

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

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

1a. Type of work: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. 9. API Well No. <div style="color: red; text-align: center;">30-045-38414</div>
2. Name of Operator 3a. Address 3b. Phone No. (include area code)		10. Field and Pool, or Exploratory 11. Sec., T. R. M. or Blk. and Survey or Area 12. County or Parish 13. State
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		14. Distance in miles and direction from nearest town or post office* 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 16. No of acres in lease 17. Spacing Unit dedicated to this well 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 19. Proposed Depth 20. BLM/BIA Bond No. in file 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 22. Approximate date work will start* 23. Estimated duration
24. Attachments The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)		

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

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

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

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

(Continued on page 2)

*(Instructions on page 2)



Additional Operator Remarks

Location of Well

0. SHL: SWSW / 252 FSL / 394 FWL / TWSP: 24N / RANGE: 8W / SECTION: 25 / LAT: 36.278726 / LONG: -107.641023 (TVD: 0 feet, MD: 0 feet)
PPP: NENE / 380 FNL / 81 FEL / TWSP: 24N / RANGE: 8W / SECTION: 35 / LAT: 36.276988 / LONG: -107.642627 (TVD: 5484 feet, MD: 5907 feet)
PPP: NWNW / 380 FNL / 0 FWL / TWSP: 24N / RANGE: 8W / SECTION: 36 / LAT: 36.276986 / LONG: -107.642351 (TVD: 5590 feet, MD: 16606 feet)
PPP: NWNW / 422 FNL / 0 FWL / TWSP: 24N / RANGE: 7W / SECTION: 31 / LAT: 36.276895 / LONG: -107.624256 (TVD: 5590 feet, MD: 16606 feet)
PPP: NWNE / 400 FNL / 2605 FWL / TWSP: 24N / RANGE: 7W / SECTION: 31 / LAT: 36.27685 / LONG: -107.61542 (TVD: 5590 feet, MD: 16606 feet)
BHL: NENE / 380 FNL / 100 FEL / TWSP: 24N / RANGE: 7W / SECTION: 31 / LAT: 36.276805 / LONG: -107.606993 (TVD: 5590 feet, MD: 16606 feet)

BLM Point of Contact

Name: CHRISTOPHER P WENMAN
Title: Natural Resource Specialist
Phone: (505) 564-7727
Email: cwenman@blm.gov

CONFIDENTIAL

Santa Fe Main Office 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
		Submittal Type: <input checked="" type="checkbox"/> Initial Submittal <input type="checkbox"/> Amended Report <input type="checkbox"/> As Drilled

WELL LOCATION INFORMATION

API Number 30-045-38414	Pool Code 98101	Pool Name LYBROOK UNIT NW HZ OIL
Property Code 321252	Property Name NW LYBROOK UNIT	Well Number 140H
OGRID No. 372286	Operator Name ENDURING RESOURCES LLC	Ground Level Elevation 6847
Surface Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input checked="" type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal		Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input checked="" type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal

Surface Location

UL M	Section 25	Township 24N	Range 8W	Lot	Ft. from N/S 252 SOUTH	Ft. from E/W 394 WEST	Latitude 36.278714	Longitude -107.640413	County SAN JUAN
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Bottom Hole Location

UL A	Section 31	Township 24N	Range 7W	Lot	Ft. from N/S 380 NORTH	Ft. from E/W 100 EAST	Latitude 36.276805	Longitude -107.606993	County RIO ARRIBA
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Dedicated Acres NE/4 NE/4-Sec 35. N/2 N/2-Sec 36. N/2 N/2-Sec 31. 360.63 Acres	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N) N	Consolidation Code UNIT
Order Numbers. R-13921			Well setbacks are under Common Ownership: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Kick Off Point (KOP)


UL A	Section 35	Township 24N	Range 8W	Lot	Ft. from N/S 380 NORTH	Ft. from E/W 81 EAST	Latitude 36.276988	Longitude -107.642627	County SAN JUAN
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First Take Point (FTP)

UL A	Section 35	Township 24N	Range 8W	Lot	Ft. from N/S 380 NORTH	Ft. from E/W 81 EAST	Latitude 36.276988	Longitude -107.642627	County SAN JUAN
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Last Take Point (LTP)

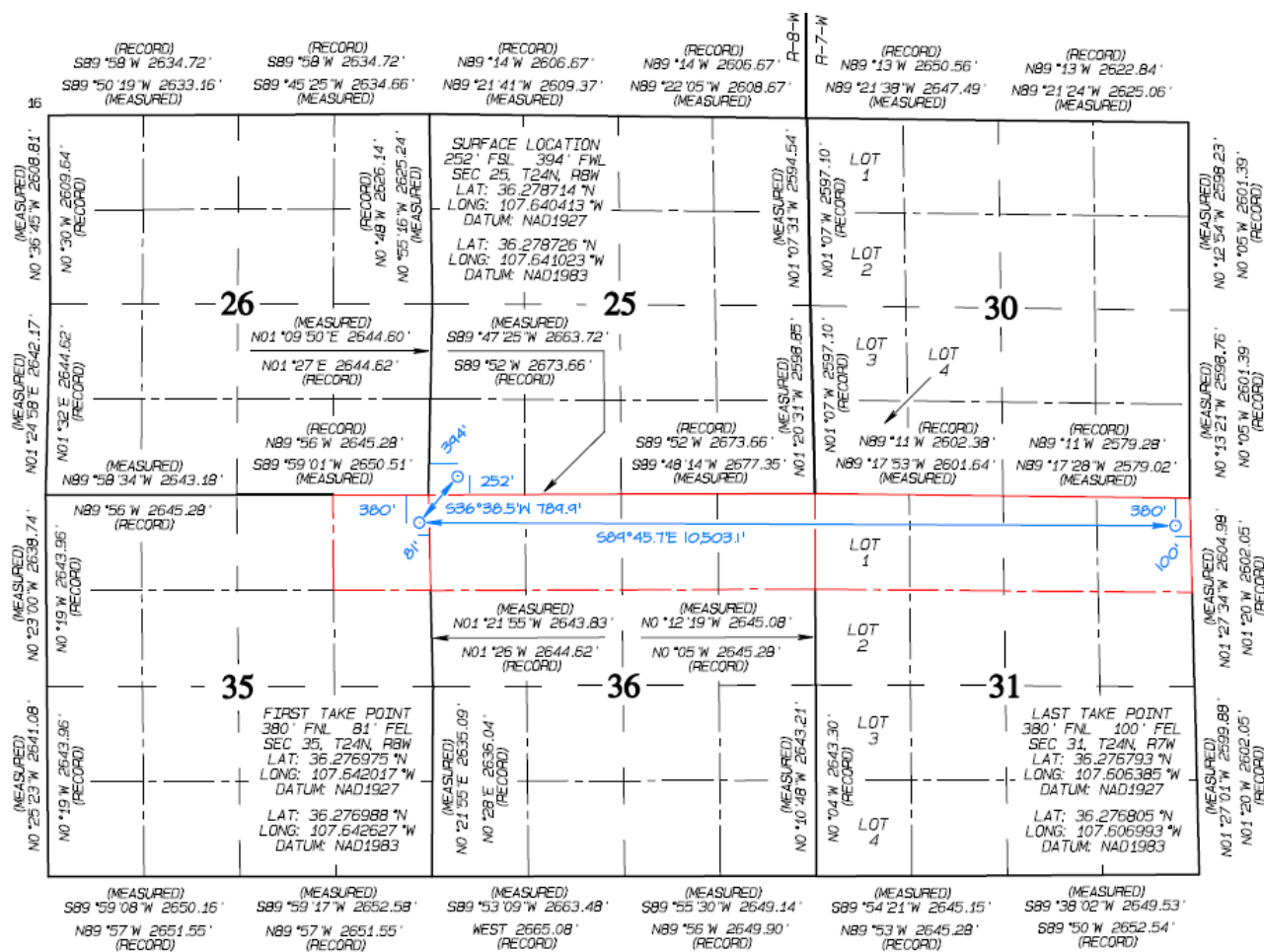
UL A	Section 31	Township 24N	Range 7W	Lot	Ft. from N/S 380 NORTH	Ft. from E/W 100 EAST	Latitude 36.276805	Longitude -107.606993	County RIO ARRIBA
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Unitized Area or Area of Uniform Interest NW LYBROOK UNIT	Spacing Unit Type <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical	Ground Floor Elevation:
<p>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</p> <p>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</p> <p><u>Shaw-Marie Ford</u> 12/16/2024 Signature Date</p> <p>Shaw-Marie Ford Printed Name sford@enduringresources.com Email Address</p>		<p>SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes or actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p></p> <p>JASON C. EDWARDS Signature and Seal of Professional Surveyor</p> <p>Certificate Number 15269 Date of Survey FEBRUARY 4, 2023 Revised February 4, 2023</p>

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

Submit Electronically
Via E-permitting

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

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
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
NW Lybrook Unit 139H	TBD	M-25-24N-8W	263 FSL x 311 FWL	62	186	25
NW Lybrook Unit 140H	TBD	M-25-24N-8W	252 FSL x 394 FWL	93	278	37
NW Lybrook Unit 141H	TBD	M-25-24N-8W	250 FSL x 414 FWL	94	280	38

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.

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.

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

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

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

If Operator checks this box, Operator will select one of the following:

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

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

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

Section 4 - Notices

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

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

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

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

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

Signature:
Printed Name: 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:



Enduring Resources, LLC.
NATURAL GAS MANAGEMENT and WASTE MINIMIZATION PLAN
Lybrook 2408-26 FED COM 138H, NW Lybrook Unit 139H, 140H, 141H

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:

- 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.
- The 3-phase production separator will be equipped with a 0.75 MMBtu/hr indirect fired heater.

Heater treaters will be set as follows:

- 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.
- The combined oil and natural gas stream is routed to the Vapor Recovery Tower.

Vapor Recovery Equipment will be set as follows:

- 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.
- Each of the production storage tanks will be equipped with a 0.5 MMBtu/hr indirect heater.



Enduring Resources, LLC.
NATURAL GAS MANAGEMENT and WASTE MINIMIZATION PLAN
Lybrook 2408-26 FED COM 138H, NW Lybrook Unit 139H, 140H, 141H

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:

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



Enduring Resources, LLC.
NATURAL GAS MANAGEMENT and WASTE MINIMIZATION PLAN
Lybrook 2408-26 FED COM 138H, NW Lybrook Unit 139H, 140H, 141H

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

- 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.
- 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:

- Enduring facilities are built and ready from day 1 of Flowback.
- 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.
- 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 take 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-hours.
 - 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.



Enduring Resources, LLC.
NATURAL GAS MANAGEMENT and WASTE MINIMIZATION PLAN
Lybrook 2408-26 FED COM 138H, NW Lybrook Unit 139H, 140H, 141H

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.



ENDURING RESOURCES IV, LLC
6300 S SYRACUSE WAY, SUITE 525
CENTENNIAL, CO 80111

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

WELL INFORMATION:

Name: NW LYBROOK UNIT 140H

API Number: Not assigned yet

AFE Number: Not assigned yet

ER Well Number: Not assigned yet

State: New Mexico

County: San Juan County

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

Surface Location: 25-24-8 Sec-Twn-Rng 252 ft FSL 394 ft FWL

36.278726 ° N latitude 107.641023 ° W longitude (NAD 83)

BH Location: 31-24-7 Sec-Twn-Rng 380 ft FNL 100 ft FEL

36.276805 ° N latitude 107.606993 ° 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, NW Lybrook 138H

GEOLOGIC AND RESERVOIR INFORMATION:

Prognosis:	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	1,222	W	normal
	Kirtland	5,520	1,352	1,354	W	normal
	Fruitland	5,300	1,572	1,580	G, W	sub
	Pictured Cliffs	4,991	1,881	1,912	G, W	sub
	Lewis	4,891	1,981	2,020	G, W	normal
	Chacra A	4,582	2,290	2,355	G, W	normal
	Cliff House Basal	3,490	3,382	3,536	G, W	sub
	Menefee	3,485	3,387	3,542	G, W	normal
	Point Lookout	2,647	4,225	4,446	G, W	normal
	Mancos	2,422	4,450	4,678	O,G	normal
	MNCS_A	2,057	4,815	5,045	O,G	sub (~.38)
	MNCS_B	1,972	4,900	5,130	O,G	sub (~.38)
	MNCS_C	1,857	5,015	5,246	O,G	sub (~.38)
	MNCS_Cms	1,804	5,068	5,313	O,G	sub (~.38)
	MNCS_D	1,694	5,178	5,419	O,G	sub (~.38)
	MNCS_E	1,607	5,265	5,522	O,G	sub (~.38)
	MNCS_F	1,546	5,326	5,603	O,G	sub (~.38)
	MNCS_G	1,468	5,404	5,732	O,G	sub (~.38)
	MNCS_H	1,425	5,447	5,816	O,G	sub (~.38)
	MNCS I TARGET (POE)	1,369	5,503	5,971	O,G	sub (~.38)
	FTP TARGET	1,388	5,484	5,907	O,G	sub (~.38)
	PROJECTED WELL TD (BHL)	1,282	5,590	16,606	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: 2,410 psi

Maximum anticipated surface pressure, assuming partially evacuated hole: 1,190 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;

MWD / LWD: Gamma 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 Jenbacher 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.

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.

3) 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 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 minimize 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)	to	350 ft (TVD)	Casing Required:	350 ft

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

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

Hole Size: 17-1/2"**Bit / Motor:** Mill Tooth or PDC, no motor**MWD / Survey:** No MWD, run deviation survey after drilling**Logging:** None

Casing Specs:		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	13.375	54.5	J-55	BTC	1,130	2,730	853,000	909,000
Loading					153	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 intermediate hole and 8.4 ppg equivalent external pressure gradient**Tension : buoyed weight in 8.4 ppg fluid with 100,000 lbs over-pull***MU Torque (ft lbs):** Minimum: N/A Optimum: N/A Maximum: N/A*Make-up as per API Buttress Connection running procedure.***Casing 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

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	Ann Cap. (cuft/ft)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
	TYPE III	14.6	1.39	6.686	0.6946	100%	0	364

Annular 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.

350 ft (MD)	to	3,709 ft (MD)	Hole Section Length:	3,359 ft
350 ft (TVD)	to	3,537 ft (TVD)	Casing Required:	3,709 ft

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

Hole Size: 12-1/4"

Bit / Motor: PDC w/mud motor

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

Casing Specs:		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	9.625	36.0	J55	LTC	2,020	3,520	564,000	453,000
Loading					754	1,405	211,040	211,040
Min. S.F.					2.68	2.50	2.67	2.15

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): Minimum: 3,400 Optimum: 4,530 Maximum: 5,660 DV depth N/A

Stage 1	Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess	Planned TOC (ft MD)	Total Cmt (sx)
	Spacer	D-Mud Breaker	8.5				0	10 bbls
	Lead	90:10 Type III:POZ	12.5	2.140	12.05	70%	0	858
	Tail	Type III	14.6	1.380	6.61	20%	3,209	150
	Displacement	283 est bbls						

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

Lead ASTM Type III 90/10 Poz D-CSE 1 5.0% BWOC Strength Enhancer D-MPA-1 .4% BWOC Fluid Loss & Gas Migration Control D-SA 1 1.4% BWOC Na Metasilicate D-CD 2 .4% BWOC Dispersant Cello Flace LCM .25 lb/sx D-FP 1 .5% BWOC Defoamer D-R1 .5% Retarder

Tail ASTM Type III Blend D-MPA-1 .4% BWOC Fluid Loss & Gas Migration Control Cello Flace LCM .25 lb/sx

Drake Intermediate Cementing Program

Cement must achieve 500 psi compressive strength before drilling out.

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.

3,709	ft (MD)	to	16,606	ft (MD)	Hole Section Length:	12,897	ft
3,537	ft (TVD)	to	5,590	ft (TVD)	Casing Required:	16,606	ft

Estimated KOP:	5,150	ft (MD)	4,919	ft (TVD)
Estimated Landing Point (P.O.E.):	5,732	ft (MD)	5,503	ft (TVD)
Estimated Lateral Length:	10,874	ft (MD)		

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

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

Casing Specs:		Wt (lb/ft)	Grade	Conn.	Collapse (psi)	Burst (psi)	Tens. Body (lbs)	Tens. Conn (lbs)
Specs	5.500	17.0	P-110	LTC	7,460	10,640	546,000	445,000
Loading					2,761	8,120	182,002	182,002
Min. S.F.					2.70	1.31	3.00	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): Minimum: 3,470 Optimum: 4,620 Maximum: 5,780**Centralizers:** Centralizer count and placement may be adjusted based on well conditions and as-drilled surveys (ARSENAL)

Cement:	Type	Weight (ppg)	Yield (cuft/sk)	Water (gal/sk)	% Excess Open Hole	Planned TOC (ft MD)	Total Cmt (sx)
Spacer	IntegraGuard Star	11		31.6		0	60 bbls
Lead	ASTM type I/II	12.4	2.370	13.40	50%	0	632
Tail	G:POZ blend	13.3	1.570	7.70	10%	4,678	1,923

Displacement 366 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

Spacer	S-8 Silica Flour	Avis 616 viscosifier	FP24 Defoamer .5	IntegraGuard Star	Plus 3K LCM 15	SS201 Surfactant 1	
	163.7 lbs/bbl	11.6 lb/bbl	lb/bbl	lb/bbl	gal/bbl		
Lead	ASTM Type I/II	BA90 Bonding Agent 5.0 lb/sx	Bentonite Viscosifier 8% BWOB	FL24 Fluid Loss .5% BWOB	IntegraGuard GW86 Viscosifier .1% BWOB	R7C Retarder .2% BWOB	FP24 Defoamer 0.3% BWOB, Anti-Static .01 lb/sx
Tail	Type G 50%	Pozzolan Fly Ash Extender 50%	BA90 Bonding Agent 3.0 lb/sx	Bentonite Viscosifier 4% BWOB	FL24 Fluid Loss .4% BWOB	IntegraGuard GW86 Viscosifier .1% BWOB	R3 Retarder .5% BWOB
							FP24 Defoamer .3% BWOB, IntegraSeal 0.25 lb/sx

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

FINISH WELL: ND BOP, cap well, RDMO.

COMPLETION AND PRODUCTION PLAN:

Est Lateral Length: 10,599
Est Frac Inform: 44 Frac Stages 170,000 bbls slick water 13,780,000 lbs proppant
Flowback: Flow back through production tubing as pressures allow
Production: Produce through production tubing into permanent production and storage facilities

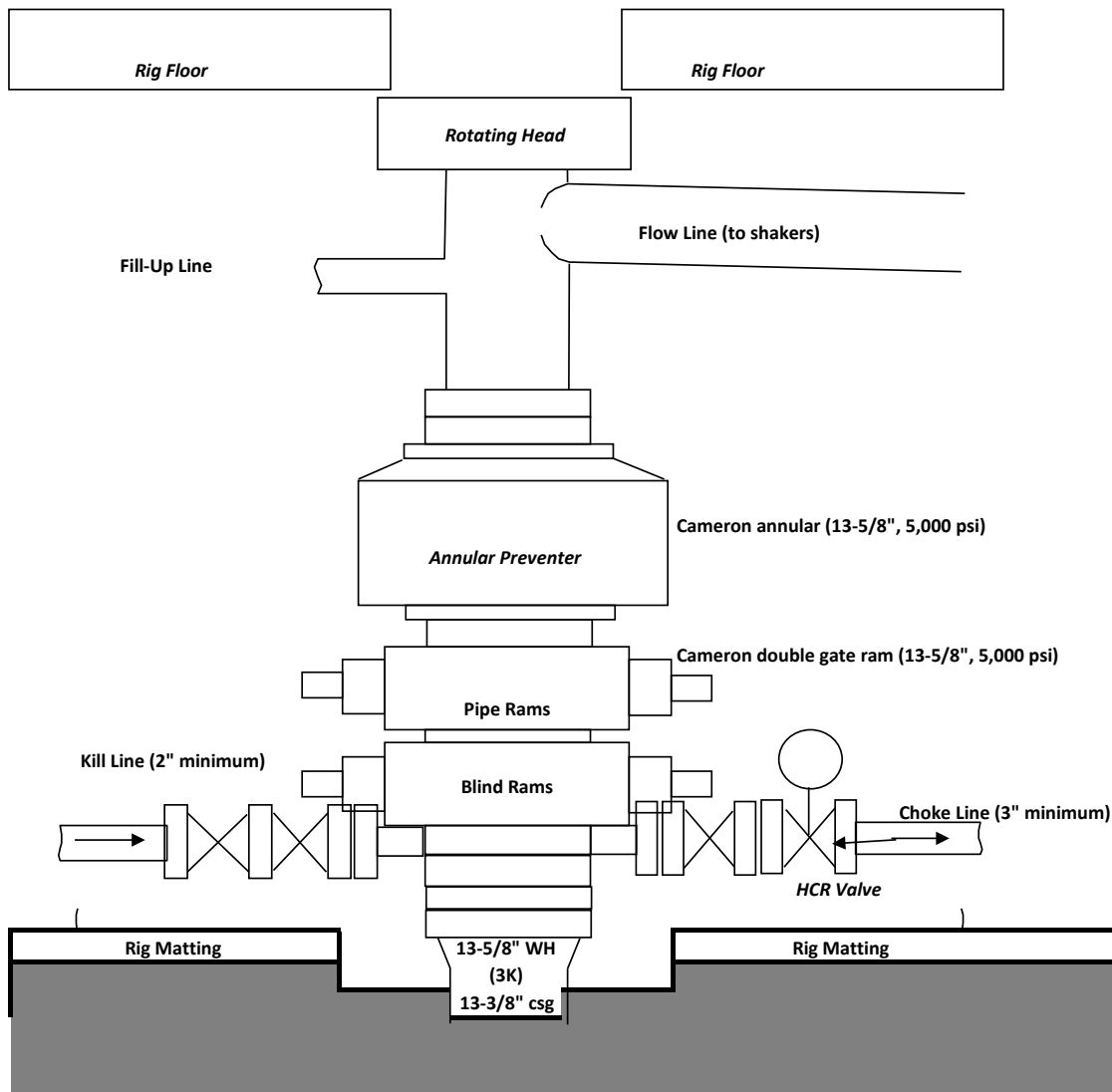
ESTIMATED START DATES:

Drilling: 2/1/2024
Completion: 5/2/2024
Production: 7/1/2024

Prepared by: Greg Olson 8/9/2023
Updated by:

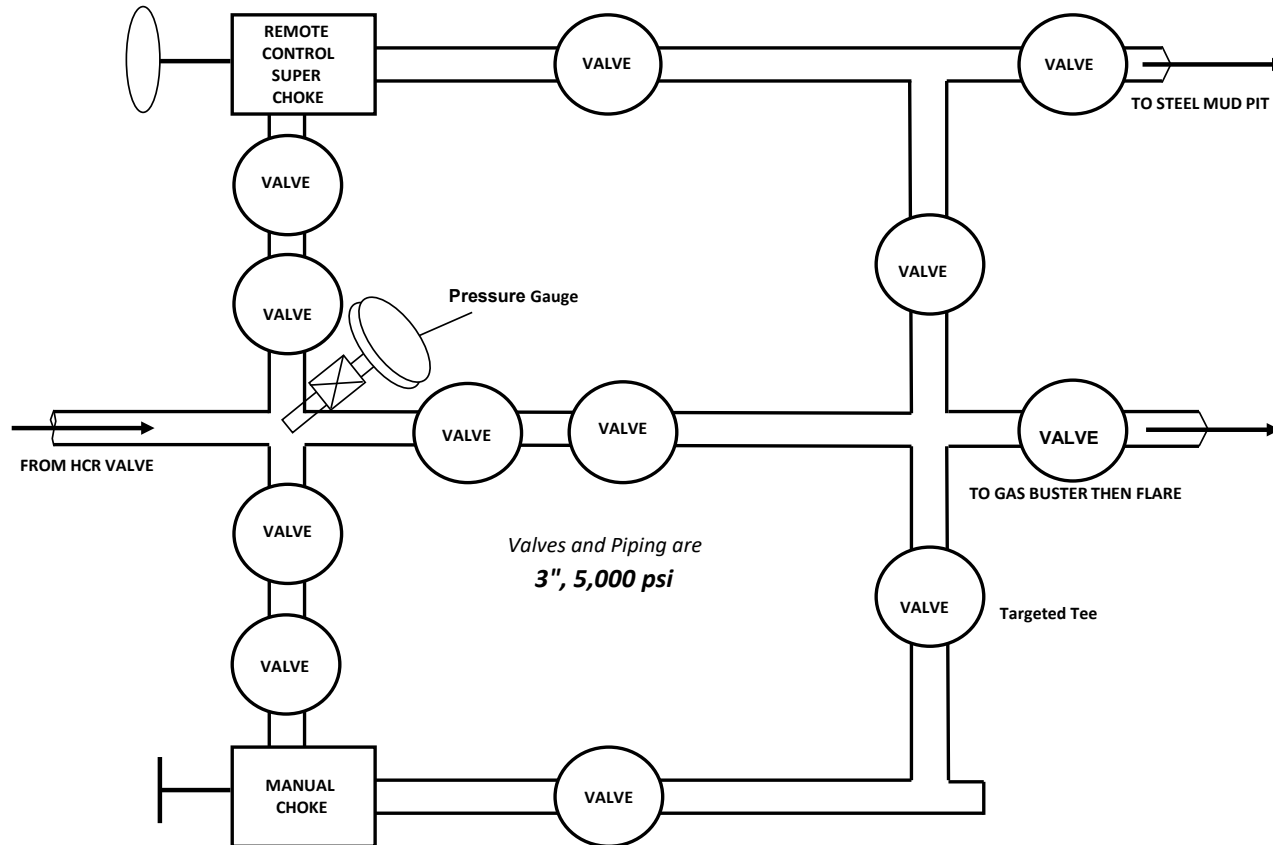
BOPE & CHOKE MANIFOLD DIAGRAMS

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

BOPE

BOPE & CHOKE MANIFOLD DIAGRAMS

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

CHOKE MANIFOLD

WELL NAME: NW LYBROOK UNIT 140H

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

API Number: Not assigned yet

State: New Mexico

County: San Juan County

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

Surface Location: 25-24-8 Sec-Twn- Rng 252 ft FSL 394 ft FWL

BH Location: 31-24-7 Sec-Twn- Rng 380 ft FNL 100 ft FEL

Driving Directions: From the intersection of US HWY 550 & US HWY 64 in Bloomfield, NM: South on US HWY 550 for 43.5 miles 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, NW Lybrook 138H

QUICK REFERENCE	
Sur TD (MD)	350 ft
Int TD (MD)	3,709 ft
KOP (MD)	5,150 ft
KOP (TVD)	4,919 ft
Target (TVD)	5,503 ft
Curve BUR	10 °/100 ft
POE (MD)	5,732 ft
TD (MD)	16,606 ft
Lat Len (ft)	10,874 ft

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	3,709	9.625	36	J55	LTC	0	3,709
Production	8.500	16,606	5.500	17.0	P-110	LTC	0	16,606

CEMENT PROPERTIES SUMMARY:

	Type	Wt (ppg)	Yd (cuft/sk)	Wtr (gal/sk)	% Excess	TOC (ft MD)	Total (sx)	Total Cu Ft
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	858	1,836
Inter. (Tail Stg 1)	Type III	14.6	1.38	6.61	20%	3209	150	207
Prod. (Lead)	ASTM type I/II	12.4	2.37	13.40	50%	0	632	1,497
Prod. (Tail)	G:POZ blend	13.3	1.57	7.70	10%	4678	1923	3,018

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

Formation Tops	TVD (ft KB)	MD (ft KB)
Nacimiento	0	0
Ojo Alamo	1,222	1,222
Kirtland	1,352	1,354
Fruitland	1,572	1,580
Pictured Cliffs	1,881	1,912
Lewis	1,981	2,020
Chacra A	2,290	2,355
Cliff House Basal	3,382	3,536
Menefee	3,387	3,542
Point Lookout	4,225	4,446
Mancos	4,450	4,678
MNCS_A	4,815	5,045
MNCS_B	4,900	5,130
MNCS_C	5,015	5,246
MNCS_Cms	5,068	5,313
MNCS_D	5,178	5,419
MNCS_E	5,265	5,522
MNCS_F	5,326	5,603
MNCS_G	5,404	5,732
MNCS_H	5,447	5,816
MNCS I TARGET (POE)	5,503	5,971
FTP TARGET	5,484	5,907
PROJECTED WELL TD (BHL)	5,590	16,606



Well: NW Lybrook Unit 140H
Site: NW Lybrook (138, 139, 140 & 141)
Project: San Juan County, New Mexico NAD83 NM W
Design: rev0
Rig:

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Western Zone

System Datum: Mean Sea Level
Depth Reference: RKB=6847+25 @ 6872.00ft
Surface location:

Northing 1920811.746 Easting 2779773.830 Latitude 36.278726000 Longitude -107.641023000

Total Corr (M=>G): To convert a Magnetic Direction to a Grid Direction, Add 8.47°



Azimuths to Grid North
True North: -0.11°
Magnetic North: 8.47°

Magnetic Field
Strength: 49177.6nT
Dip Angle: 62.77°
Date: 2/20/2023
Model: IGRF2020



Section Details

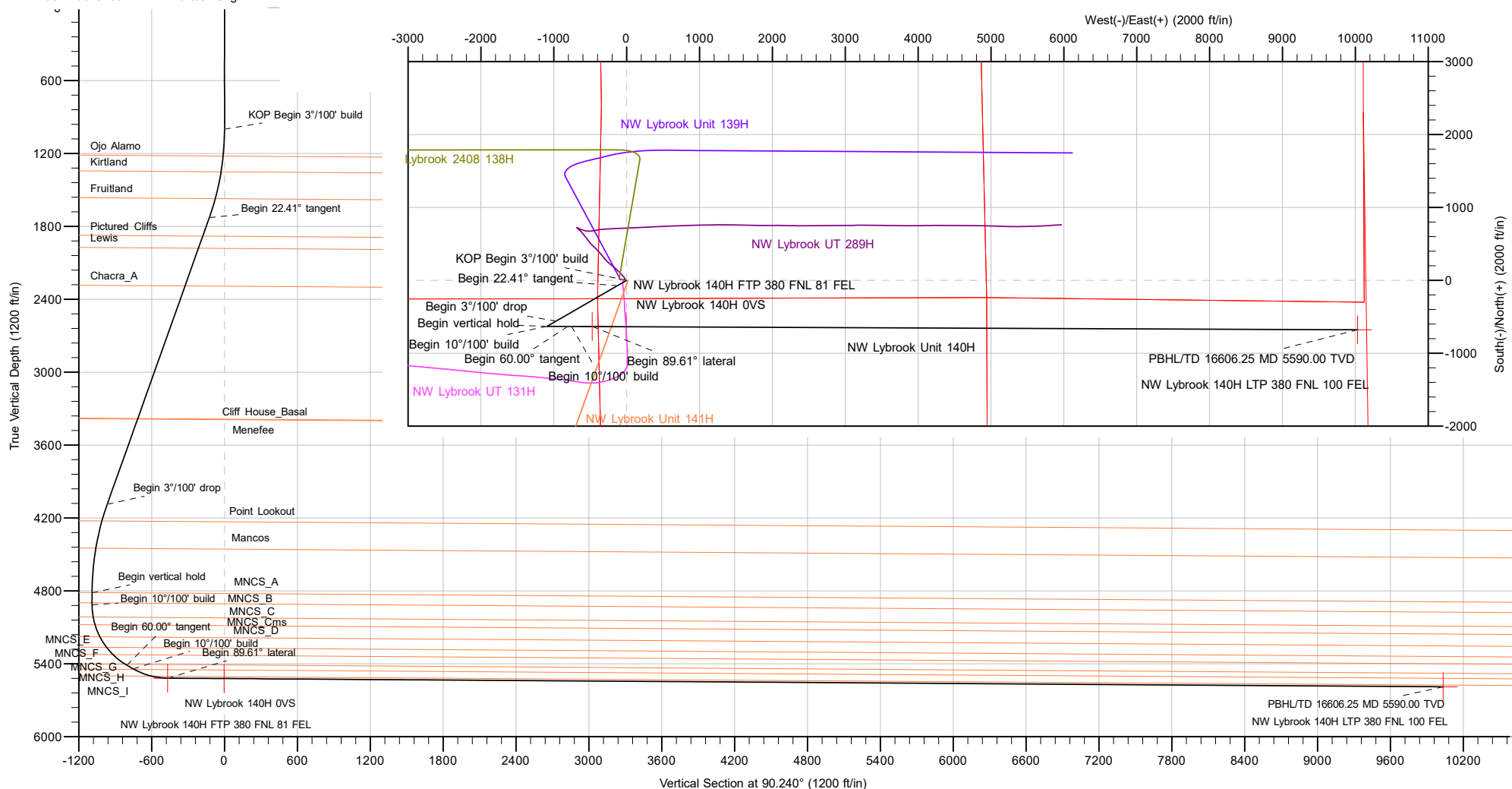
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
1	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	
2	1000.00	0.00	0.000	1000.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 3°/100' build
3	1747.10	22.41	239.991	1728.19	-72.15	-124.93	3.00	239.99	-124.63	Begin 22.41° tangent
4	4299.40	22.41	239.991	4087.69	-558.86	-967.62	0.00	0.00	-965.27	Begin 3°/100' drop
5	5046.50	0.00	0.000	4815.88	-631.01	-1092.55	3.00	180.00	-1089.90	Begin vertical hold
6	5146.50	0.00	0.000	4915.88	-631.01	-1092.55	0.00	0.00	-1089.90	Begin 10°/100' build
7	5746.50	60.00	90.240	5412.08	-632.21	-806.07	10.00	90.24	-803.42	Begin 60.00° tangent
8	5806.50	60.00	90.240	5442.08	-632.43	-754.11	0.00	0.00	-751.46	Begin 10°/100' build
9	6102.62	89.61	90.240	5518.82	-633.61	-471.52	10.00	0.00	-468.86	Begin 89.61° lateral
10	16606.25	89.61	90.240	5590.00	-677.61	10031.78	0.00	0.0010034.53		PBHL/TD 16606.25 MD 5590.00 TVD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
NW Lybrook 140H FTP 380 FNL 81 FEL	5518.82	-633.61	-471.52	1920178.135	2779302.308	36.276988000	-107.642627000
NW Lybrook 140H OVS	5522.00	-636.09	-5.46	1920175.660	2779768.370	36.276978668	-107.641045812
NW Lybrook 140H LTP 380 FNL 100 FEL	5590.00	-677.61	10031.78	1920134.136	2789805.591	36.276805000	-107.606993000

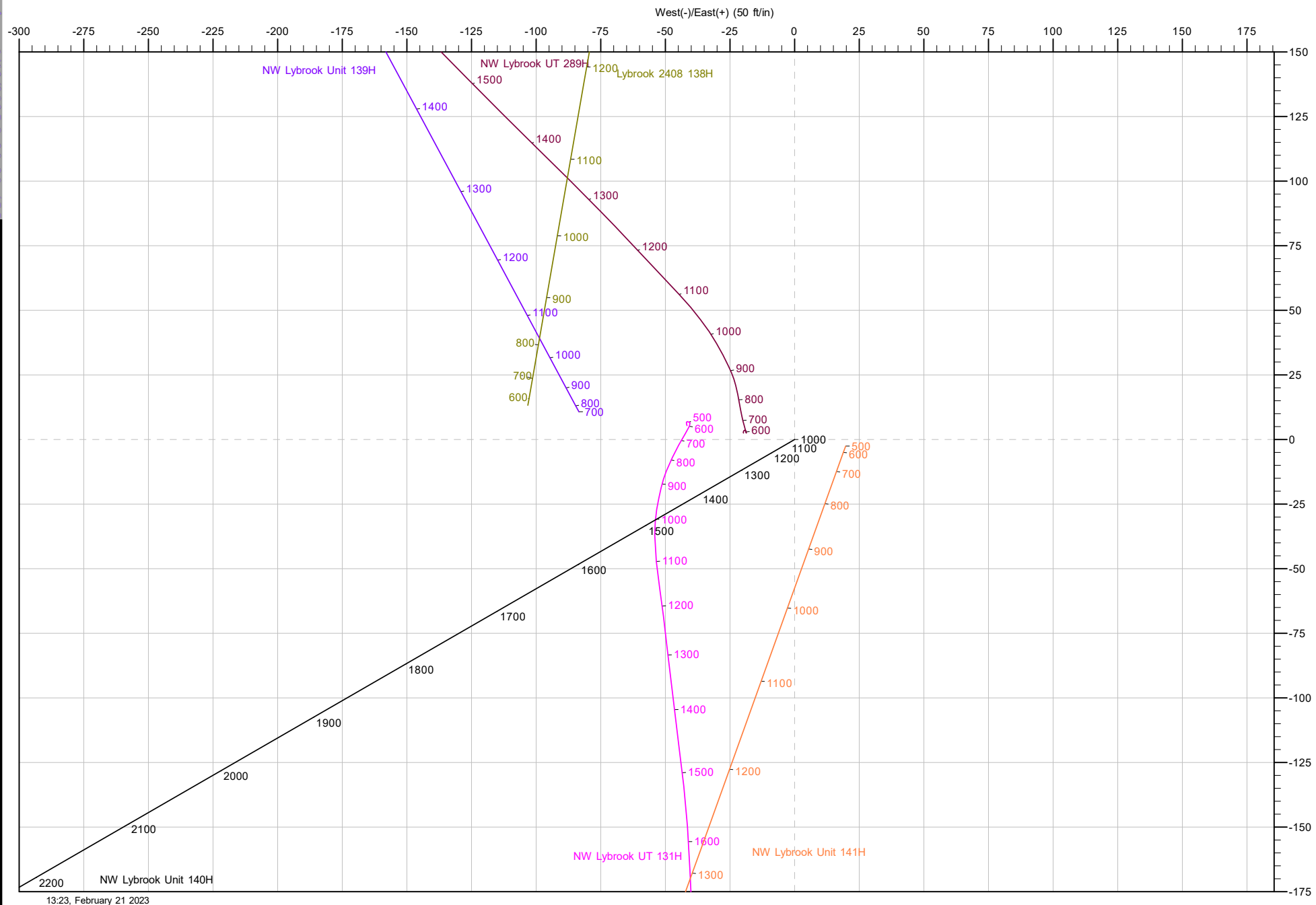
CASING DETAILS

TVD	MD	Name
350.00	350.00	13 3/8" Csg
3542.00	3709.12	9 5/8" Csg





Well: NW Lybrook Unit 140H
Site: NW Lybrook (138, 139, 140 & 141)
Project: San Juan County, New Mexico NAD83 NM W
Design: rev0
Rig:





Planning Report

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6847+25 @ 6872.00ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6847+25 @ 6872.00ft
Site:	NW Lybrook (138, 139, 140 & 141)	North Reference:	Grid
Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

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

Site	NW Lybrook (138, 139, 140 & 141)		
Site Position:		Northing:	1,920,822.501 usft
From:	Lat/Long	Easting:	2,779,690.396 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	36.278756000
		Longitude:	-107.641306000

Well	NW Lybrook Unit 140H, Surf loc: 252 FSL 394 FWL Section 25-T24N-R08W		
Well Position	+N/-S	0.00 ft	Northing: 1,920,811.746 usft
	+E/-W	0.00 ft	Easting: 2,779,773.830 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
Grid Convergence:	0.11 °	Ground Level:	6,847.00 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	2/20/2023	8.59	62.77	49,177.62691706

Design	rev0				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	90.240	

Plan Survey Tool Program	Date	2/21/2023			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	16,606.25	rev0 (Original Hole)	MWD	
				OWSG MWD - Standard	



Planning Report

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6847+25 @ 6872.00ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6847+25 @ 6872.00ft
Site:	NW Lybrook (138, 139, 140 & 141)	North Reference:	Grid
Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,747.10	22.41	239.991	1,728.19	-72.15	-124.93	3.00	3.00	0.00	239.99	
4,299.40	22.41	239.991	4,087.69	-558.86	-967.62	0.00	0.00	0.00	0.00	
5,046.50	0.00	0.000	4,815.88	-631.01	-1,092.55	3.00	-3.00	0.00	180.00	
5,146.50	0.00	0.000	4,915.88	-631.01	-1,092.55	0.00	0.00	0.00	0.00	
5,746.50	60.00	90.240	5,412.08	-632.21	-806.07	10.00	10.00	0.00	90.24	
5,806.50	60.00	90.240	5,442.08	-632.43	-754.11	0.00	0.00	0.00	0.00	
6,102.62	89.61	90.240	5,518.82	-633.61	-471.52	10.00	10.00	0.00	0.00	
16,606.25	89.61	90.240	5,590.00	-677.61	10,031.78	0.00	0.00	0.00	0.00	NW Lybrook 140H LTI



Planning Report

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6847+25 @ 6872.00ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6847+25 @ 6872.00ft
Site:	NW Lybrook (138, 139, 140 & 141)	North Reference:	Grid
Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.000	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.000	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.000	300.00	0.00	0.00	0.00	0.00	0.00	0.00
350.00	0.00	0.000	350.00	0.00	0.00	0.00	0.00	0.00	0.00
13 3/8" Csg									
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
600.00	0.00	0.000	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.000	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.000	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.000	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP Begin 3°/100' build									
1,100.00	3.00	239.991	1,099.95	-1.31	-2.27	-2.26	3.00	3.00	0.00
1,200.00	6.00	239.991	1,199.63	-5.23	-9.06	-9.04	3.00	3.00	0.00
1,222.43	6.67	239.991	1,221.92	-6.47	-11.20	-11.18	3.00	3.00	0.00
Ojo Alamo									
1,300.00	9.00	239.991	1,298.77	-11.76	-20.36	-20.31	3.00	3.00	0.00
1,353.83	10.61	239.991	1,351.81	-16.35	-28.30	-28.23	3.00	3.00	0.00
Kirtland									
1,400.00	12.00	239.991	1,397.08	-20.87	-36.14	-36.05	3.00	3.00	0.00
1,500.00	15.00	239.991	1,494.31	-32.55	-56.35	-56.22	3.00	3.00	0.00
1,580.38	17.41	239.991	1,571.49	-43.77	-75.78	-75.59	3.00	3.00	0.00
Fruitland									
1,600.00	18.00	239.991	1,590.18	-46.75	-80.94	-80.75	3.00	3.00	0.00
1,700.00	21.00	239.991	1,684.43	-63.44	-109.85	-109.58	3.00	3.00	0.00
1,747.10	22.41	239.991	1,728.19	-72.15	-124.93	-124.63	3.00	3.00	0.00
Begin 22.41° tangent									
1,800.00	22.41	239.991	1,777.10	-82.24	-142.40	-142.05	0.00	0.00	0.00
1,900.00	22.41	239.991	1,869.54	-101.31	-175.41	-174.99	0.00	0.00	0.00
1,912.16	22.41	239.991	1,880.78	-103.63	-179.43	-178.99	0.00	0.00	0.00
Pictured Cliffs									
2,000.00	22.41	239.991	1,961.99	-120.38	-208.43	-207.93	0.00	0.00	0.00
2,020.07	22.41	239.991	1,980.54	-124.21	-215.06	-214.53	0.00	0.00	0.00
Lewis									
2,100.00	22.41	239.991	2,054.43	-139.45	-241.45	-240.86	0.00	0.00	0.00
2,200.00	22.41	239.991	2,146.88	-158.52	-274.46	-273.80	0.00	0.00	0.00
2,300.00	22.41	239.991	2,239.33	-177.59	-307.48	-306.73	0.00	0.00	0.00
2,354.59	22.41	239.991	2,289.79	-188.00	-325.50	-324.71	0.00	0.00	0.00
Chacra_A									
2,400.00	22.41	239.991	2,331.77	-196.66	-340.50	-339.67	0.00	0.00	0.00
2,500.00	22.41	239.991	2,424.22	-215.73	-373.52	-372.61	0.00	0.00	0.00
2,600.00	22.41	239.991	2,516.66	-234.80	-406.53	-405.54	0.00	0.00	0.00
2,700.00	22.41	239.991	2,609.11	-253.86	-439.55	-438.48	0.00	0.00	0.00
2,800.00	22.41	239.991	2,701.56	-272.93	-472.57	-471.42	0.00	0.00	0.00
2,900.00	22.41	239.991	2,794.00	-292.00	-505.58	-504.35	0.00	0.00	0.00
3,000.00	22.41	239.991	2,886.45	-311.07	-538.60	-537.29	0.00	0.00	0.00
3,100.00	22.41	239.991	2,978.89	-330.14	-571.62	-570.23	0.00	0.00	0.00
3,200.00	22.41	239.991	3,071.34	-349.21	-604.63	-603.16	0.00	0.00	0.00
3,300.00	22.41	239.991	3,163.79	-368.28	-637.65	-636.10	0.00	0.00	0.00
3,400.00	22.41	239.991	3,256.23	-387.35	-670.67	-669.04	0.00	0.00	0.00
3,500.00	22.41	239.991	3,348.68	-406.42	-703.68	-701.97	0.00	0.00	0.00



Planning Report

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6847+25 @ 6872.00ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6847+25 @ 6872.00ft
Site:	NW Lybrook (138, 139, 140 & 141)	North Reference:	Grid
Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,536.20	22.41	239.991	3,382.14	-413.32	-715.63	-713.90	0.00	0.00	0.00
Cliff House_Basal									
3,541.59	22.41	239.991	3,387.13	-414.35	-717.42	-715.67	0.00	0.00	0.00
Menefee									
3,600.00	22.41	239.991	3,441.12	-425.49	-736.70	-734.91	0.00	0.00	0.00
3,700.00	22.41	239.991	3,533.57	-444.56	-769.72	-767.85	0.00	0.00	0.00
3,709.12	22.41	239.991	3,542.00	-446.29	-772.73	-770.85	0.00	0.00	0.00
9 5/8" Csg									
3,800.00	22.41	239.991	3,626.02	-463.62	-802.73	-800.78	0.00	0.00	0.00
3,900.00	22.41	239.991	3,718.46	-482.69	-835.75	-833.72	0.00	0.00	0.00
4,000.00	22.41	239.991	3,810.91	-501.76	-868.77	-866.66	0.00	0.00	0.00
4,100.00	22.41	239.991	3,903.35	-520.83	-901.78	-899.59	0.00	0.00	0.00
4,200.00	22.41	239.991	3,995.80	-539.90	-934.80	-932.53	0.00	0.00	0.00
4,299.40	22.41	239.991	4,087.69	-558.86	-967.62	-965.27	0.00	0.00	0.00
Begin 3°/100' drop									
4,400.00	19.39	239.991	4,181.66	-576.81	-998.70	-996.27	3.00	-3.00	0.00
4,445.90	18.02	239.991	4,225.13	-584.17	-1,011.45	-1,008.99	3.00	-3.00	0.00
Point Lookout									
4,500.00	16.39	239.991	4,276.81	-592.17	-1,025.30	-1,022.81	3.00	-3.00	0.00
4,600.00	13.39	239.991	4,373.44	-605.03	-1,047.56	-1,045.02	3.00	-3.00	0.00
4,678.13	11.05	239.991	4,449.79	-613.30	-1,061.88	-1,059.30	3.00	-3.00	0.00
Mancos									
4,700.00	10.39	239.991	4,471.28	-615.33	-1,065.41	-1,062.82	3.00	-3.00	0.00
4,800.00	7.39	239.991	4,570.07	-623.07	-1,078.79	-1,076.17	3.00	-3.00	0.00
4,900.00	4.39	239.991	4,669.53	-628.20	-1,087.69	-1,085.05	3.00	-3.00	0.00
5,000.00	1.39	239.991	4,769.39	-630.73	-1,092.06	-1,089.41	3.00	-3.00	0.00
5,045.20	0.04	239.991	4,814.58	-631.01	-1,092.55	-1,089.90	3.00	-3.00	0.00
MNCS_A									
5,046.50	0.00	0.000	4,815.88	-631.01	-1,092.55	-1,089.90	3.00	-3.00	0.00
Begin vertical hold									
5,100.00	0.00	0.000	4,869.38	-631.01	-1,092.55	-1,089.90	0.00	0.00	0.00
5,130.20	0.00	0.000	4,899.58	-631.01	-1,092.55	-1,089.90	0.00	0.00	0.00
MNCS_B									
5,146.50	0.00	0.000	4,915.88	-631.01	-1,092.55	-1,089.90	0.00	0.00	0.00
Begin 10°/100' build									
5,150.00	0.35	90.240	4,919.38	-631.01	-1,092.54	-1,089.89	10.00	10.00	0.00
5,200.00	5.35	90.240	4,969.30	-631.02	-1,090.05	-1,087.40	10.00	10.00	0.00
5,245.75	9.93	90.240	5,014.64	-631.05	-1,083.97	-1,081.32	10.00	10.00	0.00
MNCS_C									
5,250.00	10.35	90.240	5,018.82	-631.05	-1,083.23	-1,080.57	10.00	10.00	0.00
5,300.00	15.35	90.240	5,067.55	-631.10	-1,072.11	-1,069.46	10.00	10.00	0.00
5,312.68	16.62	90.240	5,079.74	-631.11	-1,068.62	-1,065.97	10.00	10.00	0.00
MNCS_Cms									
5,350.00	20.35	90.240	5,115.13	-631.16	-1,056.79	-1,054.14	10.00	10.00	0.00
5,400.00	25.35	90.240	5,161.19	-631.24	-1,037.38	-1,034.73	10.00	10.00	0.00
5,418.76	27.23	90.240	5,178.01	-631.28	-1,029.07	-1,026.42	10.00	10.00	0.00
MNCS_D									
5,450.00	30.35	90.240	5,205.39	-631.34	-1,014.03	-1,011.38	10.00	10.00	0.00
5,500.00	35.35	90.240	5,247.38	-631.45	-986.92	-984.26	10.00	10.00	0.00
5,522.40	37.59	90.240	5,265.39	-631.51	-973.60	-970.95	10.00	10.00	0.00
MNCS_E									
5,550.00	40.35	90.240	5,286.85	-631.58	-956.25	-953.59	10.00	10.00	0.00



Planning Report

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6847+25 @ 6872.00ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6847+25 @ 6872.00ft
Site:	NW Lybrook (138, 139, 140 & 141)	North Reference:	Grid
Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,600.00	45.35	90.240	5,323.49	-631.72	-922.25	-919.60	10.00	10.00	0.00
5,603.23	45.67	90.240	5,325.76	-631.73	-919.95	-917.29	10.00	10.00	0.00
MNCS_F									
5,650.00	50.35	90.240	5,357.03	-631.88	-885.19	-882.54	10.00	10.00	0.00
5,700.00	55.35	90.240	5,387.22	-632.05	-845.35	-842.70	10.00	10.00	0.00
5,731.57	58.51	90.240	5,404.44	-632.16	-818.90	-816.25	10.00	10.00	0.00
MNCS_G									
5,746.50	60.00	90.240	5,412.08	-632.21	-806.07	-803.42	10.00	10.00	0.00
Begin 60.00° tangent									
5,806.50	60.00	90.240	5,442.08	-632.43	-754.11	-751.46	0.00	0.00	0.00
Begin 10°/100' build									
5,816.38	60.99	90.240	5,446.94	-632.46	-745.51	-742.86	10.00	10.00	0.00
MNCS_H									
5,850.00	64.35	90.240	5,462.38	-632.59	-715.65	-712.99	10.00	10.00	0.00
5,900.00	69.35	90.240	5,482.03	-632.78	-669.69	-667.03	10.00	10.00	0.00
5,950.00	74.35	90.240	5,497.60	-632.98	-622.19	-619.54	10.00	10.00	0.00
5,971.14	76.46	90.240	5,502.92	-633.07	-601.74	-599.09	10.00	10.00	0.00
MNCS_I									
6,000.00	79.35	90.240	5,508.97	-633.18	-573.52	-570.86	10.00	10.00	0.00
6,050.00	84.35	90.240	5,516.05	-633.39	-524.04	-521.38	10.00	10.00	0.00
6,102.62	89.61	90.240	5,518.82	-633.61	-471.52	-468.86	10.00	10.00	0.00
Begin 89.61° lateral									
6,200.00	89.61	90.240	5,519.48	-634.02	-374.14	-371.48	0.00	0.00	0.00
6,300.00	89.61	90.240	5,520.16	-634.44	-274.14	-271.48	0.00	0.00	0.00
6,400.00	89.61	90.240	5,520.84	-634.86	-174.14	-171.48	0.00	0.00	0.00
6,500.00	89.61	90.240	5,521.52	-635.28	-74.15	-71.48	0.00	0.00	0.00
6,600.00	89.61	90.240	5,522.20	-635.69	25.85	28.51	0.00	0.00	0.00
6,700.00	89.61	90.240	5,522.87	-636.11	125.85	128.51	0.00	0.00	0.00
6,800.00	89.61	90.240	5,523.55	-636.53	225.84	228.51	0.00	0.00	0.00
6,900.00	89.61	90.240	5,524.23	-636.95	325.84	328.51	0.00	0.00	0.00
7,000.00	89.61	90.240	5,524.91	-637.37	425.84	428.50	0.00	0.00	0.00
7,100.00	89.61	90.240	5,525.58	-637.79	525.83	528.50	0.00	0.00	0.00
7,200.00	89.61	90.240	5,526.26	-638.21	625.83	628.50	0.00	0.00	0.00
7,300.00	89.61	90.240	5,526.94	-638.63	725.83	728.50	0.00	0.00	0.00
7,400.00	89.61	90.240	5,527.62	-639.05	825.82	828.49	0.00	0.00	0.00
7,500.00	89.61	90.240	5,528.29	-639.47	925.82	928.49	0.00	0.00	0.00
7,600.00	89.61	90.240	5,528.97	-639.88	1,025.82	1,028.49	0.00	0.00	0.00
7,700.00	89.61	90.240	5,529.65	-640.30	1,125.82	1,128.49	0.00	0.00	0.00
7,800.00	89.61	90.240	5,530.33	-640.72	1,225.81	1,228.49	0.00	0.00	0.00
7,900.00	89.61	90.240	5,531.00	-641.14	1,325.81	1,328.48	0.00	0.00	0.00
8,000.00	89.61	90.240	5,531.68	-641.56	1,425.81	1,428.48	0.00	0.00	0.00
8,100.00	89.61	90.240	5,532.36	-641.98	1,525.80	1,528.48	0.00	0.00	0.00
8,200.00	89.61	90.240	5,533.04	-642.40	1,625.80	1,628.48	0.00	0.00	0.00
8,300.00	89.61	90.240	5,533.71	-642.82	1,725.80	1,728.47	0.00	0.00	0.00
8,400.00	89.61	90.240	5,534.39	-643.24	1,825.79	1,828.47	0.00	0.00	0.00
8,500.00	89.61	90.240	5,535.07	-643.65	1,925.79	1,928.47	0.00	0.00	0.00
8,600.00	89.61	90.240	5,535.75	-644.07	2,025.79	2,028.47	0.00	0.00	0.00
8,700.00	89.61	90.240	5,536.43	-644.49	2,125.78	2,128.46	0.00	0.00	0.00
8,800.00	89.61	90.240	5,537.10	-644.91	2,225.78	2,228.46	0.00	0.00	0.00
8,900.00	89.61	90.240	5,537.78	-645.33	2,325.78	2,328.46	0.00	0.00	0.00
9,000.00	89.61	90.240	5,538.46	-645.75	2,425.77	2,428.46	0.00	0.00	0.00
9,100.00	89.61	90.240	5,539.14	-646.17	2,525.77	2,528.46	0.00	0.00	0.00
9,200.00	89.61	90.240	5,539.81	-646.59	2,625.77	2,628.45	0.00	0.00	0.00



Planning Report

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6847+25 @ 6872.00ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6847+25 @ 6872.00ft
Site:	NW Lybrook (138, 139, 140 & 141)	North Reference:	Grid
Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,300.00	89.61	90.240	5,540.49	-647.01	2,725.76	2,728.45	0.00	0.00	0.00
9,400.00	89.61	90.240	5,541.17	-647.42	2,825.76	2,828.45	0.00	0.00	0.00
9,500.00	89.61	90.240	5,541.85	-647.84	2,925.76	2,928.45	0.00	0.00	0.00
9,600.00	89.61	90.240	5,542.52	-648.26	3,025.76	3,028.44	0.00	0.00	0.00
9,700.00	89.61	90.240	5,543.20	-648.68	3,125.75	3,128.44	0.00	0.00	0.00
9,800.00	89.61	90.240	5,543.88	-649.10	3,225.75	3,228.44	0.00	0.00	0.00
9,900.00	89.61	90.240	5,544.56	-649.52	3,325.75	3,328.44	0.00	0.00	0.00
10,000.00	89.61	90.240	5,545.23	-649.94	3,425.74	3,428.43	0.00	0.00	0.00
10,100.00	89.61	90.240	5,545.91	-650.36	3,525.74	3,528.43	0.00	0.00	0.00
10,200.00	89.61	90.240	5,546.59	-650.78	3,625.74	3,628.43	0.00	0.00	0.00
10,300.00	89.61	90.240	5,547.27	-651.19	3,725.73	3,728.43	0.00	0.00	0.00
10,400.00	89.61	90.240	5,547.94	-651.61	3,825.73	3,828.43	0.00	0.00	0.00
10,500.00	89.61	90.240	5,548.62	-652.03	3,925.73	3,928.42	0.00	0.00	0.00
10,600.00	89.61	90.240	5,549.30	-652.45	4,025.72	4,028.42	0.00	0.00	0.00
10,700.00	89.61	90.240	5,549.98	-652.87	4,125.72	4,128.42	0.00	0.00	0.00
10,800.00	89.61	90.240	5,550.66	-653.29	4,225.72	4,228.42	0.00	0.00	0.00
10,900.00	89.61	90.240	5,551.33	-653.71	4,325.71	4,328.41	0.00	0.00	0.00
11,000.00	89.61	90.240	5,552.01	-654.13	4,425.71	4,428.41	0.00	0.00	0.00
11,100.00	89.61	90.240	5,552.69	-654.55	4,525.71	4,528.41	0.00	0.00	0.00
11,200.00	89.61	90.240	5,553.37	-654.96	4,625.70	4,628.41	0.00	0.00	0.00
11,300.00	89.61	90.240	5,554.04	-655.38	4,725.70	4,728.41	0.00	0.00	0.00
11,400.00	89.61	90.240	5,554.72	-655.80	4,825.70	4,828.40	0.00	0.00	0.00
11,500.00	89.61	90.240	5,555.40	-656.22	4,925.69	4,928.40	0.00	0.00	0.00
11,600.00	89.61	90.240	5,556.08	-656.64	5,025.69	5,028.40	0.00	0.00	0.00
11,700.00	89.61	90.240	5,556.75	-657.06	5,125.69	5,128.40	0.00	0.00	0.00
11,800.00	89.61	90.240	5,557.43	-657.48	5,225.69	5,228.39	0.00	0.00	0.00
11,900.00	89.61	90.240	5,558.11	-657.90	5,325.68	5,328.39	0.00	0.00	0.00
12,000.00	89.61	90.240	5,558.79	-658.32	5,425.68	5,428.39	0.00	0.00	0.00
12,100.00	89.61	90.240	5,559.46	-658.73	5,525.68	5,528.39	0.00	0.00	0.00
12,200.00	89.61	90.240	5,560.14	-659.15	5,625.67	5,628.38	0.00	0.00	0.00
12,300.00	89.61	90.240	5,560.82	-659.57	5,725.67	5,728.38	0.00	0.00	0.00
12,400.00	89.61	90.240	5,561.50	-659.99	5,825.67	5,828.38	0.00	0.00	0.00
12,500.00	89.61	90.240	5,562.18	-660.41	5,925.66	5,928.38	0.00	0.00	0.00
12,600.00	89.61	90.240	5,562.85	-660.83	6,025.66	6,028.38	0.00	0.00	0.00
12,700.00	89.61	90.240	5,563.53	-661.25	6,125.66	6,128.37	0.00	0.00	0.00
12,800.00	89.61	90.240	5,564.21	-661.67	6,225.65	6,228.37	0.00	0.00	0.00
12,900.00	89.61	90.240	5,564.89	-662.09	6,325.65	6,328.37	0.00	0.00	0.00
13,000.00	89.61	90.240	5,565.56	-662.50	6,425.65	6,428.37	0.00	0.00	0.00
13,100.00	89.61	90.240	5,566.24	-662.92	6,525.64	6,528.36	0.00	0.00	0.00
13,200.00	89.61	90.240	5,566.92	-663.34	6,625.64	6,628.36	0.00	0.00	0.00
13,300.00	89.61	90.240	5,567.60	-663.76	6,725.64	6,728.36	0.00	0.00	0.00
13,400.00	89.61	90.240	5,568.27	-664.18	6,825.63	6,828.36	0.00	0.00	0.00
13,500.00	89.61	90.240	5,568.95	-664.60	6,925.63	6,928.35	0.00	0.00	0.00
13,600.00	89.61	90.240	5,569.63	-665.02	7,025.63	7,028.35	0.00	0.00	0.00
13,700.00	89.61	90.240	5,570.31	-665.44	7,125.63	7,128.35	0.00	0.00	0.00
13,800.00	89.61	90.240	5,570.98	-665.86	7,225.62	7,228.35	0.00	0.00	0.00
13,900.00	89.61	90.240	5,571.66	-666.27	7,325.62	7,328.35	0.00	0.00	0.00
14,000.00	89.61	90.240	5,572.34	-666.69	7,425.62	7,428.34	0.00	0.00	0.00
14,100.00	89.61	90.240	5,573.02	-667.11	7,525.61	7,528.34	0.00	0.00	0.00
14,200.00	89.61	90.240	5,573.69	-667.53	7,625.61	7,628.34	0.00	0.00	0.00
14,300.00	89.61	90.240	5,574.37	-667.95	7,725.61	7,728.34	0.00	0.00	0.00
14,400.00	89.61	90.240	5,575.05	-668.37	7,825.60	7,828.33	0.00	0.00	0.00
14,500.00	89.61	90.240	5,575.73	-668.79	7,925.60	7,928.33	0.00	0.00	0.00
14,600.00	89.61	90.240	5,576.41	-669.21	8,025.60	8,028.33	0.00	0.00	0.00



Planning Report

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6847+25 @ 6872.00ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6847+25 @ 6872.00ft
Site:	NW Lybrook (138, 139, 140 & 141)	North Reference:	Grid
Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
14,700.00	89.61	90.240	5,577.08	-669.63	8,125.59	8,128.33	0.00	0.00	0.00
14,800.00	89.61	90.240	5,577.76	-670.04	8,225.59	8,228.32	0.00	0.00	0.00
14,900.00	89.61	90.240	5,578.44	-670.46	8,325.59	8,328.32	0.00	0.00	0.00
15,000.00	89.61	90.240	5,579.12	-670.88	8,425.58	8,428.32	0.00	0.00	0.00
15,100.00	89.61	90.240	5,579.79	-671.30	8,525.58	8,528.32	0.00	0.00	0.00
15,200.00	89.61	90.240	5,580.47	-671.72	8,625.58	8,628.32	0.00	0.00	0.00
15,300.00	89.61	90.240	5,581.15	-672.14	8,725.57	8,728.31	0.00	0.00	0.00
15,400.00	89.61	90.240	5,581.83	-672.56	8,825.57	8,828.31	0.00	0.00	0.00
15,500.00	89.61	90.240	5,582.50	-672.98	8,925.57	8,928.31	0.00	0.00	0.00
15,600.00	89.61	90.240	5,583.18	-673.40	9,025.56	9,028.31	0.00	0.00	0.00
15,700.00	89.61	90.240	5,583.86	-673.81	9,125.56	9,128.30	0.00	0.00	0.00
15,800.00	89.61	90.240	5,584.54	-674.23	9,225.56	9,228.30	0.00	0.00	0.00
15,900.00	89.61	90.240	5,585.21	-674.65	9,325.56	9,328.30	0.00	0.00	0.00
16,000.00	89.61	90.240	5,585.89	-675.07	9,425.55	9,428.30	0.00	0.00	0.00
16,100.00	89.61	90.240	5,586.57	-675.49	9,525.55	9,528.29	0.00	0.00	0.00
16,200.00	89.61	90.240	5,587.25	-675.91	9,625.55	9,628.29	0.00	0.00	0.00
16,300.00	89.61	90.240	5,587.92	-676.33	9,725.54	9,728.29	0.00	0.00	0.00
16,400.00	89.61	90.240	5,588.60	-676.75	9,825.54	9,828.29	0.00	0.00	0.00
16,500.00	89.61	90.240	5,589.28	-677.17	9,925.54	9,928.29	0.00	0.00	0.00
16,606.25	89.61	90.240	5,590.00	-677.61	10,031.78	10,034.53	0.00	0.00	0.00
PBHL/TD 16606.25 MD 5590.00 TVD									

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
NW Lybrook 140H OVS - plan misses target center by 0.52ft at 6568.69ft MD (5521.98 TVD, -635.56 N, -5.46 E) - Point	0.00	0.000	5,522.00	-636.09	-5.46	1,920,175.660	2,779,768.370	36.276978668	-107.641045812
NW Lybrook 140H FTP : - plan hits target center - Point	0.00	0.000	5,518.82	-633.61	-471.52	1,920,178.135	2,779,302.308	36.276988000	-107.642627000
NW Lybrook 140H LTP : - plan hits target center - Point	0.00	0.000	5,590.00	-677.61	10,031.78	1,920,134.136	2,789,805.591	36.276805000	-107.606993000

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
350.00	350.00	13 3/8" Csg	13-3/8	17-1/2	
3,709.12	3,542.00	9 5/8" Csg	9-5/8	12-1/4	



Planning Report

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6847+25 @ 6872.00ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6847+25 @ 6872.00ft
Site:	NW Lybrook (138, 139, 140 & 141)	North Reference:	Grid
Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,222.43	1,221.92	Ojo Alamo		0.39	90.240	
1,353.83	1,351.81	Kirtland		0.39	90.240	
1,580.38	1,571.49	Fruitland		0.39	90.240	
1,912.16	1,880.78	Pictured Cliffs		0.39	90.240	
2,020.07	1,980.54	Lewis		0.39	90.240	
2,354.59	2,289.79	Chacra_A		0.39	90.240	
3,536.20	3,382.14	Cliff House_Basal		0.39	90.240	
3,541.59	3,387.13	Menefee		0.39	90.240	
4,445.90	4,225.13	Point Lookout		0.39	90.240	
4,678.13	4,449.79	Mancos		0.39	90.240	
5,045.20	4,814.58	MNCS_A		0.39	90.240	
5,130.20	4,899.58	MNCS_B		0.39	90.240	
5,245.75	5,014.64	MNCS_C		0.39	90.240	
5,312.68	5,079.74	MNCS_Cms		0.39	90.240	
5,418.76	5,178.01	MNCS_D		0.39	90.240	
5,522.40	5,265.39	MNCS_E		0.39	90.240	
5,603.23	5,325.76	MNCS_F		0.39	90.240	
5,731.57	5,404.44	MNCS_G		0.39	90.240	
5,816.38	5,446.94	MNCS_H		0.39	90.240	
5,971.14	5,502.92	MNCS_I		0.39	90.240	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,000.00	1,000.00	0.00	0.00	KOP Begin 3°/100' build	
1,747.10	1,728.19	-72.15	-124.93	Begin 22.41° tangent	
4,299.40	4,087.69	-558.86	-967.62	Begin 3°/100' drop	
5,046.50	4,815.88	-631.01	-1,092.55	Begin vertical hold	
5,146.50	4,915.88	-631.01	-1,092.55	Begin 10°/100' build	
5,746.50	5,412.08	-632.21	-806.07	Begin 60.00° tangent	
5,806.50	5,442.08	-632.43	-754.11	Begin 10°/100' build	
6,102.62	5,518.82	-633.61	-471.52	Begin 89.61° lateral	
16,606.25	5,590.00	-677.61	10,031.78	PBHL/TD 16606.25 MD 5590.00 TVD	



Planning Report - Geographic

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6847+25 @ 6872.00ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6847+25 @ 6872.00ft
Site:	NW Lybrook (138, 139, 140 & 141)	North Reference:	Grid
Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

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

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	NW Lybrook Unit 140H, Surf loc: 252 FSL 394 FWL Section 25-T24N-R08W					
Well Position	+N/-S	0.00 ft	Northing:	1,920,811.746 usft	Latitude:	36.278726000
	+E/-W	0.00 ft	Easting:	2,779,773.830 usft	Longitude:	-107.641023000
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,847.00 ft
Grid Convergence:		0.11 °				

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	2/20/2023	8.59	62.77	49,177.62691706

Design	rev0			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	90.240

Plan Survey Tool Program	Date	2/21/2023		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,606.25 rev0 (Original Hole)	MWD	
			OWSG MWD - Standard	



Planning Report - Geographic

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6847+25 @ 6872.00ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6847+25 @ 6872.00ft
Site:	NW Lybrook (138, 139, 140 & 141)	North Reference:	Grid
Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,747.10	22.41	239.991	1,728.19	-72.15	-124.93	3.00	3.00	0.00	239.99	
4,299.40	22.41	239.991	4,087.69	-558.86	-967.62	0.00	0.00	0.00	0.00	
5,046.50	0.00	0.000	4,815.88	-631.01	-1,092.55	3.00	-3.00	0.00	180.00	
5,146.50	0.00	0.000	4,915.88	-631.01	-1,092.55	0.00	0.00	0.00	0.00	
5,746.50	60.00	90.240	5,412.08	-632.21	-806.07	10.00	10.00	0.00	90.24	
5,806.50	60.00	90.240	5,442.08	-632.43	-754.11	0.00	0.00	0.00	0.00	
6,102.62	89.61	90.240	5,518.82	-633.61	-471.52	10.00	10.00	0.00	0.00	
16,606.25	89.61	90.240	5,590.00	-677.61	10,031.78	0.00	0.00	0.00	0.00	NW Lybrook 140H LTI



Planning Report - Geographic

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6847+25 @ 6872.00ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6847+25 @ 6872.00ft
Site:	NW Lybrook (138, 139, 140 & 141)	North Reference:	Grid
Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.000	0.00	0.00	0.00	1,920,811.746	2,779,773.830	36.278726000	-107.641023000
100.00	0.00	0.000	100.00	0.00	0.00	1,920,811.746	2,779,773.830	36.278726000	-107.641023000
200.00	0.00	0.000	200.00	0.00	0.00	1,920,811.746	2,779,773.830	36.278726000	-107.641023000
300.00	0.00	0.000	300.00	0.00	0.00	1,920,811.746	2,779,773.830	36.278726000	-107.641023000
350.00	0.00	0.000	350.00	0.00	0.00	1,920,811.746	2,779,773.830	36.278726000	-107.641023000
13 3/8" Csg									
400.00	0.00	0.000	400.00	0.00	0.00	1,920,811.746	2,779,773.830	36.278726000	-107.641023000
500.00	0.00	0.000	500.00	0.00	0.00	1,920,811.746	2,779,773.830	36.278726000	-107.641023000
600.00	0.00	0.000	600.00	0.00	0.00	1,920,811.746	2,779,773.830	36.278726000	-107.641023000
700.00	0.00	0.000	700.00	0.00	0.00	1,920,811.746	2,779,773.830	36.278726000	-107.641023000
800.00	0.00	0.000	800.00	0.00	0.00	1,920,811.746	2,779,773.830	36.278726000	-107.641023000
900.00	0.00	0.000	900.00	0.00	0.00	1,920,811.746	2,779,773.830	36.278726000	-107.641023000
1,000.00	0.00	0.000	1,000.00	0.00	0.00	1,920,811.746	2,779,773.830	36.278726000	-107.641023000
KOP Begin 3"/100' build									
1,100.00	3.00	239.991	1,099.95	-1.31	-2.27	1,920,810.437	2,779,771.564	36.278722416	-107.641030699
1,200.00	6.00	239.991	1,199.63	-5.23	-9.06	1,920,806.513	2,779,764.771	36.278711675	-107.641053774
1,222.43	6.67	239.991	1,221.92	-6.47	-11.20	1,920,805.275	2,779,762.627	36.278708286	-107.641061054
Ojo Alamo									
1,300.00	9.00	239.991	1,298.77	-11.76	-20.36	1,920,799.986	2,779,753.469	36.278693806	-107.641092161
1,353.83	10.61	239.991	1,351.81	-16.35	-28.30	1,920,795.401	2,779,745.529	36.278681253	-107.641119129
Kirtland									
1,400.00	12.00	239.991	1,397.08	-20.87	-36.14	1,920,790.873	2,779,737.690	36.278668858	-107.641145756
1,500.00	15.00	239.991	1,494.31	-32.55	-56.35	1,920,779.199	2,779,717.477	36.278636899	-107.641214412
1,580.38	17.41	239.991	1,571.49	-43.77	-75.78	1,920,767.981	2,779,698.054	36.278606188	-107.641280387
Fruitland									
1,600.00	18.00	239.991	1,590.18	-46.75	-80.94	1,920,764.996	2,779,692.886	36.278598017	-107.641297941
1,700.00	21.00	239.991	1,684.43	-63.44	-109.85	1,920,748.303	2,779,663.983	36.278552318	-107.641396112
1,747.10	22.41	239.991	1,728.19	-72.15	-124.93	1,920,739.591	2,779,648.900	36.278528468	-107.641447346
Begin 22.41° tangent									
1,800.00	22.41	239.991	1,777.10	-82.24	-142.40	1,920,729.503	2,779,631.433	36.278500851	-107.641506674
1,900.00	22.41	239.991	1,869.54	-101.31	-175.41	1,920,710.434	2,779,598.416	36.278448647	-107.641618820
1,912.16	22.41	239.991	1,880.78	-103.63	-179.43	1,920,708.116	2,779,594.402	36.278442300	-107.641632455
Pictured Cliffs									
2,000.00	22.41	239.991	1,961.99	-120.38	-208.43	1,920,691.365	2,779,565.400	36.278396443	-107.641730965
2,020.07	22.41	239.991	1,980.54	-124.21	-215.06	1,920,687.539	2,779,558.774	36.278385967	-107.641753471
Lewis									
2,100.00	22.41	239.991	2,054.43	-139.45	-241.45	1,920,672.296	2,779,532.383	36.278344239	-107.641843111
2,200.00	22.41	239.991	2,146.88	-158.52	-274.46	1,920,653.227	2,779,499.366	36.278292035	-107.641955256
2,300.00	22.41	239.991	2,239.33	-177.59	-307.48	1,920,634.158	2,779,466.350	36.278239830	-107.642067401
2,354.59	22.41	239.991	2,289.79	-188.00	-325.50	1,920,623.749	2,779,448.326	36.278211333	-107.642128619
Chacra_A									
2,400.00	22.41	239.991	2,331.77	-196.66	-340.50	1,920,615.089	2,779,433.333	36.278187626	-107.642179546
2,500.00	22.41	239.991	2,424.22	-215.73	-373.52	1,920,596.020	2,779,400.316	36.278135421	-107.642291691
2,600.00	22.41	239.991	2,516.66	-234.80	-406.53	1,920,576.951	2,779,367.299	36.278083216	-107.642403836
2,700.00	22.41	239.991	2,609.11	-253.86	-439.55	1,920,557.882	2,779,334.283	36.278031011	-107.642515981
2,800.00	22.41	239.991	2,701.56	-272.93	-472.57	1,920,538.813	2,779,301.266	36.277978807	-107.642628125
2,900.00	22.41	239.991	2,794.00	-292.00	-505.58	1,920,519.744	2,779,268.249	36.277926601	-107.642740269
3,000.00	22.41	239.991	2,886.45	-311.07	-538.60	1,920,500.675	2,779,235.233	36.277874396	-107.642852414
3,100.00	22.41	239.991	2,978.89	-330.14	-571.62	1,920,481.606	2,779,202.216	36.277822191	-107.642964558
3,200.00	22.41	239.991	3,071.34	-349.21	-604.63	1,920,462.537	2,779,169.199	36.277769986	-107.643076701
3,300.00	22.41	239.991	3,163.79	-368.28	-637.65	1,920,443.468	2,779,136.182	36.277717780	-107.643188845
3,400.00	22.41	239.991	3,256.23	-387.35	-670.67	1,920,424.399	2,779,103.166	36.277665575	-107.643300989
3,500.00	22.41	239.991	3,348.68	-406.42	-703.68	1,920,405.330	2,779,070.149	36.277613369	-107.643413132



Planning Report - Geographic

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6847+25 @ 6872.00ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6847+25 @ 6872.00ft
Site:	NW Lybrook (138, 139, 140 & 141)	North Reference:	Grid
Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
3,536.20	22.41	239.991	3,382.14	-413.32	-715.63	1,920,398.427	2,779,058.198	36.277594472	-107.643453725	
Cliff House_Basal										
3,541.59	22.41	239.991	3,387.13	-414.35	-717.42	1,920,397.398	2,779,056.416	36.277591655	-107.643459776	
Menefee										
3,600.00	22.41	239.991	3,441.12	-425.49	-736.70	1,920,386.261	2,779,037.132	36.277561163	-107.643525275	
3,700.00	22.41	239.991	3,533.57	-444.56	-769.72	1,920,367.192	2,779,004.116	36.277508957	-107.643637418	
3,709.12	22.41	239.991	3,542.00	-446.29	-772.73	1,920,365.453	2,779,001.105	36.277504196	-107.643647645	
9 5/8" Csg										
3,800.00	22.41	239.991	3,626.02	-463.62	-802.73	1,920,348.123	2,778,971.099	36.277456751	-107.643749561	
3,900.00	22.41	239.991	3,718.46	-482.69	-835.75	1,920,329.054	2,778,938.082	36.277404545	-107.643861704	
4,000.00	22.41	239.991	3,810.91	-501.76	-868.77	1,920,309.985	2,778,905.065	36.277352339	-107.643973847	
4,100.00	22.41	239.991	3,903.35	-520.83	-901.78	1,920,290.916	2,778,872.049	36.277300132	-107.644085989	
4,200.00	22.41	239.991	3,995.80	-539.90	-934.80	1,920,271.847	2,778,839.032	36.277247926	-107.644198132	
4,299.40	22.41	239.991	4,087.69	-558.86	-967.62	1,920,252.892	2,778,806.213	36.277196033	-107.644309601	
Begin 3°/100' drop										
4,400.00	19.39	239.991	4,181.66	-576.81	-998.70	1,920,234.942	2,778,775.134	36.277146890	-107.644415161	
4,445.90	18.02	239.991	4,225.13	-584.17	-1,011.45	1,920,227.580	2,778,762.387	36.277126734	-107.644458457	
Point Lookout										
4,500.00	16.39	239.991	4,276.81	-592.17	-1,025.30	1,920,219.576	2,778,748.529	36.277104822	-107.644505526	
4,600.00	13.39	239.991	4,373.44	-605.03	-1,047.56	1,920,206.722	2,778,726.273	36.277069629	-107.644581120	
4,678.13	11.05	239.991	4,449.79	-613.30	-1,061.88	1,920,198.450	2,778,711.950	36.277046982	-107.644629767	
Mancos										
4,700.00	10.39	239.991	4,471.28	-615.33	-1,065.41	1,920,196.414	2,778,708.426	36.277041410	-107.644641737	
4,800.00	7.39	239.991	4,570.07	-623.07	-1,078.79	1,920,188.682	2,778,695.038	36.277020240	-107.644687209	
4,900.00	4.39	239.991	4,669.53	-628.20	-1,087.69	1,920,183.546	2,778,686.146	36.277006179	-107.644717413	
5,000.00	1.39	239.991	4,769.39	-630.73	-1,092.06	1,920,181.020	2,778,681.773	36.276999264	-107.644732266	
5,045.20	0.04	239.991	4,814.58	-631.01	-1,092.55	1,920,180.737	2,778,681.283	36.276998490	-107.644733929	
MNCS_A										
5,046.50	0.00	0.000	4,815.88	-631.01	-1,092.55	1,920,180.737	2,778,681.283	36.276998489	-107.644733931	
Begin vertical hold										
5,100.00	0.00	0.000	4,869.38	-631.01	-1,092.55	1,920,180.737	2,778,681.283	36.276998489	-107.644733931	
5,130.20	0.00	0.000	4,899.58	-631.01	-1,092.55	1,920,180.737	2,778,681.283	36.276998489	-107.644733931	
MNCS_B										
5,146.50	0.00	0.000	4,915.88	-631.01	-1,092.55	1,920,180.737	2,778,681.283	36.276998489	-107.644733931	
Begin 10°/100' build										
5,150.00	0.35	90.240	4,919.38	-631.01	-1,092.54	1,920,180.737	2,778,681.293	36.276998489	-107.644733894	
5,200.00	5.35	90.240	4,969.30	-631.02	-1,090.05	1,920,180.727	2,778,683.779	36.276998447	-107.644725462	
5,245.75	9.93	90.240	5,014.64	-631.05	-1,083.97	1,920,180.701	2,778,689.858	36.276998345	-107.644704836	
MNCS_C										
5,250.00	10.35	90.240	5,018.82	-631.05	-1,083.23	1,920,180.698	2,778,690.606	36.276998332	-107.644702300	
5,300.00	15.35	90.240	5,067.55	-631.10	-1,072.11	1,920,180.652	2,778,701.722	36.276998145	-107.644664586	
5,312.68	16.62	90.240	5,079.74	-631.11	-1,068.62	1,920,180.637	2,778,705.215	36.276998086	-107.644652738	
MNCS_Cms										
5,350.00	20.35	90.240	5,115.13	-631.16	-1,056.79	1,920,180.587	2,778,717.044	36.276997886	-107.644612605	
5,400.00	25.35	90.240	5,161.19	-631.24	-1,037.38	1,920,180.506	2,778,736.454	36.276997559	-107.644546754	
5,418.76	27.23	90.240	5,178.01	-631.28	-1,029.07	1,920,180.471	2,778,744.763	36.276997419	-107.644518564	
MNCS_D										
5,450.00	30.35	90.240	5,205.39	-631.34	-1,014.03	1,920,180.408	2,778,759.804	36.276997165	-107.644467534	
5,500.00	35.35	90.240	5,247.38	-631.45	-986.92	1,920,180.295	2,778,786.917	36.276996708	-107.644375548	
5,522.40	37.59	90.240	5,265.39	-631.51	-973.60	1,920,180.239	2,778,800.232	36.276996483	-107.644330376	
MNCS_E										
5,550.00	40.35	90.240	5,286.85	-631.58	-956.25	1,920,180.166	2,778,817.587	36.276996191	-107.644271495	
5,600.00	45.35	90.240	5,323.49	-631.72	-922.25	1,920,180.024	2,778,851.580	36.276995617	-107.644156168	



Planning Report - Geographic

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6847+25 @ 6872.00ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6847+25 @ 6872.00ft
Site:	NW Lybrook (138, 139, 140 & 141)	North Reference:	Grid
Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,603.23	45.67	90.240	5,325.76	-631.73	-919.95	1,920,180.014	2,778,853.886	36.276995578	-107.644148345	
MNCS_F										
5,650.00	50.35	90.240	5,357.03	-631.88	-885.19	1,920,179.869	2,778,888.638	36.276994992	-107.644030444	
5,700.00	55.35	90.240	5,387.22	-632.05	-845.35	1,920,179.702	2,778,928.478	36.276994319	-107.643895281	
5,731.57	58.51	90.240	5,404.44	-632.16	-818.90	1,920,179.591	2,778,954.928	36.276993873	-107.643805542	
MNCS_G										
5,746.50	60.00	90.240	5,412.08	-632.21	-806.07	1,920,179.537	2,778,967.758	36.276993656	-107.643762014	
Begin 60.00° tangent										
5,806.50	60.00	90.240	5,442.08	-632.43	-754.11	1,920,179.320	2,779,019.719	36.276992779	-107.643585728	
Begin 10°/100' build										
5,816.38	60.99	90.240	5,446.94	-632.46	-745.51	1,920,179.284	2,779,028.320	36.276992633	-107.643556547	
MNCS_H										
5,850.00	64.35	90.240	5,462.38	-632.59	-715.65	1,920,179.159	2,779,058.182	36.276992129	-107.643455237	
5,900.00	69.35	90.240	5,482.03	-632.78	-669.69	1,920,178.966	2,779,104.141	36.276991352	-107.643299314	
5,950.00	74.35	90.240	5,497.60	-632.98	-622.19	1,920,178.767	2,779,151.638	36.276990550	-107.643138173	
5,971.14	76.46	90.240	5,502.92	-633.07	-601.74	1,920,178.681	2,779,172.089	36.276990204	-107.643068788	
MNCS_I										
6,000.00	79.35	90.240	5,508.97	-633.18	-573.52	1,920,178.563	2,779,200.311	36.276989727	-107.642973042	
6,050.00	84.35	90.240	5,516.05	-633.39	-524.04	1,920,178.356	2,779,249.790	36.276988890	-107.642805177	
6,102.62	89.61	90.240	5,518.82	-633.61	-471.52	1,920,178.136	2,779,302.313	36.276988002	-107.642626984	
Begin 89.61° lateral										
6,200.00	89.61	90.240	5,519.48	-634.02	-374.14	1,920,177.728	2,779,399.694	36.276986354	-107.642296601	
6,300.00	89.61	90.240	5,520.16	-634.44	-274.14	1,920,177.309	2,779,499.691	36.276984661	-107.641957346	
6,400.00	89.61	90.240	5,520.84	-634.86	-174.14	1,920,176.890	2,779,599.687	36.276982967	-107.641618091	
6,500.00	89.61	90.240	5,521.52	-635.28	-74.15	1,920,176.471	2,779,699.684	36.276981271	-107.641278837	
6,600.00	89.61	90.240	5,522.20	-635.69	25.85	1,920,176.052	2,779,799.681	36.276979575	-107.640939582	
6,700.00	89.61	90.240	5,522.87	-636.11	125.85	1,920,175.633	2,779,899.677	36.276977878	-107.640600327	
6,800.00	89.61	90.240	5,523.55	-636.53	225.84	1,920,175.215	2,779,999.674	36.276976180	-107.640261072	
6,900.00	89.61	90.240	5,524.23	-636.95	325.84	1,920,174.796	2,780,099.671	36.276974482	-107.639921817	
7,000.00	89.61	90.240	5,524.91	-637.37	425.84	1,920,174.377	2,780,199.667	36.276972782	-107.639582562	
7,100.00	89.61	90.240	5,525.58	-637.79	525.83	1,920,173.958	2,780,299.664	36.276971081	-107.639243308	
7,200.00	89.61	90.240	5,526.26	-638.21	625.83	1,920,173.539	2,780,399.660	36.276969379	-107.638904053	
7,300.00	89.61	90.240	5,526.94	-638.63	725.83	1,920,173.120	2,780,499.657	36.276967676	-107.638564798	
7,400.00	89.61	90.240	5,527.62	-639.05	825.82	1,920,172.701	2,780,599.654	36.276965972	-107.638225543	
7,500.00	89.61	90.240	5,528.29	-639.47	925.82	1,920,172.282	2,780,699.650	36.276964268	-107.637886289	
7,600.00	89.61	90.240	5,528.97	-639.88	1,025.82	1,920,171.863	2,780,799.647	36.276962562	-107.637547034	
7,700.00	89.61	90.240	5,529.65	-640.30	1,125.82	1,920,171.444	2,780,899.644	36.276960855	-107.637207779	
7,800.00	89.61	90.240	5,530.33	-640.72	1,225.81	1,920,171.026	2,780,999.640	36.276959148	-107.636868525	
7,900.00	89.61	90.240	5,531.00	-641.14	1,325.81	1,920,170.607	2,781,099.637	36.276957439	-107.636529270	
8,000.00	89.61	90.240	5,531.68	-641.56	1,425.81	1,920,170.188	2,781,199.633	36.276955730	-107.636190016	
8,100.00	89.61	90.240	5,532.36	-641.98	1,525.80	1,920,169.769	2,781,299.630	36.276954019	-107.635850761	
8,200.00	89.61	90.240	5,533.04	-642.40	1,625.80	1,920,169.350	2,781,399.627	36.276952308	-107.635511507	
8,300.00	89.61	90.240	5,533.71	-642.82	1,725.80	1,920,168.931	2,781,499.623	36.276950596	-107.635172252	
8,400.00	89.61	90.240	5,534.39	-643.24	1,825.79	1,920,168.512	2,781,599.620	36.276948882	-107.634832997	
8,500.00	89.61	90.240	5,535.07	-643.65	1,925.79	1,920,168.093	2,781,699.616	36.276947168	-107.634493743	
8,600.00	89.61	90.240	5,535.75	-644.07	2,025.79	1,920,167.674	2,781,799.613	36.276945453	-107.634154489	
8,700.00	89.61	90.240	5,536.43	-644.49	2,125.78	1,920,167.255	2,781,899.610	36.276943736	-107.633815234	
8,800.00	89.61	90.240	5,537.10	-644.91	2,225.78	1,920,166.837	2,781,999.606	36.276942019	-107.633475980	
8,900.00	89.61	90.240	5,537.78	-645.33	2,325.78	1,920,166.418	2,782,099.603	36.276940301	-107.633136725	
9,000.00	89.61	90.240	5,538.46	-645.75	2,425.77	1,920,165.999	2,782,199.600	36.276938582	-107.632797471	
9,100.00	89.61	90.240	5,539.14	-646.17	2,525.77	1,920,165.580	2,782,299.596	36.276936862	-107.632458216	
9,200.00	89.61	90.240	5,539.81	-646.59	2,625.77	1,920,165.161	2,782,399.593	36.276935141	-107.632118962	
9,300.00	89.61	90.240	5,540.49	-647.01	2,725.76	1,920,164.742	2,782,499.589	36.276933419	-107.631779708	
9,400.00	89.61	90.240	5,541.17	-647.42	2,825.76	1,920,164.323	2,782,599.586	36.276931696	-107.631440453	



Planning Report - Geographic

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6847+25 @ 6872.00ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6847+25 @ 6872.00ft
Site:	NW Lybrook (138, 139, 140 & 141)	North Reference:	Grid
Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
9,500.00	89.61	90.240	5,541.85	-647.84	2,925.76	1,920,163.904	2,782,699.583	36.276929972	-107.631101199	
9,600.00	89.61	90.240	5,542.52	-648.26	3,025.76	1,920,163.485	2,782,799.579	36.276928247	-107.630761945	
9,700.00	89.61	90.240	5,543.20	-648.68	3,125.75	1,920,163.066	2,782,899.576	36.276926521	-107.630422691	
9,800.00	89.61	90.240	5,543.88	-649.10	3,225.75	1,920,162.648	2,782,999.573	36.276924794	-107.630083436	
9,900.00	89.61	90.240	5,544.56	-649.52	3,325.75	1,920,162.229	2,783,099.569	36.276923066	-107.629744182	
10,000.00	89.61	90.240	5,545.23	-649.94	3,425.74	1,920,161.810	2,783,199.566	36.276921338	-107.629404928	
10,100.00	89.61	90.240	5,545.91	-650.36	3,525.74	1,920,161.391	2,783,299.562	36.276919608	-107.629065674	
10,200.00	89.61	90.240	5,546.59	-650.78	3,625.74	1,920,160.972	2,783,399.559	36.276917877	-107.628726420	
10,300.00	89.61	90.240	5,547.27	-651.19	3,725.73	1,920,160.553	2,783,499.556	36.276916146	-107.628387165	
10,400.00	89.61	90.240	5,547.94	-651.61	3,825.73	1,920,160.134	2,783,599.552	36.276914413	-107.628047911	
10,500.00	89.61	90.240	5,548.62	-652.03	3,925.73	1,920,159.715	2,783,699.549	36.276912679	-107.627708657	
10,600.00	89.61	90.240	5,549.30	-652.45	4,025.72	1,920,159.296	2,783,799.546	36.276910945	-107.627369403	
10,700.00	89.61	90.240	5,549.98	-652.87	4,125.72	1,920,158.877	2,783,899.542	36.276909209	-107.627030149	
10,800.00	89.61	90.240	5,550.66	-653.29	4,225.72	1,920,158.459	2,783,999.539	36.276907473	-107.626690895	
10,900.00	89.61	90.240	5,551.33	-653.71	4,325.71	1,920,158.040	2,784,099.535	36.276905735	-107.626351641	
11,000.00	89.61	90.240	5,552.01	-654.13	4,425.71	1,920,157.621	2,784,199.532	36.276903997	-107.626012387	
11,100.00	89.61	90.240	5,552.69	-654.55	4,525.71	1,920,157.202	2,784,299.529	36.276902258	-107.625673133	
11,200.00	89.61	90.240	5,553.37	-654.96	4,625.70	1,920,156.783	2,784,399.525	36.276900517	-107.625333879	
11,300.00	89.61	90.240	5,554.04	-655.38	4,725.70	1,920,156.364	2,784,499.522	36.276898776	-107.624994625	
11,400.00	89.61	90.240	5,554.72	-655.80	4,825.70	1,920,155.945	2,784,599.519	36.276897034	-107.624655371	
11,500.00	89.61	90.240	5,555.40	-656.22	4,925.69	1,920,155.526	2,784,699.515	36.276895291	-107.624316117	
11,600.00	89.61	90.240	5,556.08	-656.64	5,025.69	1,920,155.107	2,784,799.512	36.276893547	-107.623976863	
11,700.00	89.61	90.240	5,556.75	-657.06	5,125.69	1,920,154.688	2,784,899.508	36.276891801	-107.623637610	
11,800.00	89.61	90.240	5,557.43	-657.48	5,225.69	1,920,154.270	2,784,999.505	36.276890055	-107.623298356	
11,900.00	89.61	90.240	5,558.11	-657.90	5,325.68	1,920,153.851	2,785,099.502	36.276888308	-107.622959102	
12,000.00	89.61	90.240	5,558.79	-658.32	5,425.68	1,920,153.432	2,785,199.498	36.276886560	-107.622619848	
12,100.00	89.61	90.240	5,559.46	-658.73	5,525.68	1,920,153.013	2,785,299.495	36.276884811	-107.622280594	
12,200.00	89.61	90.240	5,560.14	-659.15	5,625.67	1,920,152.594	2,785,399.491	36.276883061	-107.621941340	
12,300.00	89.61	90.240	5,560.82	-659.57	5,725.67	1,920,152.175	2,785,499.488	36.276881311	-107.621602087	
12,400.00	89.61	90.240	5,561.50	-659.99	5,825.67	1,920,151.756	2,785,599.485	36.276879559	-107.621262833	
12,500.00	89.61	90.240	5,562.18	-660.41	5,925.66	1,920,151.337	2,785,699.481	36.276877806	-107.620923579	
12,600.00	89.61	90.240	5,562.85	-660.83	6,025.66	1,920,150.918	2,785,799.478	36.276876052	-107.620584326	
12,700.00	89.61	90.240	5,563.53	-661.25	6,125.66	1,920,150.499	2,785,899.475	36.276874297	-107.620245072	
12,800.00	89.61	90.240	5,564.21	-661.67	6,225.65	1,920,150.081	2,785,999.471	36.276872542	-107.619905818	
12,900.00	89.61	90.240	5,564.89	-662.09	6,325.65	1,920,149.662	2,786,099.468	36.276870785	-107.619566565	
13,000.00	89.61	90.240	5,565.56	-662.50	6,425.65	1,920,149.243	2,786,199.464	36.276869027	-107.619227311	
13,100.00	89.61	90.240	5,566.24	-662.92	6,525.64	1,920,148.824	2,786,299.461	36.276867269	-107.618888057	
13,200.00	89.61	90.240	5,566.92	-663.34	6,625.64	1,920,148.405	2,786,399.458	36.276865509	-107.618548804	
13,300.00	89.61	90.240	5,567.60	-663.76	6,725.64	1,920,147.986	2,786,499.454	36.276863749	-107.618209550	
13,400.00	89.61	90.240	5,568.27	-664.18	6,825.63	1,920,147.567	2,786,599.451	36.276861987	-107.617870297	
13,500.00	89.61	90.240	5,568.95	-664.60	6,925.63	1,920,147.148	2,786,699.448	36.276860225	-107.617531043	
13,600.00	89.61	90.240	5,569.63	-665.02	7,025.63	1,920,146.729	2,786,799.444	36.276858461	-107.617191790	
13,700.00	89.61	90.240	5,570.31	-665.44	7,125.63	1,920,146.310	2,786,899.441	36.276856697	-107.616852536	
13,800.00	89.61	90.240	5,570.98	-665.86	7,225.62	1,920,145.892	2,786,999.437	36.276854932	-107.616513283	
13,900.00	89.61	90.240	5,571.66	-666.27	7,325.62	1,920,145.473	2,787,099.434	36.276853165	-107.616174030	
14,000.00	89.61	90.240	5,572.34	-666.69	7,425.62	1,920,145.054	2,787,199.431	36.276851398	-107.615834776	
14,100.00	89.61	90.240	5,573.02	-667.11	7,525.61	1,920,144.635	2,787,299.427	36.276849630	-107.615495523	
14,200.00	89.61	90.240	5,573.69	-667.53	7,625.61	1,920,144.216	2,787,399.424	36.276847861	-107.615156269	
14,300.00	89.61	90.240	5,574.37	-667.95	7,725.61	1,920,143.797	2,787,499.421	36.276846091	-107.614817016	
14,400.00	89.61	90.240	5,575.05	-668.37	7,825.60	1,920,143.378	2,787,599.417	36.276844320	-107.614477763	
14,500.00	89.61	90.240	5,575.73	-668.79	7,925.60	1,920,142.959	2,787,699.414	36.276842548	-107.614138509	
14,600.00	89.61	90.240	5,576.41	-669.21	8,025.60	1,920,142.540	2,787,799.410	36.276840775	-107.613799256	
14,700.00	89.61	90.240	5,577.08	-669.63	8,125.59	1,920,142.121	2,787,899.407	36.276839001	-107.613460003	
14,800.00	89.61	90.240	5,577.76	-670.04	8,225.59	1,920,141.703	2,787,999.404	36.276837226	-107.613120750	
14,900.00	89.61	90.240	5,578.44	-670.46	8,325.59	1,920,141.284	2,788,099.400	36.276835450	-107.612781497	



Planning Report - Geographic

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6847+25 @ 6872.00ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6847+25 @ 6872.00ft
Site:	NW Lybrook (138, 139, 140 & 141)	North Reference:	Grid
Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,000.00	89.61	90.240	5,579.12	-670.88	8,425.58	1,920,140.865	2,788,199.397	36.276833673	-107.612442244
15,100.00	89.61	90.240	5,579.79	-671.30	8,525.58	1,920,140.446	2,788,299.394	36.276831895	-107.612102991
15,200.00	89.61	90.240	5,580.47	-671.72	8,625.58	1,920,140.027	2,788,399.390	36.276830116	-107.611763738
15,300.00	89.61	90.240	5,581.15	-672.14	8,725.57	1,920,139.608	2,788,499.387	36.276828336	-107.611424485
15,400.00	89.61	90.240	5,581.83	-672.56	8,825.57	1,920,139.189	2,788,599.383	36.276826556	-107.611085232
15,500.00	89.61	90.240	5,582.50	-672.98	8,925.57	1,920,138.770	2,788,699.380	36.276824774	-107.610745979
15,600.00	89.61	90.240	5,583.18	-673.40	9,025.56	1,920,138.351	2,788,799.377	36.276822991	-107.610406725
15,700.00	89.61	90.240	5,583.86	-673.81	9,125.56	1,920,137.932	2,788,899.373	36.276821208	-107.610067472
15,800.00	89.61	90.240	5,584.54	-674.23	9,225.56	1,920,137.514	2,788,999.370	36.276819423	-107.609728219
15,900.00	89.61	90.240	5,585.21	-674.65	9,325.56	1,920,137.095	2,789,099.367	36.276817638	-107.609388966
16,000.00	89.61	90.240	5,585.89	-675.07	9,425.55	1,920,136.676	2,789,199.363	36.276815851	-107.609049713
16,100.00	89.61	90.240	5,586.57	-675.49	9,525.55	1,920,136.257	2,789,299.360	36.276814064	-107.608710460
16,200.00	89.61	90.240	5,587.25	-675.91	9,625.55	1,920,135.838	2,789,399.356	36.276812275	-107.608371207
16,300.00	89.61	90.240	5,587.92	-676.33	9,725.54	1,920,135.419	2,789,499.353	36.276810486	-107.608031954
16,400.00	89.61	90.240	5,588.60	-676.75	9,825.54	1,920,135.000	2,789,599.350	36.276808696	-107.607692702
16,500.00	89.61	90.240	5,589.28	-677.17	9,925.54	1,920,134.581	2,789,699.347	36.276806904	-107.607353449
16,606.25	89.61	90.240	5,590.00	-677.61	10,031.78	1,920,134.136	2,789,805.591	36.276805000	-107.606993000
PBHL/TD 16606.25 MD 5590.00 TVD									

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	
NW Lybrook 140H OVS - plan misses target center by 0.52ft at 6568.69ft MD (5521.98 TVD, -635.56 N, -5.46 E) - Point	0.00	0.000	5,522.00	-636.09	-5.46	1,920,175.660	2,779,768.370	36.276978668	-107.641045812	
NW Lybrook 140H FTP - plan hits target center - Point	0.00	0.000	5,518.82	-633.61	-471.52	1,920,178.135	2,779,302.308	36.276988000	-107.642627000	
NW Lybrook 140H LTP - plan hits target center - Point	0.00	0.000	5,590.00	-677.61	10,031.78	1,920,134.136	2,789,805.591	36.276805000	-107.606993000	

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
350.00	350.00	13 3/8" Csg	13-3/8	17-1/2	
3,709.12	3,542.00	9 5/8" Csg	9-5/8	12-1/4	



Planning Report - Geographic

Database:	DB_Decv0422v16	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Company:	Enduring Resources LLC	TVD Reference:	RKB=6847+25 @ 6872.00ft
Project:	San Juan County, New Mexico NAD83 NM W	MD Reference:	RKB=6847+25 @ 6872.00ft
Site:	NW Lybrook (138, 139, 140 & 141)	North Reference:	Grid
Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,222.43	1,221.92	Ojo Alamo		0.39	90.240	
1,353.83	1,351.81	Kirtland		0.39	90.240	
1,580.38	1,571.49	Fruitland		0.39	90.240	
1,912.16	1,880.78	Pictured Cliffs		0.39	90.240	
2,020.07	1,980.54	Lewis		0.39	90.240	
2,354.59	2,289.79	Chacra_A		0.39	90.240	
3,536.20	3,382.14	Cliff House_Basal		0.39	90.240	
3,541.59	3,387.13	Menefee		0.39	90.240	
4,445.90	4,225.13	Point Lookout		0.39	90.240	
4,678.13	4,449.79	Mancos		0.39	90.240	
5,045.20	4,814.58	MNCS_A		0.39	90.240	
5,130.20	4,899.58	MNCS_B		0.39	90.240	
5,245.75	5,014.64	MNCS_C		0.39	90.240	
5,312.68	5,079.74	MNCS_Cms		0.39	90.240	
5,418.76	5,178.01	MNCS_D		0.39	90.240	
5,522.40	5,265.39	MNCS_E		0.39	90.240	
5,603.23	5,325.76	MNCS_F		0.39	90.240	
5,731.57	5,404.44	MNCS_G		0.39	90.240	
5,816.38	5,446.94	MNCS_H		0.39	90.240	
5,971.14	5,502.92	MNCS_I		0.39	90.240	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,000.00	1,000.00	0.00	0.00	KOP Begin 3°/100' build	
1,747.10	1,728.19	-72.15	-124.93	Begin 22.41° tangent	
4,299.40	4,087.69	-558.86	-967.62	Begin 3°/100' drop	
5,046.50	4,815.88	-631.01	-1,092.55	Begin vertical hold	
5,146.50	4,915.88	-631.01	-1,092.55	Begin 10°/100' build	
5,746.50	5,412.08	-632.21	-806.07	Begin 60.00° tangent	
5,806.50	5,442.08	-632.43	-754.11	Begin 10°/100' build	
6,102.62	5,518.82	-633.61	-471.52	Begin 89.61° lateral	
16,606.25	5,590.00	-677.61	10,031.78	PBHL/TD 16606.25 MD 5590.00 TVD	



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6847+25 @ 6872.00ft
Reference Site:	NW Lybrook (138, 139, 140 & 141)	MD Reference:	RKB=6847+25 @ 6872.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DB_Decv0422v16
Reference Design:	rev0	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:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum centre distance of 1,860.62ft	Error Surface:	Ellipsoid Separation
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	2/21/2023		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	16,606.25	rev0 (Original Hole)	MWD	OWSG MWD - Standard	

Summary						
	Reference Measured	Offset Measured	Distance		Separation	Warning
Site Name	Depth	Depth	Between Centres	Between Ellipses	Factor	
Offset Well - Wellbore - Design	(ft)	(ft)	(ft)	(ft)		
NW Lybrook (138, 139, 140 & 141)						
Lybrook 2408 138H - Original Hole - rev0	632.43	632.54	103.93	99.85	25.434	CC
Lybrook 2408 138H - Original Hole - rev0	700.00	699.75	104.10	99.53	22.773	ES
Lybrook 2408 138H - Original Hole - rev0	1,000.00	990.15	119.97	113.21	17.750	SF
NW Lybrook Unit 139H - Original Hole - rev0	700.00	700.00	84.12	79.55	18.406	CC, ES
NW Lybrook Unit 139H - Original Hole - rev0	1,000.00	990.26	99.15	92.49	14.876	SF
NW Lybrook Unit 141H - Original Hole - rev0	628.24	628.33	19.44	15.41	4.819	CC, ES
NW Lybrook Unit 141H - Original Hole - rev0	16,606.25	16,743.70	1,844.39	1,298.27	3.377	SF
NW Lybrook UT 131H - Original Hole - MWD	564.79	552.81	40.80	37.19	11.300	CC
NW Lybrook UT 131H - Original Hole - MWD	600.00	587.54	41.01	37.15	10.637	ES
NW Lybrook UT 131H - Original Hole - MWD	1,300.00	1,280.27	75.77	67.06	8.700	SF
NW Lybrook UT 289H - Original Hole - Gyro & MWD	547.84	535.85	18.82	15.68	6.001	CC
NW Lybrook UT 289H - Original Hole - Gyro & MWD	600.00	587.83	19.05	15.67	5.630	ES
NW Lybrook UT 289H - Original Hole - Gyro & MWD	12,600.00	11,996.27	1,425.67	1,086.82	4.207	SF

Offset Design: NW Lybrook (138, 139, 140 & 141) - Lybrook 2408 138H - Original Hole - rev0												Offset Site Error: 0.00 ft		
Survey Program: 0-MWD		Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:		Offset Well Error: 0.00 ft				
Reference	Measured	Vertical	Measured	Vertical	Reference	Offset	Highside		Between	Between	Minimum	Separation	Warning	
Measured	Depth	Depth	Depth	Depth	Reference	Offset	Toolface	+N/-S	+E/-W	Centres	Ellipses	Separation	Factor	
Depth	(ft)	(ft)	Depth	Depth	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	-82.68	13.26	-103.19	104.04				
100.00	100.00	100.00	100.00	100.00	0.13	0.13	-82.68	13.26	-103.19	104.04	103.77	0.27	386.962	
200.00	200.00	200.00	200.00	200.00	0.49	0.49	-82.68	13.26	-103.19	104.04	103.05	0.99	105.535	
300.00	300.00	300.00	300.00	300.00	0.85	0.85	-82.68	13.26	-103.19	104.04	102.33	1.70	61.099	
400.00	400.00	400.00	400.00	400.00	1.21	1.21	-82.68	13.26	-103.19	104.04	101.62	2.42	42.996	
500.00	500.00	500.00	500.00	500.00	1.57	1.57	-82.68	13.26	-103.19	104.04	100.90	3.14	33.168	
600.00	600.00	600.15	600.10	600.10	1.93	1.93	-81.23	15.85	-102.74	103.95	100.10	3.85	26.977	
632.43	632.43	632.54	632.43	632.43	2.04	2.05	-80.14	17.79	-102.40	103.93	99.85	4.09	25.434	CC
700.00	700.00	699.75	699.39	699.39	2.29	2.29	-76.93	23.55	-101.40	104.10	99.53	4.57	22.773	ES
800.00	800.00	798.27	797.06	797.06	2.64	2.66	-69.97	36.17	-99.21	105.63	100.34	5.30	19.943	
900.00	900.00	895.23	892.41	892.41	3.00	3.04	-60.96	53.41	-96.21	110.30	104.27	6.03	18.290	
1,000.00	1,000.00	990.15	984.79	984.79	3.36	3.45	-51.00	74.89	-92.48	119.97	113.21	6.76	17.750	SF
1,100.00	1,099.95	1,082.15	1,073.17	1,073.17	3.71	3.88	79.15	100.00	-88.12	135.47	128.03	7.43	18.223	
1,200.00	1,199.63	1,169.96	1,156.30	1,156.30	4.05	4.34	89.16	127.85	-83.28	158.42	150.39	8.03	19.730	
1,300.00	1,298.77	1,253.53	1,234.14	1,234.14	4.40	4.81	97.87	157.81	-78.07	190.43	181.85	8.57	22.213	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6847+25 @ 6872.00ft
Reference Site:	NW Lybrook (138, 139, 140 & 141)	MD Reference:	RKB=6847+25 @ 6872.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DB_Decv0422v16
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: NW Lybrook (138, 139, 140 & 141) - Lybrook 2408 138H - Original Hole - rev0												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
1,400.00	1,397.08	1,340.02	1,314.13	4.77	5.34	105.38	190.22	-72.44	229.69	220.49	9.20	24.978	
1,500.00	1,494.31	1,424.25	1,392.04	5.18	5.86	111.21	221.77	-66.96	274.32	264.48	9.84	27.871	
1,600.00	1,590.18	1,506.00	1,467.65	5.63	6.38	115.76	252.40	-61.63	323.85	313.34	10.51	30.806	
1,700.00	1,684.43	1,585.04	1,540.75	6.13	6.89	119.31	282.01	-56.49	377.93	366.72	11.20	33.732	
1,800.00	1,777.10	1,661.58	1,611.54	6.69	7.40	122.98	310.68	-51.51	435.96	424.05	11.91	36.597	
1,900.00	1,869.54	1,737.79	1,682.02	7.30	7.90	126.59	339.23	-46.54	495.83	483.21	12.63	39.269	
2,000.00	1,961.99	1,814.00	1,752.51	7.92	8.41	129.47	367.78	-41.58	556.80	543.45	13.35	41.703	
2,100.00	2,054.43	1,890.21	1,822.99	8.57	8.92	131.82	396.34	-36.62	618.53	604.45	14.08	43.915	
2,200.00	2,146.88	1,966.41	1,893.47	9.24	9.43	133.76	424.89	-31.66	680.83	666.00	14.83	45.924	
2,300.00	2,239.33	2,042.62	1,963.96	9.92	9.95	135.39	453.44	-26.70	743.54	727.97	15.57	47.753	
2,400.00	2,331.77	2,118.83	2,034.44	10.61	10.47	136.77	481.99	-21.74	806.58	790.26	16.32	49.420	
2,500.00	2,424.22	2,195.04	2,104.93	11.31	10.99	137.96	510.54	-16.78	869.87	852.79	17.08	50.943	
2,600.00	2,516.66	2,271.25	2,175.41	12.01	11.51	138.99	539.09	-11.82	933.35	915.52	17.83	52.337	
2,700.00	2,609.11	2,347.46	2,245.89	12.73	12.03	139.90	567.64	-6.86	997.00	978.41	18.59	53.618	
2,800.00	2,701.56	2,423.67	2,316.38	13.44	12.55	140.69	596.19	-1.90	1,060.78	1,041.43	19.36	54.797	
2,900.00	2,794.00	2,499.87	2,386.86	14.16	13.08	141.40	624.74	3.07	1,124.68	1,104.55	20.12	55.885	
3,000.00	2,886.45	2,576.08	2,457.35	14.89	13.60	142.04	653.29	8.03	1,188.66	1,167.77	20.89	56.891	
3,100.00	2,978.89	2,652.29	2,527.83	15.62	14.13	142.61	681.84	12.99	1,252.73	1,231.06	21.66	57.824	
3,200.00	3,071.34	2,728.50	2,598.32	16.35	14.66	143.12	710.39	17.95	1,316.86	1,294.42	22.44	58.691	
3,300.00	3,163.79	2,804.71	2,668.80	17.08	15.18	143.59	738.94	22.91	1,381.04	1,357.83	23.21	59.498	
3,400.00	3,256.23	2,880.92	2,739.28	17.81	15.71	144.01	767.49	27.87	1,445.28	1,421.29	23.99	60.250	
3,500.00	3,348.68	2,957.13	2,809.77	18.55	16.24	144.41	796.04	32.83	1,509.56	1,484.80	24.77	60.954	
3,600.00	3,441.12	3,033.33	2,880.25	19.29	16.77	144.76	824.59	37.79	1,573.88	1,548.34	25.54	61.613	
3,700.00	3,533.57	3,109.54	2,950.74	20.03	17.30	145.10	853.14	42.75	1,638.24	1,611.91	26.32	62.232	
3,800.00	3,626.02	3,185.75	3,021.22	20.77	17.83	145.40	881.69	47.72	1,702.62	1,675.51	27.11	62.813	
3,900.00	3,718.46	3,261.96	3,091.70	21.51	18.36	145.69	910.24	52.68	1,767.03	1,739.14	27.89	63.360	
4,000.00	3,810.91	3,338.17	3,162.19	22.26	18.89	145.95	938.79	57.64	1,831.46	1,802.79	28.67	63.875	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6847+25 @ 6872.00ft
Reference Site:	NW Lybrook (138, 139, 140 & 141)	MD Reference:	RKB=6847+25 @ 6872.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DB_Decv0422v16
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: NW Lybrook (138, 139, 140 & 141) - NW Lybrook Unit 139H - Original Hole - rev0												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-82.65	10.76	-83.43	84.12				
100.00	100.00	100.00	100.00	0.13	0.13	-82.65	10.76	-83.43	84.12	83.86	0.27	312.901	
200.00	200.00	200.00	200.00	0.49	0.49	-82.65	10.76	-83.43	84.12	83.14	0.99	85.337	
300.00	300.00	300.00	300.00	0.85	0.85	-82.65	10.76	-83.43	84.12	82.42	1.70	49.405	
400.00	400.00	400.00	400.00	1.21	1.21	-82.65	10.76	-83.43	84.12	81.70	2.42	34.767	
500.00	500.00	500.00	500.00	1.57	1.57	-82.65	10.76	-83.43	84.12	80.99	3.14	26.820	
600.00	600.00	600.00	600.00	1.93	1.93	-82.65	10.76	-83.43	84.12	80.27	3.85	21.830	
700.00	700.00	700.00	700.00	2.29	2.29	-82.65	10.76	-83.43	84.12	79.55	4.57	18.406 CC, ES	
800.00	800.00	797.42	797.38	2.64	2.63	-81.30	12.95	-84.61	85.63	80.36	5.28	16.231	
900.00	900.00	894.34	894.00	3.00	2.99	-77.54	19.46	-88.10	90.42	84.45	5.98	15.132	
1,000.00	1,000.00	990.26	989.14	3.36	3.34	-72.18	30.16	-93.83	99.15	92.49	6.67	14.876 SF	
1,100.00	1,099.95	1,084.67	1,082.07	3.71	3.70	54.53	44.79	-101.66	111.02	103.69	7.32	15.165	
1,200.00	1,199.63	1,176.92	1,171.98	4.05	4.09	62.62	62.97	-111.40	126.06	118.13	7.93	15.890	
1,300.00	1,298.77	1,266.39	1,258.13	4.40	4.49	70.89	84.25	-122.80	146.16	137.64	8.52	17.152	
1,400.00	1,397.08	1,352.58	1,339.96	4.77	4.93	78.44	108.08	-135.57	172.56	163.48	9.09	18.992	
1,500.00	1,494.31	1,435.08	1,417.06	5.18	5.37	84.78	133.92	-149.41	205.76	196.08	9.68	21.260	
1,600.00	1,590.18	1,520.80	1,496.19	5.63	5.88	90.39	162.99	-164.98	244.72	234.31	10.41	23.508	
1,700.00	1,684.43	1,607.34	1,576.02	6.13	6.42	95.18	192.44	-180.75	286.81	275.56	11.25	25.497	
1,800.00	1,777.10	1,692.35	1,654.44	6.69	6.96	99.88	221.38	-196.25	331.86	319.71	12.15	27.317	
1,900.00	1,869.54	1,777.16	1,732.67	7.30	7.52	104.15	250.24	-211.71	379.00	365.92	13.08	28.974	
2,000.00	1,961.99	1,861.97	1,810.90	7.92	8.09	107.51	279.10	-227.17	427.51	413.48	14.03	30.463	
2,100.00	2,054.43	1,946.77	1,889.13	8.57	8.66	110.22	307.96	-242.63	476.97	461.97	15.00	31.795	
2,200.00	2,146.88	2,031.58	1,967.37	9.24	9.24	112.43	336.83	-258.09	527.13	511.14	15.98	32.985	
2,300.00	2,239.33	2,116.39	2,045.60	9.92	9.83	114.27	365.69	-273.55	577.78	560.81	16.97	34.047	
2,400.00	2,331.77	2,201.20	2,123.83	10.61	10.42	115.82	394.55	-289.01	628.82	610.86	17.97	34.999	
2,500.00	2,424.22	2,286.00	2,202.06	11.31	11.02	117.15	423.41	-304.47	680.16	661.19	18.97	35.853	
2,600.00	2,516.66	2,370.81	2,280.29	12.01	11.62	118.29	452.28	-319.93	731.74	711.76	19.98	36.622	
2,700.00	2,609.11	2,455.62	2,358.53	12.73	12.22	119.28	481.14	-335.39	783.50	762.50	21.00	37.318	
2,800.00	2,701.56	2,540.43	2,436.76	13.44	12.82	120.15	510.00	-350.85	835.42	813.40	22.01	37.949	
2,900.00	2,794.00	2,625.23	2,514.99	14.16	13.43	120.92	538.86	-366.31	887.46	864.42	23.04	38.524	
3,000.00	2,886.45	2,710.04	2,593.22	14.89	14.03	121.61	567.73	-381.76	939.61	915.55	24.06	39.049	
3,100.00	2,978.89	2,794.85	2,671.45	15.62	14.64	122.22	596.59	-397.22	991.85	966.75	25.09	39.530	
3,200.00	3,071.34	2,879.65	2,749.69	16.35	15.25	122.78	625.45	-412.68	1,044.16	1,018.04	26.12	39.971	
3,300.00	3,163.79	2,964.46	2,827.92	17.08	15.86	123.28	654.31	-428.14	1,096.54	1,069.38	27.16	40.378	
3,400.00	3,256.23	3,049.27	2,906.15	17.81	16.48	123.74	683.18	-443.60	1,148.97	1,120.78	28.19	40.754	
3,500.00	3,348.68	3,134.08	2,984.38	18.55	17.09	124.15	712.04	-459.06	1,201.45	1,172.22	29.23	41.103	
3,600.00	3,441.12	3,218.88	3,062.61	19.29	17.70	124.54	740.90	-474.52	1,253.98	1,223.71	30.27	41.426	
3,700.00	3,533.57	3,303.69	3,140.85	20.03	18.32	124.89	769.76	-489.98	1,306.54	1,275.23	31.31	41.727	
3,800.00	3,626.02	3,388.50	3,219.08	20.77	18.93	125.21	798.62	-505.44	1,359.14	1,326.78	32.35	42.008	
3,900.00	3,718.46	3,473.31	3,297.31	21.51	19.55	125.51	827.49	-520.90	1,411.76	1,378.36	33.40	42.271	
4,000.00	3,810.91	3,558.11	3,375.54	22.26	20.17	125.79	856.35	-536.36	1,464.41	1,429.97	34.44	42.516	
4,100.00	3,903.35	3,642.92	3,453.77	23.00	20.78	126.05	885.21	-551.82	1,517.09	1,481.60	35.49	42.747	
4,200.00	3,995.80	3,727.73	3,532.01	23.75	21.40	126.29	914.07	-567.28	1,569.78	1,533.25	36.54	42.964	
4,300.00	4,088.25	3,812.54	3,610.24	24.49	22.02	126.53	942.94	-582.74	1,622.50	1,584.91	37.59	43.168	
4,400.00	4,181.66	3,898.26	3,689.32	25.20	22.65	128.08	972.11	-598.37	1,673.86	1,635.24	38.62	43.344	
4,500.00	4,276.81	3,985.66	3,769.94	25.84	23.28	129.35	1,001.86	-614.30	1,722.43	1,682.81	39.62	43.478	
4,600.00	4,373.44	4,074.48	3,851.87	26.40	23.93	130.35	1,032.08	-630.49	1,768.08	1,727.50	40.58	43.571	
4,700.00	4,471.28	4,164.48	3,934.90	26.88	24.59	131.10	1,062.71	-646.90	1,810.72	1,769.21	41.51	43.626	
4,800.00	4,570.07	4,255.42	4,018.78	27.30	25.25	131.64	1,093.66	-663.47	1,850.29	1,807.90	42.39	43.649	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6847+25 @ 6872.00ft
Reference Site:	NW Lybrook (138, 139, 140 & 141)	MD Reference:	RKB=6847+25 @ 6872.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DB_Decv0422v16
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: NW Lybrook (138, 139, 140 & 141) - NW Lybrook Unit 141H - Original Hole - rev0												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	97.24	-2.51	19.75	19.91				
100.00	100.00	100.00	100.00	0.13	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	0.85	0.85	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	
600.00	600.00	600.13	600.09	1.93	1.91	104.78	-4.98	18.87	19.51	15.68	3.84	5.085	
628.24	628.24	628.33	628.24	2.03	2.01	109.74	-6.57	18.30	19.44	15.41	4.03	4.819 CC, ES	
700.00	700.00	699.72	699.36	2.29	2.25	127.22	-12.33	16.23	20.39	15.86	4.53	4.500	
800.00	800.00	798.23	797.02	2.64	2.60	153.98	-24.38	11.90	27.29	22.07	5.23	5.223	
900.00	900.00	895.17	892.35	3.00	2.98	171.65	-40.85	5.99	41.99	36.10	5.90	7.123	
1,000.00	1,000.00	990.08	984.72	3.36	3.39	-178.72	-61.37	-1.37	63.26	56.72	6.54	9.670	
1,100.00	1,099.95	1,083.12	1,074.10	3.71	3.84	-53.99	-85.65	-10.08	88.56	81.40	7.16	12.373	
1,200.00	1,199.63	1,174.63	1,160.69	4.05	4.33	-52.62	-113.50	-20.08	115.58	107.83	7.76	14.900	
1,300.00	1,298.77	1,264.55	1,244.29	4.40	4.87	-52.71	-144.63	-31.25	144.02	135.67	8.35	17.240	
1,400.00	1,397.08	1,352.80	1,324.74	4.77	5.45	-53.48	-178.76	-43.50	173.83	164.84	8.98	19.355	
1,500.00	1,494.31	1,439.36	1,401.94	5.18	6.07	-54.57	-215.59	-56.71	205.03	195.39	9.64	21.268	
1,600.00	1,590.18	1,524.19	1,475.80	5.63	6.74	-55.79	-254.85	-70.80	237.68	227.33	10.35	22.961	
1,700.00	1,684.43	1,609.87	1,548.51	6.13	7.45	-57.10	-297.49	-86.10	271.69	260.51	11.18	24.301	
1,800.00	1,777.10	1,703.37	1,627.26	6.69	8.27	-59.23	-344.95	-103.13	304.97	292.71	12.27	24.863	
1,900.00	1,869.54	1,796.92	1,706.04	7.30	9.11	-61.37	-392.43	-120.17	338.43	325.00	13.42	25.209	
2,000.00	1,961.99	1,890.47	1,784.82	7.92	9.96	-63.13	-439.91	-137.21	372.23	357.60	14.63	25.446	
2,100.00	2,054.43	1,984.01	1,863.60	8.57	10.82	-64.59	-487.39	-154.25	406.30	390.43	15.87	25.608	
2,200.00	2,146.88	2,077.56	1,942.38	9.24	11.68	-65.84	-534.86	-171.29	440.57	423.44	17.13	25.716	
2,300.00	2,239.33	2,171.10	2,021.17	9.92	12.55	-66.90	-582.34	-188.32	474.99	456.57	18.42	25.788	
2,400.00	2,331.77	2,264.65	2,099.95	10.61	13.42	-67.82	-629.82	-205.36	509.54	489.82	19.72	25.833	
2,500.00	2,424.22	2,358.20	2,178.73	11.31	14.30	-68.62	-677.30	-222.40	544.20	523.15	21.04	25.860	
2,600.00	2,516.66	2,451.74	2,257.51	12.01	15.18	-69.33	-724.78	-239.44	578.93	556.56	22.38	25.873	
2,700.00	2,609.11	2,545.29	2,336.29	12.73	16.07	-69.96	-772.25	-256.48	613.74	590.02	23.72	25.876	
2,800.00	2,701.56	2,638.83	2,415.07	13.44	16.95	-70.52	-819.73	-273.51	648.60	623.53	25.07	25.873	
2,900.00	2,794.00	2,732.38	2,493.85	14.16	17.84	-71.02	-867.21	-290.55	683.52	657.09	26.43	25.865	
3,000.00	2,886.45	2,825.93	2,572.63	14.89	18.73	-71.48	-914.69	-307.59	718.47	690.68	27.79	25.853	
3,100.00	2,978.89	2,919.47	2,651.41	15.62	19.62	-71.89	-962.17	-324.63	753.46	724.30	29.16	25.839	
3,200.00	3,071.34	3,013.02	2,730.19	16.35	20.51	-72.27	-1,009.65	-341.66	788.49	757.95	30.53	25.824	
3,300.00	3,163.79	3,106.56	2,808.97	17.08	21.40	-72.61	-1,057.12	-358.70	823.54	791.62	31.91	25.807	
3,400.00	3,256.23	3,200.11	2,887.75	17.81	22.30	-72.93	-1,104.60	-375.74	858.61	825.32	33.29	25.790	
3,500.00	3,348.68	3,293.66	2,966.53	18.55	23.19	-73.22	-1,152.08	-392.78	893.71	859.03	34.68	25.773	
3,600.00	3,441.12	3,387.20	3,045.31	19.29	24.09	-73.49	-1,199.56	-409.82	928.82	892.76	36.06	25.755	
3,700.00	3,533.57	3,480.75	3,124.10	20.03	24.98	-73.74	-1,247.04	-426.85	963.95	926.50	37.45	25.738	
3,800.00	3,626.02	3,574.29	3,202.88	20.77	25.88	-73.97	-1,294.51	-443.89	999.10	960.25	38.84	25.720	
3,900.00	3,718.46	3,667.84	3,281.66	21.51	26.78	-74.19	-1,341.99	-460.93	1,034.26	994.02	40.24	25.703	
4,000.00	3,810.91	3,761.39	3,360.44	22.26	27.67	-74.39	-1,389.47	-477.97	1,069.43	1,027.79	41.63	25.686	
4,100.00	3,903.35	3,854.93	3,439.22	23.00	28.57	-74.58	-1,436.95	-495.01	1,104.61	1,061.58	43.03	25.670	
4,200.00	3,995.80	3,948.48	3,518.00	23.75	29.47	-74.76	-1,484.43	-512.04	1,139.80	1,095.37	44.43	25.654	
4,300.00	4,088.25	4,042.02	3,596.78	24.49	30.37	-74.93	-1,531.91	-529.08	1,175.00	1,129.17	45.83	25.639	
4,400.00	4,181.66	4,135.37	3,675.39	25.20	31.27	-76.08	-1,579.28	-546.08	1,210.84	1,163.68	47.16	25.675	
4,500.00	4,276.81	4,228.15	3,753.52	25.84	32.16	-77.01	-1,626.37	-562.98	1,247.85	1,199.50	48.35	25.809	
4,600.00	4,373.44	4,320.10	3,830.96	26.40	33.04	-77.77	-1,673.04	-579.73	1,286.00	1,236.61	49.39	26.035	
4,700.00	4,471.28	4,410.98	3,907.50	26.88	33.92	-78.36	-1,719.16	-596.28	1,325.28	1,274.98	50.30	26.349	
4,800.00	4,570.07	4,500.54	3,982.92	27.30	34.78	-78.82	-1,764.62	-612.59	1,365.73	1,314.68	51.06	26.750	
4,900.00	4,669.53	4,588.52	4,057.02	27.65	35.62	-79.17	-1,809.27	-628.62	1,407.42	1,355.75	51.68	27.236	
5,000.00	4,769.39	4,674.70	4,129.60	27.93	36.45	-79.44	-1,853.01	-644.31	1,450.45	1,398.29	52.16	27.808	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6847+25 @ 6872.00ft
Reference Site:	NW Lybrook (138, 139, 140 & 141)	MD Reference:	RKB=6847+25 @ 6872.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DB_Decv0422v16
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: NW Lybrook (138, 139, 140 & 141) - NW Lybrook Unit 141H - Original Hole - rev0												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
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	
5,100.00	4,869.38	4,759.15	4,200.71	28.14	37.27	161.11	-1,895.87	-659.69	1,494.78	1,442.25	52.53	28.458	
5,200.00	4,969.30	4,842.85	4,271.20	28.33	38.07	69.67	-1,938.35	-674.94	1,539.09	1,486.26	52.83	29.134	
5,300.00	5,067.55	4,922.36	4,338.16	28.41	38.84	67.14	-1,978.71	-689.42	1,579.41	1,526.58	52.82	29.899	
5,400.00	5,161.19	4,994.97	4,399.31	28.41	39.54	65.37	-2,015.56	-702.64	1,615.19	1,562.67	52.52	30.752	
5,500.00	5,247.38	5,058.46	4,452.78	28.38	40.15	64.11	-2,047.79	-714.21	1,646.74	1,594.75	51.99	31.675	
5,600.00	5,323.49	5,110.92	4,496.96	28.34	40.65	63.09	-2,074.41	-723.76	1,674.48	1,623.18	51.30	32.638	
5,700.00	5,387.22	5,150.75	4,530.51	28.34	41.04	62.13	-2,094.63	-731.02	1,698.87	1,648.31	50.57	33.596	
5,800.00	5,438.83	5,178.80	4,554.13	28.43	41.31	62.12	-2,108.86	-736.13	1,721.39	1,671.48	49.91	34.487	
5,900.00	5,482.03	5,198.97	4,571.12	28.64	41.50	60.83	-2,119.10	-739.80	1,744.65	1,695.21	49.44	35.287	
6,000.00	5,508.97	5,204.35	4,575.65	28.99	41.55	59.21	-2,121.83	-740.78	1,764.97	1,715.81	49.16	35.901	
6,100.00	5,518.80	5,194.74	4,567.55	29.49	41.46	57.43	-2,116.95	-739.03	1,781.96	1,732.87	49.09	36.298	
6,200.00	5,519.48	5,177.32	4,552.88	30.16	41.29	56.84	-2,108.11	-735.86	1,799.48	1,750.20	49.28	36.517	
6,300.00	5,520.16	5,159.89	4,538.20	31.04	41.13	56.28	-2,099.26	-732.68	1,822.15	1,772.41	49.74	36.632	
6,400.00	5,520.84	5,142.99	4,524.99	32.12	40.97	55.89	-2,090.40	-729.49	1,844.90	1,794.62	50.30	36.747	
6,422.18	5,520.99	5,142.99	4,524.99	32.12	40.97	55.89	-2,090.40	-729.49	1,844.90	1,794.62	50.30	36.747	
6,500.00	5,521.52	5,137.46	4,518.30	33.39	40.63	55.89	-2,077.82	-723.76	1,862.90	1,812.11	51.30	37.063	
6,600.00	5,522.20	5,132.46	4,513.06	34.82	40.21	55.89	-2,062.26	-718.10	1,882.92	1,832.56	52.30	37.379	
6,700.00	5,522.87	5,127.46	4,507.82	36.39	39.72	55.89	-2,047.69	-712.44	1,903.93	1,853.57	53.30	37.695	
6,800.00	5,523.55	5,122.46	4,502.58	38.08	39.17	55.89	-2,033.21	-706.78	1,925.94	1,874.58	54.30	38.011	
6,900.00	5,524.23	5,117.46	4,497.34	39.87	38.56	55.89	-2,018.73	-701.12	1,947.95	1,895.59	55.30	38.327	
7,000.00	5,524.91	5,112.46	4,492.10	41.75	37.91	55.89	-2,004.25	-695.46	1,969.96	1,916.60	56.30	38.643	
7,100.00	5,525.58	5,107.46	4,486.86	43.70	37.22	55.89	-1,989.77	-689.80	1,991.97	1,937.61	57.30	38.959	
7,200.00	5,526.26	5,102.46	4,481.62	45.72	36.49	55.89	-1,975.29	-684.14	2,013.98	1,958.62	58.30	39.275	
7,300.00	5,526.94	5,097.46	4,476.38	47.79	35.74	55.89	-1,960.81	-678.48	2,035.99	1,979.63	59.30	39.591	
7,400.00	5,527.62	5,092.46	4,471.14	49.90	34.95	55.89	-1,946.33	-672.82	2,057.99	1,999.64	60.30	39.907	
7,500.00	5,528.29	5,087.46	4,465.90	52.06	34.12	55.89	-1,931.85	-667.16	2,079.99	2,019.65	61.30	40.223	
7,600.00	5,528.97	5,082.46	4,460.66	54.25	33.27	55.89	-1,917.37	-661.50	2,101.99	2,039.66	62.30	40.539	
7,700.00	5,529.65	5,077.46	4,455.42	56.47	32.40	55.89	-1,902.89	-655.84	2,123.99	2,059.67	63.30	40.855	
7,800.00	5,530.33	5,072.46	4,450.18	58.72	31.51	55.89	-1,888.41	-650.18	2,145.99	2,079.68	64.30	41.171	
7,900.00	5,531.00	5,067.46	4,444.94	60.99	30.60	55.89	-1,873.93	-644.52	2,167.99	2,099.69	65.30	41.487	
8,000.00	5,531.68	5,062.46	4,439.70	63.28	29.67	55.89	-1,859.45	-638.86	2,189.99	2,119.70	66.30	41.803	
8,100.00	5,532.36	5,057.46	4,434.46	65.59	28.72	55.89	-1,844.97	-633.20	2,211.99	2,139.71	67.30	42.119	
8,200.00	5,533.04	5,052.46	4,429.22	67.92	27.75	55.89	-1,830.49	-627.54	2,233.99	2,159.72	68.30	42.435	
8,300.00	5,533.71	5,047.46	4,423.98	70.27	26.77	55.89	-1,815.99	-621.88	2,255.99	2,179.73	69.30	42.751	
8,400.00	5,534.39	5,042.46	4,418.74	72.62	25.78	55.89	-1,801.51	-616.22	2,277.99	2,199.74	70.30	43.067	
8,500.00	5,535.07	5,037.46	4,413.50	74.99	24.78	55.89	-1,787.03	-610.56	2,299.99	2,219.75	71.30	43.383	
8,600.00	5,535.75	5,032.46	4,408.26	77.37	23.77	55.89	-1,772.55	-604.90	2,321.99	2,239.76	72.30	43.699	
8,700.00	5,536.43	5,027.46	4,403.02	79.76	22.75	55.89	-1,758.07	-599.24	2,343.99	2,259.77	73.30	44.015	
8,800.00	5,537.10	5,022.46	4,397.78	82.17	21.72	55.89	-1,743.59	-593.58	2,365.99	2,279.78	74.30	44.331	
8,900.00	5,537.78	5,017.46	4,392.54	84.57	20.68	55.89	-1,729.11	-587.92	2,387.99	2,299.79	75.30	44.647	
9,000.00	5,538.46	5,012.46	4,387.30	86.99	19.63	55.89	-1,714.63	-582.26	2,409.99	2,319.80	76.30	44.963	
9,100.00	5,539.14	5,007.46	4,382.06	89.41	18.57	55.89	-1,700.15	-576.60	2,431.99	2,339.81	77.30	45.279	
9,200.00	5,539.81	5,002.46	4,376.82	91.84	17.50	55.89	-1,685.67	-570.94	2,453.99	2,359.82	78.30	45.595	
9,300.00	5,540.49	5,000.00	4,375.00	94.28	16.41	55.89	-1,671.19	-565.28	2,475.99	2,379.83	79.30	45.911	
9,400.00	5,541.17	5,000.00	4,375.00	96.72	15.31	55.89	-1,656.71	-559.62	2,497.99	2,399.84	80.30	46.227	
9,500.00	5,541.85	5,000.00	4,375.00	99.17	14.20	55.89	-1,642.23	-553.96	2,519.99	2,419.85	81.30	46.543	
9,600.00	5,542.52	5,000.00	4,375.00	101.62	13.09	55.89	-1,627.75	-548.30	2,541.99	2,439.86	82.30	46.859	
9,700.00	5,543.20	5,000.00	4,375.00	104.07	11.97	55.89	-1,613.27	-542.64	2,563.99	2,459.87	83.30	47.175	
9,800.00	5,543.88	5,000.00	4,375.00	106.53	10.84	55.89	-1,598.79	-536.98	2,585.99	2,479.88	84.30	47.491	
9,900.00	5,544.56	5,000.00	4,375.00	109.00	9.70	55.89	-1,584.31	-531.32	2,607.99	2,499.89	85.30	47.807	
10,000.00	5,545.23	5,000.00	4,375.00	111.46	8.55	55.89	-1,569.83	-525.66	2,629.99	2,519.90	86.30	48.123	
10,100.00	5,545.91	5,000.00	4,375.00	113.94	7.40	55.89	-1,555.35	-520.00	2,651.99	2,539.91	87.30	48.439	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6847+25 @ 6872.00ft
Reference Site:	NW Lybrook (138, 139, 140 & 141)	MD Reference:	RKB=6847+25 @ 6872.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DB_Decv0422v16
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: NW Lybrook (138, 139, 140 & 141) - NW Lybrook Unit 141H - Original Hole - rev0												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
10,200.00	5,546.59	10,337.46	5,514.59	116.41	109.02	89.01	-2,493.92	3,617.96	1,843.44	1,619.16	224.28	8.219	
10,300.00	5,547.27	10,437.46	5,515.36	118.89	111.46	89.01	-2,494.36	3,717.96	1,843.46	1,614.24	229.22	8.042	
10,400.00	5,547.94	10,537.46	5,516.12	121.37	113.91	89.01	-2,494.79	3,817.95	1,843.47	1,609.31	234.16	7.873	
10,500.00	5,548.62	10,637.46	5,516.89	123.85	116.37	89.01	-2,495.23	3,917.95	1,843.48	1,604.37	239.11	7.710	
10,600.00	5,549.30	10,737.46	5,517.65	126.33	118.82	89.02	-2,495.66	4,017.95	1,843.50	1,599.43	244.07	7.553	
10,700.00	5,549.98	10,837.46	5,518.41	128.82	121.29	89.02	-2,496.10	4,117.94	1,843.51	1,594.48	249.03	7.403	
10,800.00	5,550.66	10,937.46	5,519.18	131.31	123.75	89.02	-2,496.53	4,217.94	1,843.53	1,589.53	254.00	7.258	
10,900.00	5,551.33	11,037.46	5,519.94	133.80	126.22	89.02	-2,496.97	4,317.93	1,843.54	1,584.58	258.97	7.119	
11,000.00	5,552.01	11,137.46	5,520.71	136.29	128.69	89.03	-2,497.40	4,417.93	1,843.56	1,579.62	263.94	6.985	
11,100.00	5,552.69	11,237.46	5,521.47	138.78	131.16	89.03	-2,497.84	4,517.93	1,843.57	1,574.65	268.92	6.855	
11,200.00	5,553.37	11,337.46	5,522.24	141.28	133.64	89.03	-2,498.27	4,617.92	1,843.59	1,569.68	273.90	6.731	
11,300.00	5,554.04	11,437.46	5,523.00	143.78	136.11	89.04	-2,498.71	4,717.92	1,843.60	1,564.71	278.89	6.610	
11,400.00	5,554.72	11,537.46	5,523.77	146.28	138.59	89.04	-2,499.14	4,817.91	1,843.62	1,559.73	283.88	6.494	
11,500.00	5,555.40	11,637.46	5,524.53	148.78	141.08	89.04	-2,499.58	4,917.91	1,843.63	1,554.76	288.88	6.382	
11,600.00	5,556.08	11,737.46	5,525.30	151.28	143.56	89.04	-2,500.01	5,017.91	1,843.65	1,549.77	293.87	6.274	
11,700.00	5,556.75	11,837.46	5,526.06	153.79	146.05	89.05	-2,500.45	5,117.90	1,843.66	1,544.79	298.87	6.169	
11,800.00	5,557.43	11,937.46	5,526.83	156.29	148.53	89.05	-2,500.88	5,217.90	1,843.68	1,539.80	303.88	6.067	
11,900.00	5,558.11	12,037.46	5,527.59	158.80	151.02	89.05	-2,501.32	5,317.90	1,843.69	1,534.81	308.88	5.969	
12,000.00	5,558.79	12,137.46	5,528.36	161.30	153.51	89.05	-2,501.75	5,417.89	1,843.71	1,529.82	313.89	5.874	
12,100.00	5,559.46	12,237.46	5,529.12	163.81	156.01	89.06	-2,502.19	5,517.89	1,843.72	1,524.82	318.90	5.782	
12,200.00	5,560.14	12,337.46	5,529.89	166.32	158.50	89.06	-2,502.62	5,617.88	1,843.73	1,519.82	323.91	5.692	
12,300.00	5,560.82	12,437.46	5,530.65	168.83	161.00	89.06	-2,503.06	5,717.88	1,843.75	1,514.82	328.93	5.605	
12,400.00	5,561.50	12,537.46	5,531.42	171.34	163.49	89.07	-2,503.49	5,817.88	1,843.76	1,509.82	333.95	5.521	
12,500.00	5,562.18	12,637.46	5,532.18	173.86	165.99	89.07	-2,503.93	5,917.87	1,843.78	1,504.81	338.96	5.439	
12,600.00	5,562.85	12,737.46	5,532.94	176.37	168.49	89.07	-2,504.36	6,017.87	1,843.79	1,499.81	343.99	5.360	
12,700.00	5,563.53	12,837.46	5,533.71	178.88	170.99	89.07	-2,504.80	6,117.86	1,843.81	1,494.80	349.01	5.283	
12,800.00	5,564.21	12,937.46	5,534.47	181.40	173.50	89.08	-2,505.23	6,217.86	1,843.82	1,489.79	354.03	5.208	
12,900.00	5,564.89	13,037.46	5,535.24	183.91	176.00	89.08	-2,505.67	6,317.86	1,843.84	1,484.78	359.06	5.135	
13,000.00	5,565.56	13,137.46	5,536.00	186.43	178.50	89.08	-2,506.10	6,417.85	1,843.85	1,479.76	364.09	5.064	
13,100.00	5,566.24	13,237.46	5,536.77	188.95	181.01	89.08	-2,506.54	6,517.85	1,843.87	1,474.75	369.12	4.995	
13,200.00	5,566.92	13,337.46	5,537.53	191.47	183.52	89.09	-2,506.97	6,617.84	1,843.88	1,469.73	374.15	4.928	
13,300.00	5,567.60	13,437.46	5,538.30	193.98	186.02	89.09	-2,507.41	6,717.84	1,843.90	1,464.72	379.18	4.863	
13,400.00	5,568.27	13,537.46	5,539.06	196.50	188.53	89.09	-2,507.84	6,817.84	1,843.91	1,459.70	384.22	4.799	
13,500.00	5,568.95	13,637.46	5,539.83	199.02	191.04	89.10	-2,508.28	6,917.83	1,843.93	1,454.67	389.25	4.737	
13,600.00	5,569.63	13,737.46	5,540.59	201.54	193.55	89.10	-2,508.71	7,017.83	1,843.94	1,449.65	394.29	4.677	
13,700.00	5,570.31	13,837.46	5,541.36	204.06	196.06	89.10	-2,509.15	7,117.82	1,843.96	1,444.63	399.33	4.618	
13,800.00	5,570.98	13,937.46	5,542.12	206.59	198.57	89.10	-2,509.58	7,217.82	1,843.97	1,439.61	404.37	4.560	
13,900.00	5,571.66	14,037.46	5,542.89	209.11	201.09	89.11	-2,510.02	7,317.82	1,843.99	1,434.58	409.41	4.504	
14,000.00	5,572.34	14,137.46	5,543.65	211.63	203.60	89.11	-2,510.45	7,417.81	1,844.00	1,429.55	414.45	4.449	
14,100.00	5,573.02	14,237.46	5,544.42	214.15	206.11	89.11	-2,510.89	7,517.81	1,844.02	1,424.53	419.49	4.396	
14,200.00	5,573.69	14,337.46	5,545.18	216.68	208.63	89.11	-2,511.33	7,617.81	1,844.03	1,419.50	424.53	4.344	
14,300.00	5,574.37	14,437.46	5,545.95	219.20	211.14	89.12	-2,511.76	7,717.80	1,844.05	1,414.47	429.58	4.293	
14,400.00	5,575.05	14,537.46	5,546.71	221.72	213.66	89.12	-2,512.20	7,817.80	1,844.06	1,409.44	434.62	4.243	
14,500.00	5,575.73	14,637.46	5,547.48	224.25	216.18	89.12	-2,512.63	7,917.79	1,844.08	1,404.41	439.67	4.194	
14,600.00	5,576.41	14,737.46	5,548.24	226.77	218.69	89.12	-2,513.07	8,017.79	1,844.09	1,399.37	444.72	4.147	
14,700.00	5,577.08	14,837.46	5,549.00	229.30	221.21	89.13	-2,513.50	8,117.79	1,844.10	1,394.34	449.76	4.100	
14,800.00	5,577.76	14,937.46	5,549.77	231.83	223.73	89.13	-2,513.94	8,217.78	1,844.12	1,389.31	454.81	4.055	
14,900.00	5,578.44	15,037.46	5,550.53	234.35	226.25	89.13	-2,514.37	8,317.78	1,844.13	1,384.27	459.86	4.010	
15,000.00	5,579.12	15,137.46	5,551.30	236.88	228.77	89.14	-2,514.81	8,417.77	1,844.15	1,379.24	464.91	3.967	
15,100.00	5,579.79	15,237.46	5,552.06	239.41	231.29	89.14	-2,515.24	8,517.77	1,844.16	1,374.20	469.96	3.924	
15,200.00	5,580.47	15,337.46	5,552.83	241.93	233.81	89.14	-2,515.68	8,617.77	1,844.18	1,369.16	475.01	3.882	
15,300.00	5,581.15	15,437.46	5,553.59	244.46	236.33	89.14	-2,516.11	8,717.76	1,844.19	1,364.13	480.07	3.842	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6847+25 @ 6872.00ft
Reference Site:	NW Lybrook (138, 139, 140 & 141)	MD Reference:	RKB=6847+25 @ 6872.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DB_Decv0422v16
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: NW Lybrook (138, 139, 140 & 141) - NW Lybrook Unit 141H - Original Hole - rev0													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance		Minimum Separation (ft)	Separation Factor	Warning	
									Between Centres (ft)	Between Ellipses (ft)				
15,400.00	5,581.83	15,537.45	5,554.36	246.99	238.85	89.15	-2,516.55	8,817.76	1,844.21	1,359.09	485.12	3.802		
15,500.00	5,582.50	15,637.45	5,555.12	249.52	241.37	89.15	-2,516.98	8,917.75	1,844.22	1,354.05	490.17	3.762		
15,600.00	5,583.18	15,737.45	5,555.89	252.05	243.89	89.15	-2,517.42	9,017.75	1,844.24	1,349.01	495.23	3.724		
15,700.00	5,583.86	15,837.45	5,556.65	254.57	246.42	89.15	-2,517.85	9,117.75	1,844.25	1,343.97	500.28	3.686		
15,800.00	5,584.54	15,937.45	5,557.42	257.10	248.94	89.16	-2,518.29	9,217.74	1,844.27	1,338.93	505.34	3.650		
15,900.00	5,585.21	16,037.45	5,558.18	259.63	251.46	89.16	-2,518.72	9,317.74	1,844.28	1,333.89	510.40	3.613		
16,000.00	5,585.89	16,137.45	5,558.95	262.16	253.98	89.16	-2,519.16	9,417.73	1,844.30	1,328.85	515.45	3.578		
16,100.00	5,586.57	16,237.45	5,559.71	264.69	256.51	89.17	-2,519.59	9,517.73	1,844.31	1,323.80	520.51	3.543		
16,200.00	5,587.25	16,337.45	5,560.48	267.22	259.03	89.17	-2,520.03	9,617.73	1,844.33	1,318.76	525.57	3.509		
16,300.00	5,587.92	16,437.45	5,561.24	269.75	261.56	89.17	-2,520.46	9,717.72	1,844.34	1,313.72	530.63	3.476		
16,400.00	5,588.60	16,537.45	5,562.01	272.28	264.08	89.17	-2,520.90	9,817.72	1,844.36	1,308.67	535.69	3.443		
16,500.00	5,589.28	16,637.45	5,562.77	274.81	266.61	89.18	-2,521.33	9,917.72	1,844.37	1,303.63	540.74	3.411		
16,600.00	5,589.96	16,737.45	5,563.53	277.35	269.13	89.18	-2,521.77	10,017.71	1,844.39	1,298.58	545.80	3.379		
16,606.25	5,590.00	16,743.70	5,563.58	277.50	269.29	89.18	-2,521.79	10,023.96	1,844.39	1,298.27	546.12	3.377 SF		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6847+25 @ 6872.00ft
Reference Site:	NW Lybrook (138, 139, 140 & 141)	MD Reference:	RKB=6847+25 @ 6872.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DB_Decv0422v16
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: NW Lybrook (138, 139, 140 & 141) - NW Lybrook UT 131H - Original Hole - MWD												Offset Site Error:	0.00 ft
Survey Program: 64-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
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	
0.00	0.00	0.00	0.00	0.00	0.00	-82.63	5.38	-41.57	43.60				
100.00	100.00	87.87	87.87	0.13	0.18	-82.06	5.82	-41.74	42.15	41.84	0.31	136.043	
200.00	200.00	187.97	187.96	0.49	0.53	-81.17	6.50	-41.82	42.32	41.29	1.03	41.229	
300.00	300.00	288.13	288.12	0.85	0.89	-80.68	6.83	-41.63	42.19	40.45	1.74	24.264	
400.00	400.00	388.19	388.19	1.21	1.24	-80.38	7.00	-41.28	41.87	39.42	2.45	17.106	
500.00	500.00	488.34	488.33	1.57	1.59	-80.50	6.81	-40.68	41.24	38.09	3.16	13.069	
564.79	564.79	552.81	552.79	1.80	1.81	-81.33	6.15	-40.33	40.80	37.19	3.61	11.300 CC	
600.00	600.00	587.54	587.50	1.93	1.93	-82.80	5.14	-40.68	41.01	37.15	3.86	10.637 ES	
700.00	700.00	686.49	686.26	2.29	2.27	-90.37	-0.28	-43.77	43.80	39.25	4.55	9.622	
800.00	800.00	786.19	785.60	2.64	2.62	-99.22	-7.74	-47.68	48.36	43.10	5.26	9.195	
900.00	900.00	885.57	884.50	3.00	2.98	-108.22	-16.83	-51.15	53.96	47.99	5.97	9.037	
1,000.00	1,000.00	984.52	982.52	3.36	3.36	-119.22	-30.05	-53.72	61.80	55.12	6.68	9.248	
1,100.00	1,099.95	1,084.60	1,081.31	3.71	3.76	-11.02	-46.07	-53.63	68.45	61.07	7.39	9.266	
1,200.00	1,199.63	1,183.17	1,178.44	4.05	4.16	-23.38	-62.71	-51.46	72.02	63.95	8.06	8.934	
1,300.00	1,298.77	1,280.27	1,273.85	4.40	4.57	-36.58	-80.58	-49.32	75.77	67.06	8.71	8.700 SF	
1,400.00	1,397.08	1,376.34	1,367.90	4.77	5.00	-50.81	-100.03	-46.97	81.72	72.36	9.36	8.727	
1,500.00	1,494.31	1,470.61	1,459.60	5.18	5.44	-64.95	-121.72	-44.33	92.80	82.74	10.07	9.219	
1,600.00	1,590.18	1,564.85	1,550.79	5.63	5.90	-77.59	-145.36	-41.76	109.59	98.69	10.91	10.049	
1,700.00	1,684.43	1,656.13	1,638.48	6.13	6.38	-87.31	-170.61	-40.32	132.18	120.36	11.82	11.180	
1,800.00	1,777.10	1,748.30	1,726.42	6.69	6.88	-95.51	-198.17	-38.67	160.30	147.43	12.86	12.460	
1,900.00	1,869.54	1,840.20	1,814.23	7.30	7.39	-102.11	-225.15	-35.78	191.59	177.67	13.93	13.757	
2,000.00	1,961.99	1,932.45	1,902.27	7.92	7.90	-106.93	-252.48	-32.43	225.17	210.17	15.00	15.016	
2,100.00	2,054.43	2,029.63	1,994.96	8.57	8.46	-110.46	-281.56	-30.16	259.02	242.88	16.14	16.045	
2,200.00	2,146.88	2,122.47	2,083.89	9.24	8.98	-113.24	-308.15	-28.22	292.62	275.40	17.22	16.991	
2,300.00	2,239.33	2,219.45	2,176.92	9.92	9.52	-115.60	-335.50	-26.28	326.42	308.07	18.36	17.782	
2,400.00	2,331.77	2,315.29	2,268.51	10.61	10.08	-117.17	-363.72	-26.01	359.78	340.29	19.49	18.460	
2,500.00	2,424.22	2,405.68	2,354.71	11.31	10.61	-118.29	-390.91	-26.13	393.28	372.72	20.56	19.127	
2,600.00	2,516.66	2,497.25	2,442.01	12.01	11.15	-119.32	-418.51	-25.13	427.96	406.30	21.65	19.765	
2,700.00	2,609.11	2,588.14	2,528.79	12.73	11.68	-120.27	-445.53	-23.66	463.00	440.27	22.73	20.368	
2,800.00	2,701.56	2,675.86	2,612.40	13.44	12.20	-121.05	-471.96	-21.58	498.95	475.18	23.77	20.988	
2,900.00	2,794.00	2,770.79	2,702.82	14.16	12.77	-121.76	-500.81	-19.50	534.92	510.00	24.92	21.467	
3,000.00	2,886.45	2,866.04	2,793.64	14.89	13.34	-122.43	-529.40	-16.94	571.25	545.18	26.07	21.915	
3,100.00	2,978.89	2,951.40	2,875.05	15.62	13.85	-122.98	-554.92	-14.26	607.95	580.87	27.08	22.449	
3,200.00	3,071.34	3,042.97	2,962.47	16.35	14.39	-123.58	-581.93	-10.63	645.28	617.10	28.17	22.903	
3,300.00	3,163.79	3,144.04	3,059.05	17.08	15.00	-124.17	-611.50	-7.01	682.24	652.85	29.40	23.209	
3,400.00	3,256.23	3,247.21	3,157.36	17.81	15.62	-124.54	-642.76	-5.62	717.68	687.02	30.66	23.409	
3,500.00	3,348.68	3,334.94	3,240.85	18.55	16.15	-124.80	-669.69	-4.53	753.20	721.46	31.73	23.736	
3,600.00	3,441.12	3,416.07	3,318.02	19.29	16.65	-125.03	-694.65	-2.88	789.49	756.77	32.72	24.131	
3,700.00	3,533.57	3,526.03	3,422.47	20.03	17.33	-125.27	-728.95	-0.94	825.66	791.57	34.09	24.222	
3,800.00	3,626.02	3,616.81	3,508.87	20.77	17.88	-125.47	-756.78	-0.27	860.78	825.57	35.21	24.448	
3,900.00	3,718.46	3,701.40	3,588.89	21.51	18.42	-125.54	-784.22	0.74	896.91	860.64	36.27	24.732	
4,000.00	3,810.91	3,798.32	3,680.55	22.26	19.03	-125.63	-815.67	2.12	933.27	895.78	37.49	24.895	
4,100.00	3,903.35	3,889.55	3,767.12	23.00	19.60	-125.75	-844.43	3.48	969.36	930.74	38.63	25.096	
4,200.00	3,995.80	3,982.66	3,855.69	23.75	20.17	-125.92	-873.09	5.28	1,005.57	965.80	39.78	25.280	
4,300.00	4,088.25	4,075.52	3,944.31	24.49	20.74	-126.16	-900.71	7.73	1,042.06	1,001.15	40.91	25.471	
4,400.00	4,181.66	4,165.14	4,029.79	25.20	21.28	-127.14	-927.51	10.06	1,077.10	1,035.12	41.98	25.655	
4,500.00	4,276.81	4,278.10	4,137.34	25.84	21.97	-127.70	-961.95	12.50	1,109.07	1,065.75	43.32	25.603	
4,600.00	4,373.44	4,393.59	4,246.98	26.40	22.69	-127.78	-998.25	12.01	1,135.96	1,091.31	44.65	25.439	
4,700.00	4,471.28	4,488.01	4,336.21	26.88	23.29	-127.61	-1,029.07	10.47	1,159.24	1,113.53	45.71	25.362	
4,800.00	4,570.07	4,585.00	4,428.00	27.30	23.91	-127.20	-1,060.36	8.74	1,179.35	1,132.61	46.74	25.232	
4,900.00	4,669.53	4,696.74	4,595.26	27.65	24.56	-126.50	-1,091.92	7.06	1,199.99	1,153.05	47.74	25.102	
5,000.00	4,769.39	4,800.79	4,695.27	27.93	25.22	-125.88	-1,123.53	5.34	1,221.82	1,173.41	48.74	24.972	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6847+25 @ 6872.00ft
Reference Site:	NW Lybrook (138, 139, 140 & 141)	MD Reference:	RKB=6847+25 @ 6872.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DB_Decv0422v16
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: NW Lybrook (138, 139, 140 & 141) - NW Lybrook UT 131H - Original Hole - MWD												Offset Site Error:	0.00 ft
Survey Program: 64-MWD												Offset Well Error:	0.00 ft
Rule Assigned:												Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,100.00	4,869.38	6,601.56	5,495.27	28.14	37.13	-174.65	-1,334.45	-1,158.41	951.88	911.67	40.21	23.673	
5,200.00	4,969.30	6,599.56	5,495.26	28.33	37.10	99.14	-1,334.65	-1,156.42	888.20	844.90	43.30	20.513	
5,300.00	5,067.55	6,582.68	5,495.23	28.41	36.85	104.21	-1,336.27	-1,139.62	833.75	787.48	46.27	18.017	
5,400.00	5,161.19	6,549.62	5,495.29	28.41	36.36	106.37	-1,339.42	-1,106.70	791.27	742.43	48.83	16.203	
5,500.00	5,247.38	6,503.00	5,495.56	28.38	35.70	106.27	-1,343.93	-1,060.31	762.05	711.35	50.70	15.030	
5,600.00	5,323.49	6,443.00	5,496.34	28.34	34.92	104.40	-1,350.09	-1,000.63	745.89	694.14	51.76	14.411	
5,700.00	5,387.22	6,371.86	5,497.79	28.34	34.09	101.46	-1,357.81	-929.93	740.88	688.82	52.06	14.230	
5,704.92	5,390.01	6,368.39	5,497.87	28.34	34.06	101.31	-1,358.20	-926.48	740.88	688.81	52.07	14.229	
5,800.00	5,438.83	6,297.92	5,499.70	28.43	33.36	98.51	-1,366.70	-856.55	744.22	692.35	51.87	14.346	
5,900.00	5,482.03	6,211.16	5,502.23	28.64	32.67	94.95	-1,378.22	-770.59	752.93	701.32	51.61	14.589	
6,000.00	5,508.97	6,118.56	5,503.60	28.99	32.10	91.92	-1,390.80	-678.87	764.94	713.66	51.28	14.917	
6,100.00	5,518.80	5,782.24	5,443.51	29.49	30.58	85.14	-1,394.92	-352.44	773.58	721.07	52.51	14.732	
6,200.00	5,519.48	5,656.38	5,382.18	30.16	29.95	80.24	-1,368.52	-246.27	756.01	703.47	52.54	14.389	
6,300.00	5,520.16	5,576.49	5,329.61	31.04	29.55	75.91	-1,348.59	-189.59	740.97	688.50	52.48	14.120	
6,400.00	5,520.84	5,526.00	5,292.34	32.12	29.30	72.83	-1,335.89	-158.02	733.88	681.26	52.62	13.948	
6,422.86	5,520.99	5,516.93	5,285.33	32.41	29.26	72.25	-1,333.65	-152.72	733.62	680.92	52.70	13.920	
6,500.00	5,521.52	5,469.53	5,247.69	33.39	29.03	69.15	-1,321.61	-126.56	736.45	683.63	52.82	13.944	
6,600.00	5,522.20	5,425.97	5,211.81	34.82	28.80	66.20	-1,309.53	-105.02	748.48	695.23	53.24	14.058	
6,700.00	5,522.87	5,400.00	5,189.82	36.39	28.67	64.40	-1,302.37	-93.23	771.34	717.31	54.03	14.277	
6,800.00	5,523.55	5,369.00	5,163.02	38.08	28.50	62.25	-1,293.78	-80.21	804.44	749.70	54.73	14.697	
6,900.00	5,524.23	5,346.67	5,143.38	39.87	28.39	60.69	-1,287.53	-71.63	846.92	791.40	55.52	15.253	
7,000.00	5,524.91	5,327.67	5,126.41	41.75	28.29	59.36	-1,282.23	-64.93	897.82	841.57	56.25	15.962	
7,100.00	5,525.58	5,306.00	5,106.85	43.70	28.17	57.85	-1,276.16	-57.84	955.83	899.05	56.78	16.834	
7,200.00	5,526.26	5,284.06	5,086.95	45.72	28.05	56.32	-1,269.75	-51.22	1,019.72	962.55	57.17	17.838	
7,300.00	5,526.94	5,258.84	5,064.05	47.79	27.90	54.57	-1,261.83	-44.19	1,088.39	1,031.02	57.37	18.970	
7,400.00	5,527.62	5,211.00	5,020.78	49.90	27.62	51.32	-1,246.24	-31.05	1,160.94	1,103.86	57.08	20.338	
7,500.00	5,528.29	5,191.38	5,003.12	52.06	27.50	50.01	-1,239.70	-25.55	1,236.42	1,179.21	57.21	21.612	
7,600.00	5,528.97	5,180.00	4,992.86	54.25	27.43	49.27	-1,235.86	-22.47	1,314.84	1,257.44	57.40	22.908	
7,700.00	5,529.65	5,161.19	4,975.87	56.47	27.32	48.04	-1,229.42	-17.60	1,395.71	1,338.31	57.40	24.315	
7,800.00	5,530.33	5,149.00	4,964.83	58.72	27.24	47.25	-1,225.19	-14.61	1,478.72	1,421.26	57.46	25.734	
7,900.00	5,531.00	5,137.91	4,954.78	60.99	27.17	46.54	-1,221.34	-11.99	1,563.55	1,506.05	57.50	27.193	
8,000.00	5,531.68	5,127.70	4,945.48	63.28	27.11	45.89	-1,217.83	-9.63	1,649.93	1,592.42	57.51	28.688	
8,100.00	5,532.36	5,118.00	4,936.62	65.59	27.05	45.28	-1,214.53	-7.46	1,737.66	1,680.15	57.51	30.215	
8,200.00	5,533.04	5,118.00	4,936.62	67.92	27.05	45.28	-1,214.53	-7.46	1,826.58	1,768.98	57.60	31.710	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6847+25 @ 6872.00ft
Reference Site:	NW Lybrook (138, 139, 140 & 141)	MD Reference:	RKB=6847+25 @ 6872.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DB_Decv0422v16
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: NW Lybrook (138, 139, 140 & 141) - NW Lybrook UT 289H - Original Hole - Gyro & MWD												Offset Site Error:	0.00 ft
Survey Program: 64-GYRO-NS, 464-MWD												Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
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	
0.00	0.00	0.00	0.00	0.00	0.00	-82.76	2.51	-19.75	23.25				
100.00	100.00	87.97	87.97	0.13	0.17	-82.15	2.73	-19.82	20.00	19.70	0.31	65.397	
200.00	200.00	188.04	188.04	0.49	0.52	-80.68	3.24	-19.72	19.99	18.97	1.01	19.711	
300.00	300.00	288.09	288.09	0.85	0.87	-79.54	3.56	-19.29	19.62	17.89	1.72	11.393	
400.00	400.00	388.07	388.07	1.21	1.20	-79.69	3.44	-18.89	19.20	16.79	2.41	7.967	
500.00	500.00	488.05	488.04	1.57	1.36	-81.25	2.87	-18.68	18.90	15.97	2.93	6.459	
547.84	547.84	535.85	535.84	1.74	1.40	-82.35	2.51	-18.65	18.82	15.68	3.14	6.001 CC	
600.00	600.00	587.83	587.82	1.93	1.46	-81.06	2.96	-18.82	19.05	15.67	3.38	5.630 ES	
700.00	700.00	687.37	687.24	2.29	1.64	-69.85	7.34	-20.00	21.32	17.41	3.92	5.445	
800.00	800.00	786.59	786.14	2.64	1.86	-54.75	15.21	-21.52	26.42	21.92	4.50	5.876	
900.00	900.00	884.54	883.42	3.00	2.14	-43.20	26.11	-24.52	36.11	31.01	5.10	7.075	
1,000.00	1,000.00	981.43	979.13	3.36	2.46	-38.66	39.45	-31.56	51.29	45.57	5.72	8.961	
1,100.00	1,099.95	1,077.72	1,073.66	3.71	2.82	83.26	53.94	-42.62	69.89	63.55	6.34	11.021	
1,200.00	1,199.63	1,172.72	1,166.29	4.05	3.21	85.82	69.31	-57.04	91.18	84.22	6.96	13.101	
1,300.00	1,298.77	1,266.23	1,256.75	4.40	3.64	89.27	86.54	-73.30	115.61	108.01	7.60	15.206	
1,400.00	1,397.08	1,358.09	1,344.74	4.77	4.10	92.53	105.22	-91.92	143.66	135.37	8.29	17.338	
1,500.00	1,494.31	1,451.51	1,433.74	5.18	4.61	95.90	125.16	-112.10	174.18	165.11	9.07	19.214	
1,600.00	1,590.18	1,542.76	1,520.43	5.63	5.13	99.28	145.39	-132.14	207.06	197.16	9.90	20.908	
1,700.00	1,684.43	1,635.58	1,608.38	6.13	5.68	102.57	166.23	-153.28	242.36	231.51	10.85	22.341	
1,800.00	1,777.10	1,736.58	1,704.31	6.69	6.27	106.25	186.46	-177.53	277.72	265.76	11.96	23.222	
1,900.00	1,869.54	1,833.71	1,797.05	7.30	6.84	109.43	203.54	-200.78	311.82	298.77	13.05	23.892	
2,000.00	1,961.99	1,929.32	1,888.93	7.92	7.37	112.23	219.40	-221.96	345.49	331.36	14.14	24.440	
2,100.00	2,054.43	2,020.28	1,976.63	8.57	7.87	114.64	234.44	-240.77	379.64	364.47	15.18	25.016	
2,200.00	2,146.88	2,104.25	2,057.65	9.24	8.34	116.72	249.68	-256.76	415.82	399.67	16.14	25.762	
2,300.00	2,239.33	2,196.51	2,146.55	9.92	8.85	118.68	267.23	-274.08	453.33	436.14	17.19	26.377	
2,400.00	2,331.77	2,277.04	2,224.12	10.61	9.30	120.22	283.30	-288.58	492.14	474.04	18.10	27.185	
2,500.00	2,424.22	2,366.24	2,309.94	11.31	9.81	121.81	302.51	-303.51	532.85	513.75	19.11	27.891	
2,600.00	2,516.66	2,457.88	2,398.14	12.01	10.32	123.18	321.76	-319.25	573.35	553.21	20.14	28.474	
2,700.00	2,609.11	2,546.85	2,483.59	12.73	10.83	124.27	340.86	-335.06	614.41	593.26	21.14	29.060	
2,800.00	2,701.56	2,642.21	2,575.17	13.44	11.38	125.27	361.01	-352.37	655.30	633.07	22.23	29.483	
2,900.00	2,794.00	2,734.00	2,663.29	14.16	11.91	126.07	380.03	-369.61	695.85	672.58	23.27	29.898	
3,000.00	2,886.45	2,823.58	2,749.13	14.89	12.44	126.71	398.89	-386.95	736.72	712.41	24.31	30.309	
3,100.00	2,978.89	2,915.48	2,837.13	15.62	12.98	127.28	418.16	-405.10	777.51	752.14	25.37	30.646	
3,200.00	3,071.34	3,008.32	2,925.91	16.35	13.54	127.76	437.87	-423.79	818.54	792.09	26.45	30.944	
3,300.00	3,163.79	3,105.34	3,018.89	17.08	14.11	128.23	457.55	-443.31	858.73	831.15	27.58	31.138	
3,400.00	3,256.23	3,205.56	3,115.13	17.81	14.69	128.69	477.13	-463.28	898.33	869.60	28.73	31.265	
3,500.00	3,348.68	3,299.50	3,205.48	18.55	15.23	129.11	494.96	-481.82	937.51	907.69	29.81	31.445	
3,600.00	3,441.12	3,382.41	3,285.49	19.29	15.70	129.51	510.14	-497.37	976.37	945.61	30.77	31.736	
3,700.00	3,533.57	3,441.15	3,342.01	20.03	16.03	129.81	522.56	-507.45	1,018.01	986.57	31.43	32.385	
3,800.00	3,626.02	3,527.04	3,424.26	20.77	16.54	130.19	542.42	-522.17	1,061.53	1,029.12	32.41	32.752	
3,900.00	3,718.46	3,616.50	3,509.95	21.51	17.06	130.55	562.84	-537.77	1,104.78	1,071.35	33.43	33.043	
4,000.00	3,810.91	3,709.91	3,599.30	22.26	17.62	130.86	584.31	-554.54	1,148.10	1,113.59	34.51	33.267	
4,100.00	3,903.35	3,802.02	3,687.27	23.00	18.17	131.11	605.47	-571.78	1,191.26	1,155.68	35.58	33.478	
4,200.00	3,995.80	3,913.08	3,793.99	23.75	18.81	131.49	629.46	-590.94	1,233.56	1,196.72	36.85	33.480	
4,300.00	4,088.25	4,028.81	3,906.22	24.49	19.43	132.03	651.72	-608.32	1,274.33	1,236.23	38.10	33.448	
4,400.00	4,181.66	4,178.04	4,051.73	25.20	20.19	133.40	675.56	-631.17	1,310.50	1,270.90	39.60	33.091	
4,500.00	4,276.81	4,296.37	4,167.72	25.84	20.75	134.31	690.65	-649.00	1,340.39	1,299.66	40.73	32.906	
4,600.00	4,373.44	4,422.01	4,292.03	26.40	21.26	135.14	702.75	-662.51	1,365.05	1,323.27	41.78	32.674	
4,700.00	4,471.28	4,543.03	4,412.59	26.88	21.67	135.91	710.12	-669.82	1,384.01	1,341.37	42.64	32.456	
4,800.00	4,570.07	4,648.42	4,517.84	27.30	21.98	136.50	714.38	-672.99	1,398.23	1,354.90	43.33	32.271	
4,900.00	4,669.53	4,752.00	4,621.30	27.65	22.28	136.85	718.43	-676.01	1,408.61	1,364.64	43.97	32.036	
5,000.00	4,769.39	4,861.84	4,731.04	27.93	22.60	136.97	721.85	-678.94	1,414.51	1,369.90	44.60	31.714	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6847+25 @ 6872.00ft
Reference Site:	NW Lybrook (138, 139, 140 & 141)	MD Reference:	RKB=6847+25 @ 6872.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DB_Decv0422v16
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design:		NW Lybrook (138, 139, 140 & 141) - NW Lybrook UT 289H - Original Hole - Gyro & MWD											Offset Site Error:		0.00 ft	
Survey Program:		64-GYRO-NS, 464-MWD						Rule Assigned:						Offset Well Error:		0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance			Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)					
5,100.00	4,869.38	4,971.02	4,840.16	28.14	22.90	16.87	724.40	-681.61	1,416.44	1,371.25	45.19	31.344				
5,200.00	4,969.30	5,132.24	5,000.56	28.33	23.20	-73.23	719.78	-671.07	1,414.95	1,369.21	45.74	30.934				
5,300.00	5,067.55	5,253.32	5,114.77	28.41	23.23	-73.34	702.84	-635.76	1,404.74	1,358.91	45.83	30.648				
5,400.00	5,161.19	5,301.00	5,156.01	28.41	23.22	-74.22	694.24	-613.51	1,391.63	1,345.75	45.87	30.336				
5,500.00	5,247.38	5,350.29	5,195.07	28.38	23.19	-75.26	685.36	-584.84	1,377.42	1,331.57	45.86	30.038				
5,600.00	5,323.49	5,395.00	5,227.93	28.34	23.16	-76.56	678.65	-555.30	1,363.34	1,317.46	45.88	29.715				
5,700.00	5,387.22	5,415.13	5,242.42	28.34	23.16	-77.98	676.49	-541.50	1,349.90	1,303.87	46.03	29.325				
5,800.00	5,438.83	5,439.82	5,260.05	28.43	23.16	-78.78	674.94	-524.28	1,338.81	1,292.45	46.36	28.879				
5,900.00	5,482.03	5,458.00	5,272.93	28.64	23.16	-79.68	674.66	-511.45	1,331.65	1,284.80	46.85	28.423				
6,000.00	5,508.97	5,490.00	5,295.22	28.99	23.17	-80.76	676.27	-488.56	1,327.63	1,280.00	47.63	27.873				
6,064.70	5,517.31	5,490.00	5,295.22	29.31	23.17	-80.86	676.27	-488.56	1,326.63	1,278.45	48.19	27.531				
6,100.00	5,518.80	5,504.29	5,304.99	29.49	23.18	-81.26	677.72	-478.25	1,326.77	1,278.22	48.55	27.328				
6,200.00	5,519.48	5,556.76	5,340.72	30.16	23.20	-82.81	683.98	-440.33	1,330.15	1,280.39	49.77	26.727				
6,300.00	5,520.16	5,615.00	5,380.46	31.04	23.23	-84.53	691.48	-398.43	1,337.84	1,286.71	51.14	26.162				
6,400.00	5,520.84	5,807.81	5,484.96	32.12	23.47	-89.00	706.72	-238.15	1,343.32	1,289.79	53.53	25.094				
6,500.00	5,521.52	5,909.88	5,521.25	33.39	23.81	-90.52	711.51	-142.93	1,348.59	1,292.84	55.76	24.188				
6,600.00	5,522.20	6,030.43	5,543.99	34.82	24.55	-91.45	716.72	-24.85	1,353.79	1,295.26	58.53	23.130				
6,700.00	5,522.87	6,118.92	5,550.16	36.39	25.40	-91.68	720.21	63.32	1,358.33	1,297.06	61.27	22.169				
6,800.00	5,523.55	6,209.75	5,551.01	38.08	26.49	-91.68	724.73	154.04	1,363.72	1,299.46	64.27	21.220				
6,900.00	5,524.23	6,322.02	5,551.04	39.87	28.13	-91.65	729.64	266.20	1,368.45	1,300.61	67.84	20.172				
7,000.00	5,524.91	6,413.02	5,551.02	41.75	29.63	-91.61	733.99	357.10	1,373.61	1,302.33	71.28	19.271				
7,100.00	5,525.58	6,516.01	5,549.72	43.70	31.46	-91.52	739.11	459.94	1,378.95	1,303.86	75.09	18.363				
7,200.00	5,526.26	6,621.16	5,548.46	45.72	33.45	-91.44	743.76	564.98	1,383.73	1,304.62	79.12	17.490				
7,300.00	5,526.94	6,728.35	5,547.58	47.79	35.57	-91.36	748.39	672.07	1,388.44	1,305.13	83.31	16.665				
7,400.00	5,527.62	6,837.25	5,546.30	49.90	37.81	-91.28	752.23	780.89	1,392.34	1,304.67	87.67	15.882				
7,500.00	5,528.29	6,943.64	5,545.41	52.06	40.07	-91.21	755.39	887.23	1,395.69	1,303.62	92.07	15.159				
7,600.00	5,528.97	7,059.46	5,544.53	54.25	42.58	-91.14	757.92	1,003.02	1,398.27	1,301.51	96.75	14.452				
7,700.00	5,529.65	7,168.01	5,543.92	56.47	44.99	-91.08	759.35	1,111.56	1,399.97	1,298.61	101.36	13.811				
7,800.00	5,530.33	7,248.26	5,544.35	58.72	46.79	-91.07	760.66	1,191.79	1,402.04	1,296.60	105.43	13.298				
7,900.00	5,531.00	7,403.89	5,545.99	60.99	50.34	-91.10	762.35	1,347.38	1,403.92	1,292.79	111.13	12.633				
8,000.00	5,531.68	7,500.57	5,546.26	63.28	52.57	-91.08	760.91	1,444.05	1,402.84	1,287.17	115.67	12.128				
8,100.00	5,532.36	7,608.26	5,543.82	65.59	55.08	-90.95	759.18	1,551.70	1,401.59	1,281.13	120.46	11.635				
8,200.00	5,533.04	7,713.05	5,542.23	67.92	57.54	-90.86	756.73	1,656.45	1,399.62	1,274.38	125.24	11.176				
8,300.00	5,533.71	7,812.83	5,542.26	70.27	59.90	-90.84	754.34	1,756.20	1,397.64	1,267.69	129.95	10.755				
8,391.85	5,534.34	7,880.00	5,542.30	72.43	61.49	-90.82	753.45	1,823.36	1,396.80	1,263.01	133.80	10.440				
8,400.00	5,534.39	7,885.83	5,542.32	72.62	61.63	-90.82	753.43	1,829.19	1,396.81	1,262.68	134.13	10.414				
8,500.00	5,535.07	7,959.98	5,543.38	74.99	63.40	-90.84	753.95	1,903.33	1,397.93	1,259.62	138.31	10.107				
8,600.00	5,535.75	8,081.86	5,544.41	77.37	66.32	-90.85	754.66	2,025.18	1,398.88	1,255.30	143.58	9.743				
8,700.00	5,536.43	8,212.27	5,542.23	79.76	69.46	-90.72	753.15	2,155.56	1,398.07	1,249.06	149.01	9.382				
8,800.00	5,537.10	8,311.98	5,540.30	82.17	71.88	-90.62	750.85	2,255.22	1,396.16	1,242.32	153.84	9.076				
8,900.00	5,537.78	8,391.18	5,539.82	84.57	73.80	-90.58	749.72	2,334.41	1,395.14	1,236.90	158.25	8.816				
8,912.22	5,537.86	8,400.52	5,539.74	84.87	74.03	-90.57	749.67	2,343.75	1,395.13	1,236.35	158.78	8.787				
9,000.00	5,538.46	8,483.78	5,537.98	86.99	76.05	-90.47	749.52	2,426.99	1,395.32	1,232.38	162.94	8.563				
9,100.00	5,539.14	8,573.17	5,535.32	89.41	78.23	-90.34	749.71	2,516.33	1,395.94	1,228.37	167.56	8.331				
9,200.00	5,539.81	8,660.00	5,533.00	91.84	80.35	-90.22	750.40	2,603.13	1,397.18	1,225.05	172.12	8.117				
9,300.00	5,540.49	8,747.41	5,532.91	94.28	82.49	-90.19	752.25	2,690.52	1,399.71	1,223.02	176.69	7.922				
9,400.00	5,541.17	8,873.87	5,532.85	96.72	85.59	-90.15	754.23	2,816.96	1,401.68	1,219.45	182.23	7.692				
9,500.00	5,541.85	8,991.16	5,532.15	99.17	88.48	-90.09	753.65	2,934.25	1,401.52	1,213.99	187.53	7.474				
9,524.45	5,542.01	9,012.98	5,532.09	99.77	89.02	-90.08	753.54	2,956.06	1,401.50	1,212.82	188.68	7.428				
9,600.00	5,542.52	9,067.42	5,532.51	101.62	90.36	-90.09	753.59	3,010.51	1,401.94	1,210.03	191.91	7.305				
9,700.00	5,543.20	9,154.14	5,535.29	104.07	92.50	-90.18	755.42	3,097.15	1,404.40	1,207.90	196.50	7.147				
9,800.00	5,543.88	9,290.34	5,536.72	106.53	95.87	-90.20	756.40	3,233.34	1,405.52	1,203.24	202.29	6.948				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6847+25 @ 6872.00ft
Reference Site:	NW Lybrook (138, 139, 140 & 141)	MD Reference:	RKB=6847+25 @ 6872.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DB_Decv0422v16
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

Offset Design: NW Lybrook (138, 139, 140 & 141) - NW Lybrook UT 289H - Original Hole - Gyro & MWD												Offset Site Error:		0.00 ft			
Survey Program:		64-GYRO-NS, 464-MWD						Rule Assigned:						Offset Well Error:		0.00 ft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance			Warning					
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)						
9,806.53	5,543.92	9,298.96	5,536.71	106.69	96.08	-90.19	756.34	3,241.96	1,405.51	1,202.86	202.65	6.936					
9,900.00	5,544.56	9,365.56	5,536.94	109.00	97.73	-90.18	757.01	3,308.55	1,406.64	1,199.99	206.65	6.807					
10,000.00	5,545.23	9,521.58	5,534.90	111.46	101.60	-90.06	754.64	3,464.53	1,405.12	1,192.32	212.80	6.603					
10,100.00	5,545.91	9,602.00	5,534.27	113.94	103.60	-90.01	753.07	3,544.92	1,403.56	1,186.17	217.38	6.457					
10,200.00	5,546.59	9,693.84	5,535.27	116.41	105.88	-90.03	752.17	3,636.75	1,402.99	1,180.82	222.18	6.315					
10,234.54	5,546.82	9,723.23	5,535.69	117.26	106.61	-90.04	752.00	3,666.14	1,402.93	1,179.15	223.78	6.269					
10,300.00	5,547.27	9,784.58	5,535.89	118.89	108.14	-90.03	751.84	3,727.49	1,403.04	1,176.09	226.94	6.182					
10,400.00	5,547.94	9,890.18	5,534.13	121.37	110.77	-89.93	751.31	3,833.07	1,402.94	1,170.90	232.04	6.046					
10,415.96	5,548.05	9,904.70	5,533.89	121.76	111.13	-89.91	751.24	3,847.59	1,402.93	1,170.13	232.80	6.026					
10,500.00	5,548.62	9,985.66	5,532.56	123.85	113.15	-89.83	750.99	3,928.54	1,403.03	1,166.12	236.91	5.922					
10,600.00	5,549.30	10,074.95	5,531.27	126.33	115.38	-89.76	751.12	4,017.82	1,403.61	1,161.97	241.64	5.809					
10,700.00	5,549.98	10,165.22	5,530.03	128.82	117.63	-89.68	751.97	4,108.08	1,404.98	1,158.60	246.38	5.702					
10,800.00	5,550.66	10,257.50	5,528.41	131.31	119.93	-89.59	753.37	4,200.33	1,406.93	1,155.77	251.16	5.602					
10,900.00	5,551.33	10,396.47	5,525.21	133.80	123.41	-89.42	754.52	4,339.25	1,408.36	1,151.29	257.07	5.478					
11,000.00	5,552.01	10,483.00	5,524.18	136.29	125.57	-89.36	753.55	4,425.77	1,407.76	1,145.99	261.77	5.378					
11,003.54	5,552.03	10,491.99	5,524.16	136.38	125.80	-89.35	753.50	4,434.76	1,407.75	1,145.67	262.07	5.372					
11,100.00	5,552.69	10,573.23	5,524.73	138.78	127.83	-89.36	753.72	4,515.99	1,408.39	1,141.85	266.54	5.284					
11,200.00	5,553.37	10,723.21	5,523.47	141.28	131.59	-89.26	752.53	4,665.94	1,408.18	1,135.62	272.57	5.166					
11,300.00	5,554.04	10,817.52	5,520.25	143.78	133.95	-89.10	749.78	4,760.16	1,405.76	1,128.29	277.47	5.066					
11,400.00	5,554.72	10,891.79	5,518.53	146.28	135.81	-89.01	748.47	4,834.38	1,404.51	1,122.54	281.97	4.981					
11,407.68	5,554.77	10,896.83	5,518.36	146.47	135.94	-89.00	748.44	4,839.43	1,404.50	1,122.20	282.29	4.975					
11,500.00	5,555.40	10,992.09	5,514.00	148.78	138.33	-88.80	748.32	4,934.58	1,404.88	1,117.92	286.96	4.896					
11,600.00	5,556.08	11,133.43	5,507.98	151.28	141.87	-88.51	745.50	5,075.76	1,403.50	1,110.81	292.68	4.795					
11,700.00	5,556.75	11,237.00	5,498.48	153.79	144.45	-88.09	741.17	5,178.79	1,400.01	1,102.34	297.67	4.703					
11,800.00	5,557.43	11,301.00	5,492.62	156.29	146.05	-87.83	739.85	5,242.51	1,398.43	1,096.40	302.03	4.630					
11,900.00	5,558.11	11,407.32	5,486.23	158.80	148.72	-87.54	737.72	5,348.59	1,397.09	1,089.99	307.09	4.549					
11,935.34	5,558.35	11,426.00	5,485.91	159.68	149.18	-87.52	737.45	5,367.27	1,396.82	1,088.30	308.52	4.527					
12,000.00	5,558.79	11,460.94	5,485.74	161.30	150.06	-87.50	737.55	5,402.21	1,397.39	1,086.38	311.01	4.493					
12,100.00	5,559.46	11,538.68	5,486.33	163.81	152.01	-87.51	740.14	5,479.90	1,400.95	1,085.61	315.35	4.443					
12,200.00	5,560.14	11,652.28	5,487.49	166.32	154.87	-87.53	743.58	5,593.44	1,404.41	1,083.62	320.79	4.378					
12,300.00	5,560.82	11,742.00	5,488.39	168.83	157.12	-87.55	745.88	5,683.13	1,407.39	1,081.90	325.49	4.324					
12,400.00	5,561.50	11,805.00	5,489.65	171.34	158.70	-87.59	749.24	5,746.02	1,412.75	1,083.58	329.18	4.292					
12,500.00	5,562.18	11,902.85	5,490.73	173.86	161.15	-87.62	755.12	5,843.69	1,419.15	1,085.05	334.10	4.248					
12,600.00	5,562.85	11,996.27	5,491.88	176.37	163.48	-87.65	760.85	5,936.92	1,425.67	1,086.82	338.85	4.207 SF					
12,700.00	5,563.53	12,029.00	5,492.32	178.88	164.30	-87.66	762.91	5,969.58	1,433.91	1,093.36	340.55	4.211					
12,800.00	5,564.21	12,029.00	5,492.32	181.40	164.30	-87.66	762.91	5,969.58	1,448.65	1,109.73	338.92	4.274					
12,900.00	5,564.89	12,029.00	5,492.32	183.91	164.30	-87.66	762.91	5,969.58	1,470.06	1,134.66	335.39	4.383					
13,000.00	5,565.56	12,029.00	5,492.32	186.43	164.30	-87.66	762.91	5,969.58	1,497.85	1,167.62	330.23	4.536					
13,100.00	5,566.24	12,029.00	5,492.32	188.95	164.30	-87.66	762.91	5,969.58	1,531.68	1,207.94	323.74	4.731					
13,200.00	5,566.92	12,029.00	5,492.32	191.47	164.30	-87.66	762.91	5,969.58	1,571.15	1,254.91	316.25	4.968					
13,300.00	5,567.60	12,029.00	5,492.32	193.98	164.30	-87.66	762.91	5,969.58	1,615.86	1,307.82	308.05	5.246					
13,400.00	5,568.27	12,029.00	5,492.32	196.50	164.30	-87.66	762.91	5,969.58	1,665.38	1,365.97	299.41	5.562					
13,500.00	5,568.95	12,029.00	5,492.32	199.02	164.30	-87.66	762.91	5,969.58	1,719.30	1,428.74	290.56	5.917					
13,600.00	5,569.63	12,029.00	5,492.32	201.54	164.30	-87.66	762.91	5,969.58	1,777.21	1,495.53	281.68	6.309					
13,700.00	5,570.31	12,029.00	5,492.32	204.06	164.30	-87.66	762.91	5,969.58	1,838.74	1,565.83	272.91	6.738					

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

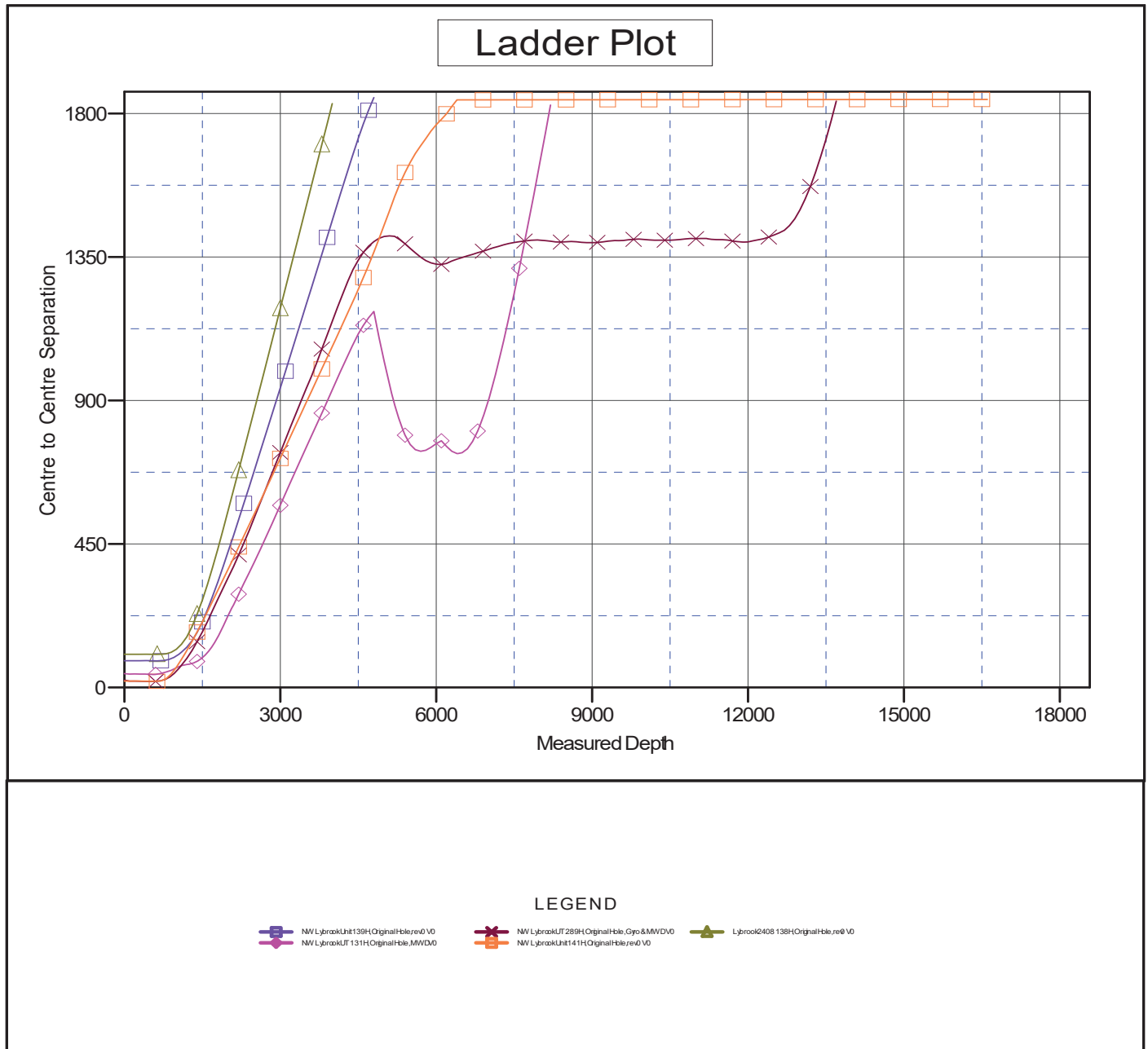


Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6847+25 @ 6872.00ft
Reference Site:	NW Lybrook (138, 139, 140 & 141)	MD Reference:	RKB=6847+25 @ 6872.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DB_Decv0422v16
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

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: NW Lybrook Unit 140H
Coordinate System is US State Plane 1983, New Mexico Western Zone
Grid Convergence at Surface is: 0.11°



CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Anticollision Report

Company:	Enduring Resources LLC	Local Co-ordinate Reference:	Well NW Lybrook Unit 140H
Project:	San Juan County, New Mexico NAD83 NM W	TVD Reference:	RKB=6847+25 @ 6872.00ft
Reference Site:	NW Lybrook (138, 139, 140 & 141)	MD Reference:	RKB=6847+25 @ 6872.00ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	NW Lybrook Unit 140H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Original Hole	Database:	DB_Decv0422v16
Reference Design:	rev0	Offset TVD Reference:	Offset Datum

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

Offset Depths are relative to Offset Datum

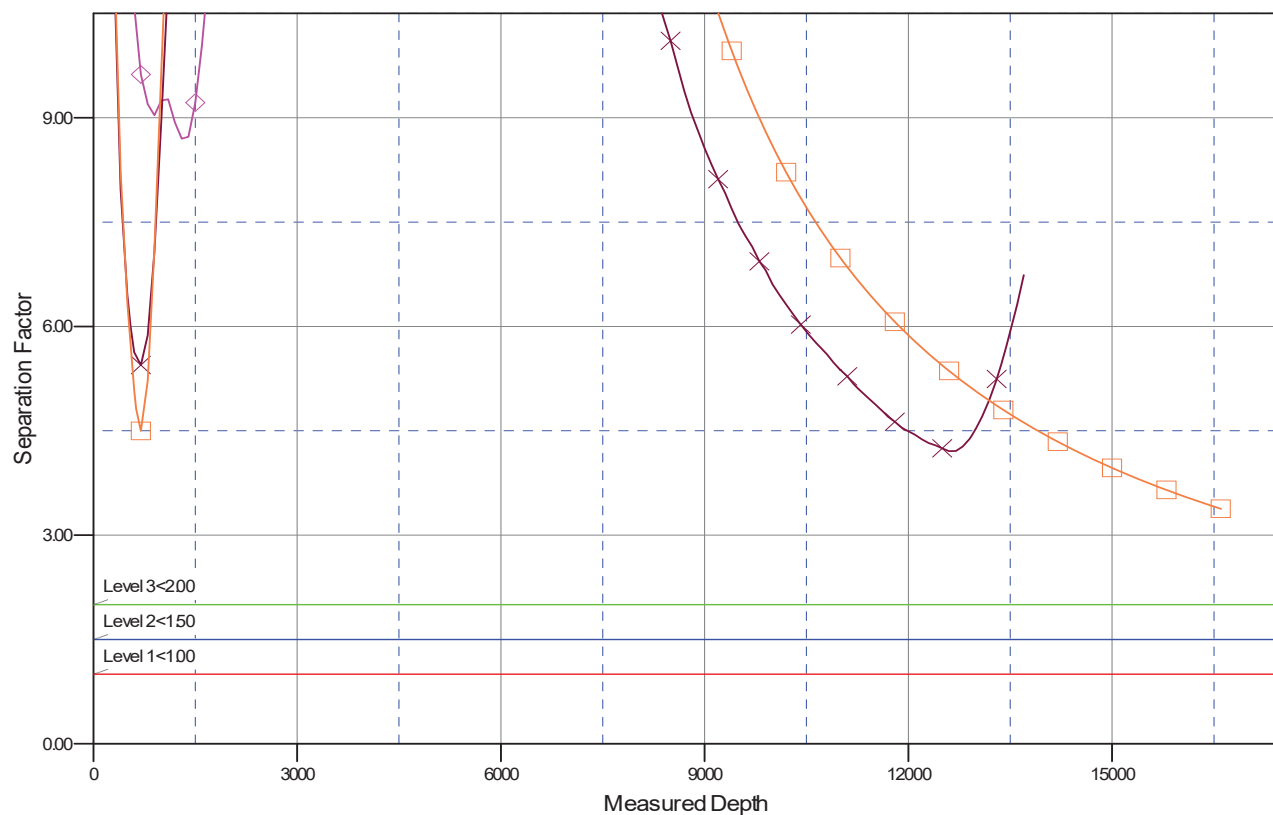
Central Meridian is -107.833333333

Coordinates are relative to: NW Lybrook Unit 140H

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

Grid Convergence at Surface is: 0.11°

Separation Factor Plot



LEGEND

NW Lybrook Unit 139H Original Hole rev0 V0	NW Lybrook Unit 141H Original Hole rev0 V0	Lybrook 0408 138H Original Hole rev0 V0
NW Lybrook Unit 131H Original Hole MWD V0	NW Lybrook Unit 128H Original Hole Gyo & MWD V0	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



United States Department of the Interior

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



In Reply Refer To:
3162.3-1(NMF0110)

* Enduring Resources LLC

#140H NW LYBROOK UNIT

Lease: NOG02071608 Agreement: NMNM133482A

SH: SW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 25, T. 24N., R. 8W.

San Juan County, New Mexico

BH: NE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 31, T. 24N., R. 7W.

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. ☐ 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

I. GENERAL

- A. Full compliance with all applicable laws and regulations, 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 online through AFMSS 2 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 first occurs, 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.I.
- 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.I. 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/oed/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 412586

CONDITIONS

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way Centennial, CO 80111	OGRID: 372286
	Action Number: 412586
	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