Form 3160-3 FORM APPROVED OMB No. 1004-0137 (June 2015) Expires: January 31, 2018 **UNITED STATES** DEPARTMENT OF THE INTERIOR 5. Lease Serial No. BUREAU OF LAND MANAGEMENT APPLICATION FOR PERMIT TO DRILL OR REENTER 6. If Indian, Allotee or Tribe Name 7. If Unit or CA Agreement, Name and No. DRILL REENTER 1a. Type of work: 1b. Type of Well: Oil Well Gas Well Other 8. Lease Name and Well No. 1c. Type of Completion: Hydraulic Fracturing Single Zone Multiple Zone 2. Name of Operator 9. API Well No. 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.*) 11. Sec., T. R. M. or Blk. and Survey or Area At surface At proposed prod. zone 14. Distance in miles and direction from nearest town or post office* 12. County or Parish 13. State 15. Distance from proposed* 16. No of acres in lease 17. Spacing Unit dedicated to this well location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 18. Distance from proposed location* 19. Proposed Depth 20. BLM/BIA Bond No. in file to nearest well, drilling, completed, applied for, on this lease, ft. 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. 4. Bond to cover the operations unless covered by an existing bond on file (see 2. A Drilling Plan. Item 20 above). 3. A Surface Use Plan (if the location is on National Forest System Lands, the 5. Operator certification. SUPO must be filed with the appropriate Forest Service Office). 6. Such other site specific information and/or plans as may be requested by the 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



*(Instructions on page 2)

Additional Operator Remarks

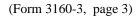
Location of Well

0. SHL: SWSW / 266 FSL / 291 FWL / TWSP: 24N / RANGE: 8W / SECTION: 25 / LAT: 36.278763 / LONG: -107.641373 (TVD: 0 feet, MD: 0 feet)
PPP: NESW / 2044 FSL / 2603 FWL / TWSP: 24N / RANGE: 8W / SECTION: 26 / LAT: 36.283657 / LONG: -107.651323 (TVD: 5537 feet, MD: 11347 feet)
PPP: NESE / 2044 FSL / 100 FEL / TWSP: 24N / RANGE: 8W / SECTION: 26 / LAT: 36.283647 / LONG: -107.642564 (TVD: 5544 feet, MD: 6131 feet)
BHL: NWSW / 2041 FSL / 100 FWL / TWSP: 24N / RANGE: 8W / SECTION: 26 / LAT: 36.283667 / LONG: -107.659816 (TVD: 5537 feet, MD: 11348 feet)

BLM Point of Contact

Name: CHRISTOPHER P WENMAN Title: Natural Resource Specialist

Phone: (505) 564-7727 Email: cwenman@blm.gov



Phone: (505) 476-3441 Fax: (55) 476-3462

General Information Phone: (505) 629-6116

Online Phone Directory Visit:

https://www.emnrd.nm.gov/ocd/contact-us/

State of New Mexico Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

C-102 Revised July 9, 2024 Submit Electronically via OCD Permitting

0.1.1.1	⊠Initial Submittal
Submittal Type:	☐ Amended Report
71	□ As Deillod

WELL LOCATION INFORMATION

API Number 30-045-38412	Pool Code 42289	Pool Name LYBROOK			
Property Code	Property Name			Well Number	
333194	LYBROOK 2408-26 FED COM			138H	
OGRID No.	Operator Name	Operator Name			
372286	ENDURING RESOURCES LLC			6847	
Surface Owner: ☐ State ☐ Fee ☒ Tribal ☒ Federal			Mineral Owner: □ State □ Fee ⊠ Tribal ⊠ Federal		

	Surface Location									
UL M	Section 25	Township 24N	Range 8W	Lot	Ft. from N/S 266 SOUTH	Ft. from E/W 291 WEST	Latitude 36.278763	Longitude -107.641373	County SAN JUAN	
	Bottom Hole Location									
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County	
L	26	24N	8W		2041 SOUTH	100 WEST	36.283667	-107.659816	SAN JUAN	
Dedicat	ted Acres	Infill or Defin	ning Well	Defining	Well API	Overlapping Spacing	Unit (Y/N) N	Consolidation Code		
N/2 S/2	N/2 S/2 – Sec. 26							COMMUNITIZATION		
160.0 A	160.0 Acres									
Order N	Numbers. R-1	13921				Well setbacks are under Common Ownership: ⊠Yes □No				

Kick Off Point (KOP)

	()										
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County		
I	26	24N	8W		2044 SOUTH	100 EAST	36.283647	-107.642564	SAN JUAN		
	First Take Point (FTP)										
UL I	Section 26	Township 24N	Range 8W	Lot	Ft. from N/S 2044 SOUTH	Ft. from E/W 100 EAST	Latitude 36.283647	Longitude -107.642564	County SAN JUAN		
Last Take Point (LTP)											
UL L	Section 26	Township 24N	Range 8W	Lot	Ft. from N/S 2041 SOUTH	Ft. from E/W 100 WEST	Latitude 36.283667	Longitude -107.659816	County SAN JUAN		

Unitized Area or Area of Uniform Interest

Spacing Unit Type ⊠ Horizontal □ Vertical

Ground Floor Elevation:

NW LYBROOK UNIT

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, 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 a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division

If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division

12/16/2024

Shaw-Marie Ford

Printed Name

sford@enduringresources.com

Email Address

SURVEYOR CERTIFICATION



JASON C. EDWARDS

Signature and Seal of Professional Surveyor

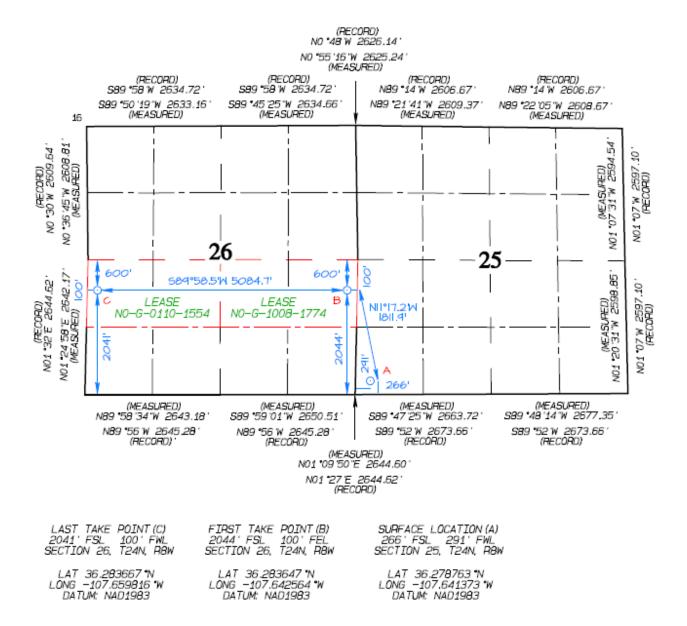
Certificate Number 15269

Date of Survey FEBRUARY 4, 2023 Revised October 2, 2023

Note: 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.

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is directionally drilled, with the dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other than the First Take Point or Last Take Point) that is closest to any outer boundary of the tract.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.



State of New Mexico Energy, Minerals and Natural Resources Department

Submit Electronically Via E-permitting

186

278

280

93

25

37

38

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description Effective May 25, 2021

I. Operator: __Enduring Resources, LLC______**OGRID:** __372286______**Date:** _12_/_16_/_2024__

II. Type: \boxtimes Original \square Amendment due to \square 19.15.27.9.D(6)(a) NMAC \square 19.15.27.9.D(6)(b) NMAC \square Other.

If Other, please describe:									
III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.									
Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D			
Lybrook 2408-26 FED COM	TBD	M-25-24N-8W	266 FSL x 294 FWL	255	760	102			
NW Lybrook Unit 139H	TBD	M-25-24N-8W	263 FSL x 311 FWL	276	824	111			
NW Lybrook Unit 140H	TBD	M-25-24N-8W	252 FSL x 394 FWL	412	1229	165			
NW Lybrook Unit 141H	TBD	M-25-24N-8W	250 FSL x 414 FWL	417	1242	167			
				3-year Decline	3-year Decline	3-year Decline			
Lybrook 2408-26 FED COM	TBD	M-25-24N-8W	266 FSL x 294 FWL	58	172	23			

IV. Central Delivery Point Name: NW Lybrook 131H CDP [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.

263 FSL x 311 FWL

252 FSL x 394 FWL

250 FSL x 414 FWL

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Lybrook 2408-26 FED COM 138H	TBD	Q3 2025	Q3 2025	Q3 2025	Q3 2025	Q3 2025
NW Lybrook Unit 139H	TBD	Q3 2025	Q3 2025	Q3 2025	Q3 2025	Q3 2025
NW Lybrook Unit 140H	TBD	Q3 2025	Q3 2025	Q3 2025	Q3 2025	Q3 2025
NW Lybrook Unit 141H	TBD	Q3 2025	Q3 2025	Q3 2025	Q3 2025	Q3 2025

- VI. Separation Equipment: ⊠ Attach a complete description of how Operator will size separation equipment to optimize gas capture.
- VIII. Best Management Practices: ⊠ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Page 1 of 4

NW Lybrook Unit 139H

NW Lybrook Unit 140H

NW Lybrook Unit 141H

TBD

TBD

M-25-24N-8W

M-25-24N-8W

TBD | M-25-24N-8W

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	Available Maximum Daily Capacity
			Start Date	of System Segment Tie-in

XI. Map. \square 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 🗆 w	vill □ will not have	capacity to gather	100% of the anticipated	natural gas
production volume from the well p	prior to the date of first pro	oduction.			

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

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\Box	A 44 1 4	O 4	9 1 4		1 4	•	4 41 '	sed line pressure
	A Hach I	Inerator	c nian to	manage n	radiietian	in rechance	TO THE INCRESS	sea line nressiire

XIV. Confidentiality: \square 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	n of the specific information
for which confidentiality is asserted and the basis for such assertion.	

Section 3 - Certifications <u>Effective May 25, 2021</u>

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:

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

Section 4 - Notices

- 1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:
- 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
- Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.
- 2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

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

Signature:
Printed Name: Shaw-Marie Ford
Title: Regulatory Specialist
E-mail Address: sford@enduringresources.com
Date: 12/16/2024
Phone: 505-716-3297
OIL CONSERVATION DIVISION
(Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:



SEPARATION EQUIPMENT

Enduring Resources, LLC (Enduring) has pulled representative pressurized samples from wells in the same producing formation. Enduring has utilized these samples in process simulations to determine the amount of gas anticipated in each stage of the process and utilized this information with a safety factor to size the equipment listed below:

Separation equipment will be set as follows:

- o Individual 3-phase separator will be set for the individual well.
- The separator will be sized based on the anticipated volume of the well and the pressure of the lines utilized for oil, gas, and water takeaway.
- o The 3-phase production separator will be equipped with a 0.75 MMBtu/hr indirect fired heater.

Heater treaters will be set as follows:

- o Individual heater treaters will be set for the individual well.
- The heater treaters are sized based on the anticipated combined volume of oil and produced water predicted to come from the initial 3 phase separator.
- Oil will be separated from the produced water and the oil/produced water will be sent to its respective tanks.
- o The combined oil and natural gas stream is routed to the Vapor Recovery Tower.

Vapor Recovery Equipment will be set as follows:

- o The Vapor Recovery Tower has been sized, based on the anticipated volume of gas from the heater treater and oil and water tanks.
- The Vapor Recovery Unit has been sized, based on the anticipated volume of gas from the heater treater and oil and water tanks. The Vapor Recovery Unit is utilized to push the recovered gas into the sales pipeline.

Production storage tanks will be set as follows:

- The oil and produced water tanks utilize a closed vent capture system to ensure all breathing, working, and flashing losses are routed to the Vapor Recovery Tower and Vapor Recovery Unit.
- o Each of the production storage tanks will be equipped with a 0.5 MMBtu/hr indirect heater.



VENTING and FLARING

Enduring has a natural gas system available prior to startup of completion operations. Enduring utilizes a Vapor Recovery Unit System and sells all natural gas except during periods of startup, shutdown, maintenance, or malfunction for the gas capturing equipment, including the vapor recovery tower, vapor recovery unit, storage tanks, and pipelines.

Currently, Enduring utilizes the following from list A-I of Section 3 for its operations to minimize flaring:

- a) Enduring utilizes natural gas-powered generators to power its leases where grid power isn't available.
- b) When electrical grid power is unavailable, natural gas generators will be used for major equipment onsite.
- c) Enduring's in service compression will be natural gas powered.
- d) Should liquids removal, such as dehydration be required, units will be powered by natural gas.

Enduring will only flare gas during the following times:

- o Scheduled maintenance for gas capturing equipment including:
 - Vapor Recovery Tower
 - Vapor Recovery Unit
 - Storage tanks
 - Pipelines
 - o Emergency flaring



OPERATIONAL PRACTICES

19.15.27.8 A. Venting and Flaring of Natural Gas

Enduring understands the requirements of NMAC 19.15.27.8 which states that the venting and flaring of natural gas during drilling, completion or production that constitutes waste as defined in 19.15.2 are prohibited.

19.15.27.8 B. Venting and flaring during drilling operations

- o Enduring shall capture or combust natural gas if technically feasible during drilling operations using best industry practices.
- A flare stack with a 100% capacity for expected volumes will be set on location of the facility at least 100 feet from the nearest surface hole location, well heads, and storage tanks.
- o In the event of an emergency, Enduring will vent natural gas in order to avoid substantial impact. Enduring shall report the vented or flared gas to the NMOCD.

19.15.27.8 E. Venting and flaring during completion or recompletion operations

During Completion Operations, Enduring utilizes the following:

- o Enduring facilities are built and ready from day 1 of Flowback.
- o Individual well test separators will be set to properly separate gas and liquids. Temporary test separator will be utilized initially to process volumes. In addition, separators will be tied into flowback tanks which will be tied into the gas processing equipment for sales down a pipeline. See Separation Equipment for details.
- O Should the facility not yet be capable of processing gas, or the gas does not meet quality standards, then storage tanks will be set that are tied into gas busters or temporary flare to manage natural gas. This flare would meet the following requirements:
 - 1) An appropriately sized flare stack with an automatic igniter.
 - 2) Enduring analyzes the natural gas samples twice per week.
 - 3) Enduring routes the natural gas into a gathering pipeline as soon as the pipeline specifications are met.
 - 4) Enduring provides the NMOCD with pipeline specifications and natural gas data.



19.15.27.8 D. Venting and flaring during production operations

During Production Operations Enduring will not vent or flare natural gas except under the following circumstances:

- 1. During an emergency or malfunction
- 2. To unload or clean-up liquid holdup in a well to atmospheric pressure, provided:
 - a. Enduring does not vent after the well achieves a stabilized rate and pressure.
 - b. Enduring will remain present on-site during liquids unloading by manual purging and tall all reasonable actions to achieve a stabilized rate and pressure at the earliest practical time.
 - c. Enduring will optimize the system to minimize natural gas venting on any well equipped with a plunger lift or auto control system.
 - d. Best Management Practices will be used during downhole well maintenance.
- 3. During the first year of production from an exploratory well provided:
 - a. Enduring receives approval from the NMOCD.
 - b. Enduring remains in compliance with the NM gas capture requirements.
 - c. Enduring submits an updated C-129 form to the NMOCD.
- 4. During the following activities unless prohibited:
 - a. Gauging or sampling a storage tank or low-pressure production vessel.
 - b. Loading out liquids from a storage tank.
 - c. Repair and maintenance.
 - d. Normal operation of gas activated pneumatic controller or pump.
 - e. Normal operation of a storage tank but not including venting from a thief hatch.
 - f. Normal operation of dehydration units.
 - g. Normal operations of compressors, compressor engines, turbines, valves, flanges, and connectors.
 - h. During a bradenhead, packer leakage test, or production test lasting less than 24-bours
 - i. When natural gas does not meet the gathering pipeline specifications.
 - j. Commissioning of pipelines, equipment, or facilities only for as long as necessary to purge introduced impurities.

19.15.27.8 E. Performance standards

- 1. Enduring has utilized process simulations with a safety factor to design all separation and storage equipment. The equipment is routed to a Vapor Recovery System and utilizes a flare as back up for periods of startup, shutdown, maintenance, or malfunction of the VRU System.
- 2. Enduring will install a flare that designed to handle the full volume of vapors from the facility in case of the VRU failure and it its designed with an auto ignition system.
- 3. Flare stacks will appropriately sized and designed to ensure proper combustion efficiency.
 - a. Flare stacks installed or replaced will be equipped with an automatic ignitor or continuous pilot.



- b. Previously installed flare stacks will be retrofitted with an automatic ignitor, continuous pilot, or technology that alerts ENDURING of flare malfunction within 18 months after May 25, 2021.
- c. Flare stacks replaced after May 25, 2021, will be equipped with an automatic ignitor or continuous pilot if located at a well or facility with average daily production of 60,000 cubic feet of natural gas or less.
- d. Flare stacks will be located at least 100 feet from the well and storage tanks and securely anchored.
- 4. Enduring will conduct an AVO inspection on all components for leaks and defects on a weekly basis.
- 5. Enduring will make and keep records of AVO inspections which will be available to the NMOCD for at least 5 years.
- 6. Enduring may use a remote or automated monitoring technology to detect leaks and releases in lieu of AVO inspections with prior NMOCD approval.
- 7. Facilities will be designed to minimize waste.
- 8. Enduring will resolve emergencies as promptly as possible.

19.15.27.8 F. Measurement or estimation of vented and flared natural gas

- 1. Enduring will have meters on both the low- and high-pressure sides of the flares and the volumes will be recorded in ENDURING's SCADA system.
- 2. Enduring will install equipment to measure the volume of flared natural gas that has an average daily production of 60,000 cubic feet or greater of natural gas.
- 3. Enduring's measuring equipment will conform to the industry standards.
- 4. The measurement system is designed such that it cannot be bypassed except for inspections and servicing meters.
- 5. Enduring will estimate the volume of vented or flared natural gas using a methodology that can be independently verified if metering is not practicable due to low flow rate or pressure.
- 6. Enduring will estimate the volume of flared and vented natural gas based on the results of an annual GOR test for wells that do not require measuring equipment reported on Form C-116.
- 7. Enduring will install measuring equipment whenever the NMOCD determines that metering is necessary.



BEST MANAGEMENT PRACTICES

Enduring utilizes the following Best Management Practices to minimize venting during active and planned maintenance.

Enduring has a closed vent capture system to route emissions from the heater treater, tanks, and vapor recovery to the vapor recovery unit with an enclosed combustion device (ECD) for backup. The system is designed such that if the vapor recovery unit is taken out of service for any reason, the vapors will be routed to the ECD for combustion.

Enduring will isolate and attempt to route all vapors to the vapor recovery unit or ECD prior to opening any lines for maintenance to minimize venting from the equipment.

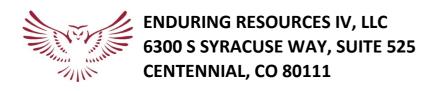
Enduring shall notify the NMOCD of venting or flaring that exceeds 50 MCF but less than 500 MCF in volume that either resulted from an emergency or malfunction, or an event lasting over eight hours or more cumulatively within any 24-hour period from a single event by filing a form C-129 no later than 15 days following the discovery or commencement of venting or flaring.

Enduring shall notify the NMOCD verbally or by e-mail within 24-hours following discovery or commencement of venting or flaring that exceeds 500 MCF in volume or otherwise qualifies as a major release as defined in 19.15.29.7 NMAC from a single event and provide the information required in form C-129 to the NMOCD no later than 15 days that verifies, updates, or corrects the verbal or e-mail notification.

Enduring will install measuring equipment to conform to industry standards such as American Petroleum Institute (API) Manual of Petroleum Measurement Standards (MPMS) Chapter 14.10 Measurement of Flow to Flares.

Enduring's measuring equipment shall not be designed or equipped with a manifold that allows the diversion of natural gas around the metering element except for the sole purpose of inspecting and servicing the measurement equipment.

Enduring shall report the volume of vented and flared natural gas for each well or facility at which venting or flaring occurred on a monthly basis.



DRILLING PLAN: Drill, complete, equip single lateral Mancos formation Gallup member.

WELL INFORMATION:

Name: LYBROOK 2408 26M FEDERAL COM 138H

API Number: Not assigned yet AFE Number: Not assigned yet ER Well Number: Not assigned yet

State: New Mexico County: San Juan

Surface Elevation: 6,847 ft ASL (GL) 6,872 ft ASL (KB)

Surface Location: 25-24-8 Sec-Twn-Rng 266 ft FSL 291 ft FWL

36.278763 $^{\circ}$ N latitude 107.641373 $^{\circ}$ W longitude (NAD 83) 26-24-8 Sec-Twn-Rng 2,041 ft FSL 100 ft FWL

36.283667 N latitude 107.659816 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 43.5 mles to MM

108.3; Left (North) on County Road #7998 for 0.5 miles to fork; Left (North) continuing on Rd #7998 for 0.5 miles to T; Left (NorthWest) for 0.6 miles to acces road; Left (West) for 0.3 miles into NW Lybrook Unit 131H Pad. The 138H will be one of 4 wells to be added to an existing, 3 well pad. The 138H will be the furthest west well and furthest from the location entrance. From east to west will be NW Lybrook 141H, NW Lybrook 140H, NW Lybrook 289H (existing well). NW Lybrook 131H (existing well), Lybrook 2408 237H (existing well), NW Lybrook 139H, Lybrook 2408-25M

138H2

GEOLOGIC AND RESERVOIR INFORMATION:

Prognosis:

BH Location:

Formation Tops	TVD (ft ASL)	TVD (ft KB)	MD (ft KB)	O/G/W	Pressure
Nacimiento	0	0	0	0	0
Ojo Alamo	5,650	1,222	1,241	W	normal
Kirtland	5,520	1,352	1,381	W	normal
Fruitland	5,300	1,572	1,619	G, W	sub
Pictured Cliffs	4,990	1,882	1,954	G, W	sub
Lewis	4,890	1,982	2,062	G, W	normal
Chacra A	4,580	2,292	2,398	G, W	normal
Cliff House Basal	3,484	3,388	3,582	G, W	sub
Menefee	3,479	3,393	3,587	G, W	normal
Point Lookout	2,609	4,263	4,528	G, W	normal
Mancos	2,379	4,493	4,777	O,G	normal
MNCS_A	2,009	4,863	5,177	O,G	sub (~.38)
MNCS_B	1,919	4,953	5,275	O,G	sub (~.38)
MNCS_C	1,799	5,073	5,403	O,G	sub (~.38)
MNCS_Cms	1,719	5,153	5,491	O,G	sub (~.38)
MNCS_D	1,644	5,228	5,577	O,G	sub (~.38)
MNCS_E	1,564	5,308	5,675	O,G	sub (~.38)
MNCS_F	1,505	5,367	5,758	O,G	sub (~.38)
MNCS_G	1,420	5,452	5,901	O,G	sub (~.38)
MNCS_H	1,378	5,494	5,985	O,G	sub (~.38)

POE	1,328	5,544	6,131	O,G	sub (~.38)
FTP TARGET	1,420	5,452	5,901	O,G	sub (~.38)
PROJECTED WELL TD (BHL)	1,335	5,537	11,347	O,G	sub (~.38)

Surface: Nacimiento

Oil & Gas Zones: Several gas bearing zones will be encountered; target formation is the Gallup

Pressure: Normal (0.43 psi/ft) or sub-normal pressure gradients anticipated in all formations

Max. pressure gradient: 0.43 psi/ft Evacuated hole gradient: 0.22 psi/ft

Maximum anticipated BH pressure, assuming maximum pressure gradient: 2,390 psi

Maximum anticipated surface pressure, assuming partially evacuated hole: 1,180 psi

Temperature: Maximum anticipated BHT is 125° F or less

H₂S INFORMATION:

H₂S 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 surveys with inclination and azimuth in 100' stations (minimum) from drill out of 13-3/8" casing to TD; Gamma

MWD / LWD: Ray from drill out of 9-5/8" casing to TD; Gamma Ray optional in 12-1/4" intermediate hole

Open Hole Logs: None planned
Testing: None planned
Coring: None planned

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

DRILLING RIG INFORMATION:

Contractor: Aztec Rig No.: 1000

Draw Works: E80 AC 1500HP

Mast: Hyduke 600K Cantilever Triple (136 ft, 600,000 lbs)

Top Drive: NOV IDS-350PE 1000 HP

Prime Movers: 4 GE Jenbachers 1000KW 480/240 volt Nat Gas

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

BOPE 1: Cameron double gate ram (13-5/8", 5,000 psi)

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

Choke 3", 5,000 psi

KB-GL (ft): 25

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

STATE AND FEDERA	L NOTIFICATIONS	BLM	State
Construction and	BLM is to be notified minimum of 48 hours prior to start of construction or reclamation.		
Reclamation:	Grazing permittee is to be notified 10 days in advance.	(505) 564-7600	
Spuc	BLM and state are to be notified minimum of 24 hours prior to spud.	(505) 564-7750	(505) 334-6178
ВОР	BLM is to be notified minimum of 24 hours prior to BOPE testing.	(505) 564-7750	see note
Casing / cementing	BLM and state are to be notified minimum of 24 hours prior to running casing and		
	cementing.	(505) 564-7750	(505) 334-6178
Plugging	BLM and state are to be notified minimum of 24 hours prior to plugging ops.	(505) 564-7750	see note
	All notifications are to be recorded in the WellView report with time, date, name or		
	number that notifications were made to.		

Note: Monica Keuhling with the OCD requests state notifications 24 hrs in advance for spud, BOP tests, casing & cementing and any plugging be given to her in both phone message and email: (505) 320-0243, monica.keuhling@emnrd.nm.gov

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. 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.
- 4) 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.
- 5) 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.
- 6) Manual locking devices (hand wheels) shall be intalled on rams. A valve will be installed on the annular preventer's closing line as close as possible to the preventer to act as a locking device. The valve will be maintained in the open position and shall only be closed when the there is no power to the accumulator.

FLUIDS AND SOLIDS CONTROL PROGRAM:

Fluid Measurement:

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

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

- Fluid Disposal: Fluids that cannot be reused, recycled, or returned to the supplier will be hauled to and disposed of at an approved disposal site (Industrial Ecosystem, Inc. or Envirotech, Inc.).
- Solids Disposal: Drilling solids will be stored (until haul-off) on-site in separate containers with no other waste, debris, or garbage products. Waste solids will be hauled to and disposed of at an approved disposal site (Industrial Ecosystem, Inc. or Envirotech, Inc.).
- Fluid Program: See "Detailed Drilling Plan" section for specifics and fluid program from Newpark. Sufficient weighting agent will be on location to weight up mud system to balance the maximum expected pressure gradient.

DETAILED DRILLING PLAN:

SURFACE: Drill vertically to casing setting depth, run casing, cement casing to surface.

0 ft (MD)	to	350 ft (MD)	Hole Section Length:	350 ft

0 ft (TVD) 350 ft (TVD) **Casing Required:** 350 ft to

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

FL ΥP Fluid: Type MW (ppg) (mL/30 min) PV (cp) (lb/100 sqft) рН **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, run deviation survey after drilling

Logging: None

Procedure: Drill to TD. Use 12-/4" bit and open to 17-1/2" if unable to drill with 17-1/2" bit. Run inclination survey in 100'

stations from TD to surface. Condition hole and fluid for casing running as required. TOOH. Run casing. Pump cement as detailed below. Monitor returns during cement job and note cement volume to surface. Install cellar and wellhead.

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	1,520	116,634	116,634
Min. S.F.					7.39	1.80	7.31	7.79

Assumptions: Collapse: partially evacuated casing with 8.4 ppg fluid outside casing

Burst: maximum anticipated surface pressure with 9.5 ppg fluid inside casing while drilling

Cu Ft Slurry 505.3

intermediate hole and 8.4 ppg equivalent external pressure gradient

Tension: buoyed weight in 8.4 ppg fluid with 100,000 lbs over-pull

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

Make-up as per API Buttress Connection running procedure.

Casing Details: 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

			Yield	Water	Ann Cap.		Planned TOC	Total Cmt	
Cement:	Type	Weight (ppg)	(cuft/sk)	(gal/sk)	(cuft/ft)	% Excess	(ft MD)	(sx)	
	TYPE III	14.6	1.39	6.686	0.6946	100%	0	364	Ī
ar Capacity	0.6946	cuft/ft	13-3/8" casing	x 17-1/2" hole	annulus	Csg capacity	0.8680	ft3/ft	

Drake Energy Services: Calculated cement volumes assume gauge hole and the excess noted in table

Calcium Chloride D-CD2 .3% BWOC ASTM Type III 2% BWOC Dispersant/Friction .25 lbs/sx Cello

Tail Blend Accelerator reducer Flake - seepage

Notify COGCC & 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.

3	350 ft (MD)	to	3,789 ft (MD)	Hole Section Length:	3,439 ft
3	350 ft (TVD)	to	3,543 ft (TVD)	Casing Required:	3,789 ft

			FL		YP		
Fluid:	Type	MW (ppg)	(mL/30 min)	PV (cp)	(lb/100 sqft)	рН	Comments
	LSND (KCI)	88-95	20	8 - 14	8 - 14	90-95	

Hole Size: 12-1/4"

Bit / Motor: PDC w/mud motor

Bit / Motor (Detail): MOTOR: NOV 087840 - 7/8, 4.0, stage, 0.16 rev/gal, 1.83 DEG, 900 GPM, 950 DIFF PSIG

Annular Capacity

BIT: 5- or 6-BLADE PDC w/16 mm or 19 mm cutters, target TFA 0.65 - 1.0 max); 6 - 14s = 0.902 sq-in TFA

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

Logging: None

Pressure Test: NU BOPE and test (as noted above); pressure test 13-3/8" casing to

1,500 psi for 30 minutes.

Maximum anticipated surface pressure while drilling intermediate hole section is

1,350 psi

Procedure: Drill to TD following directional plan (20' rat-hole (MAX) past casing setting depth). Steer as needed to keep well on plan. Keep DLS < 3 deg/100' and keep slide length < 10', when possible. Take surveys every stand, at a minimum.

Target flow-rates of 750 GPM (higher if able to control return rates). Minimum desired flow-rate is 650 GPM. At TD, condition hole and fluid for casing running. TOOH. Run casing using a CRT and washing / circulating as required. Land casing. ND BOPE. Walk rig to next well. Perform off-line cement job, if possible. Pump cement as detailed below.

Monitor returns during cement job and note cement volume to surface.

							Tens. Body	Tens. Conn
Casing Specs:		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	(lbs)	(lbs)
Specs	9.625	36.0	J55	LTC	2,020	3,520	564,000	453,000
Loading					755	1,396	211,228	211,228
Min. S.F.					2.67	2.52	2.67	2.14

Assumptions: Collapse: evacuated casing with 8.33 ppg equiv external pressure gradient, .22 psi/ft backup

Burst: maximum anticipated surface pressure with 9.5 ppg fluid inside casing while drilling production

hole and 8.4 ppg equivalent external pressure gradient

Tension: buoyed weight in 8.4 ppg fluid with 100,000 lbs over-pull

MU Torque (ft lbs): Minumum: 3,400 Optimum: 4,530 Maximum: 5,660 DV depth N/A

Casing Summary: Float shoe, 1 jt casing, float collar, casing to surface (Float Equipment from Weatherford)

Centralizers: 1 per joint in non-vertical hole; 1 per 3-joints in vertical hole

Centralizers: 1 centralizers jt stop-banded 10' from float shoe on bottom 1 jt & 1 centralizer floating on bottom joint, 1 centralizer

per jt (floating) to KOP; 1 centralizer per 3 jts to surface (Centralizers from Scepter Supply - SLIP'N'SLIDE 9-5/8" x

12" SOLID BODY POLYMER)

				Yield	Water		Planned TOC	Total Cmt	Total Cmt (cu
	Cement:	Type	Weight (ppg)	(cuft/sk)	(gal/sk)	% Excess	(ft MD)	(sx)	ft)
Stage 1	Spacer	D-Mud Breaker	8.5				0	10 bbls	
		90:10 Type							
	Lead	III:POZ	12.5	2.140	12.05	70%	0	878	1,878
	Tail	Type III	14.6	1.380	6.61	20%	3,289	150	207
	Displacement	290	est bbls						

Annular Capacity

0.3627 cuft/ft 0.3132 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

0.4341 cuft/ft 9-5/8" casing vol est shoe jt ft 44
Calculated cement volumes assume gauge hole and the excess (open hole only) noted in table

Spacer D-Mud Breaker SAPP

D-MPA-1 .4%

D-CSE 1 5.0% BWOC Fluid Loss &

ASTM Type III BWOC Strength Gas Migration D-SA 1 1.4% BWOC D-CD 2 .4% BWOC Cello Flace LCM D-FP 1.5% BWOC

Lead 90/10 Poz Enhancer Control Na Metasilicate Dispersant .25 lb/sx Defoamer

D-MPA-1 .4%

BWOC Fluid Loss &

ASTM Type III Gas Migration Cello Flace LCM **Tail** Blend Control .25 lb/sx

Drake Intermediate Cementing Program

Cement must achieve 500 psi compressive strength before drilling out.

D-R1 .5% Retarder

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.

3,789	ft (MD)	to	11,347 ft (MD)	Hole Section Length:	7,558 ft
3,543	ft (TVD)	to	5,537 ft (TVD)	Casing Required:	11,347 ft

Estimated KOP:	5,250	ft (MD)	4,930	ft (TVD)
Estimated Landing Point (P.O.E.):	5,901	ft (MD)	5,544	ft (TVD)
Estimated Lateral Length:	5,446	ft (MD)		

					ΥP			
Fluid:	Type	MW (ppg)	WPS ppm	HTHP	(lb/100 sqft)	ES	OWR	Comment
								WBM as
	ОВМ	8.0 - 9.0	120,000 CaCl	NC	±6	+300	80:20	contingency

Fluids / Solids Notes: OptiDrill OBM system will be built from previous well. Ensure that drying shakers are rigged up after the rig (2nd set) of shakers. Solids control will burn retorts on cuttings samples one per tour to check % ROC. Add diesel and products

as required to maintain mud in program specs. Reference Newpark's mud program for additional details.

Hole Size: 8-1/2"

Bit / Motor: PDC w/mud motor

Bit / Motor (Detail): MOTOR: NOV 077857 - 6.5" 7/8, 5.0 stage, 0.23 rev/gal, 1.83 deg, 750 GPM, 1,580 DIFF PSIG (or similar); on demand

friction breaking device(s) as required, bottom tool spaced $^{\sim}$ 3,000' behind the bit. BIT: 5-BLADE PDC w/16 mm - 19 mm cutters, matrix body, target TFA = 1.0 - 1.5 sq-in

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.

Procedure: Drill to KOP following directional plan. Target flow-rate is 650 - 700 GPM. Target differential is pressure is 700 - 1,000 psig. Target ROP 500 - 600 ft/hr. Steer as needed to keep well on plan. Keep DLS < 3 deg/100' and keep slide length < 10' until KOP, when feasible. Take surveys every stand, at a minimum. Confirm landing target, planned BUR for curve, and KOP with Geology and Engineering. Drill curve following directional plan and updated landing target. Take survey every joint during curve. Land curve. Continue drilling in lateral section, steering as needed to keep well on plan and in the target window. Keep DLS < 2 deg/100' and keep slide length < 20', when feasible. Take surveys every stand, at a minimum. Target rotating parameters / performance: flow-rate is 650 - 700 GPM, differential is pressure is 700 - 1,000 psig, ROP 500 - 600 ft/hr, torque 38K ft-lbs (MAX drill pipe MUT). After reaching TD, perform no more than one clean-up cycle to condition hole for casing running unless shakers indicate additional cleaning needed. TOOH & LD drill pipe (ROOH, if required; should NOT be required with OBM system). Run casing as described below. Use CRT for casing running only if necessary (should NOT be required with OBM). Verify make up torque when running casing. Space out casing getting the toe sleeve as close to LTP as possible. Land casing and test pack-off. Open floatation sub, fill casing, and circulate as required. Pump cement as detailed below. Note cement volume circulated to surface. Nipple down BOPE. Clean pits. RDMO to next pad.

							Tens. Body	Tens. Conn
Casing Specs:		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	(lbs)	(lbs)
Specs	5.500	17.0	P-110	LTC	7,460	10,640	546,000	445,000
Loading					2,739	8,135	181,327	181,327
Min. S.F.					2.72	1.31	3.01	2.45

Assumptions: Collapse: fully evacuated casing with 9.5 ppg fluid in the annulus (floating casing during running)

Burst: 8,500 psi maximum surface treating pressure with 10.2 ppg equivalent mud weight sand laden fluid with 8.4 ppg equivalent external pressure gradient

Tension: buoyed weight in 9.0 ppg fluid with 100,000 lbs over-pull

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

Casing Summary: Float shoe, float collar w/debris catcher, 1 jt casing, float collar (Weatherford (WFT) float equipment), 20' marker joint, toe-intitiation sleeve (WFT RD 8,500 psi), casing to KOP with 20' marker joints spaced evenly in lateral every ~2,000', floatation sub (NCS Air-Lock 2,500 psi from WFT), casing to surface. The toe-initiation sleeve shall be placed no closer to the unit boundary than 300' measured perpendicular to the East or West lease lines for a East-West azimuth drilled wellbore. Wellbore path must be no closer than 600' from the parallel lease lines. Note: the LTP is the maximum depth of the toe sleeve and is noted on the Well Plan. Drill past the LTP as required for necessary rat-

hole and shoe-track length to place the toe sleeve as close to (but not past) the planned LTP as possible.

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

Lateral: 1 centralizer per 3 joints (purchase centralizers from Scepter Supply)

Top of curve to 9-5/8" shoe: 1 centralizer per 5 joints **9-5/8" shoe to surface:** 1 centralizer per 5 joints

			Yield	Water	% Excess	Planned TOC	Total Cmt	Total Cmt (cu
Cement:	Type	Weight (ppg)	(cuft/sk)	(gal/sk)	Open Hole	(ft MD)	(sx)	ft)
Spacer	IntegraGuard Star	11		31.6		0	60 bbls	
Lead	ASTM type I/II	12.4	2.370	13.40	50%	0	645	1,529
Tail	G:POZ blend	13.3	1.570	7.70	10%	4,777	1,063	1,668

Displacement 249 est bbls

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

0.1245 cuft/ft 5-1/2" casing vol est shoe jt ft 100

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

American Cementing Liner & Production Blend

Pozzolan Fly Ash

IntegraGuard Star

S-8 Silica Flour Avis 616 viscosifier FP24 Defoamer .5 Plus 3K LCM 15 SS201 Surfactant 1

Spacer 163.7 lbs/bbl 11.6 lb/bbl lb/bbl lb/bbl lb/bbl gal/bbl gal/bbl

BA90 Bonding

Bentonite IntegraGuard FP24 Defoamer
BA90 Bonding Viscosifier 8% FL24 Fluid Loss .5% GW86 Viscosifier R7C Retarder .2% 0.3% BW0B, Anti-

BA90 Bonding Viscosifier 8% FL24 Fluid Loss .5% GW86 Viscosifier R7C Retarder .2% 0.3% BW0B, Anti-Lead ASTM Type I/II Agent 5.0 lb/sx BW0B BW0B .1% BW0B BW0B Static .01 lb/sx

FP24 Defoamer

Bentonite IntegraGuard .3% BW0B,

 Tail
 Type G 50%
 Extender 50%
 Agent 3.0 lb/sx
 BWOB
 BWOB
 .1% BWOB
 BWOB
 BWOB
 lb/sx

FL24 Fluid Loss .4% GW86 Viscosifier

R3 Retarder .5%

IntegraSeal 0.25

Viscosifier 4%

Note: This well will not be considered an unorthodox well location as definted by NMAC19.15.16.15.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.

Procedure: ND BOP. Install BPV in WH if available. Install cap with pressure gauge on WH. Frac stack to be installed at later date. RDMO.

COMPLETION AND PRODUCTION PLAN:

Est Lateral Length: 5,346

Est Frac Inform: 22 Frac Stages 86,000 bbls slick water 6,960,000 lbs proppant

Flowback: Flow back through production tubing as pressures allow

Production: Produce through production tubing into permanent production and storage facilities

ESTIMATED START DATES:

 Drilling:
 2/1/2024

 Completion:
 5/2/2024

 Production:
 7/1/2024

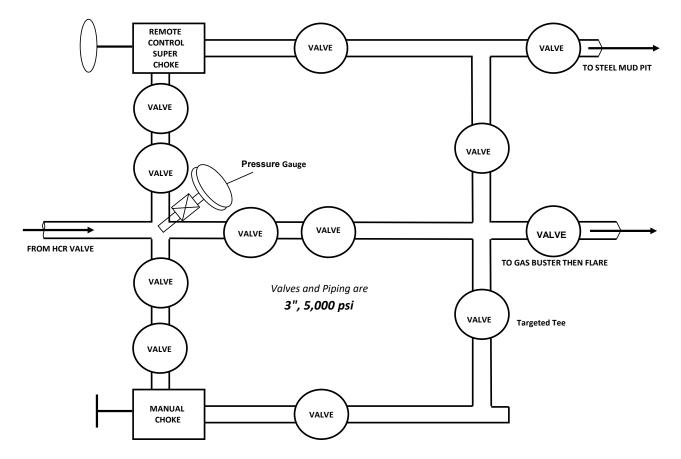
Prepared by: Greg Olson 2/21/2023

Updated by:

BOPE & CHOKE MANIFOLD DIAGRAMS

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

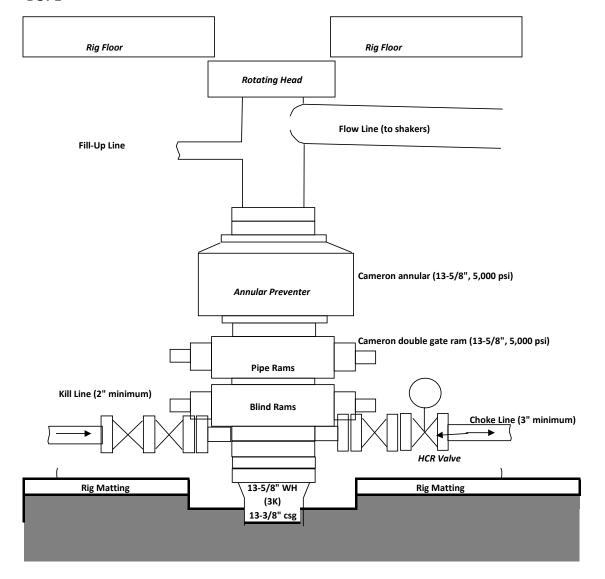
CHOKE MANIFOLD



BOPE & CHOKE MANIFOLD DIAGRAMS

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

BOPE



WELL NAME: LYBROOK 2408 26M FEDERAL COM 138H

OBJECTIVE: Drill, complete, equip single lateral Mancos formation Gallup member.

API Number: Not assigned yet **State:** New Mexico

County: San Juan

Surface Elev.: 6,847 ft ASL (GL) 6,872 ft ASL (KB)

 Surface Location:
 25-24-8
 Sec-Twn- Rng
 266
 ft FSL
 291
 ft FWL

 BH Location:
 26-24-8
 Sec-Twn- Rng
 2041
 ft FSL
 100
 ft FWL

Driving Directions: From the intersection of US HWY 550 & US HWY 64 in Bloomfield, NM: South on US HWY 550 for 43.5 mles to MM 108.3; Left (North) on County Road #7998 for 0.5 miles to fork; Left (North)

continuing on Rd #7998 for 0.5 miles to T; Left (NorthWest) for 0.6 miles to acces road; Left (West) for 0.3 miles into NW Lybrook Unit 131H Pad. The 138H will be one of 4 wells to be added to an existing, 3 well pad. The 138H will be the furthest west well and furthest from the location

entrance. From east to west will be NW Lybrook 141H, NW Lybrook 140H, NW Lybrook 289H (existing well). NW Lybrook 131H (existing well), Lybrook 2408 237H (existing well), NW Lybrook

139H, Lybrook 2408-25M 138H2

ft FWL Curst Shwy 550 for odd; Left (West) added to an location rook 289H, NW Lybrook

WELL CONSTRUCTION SUMMARY:

	Hole (in)	TD MD (ft)	Csg (in)	Csg (lb/ft)	Csg (grade)	Csg (conn)	Csg Top (ft)	Csg Bot (ft)
Surface	17.500	350	13.375	54.5	J-55	BTC	0	350
Intermediate	12.250	3,789	9.625	36	J55	LTC	0	3,789
Production	8.500	11,347	5.500	17.0	P-110	LTC	0	11,347

CEMENT PROPERTIES SUMMARY:

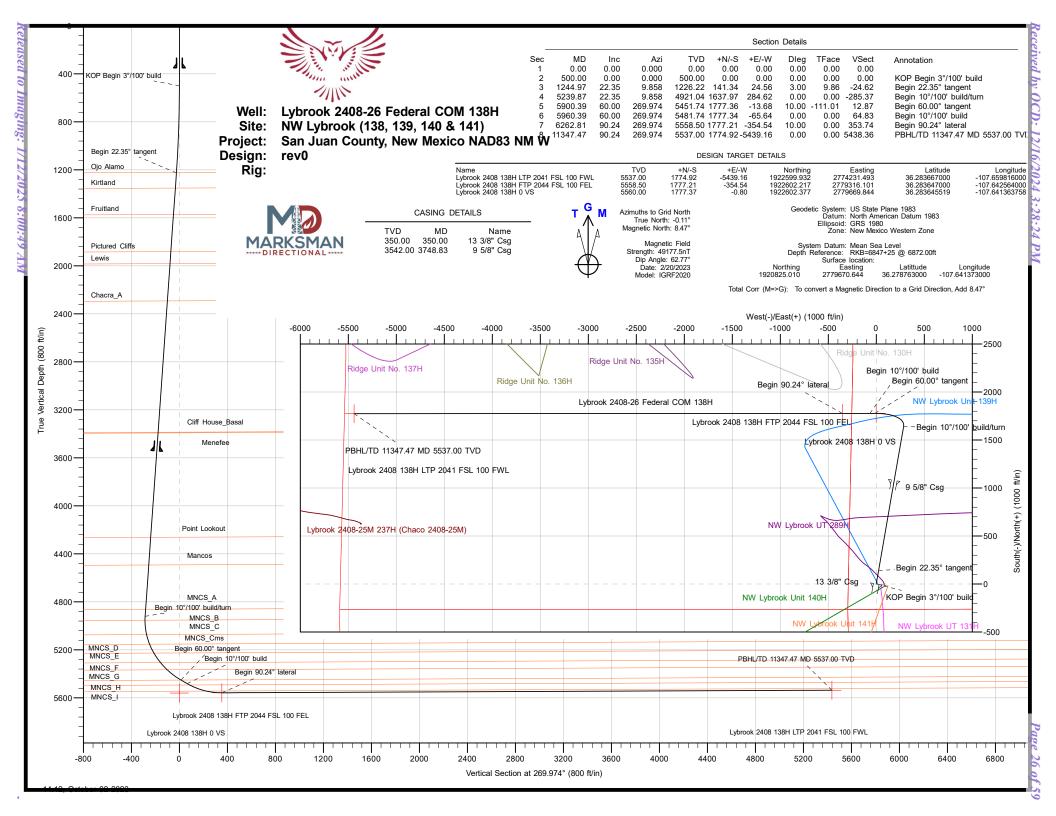
						TOC		
	Туре	Wt (ppg)	Yd (cuft/sk)	Wtr (gal/sk)	% Excess	(ft MD)	Total (sx)	Cu Ft Slurry
Surface	TYPE III	14.6	1.39	6.686	100%	0	364	505
Inter. (Lead Stg 1)	90:10 Type III:POZ	12.5	2.14	12.05	70%	0	878	1,878
Inter. (Tail Stg 1)	Type III	14.6	1.38	6.61	20%	3289	150	207
Prod. (Lead)	ASTM type I/II	12.4	2.37	13.40	50%	0	645	1,529
Prod. (Tail)	G:POZ blend	13.3	1.57	7.70	10%	4777	1063	1,668

COMPLETION / PRODUCTION SUMMARY:

Frac: Flow back through production tubing as pressures allow

Flowback: Produce through production tubing into permanent production and storage facilities

Production: 0



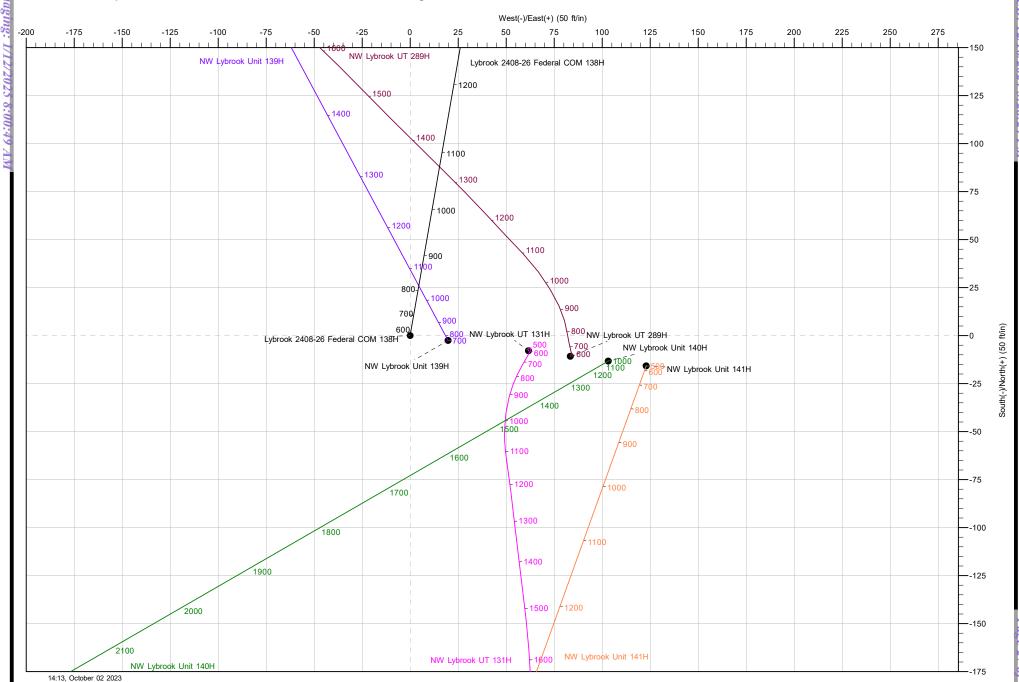
Well: Lybrook 2408-26 Federal COM 138H Site: NW Lybrook (138, 139, 140 & 141)

Project: San Juan County, New Mexico NAD83 NM W

Design: rev0

Rig:







Well:

Design

Planning Report

Database: DT_Aug2923v16

Company: Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W
Site: NW Lybrook (138, 139, 140 & 141)

Lybrook 2408-26 Federal COM 138H

Wellbore: Original Hole

Design: rev0

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well Lybrook 2408-26 Federal COM 138H

RKB=6847+25 @ 6872.00ft RKB=6847+25 @ 6872.00ft

Grid

Minimum Curvature

Project San Juan County, New Mexico NAD83 NM W

Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Western Zone

System Datum: Mean Sea Level

Site NW Lybrook (138, 139, 140 & 141)

 Site Position:
 Northing:
 1,920,822.501 usft
 Latitude:
 36.278756000

 From:
 Lat/Long
 Easting:
 2,779,690.396 usft
 Longitude:
 -107.641306000

Position Uncertainty: 0.00 ft Slot Radius: 13-3/16 "

Well Lybrook 2408-26 Federal COM 138H, Surf loc: 266 FSL 291 FWL Section 25-T24N-R08W

 Well Position
 +N/-S
 0.00 ft
 Northing:
 1,920,825.010 usft
 Latitude:
 36.278763000

 +E/-W
 0.00 ft
 Easting:
 2,779,670.643 usft
 Longitude:
 -107.641373000

Position Uncertainty 0.00 ft Wellhead Elevation: ft Ground Level: 6,847.00 ft

Grid Convergence: 0.11 °

rev0

Wellbore Original Hole Dip Angle Magnetics **Model Name** Sample Date Declination Field Strength (°) (°) (nT) IGRF2020 2/20/2023 8.59 62.77 49,177.53653798

Audit Notes:

Version: Phase: PLAN Tie On Depth: 0.00

 Vertical Section:
 Depth From (TVD)
 +N/-S
 +E/-W
 Direction

 (ft)
 (ft)
 (ft)
 (°)

 0.00
 0.00
 0.00
 269.974

Plan Survey Tool Program Date 10/2/2023

Depth From Depth To

(ft) (ft) Survey (Wellbore) Tool Name Remarks

1 0.00 11,347.47 rev0 (Original Hole) MWD

OWSG MWD - Standard

Plan Sections Vertical Build Measured Dogleg Turn Depth Inclination Azimuth Depth +N/-S +E/-W Rate Rate Rate TFO (°/100ft) (°/100ft) (°/100ft) (ft) (°) (°) (ft) (ft) (ft) (°) **Target** 0.00 0.000 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 500.00 0.00 0.000 500.00 0.00 0.00 0.00 0.00 0.00 0.00 1,244.97 22.35 1,226.22 141.34 24.56 3.00 0.00 9.86 9.858 3.00 5,239.87 22.35 9.858 4,921.04 1,637.97 284.62 0.00 0.00 0.00 0.00 5,900.39 60.00 -13.68 10.00 5.70 -15.12 269 974 5,451.74 1,777.36 -111 01 5,960.39 60.00 269.974 5,481.74 1,777.34 -65.64 0.00 0.00 0.00 0.00 6,262.81 90.24 269.974 5,558.50 1,777.21 -354.54 10.00 10.00 0.00 0.00 1,774.92 -5,439.16 11,347.47 90.24 269.974 5,537.00 0.00 0.00 0.00 0.00 Lybrook 2408 138H L



Well:

Planning Report

Database: DT_Aug2923v16

Company: Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W Site: NW Lybrook (138, 139, 140 & 141)

Lybrook 2408-26 Federal COM 138H

Wellbore: Original Hole
Design: rev0

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well Lybrook 2408-26 Federal COM 138H

RKB=6847+25 @ 6872.00ft RKB=6847+25 @ 6872.00ft

Grid

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
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP Begin 3	8°/100' build								
600.00	3.00	9.858	599.95	2.58	0.45	-0.45	3.00	3.00	0.00
700.00	6.00	9.858	699.63	10.31	1.79	-1.80	3.00	3.00	0.00
800.00	9.00	9.858	798.77	23.17	4.03	-4.04	3.00	3.00	0.00
900.00	12.00	9.858	897.08	41.12	7.15	-7.16	3.00	3.00	0.00
1,000.00	15.00	9.858	994.31	64.12	11.14	-11.17	3.00	3.00	0.00
1,100.00	18.00	9.858	1,090.18	92.10	16.00	-11.17 -16.04	3.00	3.00	0.00
1,200.00	21.00	9.858	1,184.43	124.98	21.72	-21.77	3.00	3.00	0.00
1,240.52	22.22	9.858	1,222.10	139.68	24.27	-24.33	3.00	3.00	0.00
Ojo Alamo		0.000	1,222.10	100.00	21.21	21.00	0.00	0.00	0.00
1.244.97	22.35	9.858	1,226.22	141.34	24.56	-24.62	3.00	3.00	0.00
Begin 22.35°		0.000	1,220.22	111.01	21.00	21.02	0.00	0.00	0.00
•	•								
1,300.00	22.35	9.858	1,277.12	161.96	28.14	-28.22	0.00	0.00	0.00
1,381.12	22.35	9.858	1,352.14	192.35	33.42	-33.51	0.00	0.00	0.00
Kirtland									
1,400.00	22.35	9.858	1,369.61	199.42	34.65	-34.74	0.00	0.00	0.00
1,500.00	22.35	9.858	1,462.10	236.89	41.16	-41.27	0.00	0.00	0.00
1,600.00	22.35	9.858	1,554.58	274.35	47.67	-47.80	0.00	0.00	0.00
1,619.05	22.35	9.858	1,572.21	281.49	48.91	-49.04	0.00	0.00	0.00
Fruitland									
1,700.00	22.35	9.858	1,647.07	311.81	54.18	-54.32	0.00	0.00	0.00
1,800.00	22.35	9.858	1,739.56	349.28	60.69	-60.85	0.00	0.00	0.00
1,900.00	22.35	9.858	1,832.05	386.74	67.20	-67.38	0.00	0.00	0.00
1,954.33	22.35	9.858	1,882.30	407.09	70.74	-70.92	0.00	0.00	0.00
Pictured Clif	fs								
2 000 00	22.25	0.050	1 004 54	424.20	70 74	72.00	0.00	0.00	0.00
2,000.00 2,062.48	22.35 22.35	9.858 9.858	1,924.54 1,982.33	424.20 447.61	73.71 77.78	-73.90 -77.98	0.00 0.00	0.00	0.00
	22.55	9.000	1,902.33	447.01	77.70	-11.90	0.00	0.00	0.00
Lewis 2,100.00	22.35	9.858	2,017.03	461.67	80.22	-80.43	0.00	0.00	0.00
2,100.00	22.35	9.858	2,109.51	499.13	86.73	-86.96	0.00	0.00	0.00
2,300.00	22.35	9.858	2,709.51	536.59	93.24	-93.49	0.00	0.00	0.00
,									
2,397.76	22.35	9.858	2,292.42	573.22	99.61	-99.87	0.00	0.00	0.00
Chacra_A									
2,400.00	22.35	9.858	2,294.49	574.06	99.75	-100.01	0.00	0.00	0.00
2,500.00	22.35	9.858	2,386.98	611.52	106.26	-106.54	0.00	0.00	0.00
2,600.00	22.35	9.858	2,479.47	648.98	112.77	-113.07	0.00	0.00	0.00
2,700.00	22.35	9.858	2,571.96	686.45	119.28	-119.59	0.00	0.00	0.00
2,800.00	22.35	9.858	2,664.44	723.91	125.79	-126.12	0.00	0.00	0.00
2,900.00	22.35	9.858	2,756.93	761.38	132.30	-132.65	0.00	0.00	0.00
3,000.00	22.35	9.858	2,849.42	798.84	138.81	-139.17	0.00	0.00	0.00
3,100.00	22.35	9.858	2,941.91	836.30	145.32	-145.70	0.00	0.00	0.00
3,200.00	22.35	9.858	3,034.40	873.77	151.83	-152.23	0.00	0.00	0.00
3,300.00	22.35	9.858	3,126.89	911.23	158.34	-158.75	0.00	0.00	0.00
3,400.00	22.35	9.858	3,219.37	948.69	164.85	-165.28	0.00	0.00	0.00
3,500.00	22.35	9.858	3,311.86	986.16	171.36	-171.81	0.00	0.00	0.00
3,582.04	22.35	9.858	3,387.74	1,016.89	176.70	-177.16	0.00	0.00	0.00
-,		0.000	-,	.,			0.00	0.00	0.00



Planning Report

Database: Company: DT_Aug2923v16

Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W Site: NW Lybrook (138, 139, 140 & 141)

Well: Lybrook 2408-26 Federal COM 138H

Wellbore: Original Hole
Design: rev0

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well Lybrook 2408-26 Federal COM 138H

RKB=6847+25 @ 6872.00ft RKB=6847+25 @ 6872.00ft

Grid

111.	1010								
ned 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)
3,587.45	22.35	9.858	3,392.74	1,018.92	177.05	-177.52	0.00	0.00	0.00
Menefee									
3,600.00	22.35	9.858	3,404.35	1,023.62	177.87	-178.33	0.00	0.00	0.00
3,700.00		9.858	3,496.84	1,061.08	184.38	-184.86	0.00	0.00	0.00
3,800.00	22.35	9.858	3,589.33	1,098.55	190.89	-191.39	0.00	0.00	0.00
3,900.00		9.858	3,681.82	1,136.01	197.40	-197.92	0.00	0.00	0.00
4,000.00	22.35	9.858	3,774.31	1,173.47	203.91	-204.44	0.00	0.00	0.00
4,100.00	22.35	9.858	3,866.79	1,210.94	210.42	-210.97	0.00	0.00	0.00
4,200.00	22.35	9.858	3,959.28	1,248.40	216.93	-217.50	0.00	0.00	0.00
4,300.00		9.858	4,051.77	1,285.86	223.44	-224.02	0.00	0.00	0.00
4,400.00	22.35	9.858	4,144.26	1,323.33	229.95	-230.55	0.00	0.00	0.00
4,500.00	22.35	9.858	4,236.75	1,360.79	236.46	-237.08	0.00	0.00	0.00
4,528.39	22.35	9.858	4,263.00	1,371.43	238.31	-238.93	0.00	0.00	0.00
Point Look	out								
4,600.00		9.858	4,329.24	1,398.26	242.97	-243.60	0.00	0.00	0.00
4,700.00	22.35	9.858	4,421.72	1,435.72	249.48	-250.13	0.00	0.00	0.00
4,777.14	22.35	9.858	4,493.07	1,464.62	254.50	-255.16	0.00	0.00	0.00
Mancos									
4,800.00	22.35	9.858	4,514.21	1,473.18	255.99	-256.66	0.00	0.00	0.00
4,900.00	22.35	9.858	4,606.70	1,510.65	262.50	-263.18	0.00	0.00	0.00
5,000.00		9.858	4,699.19	1,548.11	269.01	-269.71	0.00	0.00	0.00
5,100.00	22.35	9.858	4,791.68	1,585.57	275.52	-276.24	0.00	0.00	0.00
5,177.31	22.35	9.858	4,863.18	1,614.53	280.55	-281.28	0.00	0.00	0.00
MNCS_A									
5,200.00	22.35	9.858	4,884.17	1,623.04	282.03	-282.76	0.00	0.00	0.00
5,239.87	22.35	9.858	4,921.04	1,637.97	284.62	-285.37	0.00	0.00	0.00
Begin 10°/1	100' build/turn								
5,250.00		7.334	4,930.42	1,641.75	285.20	-285.94	10.00	-3.39	-24.92
5,274.51	21.34	0.943	4,953.20	1,650.77	285.86	-286.60	10.00	-2.71	-26.08
MNCS_B									
5,300.00	20.92	353.964	4,976.98	1,659.93	285.45	-286.21	10.00	-1.65	-27.38
5,350.00	20.95	339.941	5,023.71	1,677.22	281.45	-282.21	10.00	0.06	-28.05
5,400.00		326.638	5,070.25	1,693.48	273.20	-273.97	10.00	2.28	-26.61
5,403.12	22.19	325.858	5,073.14	1,694.46	272.55	-273.32	10.00	3.36	-24.99
MNCS_C									
5,450.00		315.051	5,116.25	1,708.59	260.79	-261.57	10.00	4.24	-23.05
5,490.68	26.43	307.112	5,153.04	1,719.95	247.68	-248.46	10.00	5.54	-19.51
MNCS_Cm		205 470	E 404 00	1 700 40	244.20	245.00	40.00	0.44	47.50
5,500.00		305.476	5,161.36	1,722.43	244.30	-245.08	10.00	6.14	-17.56
5,550.00		297.727	5,205.24	1,734.90	223.86	-224.65	10.00	6.70	-15.50
5,576.52	32.29	294.240	5,227.89	1,740.93	211.47	-212.26	10.00	7.30	-13.15
MNCS_D									
5,600.00		291.455	5,247.54	1,745.91	199.63	-200.42	10.00	7.61	-11.86
5,650.00		286.317	5,287.96	1,755.37	171.78	-172.57	10.00	7.97	-10.28
5,675.39	40.16	284.050	5,307.66	1,759.56	156.32	-157.12	10.00	8.26	-8.93
MNCS_E									
5,700.00		282.035	5,326.18	1,763.21	140.53	-141.33	10.00	8.42	-8.19
5,750.00		278.399	5,361.91	1,769.37	106.12	-106.93	10.00	8.61	-7.27
5,758.07	47.25	277.862	5,367.42	1,770.20	100.29	-101.09	10.00	8.74	-6.66
MNCS_F		077-075		4 === ==					
5,800.00		275.253	5,394.87	1,773.80	68.81	-69.62	10.00	8.83	-6.22
5,850.00	55.43	272.480	5,424.83	1,776.47	28.89	-29.70	10.00	8.96	-5.55



Project:

Planning Report

DT_Aug2923v16 Database: Company:

Enduring Resources LLC

San Juan County, New Mexico NAD83 NM W

Site: NW Lybrook (138, 139, 140 & 141) Well: Lybrook 2408-26 Federal COM 138H

Wellbore: Original Hole Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well Lybrook 2408-26 Federal COM 138H

RKB=6847+25 @ 6872.00ft RKB=6847+25 @ 6872.00ft

Grid

sign:	rev0								
anned Survey									
Measured Depth (ft)	l Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,900.3	39 60.00	269.974	5,451.74	1,777.36	-13.68	12.87	10.00	9.07	-4.97
Begin 60 5,900.8	. 00° tangent 80 60.00	269.974	5,451.94	1,777.36	-14.03	13.23	0.00	0.00	0.00
MNCS_G									
5,960.3	39 60.00 '°/ 100' build	269.974	5,481.74	1,777.34	-65.64	64.83	0.00	0.00	0.00
5,985.		269.974	5,493.64	1,777.33	-87.32	86.51	10.00	10.00	0.00
MNCS_H									
6,000.0	00 63.96	269.974	5,500.35	1,777.32	-100.60	99.80	10.00	10.00	0.00
6,050.0		269.974	5,520.31	1,777.30	-146.43	145.62	10.00	10.00	0.00
6,100.0 6,131.4		269.974 269.974	5,536.20 5,544.06	1,777.28 1,777.26	-193.82 -224.31	193.01 223.50	10.00 10.00	10.00 10.00	0.00 0.00
MNCS_I	.= 77.11	200.01 7	5,511.00	.,			10.00	10.00	0.00
6,150.0 6,200.0		269.974 269.974	5,547.90 5,555.32	1,777.26 1,777.23	-242.42 -291.85	241.61 291.04	10.00 10.00	10.00 10.00	0.00 0.00
6,250.0	00 88.96	269.974	5,558.41	1,777.21	-341.73	340.93	10.00	10.00	0.00
6,262.8		269.974	5,558.50	1,777.21	-354.54	353.74	10.00	10.00	0.00
_	.24° lateral								
6,300.0		269.974	5,558.34	1,777.19	-391.73	390.93	0.00	0.00	0.00
6,400.0 6,500.0		269.974 269.974	5,557.92 5,557.49	1,777.14 1,777.10	-491.73 -591.73	490.93 590.92	0.00 0.00	0.00 0.00	0.00 0.00
6,600.0	00 90.24	269.974	5,557.07	1,777.05	-691.73	690.92	0.00	0.00	0.00
6,700.0		269.974	5,556.65	1,777.01	-791.73	790.92	0.00	0.00	0.00
6,800.0		269.974	5,556.23	1,776.97	-891.73	890.92	0.00	0.00	0.00
6,900.0 7,000.0		269.974 269.974	5,555.80 5,555.38	1,776.92 1,776.88	-991.73 -1,091.73	990.92 1,090.92	0.00 0.00	0.00 0.00	0.00 0.00
7,100.0	00 90.24	269.974	5,554.96	1,776.83	-1,191.73	1,190.92	0.00	0.00	0.00
7,200.0		269.974	5,554.53	1,776.79	-1,291.73	1,290.92	0.00	0.00	0.00
7,300.0		269.974	5,554.11	1,776.74	-1,391.72	1,390.92	0.00	0.00	0.00
7,400.0 7,500.0		269.974 269.974	5,553.69 5,553.27	1,776.70 1,776.65	-1,491.72 -1,591.72	1,490.92 1,590.92	0.00 0.00	0.00 0.00	0.00 0.00
7,600.0		269.974	5,552.84	1,776.61	-1,691.72	1,690.92	0.00	0.00	0.00
7,700.0		269.974	5,552.42	1,776.56	-1,791.72	1,790.91	0.00	0.00	0.00
7,800.0	00 90.24	269.974	5,552.00	1,776.52	-1,891.72	1,890.91	0.00	0.00	0.00
7,900.0		269.974	5,551.58	1,776.47	-1,991.72	1,990.91	0.00	0.00	0.00
8,000.0		269.974	5,551.15	1,776.43	-2,091.72	2,090.91	0.00	0.00	0.00
8,100.0		269.974	5,550.73	1,776.38	-2,191.72	2,190.91	0.00	0.00	0.00
8,200.0		269.974	5,550.31	1,776.34	-2,291.72	2,290.91	0.00	0.00	0.00
8,300.0 8,400.0		269.974 269.974	5,549.88 5,549.46	1,776.29 1,776.25	-2,391.72 -2,491.71	2,390.91 2,490.91	0.00 0.00	0.00 0.00	0.00 0.00
8,500.0		269.974	5,549.46	1,776.25	-2,491.71 -2,591.71	2,490.91	0.00	0.00	0.00
8,600.0	00 90.24	269.974	5,548.62	1,776.16	-2,691.71	2,690.91	0.00	0.00	0.00
8,700.0		269.974	5,548.19	1,776.11	-2,791.71	2,790.91	0.00	0.00	0.00
8,800.0		269.974	5,547.77	1,776.07	-2,891.71	2,890.90	0.00	0.00	0.00
8,900.0 9,000.0		269.974 269.974	5,547.35 5,546.92	1,776.02 1,775.98	-2,991.71 -3,091.71	2,990.90 3,090.90	0.00 0.00	0.00 0.00	0.00 0.00
9,100.0		269.974	5,546.50	1,775.93	-3,191.71	3,190.90	0.00	0.00	0.00
9,200.0 9,300.0		269.974 269.974	5,546.08 5,545.66	1,775.89 1,775.84	-3,291.71 -3,391.71	3,290.90 3,390.90	0.00 0.00	0.00 0.00	0.00 0.00
9,300.0 9,400.0		269.974	5,545.66 5,545.23	1,775.84	-3,391.71 -3,491.71	3,390.90	0.00	0.00	0.00
9,500.0		269.974	5,544.81	1,775.75	-3,591.70	3,590.90	0.00	0.00	0.00
9,600.0	00 90.24	269.974	5,544.39	1,775.71	-3,691.70	3,690.90	0.00	0.00	0.00
9,700.0		269.974	5,543.97	1,775.66	-3,791.70	3,790.90	0.00	0.00	0.00



Planning Report

DT_Aug2923v16 Database: Company:

Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W Site: NW Lybrook (138, 139, 140 & 141) Well: Lybrook 2408-26 Federal COM 138H

Wellbore: Original Hole Design: rev0

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well Lybrook 2408-26 Federal COM 138H

RKB=6847+25 @ 6872.00ft RKB=6847+25 @ 6872.00ft

Grid

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)
9,800.00	90.24	269.974	5,543.54	1,775.62	-3,891.70	3,890.90	0.00	0.00	0.00
9,900.00	90.24	269.974	5,543.12	1,775.57	-3,991.70	3,990.89	0.00	0.00	0.00
10,000.00	90.24	269.974	5,542.70	1,775.53	-4,091.70	4,090.89	0.00	0.00	0.00
10,100.00	90.24	269.974	5,542.27	1,775.48	-4,191.70	4,190.89	0.00	0.00	0.00
10,200.00	90.24	269.974	5,541.85	1,775.44	-4,291.70	4,290.89	0.00	0.00	0.00
10,300.00	90.24	269.974	5,541.43	1,775.39	-4,391.70	4,390.89	0.00	0.00	0.00
10,400.00	90.24	269.974	5,541.01	1,775.35	-4,491.70	4,490.89	0.00	0.00	0.00
10,500.00	90.24	269.974	5,540.58	1,775.31	-4,591.70	4,590.89	0.00	0.00	0.00
10,600.00	90.24	269.974	5,540.16	1,775.26	-4,691.69	4,690.89	0.00	0.00	0.00
10,700.00	90.24	269.974	5,539.74	1,775.22	-4,791.69	4,790.89	0.00	0.00	0.00
10,800.00	90.24	269.974	5,539.31	1,775.17	-4,891.69	4,890.89	0.00	0.00	0.00
10,900.00	90.24	269.974	5,538.89	1,775.13	-4,991.69	4,990.89	0.00	0.00	0.00
11,000.00	90.24	269.974	5,538.47	1,775.08	-5,091.69	5,090.88	0.00	0.00	0.00
11,100.00	90.24	269.974	5,538.05	1,775.04	-5,191.69	5,190.88	0.00	0.00	0.00
11,200.00	90.24	269.974	5,537.62	1,774.99	-5,291.69	5,290.88	0.00	0.00	0.00
11,300.00	90.24	269.974	5,537.20	1,774.95	-5,391.69	5,390.88	0.00	0.00	0.00
11,347.47	90.24	269.974	5,537.00	1,774.92	-5,439.16	5,438.36	0.00	0.00	0.00

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Lybrook 2408 138H LTP - plan hits target cent - Point	0.00 ter	0.000	5,537.00	1,774.92	-5,439.16	1,922,599.931	2,774,231.493	36.283667000	-107.659816000
Lybrook 2408 138H FTP - plan hits target cent - Point	0.00 ter	0.000	5,558.50	1,777.21	-354.54	1,922,602.216	2,779,316.101	36.283647000	-107.642564000
Lybrook 2408 138H 0 V\$ - plan misses target of a Point	0.00 center by 100	0.000 .20ft at 5943	5,560.00 3.36ft MD (54	1,777.37 73.23 TVD, 17	-0.80 777.34 N, -50	1,922,602.377 .90 E)	2,779,669.843	36.283645520	-107.641363759

Casing Points							
	Measured Depth	Vertical Depth			Casing Diameter	Hole Diameter	
	(ft)	(ft)		Name	(")	(")	
	350.00	350.00	13 3/8" Csg		13-3/8	17-1/2	
	3,748.83	3,542.00	9 5/8" Csg		9-5/8	12-1/4	



Project:

Site:

Well:

Planning Report

DT_Aug2923v16 Database: Company:

Enduring Resources LLC

San Juan County, New Mexico NAD83 NM W NW Lybrook (138, 139, 140 & 141)

Lybrook 2408-26 Federal COM 138H

Wellbore: Original Hole

Design: rev0 Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well Lybrook 2408-26 Federal COM 138H

RKB=6847+25 @ 6872.00ft RKB=6847+25 @ 6872.00ft

ns						
ı	Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	1,240.52	1,222.10	Ojo Alamo		-0.24	269.974
	1,381.12	1,352.14	Kirtland		-0.24	269.974
	1,619.05	1,572.21	Fruitland		-0.24	269.974
	1,954.33	1,882.30	Pictured Cliffs		-0.24	269.974
	2,062.48	1,982.33	Lewis		-0.24	269.974
	2,397.76	2,292.42	Chacra_A		-0.24	269.974
	3,582.04	3,387.74	Cliff House_Basal		-0.24	269.974
	3,587.45	3,392.74	Menefee		-0.24	269.974
	4,528.39	4,263.00	Point Lookout		-0.24	269.974
	4,777.14	4,493.07	Mancos		-0.24	269.974
	5,177.31	4,863.18	MNCS_A		-0.24	269.974
	5,274.51	4,953.20	MNCS_B		-0.24	269.974
	5,403.12	5,073.14	MNCS_C		-0.24	269.974
	5,490.68	5,153.04	MNCS_Cms		-0.24	269.974
	5,576.52	5,227.89	MNCS_D		-0.24	269.974
	5,675.39	5,307.66	MNCS_E		-0.24	269.974
	5,758.07	5,367.42	MNCS_F		-0.24	269.974
	5,900.80	5,451.94	MNCS_G		-0.24	269.974
	5,985.11	5,493.64	MNCS_H		-0.24	269.974
	6,131.49	5,544.06	MNCS_I		-0.24	269.974

Plan Annotations				
Measured	Vertical	Local Coordinates		
Depth	Depth	+N/-S	+E/-W	
(ft)	(ft)	(ft)	(ft)	Comment
500.00	500.00	0.00	0.00	KOP Begin 3°/100' build
1,244.97	1,226.22	141.34	24.56	Begin 22.35° tangent
5,239.87	4,921.04	1,637.97	284.62	Begin 10°/100' build/turn
5,900.39	5,451.74	1,777.36	-13.68	Begin 60.00° tangent
5,960.39	5,481.74	1,777.34	-65.64	Begin 10°/100' build
6,262.81	5,558.50	1,777.21	-354.54	Begin 90.24° lateral
11,347.47	5,537.00	1,774.92	-5,439.16	PBHL/TD 11347.47 MD 5537.00 TVD



Well:

Planning Report - Geographic

DT_Aug2923v16 Database: Company:

Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W NW Lybrook (138, 139, 140 & 141) Site:

Lybrook 2408-26 Federal COM 138H

Wellbore: Original Hole

Design: rev0

MD Reference: North Reference:

TVD Reference:

Survey Calculation Method:

Local Co-ordinate Reference:

Well Lybrook 2408-26 Federal COM 138H

RKB=6847+25 @ 6872.00ft RKB=6847+25 @ 6872.00ft

Grid

Minimum Curvature

62.77

269.974

49,177.53653798

Project San Juan County, New Mexico NAD83 NM W

US State Plane 1983 Map System: North American Datum 1983 Geo Datum:

Map Zone: New Mexico Western Zone System Datum: Mean Sea Level

Site NW Lybrook (138, 139, 140 & 141)

Northing: 1,920,822.501 usft 36.278756000 Site Position: Latitude: 2,779,690.396 usft Lat/Long -107.641306000 Easting: From: Longitude:

Position Uncertainty: 0.00 ft Slot Radius: 13-3/16 "

IGRF2020

Well Lybrook 2408-26 Federal COM 138H, Surf loc: 266 FSL 291 FWL Section 25-T24N-R08W

1,920,825.010 usft **Well Position** +N/-S 0.00 ft Northing: Latitude: 36.278763000

+E/-W 0.00 ft Easting: 2,779,670.643 usft Longitude: -107.641373000 0.00 ft Wellhead Elevation: ft 6,847.00 ft **Position Uncertainty** Ground Level:

Grid Convergence:

Wellbore Original Hole Magnetics Model Name Declination Field Strength Sample Date Dip Angle (°) (°) (nT)

8.59

0.00

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

0.00

Plan Survey Tool Program Date

> Depth From Depth To

Tool Name (ft) (ft) Survey (Wellbore) Remarks

0.00

2/20/2023

11,347.47 rev0 (Original Hole) 0.00

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	
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,244.97	22.35	9.858	1,226.22	141.34	24.56	3.00	3.00	0.00	9.86	
5,239.87	22.35	9.858	4,921.04	1,637.97	284.62	0.00	0.00	0.00	0.00	
5,900.39	60.00	269.974	5,451.74	1,777.36	-13.68	10.00	5.70	-15.12	-111.01	
5,960.39	60.00	269.974	5,481.74	1,777.34	-65.64	0.00	0.00	0.00	0.00	
6,262.81	90.24	269.974	5,558.50	1,777.21	-354.54	10.00	10.00	0.00	0.00	
11,347.47	90.24	269.974	5,537.00	1,774.92	-5,439.16	0.00	0.00	0.00	0.00 L	ybrook 2408 138H L



Planning Report - Geographic

Database: DT_Aug2923v16

Company: Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W Site: NW Lybrook (138, 139, 140 & 141)

Well: Lybrook 2408-26 Federal COM 138H

Wellbore: Original Hole
Design: rev0

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well Lybrook 2408-26 Federal COM 138H

RKB=6847+25 @ 6872.00ft RKB=6847+25 @ 6872.00ft

Grid

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	1,920,825.010	2,779,670.643	36.278763000	-107.641373000
100.00	0.00	0.000	100.00	0.00	0.00	1,920,825.010	2,779,670.643	36.278763000	-107.641373000
200.00	0.00	0.000	200.00	0.00	0.00	1,920,825.010	2,779,670.643	36.278763000	-107.641373000
300.00	0.00	0.000	300.00	0.00	0.00	1,920,825.010	2,779,670.643	36.278763000	-107.641373000
400.00	0.00	0.000	400.00	0.00	0.00	1,920,825.010	2,779,670.643	36.278763000	-107.641373000
500.00	0.00	0.000	500.00	0.00	0.00	1,920,825.010	2,779,670.643	36.278763000	-107.641373000
KOP Beg	jin 3°/100' bui	ld							
600.00	3.00	9.858	599.95	2.58	0.45	1,920,827.589	2,779,671.092	36.278770082	-107.641371463
700.00	6.00	9.858	699.63	10.31	1.79	1,920,835.318	2,779,672.435	36.278791307	-107.641366854
800.00	9.00	9.858	798.77	23.17	4.03	1,920,848.177	2,779,674.669	36.278826617	-107.641359187
900.00	12.00	9.858	897.08	41.12	7.15	1,920,866.129	2,779,677.789	36.278875916	-107.641348482
1,000.00	15.00	9.858	994.31	64.12	11.14	1,920,889.126	2,779,681.785	36.278939069	-107.641334770
1,100.00	18.00	9.858	1,090.18	92.10	16.00	1,920,917.105	2,779,686.646	36.279015902	-107.641318086
1,200.00	21.00	9.858	1,184.43	124.98	21.72	1,920,949.989	2,779,692.361	36.279106205	-107.641298478
1,240.52	22.22	9.858	1,222.10	139.68	24.27	1,920,964.689	2,779,694.915	36.279146573	-107.641289713
Ojo Alan	10								
1,244.97	22.35	9.858	1,226.22	141.34	24.56	1,920,966.353	2,779,695.204	36.279151141	-107.641288721
Begin 22	.35° tangent								
1,300.00	22.35	9.858	1,277.12	161.96	28.14	1,920,986.969	2,779,698.786	36.279207755	-107.641276428
1,381.12	22.35	9.858	1,352.14	192.35	33.42	1,921,017.357	2,779,704.067	36.279291205	-107.641258308
Kirtland									
1,400.00	22.35	9.858	1,369.61	199.42	34.65	1,921,024.432	2,779,705.296	36.279310633	-107.641254090
1,500.00	22.35	9.858	1,462.10	236.89	41.16	1,921,061.896	2,779,711.806	36.279413512	-107.641231751
1,600.00	22.35	9.858	1,554.58	274.35	47.67	1,921,099.359	2,779,718.316	36.279516391	-107.641209412
1,619.05	22.35	9.858	1,572.21	281.49	48.91	1,921,106.497	2,779,719.556	36.279535992	-107.641205156
Fruitland	I								
1,700.00	22.35	9.858	1,647.07	311.81	54.18	1,921,136.822	2,779,724.826	36.279619269	-107.641187073
1,800.00	22.35	9.858	1,739.56	349.28	60.69	1,921,174.286	2,779,731.336	36.279722148	-107.641164734
1,900.00	22.35	9.858	1,832.05	386.74	67.20	1,921,211.749	2,779,737.845	36.279825026	-107.641142395
1,954.33	22.35	9.858	1,882.30	407.09	70.74	1,921,232.103	2,779,741.382	36.279880919	-107.641130258
Pictured	Cliffs								
2,000.00	22.35	9.858	1,924.54	424.20	73.71	1,921,249.213	2,779,744.355	36.279927905	-107.641120056
2,062.48	22.35	9.858	1,982.33	447.61	77.78	1,921,272.621	2,779,748.423	36.279992186	-107.641106098
Lewis									
2,100.00	22.35	9.858	2,017.03	461.67	80.22	1,921,286.676	2,779,750.865	36.280030783	-107.641097717
2,200.00	22.35	9.858	2,109.51	499.13	86.73	1,921,324.140	2,779,757.375	36.280133662	-107.641075378
2,300.00	22.35	9.858	2,202.00	536.59	93.24	1,921,361.603	2,779,763.885	36.280236540	-107.641053038
2,397.76	22.35	9.858	2,292.42	573.22	99.61	1,921,398.227	2,779,770.249	36.280337113	-107.641031200
Chacra_	A								
2,400.00	22.35	9.858	2,294.49	574.06	99.75	1,921,399.067	2,779,770.395	36.280339419	-107.641030699
2,500.00	22.35	9.858	2,386.98	611.52	106.26	1,921,436.530	2,779,776.905	36.280442297	-107.641008360
2,600.00	22.35	9.858	2,479.47	648.98	112.77	1,921,473.993	2,779,783.415	36.280545175	-107.640986020
2,700.00	22.35	9.858	2,571.96	686.45	119.28	1,921,511.457	2,779,789.924	36.280648054	-107.640963681
2,800.00	22.35	9.858	2,664.44	723.91	125.79	1,921,548.920	2,779,796.434	36.280750932	-107.640941341
2,900.00	22.35	9.858	2,756.93	761.38	132.30	1,921,586.384	2,779,802.944	36.280853811	-107.640919002
3,000.00	22.35	9.858	2,849.42	798.84	138.81	1,921,623.847	2,779,809.454	36.280956689	-107.640896662
3,100.00	22.35	9.858	2,941.91	836.30	145.32	1,921,661.311	2,779,815.964	36.281059568	-107.640874322
3,200.00	22.35	9.858	3,034.40	873.77	151.83	1,921,698.774	2,779,822.474	36.281162446	-107.640851982
3,300.00	22.35	9.858	3,126.89	911.23	158.34	1,921,736.238	2,779,828.984	36.281265325	-107.640829643
3,400.00	22.35	9.858	3,219.37	948.69	164.85	1,921,773.701	2,779,835.493	36.281368203	-107.640807303
3,500.00	22.35	9.858	3,311.86	986.16	171.36	1,921,811.164	2,779,842.003	36.281471081	-107.640784963
3,582.04	22.35	9.858	3,387.74	1,016.89	176.70	1,921,841.900	2,779,847.344	36.281555484	-107.640766635
Cliff Hou	se_Basal								



Planning Report - Geographic

DT_Aug2923v16 Database: Company:

Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W Site: NW Lybrook (138, 139, 140 & 141)

Well: Lybrook 2408-26 Federal COM 138H

Wellbore: Original Hole Design: rev0

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well Lybrook 2408-26 Federal COM 138H

RKB=6847+25 @ 6872.00ft RKB=6847+25 @ 6872.00ft

Planned Survey											
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude		
3,587.45	22.35	9.858	3,392.74	1,018.92	177.05	1,921,843.926	2,779,847.696	36.281561048	-107.640765427		
Menefee											
3,600.00	22.35	9.858	3,404.35	1,023.62	177.87	1,921,848.628	2,779,848.513	36.281573960	-107.640762623		
3,700.00	22.35	9.858	3,496.84	1,061.08	184.38	1,921,886.091	2,779,855.023	36.281676838	-107.640740283		
3,800.00	22.35	9.858	3,589.33	1,098.55	190.89	1,921,923.555	2,779,861.533	36.281779717	-107.640717942		
3,900.00	22.35	9.858	3,681.82	1,136.01	197.40	1,921,961.018	2,779,868.043	36.281882595	-107.640695602		
4,000.00	22.35	9.858	3,774.31	1,173.47	203.91	1,921,998.482	2,779,874.553	36.281985473	-107.640673262		
4,100.00	22.35	9.858	3,866.79	1,210.94	210.42	1,922,035.945	2,779,881.062	36.282088352	-107.640650922		
4,200.00	22.35	9.858	3,959.28	1,248.40	216.93	1,922,073.409	2,779,887.572	36.282191230	-107.640628581		
4,300.00 4,400.00	22.35 22.35	9.858 9.858	4,051.77 4,144.26	1,285.86 1,323.33	223.44 229.95	1,922,110.872 1,922,148.336	2,779,894.082 2,779,900.592	36.282294108 36.282396987	-107.640606241 -107.640583900		
4,400.00	22.35	9.858	4,144.26	1,360.79	229.95	1,922,146.336	2,779,900.592	36.282499865	-107.640561560		
4,528.39	22.35	9.858	4,263.00	1,371.43	238.31	1,922,196.433	2,779,907.102	36.282529068	-107.640555218		
Point Lo		3.000	4,200.00	1,07 1.40	230.31	1,322,130.433	2,113,300.300	30.202323000	-107.040333210		
4,600.00	22.35	9.858	4,329.24	1,398.26	242.97	1,922,223.262	2,779,913.612	36.282602744	-107.640539219		
4,700.00	22.35	9.858	4,421.72	1,435.72	249.48	1,922,260.726	2,779,920.122	36.282705622	-107.640516879		
4,777.14	22.35	9.858	4,493.07	1,464.62	254.50	1,922,289.625	2,779,925.143	36.282784981	-107.640499645		
Mancos	22.00	0.000	.,	.,	2000	.,022,200.020	2,1.0,020.1.0	00.202.0.00.			
4,800.00	22.35	9.858	4,514.21	1,473.18	255.99	1,922,298.189	2,779,926.632	36.282808500	-107.640494538		
4,900.00	22.35	9.858	4,606.70	1,510.65	262.50	1,922,335.653	2,779,933.141	36.282911379	-107.640472197		
5,000.00	22.35	9.858	4,699.19	1,548.11	269.01	1,922,373.116	2,779,939.651	36.283014257	-107.640449856		
5,100.00	22.35	9.858	4,791.68	1,585.57	275.52	1,922,410.580	2,779,946.161	36.283117135	-107.640427515		
5,177.31	22.35	9.858	4,863.18	1,614.53	280.55	1,922,439.542	2,779,951.194	36.283196668	-107.640410244		
MNCS_A	1										
5,200.00	22.35	9.858	4,884.17	1,623.04	282.03	1,922,448.043	2,779,952.671	36.283220013	-107.640405174		
5,239.87	22.35	9.858	4,921.04	1,637.97	284.62	1,922,462.981	2,779,955.267	36.283261034	-107.640396266		
Begin 10	°/100' build/tu	ırn									
5,250.00	22.01	7.334	4,930.42	1,641.75	285.20	1,922,466.760	2,779,955.838	36.283271411	-107.640394300		
5,274.51	21.34	0.943	4,953.20	1,650.77	285.86	1,922,475.774	2,779,956.498	36.283296170	-107.640392002		
MNCS_B											
5,300.00	20.92	353.964	4,976.98	1,659.93	285.45	1,922,484.939	2,779,956.096	36.283321351	-107.640393305		
5,350.00	20.95	339.941	5,023.71	1,677.22	281.45	1,922,502.224	2,779,952.088	36.283368856	-107.640406784		
5,400.00	22.09	326.638	5,070.25	1,693.48	273.20	1,922,518.483	2,779,943.847	36.283413565	-107.640434637		
5,403.12	22.19	325.858	5,073.14	1,694.46	272.55	1,922,519.462	2,779,943.193	36.283416256	-107.640436849		
MNCS_C		245 054	E 440 0E	1,708.59	000.70	4 000 500 500	0.770.004.405	20.000455420	407.040470050		
5,450.00 5,490.68	24.18 26.43	315.051 307.112	5,116.25 5,153.04	1,706.59	260.79 247.68	1,922,533.593 1,922,544.958	2,779,931.435 2.779.918.322	36.283455138 36.283486432	-107.640476650 -107.640521065		
		307.112	5,155.04	1,7 19.95	247.00	1,922,344.936	2,779,910.322	30.203400432	-107.040321003		
MNCS_C 5,500.00	ms 27.00	305.476	5,161.36	1,722.43	244.30	1,922,547.437	2,779,914.945	36.283493260	-107.640532504		
5,550.00	30.36	297.727	5,205.24	1,722.43	223.86	1,922,559.911	2,779,894.505	36.283527638	-107.640601774		
5,576.52	32.29	294.240	5,227.89	1,740.93	211.47	1,922,565.937	2,779,882.114	36.283544261	-107.640643776		
MNCS_D		20 1.2 10	0,227.00	1,7 10.00	211.17	1,022,000.001	2,770,002.777	00.200011201	107.010010770		
5,600.00	34.08	291.455	5,247.54	1,745.91	199.63	1,922,570.920	2,779,870.269	36.283558013	-107.640683932		
5,650.00	38.06	286.317	5,287.96	1,755.37	171.78	1,922,580.380	2,779,842.421	36.283584152	-107.640778355		
5,675.39	40.16	284.050	5,307.66	1,759.56	156.32	1,922,584.567	2,779,826.966	36.283595738	-107.640830766		
MNCS_E				•							
5,700.00	42.23	282.035	5,326.18	1,763.21	140.53	1,922,588.219	2,779,811.174	36.283605857	-107.640884322		
5,750.00	46.54	278.399	5,361.91	1,769.37	106.12	1,922,594.377	2,779,776.766	36.283622963	-107.641001027		
5,758.07	47.25	277.862	5,367.42	1,770.20	100.29	1,922,595.211	2,779,770.930	36.283625284	-107.641020821		
MNCS_F											
5,800.00	50.95	275.253	5,394.87	1,773.80	68.81	1,922,598.809	2,779,739.458	36.283635338	-107.641127582		
5,850.00	55.43	272.480	5,424.83	1,776.47	28.89	1,922,601.478	2,779,699.534	36.283642890	-107.641263025		



Planning Report - Geographic

DT_Aug2923v16 Database: Company:

Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W

Site: NW Lybrook (138, 139, 140 & 141) Well: Lybrook 2408-26 Federal COM 138H

Wellbore: Original Hole

Design: rev0 Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well Lybrook 2408-26 Federal COM 138H

RKB=6847+25 @ 6872.00ft RKB=6847+25 @ 6872.00ft

Minimum Curvature

Planned Survey	1								
Measured Depth (ft)	Inclination	Azimuth	Vertical Depth (ft)	+N/-S	+E/-W	Map Northing (usft)	Map Easting (usft)	1.00	
	(°)	(°)		(ft)	(ft)	(usit)	, ,	Latitude	Longitude
5,900.39		269.974	5,451.74	1,777.36	-13.68	1,922,602.367	2,779,656.964	36.283645562	-107.641407460
_	0.00° tangent								
5,900.80		269.974	5,451.94	1,777.36	-14.03	1,922,602.366	2,779,656.609	36.283645564	-107.641408663
MNCS_C		000.074	5,481.74	4 777 04	05.04	4 000 000 040	0.770.005.000	20 202045700	407.044500704
5,960.39		269.974	5,481.74	1,777.34	-65.64	1,922,602.343	2,779,605.002	36.283645780	-107.641583764
5,985.11	0°/ 100' build 62.47	269.974	5,493.64	1,777.33	-87.32	1,922,602.333	2,779,583.328	36.283645871	-107.641657305
MNCS_H		203.314	5,495.04	1,777.55	-07.32	1,922,002.000	2,119,505.520	30.203043071	-107.041037303
6,000.00		269.974	5,500.35	1,777.32	-100.60	1,922,602.327	2,779,570.039	36.283645927	-107.641702393
6,050.00		269.974	5,520.31	1,777.30	-146.43	1,922,602.306	2,779,524.214	36.283646119	-107.641857876
6,100.00		269.974	5,536.20	1,777.28	-193.82	1,922,602.285	2,779,476.824	36.283646317	-107.642018671
6,131.49	77.11	269.974	5,544.06	1,777.26	-224.31	1,922,602.271	2,779,446.337	36.283646445	-107.642122113
MNCS_I									
6,150.00		269.974	5,547.90	1,777.26	-242.42	1,922,602.263	2,779,428.229	36.283646521	-107.642183553
6,200.00		269.974	5,555.32	1,777.23	-291.85	1,922,602.241	2,779,378.799	36.283646728	-107.642351268
6,250.00		269.974	5,558.41	1,777.21	-341.73	1,922,602.218	2,779,328.910	36.283646936	-107.642520540
6,262.81	90.24	269.974	5,558.50	1,777.21	-354.54	1,922,602.213	2,779,316.102	36.283646990	-107.642563999
_	0.24° lateral	260.074	5,558.34	1 777 10	204.72	1 000 600 106	2 770 279 044	26 202647445	107 640600106
6,300.00 6,400.00		269.974 269.974	5,557.92	1,777.19 1,777.14	-391.73 -491.73	1,922,602.196 1,922,602.151	2,779,278.911 2,779,178.912	36.283647145 36.283647563	-107.642690186 -107.643029480
6,500.00		269.974	5,557.49	1,777.14	-591.73	1,922,602.106	2,779,078.913	36.283647979	-107.643368775
6,600.00		269.974	5,557.07	1,777.05	-691.73	1,922,602.061	2,778,978.914	36.283648394	-107.643708069
6,700.00		269.974	5,556.65	1,777.01	-791.73	1,922,602.017	2,778,878.916	36.283648808	-107.644047364
6,800.00	90.24	269.974	5,556.23	1,776.97	-891.73	1,922,601.972	2,778,778.917	36.283649222	-107.644386659
6,900.00	90.24	269.974	5,555.80	1,776.92	-991.73	1,922,601.927	2,778,678.918	36.283649634	-107.644725953
7,000.00		269.974	5,555.38	1,776.88	-1,091.73	1,922,601.882	2,778,578.919	36.283650045	-107.645065248
7,100.00		269.974	5,554.96	1,776.83	-1,191.73	1,922,601.837	2,778,478.920	36.283650456	-107.645404542
7,200.00		269.974	5,554.53	1,776.79	-1,291.73	1,922,601.792	2,778,378.921	36.283650865	-107.645743837
7,300.00 7,400.00		269.974 269.974	5,554.11 5,553.69	1,776.74 1,776.70	-1,391.72 -1,491.72	1,922,601.747 1,922,601.702	2,778,278.922 2,778,178.923	36.283651274 36.283651681	-107.646083132 -107.646422426
7,500.00		269.974	5,553.27	1,776.65	-1,591.72	1,922,601.658	2,778,078.924	36.283652088	-107.646761721
7,600.00		269.974	5,552.84	1,776.61	-1,691.72	1,922,601.613	2,777,978.926	36.283652494	-107.647101016
7,700.00		269.974	5,552.42	1,776.56	-1,791.72	1,922,601.568	2,777,878.927	36.283652898	-107.647440310
7,800.00	90.24	269.974	5,552.00	1,776.52	-1,891.72	1,922,601.523	2,777,778.928	36.283653302	-107.647779605
7,900.00	90.24	269.974	5,551.58	1,776.47	-1,991.72	1,922,601.478	2,777,678.929	36.283653705	-107.648118900
8,000.00		269.974	5,551.15	1,776.43	-2,091.72	1,922,601.433	2,777,578.930	36.283654106	-107.648458193
8,100.00		269.974	5,550.73	1,776.38	-2,191.72	1,922,601.388	2,777,478.931	36.283654507	-107.648797488
8,200.00		269.974	5,550.31	1,776.34	-2,291.72	1,922,601.344	2,777,378.932	36.283654907	-107.649136783
8,300.00 8,400.00		269.974 269.974	5,549.88 5,549.46	1,776.29	-2,391.72 -2,491.71	1,922,601.299	2,777,278.933 2,777,178.934	36.283655306 36.283655704	-107.649476078 -107.649815372
8,500.00		269.974	5,549.46	1,776.25 1,776.20	-2,491.71 -2,591.71	1,922,601.254 1,922,601.209	2,777,078.935	36.283656101	-107.650154667
8,600.00		269.974	5,548.62	1,776.16	-2,691.71	1,922,601.164	2,776,978.937	36.283656497	-107.650493962
8,700.00		269.974	5,548.19	1,776.11	-2,791.71	1,922,601.119	2,776,878.938	36.283656892	-107.650833256
8,800.00		269.974	5,547.77	1,776.07	-2,891.71	1,922,601.074	2,776,778.939	36.283657286	-107.651172551
8,900.00	90.24	269.974	5,547.35	1,776.02	-2,991.71	1,922,601.029	2,776,678.940	36.283657679	-107.651511846
9,000.00		269.974	5,546.92	1,775.98	-3,091.71	1,922,600.985	2,776,578.941	36.283658071	-107.651851141
9,100.00		269.974	5,546.50	1,775.93	-3,191.71	1,922,600.940	2,776,478.942	36.283658462	-107.652190436
9,200.00		269.974	5,546.08	1,775.89	-3,291.71	1,922,600.895	2,776,378.943	36.283658853	-107.652529730
9,300.00		269.974 269.974	5,545.66 5,545.23	1,775.84	-3,391.71 3 401 71	1,922,600.850	2,776,278.944 2,776,178.945	36.283659242	-107.652869025
9,400.00 9,500.00		269.974	5,545.23 5,544.81	1,775.80 1,775.75	-3,491.71 -3,591.70	1,922,600.805 1,922,600.760	2,776,178.945	36.283659630 36.283660018	-107.653208320 -107.653547615
9,600.00		269.974	5,544.39	1,775.75	-3,691.70	1,922,600.715	2,775,978.948	36.283660404	-107.653886910
9,700.00		269.974	5,543.97	1,775.66	-3,791.70	1,922,600.671	2,775,878.949	36.283660789	-107.654226204
9,800.00		269.974	5,543.54	1,775.62	-3,891.70	1,922,600.626	2,775,778.950	36.283661174	-107.654565499



Well:

Planning Report - Geographic

Database: DT_Aug2923v16

Company: Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W Site: NW Lybrook (138, 139, 140 & 141)

Lybrook 2408-26 Federal COM 138H

Wellbore: Original Hole
Design: rev0

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well Lybrook 2408-26 Federal COM 138H

RKB=6847+25 @ 6872.00ft RKB=6847+25 @ 6872.00ft

Grid

Minimum Curvature

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,900.00	90.24	269.974	5,543.12	1,775.57	-3,991.70	1,922,600.581	2,775,678.951	36.283661557	-107.654904794
10,000.00	90.24	269.974	5,542.70	1,775.53	-4,091.70	1,922,600.536	2,775,578.952	36.283661940	-107.655244089
10,100.00	90.24	269.974	5,542.27	1,775.48	-4,191.70	1,922,600.491	2,775,478.953	36.283662321	-107.655583384
10,200.00	90.24	269.974	5,541.85	1,775.44	-4,291.70	1,922,600.446	2,775,378.954	36.283662702	-107.655922679
10,300.00	90.24	269.974	5,541.43	1,775.39	-4,391.70	1,922,600.401	2,775,278.955	36.283663082	-107.656261973
10,400.00	90.24	269.974	5,541.01	1,775.35	-4,491.70	1,922,600.356	2,775,178.957	36.283663460	-107.656601268
10,500.00	90.24	269.974	5,540.58	1,775.31	-4,591.70	1,922,600.312	2,775,078.958	36.283663838	-107.656940563
10,600.00	90.24	269.974	5,540.16	1,775.26	-4,691.69	1,922,600.267	2,774,978.959	36.283664215	-107.657279858
10,700.00	90.24	269.974	5,539.74	1,775.22	-4,791.69	1,922,600.222	2,774,878.960	36.283664590	-107.657619153
10,800.00	90.24	269.974	5,539.31	1,775.17	-4,891.69	1,922,600.177	2,774,778.961	36.283664965	-107.657958448
10,900.00	90.24	269.974	5,538.89	1,775.13	-4,991.69	1,922,600.132	2,774,678.962	36.283665339	-107.658297743
11,000.00	90.24	269.974	5,538.47	1,775.08	-5,091.69	1,922,600.087	2,774,578.963	36.283665712	-107.658637038
11,100.00	90.24	269.974	5,538.05	1,775.04	-5,191.69	1,922,600.042	2,774,478.964	36.283666084	-107.658976333
11,200.00	90.24	269.974	5,537.62	1,774.99	-5,291.69	1,922,599.997	2,774,378.965	36.283666455	-107.659315628
11,300.00	90.24	269.974	5,537.20	1,774.95	-5,391.69	1,922,599.953	2,774,278.967	36.283666825	-107.659654923
11,347.47	90.24	269.974	5,537.00	1,774.92	-5,439.16	1,922,599.931	2,774,231.493	36.283667000	-107.659816000
PBHL/TD	11347.47 MD	5537.00 TVI	ס						

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Lybrook 2408 138H LT - plan hits target co - Point		0.000	5,537.00	1,774.92	-5,439.16	1,922,599.931	2,774,231.493	36.283667000	-107.659816000
Lybrook 2408 138H FT - plan hits target ce - Point		0.000	5,558.50	1,777.21	-354.54	1,922,602.216	2,779,316.101	36.283647000	-107.642564000
Lybrook 2408 138H 0 \ - plan misses targe - Point		0.000 .20ft at 5943	5,560.00 3.36ft MD (54	1,777.37 73.23 TVD, 17	-0.80 777.34 N, -50	1,922,602.377 .90 E)	2,779,669.843	36.283645520	-107.641363759

Casing Points							
	Measured Depth	Vertical Depth			Casing Diameter	Hole Diameter	
	(ft)	(ft)		Name	(")	(")	
	350.00	350.00	13 3/8" Csg		13-3/8	17-1/2	
	3,748.83	3,542.00	9 5/8" Csg		9-5/8	12-1/4	



Project:

Planning Report - Geographic

DT_Aug2923v16 Database: Company:

Enduring Resources LLC

San Juan County, New Mexico NAD83 NM W

Site: NW Lybrook (138, 139, 140 & 141) Well: Lybrook 2408-26 Federal COM 138H

Wellbore: Original Hole Design: rev0

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well Lybrook 2408-26 Federal COM 138H

RKB=6847+25 @ 6872.00ft RKB=6847+25 @ 6872.00ft

Minimum Curvature

Formations							
	Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
	1,240.52	1,222.10	Ojo Alamo		-0.24	269.974	
	1,381.12	1,352.14	Kirtland		-0.24	269.974	
	1,619.05	1,572.21	Fruitland		-0.24	269.974	
	1,954.33	1,882.30	Pictured Cliffs		-0.24	269.974	
	2,062.48	1,982.33	Lewis		-0.24	269.974	
	2,397.76	2,292.42	Chacra_A		-0.24	269.974	
	3,582.04	3,387.74	Cliff House_Basal		-0.24	269.974	
	3,587.45	3,392.74	Menefee		-0.24	269.974	
	4,528.39	4,263.00	Point Lookout		-0.24	269.974	
	4,777.14	4,493.07	Mancos		-0.24	269.974	
	5,177.31	4,863.18	MNCS_A		-0.24	269.974	
	5,274.51	4,953.20	MNCS_B		-0.24	269.974	
	5,403.12	5,073.14	MNCS_C		-0.24	269.974	
	5,490.68	5,153.04	MNCS_Cms		-0.24	269.974	
	5,576.52	5,227.89	MNCS_D		-0.24	269.974	
	5,675.39	5,307.66	MNCS_E		-0.24	269.974	
	5,758.07	5,367.42	MNCS_F		-0.24	269.974	
	5,900.80	5,451.94	MNCS_G		-0.24	269.974	
	5,985.11	5,493.64	MNCS_H		-0.24	269.974	
	6,131.49	5,544.06	MNCS_I		-0.24	269.974	

Plan Annotations				
Measured	d Vertical	Local Cod	ordinates	
Depth	Depth	+N/-S	+E/-W	0
(ft)	(ft)	(ft)	(ft)	Comment
500.0	500.00	0.00	0.00	KOP Begin 3°/100' build
1,244.9	97 1,226.22	141.34	24.56	Begin 22.35° tangent
5,239.	37 4,921.04	1,637.97	284.62	Begin 10°/100' build/turn
5,900.3	39 5,451.74	1,777.36	-13.68	Begin 60.00° tangent
5,960.3	5,481.74	1,777.34	-65.64	Begin 10°/100' build
6,262.8	5,558.50	1,777.21	-354.54	Begin 90.24° lateral
11,347.4	5,537.00	1,774.92	-5,439.16	PBHL/TD 11347.47 MD 5537.00 TVD



TVD Reference:

Company: Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W

Reference Site: NW Lybrook (138, 139, 140 & 141)

Site Error: 0.00 ft

Reference Well: Lybrook 2408-26 Federal COM 138H

Well Error: 0.00 ft
Reference Wellbore Original Hole
Reference Design: rev0

Local Co-ordinate Reference:

Well Lybrook 2408-26 Federal COM 138H

RKB=6847+25 @ 6872.00ft RKB=6847+25 @ 6872.00ft

MD Reference: RKB=6847·
North Reference: Grid

Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma

Database: DT_Aug2923v16
Offset TVD Reference: Offset Datum

Reference rev0

Filter type: GLOBAL FILTER APPLIED: All wellpaths within 200'+ 100/1000 of reference

Interpolation Method: MD Interval 100.00ft Error Model: ISCWSA

Depth Range:UnlimitedScan Method:Closest Approach 3DResults Limited by:Maximum centre distance of 1,334.75ftError Surface:Ellipsoid Separation

Warning Levels Evaluated at: 2.00 Sigma Casing Method: Not applied

Survey Tool Program Date 10/2/2023

From To

(ft) (ft) Survey (Wellbore) Tool Name Description

0.00 11,347.47 rev0 (Original Hole) MWD OWSG MWD - Standard

ummary						
Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Dista Between Centres (ft)	nce Between Ellipses (ft)	Separation Factor	Warning
NW Lybrook (138, 139, 140 & 141)						
Lybrook 2408-25M 237H (Chaco 2408-25M) - Original Ho NW Lybrook Unit 139H - Original Hole - rev0 NW Lybrook Unit 139H - Original Hole - rev0 NW Lybrook Unit 139H - Original Hole - rev0 NW Lybrook Unit 139H - Original Hole - rev0 NW Lybrook Unit 140H - Original Hole - rev0 NW Lybrook Unit 140H - Original Hole - rev0 NW Lybrook Unit 141H - Original Hole - rev0 NW Lybrook Unit 141H - Original Hole - rev0 NW Lybrook Unit 141H - Original Hole - rev0 NW Lybrook Unit 141H - Original Hole - MWD NW Lybrook UT 131H - Original Hole - MWD NW Lybrook UT 131H - Original Hole - MWD NW Lybrook UT 131H - Original Hole - MWD NW Lybrook UT 289H - Original Hole - Gyro & MWD	11,347.47 558.88 600.00 6,044.29 632.54 700.00 1,000.00 675.70 700.00 900.00 227.13 700.00 800.00 1,110.39	5,514.78 558.87 599.95 6,283.87 632.43 699.63 994.31 676.68 700.62 888.65 215.13 688.49 785.77 1,106.84	1,094.57 19.89 19.96 89.04 103.93 104.10 120.25 122.89 122.98 139.50 61.73 62.35 67.84 65.55	934.18 16.33 16.11 37.10 99.85 99.53 113.44 118.52 118.44 133.50 60.51 57.79 62.56 58.90	5.590 5.182 1.714 25.434 22.775 17.653 28.133 27.107 23.252 50.561 13.670 12.847	ES Level 3<2.00, SF CC ES SF CC ES SF CC ES SF CC ES
NW Lybrook UT 289H - Original Hole - Gyro & MWD	1,200.00	1,195.11	69.97	62.72	9.643	,
Ridge Unit (130, 135, 136 & 137)						
Ridge Unit No. 130H - Original Hole - rev1 Ridge Unit No. 130H - Original Hole - rev1 Ridge Unit No. 135H - Original Hole - rev1 Ridge Unit No. 135H - Original Hole - rev1 Ridge Unit No. 135H - Original Hole - rev1 Ridge Unit No. 136H - Original Hole - rev1 Ridge Unit No. 136H - Original Hole - rev1 Ridge Unit No. 136H - Original Hole - rev1 Ridge Unit No. 137H - Original Hole - rev1 Ridge Unit No. 137H - Original Hole - rev1 Ridge Unit No. 137H - Original Hole - rev1 Ridge Unit No. 137H - Original Hole - rev1	6,300.00 6,500.00 7,880.16 7,900.00 8,100.00 9,504.42 9,600.00 11,088.97 11,100.00 11,200.00	6,350.00 6,373.93 5,672.76 5,677.26 5,729.41 5,450.00 5,477.15 5,828.40 5,832.42 5,870.11	485.97 530.40 529.68 530.02 569.33 537.35 544.66 599.51 599.58 607.04	409.61 440.75 451.04 449.69 475.69 433.37 435.39 432.64 432.12 435.71	5.916 6.735 6.597 6.080	CC ES SF CC, ES SF CC ES

Offset Design	n: NW	Lybrook (138, 139,	140 & 141)	- Lybrool	c 2408-25M	237H (Chaco 2	2408-25M)	- Original I	Hole - Gyro	o & MWD		Offset Site Error:	0.00 ft
Survey Program: Reference		-MWD Offs	set	Semi M	laior Axis		Offset Wellbo	ore Centre	Dis	Rule Assi	gned:		Offset Well Error:	0.00 ft
Depth D	rtical epth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
10,800.00 5,	539.31	5,298.47	5,257.08	130.21	18.11	-76.26	680.94	-5,543.99	1,302.25	1,169.17	133.08	9.786		



TVD Reference:

MD Reference:

Company: Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W

Reference Site: NW Lybrook (138, 139, 140 & 141)

Site Error: 0.00 ft

Reference Well: Lybrook 2408-26 Federal COM 138H

Well Error: 0.00 ft
Reference Wellbore Original Hole
Reference Design: rev0

Local Co-ordinate Reference:

Well Lybrook 2408-26 Federal COM 138H

RKB=6847+25 @ 6872.00ft RKB=6847+25 @ 6872.00ft

North Reference: Grid

Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma

Database: DT_Aug2923v16
Offset TVD Reference: Offset Datum

	_											(Offset Site Error:	0.00 f
Survey Progr Refer Measured	ram: 36- rence Vertical	4-MWD Off Measured	set Vertical	Semi N Reference	lajor Axis Offset	Highside	Offset Wellb	ore Centre	Dist Between	Rule Assignance Between	gned: Minimum	Separation	offset Well Error: Warning	0.00 1
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	Toolface (°)	+N/-S (ft)	+E/-W (ft)	Centres (ft)	Ellipses (ft)	Separation (ft)	Factor	···uiiiig	
10,900.00	5,538.89	5,345.00	5,291.92	132.69	18.36	-77.91	689.48	-5,573.62	1,253.98	1,115.72	138.26	9.070		
11,000.00	5,538.47	5,377.00	5,314.69	135.18	18.55	-79.01	695.52	-5,595.27	1,209.91	1,066.44	143.47	8.433		
11,100.00	5,538.05	5,419.19	5,343.46	137.67	18.83	-80.43	703.29	-5,625.12	1,170.40	1,021.80	148.60	7.876		
11,200.00	5,537.62	5,457.53	5,368.25	140.16	19.11	-81.67	710.03	-5,653.58	1,135.73	982.15	153.58	7.395		
11,300.00	5,537.20	5,503.00	5,395.59	142.65	19.46	-83.08	717.03	-5,689.21	1,106.57	948.26	158.31	6.990		
11,347.47	5,537.00	5,514.78	5.402.20	143.83	19.57	-83.43	718.71	-5,698.83	1.094.57	934.18	160.39	6.824 CC. ES.	SF	



Company: Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W

NW Lybrook (138, 139, 140 & 141) Reference Site:

Site Error: 0.00 ft

Reference Well: Lybrook 2408-26 Federal COM 138H

0.00 ft Well Error: Reference Wellbore Original Hole Reference Design: rev0

Local Co-ordinate Reference:

Well Lybrook 2408-26 Federal COM 138H TVD Reference: RKB=6847+25 @ 6872.00ft MD Reference: RKB=6847+25 @ 6872.00ft

North Reference: Grid

Survey Calculation Method: Minimum Curvature 2.00 sigma Output errors are at

DT_Aug2923v16 Database: Offset TVD Reference: Offset Datum

					,.		39H - Original F	.0.0					Offset Site Error:	0.00 f
Survey Progra Refer		MWD Off	set	Semi N	Major Axis		Offset Wellbo	re Centre	Dist	Rule Assi ance	gned:		Offset Well Error:	0.00 fi
Measured	Vertical	Measured	Vertical	Reference	Offset	Highside			Between	Between	Minimum	Separation	Warning	
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	Toolface	+N/-S (ft)	+E/-W (ft)	Centres	Ellipses (ft)	Separation (ft)	Factor		
(ft) 0.00	(ft) 0.00	0.00	0.00	0.00	(ft) 0.00	(°) 97.24	-2.51	19.75	(ft) 19.91	(11)	(11)			
100.00	100.00	100.00	100.00	0.00	0.13	97.24	-2.51	19.75	19.91	19.64	0.27	74.061		
200.00	200.00	200.00	200.00	0.49	0.49	97.24	-2.51	19.75	19.91	18.93	0.99	20.198		
300.00	300.00	300.00	300.00	0.45	0.45	97.24	-2.51	19.75	19.91	18.21	1.70	11.694		
400.00	400.00	400.00	400.00	1.21	1.21	97.24	-2.51	19.75	19.91	17.49	2.42	8.229		
500.00	500.00	500.00	500.00	1.57	1.57	97.24	-2.51	19.75	19.91	16.77	3.14	6.348		
558.88	558.87	558.87	558.87	1.78	1.78	89.99	-2.51	19.75	19.89	16.33	3.56	5.590 CC		
600.00	599.95	599.95	599.95	1.93	1.93	94.90	-2.51	19.75	19.96	16.11	3.85	5.182 ES		
700.00	699.63	699.63	699.63	2.29	2.28	115.53	-2.51	19.75	22.07	17.49	4.57	4.826		
800.00	798.77	800.26	800.21	2.66	2.64	138.30	-0.19	18.51	27.52	22.23	5.30	5.197		
900.00	897.08	901.03	900.66	3.06	3.01	157.65	6.81	14.76	35.33	29.32	6.01	5.878		
1,000.00	994.31	1,001.78	1,000.52	3.49	3.38	173.44	18.46	8.52	46.15	39.42	6.73	6.860		
1,100.00	1,090.18	1,102.33	1,099.36	3.97	3.77	-174.10	34.71	-0.18	60.33	52.85	7.48	8.067		
1,200.00	1,184.43	1,202.53	1,196.75	4.50	4.20	-164.37	55.43	-11.28	77.96	69.66	8.30	9.394		
1,300.00	1,277.12	1,302.33	1,292.39	5.09	4.66	-156.66	80.53	-24.72	98.28	89.07	9.21	10.667		
1,400.00	1,369.61	1,402.02	1,386.32	5.71	5.19	-149.53	109.95	-40.48	118.02	107.78	10.25	11.517		
1 500 00	1 400 40	1 500 05	1 477 00	0.04	E 70	440.70	440.70	E0.04	407.04	100.00	44 44	10.050		
1,500.00	1,462.10	1,500.25	1,477.23	6.34	5.76	-142.73	142.73	-58.04	137.61	126.20	11.41	12.059		
1,600.00	1,554.58	1,597.13	1,566.60	6.99	6.35	-137.44	175.71	-75.70	158.42	145.79	12.63	12.542		
1,700.00	1,647.07	1,694.01	1,655.97	7.65	6.97	-133.39	208.68	-93.36	180.24	166.36	13.88	12.983		
1,800.00	1,739.56	1,790.89	1,745.33	8.31	7.61	-130.21	241.65	-111.03	202.74	187.59	15.15	13.378		
1,900.00	1,832.05	1,887.77	1,834.70	8.98	8.26	-127.67	274.62	-128.69	225.72	209.28	16.44	13.729		
2,000.00	1,924.54	1,984.65	1,924.07	9.66	8.92	-125.60	307.59	-146.35	249.05	231.31	17.74	14.039		
2,100.00	2,017.03	2,081.53	2,013.44	10.34	9.59	-123.88	340.56	-164.01	272.63	253.58	19.05	14.314		
2,200.00	2,109.51	2,178.41	2,102.81	11.02	10.26	-122.44	373.53	-181.67	296.41	276.05	20.36	14.559		
2,300.00	2,202.00	2,275.29	2,192.18	11.71	10.20	-121.21	406.50	-199.33	320.34	298.66	21.68	14.778		
2,400.00	2,294.49	2,372.17	2,281.55	12.39	11.63	-120.15	439.48	-216.99	344.39	321.39	23.00	14.973		
2,400.00	2,294.49	2,372.17	2,201.00	12.39	11.03	-120.15	439.40	-210.99	344.39	321.38	23.00	14.973		
2,500.00	2,386.98	2,469.05	2,370.92	13.08	12.31	-119.23	472.45	-234.65	368.54	344.21	24.33	15.150		
2,600.00	2,479.47	2,565.93	2,460.29	13.77	13.00	-118.42	505.42	-252.31	392.76	367.11	25.65	15.310		
2,700.00	2,571.96	2,662.82	2,549.66	14.46	13.70	-117.70	538.39	-269.97	417.05	390.07	26.99	15.454		
2,800.00	2,664.44	2,759.70	2,639.03	15.15	14.39	-117.07	571.36	-287.63	441.40	413.08	28.32	15.586		
2,900.00	2,756.93	2,856.58	2,728.40	15.84	15.09	-116.50	604.33	-305.29	465.79	436.14	29.66	15.707		
,	,	,	,	'			,							
3,000.00	2,849.42	2,953.46	2,817.77	16.54	15.78	-115.99	637.30	-322.95	490.22	459.23	30.99	15.817		
3,100.00	2,941.91	3,050.34	2,907.14	17.23	16.48	-115.52	670.27	-340.61	514.69	482.36	32.33	15.919		
3,200.00	3,034.40	3,147.22	2,996.51	17.93	17.19	-115.10	703.25	-358.27	539.18	505.51	33.67	16.013		
3,300.00	3,126.89	3,244.10	3,085.88	18.62	17.89	-114.71	736.22	-375.93	563.70	528.69	35.01	16.100		
3,400.00	3,219.37	3,340.98	3,175.24	19.32	18.59	-114.36	769.19	-393.59	588.24	551.89	36.35	16.181		
3,500.00	3,311.86	3,437.86	3,264.61	20.02	19.29	-114.04	802.16	-411.25	612.80	575.10	37.70	16.256		
3,600.00	3,404.35	3,534.74	3,353.98	20.71	20.00	-113.74	835.13	-428.91	637.38	598.34	39.04	16.326		
3,700.00	3,496.84	3,631.62	3,443.35	21.41	20.70	-113.46	868.10	-446.57	661.97	621.59	40.38	16.392		
3,800.00	3,589.33	3,728.50	3,532.72	22.11	21.41	-113.20	901.07	-464.23	686.58	644.85	41.73	16.453		
3,900.00	3,681.82	3,825.38	3,622.09	22.81	22.12	-112.96	934.05	-481.89	711.19	668.12	43.08	16.511		
4 000 00	0.774.01	0.000.0=	0.744.46	00.55	00.00	440 74	607.00	400.55	705.00	001.10	44.40	40.505		
4,000.00	3,774.31	3,922.27	3,711.46	23.50	22.82	-112.74	967.02	-499.55	735.82	691.40	44.42	16.565		
4,100.00	3,866.79	4,019.15	3,800.83	24.20	23.53	-112.53	999.99	-517.22	760.46	714.70	45.77	16.616		
4,200.00	3,959.28	4,116.03	3,890.20	24.90	24.24	-112.33	1,032.96	-534.88	785.11	738.00	47.11	16.664		
4,300.00	4,051.77	4,212.91	3,979.57	25.60	24.95	-112.15	1,065.93	-552.54	809.77	761.30	48.46	16.709		
4,400.00	4,144.26	4,309.79	4,068.94	26.30	25.65	-111.97	1,098.90	-570.20	834.43	784.62	49.81	16.753		
4 500 00	4,236.75	1 100 67	A 150 24	27.00	26.36	_111 01	1 121 07	-587.86	859.10	807.94	51.16	16.793		
4,500.00		4,406.67	4,158.31			-111.81	1,131.87							
4,600.00	4,329.24	4,503.55	4,247.68	27.70	27.07	-111.65	1,164.84	-605.52	883.78	831.27	52.51	16.832		
4,700.00	4,421.72	4,600.43	4,337.05	28.40	27.78	-111.51	1,197.82	-623.18	908.46	854.60	53.85	16.869		
4,800.00	4,514.21	4,697.31	4,426.42	29.10	28.49	-111.37	1,230.79	-640.84	933.15	877.94	55.20	16.904		
4,900.00	4,606.70	4,794.19	4,515.79	29.80	29.20	-111.24	1,263.76	-658.50	957.84	901.29	56.55	16.937		
				30.50	34.40			244.40			20.69	43.021		



Company: Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W

NW Lybrook (138, 139, 140 & 141) Reference Site:

Site Error: 0.00 ft

Reference Well: Lybrook 2408-26 Federal COM 138H

0.00 ft Well Error: Reference Wellbore Original Hole Reference Design: rev0

Local Co-ordinate Reference:

Well Lybrook 2408-26 Federal COM 138H TVD Reference: RKB=6847+25 @ 6872.00ft

MD Reference: RKB=6847+25 @ 6872.00ft

North Reference: Grid

Survey Calculation Method: Minimum Curvature 2.00 sigma Output errors are at Database: DT_Aug2923v16

Offset TVD Reference: Offset Datum

Offset Des	sign: NV	V Lybrook (138, 139,	140 & 141)	- NW Lyl	orook Unit 1	39H - Original F	Hole - rev0					Offset Site Error:	0.00 ft
Survey Progr	ram: 0-	MWD								Rule Assi	gned:		Offset Well Error:	0.00 ft
Refe Measured	rence Vertical	Off Measured	set Vertical	Semi M Reference	Major Axis Offset	Highside	Offset Wellbo	ore Centre	Dis Between	tance Between	Minimum	Separation	Warning	
Depth	Depth	Depth	Depth			Toolface	+N/-S (ft)	+E/-W (ft)	Centres	Ellipses	Separation	Factor	warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)			(ft)	(ft)	(ft)	27.642		
5,100.00	4,791.68	6,668.44	5,563.30	31.20	34.43	-160.04	1,760.85	255.52	791.53	770.48	21.04	37.613 32.288		
5,200.00	4,884.17	6,679.30	5,563.36	31.90	34.47	-163.72	1,761.79	266.34	693.40	671.92	21.48			
5,300.00	4,976.98	6,686.63	5,563.40	32.58	34.50	-179.51	1,762.40	273.65	595.42	573.42	22.00	27.066		
5,400.00	5,070.25	6,677.50	5,563.35	33.18	34.47	166.73	1,761.64	264.55	497.86	475.30	22.56	22.071		
5,500.00	5,161.36	6,651.36	5,563.20	33.66	34.38	170.50	1,759.28	238.51	403.56	380.32	23.25	17.359		
5,600.00	5,247.54	6,609.45	5,562.96	34.03	34.31	177.52	1,755.01	196.83	315.56	291.27	24.29	12.993		
5,700.00	5,326.18	6,553.34	5,562.65	34.30	34.23	-174.90	1,748.33	141.11	236.94	210.84	26.10	9.079		
5,800.00	5,394.87	6,484.81	5,562.26	34.47	34.20	-165.63	1,738.71	73.27	171.08	141.61	29.47	5.805		
5,900.00	5,451.55	6,405.91	5,561.81	34.55	34.19	-152.61	1,725.61	-4.53	122.12	86.34	35.78	3.413		
6,000.00	5,500.35	6,322.35	5,561.34	34.61	34.19	-131.92	1,709.42	-86.51	92.36	45.05	47.31	1.952 Lev	rel 3<2.00	
6,044.29	5,518.23	6,283.87	5,561.13	34.65	34.21	-121.21	1,701.16	-124.08	89.04	37.10	51.94	1.714 Lev	rel 3<2.00, SF	
6,100.00	5,536.20	6,232.71	5,560.50	34.72	34.22	-108.19	1,689.46	-173.88	93.27	40.70	52.57	1.774 Lev	rel 3<2 00	
6,200.00	5,555.32	6,138.81	5,549.09	34.90	34.26	-88.26	1,667.87	-264.45	112.92	66.10	46.82	2.412	0.0.2.00	
6,300.00	5,558.34	6,050.00	5,524.45	35.18	34.29	-75.21	1,648.10	-347.35	140.65	98.53	42.12	3.339		
6,400.00	5,557.92	5,968.83	5,490.66	35.60	34.32	-65.19	1,631.01	-419.07	176.52	137.79	38.73	4.557		
6,500.00	5,557.49	5,888.48	5,450.58	36.20	34.35	-56.52	1,614.84	-486.80	220.84	184.28	36.56	6.041		
6,600.00	5,557.07	5,829.80	5,418.35	36.99	34.35	-51.48	1,602.01	-534.11	273.36	235.21	38.15	7.165		
6,700.00	5,556.65	5,779.43	5,387.18	38.01	34.33	-31.46 -47.71	1,589.75	-571.70	334.96	294.18	40.78	8.214		
												9.257		
6,800.00 6,900.00	5,556.23 5,555.80	5,736.35 5,700.00	5,358.13 5,332.05	39.24 40.67	34.30 34.26	-44.91 -42.82	1,578.42 1,568.30	-601.42 -624.61	403.66 477.88	360.06 431.62	43.61 46.26	10.331		
7,000.00	5,555.38	5,667.81	5,307.83	42.25	34.20	-42.02 -41.17	1,558.95	-643.63	556.39	507.93	48.46	11.481		
7,100.00	5,554.96	5,650.00	5,294.00	43.98	34.19	-40.33	1,553.63	-653.52	638.42	587.52	50.90	12.542		
7,200.00	5,554.53	5,616.75	5,267.45	45.81	34.12	-38.88	1,543.44	-670.73	722.85	670.93	51.92	13.923		
7,300.00	5,554.11	5,600.00	5,253.72	47.73	34.09	-38.21	1,538.19	-678.76	809.60	756.20	53.40	15.162		
7,400.00	5,553.69	5,577.81	5,235.21	49.72	34.04	-37.38	1,531.12	-688.74	898.06	843.75	54.31	16.535		
7,500.00	5,553.27	5,550.00	5,211.51	51.78	33.97	-36.42	1,522.10	-700.16	988.17	933.34	54.84	18.021		
7,600.00	5,552.84	5,550.00	5,211.51	53.88	33.97	-36.42	1,522.10	-700.16	1,079.11	1,023.03	56.09	19.240		
7,700.00	5,552.42	5,550.00	5,211.51	56.03	33.97	-36.42	1,522.10	-700.16	1,171.53	1,114.44	57.09	20.521		
7,800.00	5,552.00	5,523.10	5,188.11	58.22	33.88	-35.57	1,513.22	-710.01	1,264.19	1,206.95	57.24	22.086		



MD Reference:

Company: Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W

NW Lybrook (138, 139, 140 & 141) Reference Site:

Site Error: 0.00 ft

Reference Well: Lybrook 2408-26 Federal COM 138H

Well Error: 0.00 ft Reference Wellbore Original Hole Reference Design: rev0

Local Co-ordinate Reference:

Well Lybrook 2408-26 Federal COM 138H TVD Reference: RKB=6847+25 @ 6872.00ft

RKB=6847+25 @ 6872.00ft

North Reference: Grid

Survey Calculation Method: Minimum Curvature 2.00 sigma Output errors are at

DT_Aug2923v16 Database: Offset TVD Reference: Offset Datum

Offset Des	sign: NW	/ Lybrook (138, 139,	140 & 141) -	- NW Lyl	orook Unit 14	40H - Original I	Hole - rev0					Offset Site Error:	0.00 ft
Survey Progr	ram: 0-N	/IWD Off:	set	Semi M	aior Axis		Offset Wellbo	ore Centre	Die	Rule Assi	gned:		Offset Well Error:	0.00 ft
Measured	Vertical	Measured	Vertical	Reference	Offset	Highside			Between	Between	Minimum	Separation	Warning	
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	Toolface (°)	+N/-S (ft)	+E/-W (ft)	Centres (ft)	Ellipses (ft)	Separation (ft)	Factor		
0.00	0.00	0.00	0.00	0.00	0.00	97.32	-13.26	103.19	104.04	()	()			
100.00	100.00	100.00	100.00	0.13	0.13	97.32	-13.26	103.19	104.04	103.77	0.27	386.962		
200.00	200.00	200.00	200.00	0.49	0.49	97.32	-13.26	103.19	104.04	103.05	0.99	105.535		
300.00	300.00	300.00	300.00	0.85	0.85	97.32	-13.26	103.19	104.04	102.33	1.70	61.099		
400.00	400.00	400.00	400.00	1.21	1.21	97.32	-13.26	103.19	104.04	101.62	2.42	42.996		
500.00	500.00	500.00	500.00	1.57	1.57	97.32	-13.26	103.19	104.04	100.90	3.14	33.168		
600.00	599.95	599.95	599.95	1.93	1.93	88.91	-13.26	103.19	103.95	100.10	3.85	26.982		
632.54	632.43	632.43	632.43	2.05	2.04	90.00	-13.26	103.19	103.93	99.85	4.09	25.434 CC		
700.00	699.63	699.63	699.63	2.29	2.28	93.21	-13.26	103.19	104.10	99.53	4.57	22.775 ES		
800.00	798.77	798.77	798.77	2.66	2.64	100.19	-13.26	103.19	105.64	100.34	5.30	19.933		
900.00	897.08	897.08	897.08	3.06	2.99	109.27	-13.26	103.19	110.37	104.32	6.05	18.250		
1,000.00	994.31	994.31	994.31	3.49	3.34	119.34	-13.26	103.19	120.25	113.44	6.81	17.653 SF		
1,100.00	1,090.18	1,091.20	1,091.16	3.97	3.68	130.12	-14.35	101.30	136.41	128.84	7.57	18.025		
1,200.00	1,184.43	1,184.00	1,183.71	4.50	3.99	140.82	-17.69	95.52	160.63	152.35	8.29	19.384		
1,300.00	1,277.12	1,272.02	1,271.10	5.09	4.30	150.42	-22.94	86.44	193.96	185.00	8.96	21.637		
1,400.00	1,369.61	1,356.52	1,354.46	5.71	4.61	158.27	-29.86	74.45	233.20	223.61	9.59	24.315		
1,500.00	1,462.10	1,437.62	1,433.80	6.34	4.92	164.52	-38.23	59.96	277.21	267.02	10.19	27.206		
1,600.00	1,554.58	1,515.23	1,509.00	6.99	5.25	169.58	-47.81	43.37	325.40	314.63	10.76	30.229		
1,700.00	1,647.07	1,589.33	1,580.02	7.65	5.58	173.74	-58.38	25.07	377.34	366.02	11.32	33.336		
1,800.00	1,739.56	1,659.95	1,646.89	8.31	5.93	177.21	-69.73	5.43	432.67	420.81	11.86	36.480		
1,900.00	1,832.05	1,727.15	1,709.71	8.98	6.28	-179.85	-81.66	-15.24	491.09	478.71	12.38	39.675		
2,000.00	1,924.54	1,799.92	1,777.02	9.66	6.69	-177.07	-95.49	-39.18	551.90	538.91	12.98	42.505		
2,100.00	2,017.03	1,876.13	1,847.47	10.34	7.15	-174.69	-110.02	-64.34	613.58	599.92	13.66	44.929		
2,200.00	2,109.51	1,952.33	1,917.92	11.02	7.62	-172.72	-124.56	-89.51	675.83	661.49	14.34	47.115		
2,300.00	2,202.00	2,028.54	1,988.37	11.71	8.11	-171.07	-139.09	-114.67	738.52	723.47	15.04	49.088		
2,400.00	2,294.49	2,104.75	2,058.83	12.39	8.61	-169.67	-153.62	-139.83	801.53	785.78	15.76	50.873		
2,500.00	2,386.98	2,180.96	2,129.28	13.08	9.11	-168.46	-168.15	-164.99	864.80	848.32	16.48	52.483		
2,600.00	2,479.47	2,257.17	2,199.73	13.77	9.63	-167.42	-182.68	-190.15	928.27	911.07	17.21	53.945		
2,700.00	2,571.96	2,333.38	2,270.18	14.46	10.15	-166.51	-197.22	-215.31	991.91	973.97	17.94	55.279		
2,800.00	2,664.44	2,409.58	2,340.63	15.15	10.68	-165.70	-211.75	-240.48	1,055.68	1,037.00	18.69	56.498		
2,900.00	2,756.93	2,485.79	2,411.08	15.84	11.21	-164.99	-226.28	-265.64	1,119.57	1,100.14	19.43	57.613		
3,000.00	2,849.42	2,562.00	2,481.54	16.54	11.75	-164.35	-240.81	-290.80	1,183.55	1,163.36	20.18	58.637		
3,100.00	2,941.91	2,638.21	2,551.99	17.23	12.29	-163.77	-255.35	-315.96	1,247.60	1,226.66	20.94	59.580		
3,200.00	3,034.40	2,714.42	2,622.44	17.93	12.83	-163.26	-269.88	-341.12	1,311.73	1,290.03	21.70	60.452		



Company: Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W

NW Lybrook (138, 139, 140 & 141) Reference Site:

Site Error:

Reference Well: Lybrook 2408-26 Federal COM 138H

Well Error: 0.00 ft Reference Wellbore Original Hole Reference Design: rev0

Local Co-ordinate Reference:

Well Lybrook 2408-26 Federal COM 138H TVD Reference: RKB=6847+25 @ 6872.00ft MD Reference: RKB=6847+25 @ 6872.00ft

North Reference: Grid

Survey Calculation Method: Minimum Curvature 2.00 sigma Output errors are at

Database: DT_Aug2923v16 Offset TVD Reference: Offset Datum

urvey Progi		MWD								Rule Assi	gned:		Offset Well Error:	0.00 f
Refe Measured Depth (ft)	rence Vertical Depth (ft)	Offs Measured Depth (ft)	set Vertical Depth (ft)	Semi M Reference (ft)	lajor Axis Offset (ft)	Highside Toolface (°)	Offset Wellbe +N/-S (ft)	+E/-W	Dist Between Centres (ft)	ance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	97.31	-15.77	122.94	123.95					
100.00	100.00	100.00	100.00	0.13	0.13	97.31	-15.77	122.94	123.95	123.68	0.27	461.023		
200.00	200.00	200.00	200.00	0.49	0.49	97.31	-15.77	122.94	123.95	122.96	0.99	125.734		
300.00	300.00	300.00	300.00	0.85	0.85	97.31	-15.77	122.94	123.95	122.25	1.70	72.793		
400.00	400.00	400.00	400.00	1.21	1.21	97.31	-15.77	122.94	123.95	121.53	2.42	51.225		
500.00	500.00	500.00	500.00	1.57	1.57	97.31	-15.77	122.94	123.95	120.81	3.14	39.516		
600.00	599.95	601.14	601.09	1.93	1.92	89.91	-18.29	122.04	123.37	119.53	3.84	32.129		
675.70	675.45	676.68	676.43	2.21	2.17	94.98	-23.46	120.18	122.89	118.52	4.37	28.133 CC		
700.00	699.63	700.62	700.25	2.29	2.26	97.15	-25.68	119.38	122.98	118.44	4.54	27.107 ES		
800.00	798.77	796.90	795.71	2.66	2.60	108.33	-37.45	115.16	126.63	121.37	5.26	24.081		
900.00	897.08	888.65	885.97	3.06	2.96	121.27	-52.87	109.63	139.50	133.50	6.00	23.252 SF		
1,000.00	994.31	974.78	969.90	3.49	3.33	133.27	-71.03	103.11	165.28	158.57	6.71	24.618		
1,100.00	1,090.18	1,054.51	1,046.75	3.97	3.70	142.82	-91.01	95.94	204.46	197.10	7.36	27.777		
1,200.00	1,184.43	1,127.35	1,116.13	4.50	4.07	149.81	-111.88	88.45	255.39	247.45	7.94	32.171		
1,300.00	1,277.12	1,193.54	1,178.39	5.09	4.44	155.31	-133.00	80.87	315.48	307.04	8.44	37.371		
1,400.00	1,369.61	1,255.45	1,235.90	5.71	4.81	159.65	-154.58	73.13	380.36	371.47	8.89	42.800		
1,500.00	1,462.10	1,313.63	1,289.24	6.34	5.18	162.89	-176.45	65.28	448.67	439.36	9.31	48.196		
1,600.00	1,554.58	1,368.31	1,338.70	6.99	5.56	165.38	-198.38	57.41	519.78	510.08	9.71	53.549		
1,700.00	1,647.07	1,419.71	1,384.57	7.65	5.93	167.35	-220.21	49.58	593.27	583.19	10.08	58.838		
1,800.00	1,739.56	1,468.04	1,427.12	8.31	6.29	168.94	-241.79	41.83	668.83	658.39	10.44	64.058		
1,900.00	1,832.05	1,513.53	1,466.62	8.98	6.65	170.25	-263.01	34.22	746.19	735.41	10.78	69.220		
2,000.00	1,924.54	1,556.36	1,503.32	9.66	7.00	171.35	-283.81	26.75	825.17	814.07	11.10	74.312		
2,100.00	2,017.03	1,600.89	1,540.96	10.34	7.38	172.36	-306.20	18.72	905.57	894.11	11.46	79.038		
2,200.00	2,109.51	1,658.58	1,589.54	11.02	7.88	173.50	-335.48	8.21	986.47	974.50	11.97	82.425		
2,300.00	2,202.00	1,716.27	1,638.13	11.71	8.39	174.47	-364.76	-2.30	1,067.49	1,055.00	12.49	85.499		
2,400.00	2,294.49	1,773.96	1,686.71	12.39	8.90	175.31	-394.04	-12.80	1,148.60	1,135.59	13.01	88.288		
2,500.00	2,386.98	1,831.65	1,735.29	13.08	9.42	176.04	-423.32	-23.31	1,229.79	1,216.25	13.54	90.829		
2,600.00	2,479.47	1,889.34	1,783.88	13.77	9.95	176.69	-452.60	-33.82	1,311.04	1,296.97	14.07	93.153		



Company: Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W NW Lybrook (138, 139, 140 & 141)

Reference Site: Site Error: 0.00 ft

Reference Well: Lybrook 2408-26 Federal COM 138H

0.00 ft Well Error: Reference Wellbore Original Hole Reference Design: rev0

Local Co-ordinate Reference:

Well Lybrook 2408-26 Federal COM 138H TVD Reference: RKB=6847+25 @ 6872.00ft

MD Reference: RKB=6847+25 @ 6872.00ft Grid

North Reference:

Survey Calculation Method: Minimum Curvature 2.00 sigma Output errors are at

DT_Aug2923v16 Database: Offset TVD Reference: Offset Datum

	rence	-MWD Off:			ajor Axis		Offset Wellb	ore Centre		Rule Assi	=		Offset Well Error:	0.00
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	+N/-S (ft)	+E/-W (ft)	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft) 0.00	(ft) 0.00	(ft) 0.00	(ft) 0.00	(ft) 0.00	(ft) 0.00	(°) 97.29	-7.89	61.62	(ft) 63.27	(ft)	(ft)			
100.00	100.00	88.19	88.19	0.00	0.00	96.90	-7.69 -7.44	61.62	61.89	61.58	0.31	199.033		
200.00	200.00	188.04	188.04	0.13	0.18	96.29	-6.77	61.37	61.74	60.71	1.03	60.130		
227.13	227.13	215.13	215.13	0.49	0.63	96.17	-6.63	61.37	61.73	60.51	1.03	50.561 CC		
300.00	300.00	287.82	287.82	0.85	0.89	95.96	-6.43	61.55	61.89	60.15	1.74	35.613		
400.00	400.00	387.72	387.71	1.21	1.24	95.78	-6.27	61.91	62.22	59.78	2.45	25.439		
500.00	500.00	487.52	487.51	1.57	1.58	95.89	-6.45	62.51	62.84	59.69	3.15	19.931		
600.00	599.95	588.65	588.62	1.93	1.93	90.00	-8.17	62.49	62.97	59.11	3.86	16.320		
677.68	677.42	666.53	666.35	2.21	2.20	99.28	-12.22	60.19	62.21	57.81	4.40	14.125		
700.00	699.63	688.49	688.25	2.29	2.28	102.76	-13.68	59.34	62.35	57.79	4.56	13.670 ES		
800.00	798.77	785.77	785.18	2.66	2.62	120.25	-20.97	55.53	67.84	62.56	5.28	12.847 SF		
900.00	897.08	879.80	878.76	3.06	2.96	136.32	-29.46	52.22	83.98	77.98	6.00	13.992		
1,000.00	994.31	969.34	967.51	3.49	3.30	148.05	-41.05	49.76	113.00	106.31	6.69	16.890		
1,100.00	1,090.18	1,056.51	1,053.60	3.97	3.65	155.09	-54.72	49.21	152.52	145.16	7.36	20.733		
1,200.00	1,184.43	1,142.66	1,138.53	4.50	4.00	159.07	-69.04	50.76	199.09	191.07	8.02	24.819		
1,300.00	1,277.12	1,224.39	1,218.98	5.09	4.34	161.88	-83.34	52.66	250.80	242.14	8.66	28.958		
1,400.00	1,369.61	1,304.09	1,297.21	5.71	4.68	163.98	-98.50	54.41	304.62	295.35	9.27	32.871		
1,500.00	1,462.10	1,380.25	1,371.72	6.34	5.02	165.38	-114.14	56.32	359.99	350.14	9.85	36.545		
1,600.00	1,554.58	1,452.95	1,442.47	6.99	5.36	166.37	-130.73	58.32	417.40	406.99	10.41	40.097		
1,700.00	1,647.07	1,527.51	1,514.70	7.65	5.72	167.15	-149.07	60.52	476.38	465.39	10.99	43.332		
1,800.00	1,739.56	1,597.61	1,582.38	8.31	6.07	167.80	-167.28	62.03	536.57	525.03	11.54	46.489		
1,900.00	1,832.05	1,661.36	1,643.48	8.98	6.41	168.35	-185.41	62.94	598.79	586.76	12.03	49.762		
2,000.00	1,924.54	1,736.52	1,715.18	9.66	6.81	168.87	-207.94	64.24	662.30	649.65	12.65	52.375		
2,100.00	2,017.03	1,818.29	1,793.29	10.34	7.26	169.23	-232.00	66.61	725.40	712.07	13.33	54.423		
2,200.00	2,109.51	1,893.17	1,864.81	11.02	7.68	169.45	-253.98	69.41	788.43	774.48	13.95	56.519		
2,300.00	2,202.00	1,964.18	1,932.48	11.71	8.08	169.66	-275.40	71.65	852.13	837.59	14.54	58.615		
2,400.00	2,294.49	2,054.66	2,018.92	12.39	8.60	169.98	-302.09	73.49	915.31	900.00	15.31	59.773		
2,500.00	2,386.98	2,140.22	2,100.92	13.08	9.08	170.22	-326.41	75.47	977.64	961.59	16.04	60.945		
2,600.00	2,479.47	2,213.25	2,170.98	13.77	9.49	170.42	-346.99	76.84	1,039.78	1,023.13	16.65	62.432		
2,700.00	2,571.96	2,278.81	2,233.68	14.46	9.87	170.64	-366.12	77.24	1,102.78	1,085.58	17.20	64.113		
2,800.00	2,664.44	2,350.69	2,302.28	15.15	10.28	170.89	-387.60	77.07	1,166.38	1,148.57	17.81	65.501		
2,900.00	2,756.93	2,424.27	2,372.43	15.84	10.72	171.11	-409.80	77.19	1,230.23	1,211.79	18.43	66.742		
3,000.00	2,849.42	2,509.14	2,453.36	16.54	11.22	171.28	-435.32	78.22	1,293.95	1,274.79	19.17	67.513		



Company: Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W NW Lybrook (138, 139, 140 & 141)

Reference Site: Site Error: 0.00 ft

Reference Well: Lybrook 2408-26 Federal COM 138H

Well Error: 0.00 ft Reference Wellbore Original Hole Reference Design: rev0

Local Co-ordinate Reference:

Well Lybrook 2408-26 Federal COM 138H TVD Reference: RKB=6847+25 @ 6872.00ft MD Reference: RKB=6847+25 @ 6872.00ft

North Reference: Grid

Survey Calculation Method: Minimum Curvature 2.00 sigma Output errors are at

Database: DT_Aug2923v16 Offset TVD Reference: Offset Datum

								ole - Gyro 8					Offset Site Error:	0.00 ft
Survey Progr	ram: 6	4-GYRO-NS, 4	64-MWD set	Sami M	lajor Axis		Offset Wellbo	ero Contro	Diet	Rule Assi	gned:		Offset Well Error:	0.00 ft
Measured	Vertical	Measured	Vertical	Reference	Offset	Highside			Between	Between	Minimum	Separation	Warning	
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	Toolface (°)	+N/-S (ft)	+E/-W (ft)	Centres (ft)	Ellipses (ft)	Separation (ft)	Factor		
0.00	0.00	0.00	0.00	0.00	0.00	97.35	-10.76	83.43	84.98	(11)	(10)			
100.00	100.00	88.11	88.11	0.13	0.17	97.20	-10.53	83.37	84.03	83.73	0.31	274.305		
145.01	145.01	133.01	133.01	0.30	0.33	97.08	-10.35	83.36	84.00	83.37	0.62	134.486		
200.00	200.00	187.81	187.81	0.49	0.52	96.85	-10.03	83.46	84.06	83.05	1.01	82.971		
300.00	300.00	287.62	287.61	0.85	0.87	96.60	-9.70	83.89	84.46	82.73	1.72	49.097		
400.00	400.00	387.73	387.72	1.21	1.20	96.65	-9.83	84.30	84.87	82.46	2.41	35.226		
100.00	100.00	007.70	001.112		1.20	00.00	0.00	01.00	01.01	02.10		00.220		
500.00	500.00	487.83	487.82	1.57	1.36	97.01	-10.39	84.51	85.14	82.22	2.93	29.097		
600.00	599.95	588.76	588.75	1.93	1.46	88.89	-10.28	84.36	84.89	81.51	3.39	25.079		
700.00	699.63	690.00	689.87	2.29	1.64	91.47	-5.76	83.14	82.96	79.03	3.92	21.149		
800.00	798.77	790.72	790.25	2.66	1.87	95.49	2.35	81.59	80.39	75.86	4.53	17.756		
900.00	897.08	893.85	892.65	3.06	2.17	101.95	14.02	78.16	76.38	71.18	5.20	14.690		
4 000 00	004.04	000.00	000.00	2.40	0.54	440.04	00.07	70.00	00.00	04.00	F 00	44.050		
1,000.00	994.31	996.20	993.66	3.49	2.51	112.91	28.37	70.22	69.98	64.08	5.90	11.858		
1,100.00	1,090.18	1,096.55	1,092.08	3.97	2.89	130.89	43.57	57.90	65.60	59.03	6.58	9.977	-0	
1,110.39	1,100.05	1,106.84	1,102.14	4.03	2.93	133.14	45.17	56.40	65.55	58.90	6.65	9.860 CC, I	5	
1,200.00	1,184.43	1,195.11	1,188.02	4.50	3.31	153.04	59.99	42.45	69.97	62.72	7.26	9.643 SF		
1,300.00	1,277.12	1,292.25	1,281.77	5.09	3.77	172.38	78.37	24.89	85.30	77.23	8.07	10.567		
1,400.00	1,369.61	1,388.13	1,373.38	5.71	4.26	-173.30	98.31	4.82	106.59	97.56	9.03	11.800		
1,500.00	1,462.10	1,483.63	1,464.30	6.34	4.79	-163.54	118.90	-15.91	131.83	121.74	10.08	13.072		
1,600.00	1,554.58	1,578.00	1,553.84	6.99	5.33	-156.70	140.10	-36.85	159.04	147.86	11.18	14.229		
1,700.00	1,647.07	1,668.84	1,639.90	7.65	5.87	-150.70	160.07	-57.95	188.74	176.48	12.26	15.399		
1,800.00	1,739.56	1,757.14	1,723.90	8.31	6.39	-148.62	176.91	-79.36	222.12	208.83	13.29	16.718		
1,000.00	1,733.30	1,737.14	1,725.50	0.51	0.55	-140.02	170.91	-7 3.50	222.12	200.03	13.23	10.710		
1,900.00	1,832.05	1,851.59	1,814.19	8.98	6.94	-146.42	193.31	-101.68	256.85	242.48	14.37	17.872		
2,000.00	1,924.54	1,946.17	1,905.14	9.66	7.47	-145.13	208.90	-122.44	291.35	275.91	15.43	18.878		
2,100.00	2,017.03	2,049.01	2,004.37	10.34	8.03	-144.25	226.19	-143.13	324.55	307.98	16.58	19.578		
2,200.00	2,109.51	2,147.70	2,099.50	11.02	8.58	-143.49	244.78	-161.73	355.58	337.90	17.68	20.113		
2,300.00	2,202.00	2,248.29	2,196.44	11.71	9.14	-142.84	264.10	-180.36	386.20	367.39	18.81	20.537		
2,400.00	2,294.49	2,350.42	2,294.71	12.39	9.72	-142.22	285.87	-197.65	414.31	394.36	19.95	20.763		
2,500.00	2,386.98	2,443.20	2,384.01	13.08	10.24	-141.74	305.41	-213.51	442.76	421.75	21.01	21.075		
2,600.00	2,479.47	2,538.76	2,475.82	13.77	10.79	-141.22	325.85	-230.43	471.45	449.35	22.11	21.326		
2,700.00	2,571.96	2,630.66	2,564.08	14.46	11.31	-140.76	345.33	-247.06	500.58	477.41	23.17	21.605		
2,800.00	2,664.44	2,723.00	2,652.74	15.15	11.85	-140.34	364.49	-264.33	530.45	506.21	24.24	21.882		
2,900.00	2,756.93	2,817.62	2,743.42	15.84	12.40	-139.89	384.37	-282.59	560.60	535.25	25.35	22.113		
3,000.00	2,849.42	2,910.72	2,832.58	16.54	12.95	-139.47	403.89	-300.96	591.11	564.66	26.45	22.347		
3,100.00	2,941.91	3,004.44	2,922.20	17.23	13.51	-139.04	423.79	-319.82	621.75	594.19	27.57	22.555		
3,200.00	3,034.40	3,095.90	3,009.84	17.93	14.05	-138.73	442.38	-338.21	652.99	624.34	28.64	22.796		
3,300.00	3,126.89	3,188.69	3,098.91	18.62	14.60	-138.48	460.64	-356.76	684.56	654.83	29.73	23.027		
2 400 00	2 240 27	2 000 60	2 100 00	40.00	1E 44	120 24	470 40	275 20	746.06	605 55	20.04	22 240		
3,400.00	3,219.37	3,282.60 3,397.43	3,189.22	19.32	15.14	-138.31	478.49	-375.29	716.36	685.55	30.81	23.248		
3,500.00	3,311.86		3,299.97	20.02	15.78	-138.21	499.86	-396.83	747.88	715.75	32.13	23.280		
3,600.00	3,404.35	3,508.35	3,406.36	20.71	16.43	-137.95	524.85	-415.76	775.47	742.06	33.41	23.208		
3,700.00	3,496.84	3,600.93	3,495.05	21.41	16.97	-137.73	545.99	-431.84	803.21	768.70	34.51	23.272		
3,800.00	3,589.33	3,693.19	3,583.30	22.11	17.52	-137.48	567.23	-448.31	831.21	795.59	35.62	23.337		
3,900.00	3,681.82	3,785.19	3,671.18	22.81	18.07	-137.22	588.37	-465.47	859.83	823.11	36.73	23.411		
4,000.00	3,774.31	3,884.04	3,765.98	23.50	18.65	-137.22	610.21	-483.01	888.33	850.44	37.89	23.443		
4,100.00	3,866.79	3,981.81	3,860.52	24.20	19.19	-137.03	629.82	-498.36	916.57	877.58	38.99	23.510		
4,200.00	3,959.28	4,069.05	3,945.39	24.20	19.19	-137.06	645.58	-510.98	945.12	905.19	39.93	23.670		
4,300.00	4,051.77	4,140.00	4,014.57	25.60	20.00	-137.24	656.94	-521.86	975.53	934.86	40.67	23.986		
4,000.00	7,001.77	7, 140.00	7,017.07	20.00	20.00	-107.40	030.34	-021.00	575.55	554.50	40.07	20.000		
4,400.00	4,144.26	4,225.51	4,098.13	26.30	20.42	-137.66	668.78	-535.62	1,007.82	966.27	41.54	24.260		
4,500.00	4,236.75	4,334.98	4,205.82	27.00	20.92	-138.17	681.57	-550.52	1,039.73	997.12	42.61	24.401		
4,600.00	4,329.24	4,434.93	4,304.87	27.70	21.31	-138.86	690.47	-560.39	1,070.75	1,027.28	43.47	24.630		
4,700.00	4,421.72	4,543.89	4,413.45	28.40	21.67	-139.87	696.90	-566.66	1,100.89	1,056.59	44.30	24.849		
4,800.00	4,514.21	4,637.92	4,507.36	29.10	21.95	-140.85	700.70	-569.48	1,130.55	1,085.60	44.96	25.147		
,	,	,	,						,	,				
4,900.00	4,606.70	4,731.97	4,601.29	29.80	22.22	-141.79	704.43	-572.25	1,160.54	1,114.93	45.61	25.446		



Company: Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W

NW Lybrook (138, 139, 140 & 141) Reference Site:

Site Error: 0.00 ft

Reference Well: Lybrook 2408-26 Federal COM 138H

Well Error: 0.00 ft Reference Wellbore Original Hole Reference Design: rev0

Local Co-ordinate Reference:

Well Lybrook 2408-26 Federal COM 138H TVD Reference: RKB=6847+25 @ 6872.00ft MD Reference: RKB=6847+25 @ 6872.00ft

North Reference: Grid

Survey Calculation Method: Minimum Curvature 2.00 sigma Output errors are at

Database: DT_Aug2923v16 Offset TVD Reference: Offset Datum

Offset Des	sign: NW	/ Lybrook (138, 139,	140 & 141)	- NW Ly	brook UT 28	39H - Original H	ole - Gyro	& MWD				Offset Site Error:	0.00 ft
Survey Progr Refe	rence	GYRO-NS, 46	set		lajor Axis		Offset Wellbo	re Centre	Dis	Rule Assi tance	_		Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,000.00	4,699.19	4,821.61	4,690.85	30.50	22.48	-142.66	707.44	-574.74	1,191.08	1,144.86	46.22	25.772		
5,100.00	4,791.68	6,265.57	5,551.11	31.20	27.27	170.24	714.05	312.99	1,164.50	1,121.05	43.45	26.802		
5,200.00	4,884.17	6,273.00	5,551.08	31.90	27.38	169.85	714.34	320.41	1,134.95	1,089.41	45.54	24.920		
5,300.00	4,976.98	6,277.64	5,551.06	32.58	27.45	-176.85	714.53	325.04	1,113.04	1,065.61	47.43	23.467		
5,400.00	5,070.25	6,269.00	5,551.09	33.18	27.32	-152.50	714.18	316.41	1,097.17	1,048.36	48.81	22.478		
5,500.00	5,161.36	6,242.27	5,551.13	33.66	26.94	-132.82	713.05	289.71	1,087.35	1,037.82	49.53	21.955		
5,600.00	5,247.54	6,204.81	5,550.98	34.03	26.43	-119.36	711.20	252.29	1,083.01	1,033.33	49.68	21.801		
5,669.16	5,302.88	6,163.59	5,550.72	34.21	25.91	-112.10	709.08	211.13	1,082.38	1,033.02	49.36	21.928		
5,700.00	5,326.18	6,141.90	5,550.59	34.30	25.65	-109.27	708.02	189.46	1,082.46	1,033.33	49.13	22.033		
5,800.00	5,394.87	6,042.53	5,545.24	34.47	24.65	-100.72	703.88	90.35	1,082.39	1,034.43	47.96	22.567		
5,900.00	5,451.55	5,963.23	5,534.23	34.55	24.08	-95.02	700.73	11.92	1,081.08	1,033.98	47.10	22.953		
5,942.68	5,472.36	5,937.00	5,528.44	34.57	23.94	-94.10	699.58	-13.63	1,080.55	1,033.70	46.85	23.063		
6,000.00	5,500.35	5,890.42	5,515.19	34.61	23.73	-92.25	697.38	-58.21	1,081.10	1,034.78	46.32	23.340		
6,100.00	5,536.20	5,819.68	5,489.77	34.72	23.50	-89.26	694.04	-124.12	1,086.03	1,040.36	45.67	23.782		
6,200.00	5,555.32	5,756.77	5,461.94	34.90	23.38	-86.35	691.04	-180.44	1,094.92	1,049.64	45.28	24.182		
6,300.00	5,558.34	5,709.00	5,437.50	35.18	23.31	-84.26	688.04	-221.35	1,107.76	1,062.52	45.23	24.490		
6,400.00	5,557.92	5,669.83	5,415.32	35.60	23.27	-83.13	684.69	-253.45	1,125.74	1,080.37	45.37	24.813		
6,500.00	5,557.49	5,634.03	5,393.04	36.20	23.25	-82.02	680.67	-281.17	1,149.72	1,104.14	45.58	25.225		
6,600.00	5,557.07	5,314.52	5,167.11	36.99	23.21	-70.98	678.50	-503.01	1,176.98	1,133.61	43.37	27.137		
6,700.00	5,556.65	5,290.21	5,146.95	38.01	23.22	-69.97	682.96	-515.84	1,196.34	1,152.76	43.58	27.453		
6,800.00	5,556.23	5,270.00	5,129.53	39.24	23.23	-69.11	686.62	-525.40	1,222.71	1,178.84	43.87	27.871		
6,900.00	5,555.80	5,254.75	5,116.04	40.67	23.23	-68.45	689.33	-531.99	1,255.87	1,211.59	44.27	28.368		
7,000.00	5,555.38	5,238.00	5,100.96	42.25	23.24	-67.71	692.22	-538.65	1,295.42	1,250.75	44.67	28.998		



Company: Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W

NW Lybrook (138, 139, 140 & 141) Reference Site:

Site Error: 0.00 ft

Reference Well: Lybrook 2408-26 Federal COM 138H

Well Error: 0.00 ft Reference Wellbore Original Hole Reference Design: rev0

Local Co-ordinate Reference:

Well Lybrook 2408-26 Federal COM 138H TVD Reference: RKB=6847+25 @ 6872.00ft

MD Reference: RKB=6847+25 @ 6872.00ft

North Reference: Grid

Survey Calculation Method: Minimum Curvature 2.00 sigma Output errors are at

DT_Aug2923v16 Database: Offset TVD Reference: Offset Datum

te Error: 0.00	Offset Site E					- rev1	Original Hole	it No. 130H	Ridge Un	36 & 137) -	30, 135, 13	lge Unit (13	sign: Ric	Offset De
ell Error: 0.00	Offset Well E		gned:	Rule Assi	Dist	ore Centre	Offset Wellbe		lajor Axis	Semi M	set	MWD Off :	ram: 0-	Survey Prog
Warning	Wa	Separation Factor	Minimum Separation	Between Ellipses	Between Centres	+E/-W	+N/-S	Highside Toolface	Offset	Reference	Vertical Depth	Measured Depth	Vertical Depth	Measured Depth
			(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
		25.397	51.05	1,245.56	1,296.61	-509.06	2,042.14	-68.63	62.45	24.90	4,668.24	5,679.25	3,959.28	4,200.00
		23.588	52.02	1,175.06	1,227.08	-497.48	2,038.09	-68.84	62.72	25.60	4,684.96	5,700.00	4,051.77	4,300.00
		21.912	52.96	1,107.58	1,160.55	-483.66	2,033.83	-69.09	63.01	26.30	4,706.17	5,725.67	4,144.26	4,400.00
		20.361	53.90	1,043.49	1,097.39	-471.11	2,030.55	-69.33	63.29	27.00	4,726.75	5,750.00	4,236.75	4,500.00
		18.949	54.78	983.21	1,037.98	-456.54	2,027.56	-69.62	63.57	27.70	4,752.50	5,779.74	4,329.24	4,600.00
		17.684	55.58	927.33	982.91	-447.11	2,026.17	-69.82	63.77	28.40	4,770.38	5,800.00	4,421.72	4,700.00
		16.545	56.35	875.95	932.30	-425.65	2,025.00	-70.28	64.18	29.10	4,815.51	5,850.00	4,514.21	4,800.00
		15.578	56.93	829.86	886.78	-415.21	2,025.71	-70.51	64.35	29.80	4,840.31	5,876.92	4,606.70	4,900.00
		14.804	57.23	789.99	847.22	-406.90	2,027.05	-70.70	64.50	30.50	4,861.80	5,900.00	4,699.19	5,000.00
		14.118	57.60	755.60	813.20	-391.00	2,032.30	-71.08	64.75	31.20	4,908.89	5,950.00	4,791.68	5,100.00
		13.597	57.81	728.19	786.00	-378.07	2,040.71	-71.40	64.92	31.90	4,956.44	6,000.00	4,884.17	5,200.00
		40.074	F7.40	705.00	700.47	070.70	0.040.50	55.00	05.00	20.50	4.000.00	0.005.00	4.070.00	F 200 00
		13.274	57.49	705.68	763.17	-370.78	2,048.52	-55.82	65.00	32.58	4,990.06	6,035.29	4,976.98	5,300.00
		12.904	57.00	678.54	735.54	-364.12	2,059.83	-28.17	65.06	33.18	5,030.14	6,077.47	5,070.25	5,400.00
		12.510	56.17	646.51	702.68	-359.78	2,072.97	-5.68	65.10	33.66	5,069.14	6,118.86	5,161.36	5,500.00
		12.173	54.70	611.16	665.86	-357.96	2,084.15	10.34	65.10	34.03	5,098.14	6,150.00	5,247.54	5,600.00
		11.555	54.22	572.31	626.53	-357.66	2,104.33	23.60	65.08	34.30	5,143.87	6,200.00	5,326.18	5,700.00
		10.979	53.50	533.92	587.43	-358.99	2,117.43	33.89	65.05	34.47	5,170.17	6,229.42	5,394.87	5,800.00
		10.262	53.78	498.08	551.86	-360.58	2,127.12	41.98	65.03	34.55	5,188.26	6,250.00	5,451.55	5,900.00
		9.206	57.05	468.11	525.16	-364.65	2,144.99	46.01	64.99	34.61	5,219.11	6,285.89	5,500.35	6,000.00
		8.311	60.73	444.04	504.78	-366.70	2,152.35	48.95	64.97	34.72	5,230.97	6,300.00	5,536.20	6,100.00
		7.218	67.96	422.54	490.50	-371.72	2,168.07	53.22	64.92	34.90	5,254.90	6,329.07	5,555.32	6,200.00
		6.487	75.04	411.76	486.80	-375.98	2,179.83	55.80	64.89	35.12	5,271.68	6,350.00	5,560.29	6,283.32
	ES	6.364 CC, E	76.36	409.61	485.97	-375.98	2,179.83	55.99	64.89	35.18	5,271.68	6,350.00	5,558.34	6,300.00
	*	6.010	83.04	416.08	499.12	-375.98	2,179.83	55.99	64.89	35.60	5,271.68	6,350.00	5,557.92	6,400.00
		5.916 SF	89.65	440.75	530.40	-381.52	2,193.72	58.72	64.85	36.20	5,290.37	6,373.93	5,557.49	6,500.00
		6.160	93.63	483.17	576.80	-386.78	2,205.87	61.01	64.82	36.99	5,305.81	6,394.28	5,557.07	6,600.00
		6.620	95.88	538.83	634.71	-393.90	2,221.17	63.73	64.78	38.01	5,324.14	6,419.19	5,556.65	6,700.00
		7.221	97.07	603.90	700.97	-403.80	2,240.86	66.96	64.74	39.24	5,346.07	6,450.28	5,556.23	6,800.00
		7.903	97.81	675.17	772.98	-418.02	2,266.81	70.76	64.68	40.67	5,372.38	6,489.89	5,555.80	6,900.00
		8.608	98.58	750.05	848.64	-439.14	2,301.89	75.12	64.63	42.25	5,403.73	6,541.48	5,555.38	7,000.00
		9.298	99.61	826.52	926.12	-468.78	2,346.52	79.49	64.58	43.98	5,437.42	6,604.80	5,554.96	7,100.00
		10.044	100.05	904.87	1,004.92	-492.79	2,381.38	82.36	64.56	45.81	5,461.86	6,653.67	5,554.53	7,200.00
		10.638	101.87	981.85	1,083.72	-539.33	2,444.84	86.34	64.57	47.73	5,500.03	6,741.24	5,554.11	7,300.00
		10.840	106.93	1,052.21	1,159.13	-649.91	2,573.52	89.94	64.81	49.72	5,541.46	6,916.63	5,553.69	7,400.00
		11.209	109.74	1,120.40	1,230.15	-721.85	2,646.45	90.16	65.06	51.78	5,544.35	7,019.16	5,553.27	7,500.00
		11.660	111.57	1,189.32	1,300.89	-771.82	2,696.42	90.19	65.28	53.88	5,544.83	7,089.83	5,552.84	7,600.00
		11.660	111.57	1,189.32	1,300.89	-771.82	2,696.42	90.19	65.28	53.88	5,544.83	7,089.83	5,552.84	7,600.00



Company: Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W

NW Lybrook (138, 139, 140 & 141) Reference Site:

Site Error:

Reference Well: Lybrook 2408-26 Federal COM 138H

0.00 ft Well Error: Reference Wellbore Original Hole Reference Design: rev0

Local Co-ordinate Reference:

Well Lybrook 2408-26 Federal COM 138H TVD Reference: RKB=6847+25 @ 6872.00ft MD Reference: RKB=6847+25 @ 6872.00ft

North Reference: Grid

Survey Calculation Method: Minimum Curvature

2.00 sigma Output errors are at Database: DT_Aug2923v16 Offset TVD Reference: Offset Datum

Survey Progi	ram: 0-N	ИWD								Rule Assi	gned:		Offset Well Error:	0.00
Refe	rence	Off			Major Axis	Himbaida	Offset Wellb	ore Centre		ance	=	Communication	Mouning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	+N/-S	+E/-W	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	. 4010.		
6,700.00	5,556.65	5,522.82	5,146.31	38.01	35.29	46.05	2,181.66	-1,925.47	1,267.04	1,216.41	50.63	25.024		
6,800.00	5,556.23	5,530.16	5,153.11	39.24	35.28	46.71	2,183.87	-1,927.10	1,178.22	1,128.51	49.71	23.702		
6,900.00	5,555.80	5,550.00	5,171.34	40.67	35.26	48.54	2,190.13	-1,931.83	1,091.35	1,042.40	48.95	22.294		
7,000.00	5,555.38	5,550.00	5,171.34	42.25	35.26	48.54	2,190.13	-1,931.83	1,006.36	958.34	48.01	20.960		
7,100.00	5,554.96	5,550.00	5,171.34	43.98	35.26	48.54	2,190.13	-1,931.83	924.37	877.16	47.21	19.580		
7,200.00	5,554.53	5,566.47	5,186.25	45.81	35.25	50.09	2,195.67	-1,936.11	845.87	798.84	47.03	17.985		
7,300.00	5,554.11	5,577.79	5,196.38	47.73	35.23	51.18	2,199.63	-1,939.23	772.05	724.68	47.38	16.296		
7,400.00	5,553.69	5,600.00	5,215.96	49.72	35.21	53.36	2,207.82	-1,945.77	704.40	655.40	49.00	14.374		
7,500.00	5,553.27	5,600.00	5,215.96	51.78	35.21	53.36	2,207.82	-1,945.77	644.31	592.90	51.41	12.533		
7,600.00	5,552.84	5,619.39	5,232.71	53.88	35.19	55.29	2,215.39	-1,951.93	594.42	538.13	56.29	10.560		
7,700.00	5,552.42	5,636.49	5,247.22	56.03	35.17	57.01	2,222.38	-1,957.70	557.25	494.12	63.13	8.827		
7,800.00	5,552.00	5,650.00	5,258.47	58.22	35.15	58.36	2,228.11	-1,962.48	535.28	463.97	71.31	7.506		
7,880.16	5,551.66	5,672.76	5,277.04	59.99	35.12	60.65	2,238.17	-1,970.98	529.68	451.04	78.64	6.735 CC		
7,900.00	5,551.58	5,677.26	5,280.64	60.43	35.12	61.10	2,240.22	-1,972.73	530.02	449.69	80.34	6.597 ES		
8,000.00	5,551.15	5,700.00	5,298.54	62.68	35.09	63.35	2,250.86	-1,981.86	541.86	453.93	87.93	6.162		
8,100.00	5,550.73	5,729.41	5,320.85	64.95	35.05	66.19	2,265.31	-1,994.44	569.33	475.69	93.64	6.080 SF		
8,200.00	5,550.31	5,761.01	5,343.70	67.24	35.02	69.11	2,281.67	-2,008.89	609.98	512.76	97.21	6.275		
8,300.00	5,549.88	5,800.00	5,370.18	69.55	34.98	72.48	2,302.98	-2,027.98	660.94	561.57	99.37	6.651		
8,400.00	5,549.46	5,838.44	5,394.32	71.87	34.96	75.49	2,325.11	-2,048.08	719.51	619.11	100.41	7.166		
8,500.00	5,549.04	5,885.62	5,421.15	74.22	34.95	78.72	2,353.64	-2,074.38	783.47	682.27	101.20	7.742		
8,600.00	5,548.62	5,941.33	5,449.40	76.57	34.96	81.94	2,388.75	-2,107.12	850.94	748.86	102.09	8.336		
8,700.00	5,548.19	6,000.21	5,478.08	78.94	35.00	84.91	2,426.27	-2,142.25	920.62	817.66	102.96	8.941		
8,800.00	5,547.77	6,064.95	5,504.02	81.32	35.09	87.38	2,469.26	-2,183.08	991.71	887.55	104.16	9.521		
8,900.00	5,547.35	6,136.97	5,524.82	83.70	35.26	89.17	2,518.83	-2,230.93	1,063.29	957.47	105.82	10.048		
9,000.00	5,546.92	6,214.94	5,537.44	86.10	35.50	90.15	2,573.70	-2,284.78	1,134.69	1,026.76	107.93	10.513		
9,100.00	5,546.50	6,292.17	5,540.17	88.51	35.79	90.34	2,628.34	-2,339.24	1,205.56	1,095.41	110.16	10.944		



Company: Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W

NW Lybrook (138, 139, 140 & 141) Reference Site:

Site Error:

Reference Well: Lybrook 2408-26 Federal COM 138H

Well Error: 0.00 ft Reference Wellbore Original Hole Reference Design: rev0

Local Co-ordinate Reference:

Well Lybrook 2408-26 Federal COM 138H TVD Reference: RKB=6847+25 @ 6872.00ft MD Reference: RKB=6847+25 @ 6872.00ft

North Reference: Grid

Survey Calculation Method: Minimum Curvature

2.00 sigma Output errors are at Database: DT_Aug2923v16 Offset TVD Reference: Offset Datum

urvey Prog		MWD								Rule Assi	gned:		Offset Well Error:	0.00 f
Refe Measured Depth (ft)	rence Vertical Depth (ft)	Offs Measured Depth (ft)	set Vertical Depth (ft)	Semi M Reference (ft)	lajor Axis Offset (ft)	Highside Toolface (°)	Offset Wellb +N/-S (ft)	+E/-W	Dist Between Centres (ft)	ance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
8,300.00	5,549.88	5,300.00	5,144.76	69.55	24.77	47.58	2,197.46	-3,543.73	1,287.14	1,231.24	55.90	23.027		
8,400.00	5,549.46	5,300.00	5,144.76	71.87	24.77	47.58	2,197.46	-3,543.73	1,198.34	1,141.91	56.44	21.234		
8,500.00	5,549.04	5,300.00	5,144.76	74.22	24.77	47.58	2,197.46	-3,543.73	1,111.46	1,054.20	57.25	19.414		
8,600.00	5,548.62	5,300.00	5,144.76	76.57	24.77	47.58	2,197.46	-3,543.73	1,026.96	968.53	58.43	17.576		
8,700.00	5,548.19	5,320.94	5,164.06	78.94	24.78	49.43	2,203.18	-3,549.45	944.89	884.50	60.39	15.646		
8,800.00	5,547.77	5,332.25	5,174.37	81.32	24.79	50.46	2,206.48	-3,552.75	866.41	803.52	62.90	13.775		
8,900.00	5,547.35	5,350.00	5,190.35	83.70	24.80	52.10	2,211.94	-3,558.21	792.41	726.03	66.38	11.938		
9,000.00	5,546.92	5,350.00	5,190.35	86.10	24.80	52.10	2,211.94	-3,558.21	724.13	653.80	70.32	10.297		
9,100.00	5,546.50	5,373.21	5,210.87	88.51	24.81	54.29	2,219.60	-3,565.87	663.06	587.03	76.03	8.721		
9,200.00	5,546.08	5,400.00	5,233.99	90.92	24.81	56.87	2,229.17	-3,575.44	611.75	528.71	83.04	7.367		
9,300.00	5,545.66	5,400.00	5,233.99	93.34	24.81	56.87	2,229.17	-3,575.44	572.08	482.82	89.26	6.409		
9,400.00	5,545.23	5,428.63	5,257.97	95.77	24.81	59.66	2,240.23	-3,586.51	546.64	449.46	97.18	5.625		
9,500.00	5,544.81	5,450.00	5,275.34	98.20	24.81	61.74	2,249.03	-3,595.30	537.37	433.57	103.79	5.177		
9,504.42	5,544.79	5,450.00	5,275.34	98.31	24.81	61.74	2,249.03	-3,595.30	537.35	433.37	103.97	5.168 CC, E	3	
9,600.00	5,544.39	5,477.15	5,296.72	100.64	24.80	64.34	2,260.86	-3,607.14	544.66	435.39	109.27	4.984 SF		
9,700.00	5,543.97	5,500.00	5,314.08	103.08	24.79	66.49	2,271.36	-3,617.64	567.62	455.28	112.34	5.053		
9,800.00	5,543.54	5,538.43	5,341.90	105.53	24.76	69.95	2,290.10	-3,636.37	603.92	489.21	114.70	5.265		
9,900.00	5,543.12	5,574.99	5,366.67	107.98	24.73	73.02	2,309.11	-3,655.38	651.03	535.67	115.36	5.644		
10,000.00	5,542.70	5,616.13	5,392.42	110.44	24.69	76.16	2,331.79	-3,678.07	706.27	590.86	115.41	6.120		
10,100.00	5,542.27	5,662.27	5,418.47	112.90	24.64	79.23	2,358.70	-3,704.98	767.38	652.02	115.37	6.652		
10,200.00	5,541.85	5,718.59	5,446.96	115.36	24.57	82.41	2,393.06	-3,739.33	832.43	716.53	115.90	7.182		
10,300.00	5,541.43	5,776.28	5,474.97	117.83	24.50	85.27	2,428.71	-3,774.99	899.89	783.41	116.48	7.726		
10,400.00	5,541.01	5,836.34	5,499.08	120.30	24.43	87.53	2,467.58	-3,813.86	969.21	851.85	117.37	8.258		
10,500.00	5,540.58	5,901.64	5,518.62	122.77	24.34	89.22	2,511.61	-3,857.89	1,039.55	920.71	118.84	8.748		
10,600.00	5,540.16	5,971.00	5,531.47	125.25	24.25	90.22	2,559.79	-3,906.07	1,110.28	989.45	120.83	9.189		
10,700.00	5,539.74	6,042.62	5,536.01	127.73	24.17	90.53	2,610.29	-3,956.57	1,181.06	1,057.92	123.14	9.591		
10,800.00	5,539.31	6,113.30	5,536.35	130.21	24.11	90.54	2,660.26	-4,006.55	1,251.80	1,126.25	125.55	9.970		
10,900.00	5,538.89	6,183.97	5,536.70	132.69	24.36	90.54	2,710.24	-4,056.52	1,322.55	1,194.53	128.02	10.331		



Company: Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W

NW Lybrook (138, 139, 140 & 141) Reference Site:

Site Error:

Reference Well: Lybrook 2408-26 Federal COM 138H

0.00 ft Well Error: Reference Wellbore Original Hole Reference Design: rev0

Local Co-ordinate Reference:

Well Lybrook 2408-26 Federal COM 138H TVD Reference: RKB=6847+25 @ 6872.00ft

MD Reference: RKB=6847+25 @ 6872.00ft

North Reference: Grid

Survey Calculation Method: Minimum Curvature

2.00 sigma Output errors are at Database: DT_Aug2923v16 Offset TVD Reference: Offset Datum

urvey Prog	ram: 0-N	MWD Off s	set	Semi II	laior Axis		Offset Wellb	ore Centre	Nie	Rule Assi	gned:		Offset Site Error: Offset Well Error:	0.00 f 0.00 f
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
9,800.00	5,543.54	5,525.80	5,085.06	105.53	39.61	51.68	2,330.20	-5,004.45	1,320.01	1,244.20	75.82	17.410		
9,900.00	5,543.12	5,550.00	5,106.42	107.98	39.83	52.89	2,326.68	-5,015.27	1,236.63	1,157.86	78.76	15.700		
10,000.00	5,542.70	5,550.00	5,106.42	110.44	39.83	52.89	2,326.68	-5,015.27	1,155.09	1,072.60	82.49	14.003		
10,100.00	5,542.27	5,572.19	5,125.80	112.90	40.04	54.06	2,324.13	-5,025.75	1,076.03	989.37	86.66	12.417		
10,200.00	5,541.85	5,600.00	5,149.79	115.36	40.31	55.63	2,321.83	-5,039.63	1,000.07	908.52	91.55	10.924		
10,300.00	5,541.43	5,600.00	5,149.79	117.83	40.31	55.63	2,321.83	-5,039.63	927.51	829.94	97.57	9.506		
10,400.00	5,541.01	5,630.53	5,175.66	120.30	40.62	57.46	2,320.49	-5,055.78	859.13	754.80	104.33	8.234		
10,500.00	5,540.58	5,650.00	5,191.88	122.77	40.81	58.68	2,320.28	-5,066.55	796.15	683.89	112.26	7.092		
10,600.00	5,540.16	5,677.78	5,214.59	125.25	41.10	60.49	2,320.85	-5,082.53	739.51	618.26	121.25	6.099		
10,700.00	5,539.74	5,700.00	5,232.36	127.73	41.33	61.98	2,322.04	-5,095.82	690.64	559.53	131.11	5.268		
10,800.00	5,539.31	5,732.97	5,258.03	130.21	41.69	64.24	2,325.00	-5,116.29	650.89	509.26	141.63	4.596		
10,900.00	5,538.89	5,763.83	5,281.23	132.69	42.02	66.40	2,329.06	-5,136.23	621.78	469.94	151.85	4.095		
11,000.00	5,538.47	5,800.00	5,307.30	135.18	42.42	68.93	2,335.38	-5,160.47	604.48	443.49	160.99	3.755		
11,088.97	5,538.09	5,828.40	5,326.87	137.39	42.73	70.89	2,341.53	-5,180.12	599.51	432.64	166.87	3.593 CC		
11,100.00	5,538.05	5,832.42	5,329.57	137.67	42.78	71.17	2,342.48	-5,182.94	599.58	432.12	167.47	3.580 ES		
11,200.00	5,537.62	5,870.11	5,354.05	140.16	43.20	73.69	2,352.38	-5,209.81	607.04	435.71	171.33	3.543 SF		
11,300.00	5,537.20	5,900.00	5,372.32	142.65	43.53	75.60	2,361.48	-5,231.65	626.18	454.83	171.35	3.654		
11,347.47	5,537.00	5,929.46	5,389.30	143.83	43.87	77.39	2,371.49	-5,253.55	638.71	466.28	172.44	3.704		



Company: Enduring Resources LLC

Project: San Juan County, New Mexico NAD83 NM W

Reference Site: NW Lybrook (138, 139, 140 & 141)

Site Error: 0.00 f

Reference Well: Lybrook 2408-26 Federal COM 138H

Reference Depths are relative to RKB=6847+25 @ 6872.00ft

Well Error: 0.00 ft
Reference Wellbore Original Hole
Reference Design: rev0

Offset Depths are relative to Offset Datum

Central Meridian is -107.833333333

Local Co-ordinate Reference:

 TVD Reference:
 RKB=6847+25 @ 6872.00ft

 MD Reference:
 RKB=6847+25 @ 6872.00ft

North Reference: Grid

Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: DT_Aug2923v16

Offset TVD Reference:

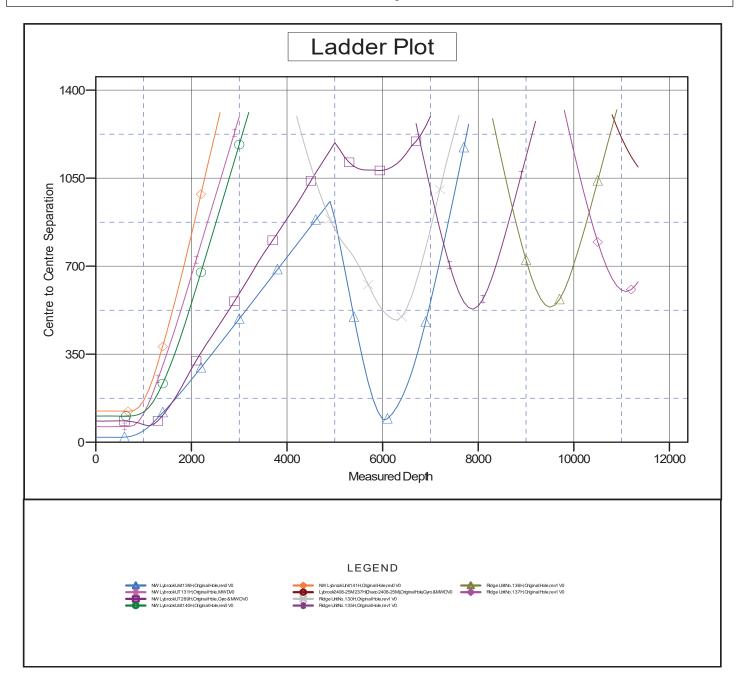
Offset Datum

Well Lybrook 2408-26 Federal COM 138H

Coordinates are relative to: Lybrook 2408-26 Federal COM 138H

Coordinate System is US State Plane 1983, New Mexico Western Zone

Grid Convergence at Surface is: 0.11°





MD Reference:

Company: **Enduring Resources LLC**

Project: San Juan County, New Mexico NAD83 NM W

Reference Site: NW Lybrook (138, 139, 140 & 141)

Site Error:

Lybrook 2408-26 Federal COM 138H Reference Well:

Well Error: 0.00 ft Reference Wellbore Original Hole Reference Design: rev0

Local Co-ordinate Reference:

Well Lybrook 2408-26 Federal COM 138H **TVD Reference:** RKB=6847+25 @ 6872.00ft

RKB=6847+25 @ 6872.00ft North Reference:

Minimum Curvature **Survey Calculation Method:** Output errors are at 2.00 sigma

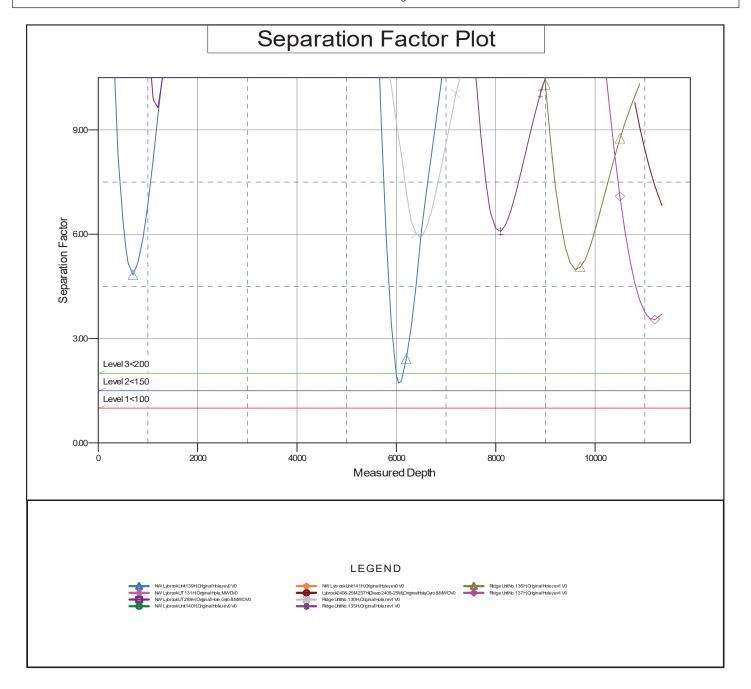
DT_Aug2923v16 Database: Offset Datum Offset TVD Reference:

Reference Depths are relative to RKB=6847+25 @ 6872.00ft

Offset Depths are relative to Offset Datum Central Meridian is -107.833333333

Coordinates are relative to: Lybrook 2408-26 Federal COM 138H Coordinate System is US State Plane 1983, New Mexico Western Zone

Grid Convergence at Surface is: 0.11°





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)

Released to Imaging: 1/12/2025 8:00:49 AM

* ENDURING RESOURCES LLC

#138H LYBROOK 2408-26 FEDERAL COM

Lease: NOG10081774 Agreement:

SH: SW1/4 SW1/4 Section 25, T. 24N., R. 8W.

San Juan County, New Mexico

BH: NW1/4SW1/4 Section 26, T. 24N., R. 8W.

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 all casing strings below the conductor 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. If pressure declines more than 10 percent in 30 minutes, corrective action shall be taken.
 D. \(\text{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.
 E. 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.

INTERIOR REGION 7 • UPPER COLORADO BASIN

COLORADO, NEW MEXICO, UTAH, WYOMING

Approval Date: 11/15/2024

I. GENERAL

- A. Full compliance with all applicable laws, regulations, and Onshore Orders, with the approved Permit to drill, and with the approved Surface Use and Operations Plan is required. Lessees and/or operators are fully accountable for the actions of their contractors and subcontractors. Failure to comply with these requirements and the filing of required reports will result in strict enforcement pursuant to 43 CFR 3163.1 or 3163.2.
- B. Each well shall have a well sign in legible condition from spud date to final abandonment. The sign should show the operator's name, lease serial number, or unit name, well number, location of the well, and whether lease is Tribal or Allotted, (See 43 CFR 3162.6(b)).
- C. A complete copy of the approved Application for Permit to Drill, along with any conditions of approval, shall be available to authorized personnel at the drill site whenever active drilling operations are under way.
- D. For Wildcat wells only, a drilling operations progress report is to be submitted, to the BLM-Field Office, weekly from the spud date until the well is completed and the Well Completion Report is filed. The report should be on 8-1/2 x 11 inch paper, and each page should identify the well by; operator's name, well number, location and lease number.
- E. As soon as practical, notice is required of all blowouts, fires and accidents involving life-threatening injuries or loss of life. (See NTL-3A).
- F. BOP equipment (except the annular preventer) shall be tested utilizing a test plug to full working pressure for 10 minutes. No bleed-off of pressure is acceptable. (See 43 CFR 3172.6(b)(9)(ii)).
- G. The operator shall have sufficient weighting materials and lost circulation materials on location in the event of a pressure kick or in the event of lost circulation (See 43 CFR 3172.8(a)).
- H. The flare line(s) discharge shall be located not less than 100 feet from the well head, having straight lines unless turns are targeted with running tees, and shall be positioned downwind of the prevailing wind direction and shall be anchored. The flare system shall have an effective method for ignition. Where noncombustible gas is likely or expected to be vented, the system shall be provided supplemental fuel for ignition and to maintain a continuous flare. (See 43 CFR 3172.8(b)(7)).
- I. 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 sundry within three business days. 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 Virgil Lucero at 505-793-1836.
- J. 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.
- K. Unless drilling operations are commenced within three years according to 43 CFR 3171.14, approval of the Application for Permit to Drill will expire. No extensions will be granted.

- L. 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 times, unless the well is secured with blowout preventers or cement plugs.
- M. 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.
- N. **Commingling**: No production (oil, gas, and water) from the subject well should start until Sundry Notices (if necessary) granting variances from applicable regulations as related to commingling and off-lease measurement are approved by this office. (See 43 CFR 3173.14).

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. Provide 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 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 way 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 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.
- C. Production Startup Notification is required no later than the 5th business day after any well begins production on which royalty is due anywhere on a lease site or allocated to a lease site or resumes production in the case of a well which has been off production for more than 90 days. The operator shall notify the Authorized Officer by letter or Sundry Notice, Form 3160-5, or orally to be followed by a letter or Sundry Notice, of the date on which such production has begun or resumed. CFR 43 3162.4-1(c).

III. DRILLER'S LOG

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

IV. GAS FLARING

Gas produced from this well may not be vented or flared beyond an initial, authorized test period of *_Days, 20 MMCF following its (completion)(recompletion), or flowback has been routed to the production separator, whichever occurs first, without the prior written approval of the authorized officer in accordance with 43 CFR 3179.81. 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 beginning of flowback following completion or recompletion.

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.

Sante Fe Main Office Phone: (505) 476-3441

General Information Phone: (505) 629-6116

Online Phone Directory https://www.emnrd.nm.gov/ocd/contact-us

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

CONDITIONS

Action 412583

CONDITIONS

Operator:	OGRID:
ENDURING RESOURCES, LLC	372286
6300 S Syracuse Way	Action Number:
Centennial, CO 80111	412583
	Action Type:
	[C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
sford	Cement is required to circulate on both surface and intermediate1 strings of casing.	12/16/2024
sford	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	12/16/2024
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	1/12/2025
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	1/12/2025
ward.rikala	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.	1/12/2025
ward.rikala	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.	1/12/2025