

Form 3160-3  
(June 2015)FORM APPROVED  
OMB No. 1004-0137  
Expires: January 31, 2018

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
**APPLICATION FOR PERMIT TO DRILL OR REENTER**

1a. Type of work: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		5. Lease Serial No.  6. If Indian, Allottee or Tribe Name  7. If Unit or CA Agreement, Name and No.  8. Lease Name and Well No.
2. Name of Operator		9. API Well No. <b>30-045-38278</b>
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.<br>2. A Drilling Plan.<br>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).<br>5. Operator certification.<br>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.

(Continued on page 2)

\*(Instructions on page 2)



District I  
811 S. First Street, Artesia, NM 88210  
Phone: (575) 393-6161 Fax: (575) 393-0720

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

Submit one copy to  
Appropriate District Office

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number <b>30-045-38278</b>	<sup>2</sup> Pool Code 98157	<sup>3</sup> Pool Name LYBROOK MANCOS W
<sup>4</sup> Property Code 332891	<sup>5</sup> Property Name GREATER LYBROOK UNIT	<sup>6</sup> Well Number 050H
<sup>7</sup> GRID No. 372286	<sup>8</sup> Operator Name ENDURING RESOURCES, LLC	<sup>9</sup> Elevation 6747'

<sup>10</sup> Surface Location

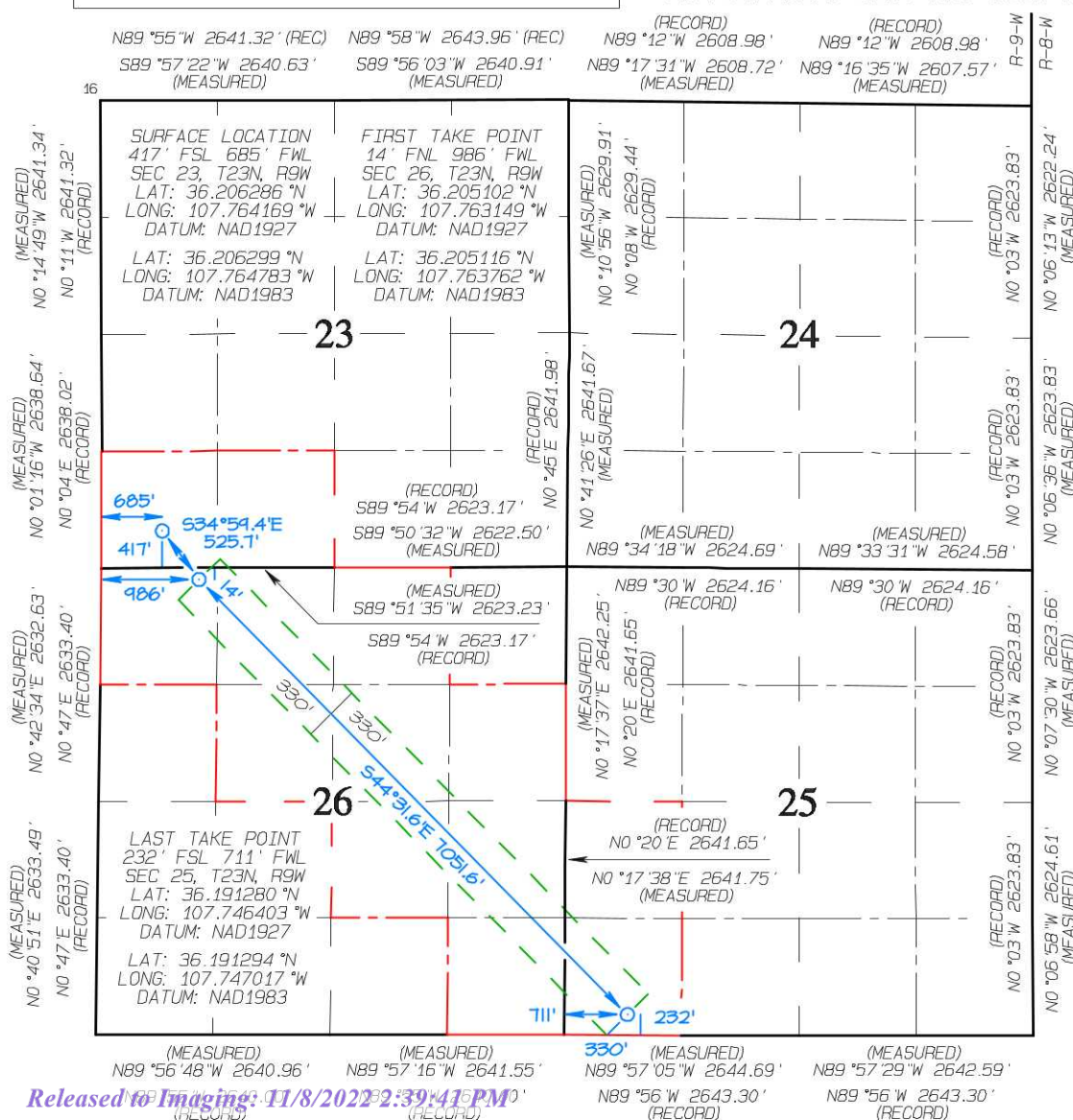
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	23	23N	9W		417	SOUTH	685	WEST	SAN JUAN

<sup>11</sup> 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
M	25	23N	9W		232	SOUTH	711	WEST	SAN JUAN

<sup>12</sup> Dedicated Acres 520.0	S/2 SW/4 - Section 23 W/2 SW/4 - Section 25 N/2 NW/4, SE/4 NW/4 W/2 NE/4, SE/4 NE/4 N/2 SE/4, SE/4 SE/4 - Section 26	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No. R-22081
--	--	-------------------------------	----------------------------------	------------------------------------

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 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.

Khem Suthiwan 6/20/2022  
Signature Date  
Khem Suthiwan  
Printed Name  
ksuthiwan@enduringresources.com  
E-mail Address

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

Date Revised: JUNE 7, 2022  
Date of Survey: MAY 20, 2021

Signature and Seal of Professional Surveyor



**JASON C. EDWARDS**  
Certificate Number 15269



District I  
 811 S. First Street, Artesia, NM 88210  
 Phone: (575) 393-6161 Fax: (575) 393-0720

District II  
 1000 Rio Brazos Road, Aztec, NM 87410  
 Phone: (505) 334-6178 Fax: (505) 334-6170

District III  
 1220 S. St. Francis Drive, Santa Fe, NM 87505  
 Phone: (505) 476-3460 Fax: (505) 476-3462

District IV  
 1220 S. St. Francis Drive, Santa Fe, NM 87505  
 Phone: (505) 476-3460 Fax: (505) 476-3462

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

Submit one copy to  
Appropriate District Office

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number		<sup>2</sup> Pool Code 98157	<sup>3</sup> Pool Name LYBROOK MANCOS W	
<sup>4</sup> Property Code 332891	<sup>5</sup> Property Name GREATER LYBROOK UNIT			<sup>6</sup> Well Number 050H
<sup>7</sup> GRID No. 372286	<sup>8</sup> Operator Name ENDURING RESOURCES, LLC			<sup>9</sup> Elevation 6747 '

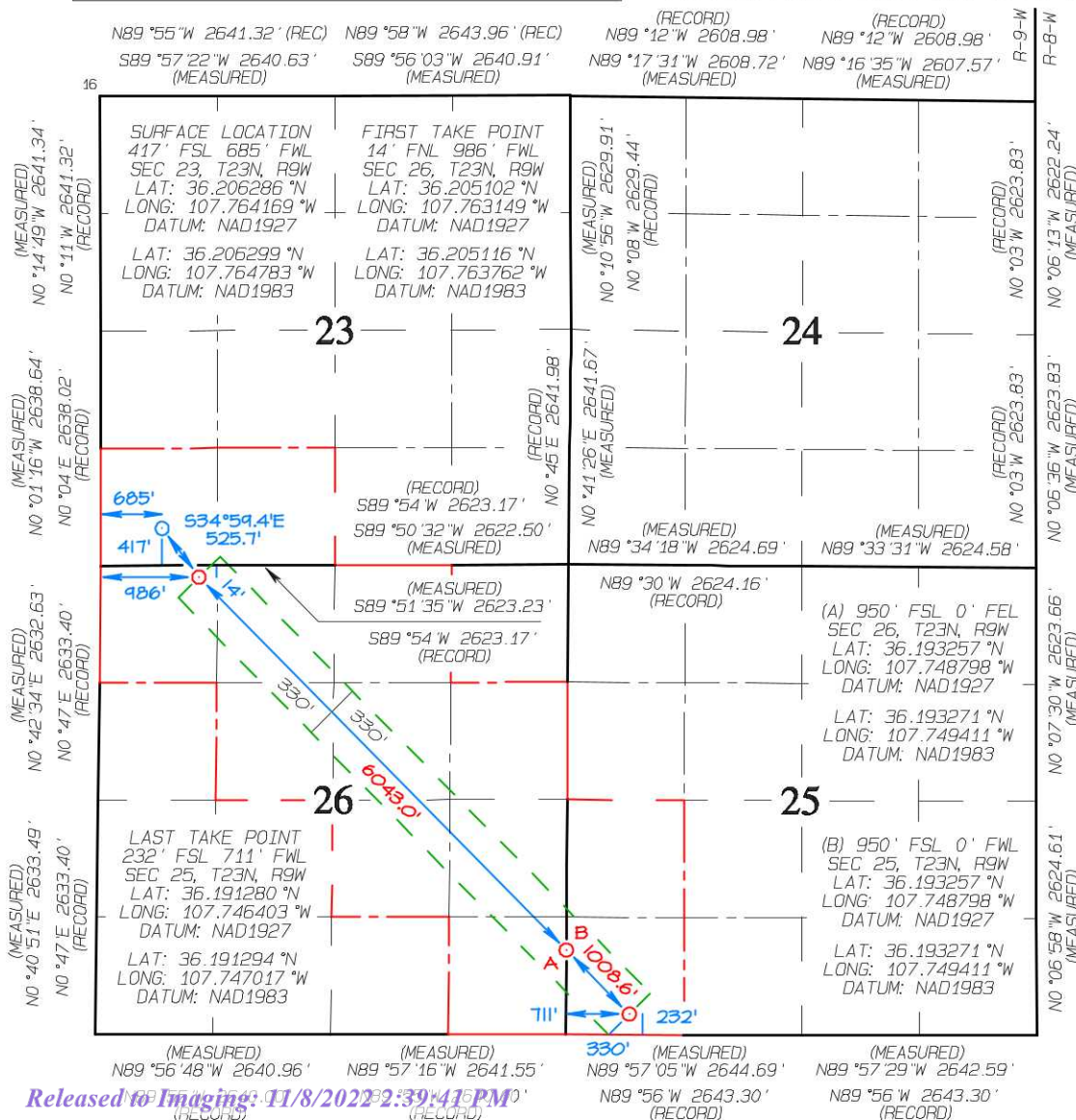
<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	23	23N	9W		417	SOUTH	685	WEST	SAN JUAN

<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no. M	Section 25	Township 23N	Range 9W	Lot Idn	Feet from the 232	North/South line SOUTH	Feet from the 711	East/West line WEST	County SAN JUAN
<sup>12</sup> Dedicated Acres 520.0 S/2 SW/4 - Section 23 W/2 SW/4 - Section 25					<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No. R-22081		

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: JUNE 7, 2022  
Date of Survey: MAY 20, 2021

Signature and Seal of Professional Surveyor



JASON C. EDWARDS

Certificate Number 15269

**Directions from the Intersection of US Hwy 550 & US Hwy 64**  
**in Bloomfield, NM to Enduring Resources, LLC Greater Lybrook Unit #050H**  
**417' FSL & 685' FWL, Section 23, T23N, R9W, N.M.P.M., San Juan County, NM**

**Latitude: 36.206299°N Longitude: 107.764783°W Datum: NAD1983**

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 38.3 miles to Mile Marker 113.4;

Go Right (South-westerly) on County Road #7890 for 0.8 miles to fork in roadway;

Go Left (Southerly) remaining on County Road #7890 for 1.3 miles to 4-way intersection;

Go Left (South-easterly) remaining on County Road #7890 for 1.2 miles to 4-way intersection;

Go Right (Westerly) exiting County Road #7890 along existing roadway for 0.6 miles to fork in roadway;

Go Left (Westerly) which is straight for 0.7 miles to fork in roadway;

Go Right (North-westerly) for 0.2 miles to Enduring Greater Lybrook Unit #050H existing location.

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 IV, LLC **OGRID:** 372286 **Date:** 10/26/2022

**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
Greater Lybrook Unit 048H	pending	Sec. 23, T23N, R9W	UL:C SHL:390' FSL & 655' FWL	650	1,700	1,200
Greater Lybrook Unit 049H	pending	Sec. 23, T23N, R9W	UL:C SHL:404' FSL & 670' FWL	650	1,700	1,200
Greater Lybrook Unit 050H	pending	Sec. 23, T23N, R9W	UL:C SHL:417' FSL & 685' FWL	650	1,700	1,200
Greater Lybrook Unit 051H	pending	Sec. 23, T23N, R9W	UL:C SHL:444' FSL & 714' FWL	650	1,700	1,200
Greater Lybrook Unit 052H	pending	Sec. 23, T23N, R9W	UL:C SHL:457' FSL & 729' FWL	650	1,700	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
Greater Lybrook Unit 048H	pending	1/26/2023	2/24/2023	2/28/2023	3/29/2023	3/31/2023
Greater Lybrook Unit 049H	pending	1/24/2023	2/19/2023	2/28/2023	3/29/2023	3/31/2023
Greater Lybrook Unit 050H	pending	1/22/2023	2/13/2023	2/28/2023	3/29/2023	3/31/2023
Greater Lybrook Unit 051H	pending	1/20/2023	2/8/2023	2/28/2023	3/29/2023	3/31/2023
Greater Lybrook Unit 052H	pending	1/17/2023	2/3/2023	2/28/2023	3/29/2023	3/31/2023

**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: <i>Khem Suthiwan</i>
Printed Name: Khem Suthiwan
Title: Regulatory Manager
E-mail Address: <a href="mailto:ksuthiwan@enduringresources.com">ksuthiwan@enduringresources.com</a>
Date: 10/26/2022
Phone: (303) 350-5721
<b>OIL CONSERVATION DIVISION</b> <b>(Only applicable when submitted as a standalone form)</b>
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;
- ReInjection for underground storage;
- ReInjection for temporary storage;
- ReInjection for enhanced oil recovery;
- Fuel cell production; and
- Other alternative beneficial uses approved by the division.



**ENDURING RESOURCES IV, LLC**  
**6300 S SYRACUSE WAY, SUITE 525**  
**CENTENNIAL, COLORADO 80211**

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

**WELL INFORMATION:**

**Name:** GREATER LYBROOK UNIT 050H

**API Number:** not yet assigned

**AFE Number:** not yet assigned

**ER Well Number:** not yet assigned

**State:** New Mexico

**County:** San Juan

**Surface Elevation:** 6,747 ft ASL (GL) 6,760 ft ASL (KB)

**Surface Location:** 23-23N-09W Sec-Twn-Rng 417 ft FSL 685 ft FWL  
 36.206299 ° N latitude 107.764783 ° W longitude (NAD 83)

**BH Location:** 25-23N-09W Sec-Twn-Rng 232 ft FSL 711 ft FWL  
 36.191294 ° N latitude 107.747017 ° 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 1.2 miles to 4-way intersection; Right (West) exiting CR #7890 along existing roadway for 0.6 mile to fork; Left (West) for 0.7 miles to fork in roadway; Right (Northwest) for 0.2 miles to W LYBROOK UNIT 726H PAD & 726H EXPANSION (777H, 778H, 779H, 780H, 781H).

**GEOLOGIC AND RESERVOIR INFORMATION:**

<b>Prognosis:</b>	<b>Formation Tops</b>	<b>TVD (ft ASL)</b>	<b>TVD (ft KB)</b>	<b>MD (ft KB)</b>	<b>O / G / W</b>	<b>Pressure</b>
	Ojo Alamo	6,425	335	335	W	normal
	Kirtland	6,320	440	440	W	normal
	Fruitland	6,115	645	645	G, W	sub
	Pictured Cliffs	5,725	1,035	1,035	G, W	sub
	Lewis	5,605	1,155	1,155	G, W	normal
	Chacra	5,345	1,415	1,415	G, W	normal
	Cliff House	4,305	2,455	2,456	G, W	sub
	Menefee	4,285	2,475	2,476	G, W	normal
	Point Lookout	3,323	3,437	3,442	G, W	normal
	Mancos	3,175	3,585	3,591	O,G	sub (~0.38)
	Gallup (MNCS_A)	2,825	3,935	3,941	O,G	sub (~0.38)
	MNCS_B	2,720	4,040	4,046	O,G	sub (~0.38)
	MNCS_C	2,625	4,135	4,141	O,G	sub (~0.38)
	MNCS_Cms	2,585	4,175	4,181	O,G	sub (~0.38)
	MNCS_D	2,440	4,320	4,334	O,G	sub (~0.38)
	MNCS_E	2,315	4,445	4,482	O,G	sub (~0.38)
	MNCS_F	2,253	4,507	4,567	O,G	sub (~0.38)
	MNCS_G	2,180	4,580	4,693	O,G	sub (~0.38)
	MNCS_H	2,135	4,625	4,784	O,G	sub (~0.38)
	MNCS_I	2,095	4,665	4,898	O,G	sub (~0.38)
	<b>FTP TARGET</b>	<b>2,078</b>	<b>4,682</b>	<b>5,048</b>	<b>O,G</b>	<b>sub (~0.38)</b>
	<b>PROJECTED LTP</b>	<b>2,113</b>	<b>4,647</b>	<b>12,099</b>	<b>O,G</b>	<b>sub (~0.38)</b>

**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
<b>Maximum anticipated BH pressure, assuming maximum pressure gradient:</b>	<b>2,020</b>	<b>psi</b>			
<b>Maximum anticipated surface pressure, assuming partially evacuated hole:</b>	<b>990</b>	<b>psi</b>			

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

## H<sub>2</sub>S INFORMATION:

**H<sub>2</sub>S 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:** Ensign

**Rig No.:** 145

**Draw Works:** Lewco LDS 1500K (1,000 hp)

**Mast:** ADR 1000 Cantilever Triple (134 ft, 500,000 lbs)

**Top Drive:** Tesco 350-EXI-600 (250 ton)

**Prime Movers:** 2 - CAT 3512 (1,350 hp), 1 -CAT C32 (1,100 hp)

**Pumps:** 2 - Mudder MD11 (5,000 psi)

**BOPE 1:** T3 Annular & Shaffer double gate ram (13-5/8", 5,000 psi)

**Int Hole BOPE 2:** T3 annular(13-5/8", 5,000 psi)

**Prod Hole BOPE 2:** T3 annular/ Townsend Double gate(11", 5,000 psi)

**Choke** 3", 5,000 psi

**KB-GL (ft):** 12.5

**Note:** Actual drilling rig may vary depending on availability at time the well is scheduled to be drilled.

**Note:** BOPE 2 are alternate stacks to be used only if problems with rig height and BOP 1 height are encountered. Intermediate hole BOPE 2 is designed for 2,000 psi permit requirements.

## 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 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). 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 minimize the amount of fluids and solids that require disposal.
- Closed-Loop System:**
- 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 additional details. Sufficient barite will be on location to weight up mud system to balance maximum anticipated pressure gradient.

#### 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	561	116,634	116,634
Min. S.F.					7.39	4.87	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):** Minimum: 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)
	TYPE III	14.6	1.39	6.686	0.6946	100%	0	350

*Calculated cement volumes assume gauge hole and the excess noted in table*

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	2,576 ft (MD)	Hole Section Length:	2,226 ft
350 ft (TVD)	to	2,575 ft (TVD)	Casing Required:	2,576 ft

Fluid:	Type	MW (ppg)	FL (mL/30 min)	PV (cp)	YP (lb/100 sqft)	pH	Comments
	LSND (KCI)	8.8 - 9.5	20	8 - 14	8 - 14	9.0 - 9.5	No OBM

**Hole Size:** 12-1/4"

**Bit / Motor:** 12-1/4" PDC bit 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					1,125	1,137	180,870	180,870
Min. S.F.					1.80	3.10	3.12	2.50

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):** Minimum: 3,400 Optimum: 4,530 Maximum: 5,660

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

**Centralizers:** 1 per joint in non-vertical hole; 1 per 2-joints in vertical hole

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	III:POZ Blend	12.5	2.140	12.05	70%	0	489
Tail	Type III	14.6	1.380	6.64	20%	2,076	136

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

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.*

2,576 ft (MD)	to	12,099 ft (MD)	Hole Section Length:	9,523 ft
2,575 ft (TVD)	to	4,647 ft (TVD)	Casing Required:	12,099 ft

Estimated KOP:	4,085 ft (MD)	4,079 ft (TVD)
Estimated Landing Point (FTP):	5,048 ft (MD)	4,682 ft (TVD)
Estimated Lateral Length:	7,051 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:** 8-1/2" PDC bit 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.

<b>Casing Specs:</b>	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					2,296	8,935	277,486	277,486
Min. S.F.					<b>3.25</b>	<b>1.19</b>	<b>1.97</b>	<b>1.60</b>

**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):** Minimum: 3,470 Optimum: 4,620 Maximum: 5,780

**Casing Summary:** Float shoe, 1 jt casing, float collar, 1 jt casing, float collar, 20' marker joint, toe-initiation sleeve, casing to KOP with 20' marker joints spaced evenly in lateral every 2,000', floatation sub at KOP, casing to surface. The toe-initiation sleeve (last-take-point) cannot be placed closer than 330' to the unit boundary when measured perpendicular to the well path.

**Centralizers:** Centralizer count and placement may be adjusted based on well conditions and as-drilled surveys.

**Lateral:** 1 centralizer per joint

**Landing point to 9-5/8" shoe:** 1 centralizer per joint

**9-5/8" shoe to surface:** 1 centralizer per 2 joints

<b>Cement:</b>	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
Lead	Type III	12.4	2.360	13.40	50%	0	442
Tail	G:POZ blend	13.3	1.560	7.70	10%	3,591	1,374

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

**Notify NMOCD & BLM if cement is not circulated to surface.**

**Note:** This well will not be considered an unorthodox well location as defined by NMAC 19.15.16.15.C.5. As defined in NMAC 19.15.16.15.C.1.a and 19.15.16.15.C.1.b, no point in the completed interval shall be closer to the unit boundary than 100' measured along the azimuth of the well or 330' measured perpendicular to the azimuth well. The boundaries of the completed interval, as defined by NMAC 19.15.16.7.B, are the last take point and first take point, as defined by NMAC 19.15.16.7.E and NMAC 19.15.16.7.J, respectively. In the case of this well, the last take point will be the bottom toe-initiation sleeve, and the first take point will be the top perforation. **Neither the toe-initiation sleeve nor the top perforation shall be closer to the unit boundary than 100' measured along the azimuth of the well or 330' measured perpendicular to the azimuth of the well.**

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

#### COMPLETION AND PRODUCTION PLAN:

**Frac:** 30 plug-and-perf stages with 210,000 bbls slickwater fluid and 13,000,000 lbs of proppant (estimated)

**Flowback:** Flow back through production tubing as pressures allow

**Production:** Produce through production tubing via gas-lift into permanent production and storage facilities

#### ESTIMATED START DATES:

**Drilling:** 5/1/2022

**Completion:** 6/30/2022

**Production:** 8/14/2022

**Prepared by:** Alec Bridge 12/20/2021



Well: Greater Lybrook Unit No. 050H  
Site: Greater Lybrook Pad (48,49,50,51 & 52)  
Project: San Juan County, New Mexico NAD83 NM W  
Design: rev0  
Rig: Ensign 773

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
G Lybrook 050 LTP 232 FSL 711 FWL	4647.00	-5457.95	5246.11	1888939.619	2748561.150	36.191294000	-107.747017000
G Lybrook 050 FTP 14 FNL 986 FWL	4682.00	-430.42	301.52	1893967.132	2743616.570	36.205116000	-107.763762000



Azimuths to Grid North  
True North: -0.04°  
Magnetic North: 8.62°  
  
Magnetic Field  
Strength: 49152.1nT  
Dip Angle: 62.70°  
Date: 11/3/2022  
Model: IGRF2020

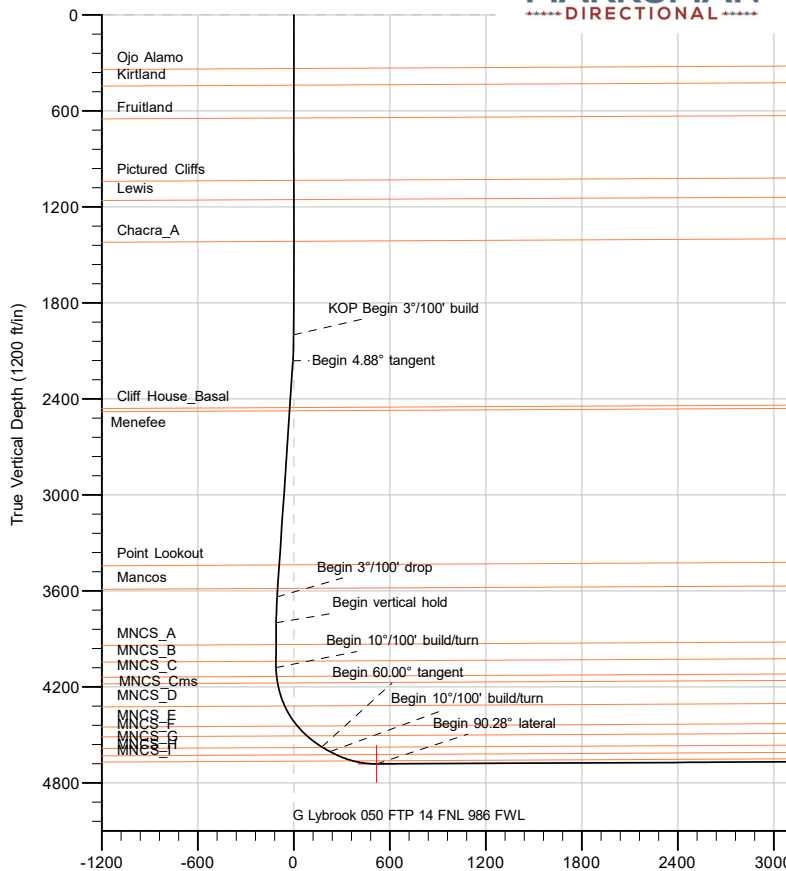
Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: New Mexico Western Zone  
System Datum: Mean Sea Level  
Depth Reference: RKB=6747+28 @ 6775.00ft (Ensign 773)  
Surface location:

Northing	Easting	Latitude	Longitude
1894397.553	2743315.050	36.206299000	-107.764783000

Total Corr (M=>G): To convert a Magnetic Direction to a Grid Direction, Add 8.62°

CASING DETAILS

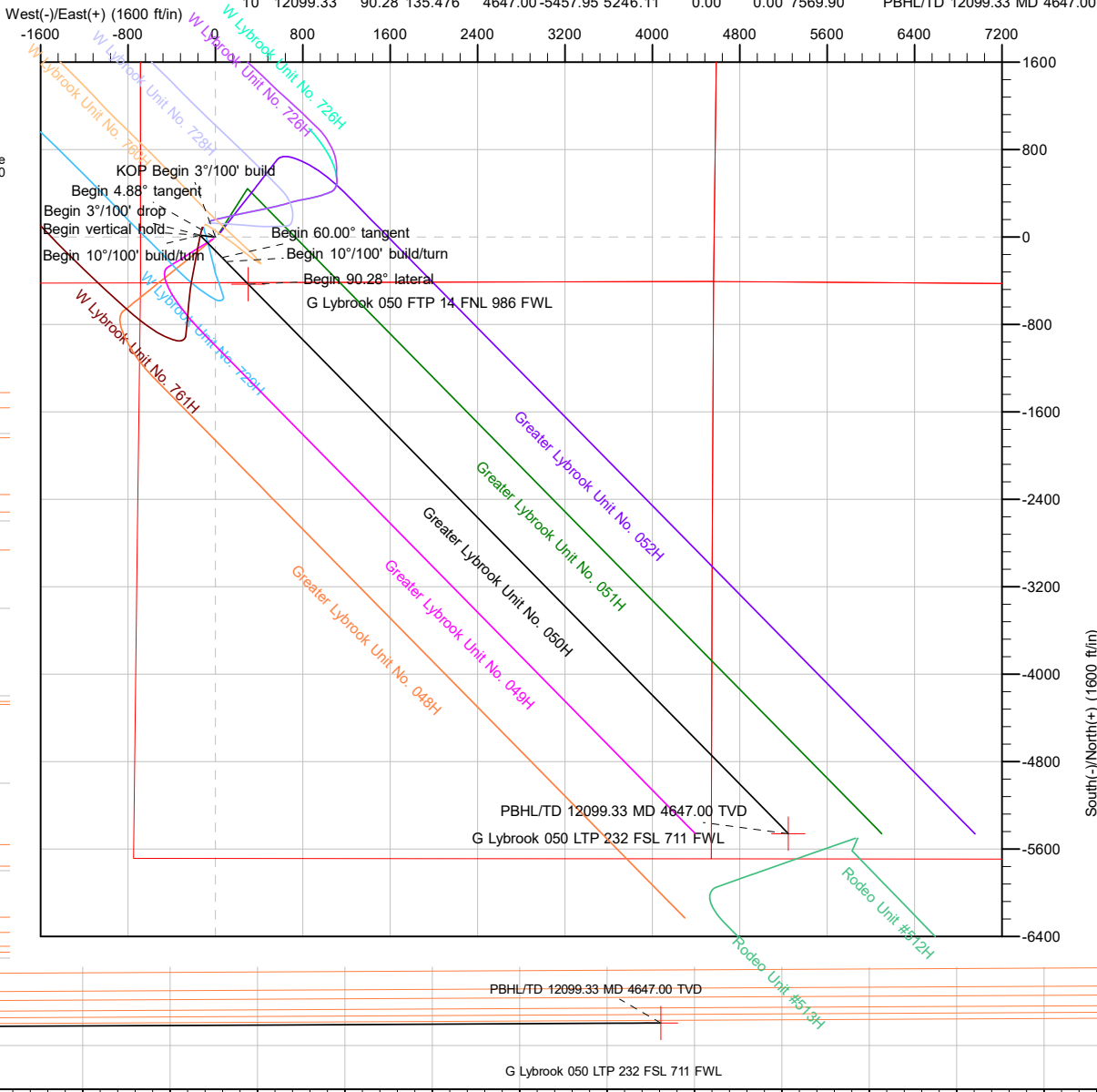
TVD	MD	Name
350.00	350.00	13 3/8" Casing
2575.00	2576.70	9 5/8" Casing



11:34, November 03 2022

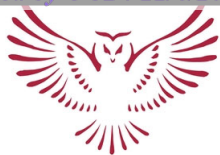
Vertical Section at 135.480° (1200 ft/in)

Section Details										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	
2	2000.00	0.00	0.000	2000.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 3"/100' build
3	2162.57	4.88	277.059	2162.37	0.85	-6.86	3.00	277.06	-5.42	Begin 4.88" tangent
4	3643.18	4.88	277.059	3637.63	16.32	-131.79	0.00	0.00	-104.04	Begin 3"/100' drop
5	3805.75	0.00	0.000	3800.00	17.17	-138.65	3.00	180.00	-109.46	Begin vertical hold
6	4084.80	0.00	0.000	4079.05	17.17	-138.65	0.00	0.00	-109.46	Begin 10"/100' build/turn
7	4684.80	60.00	135.480	4575.25	-187.09	62.22	10.00	135.48	177.02	Begin 60.00" tangent
8	4744.80	60.00	135.480	4605.25	-224.14	98.65	0.00	0.00	228.98	Begin 10"/100' build/turn
9	5047.65	90.28	135.476	4682.00	-430.42	301.52	10.00	-0.01	518.31	Begin 90.28" lateral
10	12099.33	90.28	135.476	4647.00	-5457.95	5246.11	0.00	0.00	7569.90	PBHL/TD 12099.33 MD 4647.00

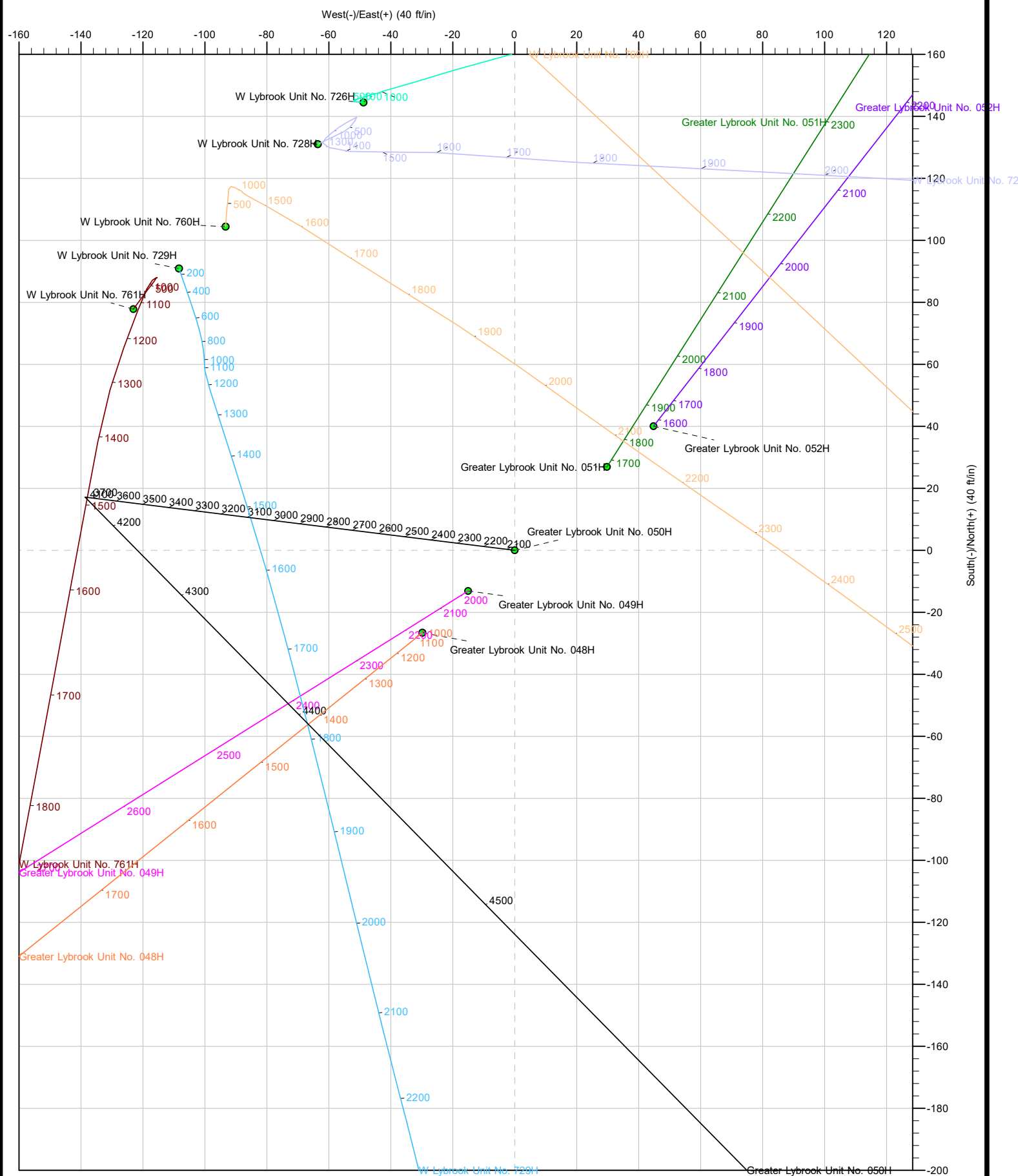


South(-)/North(+) (1600 ft/in)





Well: Greater Lybrook Unit No. 050H  
Site: Greater Lybrook Pad (48,49,50,51 & 52)  
Project: San Juan County, New Mexico NAD83 NM W  
Design: rev0  
Rig: Ensign 773



11:38, November 03 2022



## Planning Report

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Greater Lybrook Unit No. 050H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Site:</b>	Greater Lybrook Pad (48,49,50,51 & 52)	<b>North Reference:</b>	Grid
<b>Well:</b>	Greater Lybrook Unit No. 050H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

<b>Project</b>	San Juan County, New Mexico NAD83 NM W		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	New Mexico Western Zone		

Site	Greater Lybrook Pad (48,49,50,51 & 52)					
Site Position:		Northing:	1,894,437.627	usft	Latitude:	36.206409000
From:	Lat/Long	Easting:	2,743,359.864	usft	Longitude:	-107.764631000
Position Uncertainty:	0.00	ft	Slot Radius:	13-3/16	"	

Well	Greater Lybrook Unit No. 050H, Surf loc: 417 FSL 685 FWL Section 23-T23N-R09W					
Well Position	+N/-S	0.00 ft	Northing:	1,894,397.553 usft	Latitude:	36.206299000
	+E/-W	0.00 ft	Easting:	2,743,315.050 usft	Longitude:	-107.764783000
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,747.00 ft
Grid Convergence:		0.04 °				

<b>Wellbore</b>	Original Hole				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	11/3/2022	8.66	62.70	49,152.08996290

<b>Design</b>	rev0				
<b>Audit Notes:</b>					
<b>Version:</b>		<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	135.480	

<b>Plan Survey Tool Program</b>	<b>Date</b>	11/3/2022			
<b>Depth From (ft)</b>	<b>Depth To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	12,099.33	rev0 (Original Hole)	MWD	
				OWSG MWD - Standard	



## Planning Report

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Greater Lybrook Unit No. 050H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Site:</b>	Greater Lybrook Pad (48,49,50,51 & 52)	<b>North Reference:</b>	Grid
<b>Well:</b>	Greater Lybrook Unit No. 050H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.000	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,162.57	4.88	277.059	2,162.37	0.85	-6.86	3.00	3.00	0.00	277.06	
3,643.18	4.88	277.059	3,637.63	16.32	-131.79	0.00	0.00	0.00	0.00	
3,805.75	0.00	0.000	3,800.00	17.17	-138.65	3.00	-3.00	0.00	180.00	
4,084.80	0.00	0.000	4,079.05	17.17	-138.65	0.00	0.00	0.00	0.00	
4,684.80	60.00	135.480	4,575.25	-187.09	62.22	10.00	10.00	0.00	135.48	
4,744.80	60.00	135.480	4,605.25	-224.14	98.65	0.00	0.00	0.00	0.00	
5,047.65	90.28	135.476	4,682.00	-430.42	301.52	10.00	10.00	0.00	-0.01	
12,099.33	90.28	135.476	4,647.00	-5,457.95	5,246.11	0.00	0.00	0.00	0.00	G Lybrook 050 LTP 2'



## Planning Report

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Greater Lybrook Unit No. 050H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Site:</b>	Greater Lybrook Pad (48,49,50,51 & 52)	<b>North Reference:</b>	Grid
<b>Well:</b>	Greater Lybrook Unit No. 050H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.000	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.000	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.000	300.00	0.00	0.00	0.00	0.00	0.00	0.00
335.00	0.00	0.000	335.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Ojo Alamo</b>									
350.00	0.00	0.000	350.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>13 3/8" Casing</b>									
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00
440.00	0.00	0.000	440.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Kirtland</b>									
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.000	600.00	0.00	0.00	0.00	0.00	0.00	0.00
645.00	0.00	0.000	645.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Fruitland</b>									
700.00	0.00	0.000	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.000	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.000	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,035.00	0.00	0.000	1,035.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Pictured Cliffs</b>									
1,100.00	0.00	0.000	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,155.00	0.00	0.000	1,155.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Lewis</b>									
1,200.00	0.00	0.000	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.000	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.000	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,415.00	0.00	0.000	1,415.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Chacra_A</b>									
1,500.00	0.00	0.000	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.000	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.000	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.000	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.000	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.000	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>KOP Begin 3°/100' build</b>									
2,100.00	3.00	277.059	2,099.95	0.32	-2.60	-2.05	3.00	3.00	0.00
2,162.57	4.88	277.059	2,162.37	0.85	-6.86	-5.42	3.00	3.00	0.00
<b>Begin 4.88° tangent</b>									
2,200.00	4.88	277.059	2,199.67	1.24	-10.02	-7.91	0.00	0.00	0.00
2,300.00	4.88	277.059	2,299.31	2.29	-18.46	-14.57	0.00	0.00	0.00
2,400.00	4.88	277.059	2,398.94	3.33	-26.90	-21.23	0.00	0.00	0.00
2,456.38	4.88	277.059	2,455.12	3.92	-31.65	-24.99	0.00	0.00	0.00
<b>Cliff House_Basal</b>									
2,476.46	4.88	277.059	2,475.13	4.13	-33.35	-26.33	0.00	0.00	0.00
<b>Menefee</b>									
2,500.00	4.88	277.059	2,498.58	4.38	-35.33	-27.89	0.00	0.00	0.00
2,576.70	4.88	277.059	2,575.00	5.18	-41.80	-33.00	0.00	0.00	0.00
<b>9 5/8" Casing</b>									
2,600.00	4.88	277.059	2,598.22	5.42	-43.77	-34.55	0.00	0.00	0.00
2,700.00	4.88	277.059	2,697.86	6.47	-52.21	-41.22	0.00	0.00	0.00
2,800.00	4.88	277.059	2,797.50	7.51	-60.64	-47.88	0.00	0.00	0.00
2,900.00	4.88	277.059	2,897.13	8.55	-69.08	-54.54	0.00	0.00	0.00





## Planning Report

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Greater Lybrook Unit No. 050H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Site:</b>	Greater Lybrook Pad (48,49,50,51 & 52)	<b>North Reference:</b>	Grid
<b>Well:</b>	Greater Lybrook Unit No. 050H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
3,000.00	4.88	277.059	2,996.77	9.60	-77.52	-61.20	0.00	0.00	0.00	
3,100.00	4.88	277.059	3,096.41	10.64	-85.96	-67.86	0.00	0.00	0.00	
3,200.00	4.88	277.059	3,196.05	11.69	-94.39	-74.52	0.00	0.00	0.00	
3,300.00	4.88	277.059	3,295.69	12.73	-102.83	-81.18	0.00	0.00	0.00	
3,400.00	4.88	277.059	3,395.32	13.78	-111.27	-87.84	0.00	0.00	0.00	
3,442.27	4.88	277.059	3,437.44	14.22	-114.84	-90.66	0.00	0.00	0.00	
<b>Point Lookout</b>										
3,500.00	4.88	277.059	3,494.96	14.82	-119.71	-94.50	0.00	0.00	0.00	
3,590.86	4.88	277.059	3,585.49	15.77	-127.37	-100.55	0.00	0.00	0.00	
<b>Mancos</b>										
3,600.00	4.88	277.059	3,594.60	15.87	-128.14	-101.16	0.00	0.00	0.00	
3,643.18	4.88	277.059	3,637.63	16.32	-131.79	-104.04	0.00	0.00	0.00	
<b>Begin 3°/100' drop</b>										
3,700.00	3.17	277.059	3,694.30	16.81	-135.75	-107.16	3.00	-3.00	0.00	
3,805.75	0.00	0.000	3,800.00	17.17	-138.65	-109.46	3.00	-3.00	0.00	
<b>Begin vertical hold</b>										
3,900.00	0.00	0.000	3,894.25	17.17	-138.65	-109.46	0.00	0.00	0.00	
3,941.29	0.00	0.000	3,935.54	17.17	-138.65	-109.46	0.00	0.00	0.00	
<b>MNCS_A</b>										
4,000.00	0.00	0.000	3,994.25	17.17	-138.65	-109.46	0.00	0.00	0.00	
4,046.29	0.00	0.000	4,040.54	17.17	-138.65	-109.46	0.00	0.00	0.00	
<b>MNCS_B</b>										
4,084.80	0.00	0.000	4,079.05	17.17	-138.65	-109.46	0.00	0.00	0.00	
<b>Begin 10°/100' build/turn</b>										
4,100.00	1.52	135.480	4,094.25	17.03	-138.51	-109.26	10.00	10.00	0.00	
4,141.37	5.66	135.480	4,135.52	15.18	-136.69	-106.67	10.00	10.00	0.00	
<b>MNCS_C</b>										
4,150.00	6.52	135.480	4,144.11	14.53	-136.05	-105.75	10.00	10.00	0.00	
4,181.71	9.69	135.480	4,175.50	11.34	-132.92	-101.28	10.00	10.00	0.00	
<b>MNCS_Cms</b>										
4,200.00	11.52	135.480	4,193.47	8.94	-130.56	-97.92	10.00	10.00	0.00	
4,250.00	16.52	135.480	4,241.97	0.31	-122.07	-85.81	10.00	10.00	0.00	
4,300.00	21.52	135.480	4,289.22	-11.31	-110.65	-69.52	10.00	10.00	0.00	
4,333.79	24.90	135.480	4,320.27	-20.80	-101.31	-56.20	10.00	10.00	0.00	
<b>MNCS_D</b>										
4,350.00	26.52	135.480	4,334.88	-25.81	-96.38	-49.17	10.00	10.00	0.00	
4,400.00	31.52	135.480	4,378.59	-43.10	-79.38	-24.92	10.00	10.00	0.00	
4,450.00	36.52	135.480	4,420.02	-63.04	-59.77	3.04	10.00	10.00	0.00	
4,481.61	39.68	135.480	4,444.89	-76.95	-46.10	22.54	10.00	10.00	0.00	
<b>MNCS_E</b>										
4,500.00	41.52	135.480	4,458.85	-85.48	-37.71	34.51	10.00	10.00	0.00	
4,550.00	46.52	135.480	4,494.79	-110.25	-13.35	69.24	10.00	10.00	0.00	
4,567.44	48.26	135.480	4,506.60	-119.40	-4.35	82.08	10.00	10.00	0.00	
<b>MNCS_F</b>										
4,600.00	51.52	135.480	4,527.57	-137.15	13.11	106.98	10.00	10.00	0.00	
4,650.00	56.52	135.480	4,556.94	-165.99	41.47	147.43	10.00	10.00	0.00	
4,684.80	60.00	135.480	4,575.25	-187.09	62.22	177.02	10.00	10.00	0.00	
<b>Begin 60.00° tangent</b>										
4,692.52	60.00	135.480	4,579.10	-191.85	66.90	183.70	0.00	0.00	0.00	
<b>MNCS_G</b>										
4,700.00	60.00	135.480	4,582.84	-196.47	71.44	190.18	0.00	0.00	0.00	
4,744.80	60.00	135.480	4,605.25	-224.14	98.65	228.98	0.00	0.00	0.00	



## Planning Report

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Greater Lybrook Unit No. 050H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Site:</b>	Greater Lybrook Pad (48,49,50,51 & 52)	<b>North Reference:</b>	Grid
<b>Well:</b>	Greater Lybrook Unit No. 050H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
<b>Begin 10°/100' build/turn</b>									
4,750.00	60.52	135.480	4,607.82	-227.36	101.81	233.49	10.00	10.00	0.00
4,784.10	63.93	135.479	4,623.71	-248.86	122.96	263.66	10.00	10.00	0.00
<b>MNCS_H</b>									
4,800.00	65.52	135.479	4,630.50	-259.12	133.05	278.04	10.00	10.00	0.00
4,850.00	70.52	135.479	4,649.21	-292.16	165.55	324.39	10.00	10.00	0.00
4,897.56	75.28	135.478	4,663.19	-324.57	197.41	369.84	10.00	10.00	0.00
<b>MNCS_I</b>									
4,900.00	75.52	135.478	4,663.81	-326.25	199.07	372.19	10.00	10.00	0.00
4,950.00	80.52	135.478	4,674.18	-361.11	233.35	421.09	10.00	10.00	0.00
5,000.00	85.52	135.477	4,680.26	-396.48	268.14	470.70	10.00	10.00	0.00
5,047.65	90.28	135.476	4,682.00	-430.42	301.52	518.31	10.00	10.00	0.00
<b>Begin 90.28° lateral</b>									
5,100.00	90.28	135.476	4,681.74	-467.75	338.23	570.66	0.00	0.00	0.00
5,200.00	90.28	135.476	4,681.24	-539.04	408.35	670.66	0.00	0.00	0.00
5,300.00	90.28	135.476	4,680.75	-610.34	478.47	770.66	0.00	0.00	0.00
5,400.00	90.28	135.476	4,680.25	-681.63	548.59	870.65	0.00	0.00	0.00
5,500.00	90.28	135.476	4,679.76	-752.93	618.70	970.65	0.00	0.00	0.00
5,600.00	90.28	135.476	4,679.26	-824.22	688.82	1,070.65	0.00	0.00	0.00
5,700.00	90.28	135.476	4,678.76	-895.52	758.94	1,170.65	0.00	0.00	0.00
5,800.00	90.28	135.476	4,678.27	-966.82	829.06	1,270.65	0.00	0.00	0.00
5,900.00	90.28	135.476	4,677.77	-1,038.11	899.18	1,370.65	0.00	0.00	0.00
6,000.00	90.28	135.476	4,677.27	-1,109.41	969.30	1,470.65	0.00	0.00	0.00
6,100.00	90.28	135.476	4,676.78	-1,180.70	1,039.42	1,570.65	0.00	0.00	0.00
6,200.00	90.28	135.476	4,676.28	-1,252.00	1,109.54	1,670.64	0.00	0.00	0.00
6,300.00	90.28	135.476	4,675.78	-1,323.29	1,179.66	1,770.64	0.00	0.00	0.00
6,400.00	90.28	135.476	4,675.29	-1,394.59	1,249.78	1,870.64	0.00	0.00	0.00
6,500.00	90.28	135.476	4,674.79	-1,465.88	1,319.90	1,970.64	0.00	0.00	0.00
6,600.00	90.28	135.476	4,674.30	-1,537.18	1,390.02	2,070.64	0.00	0.00	0.00
6,700.00	90.28	135.476	4,673.80	-1,608.47	1,460.14	2,170.64	0.00	0.00	0.00
6,800.00	90.28	135.476	4,673.30	-1,679.77	1,530.26	2,270.64	0.00	0.00	0.00
6,900.00	90.28	135.476	4,672.81	-1,751.06	1,600.38	2,370.64	0.00	0.00	0.00
7,000.00	90.28	135.476	4,672.31	-1,822.36	1,670.50	2,470.63	0.00	0.00	0.00
7,100.00	90.28	135.476	4,671.81	-1,893.66	1,740.61	2,570.63	0.00	0.00	0.00
7,200.00	90.28	135.476	4,671.32	-1,964.95	1,810.73	2,670.63	0.00	0.00	0.00
7,300.00	90.28	135.476	4,670.82	-2,036.25	1,880.85	2,770.63	0.00	0.00	0.00
7,400.00	90.28	135.476	4,670.33	-2,107.54	1,950.97	2,870.63	0.00	0.00	0.00
7,500.00	90.28	135.476	4,669.83	-2,178.84	2,021.09	2,970.63	0.00	0.00	0.00
7,600.00	90.28	135.476	4,669.33	-2,250.13	2,091.21	3,070.63	0.00	0.00	0.00
7,700.00	90.28	135.476	4,668.84	-2,321.43	2,161.33	3,170.63	0.00	0.00	0.00
7,800.00	90.28	135.476	4,668.34	-2,392.72	2,231.45	3,270.62	0.00	0.00	0.00
7,900.00	90.28	135.476	4,667.84	-2,464.02	2,301.57	3,370.62	0.00	0.00	0.00
8,000.00	90.28	135.476	4,667.35	-2,535.31	2,371.69	3,470.62	0.00	0.00	0.00
8,100.00	90.28	135.476	4,666.85	-2,606.61	2,441.81	3,570.62	0.00	0.00	0.00
8,200.00	90.28	135.476	4,666.35	-2,677.90	2,511.93	3,670.62	0.00	0.00	0.00
8,300.00	90.28	135.476	4,665.86	-2,749.20	2,582.05	3,770.62	0.00	0.00	0.00
8,400.00	90.28	135.476	4,665.36	-2,820.50	2,652.17	3,870.62	0.00	0.00	0.00
8,500.00	90.28	135.476	4,664.87	-2,891.79	2,722.29	3,970.62	0.00	0.00	0.00
8,600.00	90.28	135.476	4,664.37	-2,963.09	2,792.40	4,070.61	0.00	0.00	0.00
8,700.00	90.28	135.476	4,663.87	-3,034.38	2,862.52	4,170.61	0.00	0.00	0.00
8,800.00	90.28	135.476	4,663.38	-3,105.68	2,932.64	4,270.61	0.00	0.00	0.00
8,900.00	90.28	135.476	4,662.88	-3,176.97	3,002.76	4,370.61	0.00	0.00	0.00
9,000.00	90.28	135.476	4,662.38	-3,248.27	3,072.88	4,470.61	0.00	0.00	0.00



## Planning Report

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Greater Lybrook Unit No. 050H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Site:</b>	Greater Lybrook Pad (48,49,50,51 & 52)	<b>North Reference:</b>	Grid
<b>Well:</b>	Greater Lybrook Unit No. 050H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
9,100.00	90.28	135.476	4,661.89	-3,319.56	3,143.00	4,570.61	0.00	0.00	0.00	
9,200.00	90.28	135.476	4,661.39	-3,390.86	3,213.12	4,670.61	0.00	0.00	0.00	
9,300.00	90.28	135.476	4,660.89	-3,462.15	3,283.24	4,770.61	0.00	0.00	0.00	
9,400.00	90.28	135.476	4,660.40	-3,533.45	3,353.36	4,870.60	0.00	0.00	0.00	
9,500.00	90.28	135.476	4,659.90	-3,604.74	3,423.48	4,970.60	0.00	0.00	0.00	
9,600.00	90.28	135.476	4,659.41	-3,676.04	3,493.60	5,070.60	0.00	0.00	0.00	
9,700.00	90.28	135.476	4,658.91	-3,747.34	3,563.72	5,170.60	0.00	0.00	0.00	
9,800.00	90.28	135.476	4,658.41	-3,818.63	3,633.84	5,270.60	0.00	0.00	0.00	
9,900.00	90.28	135.476	4,657.92	-3,889.93	3,703.96	5,370.60	0.00	0.00	0.00	
10,000.00	90.28	135.476	4,657.42	-3,961.22	3,774.08	5,470.60	0.00	0.00	0.00	
10,100.00	90.28	135.476	4,656.92	-4,032.52	3,844.19	5,570.60	0.00	0.00	0.00	
10,200.00	90.28	135.476	4,656.43	-4,103.81	3,914.31	5,670.59	0.00	0.00	0.00	
10,300.00	90.28	135.476	4,655.93	-4,175.11	3,984.43	5,770.59	0.00	0.00	0.00	
10,400.00	90.28	135.476	4,655.43	-4,246.40	4,054.55	5,870.59	0.00	0.00	0.00	
10,500.00	90.28	135.476	4,654.94	-4,317.70	4,124.67	5,970.59	0.00	0.00	0.00	
10,600.00	90.28	135.476	4,654.44	-4,388.99	4,194.79	6,070.59	0.00	0.00	0.00	
10,700.00	90.28	135.476	4,653.95	-4,460.29	4,264.91	6,170.59	0.00	0.00	0.00	
10,800.00	90.28	135.476	4,653.45	-4,531.58	4,335.03	6,270.59	0.00	0.00	0.00	
10,900.00	90.28	135.476	4,652.95	-4,602.88	4,405.15	6,370.59	0.00	0.00	0.00	
11,000.00	90.28	135.476	4,652.46	-4,674.18	4,475.27	6,470.58	0.00	0.00	0.00	
11,100.00	90.28	135.476	4,651.96	-4,745.47	4,545.39	6,570.58	0.00	0.00	0.00	
11,200.00	90.28	135.476	4,651.46	-4,816.77	4,615.51	6,670.58	0.00	0.00	0.00	
11,300.00	90.28	135.476	4,650.97	-4,888.06	4,685.63	6,770.58	0.00	0.00	0.00	
11,400.00	90.28	135.476	4,650.47	-4,959.36	4,755.75	6,870.58	0.00	0.00	0.00	
11,500.00	90.28	135.476	4,649.97	-5,030.65	4,825.87	6,970.58	0.00	0.00	0.00	
11,600.00	90.28	135.476	4,649.48	-5,101.95	4,895.98	7,070.58	0.00	0.00	0.00	
11,700.00	90.28	135.476	4,648.98	-5,173.24	4,966.10	7,170.58	0.00	0.00	0.00	
11,800.00	90.28	135.476	4,648.49	-5,244.54	5,036.22	7,270.58	0.00	0.00	0.00	
11,900.00	90.28	135.476	4,647.99	-5,315.83	5,106.34	7,370.57	0.00	0.00	0.00	
12,000.00	90.28	135.476	4,647.49	-5,387.13	5,176.46	7,470.57	0.00	0.00	0.00	
12,099.33	90.28	135.476	4,647.00	-5,457.95	5,246.11	7,569.90	0.00	0.00	0.00	
PBHL/TD 12099.33 MD 4647.00 TVD										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
G Lybrook 050 LTP 232 - hit/miss target - Shape - Point	0.00	0.005	4,647.00	-5,457.95	5,246.11	1,888,939.619	2,748,561.150	36.191294000	-107.747017000	
G Lybrook 050 FTP 14 F - plan hits target center - Point	0.00	0.005	4,682.00	-430.42	301.52	1,893,967.132	2,743,616.569	36.205116000	-107.763762000	



## Planning Report

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Greater Lybrook Unit No. 050H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Site:</b>	Greater Lybrook Pad (48,49,50,51 & 52)	<b>North Reference:</b>	Grid
<b>Well:</b>	Greater Lybrook Unit No. 050H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
350.00	350.00	13 3/8" Casing	13-5/8	17-1/2	
2,576.70	2,575.00	9 5/8" Casing	9-5/8	12-1/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
335.00	335.00	Ojo Alamo		-0.28	135.470
440.00	440.00	Kirtland		-0.28	135.470
645.00	645.00	Fruitland		-0.28	135.470
1,035.00	1,035.00	Pictured Cliffs		-0.28	135.470
1,155.00	1,155.00	Lewis		-0.28	135.470
1,415.00	1,415.00	Chacra_A		-0.28	135.470
2,456.38	2,455.12	Cliff House_Basal		-0.28	135.470
2,476.46	2,475.13	Menefee		-0.28	135.470
3,442.27	3,437.44	Point Lookout		-0.28	135.470
3,590.86	3,585.49	Mancos		-0.28	135.470
3,941.29	3,935.54	MNCS_A		-0.28	135.470
4,046.29	4,040.54	MNCS_B		-0.28	135.470
4,141.37	4,135.52	MNCS_C		-0.28	135.470
4,181.71	4,175.50	MNCS_Cms		-0.28	135.470
4,333.79	4,320.27	MNCS_D		-0.28	135.470
4,481.61	4,444.89	MNCS_E		-0.28	135.470
4,567.44	4,506.60	MNCS_F		-0.28	135.470
4,692.52	4,579.10	MNCS_G		-0.28	135.470
4,784.10	4,623.71	MNCS_H		-0.28	135.470
4,897.56	4,663.19	MNCS_I		-0.28	135.470

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2,000.00	2,000.00	0.00	0.00	KOP Begin 3°/100' build	
2,162.57	2,162.37	0.85	-6.86	Begin 4.88° tangent	
3,643.18	3,637.63	16.32	-131.79	Begin 3°/100' drop	
3,805.75	3,800.00	17.17	-138.65	Begin vertical hold	
4,084.80	4,079.05	17.17	-138.65	Begin 10°/100' build/turn	
4,684.80	4,575.25	-187.09	62.22	Begin 60.00° tangent	
4,744.80	4,605.25	-224.14	98.65	Begin 10°/100' build/turn	
5,047.65	4,682.00	-430.42	301.52	Begin 90.28° lateral	
12,099.33	4,647.00	-5,457.95	5,246.11	PBHL/TD 12099.33 MD 4647.00 TVD	





## Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Greater Lybrook Unit No. 050H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Site:</b>	Greater Lybrook Pad (48,49,50,51 & 52)	<b>North Reference:</b>	Grid
<b>Well:</b>	Greater Lybrook Unit No. 050H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

<b>Project</b>	San Juan County, New Mexico NAD83 NM W		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	New Mexico Western Zone		

Site	Greater Lybrook Pad (48,49,50,51 & 52)					
Site Position:		Northing:	1,894,437.627	usft	Latitude:	36.206409000
From:	Lat/Long	Easting:	2,743,359.864	usft	Longitude:	-107.764631000
Position Uncertainty:	0.00	ft	Slot Radius:	13-3/16	"	

Well	Greater Lybrook Unit No. 050H, Surf loc: 417 FSL 685 FWL Section 23-T23N-R09W					
Well Position	+N/-S	0.00 ft	Northing:	1,894,397.553 usft	Latitude:	36.206299000
	+E/-W	0.00 ft	Easting:	2,743,315.050 usft	Longitude:	-107.764783000
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,747.00 ft
Grid Convergence:						

<b>Wellbore</b>	Original Hole				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	11/3/2022	8.66	62.70	49,152.08996290

<b>Design</b>	rev0			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	135.480

<b>Plan Survey Tool Program</b>	<b>Date</b>			
<b>Depth From (ft)</b>	<b>Depth To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	12,099.33 rev0 (Original Hole)		



## Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Greater Lybrook Unit No. 050H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Site:</b>	Greater Lybrook Pad (48,49,50,51 & 52)	<b>North Reference:</b>	Grid
<b>Well:</b>	Greater Lybrook Unit No. 050H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.000	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,162.57	4.88	277.059	2,162.37	0.85	-6.86	3.00	3.00	0.00	277.06	
3,643.18	4.88	277.059	3,637.63	16.32	-131.79	0.00	0.00	0.00	0.00	
3,805.75	0.00	0.000	3,800.00	17.17	-138.65	3.00	-3.00	0.00	180.00	
4,084.80	0.00	0.000	4,079.05	17.17	-138.65	0.00	0.00	0.00	0.00	
4,684.80	60.00	135.480	4,575.25	-187.09	62.22	10.00	10.00	0.00	135.48	
4,744.80	60.00	135.480	4,605.25	-224.14	98.65	0.00	0.00	0.00	0.00	
5,047.65	90.28	135.476	4,682.00	-430.42	301.52	10.00	10.00	0.00	-0.01	
12,099.33	90.28	135.476	4,647.00	-5,457.95	5,246.11	0.00	0.00	0.00	0.00	G Lybrook 050 LTP 2'



## Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Greater Lybrook Unit No. 050H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Site:</b>	Greater Lybrook Pad (48,49,50,51 & 52)	<b>North Reference:</b>	Grid
<b>Well:</b>	Greater Lybrook Unit No. 050H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.000	0.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
100.00	0.00	0.000	100.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
200.00	0.00	0.000	200.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
300.00	0.00	0.000	300.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
335.00	0.00	0.000	335.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
<b>Ojo Alamo</b>									
350.00	0.00	0.000	350.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
<b>13 3/8" Casing</b>									
400.00	0.00	0.000	400.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
440.00	0.00	0.000	440.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
<b>Kirtland</b>									
500.00	0.00	0.000	500.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
600.00	0.00	0.000	600.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
645.00	0.00	0.000	645.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
<b>Fruitland</b>									
700.00	0.00	0.000	700.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
800.00	0.00	0.000	800.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
900.00	0.00	0.000	900.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
1,000.00	0.00	0.000	1,000.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
1,035.00	0.00	0.000	1,035.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
<b>Pictured Cliffs</b>									
1,100.00	0.00	0.000	1,100.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
1,155.00	0.00	0.000	1,155.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
<b>Lewis</b>									
1,200.00	0.00	0.000	1,200.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
1,300.00	0.00	0.000	1,300.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
1,400.00	0.00	0.000	1,400.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
1,415.00	0.00	0.000	1,415.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
<b>Chacra_A</b>									
1,500.00	0.00	0.000	1,500.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
1,600.00	0.00	0.000	1,600.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
1,700.00	0.00	0.000	1,700.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
1,800.00	0.00	0.000	1,800.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
1,900.00	0.00	0.000	1,900.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
2,000.00	0.00	0.000	2,000.00	0.00	0.00	1,894,397.553	2,743,315.050	36.206299000	-107.764783000
<b>KOP Begin 3°/100' build</b>									
2,100.00	3.00	277.059	2,099.95	0.32	-2.60	1,894,397.875	2,743,312.453	36.206299889	-107.764791804
2,162.57	4.88	277.059	2,162.37	0.85	-6.86	1,894,398.403	2,743,308.188	36.206301348	-107.764806259
<b>Begin 4.88° tangent</b>									
2,200.00	4.88	277.059	2,199.67	1.24	-10.02	1,894,398.794	2,743,305.030	36.206302428	-107.764816963
2,300.00	4.88	277.059	2,299.31	2.29	-18.46	1,894,399.839	2,743,296.592	36.206305315	-107.764845560
2,400.00	4.88	277.059	2,398.94	3.33	-26.90	1,894,400.884	2,743,288.155	36.206308202	-107.764874158
2,456.38	4.88	277.059	2,455.12	3.92	-31.65	1,894,401.473	2,743,283.398	36.206309829	-107.764890281
<b>Cliff House_Basal</b>									
2,476.46	4.88	277.059	2,475.13	4.13	-33.35	1,894,401.683	2,743,281.703	36.206310409	-107.764896024
<b>Menefee</b>									
2,500.00	4.88	277.059	2,498.58	4.38	-35.33	1,894,401.929	2,743,279.717	36.206311088	-107.764902755
2,576.70	4.88	277.059	2,575.00	5.18	-41.80	1,894,402.730	2,743,273.246	36.206313302	-107.764924688
<b>9 5/8" Casing</b>									
2,600.00	4.88	277.059	2,598.22	5.42	-43.77	1,894,402.974	2,743,271.280	36.206313975	-107.764931352
2,700.00	4.88	277.059	2,697.86	6.47	-52.21	1,894,404.019	2,743,262.843	36.206316862	-107.764959949
2,800.00	4.88	277.059	2,797.50	7.51	-60.64	1,894,405.064	2,743,254.405	36.206319748	-107.764988547
2,900.00	4.88	277.059	2,897.13	8.55	-69.08	1,894,406.108	2,743,245.968	36.206322635	-107.765017144



## Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Greater Lybrook Unit No. 050H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Site:</b>	Greater Lybrook Pad (48,49,50,51 & 52)	<b>North Reference:</b>	Grid
<b>Well:</b>	Greater Lybrook Unit No. 050H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
3,000.00	4.88	277.059	2,996.77	9.60	-77.52	1,894,407.153	2,743,237.531	36.206325522	-107.765045741	
3,100.00	4.88	277.059	3,096.41	10.64	-85.96	1,894,408.198	2,743,229.093	36.206328408	-107.765074339	
3,200.00	4.88	277.059	3,196.05	11.69	-94.39	1,894,409.243	2,743,220.656	36.206331295	-107.765102936	
3,300.00	4.88	277.059	3,295.69	12.73	-102.83	1,894,410.288	2,743,212.219	36.206334182	-107.765131533	
3,400.00	4.88	277.059	3,395.32	13.78	-111.27	1,894,411.333	2,743,203.781	36.206337068	-107.765160130	
3,442.27	4.88	277.059	3,437.44	14.22	-114.84	1,894,411.774	2,743,200.214	36.206338289	-107.765172219	
Point Lookout										
3,500.00	4.88	277.059	3,494.96	14.82	-119.71	1,894,412.378	2,743,195.344	36.206339955	-107.765188728	
3,590.86	4.88	277.059	3,585.49	15.77	-127.37	1,894,413.327	2,743,187.678	36.206342578	-107.765214711	
Mancos										
3,600.00	4.88	277.059	3,594.60	15.87	-128.14	1,894,413.422	2,743,186.906	36.206342841	-107.765217325	
3,643.18	4.88	277.059	3,637.63	16.32	-131.79	1,894,413.874	2,743,183.263	36.206344088	-107.765229674	
Begin 3°/100' drop										
3,700.00	3.17	277.059	3,694.30	16.81	-135.75	1,894,414.364	2,743,179.305	36.206345442	-107.765243088	
3,805.75	0.00	0.000	3,800.00	17.17	-138.65	1,894,414.723	2,743,176.400	36.206346436	-107.765252934	
Begin vertical hold										
3,900.00	0.00	0.000	3,894.25	17.17	-138.65	1,894,414.723	2,743,176.400	36.206346436	-107.765252934	
3,941.29	0.00	0.000	3,935.54	17.17	-138.65	1,894,414.723	2,743,176.400	36.206346436	-107.765252934	
MNCS_A										
4,000.00	0.00	0.000	3,994.25	17.17	-138.65	1,894,414.723	2,743,176.400	36.206346436	-107.765252934	
4,046.29	0.00	0.000	4,040.54	17.17	-138.65	1,894,414.723	2,743,176.400	36.206346436	-107.765252934	
MNCS_B										
4,084.80	0.00	0.000	4,079.05	17.17	-138.65	1,894,414.723	2,743,176.400	36.206346436	-107.765252934	
Begin 10°/100' build/turn										
4,100.00	1.52	135.480	4,094.25	17.03	-138.51	1,894,414.580	2,743,176.542	36.206346041	-107.765252455	
4,141.37	5.66	135.480	4,135.52	15.18	-136.69	1,894,412.734	2,743,178.356	36.206340968	-107.765246308	
MNCS_C										
4,150.00	6.52	135.480	4,144.11	14.53	-136.05	1,894,412.081	2,743,178.998	36.206339173	-107.765244133	
4,181.71	9.69	135.480	4,175.50	11.34	-132.92	1,894,408.894	2,743,182.133	36.206330411	-107.765233517	
MNCS_Cms										
4,200.00	11.52	135.480	4,193.47	8.94	-130.56	1,894,406.494	2,743,184.493	36.206323814	-107.765225523	
4,250.00	16.52	135.480	4,241.97	0.31	-122.07	1,894,397.861	2,743,192.983	36.206300080	-107.765196764	
4,300.00	21.52	135.480	4,289.22	-11.31	-110.65	1,894,386.246	2,743,204.405	36.206268152	-107.765158077	
4,333.79	24.90	135.480	4,320.27	-20.80	-101.31	1,894,376.753	2,743,213.740	36.206242054	-107.765126455	
MNCS_D										
4,350.00	26.52	135.480	4,334.88	-25.81	-96.38	1,894,371.739	2,743,218.670	36.206228272	-107.765109756	
4,400.00	31.52	135.480	4,378.59	-43.10	-79.38	1,894,354.450	2,743,235.672	36.206180746	-107.765052168	
4,450.00	36.52	135.480	4,420.02	-63.04	-59.77	1,894,334.511	2,743,255.280	36.206125933	-107.764985751	
4,481.61	39.68	135.480	4,444.89	-76.95	-46.10	1,894,320.605	2,743,268.955	36.206087705	-107.764939431	
MNCS_E										
4,500.00	41.52	135.480	4,458.85	-85.48	-37.71	1,894,312.073	2,743,277.345	36.206064251	-107.764911013	
4,550.00	46.52	135.480	4,494.79	-110.25	-13.35	1,894,287.308	2,743,301.699	36.205996170	-107.764828520	
4,567.44	48.26	135.480	4,506.60	-119.40	-4.35	1,894,278.157	2,743,310.697	36.205971016	-107.764798041	
MNCS_F										
4,600.00	51.52	135.480	4,527.57	-137.15	13.11	1,894,260.403	2,743,328.157	36.205922208	-107.764738901	
4,650.00	56.52	135.480	4,556.94	-165.99	41.47	1,894,231.563	2,743,356.517	36.205842928	-107.764642839	
4,684.80	60.00	135.480	4,575.25	-187.09	62.22	1,894,210.463	2,743,377.267	36.205784922	-107.764572556	
Begin 60.00° tangent										
4,692.52	60.00	135.480	4,579.10	-191.85	66.90	1,894,205.700	2,743,381.950	36.205771830	-107.764556692	
MNCS_G										
4,700.00	60.00	135.480	4,582.84	-196.47	71.44	1,894,201.079	2,743,386.495	36.205759126	-107.764541299	
4,744.80	60.00	135.480	4,605.25	-224.14	98.65	1,894,173.414	2,743,413.700	36.205683075	-107.764449150	
Begin 10°/100' build/turn										



## Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Greater Lybrook Unit No. 050H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Site:</b>	Greater Lybrook Pad (48,49,50,51 & 52)	<b>North Reference:</b>	Grid
<b>Well:</b>	Greater Lybrook Unit No. 050H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,750.00	60.52	135.480	4,607.82	-227.36	101.81	1,894,170.197	2,743,416.864	36.205674230	-107.764438433
4,784.10	63.93	135.479	4,623.71	-248.86	122.96	1,894,148.689	2,743,438.014	36.205615106	-107.764366793
<b>MNCS_H</b>									
4,800.00	65.52	135.479	4,630.50	-259.12	133.05	1,894,138.437	2,743,448.097	36.205586922	-107.764332643
4,850.00	70.52	135.479	4,649.21	-292.16	165.55	1,894,105.389	2,743,480.596	36.205496073	-107.764222561
4,897.56	75.28	135.478	4,663.19	-324.57	197.41	1,894,072.986	2,743,512.463	36.205406996	-107.764114624
<b>MNCS_I</b>									
4,900.00	75.52	135.478	4,663.81	-326.25	199.07	1,894,071.305	2,743,514.116	36.205402374	-107.764109024
4,950.00	80.52	135.478	4,674.18	-361.11	233.35	1,894,036.443	2,743,548.401	36.205306540	-107.763992896
5,000.00	85.52	135.477	4,680.26	-396.48	268.14	1,894,001.070	2,743,583.190	36.205209298	-107.763875062
5,047.65	90.28	135.476	4,682.00	-430.42	301.52	1,893,967.132	2,743,616.568	36.205116001	-107.763762006
<b>Begin 90.28° lateral</b>									
5,100.00	90.28	135.476	4,681.74	-467.75	338.23	1,893,929.807	2,743,653.277	36.205013393	-107.763637667
5,200.00	90.28	135.476	4,681.24	-539.04	408.35	1,893,858.512	2,743,723.396	36.204817399	-107.763400165
5,300.00	90.28	135.476	4,680.75	-610.34	478.47	1,893,787.217	2,743,793.515	36.204621405	-107.763162664
5,400.00	90.28	135.476	4,680.25	-681.63	548.59	1,893,715.921	2,743,863.635	36.204425410	-107.762925165
5,500.00	90.28	135.476	4,679.76	-752.93	618.70	1,893,644.626	2,743,933.754	36.204229415	-107.762687667
5,600.00	90.28	135.476	4,679.26	-824.22	688.82	1,893,573.331	2,744,003.873	36.204033419	-107.762450170
5,700.00	90.28	135.476	4,678.76	-895.52	758.94	1,893,502.036	2,744,073.992	36.203837423	-107.762212674
5,800.00	90.28	135.476	4,678.27	-966.82	829.06	1,893,430.740	2,744,144.111	36.203641426	-107.761975179
5,900.00	90.28	135.476	4,677.77	-1,038.11	899.18	1,893,359.445	2,744,214.231	36.203445429	-107.761737686
6,000.00	90.28	135.476	4,677.27	-1,109.41	969.30	1,893,288.150	2,744,284.350	36.203249432	-107.761500193
6,100.00	90.28	135.476	4,676.78	-1,180.70	1,039.42	1,893,216.855	2,744,354.469	36.203053434	-107.761262702
6,200.00	90.28	135.476	4,676.28	-1,252.00	1,109.54	1,893,145.559	2,744,424.588	36.202857435	-107.761025212
6,300.00	90.28	135.476	4,675.78	-1,323.29	1,179.66	1,893,074.264	2,744,494.707	36.202661436	-107.760787724
6,400.00	90.28	135.476	4,675.29	-1,394.59	1,249.78	1,893,002.969	2,744,564.827	36.202465437	-107.760550236
6,500.00	90.28	135.476	4,674.79	-1,465.88	1,319.90	1,892,931.674	2,744,634.946	36.202269437	-107.760312750
6,600.00	90.28	135.476	4,674.30	-1,537.18	1,390.02	1,892,860.378	2,744,705.065	36.202073437	-107.760075265
6,700.00	90.28	135.476	4,673.80	-1,608.47	1,460.14	1,892,789.083	2,744,775.184	36.201877436	-107.759837781
6,800.00	90.28	135.476	4,673.30	-1,679.77	1,530.26	1,892,717.788	2,744,845.303	36.201681434	-107.759600298
6,900.00	90.28	135.476	4,672.81	-1,751.06	1,600.38	1,892,646.493	2,744,915.422	36.201485433	-107.759362816
7,000.00	90.28	135.476	4,672.31	-1,822.36	1,670.50	1,892,575.198	2,744,985.542	36.201289430	-107.759125336
7,100.00	90.28	135.476	4,671.81	-1,893.66	1,740.61	1,892,503.902	2,745,055.661	36.201093428	-107.758887857
7,200.00	90.28	135.476	4,671.32	-1,964.95	1,810.73	1,892,432.607	2,745,125.780	36.200897424	-107.758650378
7,300.00	90.28	135.476	4,670.82	-2,036.25	1,880.85	1,892,361.312	2,745,195.899	36.200701421	-107.758412902
7,400.00	90.28	135.476	4,670.33	-2,107.54	1,950.97	1,892,290.017	2,745,266.018	36.200505416	-107.758175426
7,500.00	90.28	135.476	4,669.83	-2,178.84	2,021.09	1,892,218.721	2,745,336.138	36.200309412	-107.757937951
7,600.00	90.28	135.476	4,669.33	-2,250.13	2,091.21	1,892,147.426	2,745,406.257	36.200113407	-107.757700478
7,700.00	90.28	135.476	4,668.84	-2,321.43	2,161.33	1,892,076.131	2,745,476.376	36.199917401	-107.757463006
7,800.00	90.28	135.476	4,668.34	-2,392.72	2,231.45	1,892,004.836	2,745,546.495	36.199721395	-107.757225535
7,900.00	90.28	135.476	4,667.84	-2,464.02	2,301.57	1,891,933.540	2,745,616.614	36.199525388	-107.756988065
8,000.00	90.28	135.476	4,667.35	-2,535.31	2,371.69	1,891,862.245	2,745,686.734	36.199329381	-107.756750597
8,100.00	90.28	135.476	4,666.85	-2,606.61	2,441.81	1,891,790.950	2,745,756.853	36.199133374	-107.756513129
8,200.00	90.28	135.476	4,666.35	-2,677.90	2,511.93	1,891,719.655	2,745,826.972	36.198937366	-107.756275663
8,300.00	90.28	135.476	4,665.86	-2,749.20	2,582.05	1,891,648.359	2,745,897.091	36.198741357	-107.756038198
8,400.00	90.28	135.476	4,665.36	-2,820.50	2,652.17	1,891,577.064	2,745,967.210	36.198545348	-107.755800734
8,500.00	90.28	135.476	4,664.87	-2,891.79	2,722.29	1,891,505.769	2,746,037.330	36.198349339	-107.755563271
8,600.00	90.28	135.476	4,664.37	-2,963.09	2,792.40	1,891,434.474	2,746,107.449	36.198153329	-107.755325810
8,700.00	90.28	135.476	4,663.87	-3,034.38	2,862.52	1,891,363.178	2,746,177.568	36.197957318	-107.755088349
8,800.00	90.28	135.476	4,663.38	-3,105.68	2,932.64	1,891,291.883	2,746,247.687	36.197761307	-107.754850890
8,900.00	90.28	135.476	4,662.88	-3,176.97	3,002.76	1,891,220.588	2,746,317.806	36.197565296	-107.754613432
9,000.00	90.28	135.476	4,662.38	-3,248.27	3,072.88	1,891,149.293	2,746,387.926	36.197369284	-107.754375976
9,100.00	90.28	135.476	4,661.89	-3,319.56	3,143.00	1,891,077.997	2,746,458.045	36.197173272	-107.754138521
9,200.00	90.28	135.476	4,661.39	-3,390.86	3,213.12	1,891,006.702	2,746,528.164	36.196977259	-107.753901067



## Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Greater Lybrook Unit No. 050H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Site:</b>	Greater Lybrook Pad (48,49,50,51 & 52)	<b>North Reference:</b>	Grid
<b>Well:</b>	Greater Lybrook Unit No. 050H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,300.00	90.28	135.476	4,660.89	-3,462.15	3,283.24	1,890,935.407	2,746,598.283	36.196781246	-107.753663613
9,400.00	90.28	135.476	4,660.40	-3,533.45	3,353.36	1,890,864.112	2,746,668.402	36.196585232	-107.753426161
9,500.00	90.28	135.476	4,659.90	-3,604.74	3,423.48	1,890,792.816	2,746,738.521	36.196389218	-107.753188711
9,600.00	90.28	135.476	4,659.41	-3,676.04	3,493.60	1,890,721.521	2,746,808.641	36.196193203	-107.752951261
9,700.00	90.28	135.476	4,658.91	-3,747.34	3,563.72	1,890,650.226	2,746,878.760	36.195997188	-107.752713812
9,800.00	90.28	135.476	4,658.41	-3,818.63	3,633.84	1,890,578.931	2,746,948.879	36.195801173	-107.752476365
9,900.00	90.28	135.476	4,657.92	-3,889.93	3,703.96	1,890,507.636	2,747,018.998	36.195605156	-107.752238919
10,000.00	90.28	135.476	4,657.42	-3,961.22	3,774.08	1,890,436.340	2,747,089.117	36.195409140	-107.752001474
10,100.00	90.28	135.476	4,656.92	-4,032.52	3,844.19	1,890,365.045	2,747,159.237	36.195213123	-107.751764030
10,200.00	90.28	135.476	4,656.43	-4,103.81	3,914.31	1,890,293.750	2,747,229.356	36.195017105	-107.751526588
10,300.00	90.28	135.476	4,655.93	-4,175.11	3,984.43	1,890,222.455	2,747,299.475	36.194821087	-107.751289146
10,400.00	90.28	135.476	4,655.43	-4,246.40	4,054.55	1,890,151.159	2,747,369.594	36.194625069	-107.751051706
10,500.00	90.28	135.476	4,654.94	-4,317.70	4,124.67	1,890,079.864	2,747,439.713	36.194429050	-107.750814267
10,600.00	90.28	135.476	4,654.44	-4,388.99	4,194.79	1,890,008.569	2,747,509.833	36.194233030	-107.750576829
10,700.00	90.28	135.476	4,653.95	-4,460.29	4,264.91	1,889,937.274	2,747,579.953	36.194037010	-107.750339393
10,800.00	90.28	135.476	4,653.45	-4,531.58	4,335.03	1,889,865.978	2,747,650.072	36.193840990	-107.750101957
10,900.00	90.28	135.476	4,652.95	-4,602.88	4,405.15	1,889,794.683	2,747,720.191	36.193644969	-107.749864523
11,000.00	90.28	135.476	4,652.46	-4,674.18	4,475.27	1,889,723.388	2,747,790.310	36.193448948	-107.749627090
11,100.00	90.28	135.476	4,651.96	-4,745.47	4,545.39	1,889,652.093	2,747,860.430	36.193252926	-107.749389658
11,200.00	90.28	135.476	4,651.46	-4,816.77	4,615.51	1,889,580.797	2,747,930.549	36.193056904	-107.749152227
11,300.00	90.28	135.476	4,650.97	-4,888.06	4,685.63	1,889,509.502	2,748,000.668	36.192860881	-107.748914798
11,400.00	90.28	135.476	4,650.47	-4,959.36	4,755.75	1,889,438.207	2,748,070.787	36.192664858	-107.748677370
11,500.00	90.28	135.476	4,649.97	-5,030.65	4,825.87	1,889,366.912	2,748,140.906	36.192468834	-107.748439942
11,600.00	90.28	135.476	4,649.48	-5,101.95	4,895.98	1,889,295.616	2,748,211.026	36.192272810	-107.748202516
11,700.00	90.28	135.476	4,648.98	-5,173.24	4,966.10	1,889,224.321	2,748,281.145	36.192076785	-107.747965092
11,800.00	90.28	135.476	4,648.49	-5,244.54	5,036.22	1,889,153.026	2,748,351.264	36.191880760	-107.747727668
11,900.00	90.28	135.476	4,647.99	-5,315.83	5,106.34	1,889,081.731	2,748,421.383	36.191684734	-107.747490245
12,000.00	90.28	135.476	4,647.49	-5,387.13	5,176.46	1,889,010.435	2,748,491.502	36.191488708	-107.747252824
12,099.33	90.28	135.476	4,647.00	-5,457.95	5,246.11	1,888,939.619	2,748,561.150	36.191294000	-107.747017000
PBHL/TD 12099.33 MD 4647.00 TVD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
G Lybrook 050 LTP 232	0.00	0.005	4,647.00	-5,457.95	5,246.11	1,888,939.619	2,748,561.150	36.191294000	-107.747017000
- plan hits target center									
- Point									
G Lybrook 050 FTP 14 F	0.00	0.005	4,682.00	-430.42	301.52	1,893,967.132	2,743,616.569	36.205116000	-107.763762000
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
350.00	350.00	13 3/8" Casing	13-5/8	17-1/2	
2,576.70	2,575.00	9 5/8" Casing	9-5/8	12-1/4	





## Planning Report - Geographic

<b>Database:</b>	DB_Feb2822	<b>Local Co-ordinate Reference:</b>	Well Greater Lybrook Unit No. 050H
<b>Company:</b>	Enduring Resources LLC	<b>TVD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Project:</b>	San Juan County, New Mexico NAD83 NM W	<b>MD Reference:</b>	RKB=6747+28 @ 6775.00ft (Ensign 773)
<b>Site:</b>	Greater Lybrook Pad (48,49,50,51 & 52)	<b>North Reference:</b>	Grid
<b>Well:</b>	Greater Lybrook Unit No. 050H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
335.00	335.00	Ojo Alamo		-0.28	135.470	
440.00	440.00	Kirtland		-0.28	135.470	
645.00	645.00	Fruitland		-0.28	135.470	
1,035.00	1,035.00	Pictured Cliffs		-0.28	135.470	
1,155.00	1,155.00	Lewis		-0.28	135.470	
1,415.00	1,415.00	Chacra_A		-0.28	135.470	
2,456.38	2,455.12	Cliff House_Basal		-0.28	135.470	
2,476.46	2,475.13	Menefee		-0.28	135.470	
3,442.27	3,437.44	Point Lookout		-0.28	135.470	
3,590.86	3,585.49	Mancos		-0.28	135.470	
3,941.29	3,935.54	MNCS_A		-0.28	135.470	
4,046.29	4,040.54	MNCS_B		-0.28	135.470	
4,141.37	4,135.52	MNCS_C		-0.28	135.470	
4,181.71	4,175.50	MNCS_Cms		-0.28	135.470	
4,333.79	4,320.27	MNCS_D		-0.28	135.470	
4,481.61	4,444.89	MNCS_E		-0.28	135.470	
4,567.44	4,506.60	MNCS_F		-0.28	135.470	
4,692.52	4,579.10	MNCS_G		-0.28	135.470	
4,784.10	4,623.71	MNCS_H		-0.28	135.470	
4,897.56	4,663.19	MNCS_I		-0.28	135.470	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2,000.00	2,000.00	0.00	0.00	KOP Begin 3°/100' build	
2,162.57	2,162.37	0.85	-6.86	Begin 4.88° tangent	
3,643.18	3,637.63	16.32	-131.79	Begin 3°/100' drop	
3,805.75	3,800.00	17.17	-138.65	Begin vertical hold	
4,084.80	4,079.05	17.17	-138.65	Begin 10°/100' build/turn	
4,684.80	4,575.25	-187.09	62.22	Begin 60.00° tangent	
4,744.80	4,605.25	-224.14	98.65	Begin 10°/100' build/turn	
5,047.65	4,682.00	-430.42	301.52	Begin 90.28° lateral	
12,099.33	4,647.00	-5,457.95	5,246.11	PBHL/TD 12099.33 MD 4647.00 TVD	



# 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  
Greater Lybrook Unit 050H  
Lease: NOG13121863 Unit: NMNM144419X  
SH: SW $\frac{1}{4}$ SW $\frac{1}{4}$  Section 23, T.23 N., R.9 W.  
BH: SW $\frac{1}{4}$ SW $\frac{1}{4}$  Section 25, T.23 N., R.9 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, New Mexico State Office, Reservoir Management Group, 301 Dinosaur Trail, Santa Fe, New Mexico 87508.  
The effective date of the agreement must be **prior** to any sales.

INTERIOR REGION 7 • UPPER COLORADO BASIN

COLORADO, NEW MEXICO, UTAH, WYOMING

- 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.
- 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 **\* 30** 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 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**  
**BLM 24 Hour Number (505) 564-7750**

Operator Certification:

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, are true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 10 day of January, 2022.

Name Khem Suthiwan

Position Title Project Regulatory Specialist

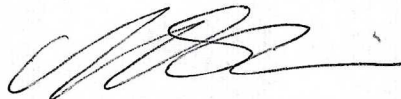
Address 6300 S Syracuse Way, Suite 525; Centennial, CO 80111

Telephone (303) 573-1222

Field representative (if not above signatory) \_\_\_\_\_

Email khem.suthiwan@wsp.com

Date: January 10, 2022



Khem Suthiwan

Project Regulatory Specialist, Agent

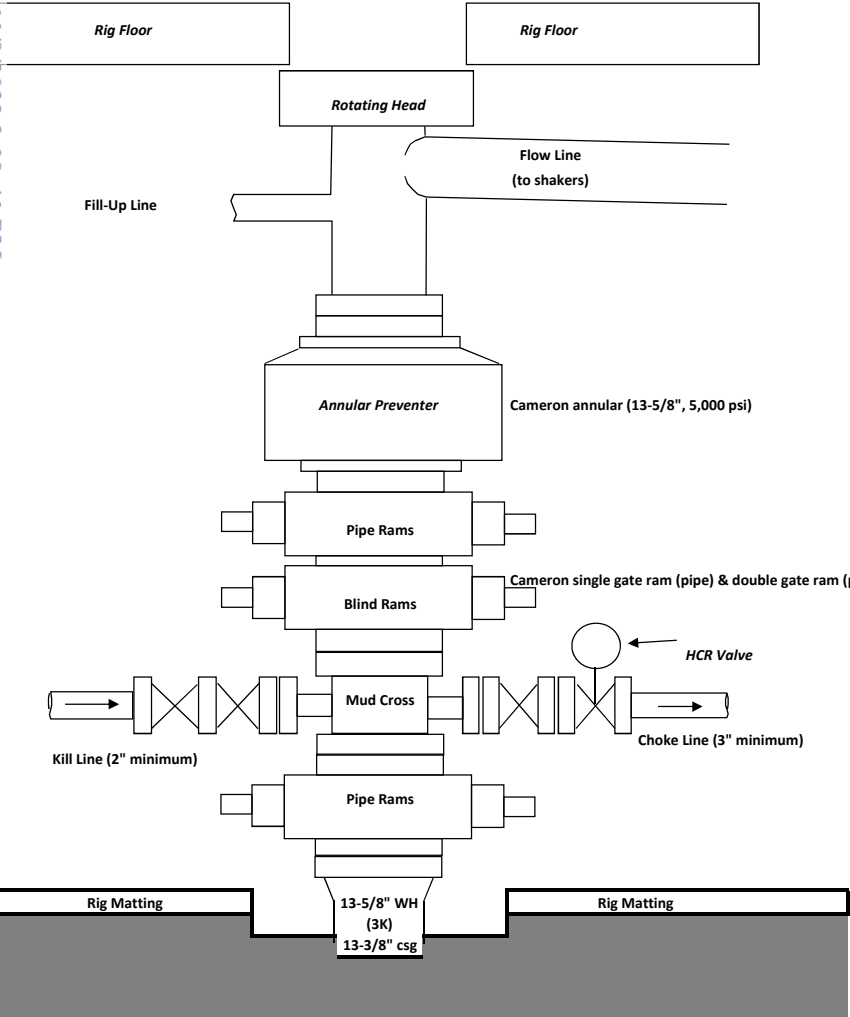
WSP Inc., on behalf of Enduring Resources, LLC



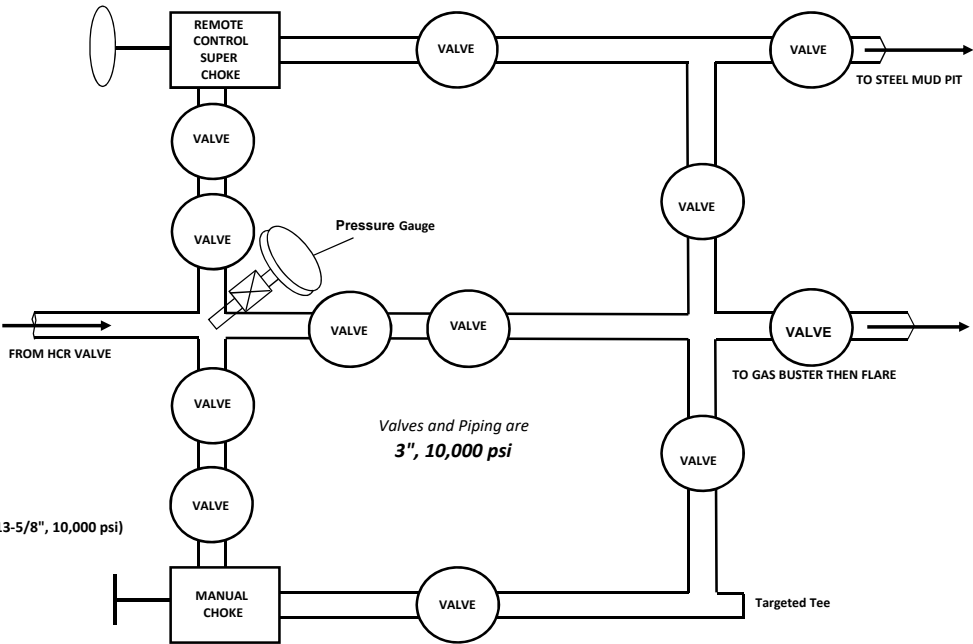
BOPE & CHOKE MANIFOLD DIAGRAMS

NOTE: EXACT BOPE AND CHOKE CONFIGURATION 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**

CONDITIONS

Action 156323

**CONDITIONS**

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way, Suite 525 Centennial, CO 80111	OGRID: 372286
	Action Number: 156323
	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	11/8/2022
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104	11/8/2022
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	11/8/2022
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing	11/8/2022
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	11/8/2022