,286	2,293	G, W	sub
Menefee	4,360	2,306	2,313	G, W	normal
Point Lookout	3,385	3,281	3,317	G, W	normal
Mancos	3,125	3,541	3,584	O,G	sub (~0.38)
Gallup (MNCS_A)	3,000	3,666	3,714	O,G	sub (~0.38)
MNCS_B	2,790	3,876	3,954	O,G	sub (~0.38)
MNCS_C	2,705	3,961	4,074	O,G	sub (~0.38)
MNCS_Cms	2,665	4,001	4,142	O,G	sub (~0.38)
P.O.E. TARGET	**2,565**	**4,101**	**4,630**	**O,G**	**sub (~0.38)**
PROJECTED TD	**2,520**	**4,146**	**10,194**	**O,G**	**sub (~0.38)**

Surface: Nacimiento
Oil & Gas Zones: Several gas bearing zones will be encountered; target formation is the Gallup
Pressure: Normal (0.43 psi/ft) or sub-normal pressure gradients anticipated in all formations
Max. pressure gradient: 0.43 psi/ft Evacuated hole gradient: 0.22 psi/ft
Maximum anticipated BH pressure, assuming maximum pressure gradient: 1,790 psi
Maximum anticipated surface pressure, assuming partially evacuated hole: 880 psi

Temperature: **Maximum anticipated BHT is 125° F or less**

H_2S INFORMATION:

H_2S Zones: Encountering hydrogen-sulfide bearing zones is **NOT** anticipated.

Safety: Sensors and alarms will be placed in the substructure, on the rig floor, above the pits, and at the shakers.

LOGGING, CORING, AND TESTING:

Mud Logs: None planned; remote geo-steering from drill out of 9-5/8" casing to TD; gas detection from drillout of 13-3/8" casing to TD.

MWD / LWD: Gamma Ray from drillout of 13-3/8" casing to TD

Open Hole Logs: None planned

Testing: None planned

Coring: None planned

Cased Hole Logs: CBL on 5-1/2" casing from deepest free-fall depth to surface

DRILLING RIG INFORMATION:

Contractor: Aztec

Rig No.: 1000

Draw Works: E80 AC 1,500 hp

Mast: Hyduke Triple (136 ft, 600,000 lbs, 10 lines)

Top Drive: NOV IDS-350PE (350 ton)

Prime Movers: 4 - GE Jenbacher Natural Gas Generator

Pumps: 2 - RS F-1600 (7,500 psi)

BOPE 1: Cameron single & double gate rams (13-5/8", 3,000 psi)

BOPE 2: Cameron annular (13-5/8", 5,000 psi)

Choke Cameron (4", 10,000 psi)

KB-GL (ft): 25

NOTE: A different rig may be used to drill the well depending on rig availability

BOPE REQUIREMENTS:

See attached diagram for details regarding BOPE specifications and configuration.

1) Rig will be equipped with upper and lower kelly cocks with handles available.

2) Inside BOP and TIW valves will be available to use on all sizes and threads of drill pipe used while drilling the well.

2) BOP accumulator will have enough capacity to open the HCR valve, close all rams and annular preventer, and retain minimum of 200 psi above precharge on the closing manifold without the use of closing pumps. The fluid reservoir capacity shall be at least double the usable fluid volume of the accumulator system capacity, and the fluid level shall be maintained at manufacturer's recommendation. There will be two additional sources of power for the closing pumps (electric and air). Sufficient nitrogen bottles will be available and will be recharged when pressure falls below manufacturer's recommended minimum.

3) BOP testing shall be conducted (a) when initially installed, (b) whenever any seal is broken or repaired, (c) if the time since the previous test exceeds 30 days. Tests will be conducted using a test plug. BOP ram preventers will be tested to 3,000 psig for 10 minutes, and the annular preventer will be tested to 1,500 psi for 10 minutes. Ram and annular preventers will be tested to 250 psi for 5 minutes. Additionally, BOP and casing strings will be tested to .22 psi/ft or 1,500 psi, whichever is greater but not exceeding 70% of yield strength of the casing, for 30 minutes, prior to drilling out 13-3/8" and 9-5/8" casing. Rams and hydraulically operated remote choke line valve will be function tested daily at a minimum.

4) Remote valve for BOP rams, HCR, and choke shall be placed in a location that is readily available to the driller. The remote BOP valve shall be capable of closing and opening the rams.

5) Manual locking devices (hand wheels) shall be intalled on rams. A valve will be installed on the annular preventer's closing line as close as possible to the preventer to act as a locking device.The valve will be maintained in the open position and shall only be closed when the there is no power to the accumulator.

FLUIDS AND SOLIDS CONTROL PROGRAM:

Fluid Measurement: Pumps shall be equipped with stroke counters with displays in the dog-house. Slow pump speed shall be recorded daily and after mudding up, at a minimum, on the drilling report. A Pit Volume Totalizer will be installed and the readout will be displayed in the dog-house. Gas-detecting equipment will be installed at the shakers, and readouts will be available in the dog-house and the in the geologist's work-station (if geologist or mud-logger is on-site).

Closed-Loop System: A fully, closed-loop system will be utilized. The system will consist of above-ground piping and above-ground storage tanks and bins. The system will not entail any earthen pits, below-grade storage, or drying pads. All equipment will be disassembled and removed from the site when drilling operations cease. The system will be capable of storing all fluids and generated cuttings and of preventing uncontrolled releases of the same. The system will be operated in an efficient manner to allow the recycling and reuse of as much fluid as possible and to minimimize the amount of fluids and solids that require disposal.

Fluid Disposal : Fluids that cannot be reused, recycled, or returned to the supplier will be hauled to and disposed of at an approved disposal site (Industrial Ecosystem, Inc. or Envirotech, Inc.).

Solids Disposal : Drilling solids will be stored (until haul-off) on-site in separate containers with no other waste, debris, or garbage products. Waste solids will be hauled to and disposed of at an approved disposal site (Industrial Ecosystem, Inc. or Envirotech, Inc.).

Fluid Program: See "Detailed Drilling Plan" section for specifics.

DETAILED DRILLING PLAN:

SURFACE: ***Drill vertically to casing setting depth (plus necessary rathole), run casing, cement casing to surface.***

0 ft (MD)	**to**	**350 ft (MD)**	**Hole Section Length:**	**350 ft**
0 ft (TVD)	**to**	**350 ft (TVD)**	**Casing Required:**	**350 ft**

Note: Surface hole may be drilled, cased, and cemented with a smaller rig in advance of the drilling rig.

Fluid:

Type	MW (ppg)	FL (mL/30 min)	PV (cp)	YP (lb/100 sqft)	pH	Comments
Fresh Water	8.4	N/C	2 - 8	2 - 12	9.0	Spud mud

Hole Size: 17-1/2"

Bit / Motor: Mill Tooth or PDC, no motor

MWD / Survey: No MWD, deviation survey

Logging: None

Casing Specs:

	Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	13.375	54.5	J-55	BTC	1,130	2,730	853,000	909,000
Loading					153	525	116,634	116,634
Min. S.F.					**7.39**	**5.20**	**7.31**	**7.79**

Assumptions: Collapse: fully evacuated casing with 8.4 ppg equivalent external pressure gradient
Burst: maximum anticipated surface pressure with 9.5 ppg fluid inside casing while drilling intermediate hole and 8.4 ppg equivalent external pressure gradient
Tension: buoyed weight in 8.4 ppg fluid with 100,000 lbs over-pull

MU Torque (ft lbs): *Minumum: N/A Optimum: N/A Maximum: N/A*

Make-up as per API Buttress Connection running procedure.

Casing Summary: Float shoe, 1 jt casing, float collar, casing to surface

Centralizers: 2 centralizers per jt stop-banded 10' from each collar on bottom 3 jts, 1 centralizer per 2 jts to surface

Cement:

Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	Hole Cap. (cuft/ft)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Class G	15.8	1.174	5.15	0.6946	100%	0	414

Calculated cement volumes assume gauge hole and the excess noted in table
Halliburton HALCEM surface cementing blend

Notify NMOCD & BLM if cement is not circulated to surface. Cement must achieve 500 psi compressive strength before drilling out.

INTERMEDIATE: ***Drill as per directional plan to casing setting depth, run casing, cement casing to surface.***

350 ft (MD)	to	2,416 ft (MD)	Hole Section Length:	2,066 ft
350 ft (TVD)	to	2,406 ft (TVD)	Casing Required:	2,416 ft

Fluid:	Type	MW (ppg)	FL (mL/30 min)	PV (cp)	YP (lb/100 sqft)	pH	Comments
	LSND (KCl)	8.8 - 9.5	20	8 - 14	8 - 14	9.0 - 9.5	

Hole Size: 12-1/4"

Bit / Motor: PDC w/mud motor

MWD / Survey: MWD Survey with inclination and azimuth survey (every 100' at a minimum), GR optional

Logging: None

Pressure Test: NU BOPE and test (as noted above); pressure test 13-3/8" casing to **1,500** psi for 30 minutes.

Casing Specs:		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	9.625	36.0	J-55	LTC	2,020	3,520	564,000	453,000
Loading					1,051	1,018	175,847	175,847
Min. S.F.					**1.92**	**3.46**	**3.21**	**2.58**

Assumptions: Collapse: fully evacuated casing with 8.4 ppg equivalent external pressure gradient
Burst: maximum anticipated surface pressure with 9.5 ppg fluid inside casing while drilling production hole and 8.4 ppg equivalent external pressure gradient
Tension: buoyed weight in 8.4 ppg fluid with 100,000 lbs over-pull

MU Torque (ft lbs): *Minumum: 3,400 Optimum: 4,530 Maximum: 5,660*

Casing Summary: Float shoe, 1 jt casing, float collar, casing to surface

Centralizers: 2 centralizers per jt stop-banded 10' from each collar on bottom 3 jts, 1 centralizer per 2 jts to surface

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	G:POZ Blend	12.3	1.987	10.16	70%	0	528
Tail	Class G	15.8	1.148	4.98	20%	1,916	164

Annular Capacity	0.3627	cuft/ft	*9-5/8" casing x 13-3/8" casing annulus*
	0.3132	cuft/ft	*9-5/8" casing x 12-1/4" hole annulus*

Calculated cement volumes assume gauge hole and the excess noted in table
Halliburton ECONOCEM & HALCEM cementing blend

Notify NMOCD & BLM if cement is not circulated to surface. Cement must achieve 500 psi compressive strength before drilling out.

PRODUCTION: ***Drill to TD following directional plan, run casing, cement casing to surface.***

2,416 ft (MD)	to	10,194 ft (MD)	Hole Section Length:	7,778 ft
2,406 ft (TVD)	to	4,146 ft (TVD)	Casing Required:	10,194 ft

Estimated KOP:	3,543	ft (MD)	3,501	ft (TVD)
Estimated Landing Point (P.O.E.):	4,630	ft (MD)	4,101	ft (TVD)
Estimated Lateral Length:	5,564	ft (MD)		

Fluid:	Type	MW (ppg)	FL (mL/30')	PV (cp)	YP (lb/100 sqft)	pH	Comments
	LSND (FW)	8.8 - 9.5	20	8 - 14	8 - 14	9.0 - 9.5	OBM as contingency

Hole Size: 8-1/2"
Bit / Motor: PDC w/mud motor
MWD / Survey: MWD with GR, inclination, and azimuth (survey every joint from KOP to Landing Point and survey every 100' minimum before KOP and after Landing Point)
Logging: GR MWD for entire section, no mud-log or cuttings sampling, no OH WL logs
Pressure Test: NU BOPE and test (as noted above); pressure test 9-5/8" casing to **1,500** psi for 30 minutes.

Casing Specs:	Size (in)	Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	5.500	17.0	P-110	LTC	7,460	10,640	546,000	445,000
Loading					2,048	8,888	249,540	249,540
Min. S.F.					**3.64**	**1.20**	**2.19**	**1.78**

Assumptions: Collapse: fully evacuated casing with 9.5 ppg fluid in the annulus (floating casing during running)
Burst: 8,500 psi maximum surface treating pressure with 10.2 ppg equivalent mud weight sand laden fluid with 8.4 ppg equivalent external pressure gradient
Tension: buoyed weight in 9.0 ppg fluid with 100,000 lbs over-pull

MU Torque (ft lbs): *Minumum: 3,470 Optimum: 4,620 Maximum: 5,780*

Casing Summary: Float shoe, 1 jt casing, float collar, 1 jt casing, float collar, 1 jt casing, toe-intitiation sleeve, 20' marker joint, toe-initiation sleeve, casing to KOP with 20' marker joints spaced evenly in lateral every 2,000', floatation sub, casing to surface. **The toe-initiation sleeves must be positioned INSIDE the 330' unit setback.**

Centralizers: *Centralizer count and placement may be adjusted based on well conditions and as-drilled surveys.*
Lateral: 1 centralizer per joint
Curve: 1 centralizer per joint from landing point to KOP
KOP to surf: 1 centralizer per 2 joints

Cement:	**Type**	**Weight (ppg)**	**Yield (cuft/sk)**	**Water (gal/sk)**	**% Excess**	**Planned TOC (ft MD)**	**Total Cmt (sx)**
Lead	G:POZ blend	12.4	1.907	9.981	50%	0	745
Tail	G:POZ blend	13.3	1.360	5.999	10%	3,714	1,201

Annular Capacity	0.2691	cuft/ft	*5-1/2" casing x 9-5/8" casing annulus*
	0.2291	cuft/ft	*5-1/2" casing x 8-1/2" hole annulus*

Calculated cement volumes assume gauge hole and the excess noted in table
Halliburton ECONOCEM & EXTENDACEM cementing blend
Notify NMOCD & BLM if cement is not circulated to surface.

Note: The lateral may be drilled outside the applicaple unit setback to maximize the length of the completed interval and to maximize resource recovery. If the well is drilled outside the setback, the toe initiation sleeve(s) and all perforations will be placed inside the setback. An unorthodox location application is not required because the completed interval will be entirely within the setback as defined and allowed by NMAC 19.15.16.7B(1), NMAC 19.15.16.14B(2), NMAC 19.15.16.15B(2) . W Lybrook Unit Order Number is R-14051.

FINISH WELL: ***ND BOP, cap well, RDMO.***

COMPLETION AND PRODUCTION PLAN:

Frac: 30 plug-and-perf stages with 180,000 bbls slickwater fluid and 8,000,000 lbs of proppant (estimated)
Flowback: Flow back through production tubing as pressures allow (ESP may be used for load recovery assitance)
Production: Produce through production tubing via gas-lift into permanent production and storage facilities

ESTIMATED START DATES:

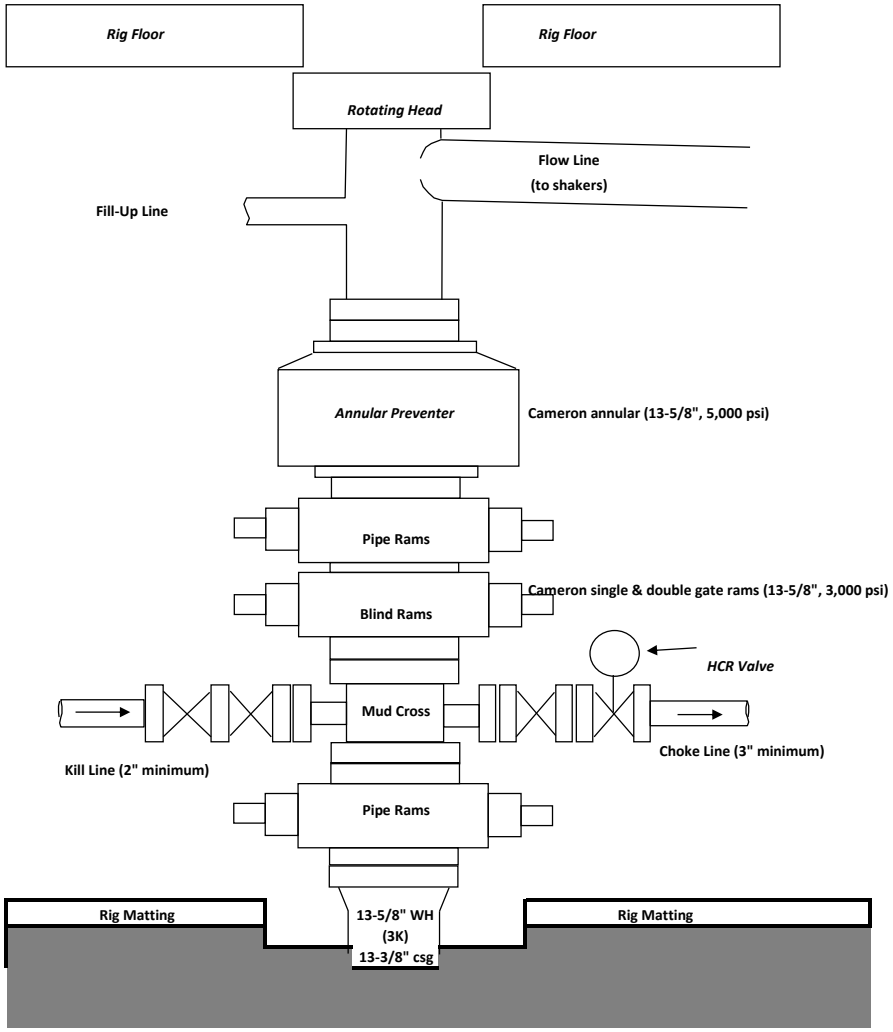
Drilling: TBD
Completion: TBD
Production: TBD

Prepared by: **Alec Bridge** **1/21/2020**

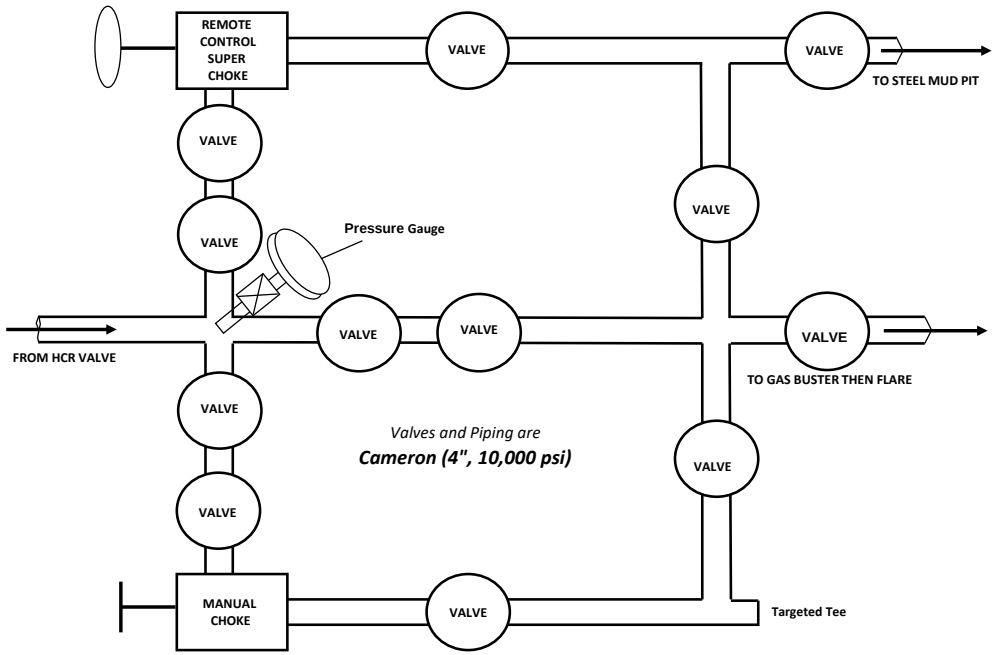
BOPE & CHOKE MANIFOLD DIAGRAMS

NOTE: EXACT BOPE AND CHOKE CONFIRGURATION AND COMPONENTS MAY DIFFER FROM WHAT IS DEPICTED IN THE DIGRAMS BELOW DEPENDING ON THE RIG AND ITS ASSOCIATED EQUIPMENT. RAM PREVENTERS, ANNULAR PREVENTERS, AND CHOKE MANIFOLD AND COMPONENTS WILL BE RATED TO 3,000 PSI MINIMUM.

BOPE



CHOKE MANIFOLD



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

COMMENTS

Action 51766

COMMENTS

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way, Suite 525 Centennial, CO 80111	OGRID: 372286
	Action Number: 51766
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

COMMENTS

Created By	Comment	Comment Date
kpickford	KP GEO Review 9/24/2021	9/24/2021

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CONDITIONS

Action 51766

CONDITIONS

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way, Suite 525 Centennial, CO 80111	OGRID: 372286
	Action Number: 51766
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
kpickford	Notify OCD 24 hours prior to casing & cement	9/24/2021
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104	9/24/2021
kpickford	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	9/24/2021
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing	9/24/2021
kpickford	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	9/24/2021